

**INTEGRATED FINAL  
ENVIRONMENTAL IMPACT REPORT**

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**CITY OF SANTA CLARA  
DRAFT 2010-2035 GENERAL PLAN**

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**VOLUME II  
APPENDICES**

City of Santa Clara

January 2011

**APPENDIX A  
NOTICE OF PREPARATION**



**NOTICE OF PREPARATION (NOP)  
ENVIRONMENTAL IMPACT REPORT (EIR)  
CITY OF SANTA CLARA GENERAL PLAN UPDATE**

E-15020



Date: August 26, 2008

To: Responsible Agencies, Interested Parties and Organizations

Subject: Notice of Preparation of an Environmental Impact Report for the City of Santa Clara General Plan Update and Scheduling of a Scoping Meeting at 6 p.m., September 17, 2008

Project Title: City of Santa Clara General Plan Update

Location: City of Santa Clara, California

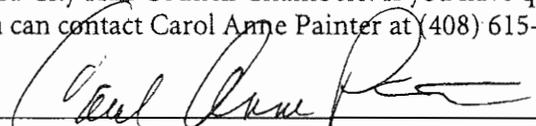
Case Files: CEQ2008-01070, PLN2008-07267

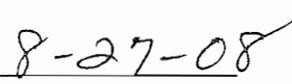
The City of Santa Clara is preparing a General Plan Update (including a Housing Element Update), and has determined that a comprehensive Environmental Impact Report (EIR) will be necessary. The City of Santa Clara requests your input regarding the scope and content of environmental analysis that is relevant to your respective agency's statutory/regulatory responsibilities in order to ascertain potential impacts of the proposed project. The City of Santa Clara, in compliance with the California Environmental Quality Act (CEQA), will direct the preparation of an EIR for the project. The project description is provided in the attached Notice of Preparation (NOP).

Although specific proposals and revisions for the Santa Clara General Plan and Housing Element have not yet been determined, we are soliciting your comments. This will allow your input to be taken into consideration during formulation of the environmental effects to be addressed in the EIR. A description of the proposed action, location map, and preliminary identification of the potential environmental effects are contained in the attached materials.

CEQA Guidelines Section 15082(b) mandates each Responsible Agency to respond to an NOP within thirty days (30) after receipt. The review period will extend from August 28, 2008 through September 27, 2008. Your views and comments on how the project may affect the environment are welcomed. Please send your written response, with the name of your agency contact person, to the following address: Carol Anne Painter, City of Santa Clara Planning Division; 1500 Warburton Avenue, Santa Clara, CA 95050.

A community meeting on environmental issues was conducted on Monday, August 4, 2008, to solicit public input. A Scoping Meeting will be conducted at 6 p.m. on September 17, 2008, at the Santa Clara City Hall Council Chambers. If you have questions regarding this NOP or the Scoping Meeting, you can contact Carol Anne Painter at (408) 615-2450.

  
\_\_\_\_\_  
Carol Anne Painter, City Planner  
City of Santa Clara

  
\_\_\_\_\_  
Date

**NOTICE OF PREPARATION (NOP)  
ENVIRONMENTAL IMPACT REPORT (EIR)  
CITY OF SANTA CLARA GENERAL PLAN UPDATE**

**E-15020**

**1. PROJECT TITLE:**

City of Santa Clara General Plan Update

**2. LEAD AGENCY NAME AND ADDRESS:**

City of Santa Clara  
Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

**3. CONTACT PERSON AND PHONE NUMBER:**

Carol Anne Painter  
City Planner  
(408) 615-2450  
[CAPainter@santaclaraca.gov](mailto:CAPainter@santaclaraca.gov)

**4. PROJECT LOCATION:**

The City of Santa Clara, located at the center of California's Silicon Valley, covers an area of 18.2 square miles. The City is situated between San José to the north, east, and south, and Sunnyvale and Cupertino to the west (Figure 1). Additionally, the Norman Y. Mineta International Airport borders the City to the east. With a 2008 population of 115,500, it is the third largest city in Santa Clara County.

Highway 101 passes east-west through the northern portion of the City, while Highway 237 borders the north. Interstates 880 and 280 skirt the southeast and southwest corners of the City, respectively. The City is also served by transit, including: the Santa Clara Valley Transportation Authority (VTA) Light Rail along Tasman Drive in the northern portion of the City; and the Santa Clara Transit Center, with Caltrain, Altamont Commuter Express (ACE, which currently bypasses the station due to construction), VTA bus lines, and future BART, Capitol Corridors, and Automated People Mover services. On the City's north side, the Great America Train Station serves ACE, the Capitol Corridors and Amtrak, with pedestrian connections to the Tasman Light Rail line.

The Proposed Planning Area comprises all land within the City limits. The existing City limits include residential, commercial, and industrial developments, as well as public facilities comprised of parks, schools, public utilities, the Mission College Campus, and private institutions like Santa Clara University. Since the City is bound completely by neighboring jurisdictions, the Planning Area is confined to the City Limits (Figure 2).

5. **PROJECT SPONSOR'S NAME AND ADDRESS:**

E-15020

City of Santa Clara  
Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

6. **DESCRIPTION OF PROJECT:**

The current City of Santa Clara General Plan was last comprehensively updated in 1992; the Housing Element was updated in 2002. Although many of the policies and ordinances in these documents are still relevant, much has changed since their adoption—particularly for the General Plan, which was adopted over 15 years ago. Since 2002, the City's population increased by 11 percent, while employment decreased significantly following the dot-com collapse in the early 2000s. However, employment generation is again on the rise, and the Association of Bay Area Governments projects that the City will add an additional 50,000 new jobs over the next 25 years. ABAG also expects population to increase to a projected 146,100—an increase of over 26 percent from 2008 to 2035. The General Plan Update provides the community with an opportunity to clarify its vision for future development patterns, transportation systems, economic development opportunities, and sustainable growth. The General Plan will have a horizon to 2035. The Housing Element is being updated concurrently, with a horizon of 2014.

As part of the General Plan Update, the Housing Element will be included in the CEQA analysis for the General Plan.

The General Plan Update will likely address the following topics, which will be combined into an integrated Plan:

- Land Use;
- Housing;
- Community Design and Historic Preservation;
- Sustainability;
- Transportation;
- Parks and Recreation;
- Conservation/Environmental Quality;
- Safety;
- Noise; and
- Public Facilities and Services.

### ***General Plan Update***

Work on the General Plan Update is in progress. The scope includes a review of background material and preparation of two initial working papers: *Population, Demographics, Employment and the Real Estate Market* and the *Opportunities and Challenges Report*. The market analysis (Working Paper #1) documents existing and future market conditions, with specific focus on key employment and industrial areas in the City. The *Opportunities and Challenges Report* (Working Paper #2) will contain a description and series of maps documenting existing land uses, public facilities, and environmental conditions within the City of Santa Clara. Coinciding with the preparation of the first two working papers, initial outreach in the form of stakeholder interviews and community workshops were held in May, June, and August of 2008. This outreach will continue and also contribute to the environmental analysis for the project.

The next step of the General Plan Update will include development of potential land use/transportation alternatives through direct participation with the community and General Plan Steering Committee. The alternatives will focus on changes at identified locations within the City. A citywide survey will be conducted to help formulate the alternative plans, followed by an additional community workshop to further identify and refine concepts for the alternatives. The resulting concepts for the alternatives will be presented to the Steering Committee for further refinement, followed by a discussion of the relative advantages and disadvantages of each with City decision-makers. Following this process, a Preferred Plan will be prepared and reviewed by the community and Steering Committee prior to presentation to City decision-makers. Based on the Preferred Plan, the General Plan Update will be drafted.

A final community workshop will ensure that the community's needs have been addressed in the proposed Preferred Plan. A series of public hearings will then allow City decision-makers to consider the proposed Plan.

### ***Housing Element Update***

During preparation of the General Plan Update, the Housing Element Update will also be prepared. The Housing Element will encompass all requirements for housing elements as defined under State law. Key housing issues were discussed with housing providers in July 2008 and at a community workshop in August 2008.

## 7. EIR

This NOP is a required publication at the outset of the EIR process.

The EIR will provide a programmatic environmental assessment of the potential consequences of the proposed General Plan Update. It will discuss how General Plan policies could potentially affect the environment, identify any significant impacts, and recommend measures to mitigate those impacts. The EIR will also consider the potential environmental impacts of alternatives, and identify an environmentally superior alternative. Subsequent environmental review will be conducted for major development projects, public works and

infrastructure improvements to evaluate site-specific issues.

E-15020

**8. SURROUNDING LAND USES AND SETTING:**

Santa Clara's Planning Area boundaries coincide with the municipal boundaries of San José to the north, east and south, and Sunnyvale and Cupertino to the west. The southern end of the San Francisco Bay is also just north of the City. Several creeks and rivers run through and adjacent to the City, including the Guadalupe River—along a portion of the eastern border of the City—and the San Tomas Aquino, Saratoga, and Calabazas creeks run north-south through the City.

**9. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED:**

No other public agency is required to approve the Santa Clara General Plan Update. However, development under the General Plan may require approval of State, federal and responsible trustee agencies that may rely on this EIR for information relative to their area of expertise and jurisdiction.

**10. POTENTIAL ENVIRONMENTAL IMPACTS TO BE CONSIDERED:**

Preliminary topics for the EIR include:

- Land Use (including jobs and housing);
- Aesthetics and Visual Resources;
- Open Space and Recreation;
- Biological Resources;
- Cultural Resources;
- Transportation and Traffic;
- Air Quality;
- Noise and Vibration;
- Geology, Soils, and Seismicity;
- Hydrology and Flooding;
- Public Services and Utilities;
- Energy;
- Climate Change; and
- Hazardous Materials and Toxics.

In addition to the potential environmental effects listed above, the EIR will evaluate potential cumulative effects and potential growth inducing impacts of the proposed Santa Clara General Plan Update as well as alternatives to the proposed General Plan Update. The No

Project alternative will evaluate the impacts resulting from continued implementation of existing plans, policies, and regulations which govern the City. As appropriate, other alternatives that would avoid or lessen environmental effects related to the proposed Santa Clara General Plan Update will be discussed. The draft EIR will also recommend measures to mitigate any significant environmental impacts.

I:\PLANNING\AdvPlnProj\2010-2035 GP Update\Environmental\8-25-08 NOP.doc

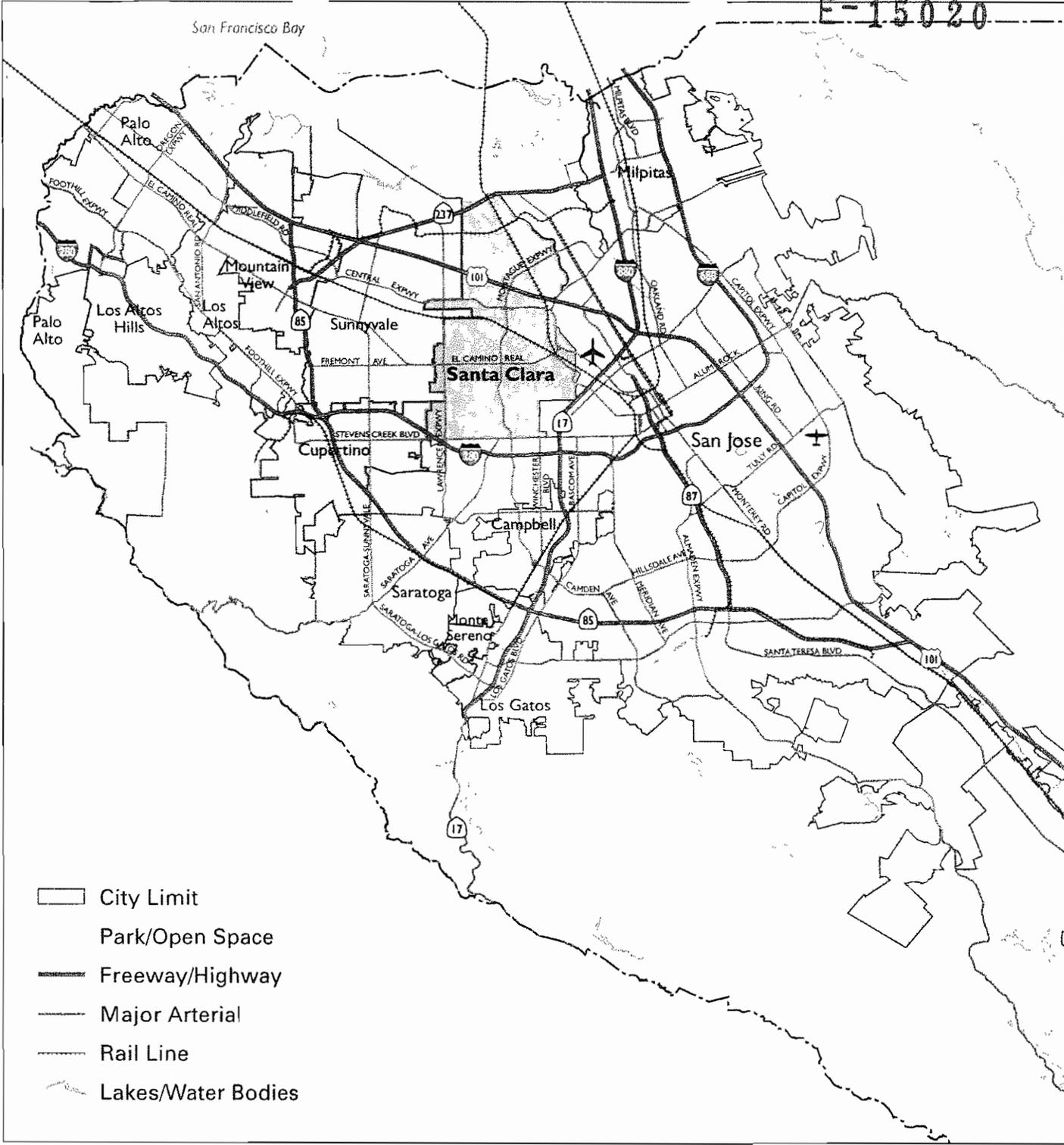
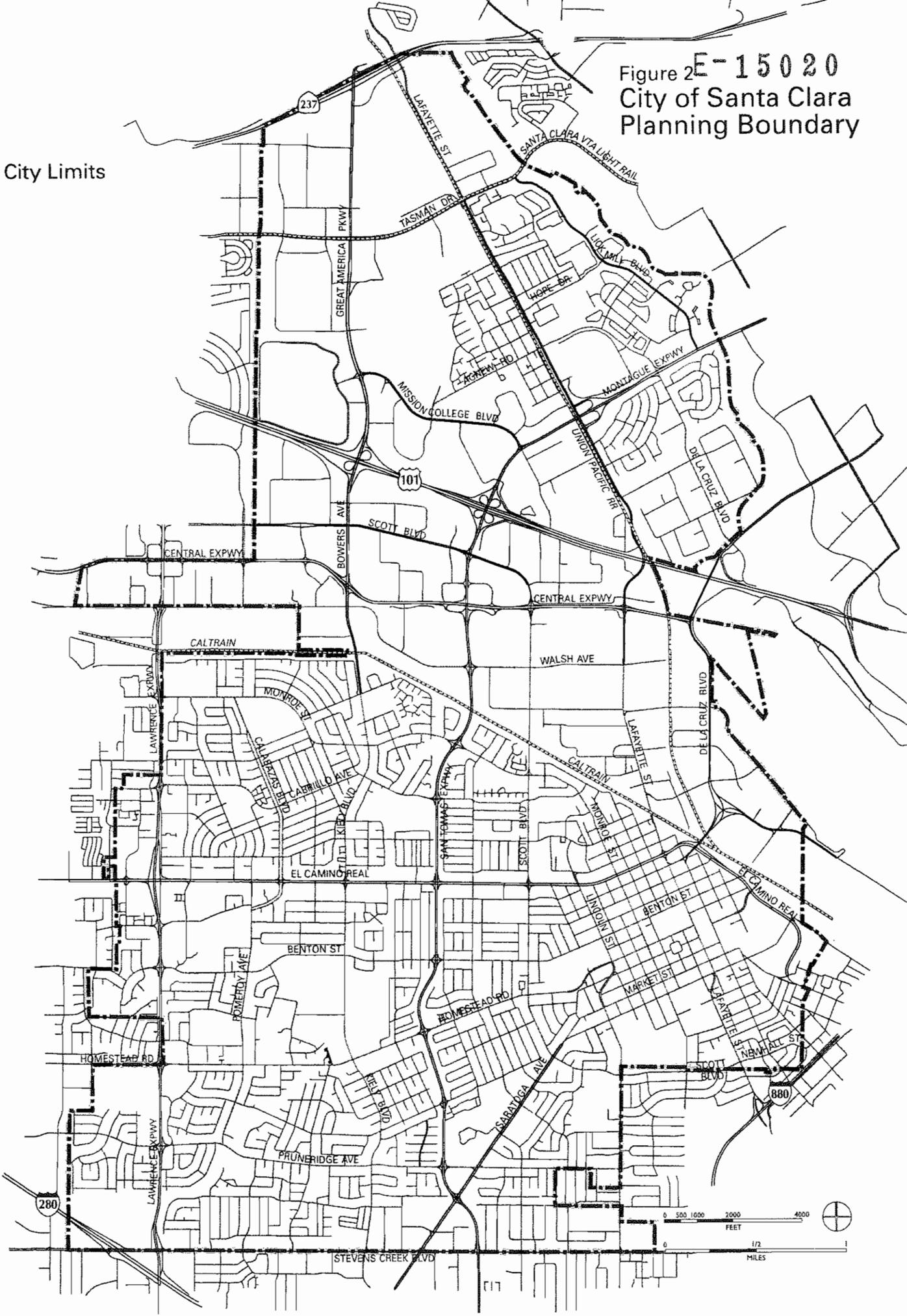


Figure 1  
 City of Santa Clara  
 Subregional Location

Figure 2 E-15020  
 City of Santa Clara  
 Planning Boundary

--- City Limits



**APPENDIX B**  
**NOTICE OF PREPARATION COMMENT LETTERS**

**DEPARTMENT OF TRANSPORTATION**

P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 822-5491  
FAX (510) 286-5559  
TTY 711



*Flex your power!  
Be energy efficient!*

**RECEIVED**  
OCT 01 2008  
City of Santa Clara  
Planning Division

October 1, 2008

SCL-GEN  
SCL000197  
SCH2008092005

Ms. Carol Anne Painter  
City of Santa Clara  
1500 Warburton Avenue  
Santa Clara, CA 95050

Dear Ms. Painter:

**City of Santa Clara General Plan Update – Notice of Preparation (NOP)**

Thank you for including the California Department of Transportation (Department) in the environmental review process for the proposed project. We have reviewed the NOP and have the following comments to offer.

The traffic study should analyze the effect this general plan update will have on State highway facilities and include, but not be limited to the following:

1. Existing Conditions – Current year traffic volumes and peak hour level of service (LOS) analysis of affected State highway facilities.
2. Proposed General Plan Update Only with Select Link Analysis – Trip generation and assignment for build-out of general plan. Select link analysis represents a project only (in this case, proposed general plan amendment only) traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.
3. General Plan Build-out Only – Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
4. General Plan Build-out plus Proposed General Plan Update– Trip assignment and peak hour LOS analysis. Include proposed general plan amendment and other pending general plan amendments.
5. Mitigation measures should consider highway and non-highway improvements and services. Special attention should be given to the development of alternate solutions to circulation problems that do not rely on increased highway construction.
6. All mitigation measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.

Ms. Carol Anne Painter  
October 1, 2008  
Page 2

We recommend you utilize Caltrans' *"Guide for the Preparation of Traffic Impact Studies"* which can be accessed from the following webpage:  
<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

We look forward to reviewing the DEIR for the City of Santa Clara General Plan Update. Please send two copies to:

José L. Olveda  
Office of Transit and Community Planning  
Department of Transportation, District 4  
P.O. Box 23660  
Oakland, CA 94623-0660

### **Community Planning**

The Department encourages the City of Santa Clara to locate any needed housing, jobs and neighborhood services near major mass transit nodes, and connected to these nodes with streets configured to facilitate walking and biking, as a means of promoting mass transit use and reducing regional vehicle miles traveled and traffic impacts on the state highways.

Please consider developing and applying pedestrian, bicycling and transit performance or quality of service measures and modeling pedestrian, bicycle and transit trips in the General Plan update so that future project impacts can be quantified. Mitigation measures resulting from this analysis could improve pedestrian and bicycle access to transit facilities, thereby reducing traffic impacts on state highways. In addition to urban design treatments, these measures could include Travel Demand Management (TDM) policies (for example, lower parking ratios, car-sharing programs, transit subsidies, etc.) to encourage usage of nearby public transit lines.

Also, please analyze secondary impacts on pedestrians and bicyclists that may result from any traffic impact mitigation measures. Please describe pedestrian and bicycle mitigation measures and safety countermeasures that would therefore be needed as a means of maintaining and improving access to transit facilities and reducing traffic impacts on state highways.

### **Encroachment Permit**

Work that encroaches onto the State ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the address below. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process.

Office of Permits  
California DOT, District 4  
P.O. Box 23660  
Oakland, CA 94623-0660

See the website link below for more information.  
<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Ms. Carol Anne Painter  
October 1, 2008  
Page 3

Should you require further information or have any questions regarding this letter, please call José L. Olveda of my staff at (510) 286-5535.

Sincerely,



LISA CARBONI  
District Branch Chief  
Local Development – Intergovernmental Review

c: Scott Morgan (State Clearinghouse)

## Doug Handerson

---

**From:** Carol Anne Painter  
**Sent:** Tuesday, October 14, 2008 11:20 AM  
**To:** 'MARTHA@DYETTANDBHATIA.COM'  
**Cc:** Doug Handerson; Gian Martire; Rick Gosalvez  
**Subject:** FW: Downtown Plan

FYI

-----Original Message-----

**From:** Kevin Riley  
**Sent:** Friday, October 10, 2008 3:04 PM  
**To:** Carol Anne Painter  
**Subject:** Fwd: Re: Downtown Plan

I don't think this was copied to you.  
K

>>>

**From:** Yvonne Galletta  
**To:** Kimberly Green; tgcm@comcast.net  
**CC:** Doug Handerson; Kevin Riley; Ron Garratt  
**Date:** 10/10/2008 1:43 PM  
**Subject:** Re: Downtown Plan

Mr. Gabriellini,

This email is to confirm that your suggestions in regards to the Downtown Plan have been received by the City Manager's Office. The following is updated information in regards to the Downtown Project on the City's website: "At the Council Meeting on May 13, 2008, the Council approved holding the Request for Proposal process in abeyance for a period of one year. Staff will return to Council in July, 2009 with a recommendation for how to proceed through the Master Developer Selection Process. It is anticipated that market conditions and the economy will have settled allowing this vital project and City priority to proceed."

If you wish more information in regards to the City Council's actions in regards to the downtown concept plan, please view the City's website  
[http://santaclaraca.gov/city\\_gov/city\\_gov\\_downtown\\_concept\\_plan.html](http://santaclaraca.gov/city_gov/city_gov_downtown_concept_plan.html)

In regards to the El Camino, your email has been sent to the Director of Planning to be incorporated into the General Plan Update that the City is working on at this time. If you would like more information in regards to the General Plan Update, please go the City's webstie <http://santaclaraca.gov/news/general-plan-update.html> or use the "Search" feature on the homepage.

cc: Assistant City Manager Ron Garratt  
Director of Planning & Inspection Kevin Riley  
Associate Planner Doug Handerson

Yvonne Felix Galletta  
Executive Assistant to the  
City Manager  
City of Santa Clara  
All-America City  
(408) 615-2214  
email: [ygalletta@santaclaraca.gov](mailto:ygalletta@santaclaraca.gov)

>>> Kimberly Green 10/10/2008 1:06 PM >>>

Thank you for your comments and concerns. Your message has been received in the Mayor and Council Offices, City of Santa Clara and will be distributed to the full council as well as the City Managers Office for review.

Regards,

Kimberly Green

Executive Assistant to the Mayor and Council City of Santa Clara 1500 Warburton Avenue  
Santa Clara, CA 95050 408/615-2250 mayorandcouncil@santaclaraca.gov

>>>

From: tgcm@comcast.net  
To: MayorandCouncil  
Date: 10/10/2008 11:13 AM  
Subject: Downtown Plan

The following has sent a message:

Name: Tom Gabriellini

Email: tgcm@comcast.net

Comments: I was looking at the proposed downtown plan and I hope anything like the plan that is currently envisioned will go to the voters. As one of the few Santa Clarans who remembers the old downtown, it appears to me that this plan repeats the mistake that was made when we replaced a real downtown with high density housing and shops no one cares about. I don't see how four floors of housing above a Starbucks improves the quality of life in our city. This isn't progress it's just development.

I think your first mission should be to clean up the El Camino business area. Why is it we don't seem to be able to attract anything but shoddy small businesses and fast food joints? I realize it may be good for our tax base but quality of life and environment has value also.

Thank You for your attention

## Doug Handerson - Planning in Santa Clara

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**From:** Calvin Sid  
**To:** Doug Handerson  
**Date:** Tuesday, September 02, 2008 11:38 PM  
**Subject:** Planning in Santa Clara

---

Dear Mr. Handerson,

I have been a resident in Santa Clara for almost 8 years and own a home in near the old Kaiser Hospital on Kiely Boulevard. I am concerned with the city plans to have high density homes built in that area that it will negatively impact our neighborhood in many ways. I understand that the city feels that there is a great need to build more housing for future growth, as growth increase the amount of taxes the city receives. But since my home was burglarized in February earlier this year, I am increasingly concerned about the increase in crime having more residents will create. I read the report sent out by Fairfield stating that having more residents would increase the number of eyes to watch for crimes, but if that were the case New York City would be safer than living in a small town in Indiana, or even Santa Clara. That kind of thinking just doesn't make sense!

I am also concerned about the increase in traffic along the major thoroughfares in Santa Clara. Already the morning and evening commutes make Lawrence and San Tomas Expressways a virtual parking lot twice every weekday. Having more housing will only make matters worse!

I know these are just two of many arguments you have heard before. I do ask you to please consider how such growth will really make Santa Clara more urbanized and unattractive city like Los Angeles.

Thank you for your consideration. I know you have a tough job as you probably only get a lot of complaints all the time.

Best regards,  
Calvin Sid

**Doug Handerson - General Plan and Zoning Codes**

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**From:** Marcela Miranda  
**To:** Doug Handerson  
**Date:** Thursday, September 18, 2008 10:18 AM  
**Subject:** General Plan and Zoning Codes

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The purpose of this email is to express my opinion regarding the General Plan and ask you to consider the neighborhoods and residents. Currently, I live near a commercial area and many patrons of these stores resort to parking in front of my house for hours. It is a huge nuisance. Especially when these stores close very late at night and car alarms go off or patrons are drunk and loud.

I am for store hour restrictions and how many days a week they can operate. Also, parking restrictions in neighborhood that are near commercial areas.

Thank you,

--

Marcela Miranda  
266 Cypress Ave

**From:** Doug Handerson  
**To:** helen\_amick@yahoo.com; MISFIRE-897@COMCAST.NET  
**Subject:** Re: [PNFS] General Plan Comments for Meeting 8/4/08

Good morning Ms. Amick and Ms. May,  
Thank you for your input. I am forwarding your emails to the planning consultants for inclusion in the record of public comments and for further review and consideration by the decision-makers.

>>>

**From:** Helen Amick  
**To:** Doug Handerson;Lorraine May  
**CC:** [BirdlandNeighbors@yahoogroups.com](mailto:BirdlandNeighbors@yahoogroups.com); [Santa Clara Neighbors for Responsible Development@yahoogroups.com](mailto:Santa Clara Neighbors for Responsible Development@yahoogroups.com); [NeighborsFirst](mailto:NeighborsFirst) Sunnyvale  
**Date:** 8/6/08 9:32 PM  
**Subject:** Re: [PNFS] General Plan Comments for Meeting 8/4/08

Dera Mr. Handerson and Fellow Santa Clara Planners.

I support all of the concerns raised by Ms. May.

In particular, I think concern about the the impact of development on the schools is very important. Schools in general today are struggling and I think we need to be very explicit about the tradeoffs we are and are not willing to make as it relates to the schools. We need a comprehensive and coordinated plan for growth between the neighboring school districts and cities (particularly in light of the huge development planned in SJ on First Street. Given California's tight budget and all the cutbacks in the schools we need to be very thoughtful about development and about how the costs for providing infrasturcture including schools should be borne.

Additionally, before we approve any more development should we not wait and see that the current housing untits that are under development are selling? I saw in the paper that the developer for the new Sunnyvale Town Center wanted to be allowed to rent (instead of sell) at least a portion of the downtown units that are under construction. Throughout the city there are many other sizeable developments underway. Let's let these units and other Santa Clara units under constructions get absorbed before we approve anymore. Let's also set and stick to development standards (such as the 4 story hight limit) to make sure our neighborhoods are protected. A nine story apartment tower on its own at best would end up looking out of place (how many other nine story buildings - residentail or commercial- are there in Santa Clara?

I think Ms. May did a fine job covering the transit and transportation concerns, so I will let her comments there stand with my support.

Thanks for your consideration.

Helen Amick

Floyd Ave  
Sunnyvale

--- On Mon, 8/4/08, Lorraine May <[misfire-897@comcast.net](mailto:misfire-897@comcast.net)> wrote:

From: Lorraine May <[misfire-897@comcast.net](mailto:misfire-897@comcast.net)>  
Subject: [PNFS] General Plan Comments for Meeting 8/4/08  
To: [dhanderson@santaclaraca.gov](mailto:dhanderson@santaclaraca.gov)  
Cc: [BirdlandNeighbors@yahoogroups.com](mailto:BirdlandNeighbors@yahoogroups.com),

[Santa Clara Neighbors for Responsible Development@yahoo.com](mailto:SantaClaraNeighborsforResponsibleDevelopment@yahoo.com), "NeighborsFirst Sunnyvale"  
<[PutNeighborhoodsFirstInSunnyvale@yahoo.com](mailto:PutNeighborhoodsFirstInSunnyvale@yahoo.com)>  
Date: Monday, August 4, 2008, 5:15 PM

Dear Mr. Handerson and Fellow Santa Clara Planners,

Unfortunately, I am unable to attend today's meeting on the General Plan. However, I have several comments that I would like to be added to the public record for consideration as it pertains to the EIR and the Housing Element.

First, with reference to the EIR, I would like to request that the city thoroughly explore the projected traffic patterns with traffic studies that adequately describe the impact on the surrounding neighborhoods, both in Sunnyvale and Santa Clara. I understand, that the city's intent is to provide high-density housing according to the state's ABAG perimeters. I would like to suggest that the city thoroughly explore public transit centers and develop high density housing around these areas and pursue a strategy which will relieve traffic congestion in our neighborhoods. As it stands now, particularly in reference to the Santa Clara Square and other border developments, there is not adequate transit to offset the volume of cars which will be gained in these neighborhoods.

Second, I would also like to suggest that the city pursue a EIR which considers the existing neighborhood and fitting in new developments. For example, I would like to suggest that no development is over four stories high. Also, the city should work closely with Caltrans regarding the 4 corner development planned on El Camino and Lawrence to rectify correct traffic data and volume. This development should not be over four stories. Adequate parking for all developments should be included as a necessity in the plan. Certainly, it is imperative that we have adequate public transit to these retail developments, but driving habits still need to be addressed.

Finally, the city needs to address the impact of additional housing on the Santa Clara School District. Most of our schools are currently at capacity. The general plan meeting should outline how the city plans to handle the over capacity enrollment and the strain on our educational facilities in this area. It is a very serious matter in my opinion, when children in their own neighborhood are put on waiting lists for their own neighborhood school.

I look forward to hearing more about the plan and providing more assistance in the months ahead.

Sincerely,

Lorraine May  
1143 Cotswald Court  
Sunnyvale, CA 94087

[Messages in this topic](#)

## Doug Handerson - opportunity for public comment

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**From:** Richard McMurtry  
**To:** Doug Handerson  
**Date:** Wednesday, July 23, 2008 10:25 PM  
**Subject:** opportunity for public comment  
**Attachments:** specific area plans2.doc

---

Hi Doug,

Could you tell me what the process is for public comment at your Environmental Workshop?

I would like to see, since the City of Santa Clara accepted the Watershed Management Initiative' 's Watershed Action Plan back in 2003-2004, if there would be a way for the WMI to make a presentation about the provisions of the Watershed Action Plan with respect to incorporation if watershed principles into General Plans and the concept of preparing Riparian Corridor Specific Area Plans into the planning process.

Would this be possible? When would it fit with your schedule?

Attached are brief excerpts from the Watershed Action Plan Summary and Chapter 3.  
Richard

Richard McMurtry  
Santa Clara County Creeks Coalition

<http://www.sccreeks.org>  
831-336-3262  
[rmcmurtry@baymoon.com](mailto:rmcmurtry@baymoon.com)

**From:** Doug Handerson  
**To:** tracie\_johnson@fuhdsd.org  
**CC:** Lillie Ware  
**Date:** 9/10/08 9:28 AM  
**Subject:** Re: SOFNA letter to Mr. Handerson regarding GP amendment request

Good morning Ms. Johnson,  
 Thank you for your reminder email. City staff is aware that changes have been requested for the Land Use designation's depth along Stevens Creek. I am bcing this response to the General Plan consultants so as to refresh their memories also. Upcoming General Plan Update meetings will include a discussion of focus areas for change and alternatives.

I am also ccing our support staff member, Lillie Ware, so that she is sure to add you to the notification list for upcoming public meetings. After tonight's Joint Council/Planning Commission Meeting on the General Plan (7 p.m. in the Council Chambers), the next public meeting is the Scoping Meeting for the General Plan Draft EIR, being held next Wednesday, September 17 at 6 p.m. in the Council Chambers. We look forward to your ongoing participation in the General Plan Update.

Douglas V. Handerson, AICP  
 Associate Planner/Advance Planning

Phone: (408) 615-2450  
 Fax: (408) 247-9857

City of Santa Clara  
 Planning Division  
 1500 Warburton Avenue  
 Santa Clara, CA 95050

>>>

**From:** Tracie Johnson  
**To:** Doug Handerson;south\_of\_forest\_board@yahoogroups.com;MayorandCouncil  
**Date:** 9/9/08 4:53 PM  
**Subject:** SOFNA letter to Mr. Handerson regarding GP amendment request

City Council and Planning Commission,  
 2008  
 Planning Division, City Hall,  
 1500 Warburton Avenue, Santa Clara 95050,  
 C/O Douglas V. Handerson, AICP

September 9,

Dear Mr. Handerson,

I'm an active member of the South of Forest Neighborhood Association (SOFNA) Board. I've been attending most of the open community outreach meetings for developing the General Plan, and, for the most part, have enjoyed the brainstorming activities and the sense of community the forums provide.

Since our neighborhood is directly adjacent to Stevens Creek Blvd., we are particularly concerned about buffers between commercial and existing low density residential. In 2003-04, we worked with Lexus during their Auto Dealership redevelopment at Stevens Creek and N. Henry that resulted in a win/win compromise. Lexus now has a beautiful 2-story dealership and our neighborhood has a 10-foot concrete wall that provides a sound and light buffer. Lexus also agreed to not tear down a R1 house that would have created commercial property surrounded on 3 sides by existing R1's.

On 9/20/05, our Neighborhood Association submitted a letter to Kevin Riley expressing concerns that the current General Plan land use map in the council chambers appears to indicate a commercial thoroughfare corridor through the R1 homes abutting Steven's Creek commercial, on Cecil Ave. between N. Henry and Bel Ayre, and also on Brookside and Harold. We inquired what would be the process to change this designation to R1, which is the current use of these properties.

On 6/12/06, a letter and petition were submitted to Jennifer Sparacino requesting that the buffer be strengthened by changing the land use map to reflect the current R1 use of these properties. (Summary attached.)

On May 15, 2007 the **City Council approved the initiation of a General Plan amendment and directed the City Manager to begin the procedural steps of that process**, as requested in the petition of the neighborhood. In late 2007, the City staff recommended that we forgo the General Plan amendment process and wait for the General Plan Update process that is currently underway.

We are unclear as to when the R1 land use designation for this area will be incorporated into the working General Plan Proposal. Currently we have not seen it reflected in the documentation that has been available to the public.

In examining Working paper #2 on the city's website, Stevens Creek and El Camino are clearly targeted as areas for commercial and residential redevelopment (page 2-24, and figure 2-7). We understand how important redevelopment is for strengthening the City's housing and tax base. Although subtle, the SOFN area is regularly adding to the City's housing stock. The large lots are supporting a significant influx of "Granny Units" since the removal of the variance requirement for an auxiliary unit.

We look forward to the redevelopment of some of the deteriorating commercial properties on the Stevens Creek side of our neighborhood, but tearing down existing homes that buffer our large neighborhood from "Auto Row" would be a negative change and a detriment to the area. **Please review the information that has been previously submitted to the City, and the direction of City Council in this matter, and specifically incorporate this land use change into the new General Plan and applicable maps.**

Best Regards,

Tracie Johnson  
SOFNA Board Member  
220 Bel Ayre Dr  
Scanned by Barracuda Spam Firewall

**From:** Jim Serwer <jimserwer@123mail.net>  
**To:** <MayorandCouncil@ci.santa-clara.ca.us>, <dhanderson@ci.santa-clara.ca.us...>  
**Date:** 9/11/08 2:44 PM  
**Subject:** Public transit on El Camino Real

To: City of Santa Clara

City Council  
Planning Commission  
Planning Staff

From: Jim Serwer  
408-985-6615

Re: Public transit on El Camino Real  
Date: Sept 11, 2008

I attended the General Plan meeting on the evening of September 10, 2008. At this meeting the planning staff appeared to hope that future improved bus service on El Camino Real will meet the transportation needs of future population growth. Kevin Riley characterized it as a chicken-and-egg problem

I would like to examine this further.

I drive El Camino Real between Lawrence and Scott an average of one or two round trips per day, six days a week. On this 2.5 mile stretch, I observe one or two buses on many of my trips. Invariably, these buses are less than half occupied. I.e. buses are frequent, and not crowded.

There is NO chicken-and-egg problem. There is already a surplus of bus service on El Camino Real. Adding more bus service will solve nothing.

The current bus ridership is so low, that the buses could shut down altogether and the detriment to automobile traffic will be minimal. Likewise, bus ridership could double from its current level and the benefit to traffic will also be minimal.

Greater housing density may increase bus usage. But it will increase traffic congestion far more. Greater housing density can only increase the number of cars idling at red lights or in bumper-to-bumper traffic regardless of expanded bus service.

Future plans will do well not to rely on improved bus service to solve anticipated traffic problems.

Jim Serwer

408-985-6615

**From:** Troy Vander Hulst  
**To:** Doug Handerson  
**Date:** 9/11/08 8:07 AM  
**Subject:** Re: Planning Commission Meeting

Mr. Handerson,

Thank you so much for your response I really appreciate it. After taking time to review the website and filling out the survey I am truly motivated about the future of Santa Clara. I look forward to attending upcoming meetings.

Thank you,

Troy Vander Hulst

>>> Doug Handerson <dhanderson@santaclaraca.gov> 09/10/08 10:16 AM >>>

Hello Mr. Vander Hulst,

Thank you for your suggestion. The City Council scheduled the Joint Commission/Council General Plan Meeting several months ago. I am ccing Lillie Ware of our staff so that she will add you to the general notification list for future public meetings regarding the General Plan Update. You can also keep up-to-date by regularly visiting the City's General Plan web-site at:

<http://www.santaclaragp.com/index.html>

There will be several opportunities to participate.

Douglas V. Handerson, AICP  
Associate Planner/Advance Planning

Phone: (408) 615-2450

Fax: (408) 247-9857

City of Santa Clara  
Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

>>>

**From:** Troy Vander Hulst  
**To:** Doug Handerson; Joe Sugg  
**Date:** 9/6/08 4:17 PM  
**Subject:** Planning Commission Meeting

Mr. Handerson,

I recently received an email regarding the Planning Commission Meeting from Joe Sugg, Assistant Vice President of Santa Clara University's operations. The email was sent out to all students to inform them of the meeting. I am a student at Santa Clara University and I am very concerned with the scheduled date of this meeting. Many students most likely have good ideas about the future of Santa Clara planning. Being the youth of Santa Clara's population we will be ones impacted the most by Santa Clara's future planning. Unfortunately, school is not in session until September 22nd, leaving nearly 5% of Santa Clara's population without a voice at this meeting. I would humbly ask that the city move the meeting to a further date or plan an additional meeting while school is in session. Thank you.

Sincerely,

Troy Vander Hulst

**From:** Tracie Johnson  
**To:** Doug Handerson;south\_of\_forest\_board@yahoogroups.com;MayorandCouncil;Jan...  
**Date:** 9/10/08 10:32 AM  
**Subject:** Re: SOFNA letter to Mr. Handerson regarding GP amendment request

Doug,  
Thank You for your prompt and professional response and follow up.

Tracie

On 9/10/08 9:28 AM, "Doug Handerson" <dhanderson@santaclaraca.gov> wrote:

> Good morning Ms. Johnson,  
> Thank you for your reminder email. City staff is aware that changes  
> have been requested for the Land Use designation's depth along Stevens  
> Creek. I am bcing this response to the General Plan consultants so as  
> to refresh their memories also. Upcoming General Plan Update meetings  
> will include a discussion of focus areas for change and alternatives.  
> I am also ccing our support staff member, Lillie Ware, so that she is  
> sure to add you to the notification list for upcoming public meetings.  
> After tonight's Joint Council/Planning Commission Meeting on the General  
> Plan (7 p.m. in the Council Chambers), the next public meeting is the  
> Scoping Meeting for the General Plan Draft EIR, being held next  
> Wednesday, September 17 at 6 p.m. in the Council Chambers.  
> We look forward to your ongoing participation in the General Plan  
> Update.

>  
> Douglas V. Handerson, AICP  
> Associate Planner/Advance Planning

>  
> Phone: (408) 615-2450  
> Fax: (408) 247-9857

>  
> City of Santa Clara  
> Planning Division  
> 1500 Warburton Avenue  
> Santa Clara, CA 95050

>>>>

> From: Tracie Johnson  
> To: Doug  
> Handerson;south\_of\_forest\_board@yahoogroups.com;MayorandCouncil  
> Date: 9/9/08 4:53 PM  
> Subject: SOFNA letter to Mr. Handerson regarding GP amendment  
> request

>  
>  
> City Council and Planning Commission,  
> September 9,  
> 2008  
> Planning Division, City Hall,  
> 1500 Warburton Avenue, Santa Clara 95050,  
> C/O Douglas V. Handerson, AICP

>  
> Dear Mr. Handerson,

**Doug Handerson - SOFNA letter to Mr. Handerson regarding GP amendment request**

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**From:** Tracie Johnson  
**To:** Doug Handerson;south\_of\_forest\_board@yahoo.com;MayorandCouncil  
**Date:** Tuesday, September 09, 2008 4:53 PM  
**Subject:** SOFNA letter to Mr. Handerson regarding GP amendment request  
**Attachments:** SOFNA General Plan Amendment Signature Tally.xls

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City Council and Planning Commission,  
September 9, 2008  
Planning Division, City Hall,  
1500 Warburton Avenue, Santa Clara 95050,  
C/O Douglas V. Handerson, AICP

Dear Mr. Handerson,

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Best Regards,

Tracie Johnson  
SOFNA Board Member  
220 Bel Ayre Dr  
Scanned by Barracuda Spam Firewall

South of Forest Neighborhood Association (SOFNA)  
General Plan Amendment  
Petition Signature Tally

**South of Forest Neighborhood Properties Bordering Stevens Creek businesses, East to West.**

	Name	Address	Signed:	
			~9/20/05 letter to Kevin Riley	SOFNA 6/12/06 Petition
1	Moises & Lisa Aguilar	267 N. Henry		x
2	Cliff & Kathy Moore	3310 Cecil		x
3	Bryan & Bianca Matusich	3320 Cecil		x
4	Mike & Bonnie O'Halloran	3330 Cecil		x
5	Monem Nayebi	261 Westridge		
6	Virginia Soo	280 Douglane		x
7	Robert Pitt	296 Douglane		x
8	NOTE: Name not legible	3360 Cecil	x	
9	Christopher Kidwell	3380 Cecil	x	x
10	Ken Kambiz	265 Tyler	x	x
11	Jeannette Chevalier	264 Tyler	x	x
12	Ronald & Carol Dunn	3424 Cecil		
13	Becky King/Bonnie Smith	3448 Cecil	x	
14	Marian Scionti	3472 Cecil	x	
15	Arlene Gutierrez	266 Cypress	x	
16	Hogan Lee	265 Cypress	x	x
17	Joe Alongi	3516 Cecil	x	
18	Dale Peacock	3532 Cecil	x	
19	Arline Norsworthy	3548 Cecil	x	x
20	Arline Norsworthy	3564 Cecil	x	x
21	Jamshid Noghrey	297 Bel Ayre		
22	Florence Blood	25 Harold		x
23	Marinchi Astrella	27 Brookside		x
24	Nishant Jadhav & Chinmayi Bettadapur	25 Brookside		
<b>TOTAL</b>			<b>12</b>	<b>14</b>

**Residential Properties Bordering Commercial Encroachment on Harold & Brookside Avenues**

1	Royanna Gazlay	277 Bel Ayre	N/A	x
2	Stanley Kaye	249 Bel Ayre	N/A	
3	David & Mary Borman	94 Harold Avenue	N/A	x
4	Brian Fitzgerald	36 Brookside Avenue	N/A	x
<b>TOTAL</b>				<b>3</b>

**From:** Troy Vander Hulst  
**To:** Doug Handerson; Joe Sugg  
**Date:** 9/6/08 4:17 PM  
**Subject:** Planning Commission Meeting  
**Attachments:** Notice of Joint City Council/Planning Commission Meeting

Mr. Handerson,

I recently received an email regarding the Planning Commission Meeting from Joe Sugg, Assistant Vice President of Santa Clara University's operations. The email was sent out to all students to inform them of the meeting. I am a student at Santa Clara University and I am very concerned with the scheduled date of this meeting. Many students most likely have good ideas about the future of Santa Clara planning. Being the youth of Santa Clara's population we will be ones impacted the most by Santa Clara's future planning. Unfortunately, school is not in session until September 22nd, leaving nearly 5% of Santa Clara's population without a voice at this meeting. I would humbly ask that the city move the meeting to a further date or plan an additional meeting while school is in session. Thank you.

Sincerely,

Troy Vander Hulst

**Doug Handerson - Planning in Santa Clara**

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**From:** Calvin Sid  
**To:** Doug Handerson  
**Date:** Tuesday, September 02, 2008 11:38 PM  
**Subject:** Planning in Santa Clara

---

Dear Mr. Handerson,

I have been a resident in Santa Clara for almost 8 years and own a home in near the old Kaiser Hospital on Kiely Boulevard. I am concerned with the city plans to have high density homes built in that area that it will negatively impact our neighborhood in many ways. I understand that the city feels that there is a great need to build more housing for future growth, as growth increase the amount of taxes the city receives. But since my home was burglarized in February earlier this year, I am increasingly concerned about the increase in crime having more residents will create. I read the report sent out by Fairfield stating that having more residents would increase the number of eyes to watch for crimes, but if that were the case New York City would be safer than living in a small town in Indiana, or even Santa Clara. That kind of thinking just doesn't make sense!

I am also concerned about the increase in traffic along the major thoroughfares in Santa Clara. Already the morning and evening commutes make Lawrence and San Tomas Expressways a virtual parking lot twice every weekday. Having more housing will only make matters worse!

I know these are just two of many arguments you have heard before. I do ask you to please consider how such growth will really make Santa Clara more urbanized and unattractive city like Los Angeles.

Thank you for your consideration. I know you have a tough job as you probably only get a lot of complaints all the time.

Best regards,  
Calvin Sid

**From:** Lorraine May  
**To:** Doug Handerson  
**CC:** BirdlandNeighbors@yahoogroups.com; Santa\_Clara\_Neighbors\_for\_Responsible\_...  
**Date:** 8/4/08 5:10 PM  
**Subject:** General Plan Comments for Meeting 8/4/08

Dear Mr. Handerson and Fellow Santa Clara Planners,

Unfortunately, I am unable to attend today's meeting on the General Plan. However, I have several comments that I would like to be added to the public record for consideration as it pertains to the EIR and the Housing Element.

First, with reference to the EIR, I would like to request that the city thoroughly explore the projected traffic patterns with traffic studies that adequately describe the impact on the surrounding neighborhoods, both in Sunnyvale and Santa Clara. I understand, that the city's intent is to provide high-density housing according to the state's ABAG perimeters. I would like to suggest that the city thoroughly explore public transit centers and develop high density housing around these areas and pursue a strategy which will relieve traffic congestion in our neighborhoods. As it stands now, particularly in reference to the Santa Clara Square and other border developments, there is not adequate transit to offset the volume of cars which will be gained in these neighborhoods.

Second, I would also like to suggest that the city pursue a EIR which considers the existing neighborhood and fitting in new developments. For example, I would like to suggest that no development is over four stories high. Also, the city should work closely with Caltrans regarding the 4 corner development planned on El Camino and Lawrence to rectify correct traffic data and volume. This development should not be over four stories. Adequate parking for all developments should be included as a necessity in the plan. Certainly, it is imperative that we have adequate public transit to these retail developments, but driving habits still need to be addressed.

Finally, the city needs to address the impact of additional housing on the Santa Clara School District. Most of our schools are currently at capacity. The general plan meeting should outline how the city plans to handle the over capacity enrollment and the strain on our educational facilities in this area. It is a very serious matter in my opinion, when children in their own neighborhood are put on waiting lists for their own neighborhood school.

I look forward to hearing more about the plan and providing more assistance in the months ahead.

Sincerely,

Lorraine May  
1143 Cotswald Court  
Sunnyvale, CA 94087

**Doug Handerson - santa clara development**

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**From:** Nambi Sankaran  
**To:** Doug Handerson  
**Date:** Thursday, July 31, 2008 9:41 PM  
**Subject:** santa clara development

---

Hi Doug

I was a resident of santa clara, until a few months ago, and now I live near the border of santa clara. Today I was going through the Santa clara general plan, <http://www.santaclaragp.com./index.html>

I visit santa clara library often, as you may notice, even though this is a new library, it is already overflowing.

If you go on a weekend, it is hard to find a parking spot. This is just an example.

Compared to the neighbouring cities, Santa Clara is a very crowded city. The main roads connecting santa clara with 101, lawrance expressway and st.Thomas expy are very slow during commuting hours. Adding housing is only going to worsen then problem.

*Increasing the population density will not result in people using public transportation.*

*These days, people commute from suburb to suburb.*

*Not many people commute to the city, but they commute to another suburb.*

*Whether we like it or not, this pattern forces us to use cars.*

In the short run, it may bring down the cost of housing. But once people move-in, they will regret the traffic and other congestion in santa clara.

So, eventually they will move out, which may bring down santa clara as a not desirable place to live. I have moved out of santa clara, due to same reason. ( extremely bad traffic in lawrence expressway)

I hope the city planners, will do the right thing, by not adding 20% more housing.

thanks,  
nambi

## Doug Handerson - opportunity for public comment

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**From:** Richard McMurtry  
**To:** Doug Handerson  
**Date:** Wednesday, July 23, 2008 10:25 PM  
**Subject:** opportunity for public comment  
**Attachments:** specific area plans2.doc

---

Hi Doug,

Could you tell me what the process is for public comment at your Environmental Workshop?

I would like to see, since the City of Santa Clara accepted the Watershed Management Initiative' 's Watershed Action Plan back in 2003-2004, if there would be a way for the WMI to make a presentation about the provisions of the Watershed Action Plan with respect to incorporation if watershed principles into General Plans and the concept of preparing Riparian Corridor Specific Area Plans into the planning process.

Would this be possible? When would it fit with your schedule?

Attached are brief excerpts from the Watershed Action Plan Summary and Chapter 3.  
Richard

Richard McMurtry  
Santa Clara County Creeks Coalition

<http://www.sccreeks.org>  
831-336-3262  
[rmcmurtry@baymoon.com](mailto:rmcmurtry@baymoon.com)

**APPENDIX C**  
**2002 GENERAL PLAN AMENDMENTS**

**GENERAL PLAN MASTER FILE INDEX  
BY NUMBER  
Revised March 10, 2010**

**General Plan Amendment Number 14:** Revise text, some policies and the land use map of the Plan.

(Changing Parkway School and the west end of Curtis School from Educational to Residential Garden Apartments; increasing the density of the vacant land north of Agnew Village, changing the Lick Mill property from Heavy Industrial to Medium Density Residential and Increasing the density of the townhouse designation from 6 - 10 dwellings per acre to eight dwelling units per acre.

**General Plan Amendment #15:** Revision of the Housing Element

**General Plan Amendment #16:** Revision of Land Use Element changing designation of the Jefferson School from Education to Medium Density Residential; and the District offices from Institutional to Medium Density Residential and making related text changes.

**General Plan Amendment #17:**

**General Plan Amendment #18:** Change Land Use designation for about 175 acres of publicly owned property (GA on the west; Hwy 237 on the north; Guadalupe River and Lafayette Street on the east and Tasman Drive on the south).

**General Plan Amendment #19:** Incorporate the Bayshore North Redevelopment Plan as an Element of the General Plan of the City of Santa Clara.

**General Plan Amendment #20:** General Plan Amendment which proposes changing the Land Use of the following school sites as well as the Sobrato Property (35 acres north of Mission College Blvd., east of Great America) and the Esperanca Property (45 acres north of Agnew Village, west of Lafayette Street): 1) Agnew; 2) Brown; and 3) Montgomery.

**General Plan Amendment #21:** To change the land use designation of approximately 76 acres of the 154 acre Mission College site.

**General Plan Amendment #22:** To change land use designation of the former Earl Warren and Karem College sites from Education to Townhouse Density Residential.

**General Plan Amendment #23:** Change General Plan to show single family residential use on the former Earl Warren School Site.

**General Plan Amendment #24:** Regarding Draft Housing Element

**General Plan Amendment 243A:** To change 5 acres of the North side of Newhall Street west of Washington Street known as “Youth Village” from Institutional to Garden Apartments - 10 to 24 dwelling units per acre.

**General Plan Amendment #25:** For Walden Hotel for General Plan Change from Urban Reserve to Tourist Commercial.

**General Plan Amendment #26:** Update of City’s General Plan to bring it into consistency with the Housing element, accomplish a boundary exchange with the City of San Jose (Airport property 24.11 acres) and Santa Clara University property located south of Campbell Avenue

**General Plan Amendment #27:** Amendment to the Old Quad General Plan - reflecting the Prometheus Development and the needs of Santa Clara University.

**General Plan Amendment #28:** EIR, rezone and development of the Fairway Glen Golf Course from B Public-Quasi Public to R3-36 (High Density Residential)

**General Plan Amendment #29:** FMC Corporation: regarding to change from Heavy Industrial to Tourist.

**General Plan Amendment #30:** To change the designation of 9.43 acre parcel at the southwest corner of Great America Parkway and Tasman Drive from Industrial Park to Mixed Use to allow a residential and retail commercial development up to 50 dwelling units per acre and significant retail commercial space.

**General Plan Amendment #31:** To amend General Plan to Townhouse Residential (eight to sixteen dwelling units) - Esperanca Property

**General Plan Amendment #32:** Enumerating the Goals of the City of Santa Clara, incorporate the Land Use, Housing, Transportation, Environmental Quality, Public Facilities and Service Elements. Includes land use changes/expresses current City policies to guide future development, establishes programs to implement these policies through the year 2005.

**General Plan Amendment #33:** Mixed Use Development Northeast corner of Lawrence Expressway and Stevens Creek Boulevard. Specific Amendment for Mixed Use Designation for the Construction of Retail/Residential Structure.

**General Plan Amendment #34:** Old Quad Area  
Addressed a number of defined areas within the Old Quad Area of the City where there were proposed changes from the existing General Plan Land Use Designations which were primarily higher density residential uses, to Single Family Detached Designation.

**General Plan Amendment #35:** Merchese/Kaiser Hospital  
Southwest corner of Lawrence Expressway and Homestead (approx. 40 acres). Land Use designation from Mixed Use and Light Industrial to Public Facilities – Institutional.

**General Plan Amendment #36:** Hope Rehabilitation/State of California  
1196 Hope Drive (97-08-041 & 042) Land Use Designation from Institution to Multi-Family Detached to Single Family Attached and Public Facilities – Parks & Recreation.  
*Adopted December 19, 1995.*

**General Plan Amendment #37:** Esperanca/Citation Homes (30 acres plus)  
North of 3<sup>rd</sup>, West of Lafayette, South of City Santa Clara Electric Utility area, West of Fuller. Land Use Designation from Urban Reserve and Single Family Detached to Single Family Attached and Public Facilities – Parks & Recreation.  
*Adopted December 19, 1995.*

**General Plan Amendment #38:** Souza/Core Development (1.71 acres) 2170 Agnews Road (104-13-064) Land Use designation from Light Industrial to Single Family Attached. *Adopted October 24, 1995.*

**General Plan Amendment #39:** State of California Agnews State Development Center West Campus (approx. 300 acres) N.E. corner of Lafayette & Montague Expressway (97-8-0223). Land Use Designation from Public Facilities to Mixed Use Industrial – Office/Research & Development. *Adopted September 30, 1997.*

**General Plan Amendment #40:** 3Com Southwest corner of State Highway 237 and Great America parkway (104-52-001 & 002) Land Use Designation from Tourist Commercial to Light Industrial – Office/Research & Development.  
*Adopted April 8, 1997.*

~~**General Plan Amendment #41:** City of Santa Clara Update of General Plan Text. *Status: Housing Element, Land Use and Transportation Elements Update Study Sessions start in July 2000. (03/8/00).*~~

**General Plan Amendment #42:** City of Santa Clara El Camino Gateway Thoroughfare Land Use Designation and Text Amendment (from Mixed Use, General Office, Commercial Thoroughfare, Neighborhood Commercial and Light Industrial) adopted June 10, 1997.

**General Plan Amendment #43:** City of Santa Clara/PAL site  
*Status: amendment is dead/combined with GPA #45 for Bayshore North.*

**General Plan Amendment #44:** North Valley Baptist Church  
3520 De La Cruz Blvd. Land Use Designation from Industrial Transition to Education adopted June 29, 1999.

**General Plan Amendment #45:** City of Santa Clara Bayshore North and Historic Resources Land Use Designation(s) and Text Changes. Approved September 14, 1999.

**General Plan Amendment #46:** City of Santa Clara SRO/Family Housing site Southwest corner of Lick Mill Blvd, and Tasman –4.3 acres. (Western portion of 97-02-104). Land Use Designation from Community Commercial to Residential. Adopted July 18, 2000.

**General Plan Amendment #47:** City of Santa Clara City Council 1212 & 1123 Reed St. (224-23-016 & 017). Land Use Designation from Single Family Detached to Single Family Attached. Adopted April 21, 1999.

**General Plan Amendment #48:** HOK Program Management 4555 Great America Parkway from Tourist Commercial to Office/R&D. Approved June 27, 2000. [KR]

**General Plan Amendment #49:** French Unit 42 – Unit high density, Transit Oriented Development, change from Neighborhood Commercial and Moderate Density Residential to High Density Residential. Approved July 11, 2000. [KR]

**General Plan Amendment #50:** 2002 General Plan Update of Housing and Land Use Element. Adopted July 23, 2002 [CITYWIDE]

**General Plan Amendment #51:** Agnews Rivermark Master Community Plan to change a portion of site from Office/R&D to Mixed Use to allow additional housing and to designate public facilities that are a part of the master plan. Approved September 29, 2000. [GG]

**General Plan Amendment #52:** 1000 Scott Boulevard 6.1 acres from Office to Single Family attached (included existing adjacent development). Approved December 5, 2000. [?]

**General Plan Amendment #53:** 3600 Flora Vista Moderate Density Residential to Medium Density Residential for 6.3 acres. Adopted November 27, 2001. [JAS]

**General Plan Amendment #54:** 1100 Hope Drive Industrial-Office/Research & Development to Mixed Use. 16 acres located at the northeast corner of Agnew Road and Lafayette Street (State of CA and Citation Homes – PLN2003-03427). Adopted September 16, 2003. [JAS]

**General Plan Amendment #55:** 3951 Stevens Creek Blvd. Thoroughfare Commercial to Mixed Use, 2.9 acres at the northwest corner of Stevens Creek Blvd. And Buckingham Dr. (Dorcich/Vidovich). Adopted December 2, 2003. [DH]

**General Plan Amendment #56:** State of California/BAREC (PLN2003-03744) 90 N. Winchester at Forest, 17 acres from Moderate Density Residential to Single Family Residential Attached and Park. Approved June 19, 2007. [GS]

**General Plan Amendment #57:** Application withdrawn

**General Plan Amendment #58:** (PLN2003-03896) 435 El Camino Real from Gateway Thoroughfare to Transit Oriented Mixed Use for 6.8 acre portion of 13.6 acre parcel (Sobrato) [301 d.u./apts). Approved January 27, 2004. [DF]

**General Plan Amendment #59:** (PLN2003-03898) 445 El Camino Real from Gateway Thoroughfare to Institutional for 6.8 acre portion of 13.6 acre parcel (Santa Clara University sports field]. Approved January 27, 2004. [DF]

**General Plan Amendment #60:** Amendment to Housing Element Program #16 to delete the wording identified by italics:

“Require developers of residential developments of 10 or more units to provide at least 10 percent of their units at rents or prices affordable to low and moderate income households, *provided Redevelopment Agency housing funds are available.*”

Adopted July 20, 2004. [DH]

**General Plan Amendment #61** (PLN2004-04630) 900 Pomeroy from Single Family Detached to Single Family Attached for .82 acre site at northwest corner of Pomeroy and Brookdale. Approved February 22, 2005. [DH]

**General Plan Amendment #62** (PLN2004-04707) 3600 Pruneridge from Single Family Detached to Single Family Attached for 2.43 acre site at southwest corner of Lawrence Expressway and Pruneridge. Approved March 22, 2005. [JuS]

**General Plan Amendment #63** (PLN2005-05260) 2250 El Camino Real, from Mixed Use to High Density Residential for one acre site located on the southside of El Camino Real mid-block between McCormick and Las Padres. Approved May 9, 2006. [DF]

**General Plan Amendment #64** (PLN2006-06121) 3301 Homestead Road from Moderate Density Residential to Medium Density Residential for 1.1 acre site at northwest corner of Homestead and Pomeroy Avenue. Approved March 6, 2007. [DH]

**General Plan Amendment #65** (PLN2006-05960) 1460 Monroe Street from

Gateway Thoroughfare Mixed Use to Transit-Oriented Mixed Use for 19,130 square foot site at southwest corner of El Camino Real and Monroe Street. Approved September 25, 2007. [DF]

**General Plan Amendment #66** General Plan Text Amendment to Sanitary Sewer section of Public Facilities Element. Adopted June 5, 2007.

**General Plan Amendment #67** (PLN2007-06524, PLN2007-06347, CEQ2007-01040) 1828-1878 Main Street from Single Family Detached and Convenience Commercial to Medium Density Residential for 25,000 square foot site at northwest corner of Warburton Avenue and Main Street. Approved August 21, 2007. [EO]

**General Plan Amendment #68** (PLN2007-06419) 2585 El Camino Real from Mixed Use to Transit-Oriented Mixed Use for 1.5 acre site on the north side of El Camino Real just east of Saratoga Creek. **Withdrawn.** [DF]

**General Plan Amendment #69** (PLN2008-06858) Both sides of Augustine, east of Bowers, from 101 to Scott Blvd. Light Industrial to Office/Research & Development (30.6 acres). Approved May 5, 2009. [YC]

**General Plan Amendment #70** Comprehensive Update of the General Plan. **Pending** December 2010. [CITYWIDE]

**General Plan Amendment #71** (PLN2008-07176) San Tomas Business Park Campus. 2600, 2800 San Tomas Expressway and 2400 Condensa Street located on both sides of San Tomas Aquino Creek, south of Central Expressway. Light Industrial to Office/Research & Development for 35.6-acre site on three parcels. Approved December 2, 2008. [YC]

**General Plan Amendment #72** (PLN2008-06947) San Francisco 49ers Stadium. 4900 Centennial Blvd. **Pending.** [JS]

**APPENDIX D**  
**DRAFT 2010-2035 GENERAL PLAN**  
**(This Appendix is available in its entirety in print**  
**at the City of Santa Clara Planning Offices)**

**APPENDIX E**  
**WATER SUPPLY FORECAST FOR GENERAL PLAN UPDATE 2035**  
**TECHNICAL MEMORANDUM**

## TECHNICAL MEMORANDUM

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### City of Santa Clara Water Supply Forecast for General Plan Update

**Subject:** Water Supply Forecast for General Plan Update 2035  
**To:** Kevin Riley, Director of Planning and Inspection  
**From:** Chris de Groot, Assistant Director of Water & Sewer Utilities  
**Date:** April 27, 2010

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This Technical Memorandum summarizes the methodology and results of the water supply forecast for the City of Santa Clara General Plan Update, addressing the water supply necessary to accommodate the projected development associated with the General Plan Update.

The Technical Memorandum is organized as follows:

Executive Summary

- 1 Background
- 2 Water supply
- 3 Water demands
- 4 Comparison of water demand and water supply
- 5 Conclusion

## EXECUTIVE SUMMARY

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The results of the Water Supply Forecast and related analysis for the City of Santa Clara General Plan Update 2035 are summarized below.

### Phase 1: 2010-2015

The results of the Water Supply Forecast indicate sufficient water supply is available to meet the estimated water demand for Phase 1. Table 1 summarizes the square footage and dwelling units for the draft General Plan Update Phase 1 (2010-2015). The square footage and dwelling units are based on population projections from the draft General Plan Update 2035. In addition to the square footages and dwelling units listed in Table 1, Phase 1 will also entail 4.32 acres of open space. The population projections for the draft General Plan Update Phase 1 varies by 2.8% from the ABAG 2007 population projections. The Water Supply Forecast is based on the ABAG 2007 population projections, therefore a slight difference in water demand applies for Phase 1. However, this slight population difference is negligible for the analysis completed in this Water Supply Forecast.

*Table 1: City of Santa Clara General Plan Update - Phase 1 (2010-2015)*

<b>Proposed Land Use</b>	<b>Square Feet</b>	<b>Dwelling Units</b>
Mixed Use Medium Density Residential/Commercial	86,869	510
Mixed Use High Density Residential/Commercial	546,365	1,309
Commercial	48,765	N/A
Office/R&D	4,106,620	N/A
<b>Total</b>	<b>4,788,619</b>	<b>1,819</b>

### Phase 2: 2015-2025

The results of the Water Supply Forecast indicate sufficient water supply is available to meet the estimated water demand for Phase 2. Table 2 summarizes the square footage and dwelling units for the General Plan Update Phase 2 (2015-2025). The square footage and dwelling units are based on population projections from the draft General Plan Update 2035. In addition to the square footages and dwelling units listed in Table 2, Phase 2 will also entail 13.69 acres of open space. The population projections for the draft General Plan Update Phase 2 varies by 3.2% from the ABAG 2007 population projections. The Water Supply Forecast is based on the ABAG 2007 population projections, therefore a slight difference in water demand applies for Phase 2. However, this slight population difference is negligible for the analysis completed in this Water Supply Forecast.

*Table 2: City of Santa Clara General Plan Update - Phase 2 (2015-2025)*

<b>Proposed Land Use</b>	<b>Square Feet</b>	<b>Dwelling Units</b>
Mixed Use Medium Density Residential/Commercial	173,736	1,020
Mixed Use High Density Residential/Commercial	1,092,776	2,617
Commercial	97,530	N/A
Office/R&D	8,459,480	N/A
Medium Density Residential	N/A	448
High Density Residential	N/A	760
<b>Total</b>	<b>9,823,522</b>	<b>4,845</b>

Phase 3: 2025-2035

The results of the Water Supply Forecast indicate sufficient water supply is available to meet the estimated water demand for Phase 3. Table 3 summarizes the square footage and dwelling units for the General Plan Update Phase 3 (2025-2035). The square footage and dwelling units are based on population projections from the draft General Plan Update 2035. In addition to the square footages and dwelling units listed in Table 3, Phase 3 will also entail 47.89 acres of open space. The population projections for the draft General Plan Update Phase 3 varies by 4.2% from the ABAG 2007 population projections. The Water Supply Forecast is based on the ABAG 2007 population projections, therefore a slight difference in estimated water demand applies for Phase 3. However, this slight population difference is negligible for the analysis completed in this Water Supply Forecast.

*Table 3: City of Santa Clara General Plan Update - Phase 3 (2025-2035)*

<b>Proposed Land Use</b>	<b>Square Feet</b>	<b>Dwelling Units</b>
Mixed Use Medium Density Residential/Commercial	173,736	1,020
Mixed Use High Density Residential/Commercial	1,092,776	2,294
Commercial	97,530	N/A
Office/R&D	8,459,480	N/A
High Density Residential	N/A	2,297
Medium Density Residential	N/A	1,101
<b>Total</b>	<b>9,823,522</b>	<b>6,712</b>

## BACKGROUND

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The City of Santa Clara (“City”) is currently preparing an update of its General Plan. The proposed General Plan Update includes three planning phases: 2010-2015, 2015-2025 and 2025-2035, in which changes to land uses have been identified for specific areas of the City. As part of the General Plan Update process, a study was conducted to evaluate the impacts of the proposed General Plan developments on the City’s water supply and the City’s ability to supply adequate quantities of water for the proposed developments.

## WATER SUPPLY

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The City of Santa Clara has four sources of water. These sources include two treated water sources, groundwater, and recycled water. The two treated water sources are the Santa Clara Valley Water District (“SCVWD” or “District”) and the San Francisco Public Utilities Commission (“SFPUC”). The City also owns and operates 28 groundwater wells (“Groundwater”) located within the City’s boundaries. The City purchases recycled water from South Bay Water Recycling (“SBWR”). Recycled water use is limited by the availability of acceptable uses and proximity to the recycled water distribution system. The use of treated surface water from SCVWD and SFPUC is limited by contracts with the District and SFPUC.

### Potable Water Supply

The Santa Clara potable water system is separated into four interconnected pressure zones in order to provide optimum pressures throughout the City. The four pressure zones in the City are shown in Figure 3. Figure 4 shows the water source by area. As shown in Figure 3, water purchased from SFPUC is used to supply water north of Highway 101. Treated surface water purchased from the SCVWD is used in conjunction with groundwater to supply water to the southern portion of the City.

### Groundwater

The City of Santa Clara is supplied by groundwater from the Santa Clara Valley Groundwater Basin. The Santa Clara Valley Groundwater Basin extends from the Coyote Narrows at Metcalf Road in South San Jose to Santa Clara County’s northern boundary. The basin is bounded on the west and east by the Santa Cruz and Diablo Ranges, respectively. The mountain ranges converge at Coyote Narrows to form a sub basin. The sub basin is 22 miles long and 15 miles wide, at its widest point, and has a 225 mile surface area. District staff estimates that the operational storage capacity of the sub basin is 350,000 acre feet with an estimated maximum annual withdrawal of 200,000 acre feet.<sup>1</sup> The Santa Clara Valley groundwater basin is not adjudicated. The allowable withdrawal or safe yield of groundwater by the City of Santa Clara is dependent upon a number of factors including: withdrawals by other water agencies, quantity of water recharged and the carry over storage from the previous year. In April of each year, when the quantity of imported water available to the District by contract and the local water yield can be estimated fairly accurately, the District estimates the carryover storage. Based on the calculated carryover capacity and the anticipated customer demands, the District reviews and modifies its groundwater management strategy in order to maintain adequate water in the basin to avoid subsidence.<sup>2</sup>

The City has constructed and currently operates 28 wells for extracting potable groundwater from the basin. The City’s wells are strategically distributed around the City. The exact location of the wells is not included in this document for security reasons. This distribution of wells adds to the

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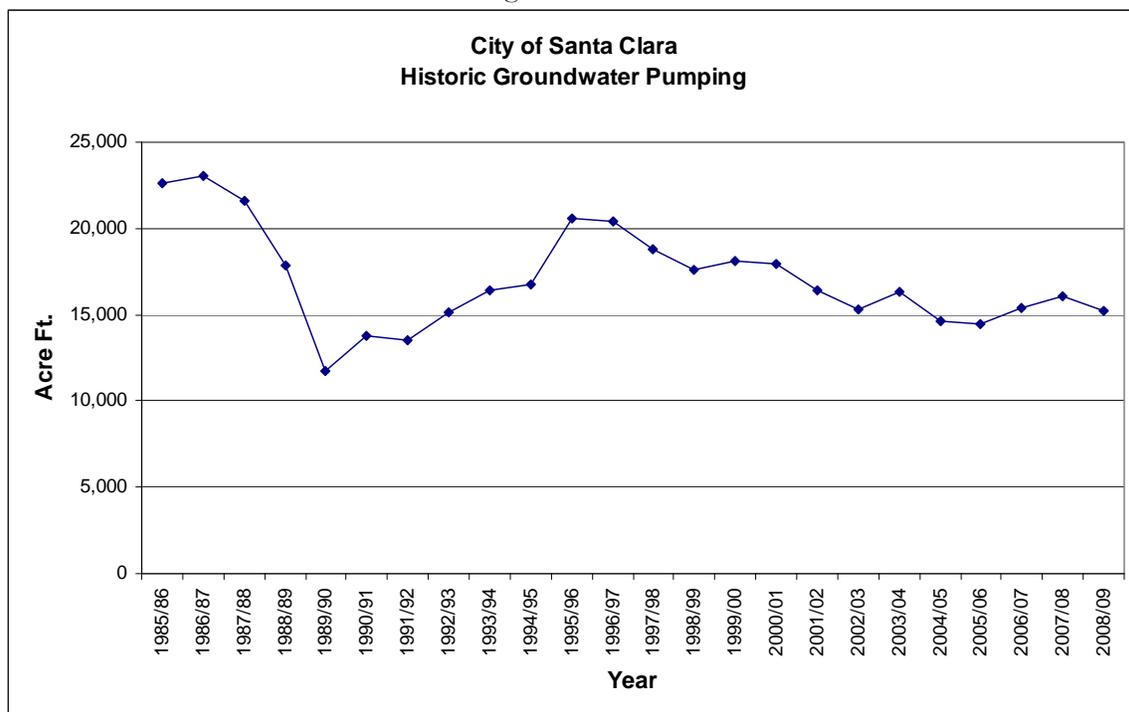
<sup>1</sup> City of Santa Clara Urban Water Management Plan, p 11

<sup>2</sup> Santa Clara Valley Water District, Draft Urban Water Management Plan, August 2005

reliability of the water system and minimizes the possibility of localized subsidence due to localized over-drafting. The 2005 UWMP contained a detailed analysis of the historic pumping rates and the depth to water at each well. Minor seasonal fluctuations in the depth to water were noted in the analysis but there is no evidence of declining water table or over-drafting.

The City has well capacity that is not currently being used.<sup>3</sup> The water utility analyzes the capacity of the wells by dividing the actual groundwater production by the theoretical groundwater production if all wells were run at their rated capacity. This calculation yields a “utilization factor” which approximates the percentage of time the wells are run or the percentage of the total groundwater production capacity that is utilized. The utilization factor for the City’s wells is currently 22% with several wells being used at less than 10% of their rated capacity. The individual well utilizations are shown in Figure 6. The District has not determined a resource limit to the City’s use of groundwater; rather it has represented its ability to obtain sufficient quantities of water supply for the overall water requirements as stated in the City’s 2005 UWMP. The amount of groundwater pumped over the period from FY1985/86 to FY2008/09 is shown in Figure 1 below.

Figure 1



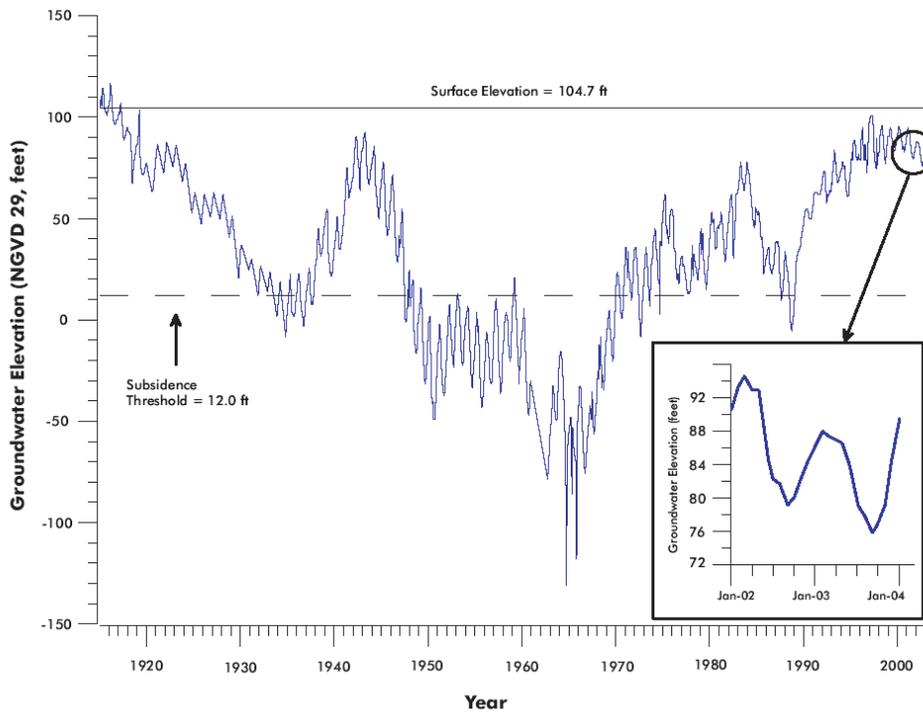
The most recent information from DWR indicates that neither the Santa Clara Valley Basin, nor the Santa Clara Sub Basin, is currently listed as over-drafted.<sup>4</sup> As shown in Figure 2, even when the City was at the historic peak for groundwater production FY1986/87, the basin was not approaching overdraft.

<sup>3</sup> City of Santa Clara 2005 Urban Water Management Plan, Appendix H

<sup>4</sup> Department of Water Resources, California’s Groundwater Update 2003, DWR Bulletin 118 [www.groundwater.water.ca.gov/bulletin118/update2003/](http://www.groundwater.water.ca.gov/bulletin118/update2003/)

Figure 2

Hydrograph for Santa Clara Valley Sub Basin Index Well (07S01E07R013)<sup>5</sup>



### Recycled Water Supply

The recycled water available in the City is provided by SBWR and meets current State Title 22 regulations of the California Department of Public Health for unrestricted use. This designation allows for the use of recycled water for irrigation and industrial use within specific guidelines. As noted in the 2005 UWMP there is ample capacity within the recycled water system to meet substantial additional demands. The San Jose/Santa Clara Water Pollution Control Plant currently produces approximately 100 million gallons per day of water that meets recycled water standards, however system-wide recycled water sales are approximately 10 million gallons per day. The recycled water distribution system is shown in Figure 5.

The recycled water system has operated since 1989 with minimal interruptions in service. SBWR strives to reduce the number of instances, duration, and magnitude of any service interruptions. The use of recycled water at any site is contingent upon the completion of the necessary improvements in accordance with SBWR, City of Santa Clara and California Department of Public Health rules and regulations regarding the use of recycled water.

Figure 5 also shows the expansion of the recycled water distribution system that is currently being constructed. A total 6.6 miles of distribution piping is being added to the system in Santa Clara, which will allow for a greater number of sites to have access to recycled water. Several large irrigation customers are located along the routes of the pipeline extensions. It is estimated that the expansion will allow for the potential connection of 44 customers and increased recycled water annual sales totaling an estimated 1,487 acre-ft.

<sup>5</sup> Santa Clara Valley Water District, Groundwater Conditions 2002/2003, January 2005

### Effect of Climate Change on Future Water Supplies

Several reports that were reviewed in detail on the potential effects of climate change on water supply<sup>6,7,8,9</sup> share common recurring themes with regards to water supply reliability:

- Climate change may result in changes in patterns of precipitation. The majority of reports note potentially reduced snowpack, earlier spring runoff, and more rainfall.
- Warmer temperatures could lead to longer growing seasons and increased need for irrigation, and changes in evapotranspiration rates.
- Rising sea levels could influence groundwater and San Francisco Delta operations due to saltwater intrusion.
- The reservoir system within California may not be adequate to handle the change in precipitation patterns.
- Prior to 1980, historic data was a good predictor of rainfall amounts. Since 1980 historic data is not as reliable a predictor.
- Droughts may occur more frequently.
- Climatic Models yield inconsistent results. Some models indicate precipitation will increase, others that it will decrease.<sup>10</sup>
- Operational adaptation may be necessary if precipitation patterns change. For example if spring runoff occurs earlier, additional groundwater recharge or reservoir storage may be needed.

However, these reports also share several other common themes. The reports are generally making projections over a much longer period of 50 to 100 years, than is covered by this technical memorandum. Climatic Models also yield varying results based on the assumptions of the individual modelers. Some models predict more precipitation, others predict less. In general, the reports lack specific data that can be used to adjust or plan for supply reliability. The reports contain generalizations and most contain disclaimers such as:

“It should be emphasized that these model results are not intended as specific predictions, but rather are scenarios based on potential climatic variability and change driven by both natural variability and human induced changes”<sup>11</sup>

Water resource planning requires accepting and planning for a certain amount of variability both in water supply and water demand projections. As an example, this technical memorandum analyzes the potential impacts of single and multiple dry year scenarios. Conservative supply and demand assumptions have historically been used in order to increase the probability of an adequate supply. This Memorandum is based on a number of noted conservative assumptions. The information currently available on the potential effects of climate change indicates a potential increase in variability of supply that may require adaptation at the State level. However, the potential effects of climate change over the 25-year planning period covered by this

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<sup>6</sup> Climate Change and California Water Resources: A Survey and Summary of Literature, Pacific Institute, July 2003

<sup>7</sup> Draft The State Water Project Delivery Reliability Report 2009, State of California Department of Water Resources, December 2009

<sup>8</sup> Using Future Climate Projections to Support Water Resources Decision Making in California, California Climate Action Center, May 2009

<sup>9</sup> Managing an Uncertain Future Climate Change Adaptation for California's Water, State of California Department of Water Resources Oct. 2008

<sup>10</sup> Pacific Institute, July 2003, Page 5

<sup>11</sup> Pacific Institute, July 2003 Page 5

Memorandum are not quantified in the literature to a degree of specificity that allows for the adjustment of the water demand or supply calculations.

Prior Water Planning

The City has projected meeting anticipated future water demands using the City’s four existing water supplies and water conservation. The City’s analysis of future water demand and available supply, which will be discussed later in this Memorandum, indicates that additional water supplies are not necessary to meet current projected demands for the General Plan 2035 update.

The 2005 UWMP projected water supplies through 2030 as was required by the Department of Water Resources. Table 4 shows the projected water supply by source, including conservation, found in the 2005 Urban Water Management Plan (UWMP)<sup>12</sup> from 2010 through 2030.

*Table 4: 2005 UMWP Water Supply Projections by Water Source (acre-ft/yr)<sup>1</sup>*

<b>Source</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Groundwater	16,298	17,257	18,346	19,340	20,387
SFPUC	5,500	5,500	5,500	5,500	5,500
SCVWD	4,570	4,570	4,570	4,570	4,570
Recycled Water	3,700	4,000	4,300	4,500	4,500
Conservation	918	1,232	1,288	1,344	1,380
<b>Total</b>	<b>30,986</b>	<b>32,559</b>	<b>34,004</b>	<b>35,254</b>	<b>36,337</b>

Several changes have occurred since the 2005 UWMP was written including the renegotiation of the contract with SFPUC and restrictions being placed on the pumping of water from the Delta. The impact of these changes will be described in detail later in this Memorandum.

The 2005 UWMP projected the potential water demand for each 5 year planning period. Then calculations were made as to how that water demand would be met with the supply portfolio available to the City. Therefore, the figures in Table 4 do not necessarily represent the maximum quantity available from that source in the noted planning time period. For example, 17,257 acre-ft of groundwater is shown for the year 2015, however this is an indication that 17,257 acre-ft of was necessary to meet the projected demand at that time not that maximum groundwater available.

In order to analyze the potential for the City to supply water for the developments in the General Plan several assumptions had to be made. Table 5a and 5b, show the water supply projections based on 2005 UWMP water supply projections added for 2035. The tables also incorporate several water source changes outlined in detail below. Due to a requirement in the new agreement with SFPUC two scenarios were analyzed. For the purposes of this water supply forecast, the two scenarios are

- 1) Maintaining 4.5 MGD of SFPUC water supply through 2035 (Table 5a) and
- 2) Loss of 4.5 MGD from SFPUC water supply by 2018 (Table 5b).

Table 5a and 5b are based on Table 4 with the following adjustments or assumptions;

- A constant supply of 4.5 MGD (5,040 acre-ft/yr) from SFPUC from 2010- 2035 is assumed. This is slightly lower than the UWMP’s projection of 4.91 million gallons per day (MGD) or 5,500 acre-ft/yr through 2030. This 0.41 MGD decrease lowers the total SFPUC water supplies from 2010 through 2035 by 460 acre-ft/yr. This decrease in SFPUC water supply has been incorporated to acknowledge recent SFPUC contractual

<sup>12</sup> City of Santa Clara Water Utility 2005 Urban water Management Plan, page 41

agreement<sup>13</sup> which notes that the total water supplied to the City of San Jose and City of Santa Clara collectively shall not exceed 9 MGD. Based on the Individual Water Sales Contract, City of Santa Clara would take up to 4.5 MGD, half of the total allocation between both Cities.<sup>14</sup>

- Groundwater pumping will not exceed the volume that has been historically pumped from the basin without negatively affecting the basin. Historically, the City has extracted up to 23,048 acre-ft of groundwater in a year (FY86/87) without causing subsidence. The City has installed two additional wells in a previous untapped area of the City, which could reasonably be expected to increase the groundwater supply available to the City without adverse impact to the basin. However, the additional potential supply has not been included due to a lack of historical data on the impact of these wells and to allow for a more conservative estimate of groundwater supply.
- Recycled water supply amounts have been left unchanged. Recycled water usage is dependent on the availability of suitable uses and their proximity to the distribution system. The increases noted in the 2005 UWMP were based on expected expansion of the recycled water distribution system and the resulting conversion of customers over to recycled water service. The volumes noted are conservative because the recycled water system is currently undergoing a large expansion of the system that was not foreseen when the 2005 UWMP was written. This assumption results in a more conservative estimate of supply.
- The amount of supply from water conservation has not been changed from the amounts shown in the 2005 UWMP. The amounts increases over the planning period based on the assumption that changes are made to existing building stock resulting in more water efficient plumbing fixtures being installed.

*Table 5a: Updated Water Supply Projections by Water Source (acre-ft/yr)<sup>1,2</sup>*

Source	2010	2015	2020	2025	2030	2035
Groundwater	23,048	23,048	23,048	23,048	23,048	23,048
SFPUC	5,040	5,040	5,040	5,040	5,040	5,040
SCVWD	4,570	4,570	4,570	4,570	4,570	4,570
Recycled Water	3,700	4,000	4,300	4,500	4,500	4,500
Conservation	918	1,232	1,288	1,344	1,380	1,380
<b>Total</b>	<b>37,276</b>	<b>37,890</b>	<b>38,246</b>	<b>38,502</b>	<b>38,538</b>	<b>38,538</b>

The current contract with SFPUC indicates that if certain conditions are met, the City may be required to reduce or eliminate its take from SFPUC. Table 5b incorporates all of the assumptions listed above and the additional assumption that the SFPUC supply is unavailable for 2018 and beyond. In a worse case scenario, the City of Santa Clara could lose its anticipated 4.5 MGD (5,040 acre-ft/yr) supply from SFPUC, reducing the total water supply projections by 5,040 acre-ft/yr from 2018 through 2035.

<sup>13</sup> Water Supply Agreement between The City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County, July 2009

<sup>14</sup> Page 89 of Master agreement notes “The allocation of that total amount (9 MGD) between San Jose and Santa Clara shall be as set forth in their individual Water Sales Contract” Santa Clara portion of the 9 mgd is half.

Table 5b: Updated Water Supply Projections by Water Source (acre-f/yr)<sup>1,2,3</sup>

Source	2010	2015	2020	2025	2030	2035
Groundwater	23,048	23,048	23,048	23,048	23,048	23,048
SFPUC	5,040	5,040	0	0	0	0
SCVWD	4,570	4,570	4,570	4,570	4,570	4,570
Recycled Water	3,700	4,000	4,300	4,500	4,500	4,500
Conservation	918	1,232	1,288	1,344	1,380	1,380
<b>Total</b>	<b>37,276</b>	<b>37,890</b>	<b>33,206</b>	<b>33,462</b>	<b>33,498</b>	<b>33,498</b>

If the City was required to eliminate the usage of water from SFPUC, the City would consider maintaining its existing 2005 UWMP total water supply projections by increasing groundwater utilization, increase (SCVWD) imported surface water supply, or a combination of the two supplies.<sup>15</sup>

The City of Santa Clara’s 2002 Water Master Plan examined possible mitigation measures to be taken in the event that the supply from SFPUC was lost either temporarily or long term. These mitigations included the increased use of groundwater and treated water from the District. As a result of the analysis in the 2002 Master Plan two new wells were installed in the area north of Highway 101 in a previously untapped area of the basin. In the last 10 years, the City of Santa Clara has pumped between 14,513 acre-ft and 20,533 acre-ft of groundwater annually. These volumes are lower than the amount that has historically been pumped. The historic high for groundwater utilization occurred in FY1986/87 when 23,048 acre-ft was extracted. The historic high for groundwater production also occurred prior to the installation of two new wells, wells 32 and 34, in a previously untapped portion of the City. Each of these wells has a production rating of 1,000 gpm or 1,613 acre-ft/year from each well. Therefore, the use of 23,048 acre-ft/yr as a supply for groundwater is conservative based on the availability of the two new wells.

Increased use of recycled water could also be used to mitigate a portion of the loss of other supplies. Construction is underway to expand the recycled water distribution system from 20 miles to 26.6 miles with that construction to be completed by September of 2011.

## WATER DEMANDS

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The projected increases in water demand were determined by an “End Use” model. Two main steps are involved in developing an End Use model: (1) establishing base year water demand at the end-use level (such as toilets, showers) and calibrating the model to initial conditions and (2) forecasting future water demand based on future demands of existing water service accounts and future growth in the number of water service accounts. The calculations assumed that the density of residential housing would increase over the study period and that redevelopment changes would result in water demand increases in other sectors.

After establishing the base year, the water demand at the end-use is calculated by breaking down total historical water use for each type of water service account (single family, multifamily,

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<sup>15</sup> City of Santa Clara 2002 Water Master Plan, 2002

commercial, irrigation, etc.) to specific end uses (such as toilets, faucets, showers, industrial processes and irrigation).<sup>16</sup>

The basic methodology of the model is to break down water usage into an average consumption per account type. Projections are made regarding potential reductions in average consumption based on water conservation programs, and natural replacement of less water efficient processes with more efficient processes. These projections were used to adjust the future average consumption per account figures. Projections of the future number of accounts for each user type are also calculated, typically based on other technical studies such as Association of Bay Area Governments (“ABAG”) Projections or Census data from 2007. The projected number of accounts is based on the projected number of residential housing units or the projected number of jobs in the case of the industrial and commercial categories. Job projections were taken from the ABAG publication, Silicon Valley Projections. Once both the number of accounts and the average consumption per account are calculated, the number of accounts for each future year was multiplied by the average consumption per account for that year to arrive at a total water demand for each user type. The projected increases for each user category for the three phases of the General Plan Update are found below.

*Table 6: Projected Water Demand (Deliveries) by Category Use for General Plan Update 2035 (Acre- ft/yr)<sup>17</sup>*

<b>Category Use</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Single Family	6,576	6,483	6,379	6,283	6,209	6,197
Multi-family	6,800	7,613	8,322	8,851	9,406	10,093
Commercial	4,404	4,726	5,070	5,450	5,867	5,955
Industrial	4,621	4,967	5,321	5,696	6,096	6,530
Institutional	864	914	960	996	1,032	1,071
Municipal	657	696	731	758	786	815
System Losses	718	762	803	841	882	920
<b>Total</b>	<b>24,640</b>	<b>26,162</b>	<b>27,586</b>	<b>28,875</b>	<b>30,278</b>	<b>31,581</b>

The End Use Model uses water demand calculated by “category use” as single family, multi-family, commercial, industrial, institutional, and municipal as seen in Table 6. The End Use model does not differentiate between mixed used density housing units as described in the General Plan, therefore additional comparison between population projection differences between the End Use Model and the General Plan population projections is necessary to account for this difference.

The General Plan Update 2035 population projections are based on ABAG 2007 Projections with slight variances due to additional localized growth within the City of Santa Clara. The differences between the General Plan 2035 Update population projections when compared to the ABAG 2007 Projections are minimal. The percent differences are captured in the table below. All population projections between the water demand model and General Plan Update 2035 are less than ±5% difference. However, the residential water demand is only a portion of the total water demand as noted in Table 8 below. Therefore, the population differences are negligible for purposes of this water supply forecast.

<sup>16</sup> For purposes of this Assessment, office space is a subset of a commercial end-use.

<sup>17</sup> Bay Area Water Supply and Conservation Agency, City of Santa Clara DSS Model (End Use Model), April 2009

Table 7: Population Projections Comparison between General Plan and ABAG 2007

Year	2010	2015	2020	2025	2030	2035
ABAG 2007	118,459	125,397	131,732	136,660	141,587	146,917
General Plan	122,853	128,955	135,057	141,159	147,261	153,363
% Difference	3.6%	2.8%	2.5%	3.2%	3.9%	4.2%

Table 8: Demand Projections Adjusted for General Plan Populations

Year	2010	2015	2020	2025	2030	2035
% Population Difference	3.58%	2.76%	2.46%	3.19%	3.85%	4.20%
Acre-ft /yr Difference (residential)	478	389	362	482	602	685
Adjusted Demand (acre-ft/yr)	25,118	26,551	27,948	29,358	30,880	32,266
% Difference in total demand	1.9%	1.5%	1.3%	1.6%	1.9%	2.1%

**Comparison of Actual Water Sales to Projected Water Demand**

The current overall system demand is significantly lower than was projected by the 2005 UWMP. According to the modeling performed for the 2005 UWMP, the 2009 total water demand for the City was projected to be 30,552 acre-ft/yr. The actual water demand for 2009 was 24,148 acre-ft, or 6,404 acre-ft less than projected and planned for in the UWMP. The significant difference between the projected and actual demand is due in part to the recent economic downturn. This information is not being used to alter the projected water demands because a portion of the demand reduction may be temporary and if the demand reduction is not temporary, it results in a more conservative demand estimate.

**COMPARISON OF WATER SUPPLY AND WATER DEMAND**

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**Normal Water Year**

Table 9a compares the Total Water Supply found in Table 5a with the adjusted water demand found in Table 8. This analysis assumes a normal water year and that water from SFPUC is available in 2018 and beyond. The table shows adequate water supplies to meet the projected demands in the 2010 to 2035 planning period.

Table 9a: Projected Supply versus Demand Comparison – Normal Year (Acre-ft/yr)

Year	2010	2015	2020	2025	2030	2035
Supply Totals	37,276	37,890	38,246	38,502	38,538	38,538
Demand Totals	25,118	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	32.6%	29.9%	26.9%	23.7%	19.9%	16.3%
Difference as % of Demand	50.4%	42.7%	36.8%	31.1%	24.8%	19.4%

Table 9b compares the total water supply found in Table 5b with the adjusted water demand found in Table 8. This analysis assumes a normal water year and the loss of the supply from SFPUC in 2018. The table shows adequate supplies to meet the projected demands in the 2010 to 2035 planning period.

Table 9b: Projected Supply versus Demand Comparison – Normal Year without SFPUC supply (Acre-ft/yr)

Year	2010	2015	2020	2025	2030	2035
Supply Totals	37,276	37,890	33,206	33,462	33,498	33,498
Demand Totals	25,118	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	32.6%	29.9%	15.8%	12.3%	7.8%	3.7%
Difference as % of Demand	50.4%	42.7%	18.8%	13.9%	8.5%	3.8%

Single Dry Year Event

The UWMP 2005 projects no reduction in supplies from groundwater and SCVWD treated surface water, during a single dry year of drought. However, SFPUC indicated that during a single critical dry year the City might expect a maximum reduction of water supplies of 30% in water deliveries (1,512 acre-ft/yr of the 5,040 acre-ft/yr) in 2030.<sup>18</sup> For the purposes of this forecast, it is assumed the same reduction would apply for 2035, a conservative estimate and consistent with the extended 2035 supply being the same in 2030. Analysis conducted for the 2005 UWMP indicates that during a single dry year event, there would be no reduction in water deliveries in 2010, 2015, 2020, and 2025. Additionally, conservation and recycled water deliveries are projected to remain unchanged from the volumes shown in Table 4 during a critical dry year. Tables 10a and 10b below indicate that during a single critical dry year the water supplies would still be sufficient to meet demands even if the water supply from SFPUC is unavailable after 2018.

*Table 10a: Projected Supply versus Demand Comparison – Single Dry Year (Acre-ft/yr)*

<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Supply Totals	35,764	36,378	36,734	36,990	37,026	37,026
Demand Totals	25,118	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	29.8%	27.0%	23.9%	20.6%	16.6%	12.9%
Difference as % of Demand	42.4%	37.0%	31.4%	26.0%	19.9%	14.8%

*Table 10b: Projected Supply versus Demand Comparison – Single Dry Year Without SFPUC Supply (Acre-ft/yr)*

<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Supply Totals	35,764	36,378	33,206	33,462	33,498	33,498
Demand Totals	25,118	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	29.8%	27.0%	15.8%	12.3%	7.8%	3.7%
Difference as % of Demand	42.4%	37.0%	18.8%	13.9%	8.5%	3.8%

Multiple Dry Year Event

During a multiple dry year event, the City projects no reduction in supplies from groundwater and SCVWD treated surface water based on analysis provided by the District at the time the 2005 UWMP was prepared. In December 2008, the United States Fish and Wildlife Service (USFWS) issued a Biological Opinion on Delta smelt and have imposed Delta export pumping rules, in an effort to protect Delta smelt, a Federal and State threatened species. The Delta export pumping rules currently restrict water supply pumped through the Delta.

In dry years, SCVWD has estimated a potential 15% to 30% reductions to their water supplies from the Delta. This reduction will primarily affect treated surface water availability. Treated surface water supplied from SCVWD only accounts for approximately 15% of the City’s total water supply; this minimizes the overall effect of the potential decrease in supply. The table below assume a worst-case scenario of a 30% reduction (1,425 acre-ft) of treated surface water supplied by SCVWD as a result of pumping restrictions and diminished water availability during a multiple dry year event.

SFWD has indicated that during multiple critical dry years the City can expect a maximum reduction of SFWD water supplies of 54%.

Tables 11a and 11b assumes a worst-case scenario based on a replication of the 1987-1992 multiple dry year event with the volume shown being the supply available in the final year of the

<sup>18</sup> City of Santa Clara Water Utility 2005 Urban Water Management Plan, page 42-43

multiple dry year event. Table 11a assumes the water supply from SFPUC will be reduced by 54% and available after 2018. Table 11b assumes the water supply from SFPUC is reduced by 54% in 2015 and unavailable after 2018.

*Table 11a: Projected Supply versus Demand Comparison – Multiple Dry Year (Acre-ft/yr)*

<b>Year</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Supply Totals	33,797	34,153	34,409	34,445	34,445
Demand Totals	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	21.4%	18.1%	14.7%	10.3%	6.3%
Difference as % of Demand	27.3%	22.2%	17.2%	11.5%	6.7%

*Table 11b: Projected Supply versus Demand Comparison – Multiple Dry Year Without SFPUC Supply (Acre-ft/yr)*

<b>Year</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Supply Totals	33,797	31,781	32,037	32,073	32,073
Demand Totals	26,551	27,948	29,358	30,880	32,266
Difference as % of Supply	21.4%	12.1%	8.4%	3.7%	-0.6%
Difference as % of Demand	27.3%	13.7%	9.1%	3.9%	-0.6%

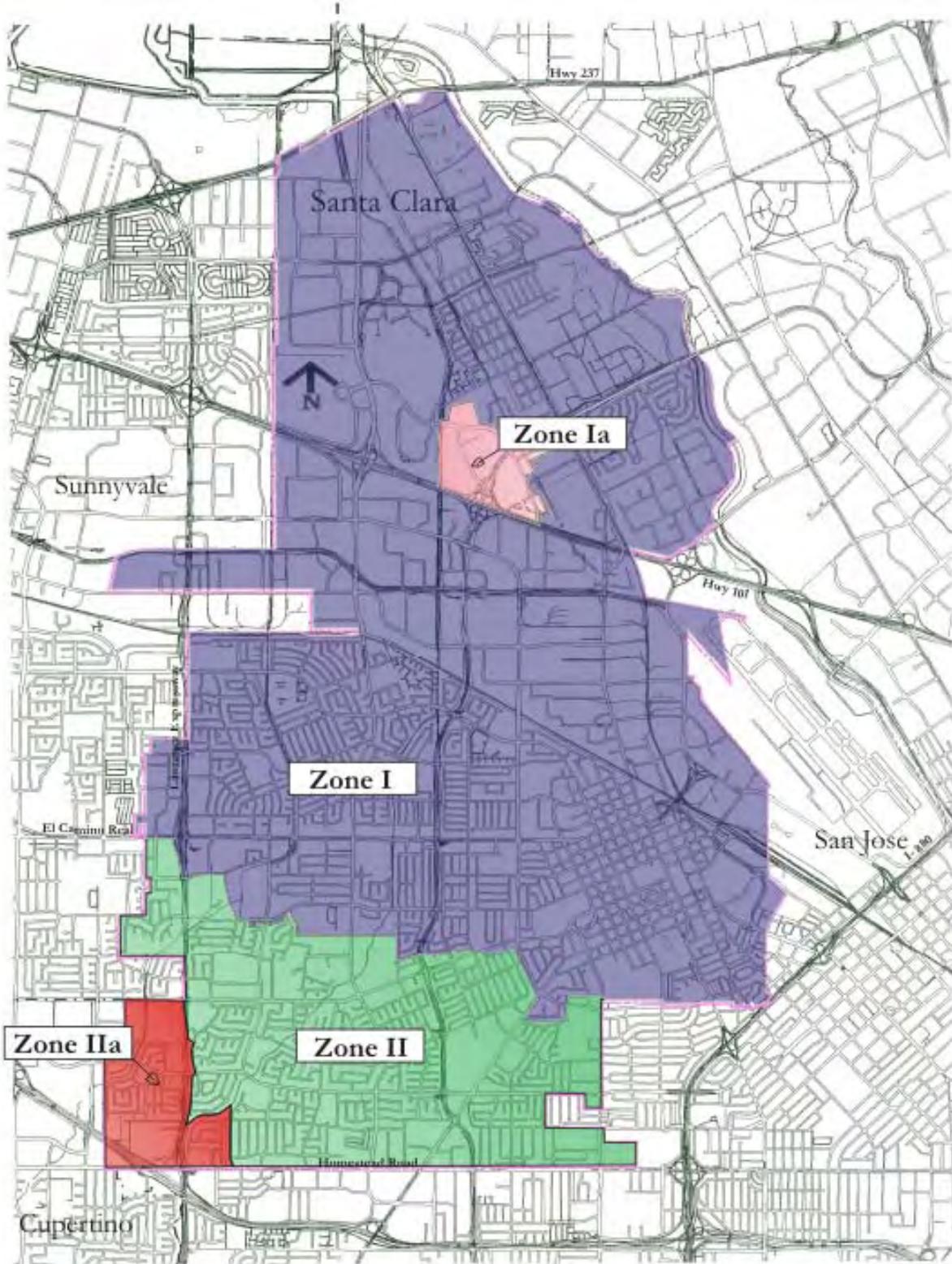
The tables indicate that the water supplies would still be sufficient to meet demands during a multiple dry year event in each planning period with the exception of 2035 in the event of the total loss of water purchased from SFPUC. However, the noted shortfall in supply is only 0.6% or 193 acre-ft. This amount is well within the margin of error related to the projections and therefore is negligible. The tables above assume no increase in conservation or recycled water use. These assumptions yield a more conservative estimate since during a critical multiple dry year event, mandatory conservation measure and increased recycled water usage would be expected to reduce potable water demand.

## **CONCLUSION**

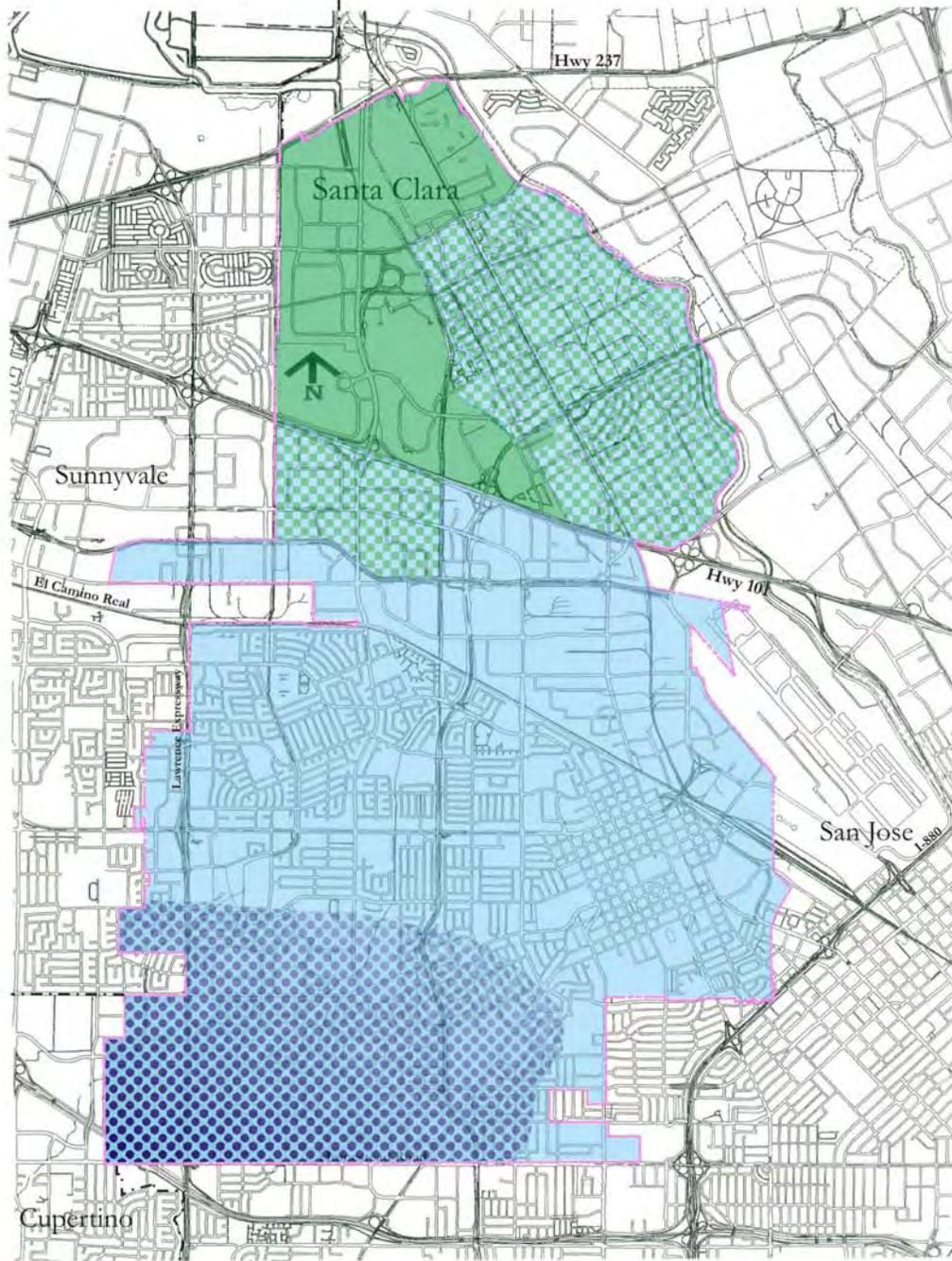
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The General Plan Update 2035 for the City of Santa Clara is projected to increase water demand within the City. However, based on the analysis contained in this Technical Memorandum, the City of Santa Clara Water Utility has determined that there are sufficient water supplies to provide service to the City of Santa Clara for the General Plan Update 2035 under normal and single critical dry year scenarios. In the event of a multiple dry year event and the loss of supply from SFPUC, there is a projected shortfall of 0.6% or 193 acre-ft in the year 2035. However, this minimal shortfall is well within the margin of error for this type of projection. As noted above, numerous conservative assumptions were made regarding both water supply and demand. Therefore, it is the conclusion of the Water Utility that adequate water supplies are available to meet the water demand projected for the 2035 General Plan update.

Figure 3  
**Pressure Zones**

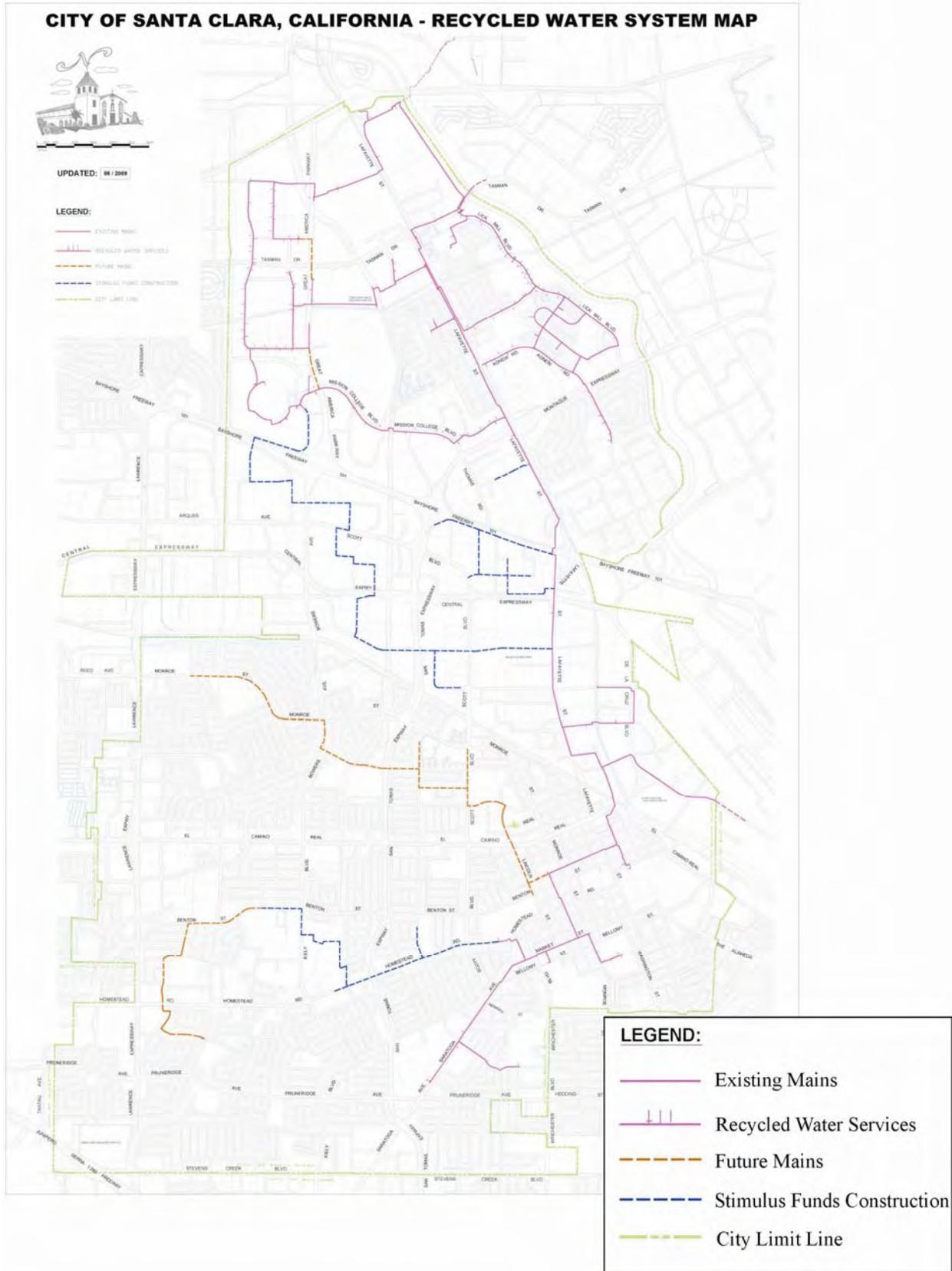


**Figure 4**  
**Source of Water by Area**



-  SFPUC Hetch-Hetchy
-  Blend of SFPUC Hetch Hetchy and Well Water
-  City of Santa Clara Well Water
-  A blend of Well Water and SCVWD treated surface water

Figure 5



**Figure 6**

Well Utilization Calculation

**ZONE I**

Well No.	Capacity (gpm)	Production AF/Y FY08/09	Utilization Factor
1-02	0	0	Inactive
2-02	2,089	703	21%
3-02*	1,707	311	11%
4	1,036	674	40%
5-02	1,594	195	8%
7	1,207	891	46%
12	1,433	16	1%
13-02	1,689	1068	39%
14	1,111	467	26%
16-02	1,104	239	13%
18-02	1,292	669	32%
19	0	0	Inactive
21*	1,583	1,168	46%
22-02	1,198	440	23%
25	929	137	9%
26	908	278	19%
28*	2,018	212	7%
30	1,474	279	12%
32	950	0	pending approval
34	950	937	61%

**ZONE II**

Well No.			
6	1,634	0	0%
8	1,076	606	35%
9-02	1,157	489	26%
10	1,733	1600	57%
11**	1,799	138	5%
17-02*	2,096	427	13%
23	1,789	812	28%
24	1,481	652	27%
29	1,975	328	10%

**ZONE IIa**

Well No.			
15	778	68	5%

Total                      39,790                      13,804                      22%

**APPENDIX F**  
**GENERAL PLAN UPDATE, CITY OF SANTA CLARA WATER UTILITY**  
**POTABLE DISTRIBUTION SYSTEM TECHNICAL MEMORANDUM**

## **TECHNICAL MEMORANDUM**

DATE: August 31, 2009

TO: Kevin Riley, Director of Planning

FROM: Alan Kurotori, Director of Water and Sewer Utilities

PREPARED BY: Robert Wilson, Principal Engineer – Water  
Doug Harrold, Senior Engineering Aide

SUBJECT: General Plan Update, City of Santa Clara Water Utility Potable Distribution System.

### **EXECUTIVE SUMMARY**

This Technical Memorandum summarizes the methodology and results of the potable water system fire flow capacity assessment by the City of Santa Clara Water and Sewer Utilities for 30 Proposed Land Use Areas identified for the City of Santa Clara General Plan Update Alternative A: 2010-2015 Phase, 2015-2025 Phase & 2025-2035 Phase.

The Water and Sewer Utilities staff utilized an hydraulic model updated in 2008 under a contract with Dr. Steve Doe of Boyle Engineering Corporation, who served as a technical advisor for updating the City's water system hydraulic network computer model from the 2002 version to perform the hydraulic simulations. The following analysis were performed:

- Evaluated each of the 30 Proposed Land Use Areas using corresponding Fire Flow Demand as provided by Santa Clara Fire Department while maintaining a minimum residual pressure of 20 PSI;
- Identified water pipeline junction(s) not meeting the 20 PSI residual pressure requirement, factoring in increased water demand for each of the three Alternative A Periods.
- Evaluated options for resolving deficiencies either through revisions in standard operation of the potable water distribution system, or implementation of water system upgrades.

In general the water distribution system proved adequate to supply increased demands being proposed in all three phases of General Plan Update Alternative A assuming that buildings had automatic sprinkler systems installed. However, there were portions of three areas in the water system that were unable to provide the required flows at acceptable pressures. These include portions of Areas 5, 12, and 28.

Area 5: The portion of Area 5 south of El Camino Real, west of Lawrence Expressway is currently served by a network of 8-inch water mains. The current network of water mains as currently configured is inadequate to provide increased levels of service. It should be noted that a development project being planned in this area will be installing new larger water mains which will improve system performance.

Area 12: Portions of Area 12 are served by a network of 4- and 6-inch diameter pipelines installed in the late 1920's. The Water Department current design standards utilize a minimum of 8-inch

diameter pipelines. These older 4- and 6-inch diameter pipelines do not meet current system design standards. This system is limited in its ability to provide for additional water services. These pipelines may prove inadequate to provide additional service depending on the individual development proposal requirements. In addition, potential for changes to well 3-02 and 16-02 sites may also adversely impact water service delivery in this area. This system will need to be reevaluated at the time actual development is proposed to determine the extent of upgrades that will be necessary.

Area 28: Portions of Area 8 bounded by Edward Avenue, Nelo Street, Victor Street, Laurelwood Road and including Aldo Avenue are currently served by a network of 8-inch water mains. The existing network of water mains is inadequate to provide required fire service and will need to be upgraded before significant additional development can occur.

Key sections of this TM summarizing the work completed include:

- Existing Water System
- Design/Performance Criteria
- Hydraulic Model Description and Update
- Water System Analysis
- Conclusions and Recommendations

## **EXISTING WATER SYSTEM**

This section describes the City's existing water system and facilities. Understanding of the water system was gained by collecting and reviewing previous reports, maps, plans, operating records, and discussions with City staff.

### **Current Service Area**

The City is located within Santa Clara County and is bounded on the southern end by the San Francisco Bay; on the north, east, and south by San Jose; on the west by Sunnyvale; and on the southwest by Cupertino. The service area is approximately 19 square miles with a population (as of January 1, 2008) of 115,503.

### **Existing Water Supply Facilities**

#### Groundwater Wells

Throughout the year, groundwater contributes roughly 55 to 70 percent of the City's water supply. Although groundwater is obtainable from 29 City wells, only half of these wells are required during Peak-Hour Demand. Information on the wells is summarized in Table 1. Static depth to water in these wells generally ranges from 0 to 202 feet, while the completed well depth varies from 118 to 900 feet below ground surface. With the exception of Well 5-02, production wells pump directly into the City's distribution system. Control settings are shown in Table 1.

**Table 1. Well Site Start/Stop Setpoints (August 2008)**

Site No.	HP	Zone	Start (psi/ft)	Stop (psi/ft)	Site No.	HP	Zone	Start (psi/ft)	Stop (psi/ft)
2-02	200	1	36	42	17-02	250 <sup>a</sup>	1	55	76
3	100 <sup>a</sup>	1	35	50	18-02	125	1	48	63
4	100	1	38	55	21	150	1	33 <sup>c</sup>	38 <sup>c</sup>
5-02	100	1	26 <sup>b</sup>	30 <sup>b</sup>	22-02	100	1	40	50
6	200	2	60	76	23	200	2	60	76
7	125		31.5 <sup>c</sup>	37.5 <sup>c</sup>	24	200	2	48	72
8	150	2	55	70	25	100	1	40	50
9-02	100	2	N/A	N/A	26	150	1	63	80
10	200	2	60	78	28	200	1	40	60
11	200	2	52	82	29	250	2	45	70
12	150	1	32 <sup>c</sup>	37 <sup>c</sup>	30	150	1	42	55
13-02	150	1	31.5	37.5	32	100	1	N/A	N/A
14	100	1	31 <sup>c</sup>	36 <sup>c</sup>	34	100	1	N/A	N/A
15	100	2A	60	80	36	150	1	N/A	N/A
16-02	100	1	N/A	N/A					

<sup>a</sup> Variable speed pump

<sup>b</sup> Settings based on Downtown Tank elevation

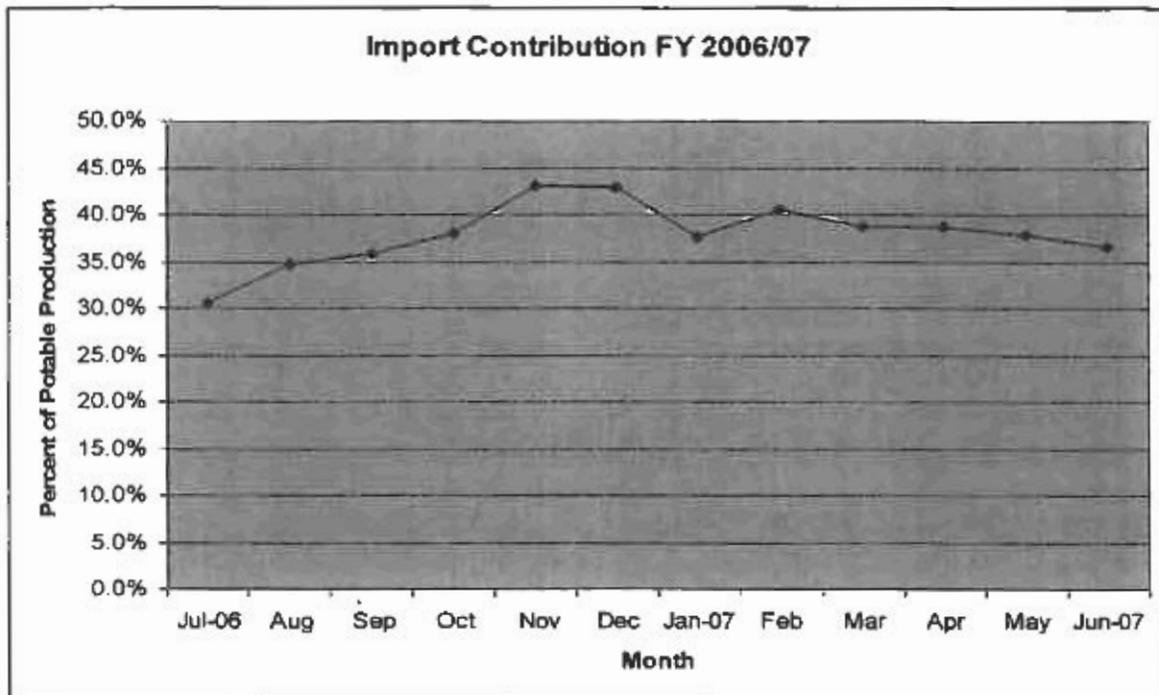
<sup>c</sup> Settings based on Serra Tank elevation

### Imported Water

The remainder of the City's potable water supply comes from surface water imported from two connections with San Francisco Public Utilities Commission (SFPUC) and one connection with SCVWD as shown in Figure 1. Each of these wholesale agencies contributes roughly 50 percent of the imported water delivered to Santa Clara. For this study period, the pressure at which SFPUC imported water was delivered is roughly 80 psi with average flow rates varying from 1,000 to 3,200 gpm, whereas SCVWD water was delivered at roughly 85 psi with an average flow rate of 3,000 gpm.

Figure 1

Import contribution to total FY 2006/07 potable water production of 7,995 MG



### Water Storage Facilities

**Operational Storage** – Stabilizes system pressures and provides operation flexibility. Serra Tanks and Walsh Tank are directly connected to Zone 1 and are used so that 33 percent of the total storage capacity is routinely used for operational daily peak demand.

**Emergency Storage** – Volume of water reserved to meet demands during emergency situations such as failure of well and or import water supply due to loss of electrical power, natural disaster, or other emergency situations. The emergency storage capacity used in the water industry is generally 35 percent of the Maximum Day Demand.

**Fire Flow Storage** – Amount of water required to provide a specified fire flow for a specified duration calculated as a separate and distinct value from other storage requirements. As shown in Table 16, fireflows ranging from a low of 1,500 gpm for 2 hours to a high of 3,000 gpm for 4 hours per fire event, which equates to a fire flow storage requirement of 180,000 to 720,000 gallons, was utilized for this analysis. Due to the fluctuation in water storage throughout the day, only the normal minimum amount in storage that can be delivered at a minimum residual pressure of 20 psi is considered to be available for fire flow analysis. Refer to the effective storage capacities shown in Table 2 and the associated pump stations in Table 3.

**Table 2. Water Storage Tank Site Physical Parameters**

Tank Site	Low Level (ft)	High Level (ft)	Equivalent Diameter (ft)	Emergency Capacity (MG)	Operational Storage Capacity (MG)	% Operational Storage Capacity	% Emergency Storage Capacity
Northside	20	31	212	9.4	2.9	36.40	41.2
Walsh	29	41	50	0.3	0.2	2.20	1.3
Downtown	20	31	150	4.2	1.5	18.20	18.4
Serra	29	39	242.5	8.9	3.5	43.20	39.0
Total				22.8	8.1		

**Table 3. Pump Stations**

Tank Site	Floor Elevation above MSL (ft)	Pump Station Capacity (gpm)	Operational Storage Hours	Emergency Storage Hours
Northside	15	6050	8.0	25.9
Walsh	165	N/A	N/A	N/A
Downtown	64	5800	4.2	12.1
Serra	165	3000	19.2	49.4

### Pressure Zones

Due to the ground elevation varying from 5 to 177 feet above mean sea level (MSL), pressure distribution is optimized with four interconnected zones. Current zone valve settings are listed in Table 4. Elevation variations within pressure zone boundaries are listed in Table 5. Pipelines in the distribution and transmission systems are shown in Table 6.

### **DESIGN/PERFORMANCE CRITERIA**

Standard operational and design criteria are required to evaluate the capabilities of a water distribution system and to guide the planning and design of system improvements. A set of criteria was developed for the City's water distribution system based on industry standards (American Water Works Association (AWWA) Standards) and the City's 2002 Water Master Plan. These criteria are summarized in Table 7 and are followed by detailed descriptions.

**Table 4. Pressure Zone Valve Setpoints**

Location	Setpoint Relief	Setpoint Sustaining	Reverse Flow	Setpoint Reducing	Between Zones	Size (in.)
SCVWD	N/A	65	No	N/A	SCVWD - 2a	10
HH1 - main	N/A	N/A	No	95	HH - 1	10
HH1 - secondary	N/A	65	No	N/A	HH - 1	10
HH2	N/A	80	No	N/A	HH - 1a	8
Law. Exp. - Tracy	80	40	Yes	N/A	2 - 2a	8
Law. Exp. - Pruneridge	80	40	Yes	N/A	2 - 2a	10
Law. Exp. - Homestead	80	40	Yes	N/A	2 - 2a	8
Stevens Ck. - Rodonovan	80	N/A	Yes	N/A	2 - 2a	8
Mauricia - Rodonovan	N/A	40	Yes	N/A	2 - 2a	6
Law. Exp. - ECR	70	N/A	Yes	N/A	2 - 1	8
Law. Exp. - Granada	69	N/A	Yes	N/A	2 - 1	8
Law. Exp. - Lillick Ave.	70	N/A	No	N/A	2 - 1	6
Saratoga - Juanita	70	N/A	Yes	N/A	2 - 1	10
Homestead - Los Padres	75	N/A	Yes	N/A	2 - 1	10
Winchester - Lima Funeral Home	71	40	No	N/A	2 - 1	4
Pomeroy - Benton	73	N/A	Yes	N/A	2 - 1	8
Mission College - San Tomas Cr.	79	70	No	N/A	1a - 1	12
Hwy 101 - San Tomas Cr.	77	70	No	N/A	1a - 1	12
Norman - Thomas	78	72	No	N/A	1a - 1	12
NST- bypass	87	N/A	No	N/A	1-1a	12

**Table 5. Elevation Variation within Pressure Zone Boundaries**

Pressure Zone	Max Elevation (ft msl)	Min Elevation (ft msl)
1	104	5
1A	29	24
2	138	88
2A	177	138

Pipelines

**Table 6. Water Pipeline Physical Parameters**

Transmission Mains			Distribution Mains		
Diameter (inches)	Length (miles)	C Factor	Diameter (inches)	Length (miles)	C Factor
27	1.6	120	12	61.8	120
24	7.6	120	10	38.7	120
20	0.2	120	8	87.8	110
16	1.0	120	6	86.4	110
<b>Total Length</b>	<b>10.4</b>		4	6.4	110
			2	1.7	110
			<b>Total Length</b>	<b>282.8</b>	

**Table 7. Design/Performance Criteria**

Demand Conditions	Minimum Pressure (psi)	Maximum Velocity (fps)
Average Day	50	3
Maximum Day	40	5
Peak Hour	40	7
Maximum Day + 3,500-gpm Fire Flow	20	10

Water Transmission System Sizing

Transmission pipelines are generally 12 inches in diameter or larger and shall be designed based on the criteria described below for Average Day, Maximum Day, and Peak Hour Demand conditions.

*Average Day Demand*

- Average Day Demand is defined as the total volume of water used by customers in a given year divided by the total number of days in that year.
- Main pressures shall be maintained at a minimum of 50 psi. These limits represent design criteria that will provide sufficient system performance.
- Maximum velocity within transmission pipelines shall be 3 feet per second (fps).

*Maximum Day Demand*

- Maximum Day Demand is defined as the maximum amount of water consumed in a given day in a year.
- The minimum allowable pressure in the water transmission main shall be 40 psi.

- The maximum velocity within the transmission system pipelines shall be 5 fps.

#### *Peak Hour Demand*

- Peak Hour Demand is defined as the maximum amount of water consumed in a given hour in a year.
- The minimum allowable main pressure during a Peak Hour Demand shall be 40 psi.
- The maximum pipeline velocity shall be 7 fps.

#### Water Distribution System Sizing

Distribution pipelines are generally 12 inches or less in diameter and shall be sized based on the criteria described below for Average Day, Maximum Day plus Fire Flow, and Peak Hour Demand conditions.

#### *Average Day Demand*

- Water main pressures shall be maintained at a minimum of 50 psi. These limits represent design criteria that will protect the integrity of the system and improve system reliability.
- Maximum velocity within distribution system pipelines shall be 3 fps.

#### *Maximum Day Demand plus Concurrent Fire Flow*

- Fire flows of up to 3,000 gpm shall be provided at a fire hydrant as a general guideline based on the fire flow requirements for sprinklered buildings as shown in Table 16.
- The minimum service pressure of 20 psi at the flowing fire hydrant shall be maintained by the water distribution system.
- The maximum velocity within the distribution system pipelines shall be 10 fps.

#### *Peak Hour Demand*

- The City shall strive to deliver a minimum of 40 psi during Peak Hour Demand periods to improve system reliability.
- The maximum pipeline velocity shall be 7 fps.

## **HYDRAULIC MODEL DESCRIPTION AND UPDATE**

This section presents the hydraulic model, the modeling assumptions, and the element-naming conventions employed in the update of the hydraulic model.

### **Hydraulic Model Overview**

The City's water distribution system was modeled using H<sub>2</sub>OMap modeling software by MWHSoft Inc. The hydraulic modeling software transforms information about the physical water system into a mathematical model that solves for various flow conditions. For each set of specified demands, the model generates information on pressure, flow, velocity and headloss that can be used to analyze the water system performance and identify deficiencies. The model can also be used to verify the adequacy of recommended water system improvements.

The water distribution system is represented in the model as a network of nodes and node-connecting elements. The model is constructed by assigning nodes at each junction (e.g. intersections) and at locations where pipeline diameters change. In addition, nodes are added at locations where there is a significant water demand or supply (e.g., fire hydrants, pump stations or reservoirs). Nodal hydraulic input for the model consists mainly of information on elevation and flow (or demand). Node-connecting element input consists of information on pipeline lengths, diameters and roughness coefficients (C-factor). Headloss in pipelines or other node-connecting elements (such as valves) is modeled by assuming values for the C-factor in the Hazen-Williams formula.

### **Modeling Assumptions**

Establishing computer modeling assumptions is critical for updating, enhancing, calibrating, verifying, and running the model as well as interpreting the results of the simulations. The assumptions used for the City's water distribution system hydraulic model include:

- A minimum pipe size of 6 inches in diameter was modeled. Some 2 and 4-inch pipelines were also included where they were needed for looping.
- Information on pipe length and diameter was extracted from the City's Water Plat Map.
- Pipe C-factors were assigned based on pipe material and age.
- Pump station piping configurations and pump curves for the booster pumps were determined based on site visits, "as-built" plans and interviews with City operational staff. Well pump curves were determined based on recorded flow and pressure data.
- Pipe length accuracy was assumed to be  $\pm 20$  feet.

- Ground surface elevations were estimated using available digital topographic maps. Selected surface elevations were confirmed using geographical positioning system.
- The water demands in the model were expressed in gpm.

Table 8 shows the element naming scheme used in the model.

**Table 8. Hydraulic Network Elements**

Type	Description	Prefix
Junction (J)	Removes (demand) or adds (inflow) water from/to the system	Wxx-Nxx (xx = Block Book Page #)
Node (N)	Represents transition in pipeline characteristic or point where pressure or water quality is monitored	Wxx-Nxx
Tank	Represents storage capacity	Name-TANK
Reservoir	Represents an infinite external source	Name-SUPPLY
Pump	Raises the hydraulic grade to overcome elevation differences and friction losses	Name
Zone Control Valves	Control flow or pressure between pressure zone boundaries in the system based on specified criteria	ZUpStrZDownStr-Location
Pipelines	Conveys water from one node to another	(J)UpStr-(J)DwnStr-Location

#### **Water System Facilities Update in Model**

The April 2002 model was updated to reflect conditions that occurred for a Peak Hour Demand during the study period of FY2006/07. Parameters, such as well and pump curves, zone valve settings, standard control settings, and C factors, were reviewed. Of particular note, all pipe junction elevation data in the former model was replaced with data of much higher accuracy from the United States Geological Survey (USGS). Addition of water mains situated downstream of pump stations and import connections was necessary to resolve details of system conditions in these critical areas. An Equivalent Northside Tank in the prior model was replaced with Northside Tanks #1 and #2, to enable modeling the Peak Hour Demand. GIS and ODBC features were further developed to facilitate model verification/calibration and simplify post processing of output result data analysis. Demand allocation based on land use data in the former model was replaced with sales data distributed by the GIS-driven Demand Allocation Module Extension for H2OMap.

#### **Water Demand Allocation**

Water demands were distributed (allocated to nodes) throughout the model using metered customer data. Refer to Tables 9 and 10 for water demand figures and peaking factors.

**Table 9. Water Production**

<b>FY 2006-07 Water Production Report</b>	<b>Production (Kgal)</b>	<b>Average Production (gpm)</b>
July through December 2006	4,284,584	
January through June 2007	3,710,375	
<b>Total</b>	<b>7,994,959</b>	<b>15,211</b>

**Table 10. Water Demand Calculations**

<b>Demand Conditions</b>	<b>Flow (GPM)</b>	<b>Peaking Factor</b>
Average Day Demand (Production FY 2006/07)	15,211	1
Maximum Day Demand (7-25-06 HSQ Telemetry)	22,068	1.50
Peak Hour Customer Demand (8:00 AM, 7-25-06 - HSQ Telemetry)	27,364	1.80

### **Hydraulic Model Verification**

Model verification is the process of comparing model results to field observations and, if necessary, adjusting the model parameters until model-predicted performance reasonably agrees with measured system performance over a wide range of operating conditions. The City's hydraulic model was calibrated to confirm that it can represent the operation of the water distribution system under varying conditions. The calibration process is described as follows.

#### Calibration Data Collection and Comparison Parameters

Well discharge flows and pressures were collected from the City's telemetry system in 1-minute intervals. Allowance for flow differences between model and telemetry were  $\pm 5$  percent. Allowance for pressure differences between model and telemetry were  $\pm 5$  psi.

#### Verification Process and Results

The water supply sources were simulated in the City's updated model. The model results were compared to the field data from the telemetry. The differences between model results and the field results were calculated. The goal of the verification effort was to achieve no greater than  $\pm 5$  psi pressure differential and no greater than 5% flow differential between the field data and the model-predicted results for each water supply source.

Verification and calibration were based upon simulations of the four-day period beginning 8:00 a.m. Tuesday July 25, 2006 and concluding 8:00 a.m. Saturday July 29, 2006. Peak Hour Demand for FY 2006/07 occurred between 7:00 and 8:00 a.m. Tuesday July 25, 2006. The demand value was 27,364 gpm.

Tables 11 and 12 show the results of the model simulations compared to telemetry data. The results indicate that the City's hydraulic model is adequate for the hydraulic simulation.

**Table 11. Telemetry Water Supply Data for the Peak Hour FY 2006/07**

<b>Model vs. Telemetry Pump Discharge Comparison 8:00 a.m. 7-25-06 (dt = 1 min)</b>			
<b>Pump Identification</b>	<b>Q Telemetry</b>	<b>Q Model</b>	<b>Model vs. Telemetry</b>
SCVWD Turnout	3,062	3,062	0.0%
SFHH NST Import Meter(s)	1,478	1,449	-2.0%
SFHH GAP Import Meter	1,379	1,379	0.0%
Serra Tank Pump Station	Off	Off	Off
Downtown Tank Pump Station	1,485	1,420	-4.5%
Northside Tank Pump Station	1,760	1,755	-0.3%
Well 2	2,080	2,041	-1.9%
Well 3	1,671	1,773	5.7%
Well 4	996	1,017	2.1%
Well 5	Off	Off	Off
Well 6	Off	Off	Off
Well 7	1,430	1,433	0.2%
Well 8	1,156	1,163	0.6%
Well 9	Off	Off	Off
Well 10	1,776	1,683	-5.5%
Well 11	1,876	1,790	-4.8%
Well 12	1,515	1,534	1.2%
Well 13	1,656	1,579	-4.9%
Well 14	Off	Off	Off
Well 15	Off	Off	Off
Well 16	Off	Off	Off
Well 17	Off	Off	Off
Well 18	1,347	1,368	1.6%
Well 21	1,640	1,655	0.9%
Well 22	1,199	1,197	-0.2%
Well 23	Off	Off	Off
Well 24	1,612	1,610	-0.1%
Well 25	Off	Off	Off
Well 26	Off	Off	Off
Well 28	Off	Off	Off
Well 29	Off	Off	Off
Well 30	Off	Off	Off
<b>Total Production (gpm)</b>	<b>29,118</b>	<b>28,909</b>	<b>-0.7%</b>
<b>Total Storage (gpm)</b>	<b>1,754</b>	<b>1,278</b>	<b>-37.3%</b>
<b>Total Demand (gpm)</b>	<b>27,364</b>	<b>27,631</b>	<b>1.0%</b>

**Table 12. Telemetry Pressure Data for the Peak Hour FY 2006/07**

<b>Nodal Pressure Comparison 8:00 a.m. 7-26-06 (dt = 1 min)</b>			
<b>Junction Description (Char)</b>	<b>Telemetry H (psi)</b>	<b>Output H from Model (psi)</b>	<b>Delta H Model vs. Telemetry (psi)</b>
Import Connection (SCVWD)	85.99	84.56	-1.43
Import Connection (SFHH-GAP)	79.37	76.27	-3.1
Import Connection To Zone 1A	80.33	80.33	0
Pump Station (DTT)	62.39	61.7	-0.69
Pump Station (Northside Tanks)	76.71	77.75	1.04
Pump Station (Serra Tanks)	76.17	80.46	4.29
Well 02-02	49.57	53.89	4.32
Well 03-02	59.25	60.82	1.57
Well 04	47.68	49.74	2.06
Well 06	65.42	62.22	-3.2
Well 07	53.11	56.99	3.88
Well 08	62.45	64.23	1.78
Well 09-02	55.07	53.91	-1.16
Well 10	65.75	68.13	2.38
Well 11	72.74	71.2	-1.54
Well 12	61.32	63.83	2.51
Well 13-02	53.42	57.82	4.4
Well 14	55.74	58.23	2.49
Well 15	75.03	80.22	5.19
Well 16-02	63.1	64.05	0.95
Well 17-02	62.39	63.27	0.88
Well 18-02	60.29	63.42	3.13
Well 21	66.36	71.12	4.76
Well 22-02	47.56	50.47	2.91
Well 23	68.04	62.43	-5.61
Well 24	65.36	68.97	3.61
Well 25	47.16	49	1.84
Well 26	71.7	68.58	-3.12
Well 28	47.53	50.77	3.24
Well 29	55.83	57.53	1.7
Well 30	58.03	58.61	0.58

## **WATER SYSTEM ANALYSIS**

This section presents an evaluation using the updated model of the City's water system under demand conditions present during FY 2006-07. Steady-state hydraulic model simulations were used for this evaluation. The focus of this evaluation was to determine if system maintained adequate water pressure for each General Plan Update Alternative A Phase.

### Analysis

Hydraulic analysis was performed on the City of Santa Clara's potable water distribution system utilizing FY 2006-07 actual demands as the base and increasing the demands based on increased water demand projections resulting from proposed General Plan Update Alternative A for each of the three phases, Phase 1 (2010-2015) as shown on Table 13, Phase 2 (2015-2025) as shown on Table 14 and Phase 3 (2025-2035) as shown on Table 15. The analysis also included updated fire flow requirements from the Santa Clara Fire Department as shown on Table 16.

Table 13

**City of Santa Clara General Plan Update – Phase 1 (2010-2015)  
 Proposed Increased Water Demand Calculations**

Area	Proposed Land Use	gpd	acre-ft/day	acre-ft/yr
One	Mixed Use Medium Density Residential/Commercial	25,000	0.077	28.0
Two	Mixed Use High Density Residential/Commercial	28,232	0.087	31.6
Three	Mixed Use High Density Residential/Commercial	8,103	0.025	9.1
Four	Downtown Plan	3,581	0.011	4.0
Five	Mixed Use High Density Residential/Commercial	64,426	0.198	72.2
Six	Mixed Use Medium Density Residential/Commercial	42,652	0.131	47.8
Seven	Mixed Use High Density Residential/Commercial	51,854	0.159	58.1
Eight	Mixed Use Medium Density Residential/Commercial	25,552	0.078	28.6
Nine	Mixed Use High Density Residential/Commercial	67,826	0.208	76.0
Ten	Mixed Use High Density Residential/Commercial	30,379	0.093	34.0
Eleven	Commercial	882	0.003	1.0
Twelve	Station Area Plan	230,953	0.709	258.7
Thirteen	Commercial	2,354	0.007	2.6
Fourteen	Commercial	3,591	0.011	4.0
Fifteen	Mixed Use Medium Density	29,515	0.091	33.1
Sixteen	Office/R&D Intensification (Higher)	128,045	0.393	143.4
Seventeen	Office/R&D Intensification (Higher)	108,346	0.333	121.4
Eighteen	Office/R&D Intensification (Higher)	17,237	0.053	19.3
Nineteen	Office/R&D Intensification	110,192	0.338	123.4
Twenty	Office/R&D Intensification	5,540	0.017	6.2
Twenty-one	Office/R&D Intensification	127,323	0.391	142.6
Twenty-two	Office/R&D Intensification	188,681	0.579	211.4
Twenty-three	Office/R&D Intensification	33,037	0.101	37.0
Twenty-four	High Density Residential	0	0.000	0.0
Twenty-five(a)	Medium Density Residential	0	0.000	0.0
Twenty-five(b)	High Density Residential	0	0.000	0.0
Twenty-six	High Density Residential	0	0.000	0.0
Twenty-seven	High Density Residential	0	0.000	0.0
Twenty-eight	Medium Density Residential	0	0.000	0.0
Thirty	High Density Residential	0	0.000	0.0
<b>TOTAL</b>		<b>1,333,301</b>	<b>4.092</b>	<b>1,493.5</b>

Assumptions: Commercial: 0.14 gpd/ft; R&D: 0.18 gpd/ft; Residential: 223.8 gpd/DU

Table 14

City of Santa Clara General Plan Update – Phase 2 (2015-2025)  
 Proposed Increased Water Demand Calculations

Area	Proposed Land Use	gpd	acre-ft/day	acre-ft/yr
One	Mixed Use Medium Density Residential/Commercial	49,777	0.153	55.8
Two	Mixed Use High Density Residential/Commercial	56,464	0.173	63.2
Three	Mixed Use High Density Residential/Commercial	16,430	0.050	18.4
Four	Downtown Plan	7,385	0.023	8.3
Five	Mixed Use High Density Residential/Commercial	128,852	0.395	144.3
Six	Mixed Use Medium Density Residential/Commercial	85,527	0.262	95.8
Seven	Mixed Use High Density Residential/Commercial	103,714	0.318	116.2
Eight	Mixed Use Medium Density Residential/Commercial	50,880	0.156	57.0
Nine	Mixed Use High Density Residential/Commercial	135,429	0.416	151.7
Ten	Mixed Use High Density Residential/Commercial	60,757	0.186	68.1
Eleven	Commercial	1,764	0.005	2.0
Twelve	Station Area Plan	461,905	1.418	517.4
Thirteen	Commercial	4,708	0.014	5.3
Fourteen	Commercial	7,182	0.022	8.0
Fifteen	Mixed Use Medium Density	59,030	0.181	66.1
Sixteen	Office/R&D Intensification (Higher)	256,090	0.786	286.9
Seventeen	Office/R&D Intensification (Higher)	216,691	0.665	242.7
Eighteen	Office/R&D Intensification (Higher)	78,797	0.242	88.3
Nineteen	Office/R&D Intensification	220,385	0.676	246.9
Twenty	Office/R&D Intensification	11,081	0.034	12.4
Twenty-one	Office/R&D Intensification	254,646	0.781	285.2
Twenty-two	Office/R&D Intensification	377,363	1.158	422.7
Twenty-three	Office/R&D Intensification	66,074	0.203	74.0
Twenty-four	High Density Residential	86,834	0.266	97.3
Twenty-five(a)	Medium Density Residential	100,262	0.308	112.3
Twenty-five(b)	High Density Residential	83,254	0.255	93.3
Twenty-six	High Density Residential	0	0.000	0.0
Twenty-seven	High Density Residential	0	0.000	0.0
Twenty-eight	Medium Density Residential	0	0.000	0.0
Thirty	High Density Residential	0	0.000	0.0
<b>TOTAL</b>		<b>2,981,281</b>	<b>9.149</b>	<b>3,339.5</b>

Assumptions: Commercial: 0.14 gpd/ft<sup>2</sup>; R&D: 0.18 gpd/ft<sup>2</sup>; Residential: 223.8 gpd/DU

Table 15

City of Santa Clara General Plan Update - Phase 3 (2025-2035)  
 Proposed Increased Water Demand Calculations

Area	Proposed Land Use	gpd	acre-ft/day	acre-ft/yr
One	Mixed Use Medium Density Residential/Commercial	49,777	0.153	55.8
Two	Mixed Use High Density Residential/Commercial	56,464	0.173	63.2
Three	Mixed Use High Density Residential/Commercial	16,430	0.050	18.4
Four	Downtown Plan	7,385	0.023	8.3
Five	Mixed Use High Density Residential/Commercial	128,852	0.395	144.3
Six	Mixed Use Medium Density Residential/Commercial	85,527	0.262	95.8
Seven	Mixed Use High Density Residential/Commercial	103,714	0.318	116.2
Eight	Mixed Use Medium Density Residential/Commercial	50,880	0.156	57.0
Nine	Mixed Use High Density Residential/Commercial	63,142	0.194	70.7
Ten	Mixed Use High Density Residential/Commercial	60,757	0.186	68.1
Eleven	Commercial	1,764	0.005	2.0
Twelve	Station Area Plan	461,905	1.418	517.4
Thirteen	Commercial	4,708	0.014	5.3
Fourteen	Commercial	7,182	0.022	8.0
Fifteen	Mixed Use Medium Density	59,030	0.181	66.1
Sixteen	Office/R&D Intensification (Higher)	256,090	0.786	286.9
Seventeen	Office/R&D Intensification (Higher)	216,691	0.665	242.7
Eighteen	Office/R&D Intensification (Higher)	78,797	0.242	88.3
Nineteen	Office/R&D Intensification	220,385	0.676	246.9
Twenty	Office/R&D Intensification	11,081	0.034	12.4
Twenty-one	Office/R&D Intensification	254,646	0.781	285.2
Twenty-two	Office/R&D Intensification	377,363	1.158	422.7
Twenty-three	Office/R&D Intensification	66,074	0.203	74.0
Twenty-four	High Density Residential	86,834	0.266	97.3
Twenty-five(a)	Medium Density Residential	100,262	0.308	112.3
Twenty-five(b)	High Density Residential	83,254	0.255	93.3
Twenty-six	High Density Residential	44,760	0.137	50.1
Twenty-seven	High Density Residential	119,733	0.367	134.1
Twenty-eight	Medium Density Residential	148,141	0.448	163.7
Thirty	High Density Residential	179,488	0.551	201.1
<b>TOTAL</b>		<b>3,399,116</b>	<b>10.431</b>	<b>3,807.5</b>

Assumptions: Commercial: 0.14 gpd/ft<sup>2</sup>; R&D: 0.18 gpd/ft<sup>2</sup>; Residential: 223.8 gpd/DU

Table 16  
 Fire Flow Requirements

Area #	Needed Fire Flow (ISO) (GPM)	Fire Code Fire Flow for Sprinklered Buildings (GPM)	Flow Duration (Hours)
1	12,000	3,000	4
2	12,000	3,000	4
3	7,500	1,875	4
4	2,250	1,500	2
5	7,225	1,800	4
6	12,000	3,000	4
7	6,375	1,600	4
8	12,000	3,000	4
9	5,250	1,500	4
10	5,000	1,500	4
11	3,000	1,500	3
12	8,500	2,125	4
13	5,000	1,500	4
14	6,000	1,500	4
15	7,000	1,750	4
16	12,000	3,000	4
17	10,200	2,550	4
18	6,250	1,600	4
19	10,200	2,550	4
20	2,250	1,500	2
21	12,000	3,000	4
22	12,000	3,000	4
23	5,525	1,500	4
24	8,925	2,231	4
25a	10,200	2,550	4
25b	10,200	2,550	4
26	6,800	1,700	4
27	12,000	3,000	4
28	12,000	3,000	4
30	12,000	3,000	4

Flows are measured at 20 psi.

## **CONCLUSIONS AND RECOMMENDATIONS**

In general the water distribution system proved adequate to supply increased demands being proposed in all three phases of General Plan Update Alternative A assuming that buildings had automatic sprinkler systems installed. However, there were portions of three areas in the water system that were unable to provide the required flows at acceptable pressures. These include portions of Areas 5, 12, and 28.

Area 5: As shown in Figure 2, the portion of Area 5 south of El Camino Real, west of Lawrence Expressway is currently served by a network of 8-inch water mains. The current network of water mains as currently configured is inadequate to provide increased levels of service. It should be noted that a development project being planned in this area will be installing new larger water mains which will improve system performance.

Area 12: As shown in Figure 3, portions of Area 12 are served by a network of 4- and 6-inch diameter pipelines installed in the late 1920's. The Water Department current design standards utilize a minimum of 8-inch diameter pipelines. These older 4- and 6-inch diameter pipelines do not meet current system design standards. This system is limited in it's ability to provide for additional water services. These pipelines may prove inadequate to provide additional service depending on the individual development proposal requirements. In addition, potential for changes to well 3-02 and 16-02 sites may also adversely impact water service delivery in this area. This system will need to be reevaluated at the time actual development is proposed to determine the extent of upgrades that will be necessary.

Area 28: As shown in Figure 4, portions of Area 8 bounded by Edward Avenue, Nelo Street, Victor Street, Laurelwood Road and including Aldo Avenue are currently served by a network of 8-inch water mains. The existing network of water mains is inadequate to provide required fire service and will need to be upgraded before additional development can occur.

Figure 2  
Portion of Area 5 not meeting Fire Flow





Figure 4  
Portion of Area 28 not meeting Fire Flow

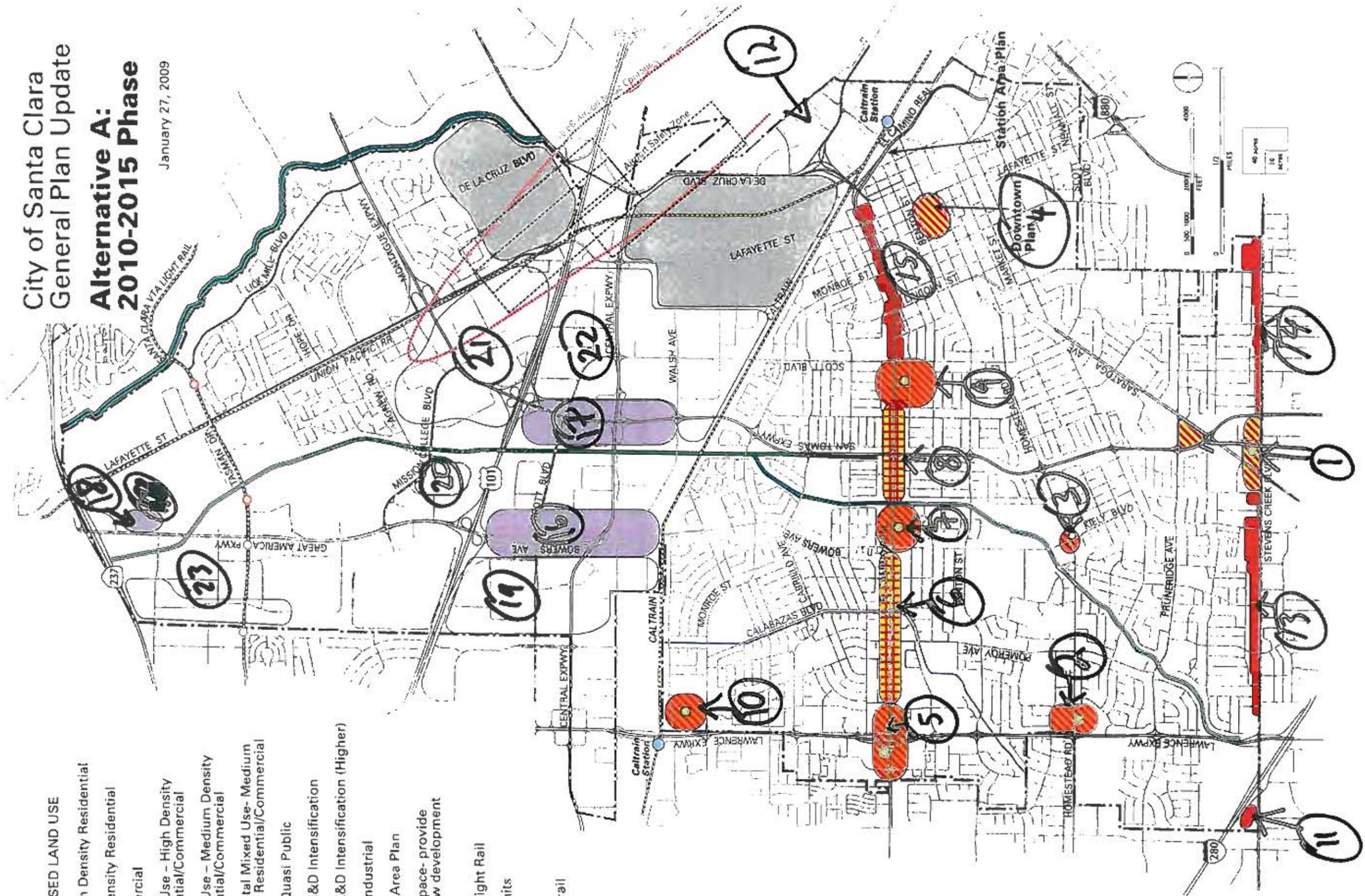


# City of Santa Clara General Plan Update

## Alternative A: 2010-2015 Phase

January 27, 2009

- PROPOSED LAND USE**
- Medium Density Residential
  - High Density Residential
  - Commercial
  - Mixed Use - High Density Residential/Commercial
  - Mixed Use - Medium Density Residential/Commercial
  - Horizontal Mixed Use- Medium Density Residential/Commercial
  - Public/Quasi Public
  - Office/R&D Intensification
  - Office/R&D Intensification (Higher)
  - Heavy Industrial
  - Station Area Plan
  - Open Space- provide with new development
- Other Symbols:**
- Rail & Light Rail
  - City Limits
  - Creek
  - Creek/Trail

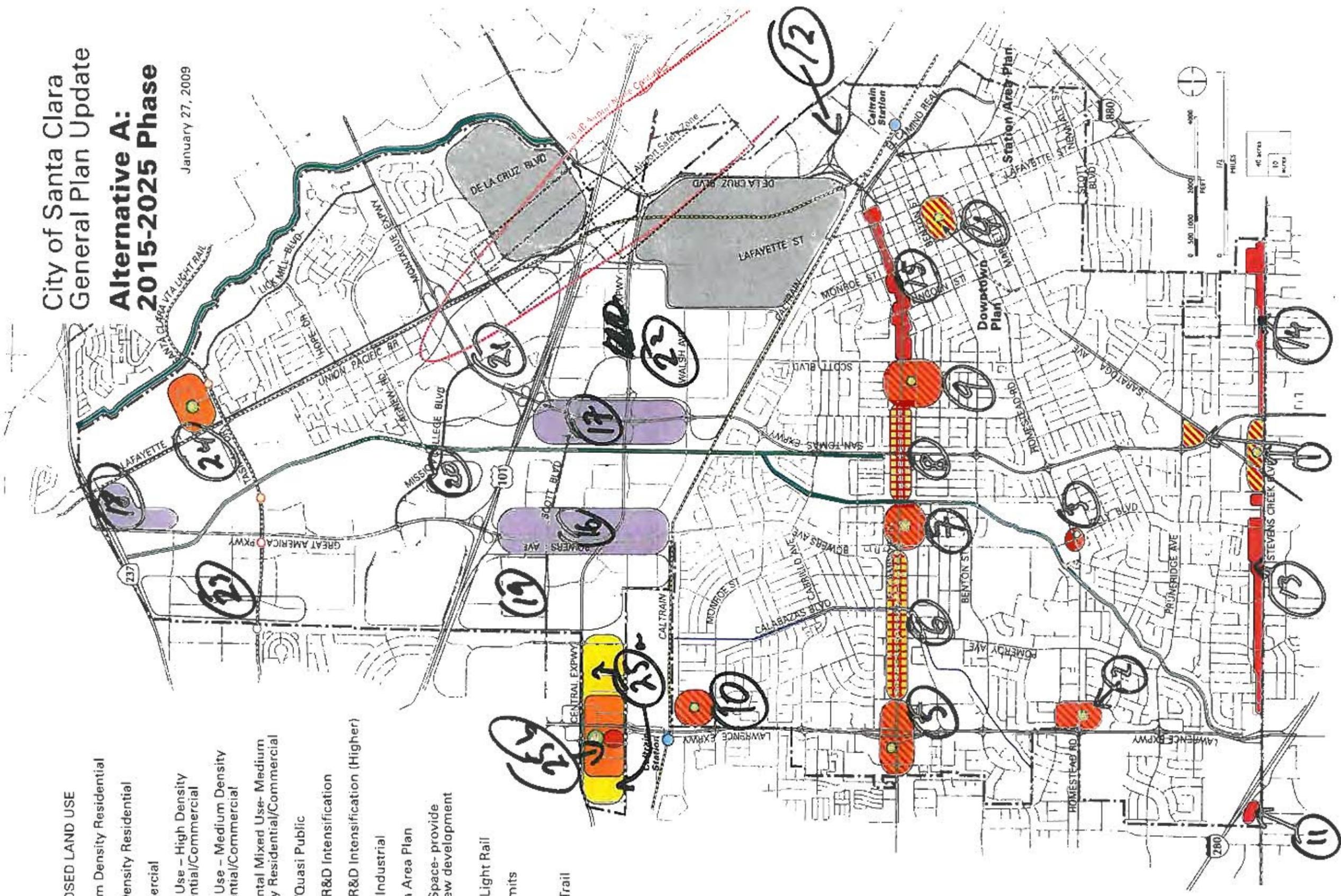


# City of Santa Clara General Plan Update

## Alternative A: 2015-2025 Phase

January 27, 2009

- PROPOSED LAND USE**
- Medium Density Residential
  - High Density Residential
  - Commercial
  - Mixed Use - High Density Residential/Commercial
  - Mixed Use - Medium Density Residential/Commercial
  - Horizontal Mixed Use- Medium Density Residential/Commercial
  - Public/Quasi Public
  - Office/R&D Intensification
  - Office/R&D Intensification (Higher)
  - Heavy Industrial
  - Station Area Plan
  - Open Space- provide with new development
- Other Symbols:**
- Rail & Light Rail
  - City Limits
  - Creek
  - Creek/Trail

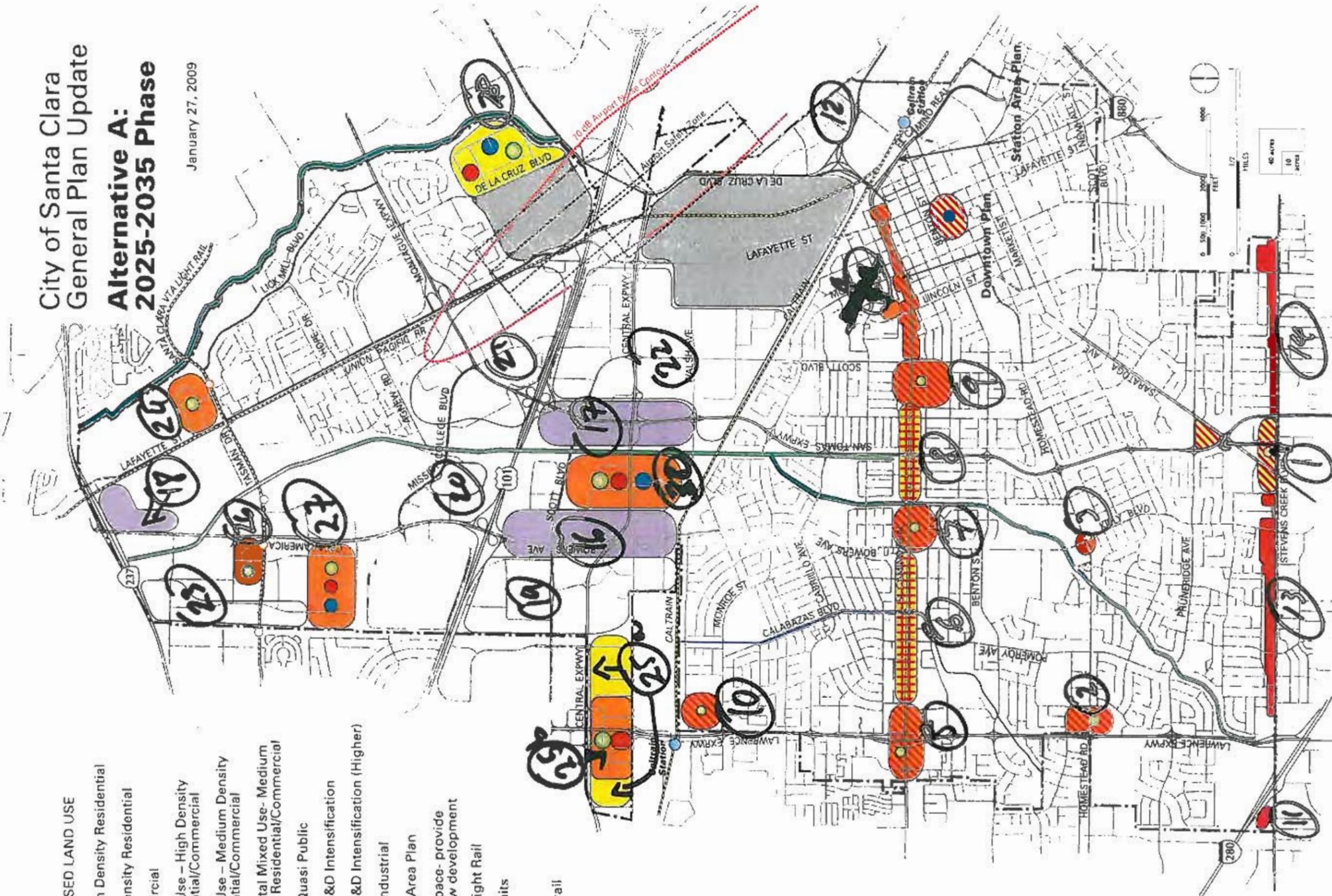


# City of Santa Clara General Plan Update

## Alternative A: 2025-2035 Phase

January 27, 2009

- PROPOSED LAND USE**
- Medium Density Residential
  - High Density Residential
  - Commercial
  - Mixed Use - High Density Residential/Commercial
  - Mixed Use - Medium Density Residential/Commercial
  - Horizontal Mixed Use- Medium Density Residential/Commercial
  - Public/Quasi Public
  - Office/R&D Intensification
  - Office/R&D Intensification (Higher)
  - Heavy Industrial
  - Station Area Plan
  - Open Space- provide with new development
  - Rail & Light Rail
  - City Limits
  - Creek
  - Creek/Trail



**APPENDIX G**  
**SANITARY SEWER CAPACITY ASSESSMENT FOR GENERAL PLAN**  
**UPDATE TECHNICAL MEMORANDUM**

# Draft Technical Memorandum



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## City of Santa Clara Sanitary Sewer Hydraulic Modeling Support for General Plan Update

**Subject:** Sanitary Sewer Capacity Assessment for General Plan Update

**Prepared For:** Carol Ann Painter (City of Santa Clara)

**Prepared by:** Winola Cheong (RMC)

**Reviewed by:** Gisa Ju (RMC)

**Date:** Updated September 1, 2009

**Reference:** 149-004

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This Technical Memorandum (TM) summarizes the methodology and results of the sanitary sewer capacity assessment conducted for the City of Santa Clara General Plan Update, and presents the estimated cost of sanitary sewer improvements needed to accommodate the projected development associated with the General Plan Update.

The TM is organized as follows:

### Executive Summary

- 1 Background
- 2 Hydraulic Model Development
- 3 Capacity Assessment Results
- 4 Project Cost Estimates

## Executive Summary

The results of the Sanitary Sewer Capacity Assessment for the City of Santa Clara General Plan Update are summarized below.

### Phase 1: 2010-2015

The results of the capacity assessment for Phase 1 are similar to the results from the prior assessment completed as part of the City's 2007 Sanitary Sewer Capacity Assessment. As identified in the 2007 Capacity Assessment, much of the insufficient capacity for peak wet weather flow (PWWF) exists in the northwestern portion of the City. In particular the sewers in the following areas show potential surcharges from "throttle" conditions or backwater from a downstream capacity deficiency.

- Great America Parkway from the north side of Highway 101 to the Hetch Hetchy crossing
- Bowers Avenue from Chromite Drive to the north side of Highway 101
- Chromite Drive and Monroe Street from Machado Avenue to west of Bowers Avenue
- Machado Avenue from Calabazas Boulevard to Monroe Street
- Monroe Street from Fordham Drive to Chromite Drive
- Nobili Avenue and Machado Avenue from Flora Vista Avenue to Calabazas Boulevard
- Scott Boulevard from Serra Avenue to Homestead Road
- Park Avenue south of Bellomy Street
- Parallel to Calabazas Creek from Kifer Road to Central Expressway

**Phase 2: 2012-2025**

Pending all improvements made in Phase 1, no deficiencies exist in Phase 2.

**Phase 3: 2025-2035**

Phase 3 did show some intensified capacity deficiencies where improvements (i.e., increase in the pipe size required for Phase 1) would be required. The areas are:

- Great America Parkway from Mission College Boulevard to the Hetch Hetchy crossing
- Machado Avenue between Calabazas Boulevard and Monroe Street
- Nobili Avenue and Machado Avenue from Flora Vista Avenue to Calabazas Boulevard

**Project Cost Estimates**

The 2007 Capacity Assessment explored the idea that a new trunk sewer line along Walsh Avenue from Chromite Drive to De la Cruz Boulevard would eliminate the deficiencies and the need for major improvement projects along Bowers Avenue and Great America Parkway. Since the total design PWWF predicted for Phase 3 of the General Plan Update is virtually the same as that predicted for future conditions in the 2007 Capacity Assessment, it can be assumed that the Walsh project would provide sufficient relief capacity for the General Plan Update flows as well. The City has already recommended implementation of this alternative, and the design has been completed with the intention of construction starting in 2010. Below are the estimated costs for the improvements:

- Walsh Avenue Sewer Project                      \$14,000,000
- 7 other smaller projects                              \$ 8,264,000

## 1 Background

The City of Santa Clara (City) is currently preparing an update of its General Plan. The proposed General Plan Update includes three planning horizons (phases): 2010 to 2015, 2015 to 2025, and 2025 to 2035, in which specific areas of the City have been identified for changed or intensified land uses. As part of the General Plan Update process, a study was conducted to (1) evaluate the impacts of the proposed General Plan developments on the City's existing sanitary sewer system, and (2) to identify necessary sewer infrastructure improvements to accommodate the development proposed under the General Plan Update.

## 2 Hydraulic Model Development

A sanitary sewer hydraulic model (model) was used in this study. The model was originally developed and used as part of the City's Sanitary Sewer Capacity Assessment completed in 2007. The model is comprised of primarily 10-inch and larger sewers and a portion of smaller diameter pipes, collectively referred to as the trunk sewer system. The trunk sewer system conveys flows generated from the City's service area (plus a portion of the Cupertino Sanitary District) to the San Jose/Santa Clara Water Pollution Control Plant (SJ/SC WPCP).

The sewer service area is divided into sewer subbasins, each with a specific "load manhole" in the modeled sewer network. The sewer subbasins represent the smaller areas of the collection system that contribute wastewater flows to the trunk system. A map of the City's trunk sewer network and sewer subbasins is included in **Appendix A** of this TM.

### Establishing Baseline Condition

Wastewater flows from the 2007 Capacity Assessment were used as the starting point for this study. The baseline flows for that study represent conditions in 2006, when flow monitoring for the study was performed. Based on information provided by the City, the baseline flows were updated for developments that occurred between 2006 and 2008. Development anticipated between 2008 and 2010 was relatively minor and was captured in the projections to 2035. The resulting data was used in this study as the baseline flow condition of the General Plan Update.

### Wastewater Flow Development

Wastewater flows include three components: base wastewater flow (BWF), groundwater infiltration (GWI), and rainfall-dependent infiltration/inflow (RDI/I). For this study, BWF for the proposed General Plan Update development was computed and added to the model. No increase in infiltration/inflow flows was assumed to result from the new developments, since the proposed development is primarily intensification of existing land uses rather than development of new areas. The land-use appropriate diurnal wastewater flow profiles (e.g. residential, commercial, industrial) from the 2007 Capacity Assessment were used to simulate the time-varying BWF in the model.

The BWF for each proposed area of development was computed based on parcel-based land use data in GIS format provided by the City's Planning Department consultant, Dyett and Bhatia Associates. BWF was computed by applying the appropriate unit flow factor to the specific proposed land use. The flow factor used depended on the type of land use and the units (e.g., residential dwelling units, square footage of building floor space, parcel size in acres) that were provided in the GIS file to quantify the land use. **Table 2-1** presents a list of land use types included in this study and their associated unit flow factors.

**Table 2-1: Base Wastewater Unit Flow Factors**

Land Use	Unit Flow Factor	Basis
Low Density Residential	245 gpd/DU <sup>a</sup>	2007 Capacity Assessment
Medium Density Residential	154 gpd/DU	2007 Capacity Assessment
High Density Residential	154 gpd/DU	2007 Capacity Assessment
Retail & Residential <sup>b</sup>	154 gpd/DU	2007 Capacity Assessment
Commercial <sup>c</sup>	0.1 gpd/sq. ft. <sup>d</sup>	2007 Capacity Assessment
Hotel	0.48 gpd/sq. ft.	Standard Unit Flow Factor per SJ/SC WPCP <sup>e</sup>
Industrial/Office/R&D <sup>f</sup> (higher intensity)	0.15 gpd/sq. ft.	2007 Capacity Assessment
Warehouse Manufacturing	0.052 gpd/sq. ft.	Standard Unit Flow Factor per SJ/SC WPCP
Public/Institutional	0.15 gpd/sq.ft	Assumed to be similar to Office/R&D uses
Parks/Recreation	--	Assumed to generate little or no flow

- gpd/DU = gallons per day per dwelling unit
- Flow assumed to be primarily residential
- Including neighborhood and regional commercial services, retail, office, and auto sales
- gpd/sq. ft. = gallons per day per square foot of building floor space
- SJ/SC WPCP = San Jose / Santa Clara Water Pollution Control Plant
- R&D = Research & Development

In some cases, the demolition of existing development was identified by City staff. In these cases, the estimated flow from the existing development was subtracted out from the model baseline flow.

In general, the BWF generated by a development parcel was calculated as follow:

$$BWF = (Size\ of\ New\ Development \times Unit\ Flow\ Factor) - (Demolition\ of\ Existing\ Development \times Unit\ Flow\ Factor)$$

A table of the computed BWF for each sewer subbasin can be found in **Appendix B**.

**Table 2-2** shows the estimated average dry weather flow (ADWF), peak dry weather flow (PDWF), and peak wet weather flow (PWWF) for each of the three General Plan Update phases. As per the 2007 Capacity Assessment, flows from Cupertino Sanitary District were included in the model up to the District's contracted maximum capacity in the City's sewer system.

**Table 2-2: Summary of Wastewater Flow Estimates**

Scenario	ADWF <sup>a</sup> (MGD)	PDWF <sup>a</sup> (MGD)	PWWF <sup>b</sup> (MGD)
Phase 1	26.8	34.9	53.5
Phase 2	28.7	37.2	56.0
Phase 3	30.6	39.5	57.8

- ADWF and PDWF represent a non-rainfall wintertime condition and include groundwater infiltration.
- PWWF represents peak flow for a 10-year frequency design storm.

### 3 Capacity Assessment Results

Capacity requirements in the sanitary sewer system are based on the ability to convey the peak wet weather flow (PWWF) that would be expected in the system under a 10-year design storm event. For each General Plan Update phase, the model was run to identify areas of the system that may have insufficient capacity to convey the design PWWF, as evidenced by pipe surcharge (water level above the top of the pipes).

The results of model runs for Phase 1 are shown in **Figure 3-1**. The figure shows pipes that are predicted to surcharge under design PWWF due to “throttle” conditions (generally indicative of a capacity deficiency) or backwater from a downstream capacity deficiency. Note that pipes that are designed to flow under pressure (e.g., inverted siphons) also show up as “throttled” in this figure, although they may not necessarily be capacity deficiencies.

In accordance with the criteria established for the 2007 Capacity Assessment, pipes were considered to be capacity deficient if the PWWF resulted in more than about 1 foot of surcharge. To identify these pipes, hydraulic profiles were generated using the model software for all areas of the system identified as being surcharged. The profiles were reviewed to identify areas of surcharge higher than 1 foot and to identify where relief capacity would be required to eliminate surcharged conditions or reduce surcharge to an acceptable level. At this stage in the analysis, relief capacity was considered to be provided by replacing the deficient pipes with larger pipes in the same alignment, and did not consider any alternative improvements such as diversions, new sewer alignments, or parallel pipes. In accordance with the City’s design criteria, replacement pipes were sized to flow no more than about 0.75 full at design PWWF. **Table 3-1** summarizes the identified capacity deficiencies and the required improvements. The preliminary improvement projects are also shown in **Figure 3-2**.



**Legend**

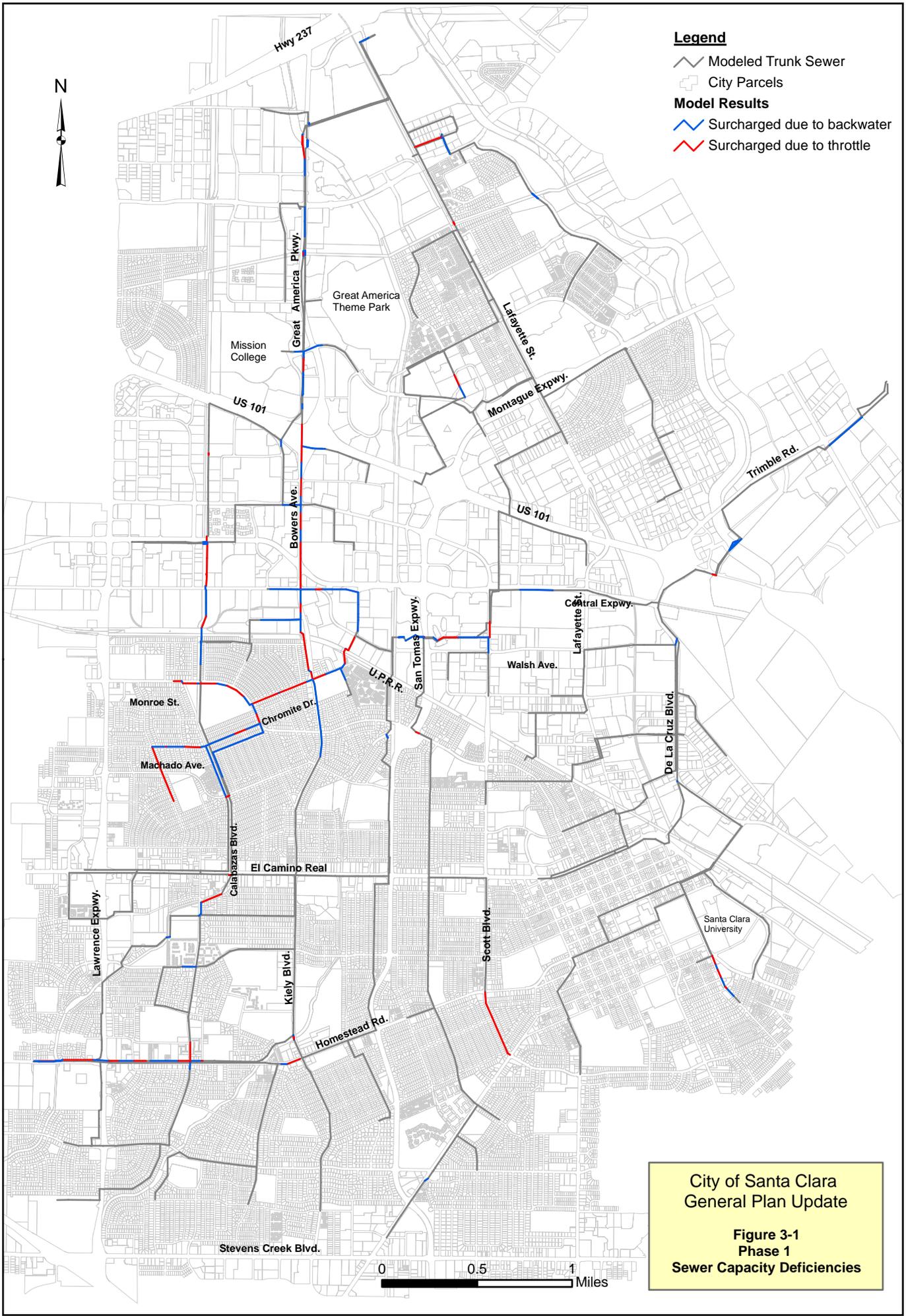
 Modeled Trunk Sewer

 City Parcels

**Model Results**

 Surcharged due to backwater

 Surcharged due to throttle



City of Santa Clara  
General Plan Update  
**Figure 3-1**  
Phase 1  
Sewer Capacity Deficiencies

**Table 3-1: Phase 1 Capacity Deficiencies and Required Improvements**

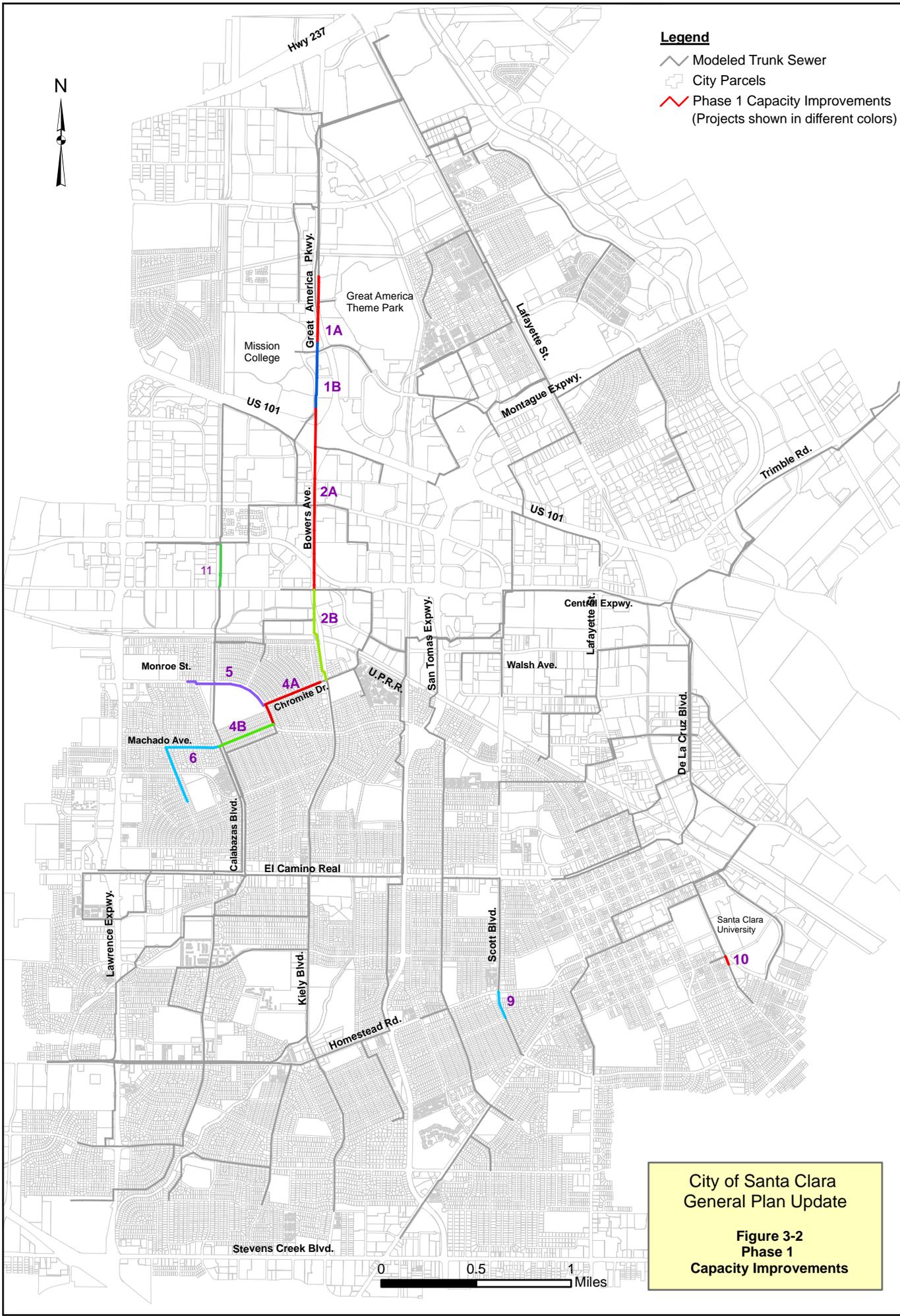
Proj. No. <sup>a</sup>	Location	US MH	DS MH	Length (ft.)	Design Flow <sup>b</sup> (mgd)	Exist. Dia. (in.)	Req'd Dia. (in.)
1A	Great America Pkwy. from Mission College Blvd. to Hetch Hetchy crossing	S83-12	S93-57	1,900	19.3	36	39
1B	Great America Pkwy. from north side of US 101 to Mission College Blvd.	S73-1	S83-12	1,800	18.5	33	39
2A	Bowers Ave. from Kifer Rd. to north side of US 101	S63-20	S73-1	5,000	17.2-18.5	30-33	36-39
2B	Bowers Ave. from Chromite Dr. to Kifer Rd.	S53-34	S63-20	2,600	15.8-16.5	27	33
4A	Chromite Dr. and Monroe St. from Machado Ave. to west of Bowers Ave.	S52-80	S53-41	2,200	4.7-6.4	18	24-27
4B	Machado Ave. from Calabazas Blvd. to Monroe St.	S52-102	S52-80	1,600	3.5	15 12(siphon)	18-21 15 (siphon)
5	Monroe St. from Fordham Dr. to Chromite Dr.	S51-22	S52-65	2,500	0.82	10 8 (siphon)	12 10 (siphon)
6	Nobili Ave. and Machado Ave. from Flora Vista Ave. to Calabazas Blvd.	S41-53	S52-101	3,100	1.1-3.5	10-15	15-18
9	Scott Blvd. from Serra Ave. to Homestead Rd.	S25-37	S35-98	800	0.54	8	10
10	Park Ave. south of Bellomy St.	S38-75	S38-66	250	0.83	10	12
11	Parallel to Calabazas Creek from Kifer Rd. to Central Expwy.	S62-38	S62-10	1,200	8.9	24	27

a. Refers to project ID from the 2007 Sanitary Sewer Capacity Assessment, except Project 11.

b. Design flow is peak wet weather flow for 10-year design storm.



- Legend**
- Modeled Trunk Sewer
  - City Parcels
  - Phase 1 Capacity Improvements  
(Projects shown in different colors)



City of Santa Clara  
General Plan Update  
**Figure 3-2**  
Phase 1  
Capacity Improvements

Building upon the required improvement projects for Phase 1, Phase 2 and Phase 3 wastewater flows were loaded into the model to evaluate the need for any additional system improvements. The model did not show any deficiencies necessitating improvements in Phase 2, but there were a few areas with intensified capacity deficiencies under Phase 3 loads.

**Table 3-2** summarizes the additional identified capacity deficiencies and the required improvements. These improvement projects are also shown in **Figure 3-3**.

**Table 3-2: Phase 3 Additional Capacity Deficiencies and Required Improvements**

Proj. No. <sup>a</sup>	Location	UP MH	DS MH	Length (ft.)	Design Flow <sup>b</sup> (mgd)	Phase 1 Dia. (in.)	Req'd Dia. (in.)
1A	Great America Pkwy. From Mission College Blvd. to Hetch Hetchy crossing	S83-12	S93-57	1,900	20.8	39	42
4B	Machado Ave. between Calabazas Blvd. and Monroe St.	S52-86	S52-87	400	3.8	18	21
6	Nobili Ave. and Machado Ave. from Bella Vista Ave. to Calabazas Blvd.	S41-37	S52-101	2,900	1.2-3.7	15-18	18-21

- a. Refers to project ID from the 2007 Sanitary Sewer Capacity Assessment.
- b. Design flow is peak wet weather flow for 10-year design storm.



**Legend**

- Modeled Trunk System
- City Parcels
- Phase 3 Additional Capacity Improvements  
(Projects shown in different colors)



City of Santa Clara  
General Plan Update  
**Figure 3-3**  
Phase 3  
Capacity Improvements

## 4 Project Cost Estimates

The capacity assessment presented in the previous section of this TM identifies the capacity deficiencies and associated sewer capacity improvements that the City would need to implement in order to accommodate the increased wastewater flows anticipated as a result of the General Plan Update developments.

The 2007 Capacity Assessment explored alternative solutions to relieve deficiencies along Bowers Avenue and Great America Parkway (i.e. deficiencies associated with Projects 1A, 1B, 2A, and 2B in this study). The assessment showed that a new trunk sewer along Walsh Avenue from Chromite Drive to De la Cruz Boulevard could adequately relieve the deficiencies and hence eliminate the need for Projects 1A, 1B, 2A, and 2B. The City subsequently adopted the recommendation to implement this alternative, and design of the Walsh Avenue Sewer Project was recently completed, with construction anticipated to begin in 2010. Since the total design PWWF predicted for Phase 3 of the General Plan Update is virtually the same as that predicted for future conditions in the 2007 Capacity Assessment, it can be assumed that the Walsh project would provide sufficient relief capacity for the General Plan Update flows as well. Therefore, this project would replace the previously identified Projects 1A, 1B, 2A, and 2B.

Preliminary level cost estimates have been prepared or updated for the other identified projects, using the following criteria and assumption:

1. Estimates are based on the cost criteria developed for the 2007 Capacity Assessment and updated to current costs based on the Engineering News Record Construction Cost Index (ENR CCI).
2. It is assumed that when implementing projects required for Phase 1, the City would size the new pipes such that they could accommodate the full Phase 3 flows.

In some cases, refinements to the preliminary improvements have been made in developing these estimates (e.g., paralleling rather than replacing an undersized inverted siphon). **Table 4-1** summarizes the estimated costs of the required projects. These projects are also shown in **Figure 3-4**. Itemized estimates and project descriptions are presented in **Appendix C**. It should be noted that all projects identified in this TM should be verified with detailed predesign analyses, including topographic surveys, geotechnical investigations, utility research, constructability reviews, and additional flow monitoring and hydraulic modeling if warranted. The decision to parallel or replace existing sewers should consider the physical condition and remaining useful life of the existing pipelines; the availability of pipeline corridors for new sewer construction; and operation and maintenance concerns.

**Table 4-1: Project Cost Estimates**

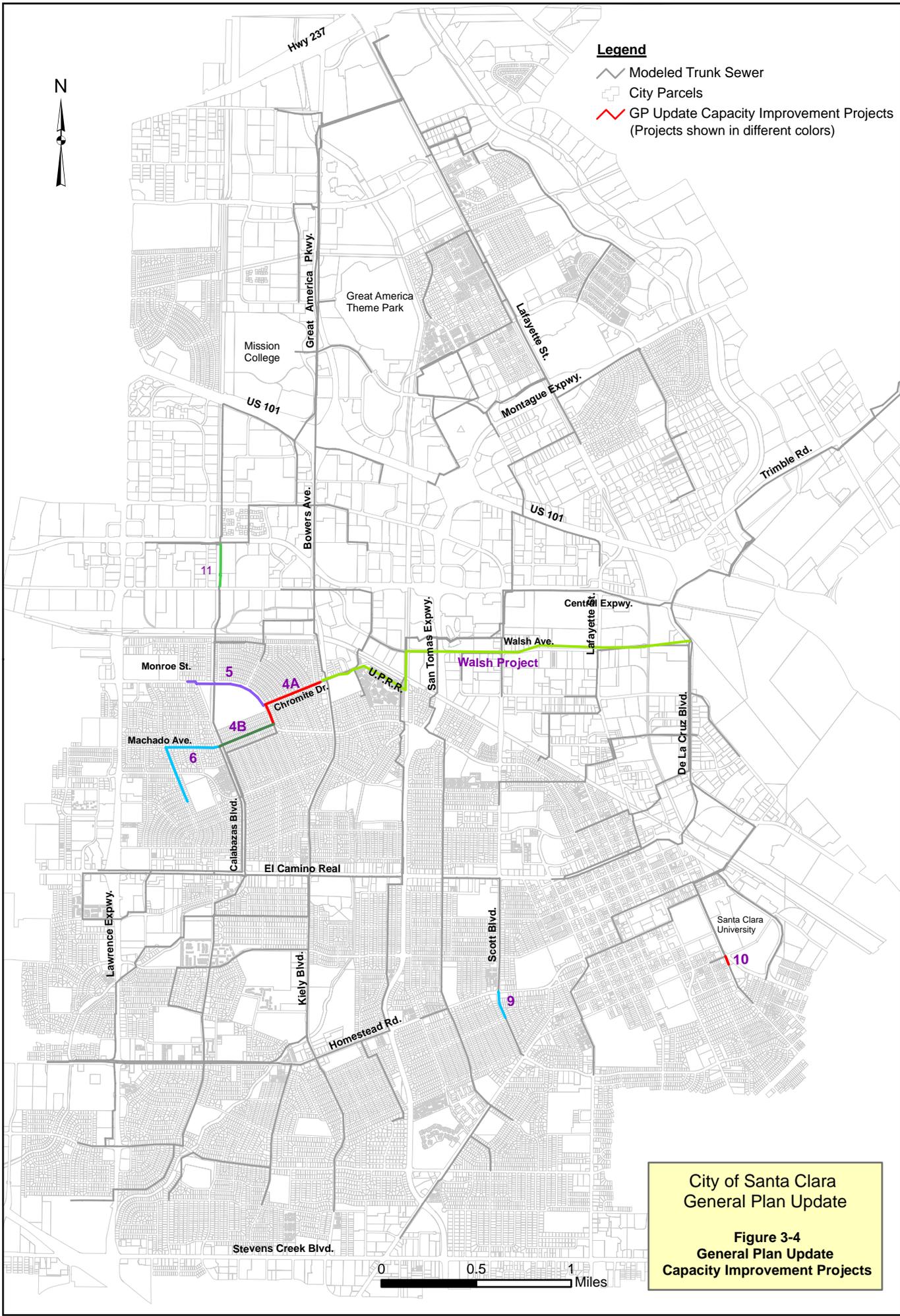
Proj. No.	Location	Project Description	Estimated Capital Cost	Phase Req'd.
-- <sup>a</sup>	Walsh Avenue	Install 11,200 feet of 30- and 33-inch new pipe.	\$14,000,000	1
4A	Chromite Dr. and Monroe St. from Machado Ave. to west of Bowers Ave.	Replace 600 feet of 18-inch pipe with 24-inch pipe. Replace 1,600 feet of 18-inch pipe with 27-inch pipe.	\$2,048,000	1
4B	Machado Ave. from Calabazas Blvd. to Monroe St.	Replace 700 feet of 15-inch pipe with 18-inch pipe, and 800 feet of 15-inch pipe with 21-inch pipe. Parallel 12-inch siphon with new 12-inch siphon.	\$1,871,000	1
5	Monroe St. from Fordham Dr. to Chromite Dr.	Replace 2,400 feet of 10-inch pipe with 12-inch pipe. Parallel 8-inch siphon with new 8-inch siphon.	\$1,447,000	1
6	Nobili Ave. and Machado Ave. from Flora Vista Ave. to Calabazas Blvd.	Replace existing 10-inch, 12-inch and 15-inch pipe with 700 feet of 18-inch pipe and 2,400 feet of 21-inch pipe.	\$1,689,000	1
9	Scott Blvd. from Serra Ave. to Homestead Rd.	Replace 800 feet of 8-inch pipe with 10-inch pipe.	\$388,000	1
10	Park Ave. south of Bellomy St.	Replace 250 feet of 10-inch pipe with 12-inch pipe.	\$116,000	1
11	Parallel to Calabazas Creek from Kifer Rd. to Central Expwy.	Replace 1,200 feet of 24-inch pipe with 27-inch pipe.	\$705,000	1
<b>Total</b>			<b>\$22,264,000</b>	

- a. Replaces Projects 1A, 1B, 2A, and 2B. Estimated capital cost is based on Engineer's Cost Estimate at 100% design (\$13,100,000) plus an allowance for construction administration and inspection.



**Legend**

- Modeled Trunk Sewer
- City Parcels
- GP Update Capacity Improvement Projects  
(Projects shown in different colors)



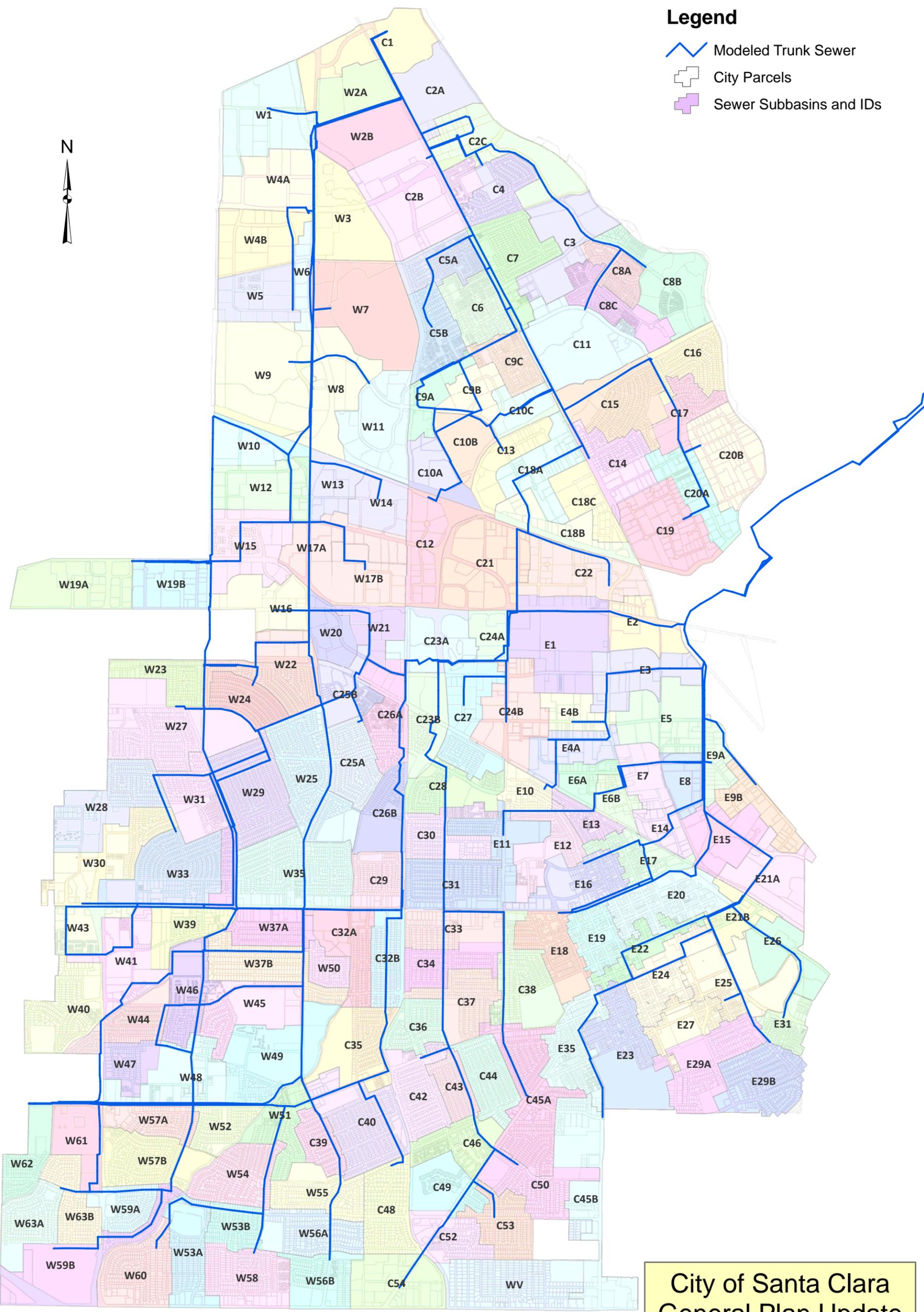
City of Santa Clara  
General Plan Update

**Figure 3-4**  
General Plan Update  
Capacity Improvement Projects

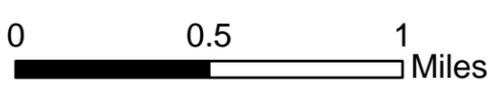
## **Appendix A – Sewer Subbasin Map**

**Legend**

-  Modeled Trunk Sewer
-  City Parcels
-  Sewer Subbasins and IDs



City of Santa Clara  
General Plan Update  
**Appendix A**  
**Sanitary Sewer Subbasins**



## **Appendix B – Sewer Subbasin Base Wastewater Flows**

Sewer Basin ID	Total Phase 1 Flow (MGD)	Total Phase 2 Flow (MGD)	Total Phase 3 Flow (MGD)
C1	0.009	0.058	0.106
C2A	0.007	0.009	0.011
C2B	0.018	0.018	0.018
C2C	0.092	0.116	0.141
C3	0.031	0.031	0.031
C4	0.086	0.086	0.086
C5A	0.077	0.077	0.077
C5B	0.075	0.075	0.075
C6	0.090	0.090	0.090
C7	0.098	0.098	0.098
C8A	0.050	0.050	0.050
C8B	0.147	0.147	0.147
C8C	0.092	0.092	0.092
C9A	0.016	0.038	0.059
C9B	0.050	0.067	0.083
C9C	0.058	0.058	0.058
C10A	0.031	0.045	0.059
C10B	0.015	0.015	0.016
C10C	0.024	0.038	0.052
C11	0.202	0.202	0.202
C12	0.030	0.081	0.132
C13	0.076	0.099	0.122
C14	0.101	0.101	0.101
C15	0.166	0.166	0.166
C16	0.064	0.064	0.064
C17	0.046	0.046	0.046
C18A	0.067	0.118	0.169
C18B	0.024	0.048	0.071
C18C	0.059	0.085	0.112
C19	0.119	0.119	0.119
C20A	0.057	0.057	0.057
C20B	0.058	0.058	0.058
C21	0.088	0.155	0.230
C22A	0.165	0.192	0.219
C22B	0.013	0.026	0.040
C23A	0.028	0.028	0.028
C23B	0.034	0.052	0.070
C24A	0.030	0.046	0.062
C24B	0.068	0.145	0.221
C25A	0.059	0.059	0.059
C25B	0.060	0.060	0.060
C26A	0.052	0.052	0.052
C26B	0.027	0.027	0.027
C27	0.149	0.175	0.200
C28	0.109	0.109	0.109

Sewer Basin ID	Total Phase 1 Flow (MGD)	Total Phase 2 Flow (MGD)	Total Phase 3 Flow (MGD)
C29	0.068	0.075	0.082
C30	0.108	0.108	0.108
C31	0.095	0.109	0.123
C32A	0.111	0.139	0.167
C32B	0.050	0.053	0.057
C33	0.135	0.189	0.243
C34	0.047	0.047	0.047
C35	0.170	0.170	0.170
C36	0.079	0.079	0.079
C37	0.053	0.053	0.053
C38	0.080	0.081	0.087
C39	0.034	0.034	0.034
C40	0.144	0.163	0.182
C42	0.079	0.079	0.079
C43	0.045	0.045	0.045
C44	0.061	0.061	0.061
C45A	0.189	0.189	0.189
C45B	0.094	0.095	0.095
C46	0.035	0.035	0.035
C48	0.063	0.063	0.063
C49	0.029	0.029	0.029
C50	0.157	0.157	0.157
C52	0.078	0.087	0.101
C53	0.065	0.065	0.065
C54	0.195	0.223	0.266
E1	0.057	0.076	0.095
E2	0.003	0.003	0.003
E3	0.040	0.040	0.040
E4A	0.025	0.029	0.032
E4B	0.032	0.037	0.042
E5	0.177	0.177	0.177
E6A	0.034	0.034	0.034
E6B	0.033	0.033	0.033
E7	0.130	0.130	0.130
E8	0.012	0.012	0.012
E9A	0.025	0.025	0.025
E9B	0.069	0.143	0.217
E10	0.112	0.112	0.112
E11	0.094	0.094	0.094
E12	0.071	0.071	0.071
E13	0.045	0.045	0.045
E14	0.020	0.020	0.020
E15	0.056	0.104	0.151
E16	0.148	0.149	0.194
E17	0.073	0.076	0.100

Sewer Basin ID	Total Phase 1 Flow (MGD)	Total Phase 2 Flow (MGD)	Total Phase 3 Flow (MGD)
E18	0.065	0.067	0.076
E19	0.048	0.048	0.053
E20	0.084	0.089	0.094
E21A	0.097	0.265	0.434
E21B	0.035	0.067	0.099
E22	0.055	0.061	0.054
E23	0.074	0.074	0.074
E24	0.101	0.148	0.081
E25	0.119	0.119	0.119
E26	0.057	0.073	0.086
E27	0.122	0.122	0.122
E29A	0.140	0.140	0.140
E29B	0.107	0.107	0.107
E31	0.046	0.046	0.046
E35	0.112	0.112	0.112
W1	0.106	0.117	0.128
W2A	0.000	0.000	0.000
W2B	0.000	0.000	0.000
W3	0.051	0.051	0.051
W4A	0.069	0.084	0.099
W4B	0.051	0.051	0.051
W5	0.021	0.021	0.024
W6	0.021	0.021	0.021
W7	0.026	0.026	0.026
W8	0.084	0.084	0.084
W9	0.058	0.058	0.061
W10	0.060	0.097	0.133
W11	0.078	0.113	0.147
W12	0.140	0.207	0.275
W13	0.013	0.013	0.013
W14	0.016	0.016	0.016
W15	0.091	0.145	0.200
W16	0.061	0.116	0.171
W17A	0.055	0.102	0.149
W17B	0.053	0.110	0.174
W19A	0.032	0.054	0.075
W19B	0.077	0.094	0.111
W20	0.034	0.073	0.112
W21	0.030	0.031	0.035
W22	0.097	0.113	0.128
W23	0.129	0.145	0.161
W24	0.060	0.060	0.060
W25	0.117	0.117	0.117
W27	0.143	0.165	0.187
W28	0.227	0.227	0.227

Sewer Basin ID	Total Phase 1 Flow (MGD)	Total Phase 2 Flow (MGD)	Total Phase 3 Flow (MGD)
W29	0.122	0.122	0.122
W30	0.195	0.223	0.251
W31	0.075	0.075	0.075
W33	0.179	0.208	0.238
W34	0.014	0.018	0.021
W35	0.171	0.192	0.213
W37A	0.072	0.085	0.098
W37B	0.086	0.086	0.086
W39	0.304	0.315	0.326
W40	0.115	0.115	0.115
W41	0.164	0.169	0.175
W42	0.013	0.013	0.013
W43	0.189	0.206	0.222
W44	0.040	0.040	0.040
W45	0.078	0.078	0.078
W46	0.094	0.094	0.094
W47	0.092	0.097	0.103
W48	0.188	0.199	0.210
W49	0.142	0.142	0.142
W50	0.026	0.026	0.026
W51	0.072	0.079	0.086
W52	0.038	0.038	0.038
W53A	0.049	0.051	0.054
W53B	0.037	0.037	0.037
W54	0.070	0.070	0.070
W55	0.050	0.050	0.050
W56A	0.056	0.056	0.056
W56B	0.073	0.076	0.080
W57A	0.065	0.074	0.083
W57B	0.080	0.080	0.080
W58	0.093	0.093	0.093
W59A	0.053	0.053	0.053
W59B	0.052	0.053	0.055
W60	0.083	0.083	0.083
W61	0.162	0.162	0.162
W62	0.023	0.023	0.023
W63A	0.046	0.046	0.046
W63B	0.052	0.052	0.052
Large Users	3.168	3.168	3.168
<b>Total BWF (MGD)<sup>a</sup></b>	<b>16.5</b>	<b>18.3</b>	<b>20.1</b>

a. Not including flows from Cupertino Sanitary District

## **Appendix C – Project Cost Estimates**

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SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	4A
PROJECT LOCATION:.....	Monroe St. and Chromite Dr. from Machado Ave. to west of Bowers Ave. MH S52-80 TO S53-41
BRIEF PROJECT DESCRIPTION:.....	Replace 600 feet of 18-inch pipe with 24-inch pipe. Replace 1,600 feet of 18-inch pipe with 27-inch pipe.
SANITARY SEWER PLAT MAP(S):.....	52, 53
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project location Diameter of existing deficient pipes: 18"
SPECIAL CONSIDERATIONS:.....	Assume parallel 8" collector sewer for lateral connections.

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Monroe St.	24	8-16	600'	240 \$/ft	\$144,000
Chromite Dr.	27	8-16	1,600'	260 \$/ft	\$416,000
Collector line on Monroe St	8	8-16	600'	180 \$/ft	\$108,000
Collector line of Chromite Dr.	8	8-16	1,600'	180 \$/ft	\$288,000
Lower Laterals plus Cleanout (Monroe St.)			8	\$2,200	\$17,600
Lower Laterals plus Cleanout (Chromite Dr.)			22	\$2,200	\$48,400
<b>Structures</b>					
Sewer Junction Structure: Chromite and Monroe				\$6,500	\$6,500
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs		10% of baseline pipe cost		10%	\$56,000
Remove and Replace Factor		2% of baseline pipe cost		2%	\$11,200
<b>SUBTOTAL</b>					<b>\$1,095,700</b>
Mobilization and Demobilization				5%	\$54,785
Traffic Control				10%	\$109,570
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$1,260,055</b>
Contingencies				30%	\$378,017
<b>CONSTRUCTION COST TOTAL</b>					<b>\$1,638,072</b>
Engineering and Inspection Costs				25%	\$409,518
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$2,047,589</b>
ENR = 9758 (March 2009)				<b>rounded</b>	<b>\$2,048,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	4B
PROJECT LOCATION:.....	Machado Ave. from Calabazas Blvd. to Monroe St. MH S52-102 TO S52-80
BRIEF PROJECT DESCRIPTION:.....	Replace 700 feet of 15-inch pipe with 18-inch pipe, and 800 feet of 15-inch pipe with 21-inch pipe. Parallel 12" siphon with 12" siphon.
SANITARY SEWER PLAT MAP(S):.....	52
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project location. Diameter of existing deficient pipes: 15"
SPECIAL CONSIDERATIONS:.....	Assume parallel 8" collector sewer for lateral connections.

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Machado	18	8-16	700'	210 \$/ft	\$147,000
Machado	21	8-16	800'	230 \$/ft	\$184,000
Collector line on Machado	8	8-16	1,500'	170 \$/ft	\$255,000
Siphon at Calabazas Creek (casing)	36	Microtunnel	100'	970 \$/ft	\$97,000
Siphon pipe	12	Carrier Pipe	100'	190 \$/ft	\$19,000
Lower Laterals plus Cleanout (Machado)			55	\$2,200	\$121,000
Jacking Pits			1 pits	\$76,000	\$76,000
Receiving Pits			1 pits	\$43,000	\$43,000
<b>Structures</b>					
Siphon Structure - Calabazas Creek			2 structures	\$6,500	\$13,000
Sewer Junction Structure: Machado and Monroe				\$6,500	\$6,500
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs			10% of baseline pipe cost	10%	\$33,100
Remove and Replace Factor			2% of baseline pipe cost	2%	\$6,620
<b>SUBTOTAL</b>					<b>\$1,001,220</b>
Mobilization and Demobilization				5%	\$50,061
Traffic Control				10%	\$100,122
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$1,151,403</b>
Contingencies				30%	\$345,421
<b>CONSTRUCTION COST TOTAL</b>					<b>\$1,496,824</b>
Engineering and Inspection Costs				25%	\$374,206
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$1,871,030</b>
ENR = 9758 (March 2009)				<b>rounded</b>	<b>\$1,871,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	5
PROJECT LOCATION:.....	Monroe St. from Fordham Dr. to Chromite Dr. MH S51-22 TO S52-65
BRIEF PROJECT DESCRIPTION:.....	Replace 2,400 feet of 10-inch pipe with 12-inch pipe. Parallel 8-inch siphon with 8-inch siphon.
SANITARY SEWER PLAT MAP(S):.....	51, 52
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project location Diameter of existing deficient pipes: 10" (6" siphon)

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Monroe	12	8-16	2,400'	190 \$/ft	\$456,000
Siphon at Calabazas Creek (casing)	36	Microtunnel	100'	970 \$/ft	\$97,000
Siphon pipe	8	Carrier Pipe	100'	170 \$/ft	\$17,000
Lower Laterals plus Cleanout (Monroe)			8	\$2,200	\$17,600
Jacking Pits			1 pits	\$76,000	\$76,000
Receiving Pits			1 pits	\$43,000	\$43,000
<b>Structures</b>					
Siphon structure- Calabazas Creek			2 structures	\$6,500	\$13,000
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs			10% of baseline pipe cost	10%	\$45,600
Remove and Replace Factor			2% of baseline pipe cost	2%	\$9,120
<b>SUBTOTAL</b>					<b>\$774,320</b>
Mobilization and Demobilization				5%	\$38,716
Traffic Control				10%	\$77,432
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$890,468</b>
Contingencies				30%	\$267,140
<b>CONSTRUCTION COST TOTAL</b>					<b>\$1,157,608</b>
Engineering and Inspection Costs				25%	\$289,402
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$1,447,011</b>
ENR = 9758 (March 2009)				rounded	<b>\$1,447,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	6
PROJECT LOCATION:.....	Nobili Ave. and Machado Ave. from Flora Vista Ave. to Calabazas Blvd. MH S41-53 TO S52-101
BRIEF PROJECT DESCRIPTION:.....	Replace existing 10-inch, 12-inch and 15-inch pipe with 700 feet of 18-inch pipe and 2,400 feet of 21-inch pipe.
SANITARY SEWER PLAT MAP(S):.....	41, 51, 52
LOCATION OF CAPACITY DEFICIENCY:.....	Same as project location. Diameter of existing deficient pipes: 10"-15"

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Nobili Ave	18	8-16	700'	210 \$/ft	\$147,000
Nobili Ave and Machado Ave	21	8-16	2,400'	230 \$/ft	\$552,000
Lower Laterals plus Cleanout (Nobili Ave)			31	\$2,200	\$68,200
Lower Laterals plus Cleanout (Machado Ave)			21	\$2,200	\$46,200
<b>Structures</b>					
Sewer Junction Structure: Machado and Calabazas				\$6,500	\$6,500
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs			10% of baseline pipe cost	10%	\$69,900
Remove and Replace Factor			2% of baseline pipe cost	2%	\$13,980
<b>SUBTOTAL</b>					
Mobilization and Demobilization				5%	\$45,189
Traffic Control				10%	\$90,378
<b>CONSTRUCTION COST SUBTOTAL</b>					
Contingencies				30%	\$311,804
<b>CONSTRUCTION COST TOTAL</b>					
Engineering and Inspection Costs				25%	\$337,788
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					
ENR = 9758 (March 2009)				rounded	<b>\$1,689,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	9
PROJECT LOCATION:.....	Scott Blvd. from Serra Ave. to Homestead Rd. MH S25-37 TO S35-98
BRIEF PROJECT DESCRIPTION:.....	Replace 800 feet of 8-inch pipe with 10-inch pipe.
SANITARY SEWER PLAT MAP(S):.....	25, 35
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project location. Diameter of existing deficient pipes: 8"

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Scott Blvd.	10	8-16	800'	180 \$/ft	\$144,000
Lower Laterals plus Cleanout (Scott Blvd.)			14	\$2,200	\$30,800
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs			10% of baseline pipe cost	10%	\$14,400
Remove and Replace Factor			2% of baseline pipe cost	2%	\$2,880
<b>SUBTOTAL</b>					<b>\$192,080</b>
Mobilization and Demobilization				5%	\$9,604
Traffic Control				10%	\$19,208
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$220,892</b>
Contingencies				30%	\$66,268
<b>CONSTRUCTION COST TOTAL</b>					<b>\$287,160</b>
Engineering and Inspection Costs				35%	\$100,506
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$387,665</b>
ENR = 9758 (March 2009)				rounded	<b>\$388,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	10
PROJECT LOCATION:.....	Park Ave. south of Bellomy St. MH S38-75 TO S38-66
BRIEF PROJECT DESCRIPTION:.....	Replace 250 feet of 10-inch pipe with 12-inch pipe.
SANITARY SEWER PLAT MAP(S):.....	38
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project locatin. Diameter of existing deficient pipes: 10"

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
Park Ave.	12	8-16	250'	190 \$/ft	\$47,500
Lower Laterals plus Cleanout (Park Ave.)			2	\$2,200	\$4,400
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs			10% of baseline pipe cost	10%	\$4,750
Remove and Replace Factor			2% of baseline pipe cost	2%	\$950
<b>SUBTOTAL</b>					<b>\$57,600</b>
Mobilization and Demobilization				5%	\$2,880
Traffic Control				10%	\$5,760
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$66,240</b>
Contingencies				30%	\$19,872
<b>CONSTRUCTION COST TOTAL</b>					<b>\$86,112</b>
Engineering and Inspection Costs				35%	\$30,139
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$116,251</b>
ENR = 9758 (March 2009)				rounded	<b>\$116,000</b>

SEWER DEFICIENCY IMPROVEMENT PROJECT DESCRIPTION	
PROJECT ID:.....	11
PROJECT LOCATION:.....	Parallel to Calabazas Creek from Kifer Rd. to Central Expwy. MH 62-38 to MH 62-10
BRIEF PROJECT DESCRIPTION:.....	Replace 1,200 feet of 24-inch pipe with 27-inch pipe.
SANITARY SEWER PLAT MAP(S):.....	62
LOCATION OF CAPACITY DEFICIENCY: .....	Same as project location. Diameter of existing deficient pipes: 24"

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	LENGTH (feet)	UNIT COST	COST
<b>BASELINE CONSTRUCTION COST</b>					
<b>Pipe Construction</b>					
From Kifer Rd. to Central Expwy	27	8-16	1,200'	260 \$/ft	\$312,000
<b>SITE SPECIFIC CONSTRUCTION COST</b>					
Bypass Pumping / Flow Diversion Costs		10% of baseline pipe cost		10%	\$31,200
Remove and Replace Factor		2% of baseline pipe cost		2%	\$6,240
<b>SUBTOTAL</b>					<b>\$349,440</b>
Mobilization and Demobilization				5%	\$17,472
Traffic Control				10%	\$34,944
<b>CONSTRUCTION COST SUBTOTAL</b>					<b>\$401,856</b>
Contingencies				30%	\$120,557
<b>CONSTRUCTION COST TOTAL</b>					<b>\$522,413</b>
Engineering and Inspection Costs				35%	\$182,844
<b>CAPITAL IMPROVEMENT COST TOTAL</b>					<b>\$705,257</b>
ENR = 9758 (March 2009)				rounded	<b>\$705,000</b>

**APPENDIX H  
LISTING OF TOXIC AIR CONTAMINANT SOURCES**

**TOXIC AIR CONTAMINANTS AND ODOR PRODUCING FACILITIES IN AND WITHIN 1,000 FEET OF DEFINED FOCUS AREAS IN THE CITY OF SANTA CLARA<sup>1</sup>**

Company	Location	Pollutant	Distance from Nearest Focus Area
De La Cruz Focus Area			
Accurate Finishing	361 Laurelwood Road	Butyl cellosolve Isopropyl Alcohol	De La Cruz Focus Area
Advanced Printed Circuit Technology, Inc.	3495 De La Cruz Boulevard	Ammonia Butyl cellosolve	De La Cruz Focus Area
Gilbert Spray Coat	300 Laurelwood Road	Butyl cellosolve	De La Cruz Focus Area
Hill Mfg, LLC	3363 Edward Avenue	Benzene Xylene	De La Cruz Focus Area
Huizar Refinishing	333 Laurelwood Road	Butyl Cellosolve	De La Cruz Focus Area
International Spray Painting	3380 Edward Avenue	Benzene Toluene	De La Cruz Focus Area
Proto Paint	3323 Edward Avenue	Benzene Butyl Cellosolve	De La Cruz Focus Area
Top Gun Industrial Finishing	3314 Edward Avenue	Benzene	De La Cruz Focus Area
BR&F Spray, Inc	3380 De La Cruz Boulevard	Benzene	100 feet west of De La Cruz focus area
Amex Planting Incorp.	3333 Woodward Avenue	Isopropyl alcohol	420 feet west of De La Cruz focus area
SJ Valley Plating, Inc.	491 Perry Court	Chromium	500 feet west of the De La Cruz Focus Area
San José Delta Associates, Inc.	482 Sapena Court	Beryllium	750 feet west of the De La Cruz Focus Area
Central Expressway Focus Area			
Cable & Wireless USA C/O Stearns & Wheler, LLC	2505 Augustine Drive	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury Nickel	Central Expressway Focus Area
Celeritek Inc.	3236 Scott Boulevard	Hydrochloric acid mist Isopropyl alcohol Sulfuric acid mist Toluene Xylene	Central Expressway Focus Area
Integrated Device Technology	3001 Stender Way	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde	Central Expressway Focus Area

<sup>1</sup> Bay Area Air Quality Management District. *Toxic Air Contaminant Inventory*. 2004. Accessed April 27, 2010. <<http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Toxic-Air-Contaminant-Control-Program-Annual-Report.aspx>>

Company	Location	Pollutant	Distance from Nearest Focus Area
		Isopropyl alcohol Lead Manganese Mercury Nickel Sulfuric acid mist	
Intel Corporation	2625 Walsh Avenue	Hydrochloric acid mist Isopropyl alcohol Methyl alcohol Sulfuric acid mist	Central Expressway Focus Area
DuPont Photomasks, Inc.	2920 Coronado Drive	Benzene Formaldehyde Sulfuric acid mist	Central Expressway Focus Area
Coherent	2400 Condensa Street	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury (all) pollutant Nickel pollutant	113 feet north of Central Expressway Focus Area
NVIDIA	2701 San Tomas Expressway	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury Nickel	Approximately 1,000 feet east of the Central Expressway Focus Area
CTS Electronic Manufacturing Solutions	3240 Scott Boulevard	Isopropyl alcohol	500 feet west of Central Expressway Focus Area
Chip Express Corporation	2323 Owen Street	Isopropyl alcohol Xylene	629 feet east of the Central Expressway Focus Area
Intel Corporation	3065 Bowers Avenue	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Hydrochloric acid mist Lead Manganese Mercury Methyl alcohol Nickel Sulfuric acid mist	856 feet west of Central Expressway Focus Area
Siliconix, Incorporated	2201 Laurelwood Drive	Hydrochloric Acid Mist Isopropyl Alcohol Sulfuric Acid Mist	860 feet northeast of Central Expressway Focus Area

Company	Location	Pollutant	Distance from Nearest Focus Area
		Trichloroethane Xylene	
Teledyne Microwave, Teledyne Wireless, Inc.	3251 Olcott Street	Isopropyl Alcohol	702 feet east of the Central Expressway Focus Area
Lawrence Station Focus Area			
EPZ Incorporated	3002 Copper Road	Isopropyl alcohol	Lawrence Station Focus Area
National Semiconductor Corporation	2900 Semiconductor Dr.	Benzene Formaldehyde Isopropyl alcohol Trichloroethylene	Lawrence Station Focus Area
Nanostructures, Inc.	3070 Lawrence Expressway	Isopropyl alcohol	Lawrence Station Focus Area
Hunter Technology Corp	3305 Kifer Road	Ammonia Isopropyl alcohol	Lawrence Station Focus Area
Great America Parkway Focus Areas			
Sawvis Communications	4700 Old Ironsides	Benzene Formaldehyde	Great America Parkway Focus Area
Tasman East Focus Area			
Alzeta Corporation	2343 Calle Del Mundo	Benzene Methyl methacrylate	Tasman East Focus Area
Coatek, Inc.	2272 Calle De Luna	Ethylbenzene Xylene	Tasman East Focus Area
Italix Company Incorporated	2232 Calle Del Mundo	Hydrochloric acid mist Isopropyl alcohol Methyl alcohol Sulfuric acid mist	Tasman East Focus Area
City of Santa Clara	5401 Lafayette Street	Benzene Carbon tetrachloride Chloroform Ethyl chloride Ethylbenzene Ethylene dichloride Hexane Hydrogen Sulfide Methyl ethyl ketone Methylene chloride Perchloroethylene Toluene Trichloroethane, 1,1,1- Trichloroethylene Trichlorofluoromethane Vinyl chloride Vinylidene chloride Xylene	Adjacent to the northern boundary of the Tasman East Focus Area
Pacific Recovery Corporation	5401 Lafayette Street	Benzene Carbon tetrachloride Chloroform Ethylbenzene Ethylene dichloride Formaldehyde Hexane Hydrogen sulfide	Adjacent to the northern boundary of the Tasman East Focus Area

Company	Location	Pollutant	Distance from Nearest Focus Area
		Methylene chloride Perchloroethylene Toluene Trichloroethane, 1,1,1 Trichloroethylene Trichlorofluoromethane Vinyl chloride Vinylidene chloride Xylene	
El Camino Real Focus Area			
Albertson's, LLC.	3705 El Camino Real	Benzene	El Camino Real Focus Area
All City Auto Body	3459 El Camino Real	Toluene Xylene	El Camino Real Focus Area
B&B Saab	2985 El Camino Real	Methyl ethyl ketone (MEK) Propylene glycol monomethylet	El Camino Real Focus Area
Champion Auto Body Repair	1486 Jefferson Street	Butyl cellosolve Isopropyl alcohol Xylene	El Camino Real Focus Area
El Camino Real Body Shop, Inc.	3160 El Camino Real	Benzene Methyl ethyl ketone Toluene Xylene	El Camino Real Focus Area
F&S Auto Body Ltd Co.	3100 El Camino Real, Suites I & J	Butyl cellosolve Xylene	El Camino Real Focus Area
One Hour Mart Cleaners	2334 El Camino Real	Perchloroethylene	El Camino Real Focus Area
San José Refinishing Company	3245 El Camino Real	Xylene	El Camino Real Focus Area
Santa Clara Auto Center	2517B El Camino Real	Toluene	El Camino Real Focus Area
Target Corporation-Mervyn's	2010 El Camino Real	Benzene Formaldehyde	El Camino Real Focus Area
Tiffany Cleaners	3004 El Camino Real	Perchloroethylene	El Camino Real Focus Area
Perfect Cleaners	1520 Kiely Boulevard	Perchloroethylene	El Camino Real Focus Area
SRS Gilbert Industrial Coatings Inc.	1597 Grant Street	Benzene Butyl Cellosolve	210 feet northeast of the El Camino Real Focus Area
Works Auto Body	1640 Grant Street	Toluene Xylene	247 feet northeast of the El Camino Real Focus Area
ECS Refining	705 Reed Street	Benzene Copper Formaldehyde	850 feet north of El Camino Real Focus Area
Santa Clara Station Focus Area			
United Defense Corp Technology Center	1205 Coleman Avenue	Isopropyl alcohol	Santa Clara Station Focus Area
Santa Clara University	500 El Camino Real	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury	Immediately southwest of the Santa Clara Station Focus Area and immediately East of the Downtown Focus Area.

Company	Location	Pollutant	Distance from Nearest Focus Area
		Nickel	
Hiller's Advanced Auto Body	319 Brokaw Road	Benzene Isopropyl alcohol Toluene Xylene	390 feet north of the Santa Clara Station Focus Area
SRS Gilbert Industrial Coatings Inc.	1597 Grant Street	Benzene Butyl Cellosolve	568 feet northwest of the Santa Clara Station Focus Area
Works Auto Body	1640 Grant Street	Toluene Xylene	560 feet northwest of the Santa Clara Station Focus Area
The Paint Shop	307 Mathew Street	Xylene	825 feet northeast of the Santa Clara Station Focus Area
Downtown Focus Area			
Santa Clara University	500 El Camino Real	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury Nickel	Immediately southwest of the Santa Clara Station Focus Area and immediately East of the Downtown Focus Area.
Steven's Creek Boulevard Focus Area			
Dry Clean 4 U	3787 Steven's Creek Boulevard, #101	Perchloroethylene	Steven's Creek Boulevard Focus Area

**TOXIC AIR CONTAMINANT AND ODOR PRODUCING FACILITIES WITHIN 1,000 FEET OF THE SANTA CLARA/SUNNYVALE BORDER**

Company	Location	Pollutant	Distance from Nearest Focus Area
Lawrence Station Focus Area			
Level 3 Communications, LLC	1320 Kifer Road	Benzene Formaldehyde	50 feet south of the Lawrence Station Focus Area
Qwest Communications Corporation	1400 Kifer Road	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Lead Manganese Mercury	50 feet south of the Lawrence Station Focus Area
Core Systems, Inc.	1050 Kifer Road	Isopropyl alcohol	190 feet south of the Lawrence Station Focus Area
Hewlett Packard	1272 Kifer Road	Benzene Formaldehyde	190 feet south of the Lawrence Station Focus Area
Fairchild Semiconductor c/c Source Group	974 E. Arques Avenue	Perchloroethylene Trichloroethylene	250 feet north of the Lawrence Expressway Focus Area
Applied Materials	974 E. Arques Avenue	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Hydrochloric acid mist Isopropyl alcohol Lead Manganese Mercury Nickel Sulfuric acid mist	430 feet north of the Lawrence Station Focus Area
Fujitsu America, Inc.	1250 E. Arques Avenue	Isopropyl alcohol	485 feet north of the Lawrence Station Focus Area
Proto Engineering Corporation	183 Commercial Street	Ammonia Butyl cellosolve Isopropyl alcohol Methyl alcohol Toluene	800 feet west of the Lawrence Station Focus Area
Novalux Inc	1170 Sonora Ct.	Arsenic Benzene Beryllium Cadmium Chromium Formaldehyde Hydrochloric acid mist Isopropyl alcohol Lead Manganese Mercury Nickel	1000 feet south of the Lawrence Station Focus Area

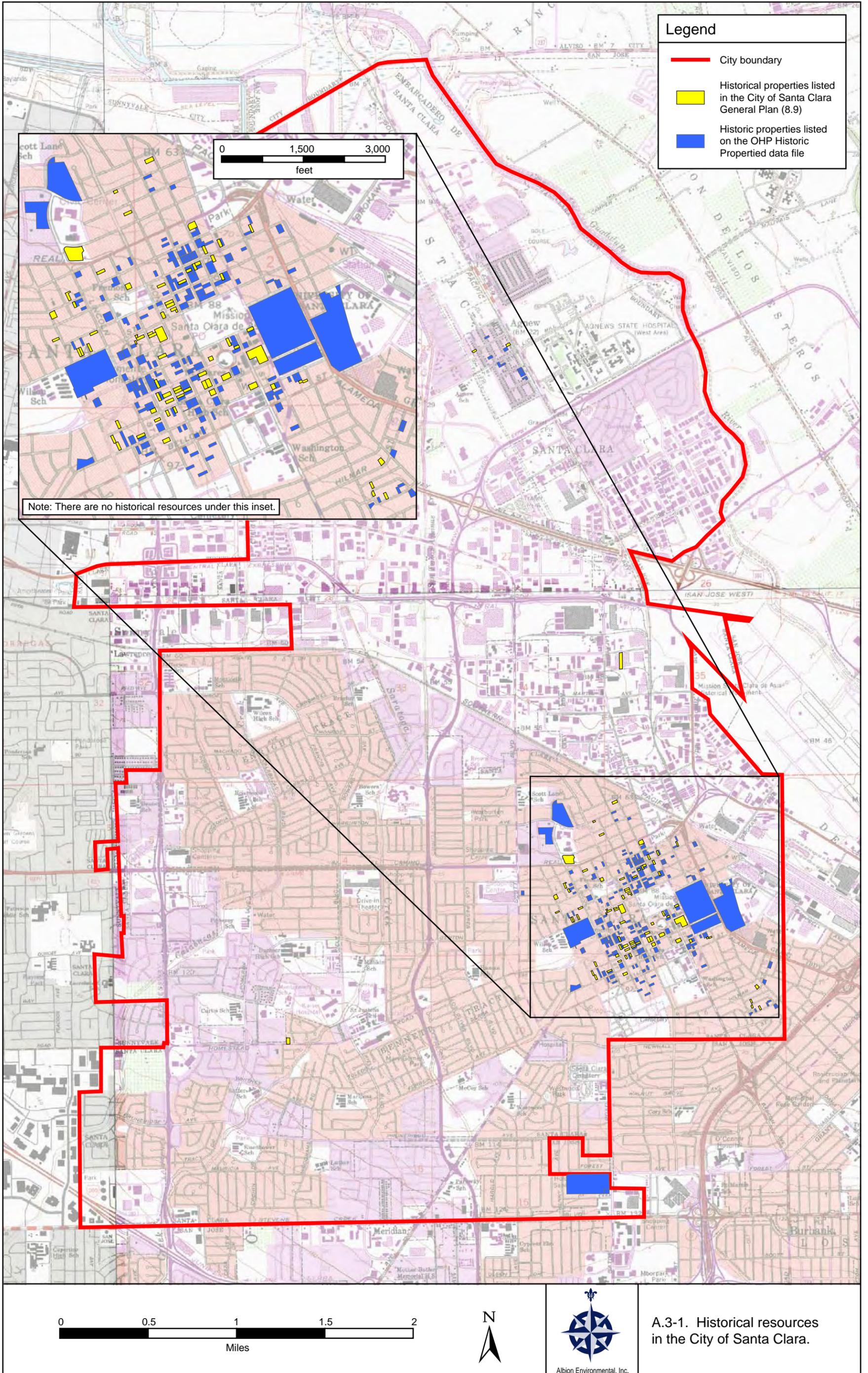
Company	Location	Pollutant	Distance from Nearest Focus Area
Vander-Bend	123 Uranium Road	Isopropyl alcohol	1000 feet southeast of the Lawrence Station Focus Area
El Camino Real Focus Area			
Excel Cleaners	1082 E El Camino Real, #1	Perchloroethylene	300 feet west of the El Camino Real Focus Area

# **APPENDIX I HISTORIC RESOURCES**

APPENDIX C

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**HISTORICAL RESOURCES**



Index for Historic Properties.

Address	Common Name	Approx. Yr. Built	Source	OHP Information		2010 General Plan Information		
				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
2086 Agnew Rd.	Agnew School	1890	OHP	099422	7R			
1065 Alviso St.	Larder House/ The German Colony House	1860	OHP	013836	7N			
1260 Alviso St.	--	1880	OHP	013838	5S2			
1309 Alviso St.	Martin House	1890	OHP	013839	5S2			
4100 Bassett St.	Romer Residence	1906	OHP	099428	7R			
4120 Bassett St.	--	1906	OHP	099429	7R			
4150 Bassett St.	--	1910	OHP	099431	7R			
4160 Bassett St.	--	1920	OHP	099432	7R			
4170 Bassett St.	--		OHP	099433	7R			
4190 Bassett St.	--	1900	OHP	099434	7R			
947 Bellomy St.	--	1895	OHP	013841	5S2			
950 Bellomy St.	George and Lavina Roll House	1888	OHP	013482	5S2			
966 Bellomy St.	Pfister House	1895	OHP	013483	5S2			
1341 Bellomy St.	--	1902	OHP	013485	5S2			
1456 Bellomy St.	--	1916	OHP	013486	5S2			
536 Benton St.	Cronin House	1880	2010 GP			26938063	Pioneer Vernacular	--
1075 Benton St.	Dr. Saxe Home, Cottle Home	1870	OHP	013849	7N			
1161 Benton St.	--	1880	OHP					
1191 Benton St.	Menzel House	1895	OHP	013851				
1215 Benton St.	--	1926	2010 GP			26915086	California Bungalow with Prairie Accents	MA
1291 Benton St.	--	1870	2010 GP					

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/Contract
1415 Benton St.	--	1895	OHP	013852	5S2			
1450 Benton St.	--	--	2010 GP					
1470 Benton St.	--	--	2010 GP					
1681 Benton St.	Toro House	1918	2010 GP			26912049	Vernacular Craftsman Bungalow	MA/SP
1737 Benton St.	--	1910	2010 GP			26912053	Vernacular Craftsman Bungalow	MA
1751 Benton St.	Donovan House (Cowboy Jim Donovan)	1910	2010 GP			26912061	Craftsman Bungalow	MA/BP
4350 Benton St.	Floyd Jamison House	1918	2010 GP					
1646 Catherine St.	Trogden House	1925-1927	2010 GP			26902068	Vernacular Cottage	--
1669 Catherine St.	--	1870	2010 GP			26902071	Pioneer Vernacular	SP
1786 Catherine St.	Juan Fatjo House	1860	2010 GP			26902063	Greek Revival with later Victorian alteration	BP
1895 Catherine St.	School House, Armstrong House	1885	OHP	013854	7N			
4334 Cheeney St.	--	1905	OHP	099435	7R			
4433 Cheeney St.	--	1905	OHP	099436	7R			
4362 Davis St.	--		OHP	099468	7R			
4321 Davis St.	--		OHP	099439	7R			
980 El Camino Real	(formerly 1475 Washington)	1885	2010 GP			26905093	Pioneer Vernacular with Italianate Details	--
1515 El Camino Real	St. Clare	1965	2010 GP			22448015	Statue	HT/MA
4406 Fillmore Street	J.M. Williamson House	1925	2010 GP			10410068	Colonial Revival Cottage	--
741 Franklin St.	--	1890	OHP	013858	2S			
741 Franklin St.	--		OHP	069597	2S			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/Contract
743 Franklin St.	--	1890	OHP	013859	5S2			
1313 Franklin St.	--	--	2010 GP			26920078	Veterans Memorial Plaque	BP
1464 Franklin St.	Oscar Eberhard House	1912	OHP	013860	7N			
1488 Franklin St.	--	1916	OHP	013861	7N			
1525 Franklin St.	Henry Roth House	1915	OHP	013863	5S2			
1526 Franklin St.	--	1915	OHP	013864	5S2			
1543 Franklin St.	--	1912	OHP	013865	5S2			
1565 Franklin St.	--	1901	OHP	013866	5S2			
908 Fremont St.	Nuttman Residence	1939	OHP	099442	7R			
936 Fremont St.	Gould House	1937	2010 GP			26916031	Spanish Eclectic Cottage	MA/SP
981 Fremont St.	Charles Copeland Morse House/Morse	1892	OHP	013867	1S			
1061 Fremont St.	Mrs. Pinkhams	1918	OHP	013868	5S2			
1091 Fremont St.	Peebles/Hichborn House	1866	OHP	013869	3S			
1159 Fremont St.	--	1885	OHP	013870	5S2			
1191 Fremont St.	H.L. Warburton House	1889	OHP	013871	5S2			
1194 Fremont St.	--	1878	OHP	099443	7R			
1460 Fremont St.	William Hayward House	1878	OHP	013872	5S2			
1700 Fremont. St	--	1910	OHP	013873	5S2			
1756 Fremont St.	Vasquez House	1870	OHP	099444	7R			
610 Harrison St.	--	1890	OHP	013874	5S2			
640 Harrison St.	--	1902	OHP	013875	5S2			
755 Harrison St.	Swain House	1900	2010 GP			26906061	Four Square	MA
891 Harrison St.	Frank Neuis House	1915	OHP	013876	5S2			
895 Harrison St.	--	1895	2010 GP			26906041	Queen Anne Cottage	--

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/Contract
946 Harrison St.	--	1920	2010 GP			26916004	Bungalow	MA
985 Harrison St.	--	1925	2010 GP			26905076	Normandy	MA/SP
1025 Harrison St.	--	1890	OHP	013878	7N			
1009 Harrison St.	--	1890	OHP	013879	7N			
1037 Harrison St.	--	1900	OHP	013880	7N			
1051 Harrison St.	Zibeon O. Field House	1890	OHP	013881	7N			
1060 Harrison St.	--	1895	OHP	013886	5S2			
1065 Harrison St.	--	1890	OHP	013882	7N			
1077 Harrison St.	--	1895	OHP	013883	7N			
1091 Harrison St.	--	1890	OHP	013884	7N			
1111 Harrison St.	--	1892	OHP	013887	7N			
1217 Harrison St.	Charles Parker Residence	1880	OHP	013888	5S2			
1511 Harrison St.	--	1880	OHP	013889	5S3			
1050 Harrison St.	Madan House	1866	2010 GP			26915016	Queen Anne Cottage	MA/SP
1395 Harrison St.	LaFon Residence	1860	2010 GP			26903112	Pioneer	--
530 Hilmar St.	--	1935	OHP	013890	5D2			
540 Hilmar St.	--	1935	OHP	013891	5D2			
550 Hilmar St.	--	1935	OHP	013892	5D2			
560 Hilmar St.	--	1935	OHP	013893	5D2			
715 Hilmar St.	Pasetta House	1940	2010 GP			26950031	French Eclectic	MA
1258 Homestead Rd.	--	1901	OHP	013896	5S2			
1298 Homestead Rd.	Advent Christian Church, German	1900	OHP	013897	7N			
1310 Homestead Rd.	Morrison House	1910	OHP	013898	5S2			
1440 Homestead Rd.	--	1885	OHP	013899	5D2			
1044 Homestead Rd.	Luis G. "George" Fatjo House	1913	2010 GP			26928015	Prairie School Eclectic	MA

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
1445 Homestead Rd.	--	1890	OHP	013900	5D2			
1474 Homestead Rd	--	1890	OHP	013902	5D2			
1494 Homestead Rd.	--	1895	OHP	013903	5D2			
1516 Homestead Rd.	--	1909	OHP	013905	5S2			
1540 Homestead Rd.	--	1911	OHP	013906	5S2			
1560 Homestead Rd.	--	1880	OHP	013907	5S2			
1588 Homestead Rd.	Hyland Home, Kiely House	1889	OHP	013908	7N			
1591 Homestead Rd.	William Parwar House	1895	OHP	013909	5S2			
1770 Homestead Rd.	--	1920	OHP	013910	5S2			
1780 Homestead Rd.	--	1920	OHP	013911	5S2			
3023 Homestead Rd.	Azzarello Residence	1920	2010 GP			29025073	Craftsman	--
610 Jackson St.	--	1935	OHP	013914	5S2			
690 Jackson St.	Budde House	1926	2010 GP			26936056	Spanish Eclectic	SP
796 Jackson St.	Ferrera Moore House	1906	2010 GP			26926095	Pioneer Vernacular	MA
806 Jackson St.	--	1880	OHP	013915	5S2			
834 Jackson St.	--	1890	OHP	013916	5S2			
1124 Jackson St.	Rogers House	1910	2010 GP			26915085	Colonial Revival	MA
1160 Jackson St.	--	1890	2010 GP			26915083	Queen Anne	MA/SP
1176 Jackson St.	--	1898	2010 GP			26915082	Queen Anne Cottage	--
1210 Jackson St.	--	1888	OHP	013917	5D2			
1246 Jackson St.	--	1910	2010 GP			26915068	Queen Anne Cottage	SP
1261 Jackson St.	--	1892	OHP	013918	5D2			
1277 Jackson St.	--	1892	OHP	013919	5D2			
1295 Jackson St.	--	1892	OHP	013920	5D2			
1662 Jackson St.	Andrade House	1900	2010 GP			26926034	Queen Anne Cottage	--

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/Contract
373 Jefferson St.	Berryessa Adobe	1840	OHP	013922	3S			
564 Jefferson St.	Turner-Smith House	1890	2010 GP			26935034	National	MA
658 Jefferson St.		1915	2010 GP			26935004	Colonial Revival	MA
712 Jefferson St.	H.H. Jahnsen House	1915	2010 GP			26926035	Colonial Revival with Elements of Craftsman	--
742 Jefferson St.	--	1895	OHP	013924	5S2			
756 Jefferson St.	T.L. Hite House	1900	OHP	013925	5S2			
816 Jefferson St.	--	1873	OHP	013926	7N			
825 Jefferson St.	--	1920	OHP	013927	5D2			
835 Jefferson St.	--	1920	OHP	013928	5D2			
836 Jefferson St.	--	1920	OHP	013929	5D2			
840 Jefferson St.	--	1925	OHP	013930	5D2			
860 Jefferson St.	--	1920	OHP	013931	5D2			
1045 Jefferson St.	--	1915	OHP	013933	5S2			
1210 Jefferson St.	Higgins House	1880	OHP	013934	5S2			
1455 Jefferson St.	Silva House	1915	2010 GP			26903026	Vernacular Prairie School	--
410 Lafayette St.	--	1885	OHP	013936	5S2			
540 Lafayette St.	--	1885	OHP		5S2			
590 Lafayette St.	--	1870	OHP		5S2			
612 Lafayette St.	--	1907	OHP		5S2			
874 Lafayette St.	--	1910	OHP	013940	5S2			
884 Lafayette St.	Bill Wilson Center	1910	2010 GP			26928028	Colonial Revival	--
1115 Lafayette St.	Robert Hones House	1913	OHP	013941	7N			
1152 Lafayette St.	--	1915	OHP	099445	7R			
1231 Lafayette St.	--	1890	OHP	013943	5S2			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
1245 Lafayette St.	--	1915	OHP	013944	5S2			
1267 Lafayette St.	--	1912	OHP	013945	5S2			
1338 Lafayette St.	--	1910	OHP	099446	7R			
744 Lewis St.	--	1895	OHP	013947	5S2			
957 Lewis St.	--	1895	OHP	013948	5S2			
985 Lewis St.	Starr House	1880	OHP	013949	5S2			
1042 Lewis St.	--	1890	OHP	013951	5S2			
1311 Lewis St.	--	1880	OHP	013952	5S2			
1385 Lewis St.	--	1875	OHP	013953	7N			
1258 Lexington St.	--	1880	OHP	013956	5S2			
1409 Lexington St.	Newton Jackson House	1894	OHP	013957	5S2			
1435 Lexington St.	--	1885	OHP	013958	5S2			
1451 Lexington St.	Oswald House	1915	2010 GP			26926122	Craftsman Bungalow	MA
1458 Lexington St.	--	1895	OHP	013959	5S2			
1464 Lexington St.	Wise House	1900	2010 GP			26926044	Vernacular Queen Cottage	MA
1467 Lexington St.	--	1900	OHP	013960	5S2			
1491 Lexington St.	West House	1880	OHP	013961	7N			
1567 Lexington St.	Samula Saunders House	1890	OHP	013962	5S2			
1584 Lexington St.	H.M. Sheldon House	1892	OHP	013963	5S2			
530 Lincoln St.	--	1895	OHP	013965	5S2			
580 Lincoln St.	--	1890	OHP	013966	5S2			
590 Lincoln St.	--	1895	OHP	013967	5S2			
614 Lincoln St.	--	1910	OHP	013969	5S2			
626 Lincoln St.	Held House	1918	2010 GP			26934016	Victorian Cottage	MA
741 Lincoln St.	--	1910	OHP	013970	5S2			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
1000 Lincoln St.	Carmelite Monastery	1917	OHP	013971	3S			
1194 Lincoln St.	Farfan	1910	2010 GP			26912040	Craftsman Bungalow	MA/SP
1310 Lincoln St.	Martin House	1926	OHP	013972	5S2			
1380 Lincoln St.	Morgan House	1895	OHP	013973	5S2			
1404 Lincoln St.	--	1880	OHP	013974	5S2			
1499 Lincoln St.	--	1925	OHP	013975	5S2			
1700 Lincoln St.	Santa Clara Methodist Church	1965	OHP	013976	7R			
308 Madison St.	--	1900	OHP	013977	5D2			
395 Madison St.	--	1890	OHP	013978	5D2			
466 Madison St.	--	1880	OHP	013979	5D2			
507 Madison St.	--	1880	OHP	013980	5D2			
590 Madison St.	--	1880	OHP	013981	5D2			
725 Madison St.	George Sullivan House	1906	2010 GP					
726 Madison St.	--	1905	2010 GP					
759 Madison St.	Myers House	1910	2010 GP			26926113	Craftsman Bungalow	SP
766 Madison St.	Zanger House	1890	2010 GP			26926051	Craftsman Bungalow	--
775 Madison St.	Margaret Miller House	1894	2010 GP			26926115	Classic Box	MA/SP
864 Madison St.	--	1910	OHP	013983	5S2	26926049	Italianate	MA
904 Madison St.	--	1880	OHP	013984	7N	26926116	Queen Anne	MA/SP
926 Madison St.	--	1880	OHP	013985	7N			
945 Madison St.	Fermish House	1918	2010 GP					
1059 Madison St.	--	1895	2010 GP					
1075 Madison St.	--	1892	2010 GP			26920091	Craftsman Bungalow	--
1080 Madison St.	--	1900	2010 GP			26920080	Queen Anne Cottage	SP
1159 Madison St.	--	1915	OHP	013986	5S2	26920081	Queen Anne Cottage	BP/MA
1360 Madison St.	--	1880	OHP	013987	5S2	26920102	Queen Anne Cottage	HT/SP

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
1390 Madison St.	--	1890	OHP	013988	5S2			
834 Main St.	Slavens House	1933	2010 GP					
1141 Main St.	Kersell/Lorente House	1892	OHP	013990	5S2			
1142 Main St.	Shoemaker House	1889	OHP	013991	5D2	26928062	Spanish Eclectic	--
1158 Main St.	--	1880	OHP	013992	5D2			
1159 Main St.	Johnson House	1855	OHP	013993	3S			
1176 Main St.	Brundage House	1885	OHP	013994	5D2			
1195 Main St.	Palmer House	1885	OHP	013997	5D2			
1196 Main St.	Morrison House	1880	OHP	013995	3S			
1206 Main St.	J.J. Miller House	1865	OHP	013998	5D2			
1220 Main St.	Javaros Zonia	1931	2010 GP					
1259 Main St.	David W. James House	1889	OHP	013999	3S			
1285 Main St.	--	1926	2010 GP			26915007	Spanish Colonial Revival	MA
1286 Main St.	Old Episcopal Rectory	1889	OHP	014000	5D2			
1295 Main St.	The Maloney House	1888	OHP	014001	5D2	26915026	California Bungalow	MA
1346 Main St.	--	1885	OHP	014003	5D2			
1356 Main St.	Nathan H. Downing House	1890	OHP	014004	7N			
1357 Main St.	--	1915	OHP	014005	5D2			
1365 Main St.	--	1915	OHP	014006	5D2			
1386 Main St.	Dr. T.E. Gallup House	1885	OHP	014007	5D2			
1407 Main St.	--	1880	OHP	014008	5D2			
1436 Main St.	--	1926	OHP	014009	5D2			
1460 Main St.	--	1890	OHP	014010	5D2			
1711 Main St.	--	1901	OHP	014012	5S2			
1795 Main St.	--	1920	OHP	014013	5S2			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
832 Market St.	--	1926	OHP	014014	5S2			
852 Market St.	--	1926	OHP	014015	5S2			
962 Market St.	--	1895	OHP	014016	5S2			
962 Market St.	--	1895	2010 GP					
1272 Market St.	Judge Charles Thompson House	1912	OHP	014017	7N			
1444 Market St.	--	1880	OHP	014018	5S2	26938042	Pioneer Vernacular with/ Stick/Eastlake detail	--
1509 Market St.	James D. Ellis House	1912	OHP	014019	5S2			
1675 Market St.	--	1895	OHP	014020	5S2			
1680 Market St.	--	1885	OHP	014021	5S2			
1695 Market St.	--	1895	OHP	014022	5S2			
1701 Market St.	--	1890	OHP	014023	5S2			
1889 Market St.	Harris-Lass House, Harris-Lass His	1865	OHP	014024	3			
1889 Market St.	Harris-Lass House		OHP	065189	2			
1765 Market St.	Freitas House	1905	2010 GP					
450 Monroe St.	--	1895	OHP	014025	5S2			
590 Monroe St.	Passet House	1912	OHP	014026	5S2	26934025	Queen Anne Cottage	SP
610 Monroe St.	--	1895	OHP	014027	5S2			
670 Monroe St.	Houser House	1895	OHP	014028	5S2			
688 Monroe St.	--	1895	OHP	014029	5S2			
726 Monroe St.	--	1906	OHP	014031	5S2			
742 Monroe St.	--	1900	2010 GP	014025				
760 Monroe St.	--	1893	OHP	014032	5S2			
776 Monroe St.	--	1912	OHP	014033	5S2	26926109	Colonial Revival	MA

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
791 Monroe St.	--	1885	OHP	014034	5S2			
794 Monroe St.	Lewis M. Kimberlin House	1895	OHP	014035	7N			
811 Monroe St.	--	1900	OHP	014036	5S2			
823 Monroe St.	--	1900	OHP	014037	5S2			
836 Monroe St.	--	1895	OHP	014038	5S2			
876 Monroe St.	--	1895	OHP	014039	5S2			
930 Monroe St.	Bjorlve House	1910	OHP	014041	5S2			
1190 Monroe St.	--	1910	OHP	014043	5S2			
1191 Monroe St.	--	1880	OHP	014044	5S2			
90 N. Winchester Blvd.	Bay Area Research and Extension St.	1928	OHP	166113	7W			
550 Park Ct.	--	1930	OHP	014046	5D2			
560 Park Ct.	--	1928	OHP	014047	5D2			
574 Park Ct.	--	1920	OHP	014045	5D2			
631 Park Ct.	--	1930	OHP	014048	5D2			
691 Park Ct.	--	1927	2010 GP					
753 Park Ct.	Draper House	1927	2010 GP					
761 Park Ct.	--	1922	OHP	014049	5D2	26952048	Bungalow Cottage	MA
782 Park Ct.	--	1924	2010 GP			26952019	Bungalow Cottage	MA
792 Park Ct.	--	1922	OHP	014050	5D2			
2390 Park Ave.	--	1935	OHP	013894	5D2	26952027	Bungalow	MA
1212 Pierce St.	Solano House	1914	2010 GP					
1149 Santa Clara St.	Dr. Henry Warburton Cottage	1890	2010 GP					
1085 Santa Clara St.	Luis Arguello Home	1868	OHP	014053	7N	26911035	Vernacular Craftsman	MA
1089 Santa Clara St.	Smith Home	1901	OHP	014054	5S2	26928043		MA
1190 Santa Clara St.	Fitzgerald Home	1901	OHP	014055	5S2			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/Contract
1217 Santa Clara St.	Andrew Landrum House	1875	2010 GP					
1241 Santa Clara St.	Hamilton House	1910	2010 GP					
1358 Santa Clara St.	Woodward House	1890	OHP	014057	5S2	26926098	Gothic Revival	NR/BP NRIS No. 82002271
1393 Santa Clara St.	--	1906	OHP	014058	5S2	26926099	Colonial Revival	--
1410 Santa Clara St.	Murschel/Fraga House	1905	2010 GP					
1460 Santa Clara St.	Emigrant House	1905	OHP	014059	5S2			
1480 Santa Clara St.	Ruf House	1912	2010 GP			26935019	Colonial Revival	MA
1640 Santa Clara St.	--	1910	OHP	014061	5S2			
1655 Santa Clara St.	Felix/George H. Roll House	1906	2010 GP			26935016	Cottage	MA
1754 Santa Clara St.	--	1905	2010 GP					
1232 Warburton Ave.	--	1924	2010 GP			26925058	Colonial Revival	MA
1505 Warburton Ave.	Jamison/Brown House, Brown House	1866	OHP			26934003	Vernacular	SP
531 Washington St.	--	1905	OHP	014070	5S2	22424063	Craftsman Bungalow	MA
551 Washington St.	--	1880	OHP	014071	5S2			
561 Washington St.	--	1890	OHP	014072	7N			
616 Washington St.	Robert Fatjo House	1911	2010 GP					
725 Washington St.	St. Clare's Parish	--	2010 GP					
807 Washington St.	Nuttman Funeral Home, St. Clares Residence	1918	OHP	014073	5S2	26936076	Colonial Revival	HT
810 Washington St.	--	1885	2010 GP			26928053	--	BP
826 Washington St.	--	1885	2010 GP					
844 Washington St.	--	1890	OHP	014077	5D2	26928069	Pioneer	HT
860 Washington St.	--	1895	OHP	014078	5D2	26928020	Queen Anne	HT
890 Washington St.	--	1920	OHP	014079	5D2			

				Property Number	NRS <sup>1</sup>	APN	Architectural Style	Zoning/ Contract
1116 Washington St.	Dr. Pauls House, Mahan House	1892	OHP	014081	3S			
1290 Washington St.	--	1925	2010 GP			26915017	Spanish Colonial Revival	--
1866 Washington St.	--	1919	2010 GP			22427013	Craftsman Bungalow	MA/SP

APN=Assessor's Parcel Number; OHP=Office of Historic Preservation; GP=General Plan

<sup>1</sup> NRS=National Register Status

1S=Listed in National Register as an individual property.

2=Determined eligible for Nation Register in a formal process.

2S=Determined eligible for National Register as separate listing.

3=Appears eligible for National Register to person completing or reviewing form.

3S=Appears eligible for listing in National Register as a separate property.

5D2=Eligible local list only, contribute s to District etc. eligible under local ordinance.

5S2=Eligible local list only, likely to become eligible separately under local ordinance.

7=Not evaluated.

7N=Submitted to OHP for evaluation but not evaluated, referred to National Park Service.

7R=Submitted as part of reconnaissance level survey: Not evaluated.

7W=

**APPENDIX J  
NOISE REPORT**

***2010-2035 GENERAL PLAN  
ADEIR NOISE SECTION  
SANTA CLARA, CALIFORNIA***

**April 30, 2010**



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**Job No.: 10-046**

## INTRODUCTION

The Noise Element of a General Plan is a comprehensive approach for including noise control in the planning process. It is a tool for achieving and maintaining environmental noise levels that are compatible with specific land use types. The Noise Element identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and programs so that residents will be protected from excessive noise and vibration. This chapter summarizes information on the noise environment in the Santa Clara planning area and provides an evaluation of the effects of the proposed General Plan update on noise. Information in this section was derived from the General Plan Opportunities and Challenges noise chapter prepared in 2008.

## SETTING

### Background Information on Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called  $L_{eq}$ . The most common averaging period is hourly, but  $L_{eq}$  can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various

computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level, CNEL or L<sub>dn</sub>*, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

## **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 L<sub>dn</sub>. Typically, the highest steady traffic noise level during the daytime is about equal to the L<sub>dn</sub> 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 L<sub>dn</sub> with open windows and 65-70 dBA L<sub>dn</sub> 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 L<sub>dn</sub> 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 50

dB<sub>A</sub> L<sub>dn</sub>. At an L<sub>dn</sub> of about 60 dB<sub>A</sub>, approximately 12 percent of the population is highly annoyed. When the L<sub>dn</sub> increases to 70 dB<sub>A</sub>, the percentage of the population highly annoyed increases to about 25-30 percent of the population. There is, therefore, an increase of about 2 percent per dB<sub>A</sub> between an L<sub>dn</sub> of 60-70 dB<sub>A</sub>. Between an L<sub>dn</sub> of 70-80 dB<sub>A</sub>, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the L<sub>dn</sub> is 60 dB<sub>A</sub>, approximately 30-35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dB<sub>A</sub> adds about 3 percentage points to the number of people highly annoyed. Above 70 dB<sub>A</sub>, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.

**Table 1 Definitions of Acoustical Terms Used in this Report**

<b>Term</b>	<b>Definitions</b>
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, $L_{eq}$	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.
$L_{01}$ , $L_{10}$ , $L_{50}$ , $L_{90}$	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, $L_{dn}$ or DNL	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.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

**Table 2 Typical Noise Levels in the Environment**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	<b>110 dBA</b>	Rock band
Jet fly-over at 1,000 feet		
	<b>100 dBA</b>	
Gas lawn mower at 3 feet		
	<b>90 dBA</b>	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	<b>80 dBA</b>	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	<b>70 dBA</b>	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	<b>60 dBA</b>	Large business office
Quiet urban daytime	<b>50 dBA</b>	Dishwasher in next room
Quiet urban nighttime	<b>40 dBA</b>	Theater, large conference room
Quiet suburban nighttime		
	<b>30 dBA</b>	Library
Quiet rural nighttime		Bedroom at night, concert hall
	<b>20 dBA</b>	
	<b>10 dBA</b>	Broadcast/recording studio
	<b>0 dBA</b>	

Source: Technical Noise Supplement (TeNS), Caltrans, November 2009.

## Groundborne Vibration Concepts

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal. PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Railroad trains within the plan area are potential sources of substantial ground vibration depending on the distance, the type and the speed of trains, and the type of railroad track. People's response to ground vibration has been correlated best with the vibration velocity level. The vibration velocity level is expressed on the decibel scale. The abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels. Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans. Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams, and foot traffic. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside residences. Table 3 identifies some common sources of vibration and the association to human perception or the potential for structural damage.

Table 4 displays continuous vibration impacts on human annoyance and on buildings. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generate the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

**Table 3 Typical Levels of Groundborne Vibration**

<b>Human/Structural Response</b>	<b>Velocity Level, VdB</b>	<b>Typical Events (50-foot setback)</b>
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	Commuter rail, upper range
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, occasional events		Commuter rail, typical Bus or truck over bump or on rough roads
Residential annoyance, frequent events	70	Rapid transit, typical
Approximate human threshold of perception to vibration		Buses, trucks and heavy street traffic
	60	Background vibration in residential settings in the absence of activity
Lower limit for equipment ultra-sensitive to vibration	50	

Source: Transit Noise and Vibration Impact Assessment, US Department of Transportation Federal Transit Administration, May 2006.

**Table 4 Reaction of People and Damage to Buildings for Continuous Vibration Levels**

<b>Velocity Level, PPV (in/sec)</b>	<b>Human Reaction</b>	<b>Effect on Buildings</b>
0.006 to 0.019	Threshold of perception: Possibility of intrusion	Vibration unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk of “architectural” damage to normal dwellings such as plastered walls or ceilings.
0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations	Vibration at this level would cause “architectural” damage and possibly minor structural damage.

Source: Transportation Related Earthborne Vibrations. Caltrans, Technical Advisory, TAV-02-01-R9601, February 2002.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.2 to 0.3 mm/sec (0.008 to 0.012 inches/sec), PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

Railroad operations are potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of railroad track. People’s response to ground vibration has been correlated best with the velocity of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is  $1 \times 10^{-6}$  in./sec. RMS, which equals 0 VdB, and 1 in./sec. equals 120 VdB. Although not a universally accepted notation, the abbreviation “VdB” is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

One of the problems with developing suitable criteria for groundborne vibration is the limited research into human response to vibration and more importantly human annoyance inside buildings. The U.S. Department of Transportation, Federal Transit Administration has developed rational vibration limits that can be used to evaluate human annoyance to groundborne vibration. These criteria are primarily based on experience with passenger train operations, such as rapid transit and commuter rail systems. The main difference between passenger and freight operations is the time duration of individual events; a passenger train lasts few seconds whereas a long freight train may last several minutes, depending on speed and length.

## **Regulatory Framework**

This section describes the relevant guidelines, policies, and standards established by Federal and State Agencies and the City of Santa Clara.

### *Federal*

Department of Housing and Urban Development (HUD). HUD environmental criteria and standards are presented in 24 CFR Part 51. New residential construction qualifying for HUD financing proposed in high noise areas (exceeding 65 dBA  $L_{dn}$ ) must incorporate noise attenuation features to maintain acceptable interior noise levels. A goal of 45 dBA  $L_{dn}$  is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction any building will provide sufficient attenuation to achieve an interior level of 45 dBA  $L_{dn}$  or less if the exterior level is 65 dBA  $L_{dn}$  or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 decibels but not exceeding 75 decibels) require a minimum of 5 decibels additional noise attenuation for buildings if the day-night average is greater than 65 decibels but does not exceed 70 decibels, or minimum of 10 decibels of additional noise attenuation if the day-night average is greater than 70 decibels but does not exceed 75 decibels.

Federal Highway Administration. Proposed federal or federal-aid highway construction projects on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes requires an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise." FHWA considers noise abatement for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals when "worst-hour" noise levels approach or exceed 67 dBA  $L_{eq}$ . Caltrans has further defined the definition of approaching the NAC to be 1 dBA below the NAC (e.g., 66 dBA  $L_{eq}$  is considered approaching the NAC for Category B activity areas).

Federal Transit Administration. This analysis uses the Federal Transit Administration's (FTA) vibration impact criteria for sensitive buildings, residences, and institutional land uses near railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75

VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day).

### *State of California*

California Administrative Code Section 65302(f). California Government Code Section 65302(f) requires that all General Plans include a Noise Element to address noise problems in the community. The State Office of Planning and Research (OPR) had established guidelines for the content of the Noise Element. State law requires that current and future noise level contours be developed for the following sources:

- Highways and freeways.
- Primary arterials and major local streets.
- Passenger and freight on-line railroad operations and ground rapid transit systems.
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine tests stands and all other ground facilities and maintenance functions related to airport operation.
- Local industrial plants, including, but not limited to, railroad classification yards.
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment.

California Building Code - Noise Insulation Standards. The State of California Administrative Code (Title 24) establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. The 2007 California Building Code (Chapter 12, Appendix Section 1207.11.2) incorporates the standards. The noise limit is a maximum interior noise level of 45 dBA  $L_{dn}$ . Where exterior noise levels exceed 60 dBA  $L_{dn}$ , a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. The General Plan shall facilitate implementation of the noise insulation standards.

Division of Aeronautics Noise Standards. Title 21 of the California Code of Regulations<sup>1</sup> sets forth the State's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and

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<sup>1</sup> California Code of Regulations Airport Noise Standards, Title 21, Public Works Division 2.5, Division of Aeronautics (Department of Transportation), Chapter 6 Noise Standards, Article 1. General.

community reaction.” Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB.

California Department of Transportation – Construction Vibration. There are no state plans, policies, regulations or laws related to groundborne vibration that are applicable to the General Plan. However, California Department of Transportation (Caltrans) has adopted guidance for construction vibrations and this guidance is used in this analysis to address construction vibrations. Caltrans uses a vibration limit of 12.7 mm/sec (0.5 inches/sec), PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 5 mm/sec (0.2 inches/sec), PPV has been used for buildings that are found to be structurally sound but structural damage is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 2 mm/sec (0.08 inches/sec), PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e. walls and floors) to ground-borne excitation.

#### *City of Santa Clara*

City of Santa Clara General Plan. 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:

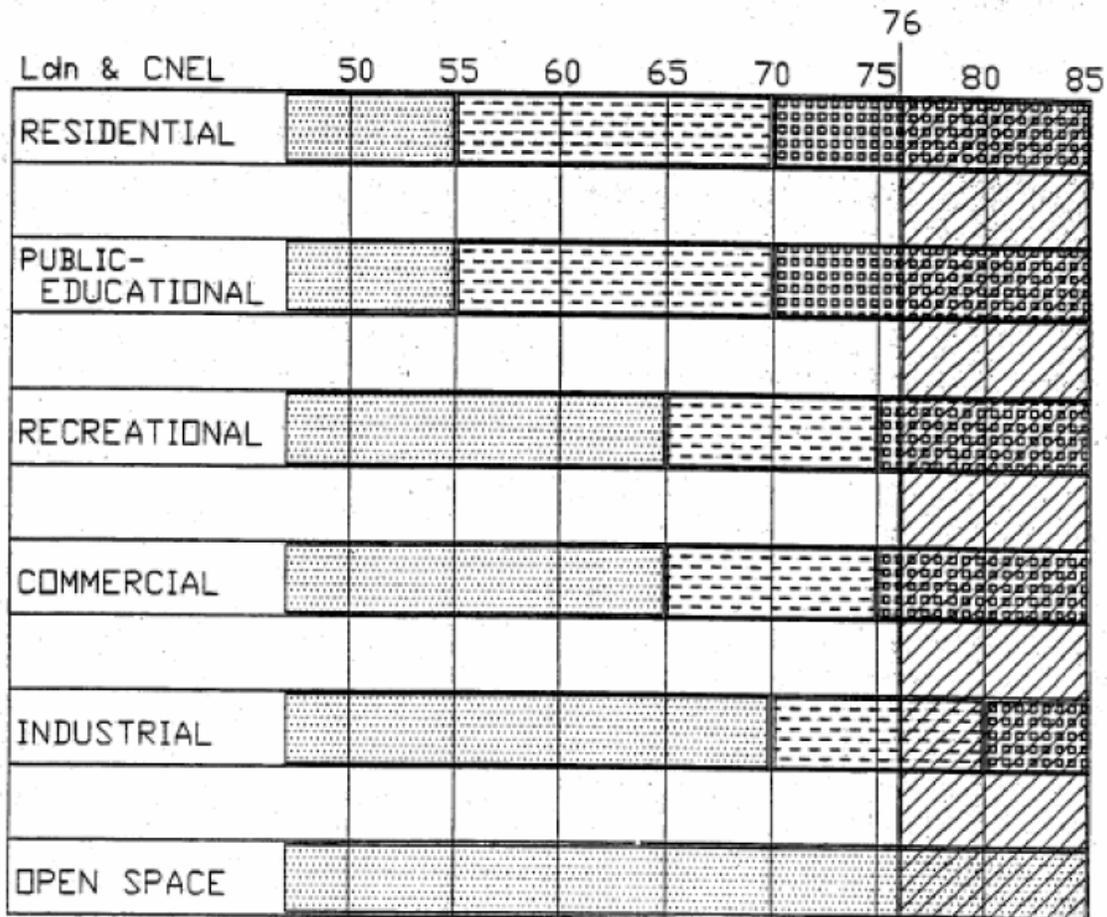
20. Protect to the extent possible existing developed areas of the City of Santa Clara from unacceptable noise levels.
21. Reduce transportation generated noise within the City of Santa Clara where feasible.
22. Comply with City, State and Federal guidelines for the compatibility of land uses with their noise environments, except where the City determines that there are prevailing circumstances of a unique or special nature.
23. Within the San Jose Airport noise impact area, maintain residential neighborhoods as designated in the Land Use Element. Permit appropriate residential development in these neighborhoods subject to noise insulation.
24. Reduce noise from fixed sources, construction, and special events.
25. Prohibit any significant new residential development in the adverse noise environment created by the San Jose International Airport (65 CNEL and over).
26. Maintain the separation between industrial and residential uses to reduce noise conflict.
27. Establish a noise and land use compatibility chart as the basic City noise standard (see Figure 5-G).

Figure 5-G:

NOISE AND LAND USE COMPATIBILITY (Ldn & CNEL)

LEGEND

- COMPATIBLE. 
- REQUIRE DESIGN & INSULATION TO REDUCE NOISE LEVELS. 
- INCOMPATIBLE. AVOID LAND USE EXCEPT WHEN ENTIRELY INDOORS AND AN INTERIOR NOISE LEVEL OF 45 Ldn CAN BE MAINTAINED. 
- HEARING DAMAGE POSSIBLE WITH LONG TERM EXPOSURE. 



Planning Division 3/91

City of Santa Clara Municipal Code. Chapter 9.10 of 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 at the property line of adjacent land uses as indicated in Table 5. 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...”. The noise limits are not applicable to emergency work, licensed outdoor events, City-owned electric, water, and sewer utility system facilities, construction activities occurring within allowable hours, permitted fireworks displays, or permitted heliports. Construction activities are not permitted within 300 feet of residentially zoned property except within the hours of 7:00 am and 6:00 pm on weekdays and 9:00 am and 6:00 pm on Saturdays. No construction is permitted on Sundays or holidays.

**Table 5      Schedule A Exterior Sound or Noise Limits**

<b>Receiving Zone</b> Zoning Category	<b>Day</b> 7:00 A.M. to 10:00 P.M.	<b>Night</b> 10:00 P.M. to 7:00 A.M.
<b>Category 1</b> Single-family and duplex residential (R1, R2)	55 dBA	50 dBA
<b>Category 2</b> Multiple-family residential, public space (R3, B)	55 dBA	50 dBA
<b>Category 3</b> Commercial, Office (C, O)	65 dBA	60dBA
<b>Category 4</b> Light Industrial (ML, MP)	70 dBA	70 dBA
<b>Category 5</b> Light Industrial (ML, MP)	75 dBA	75 dBA

(Ord. 1588 § 1, 6-14-88. Formerly § 18-26.4)

## Existing Noise Conditions

Existing traffic, railroad, and aircraft noise levels in the City are summarized below, and additional detail on the noise monitoring survey can be found in the baseline technical noise report prepared for the General Plan Update Opportunities and Challenges document (Dyett & Bhatia et al. 2008).

The primary sources of noise within Santa Clara are major freeways and arterial roadways traversing the city (Highway 101, Central Expressway, Lawrence Expressway, San Tomas Expressway, and Montague Expressway), Union Pacific rail lines, and aircraft overflights from the Norman Y. Mineta San José International Airport. Industrial facilities also include some sources of noise that could be annoying to nearby noise-sensitive uses.

To assist in the General Plan update process, ambient noise monitoring was conducted at a variety of land uses near major noise sources in the City. Short-term noise measurements were taken adjacent to major roadways and industrial noise sources. Additional long-term (24-hour) noise measurements were taken near rail activity where other major noise sources could be excluded to the extent possible. Monitored noise data were used to identify noise levels at varying distances from the City's major noise sources, and SoundPLAN V7.0, a three-dimensional ray-tracing computer program, was used to generate noise contours along major roadways and railroads throughout the City.

Existing traffic and rail noise levels were modeled and adjusted based on monitoring data, and are shown in Figure 1. Calculations assumed an acoustically "hard" ground surface, and do not take into account shielding by terrain or structures.

### *Vehicular Traffic*

Roadway traffic is one of the more prevalent sources of noise in the City. Traffic noise at a particular location depends on the traffic volume on the roadway, the average vehicle speed, the distance between the receptor and the roadway, the presence of intervening barriers or structures between source and receiver, and the ratio of trucks (particularly heavy trucks) and buses to automobiles.

A number of factors control how traffic noise levels affect nearby sensitive land uses. These include roadway elevation compared to the surrounding grade; any structures or terrain intervening between the roadway and the sensitive receptors; and the distance between the roadway and receptors. Because of the high traffic volumes on freeways and expressways in the area, Highway 101, Central Expressway, Lawrence Expressway, San Tomas Expressway, and Montague Expressway constitute the loudest roadway noise sources in the City. Industrial and commercial uses are located primarily along Highway 101 and Central Expressway; however, there are residences located along the Lawrence, San Tomas, and Montague Expressways.

Existing traffic noise levels on the Santa Clara roadway network were calculated in SoundPLAN V7.0 using the embedded FHWA Transportation Noise Model TNM software based on ADT traffic volumes counts and speeds supplied by Fehr & Peers Transportation Consultants. Table 6 summarizes existing CNEL traffic noise levels along major City roadways at a distance of 100 feet from the centerline of the roadway.

### *Railroad Noise*

Trains can generate high, relatively brief, intermittent noise events, particularly near at-grade crossings. Train noise is an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Two Union Pacific Transportation Company rail lines run through the City of Santa Clara. The San Francisco line transects the City in a generally east-west direction and forms a boundary between residential uses to the south and industrial uses to the north. The other rail line parallels Lafayette Street from the northern portion of the City where it crosses under the Bayshore Freeway (Highway 101). Operations on these lines include both passenger and freight service, with spur tracks serving industrial areas. Based on noise monitoring of existing operations, the San Francisco rail line generates a noise level of about 65 dBA CNEL at a distance of 100 feet and the Lafayette Street rail line generates a noise level of about 64 dBA CNEL at a distance of 100 feet.

### *Airport Noise*

The Norman Y. Mineta San José International Airport is located to the east of, and adjacent to, the City of Santa Clara. Noise generated by aircraft using the airport affects Santa Clara residents in the area north of the Bayshore Freeway. The City of Santa Clara uses the official Santa Clara County Airport Land Use Compatibility (ALUC) Referral Boundary (65 dB CNEL) Map as a basis for referring proposed projects to the Airport Land Use Commission. Based on the noise monitoring survey performed for the Santa Clara General Plan Opportunities and Challenges document, individual aircraft generate maximum noise levels in the range of 75 to 78 dBA  $L_{max}$  as they fly over residences in the area north of the Bayshore Freeway.

### *Industrial Noise*

Industrial and manufacturing facilities within the City involve mobile and stationary noise sources that may affect adjacent noise-sensitive land uses. Industrial processes such as fabricating and grinding can create relatively high levels of noise within their immediate operating environments. In addition, truck movements and deliveries generate noise along the local roadway network. The scope and degree of noise generated by industrial uses depends on various factors, including the type of industrial activity, hours of operation, and the site's location relative to other land uses. One of Santa Clara's General Plan goals has been the separation of industrial and residential land uses. However, existing residential land uses are immediately adjacent to industrial land uses in the southwest corner of the City around Valco Park and north of Bayshore around the De La Cruz industrial area. During the noise monitoring survey performed for the General Plan update industrial uses in the De La Cruz area were documented as generating a constant noise level of about 45 dBA at adjacent residences. Valco Park uses were not audible at the noise monitoring location. However, noisy activities could take place at other times of the day or year that were not accounted for in the noise monitoring survey.

### *Construction Noise*

Construction can be another significant, although typically short-term, source of noise. Construction is typically of most concern when it takes place near sensitive land uses, or occurs at night or in early morning hours. The dominant construction equipment noise source is usually diesel engines of heavy construction equipment. In a few cases, however, such as impact pile driving or pavement breaking, "process noise" related to specific activities dominates.

Stationary equipment operates in one location for one or more days at a time, with either a continuous operation (e.g., pumps, generators, compressors) or a variable operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (e.g., bulldozers, loaders) or to and from the site (i.e., trucks). Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of barriers between the noise source and receptor.

#### *Other Noise Sources*

Other existing sources of noise include noise from commercial, recreational, and school uses. Noise sources associated with commercial uses include mechanical equipment, as well as activities associated with parking lots, loading docks, and drive-thrus. Mechanical equipment is used extensively in buildings to provide heating, cooling, air circulation and water supply. Mechanical equipment that produces noise includes motors, pumps and fans. Although noise levels are generally low from these sources at nearby properties, such sources may operate continuously and may include pure tones that make them audible and sources of annoyance at a substantial distance.

Noise generating activities associated with schools include children at play, bells, and public address systems. High schools may include stadiums for day and evening athletic events, and public address/loudspeaker systems.

Intermittent or temporary noise sources include portable power equipment such as leaf blowers, lawn mowers, portable generators, electric saws and drills, and other similar equipment. Although these noise sources are typically short in duration, they are often loud and can be major sources of annoyance.

## NOISE IMPACTS AND MITIGATION MEASURES

### *Standards of Significance*

A significant impact will occur if implementation of the project would:

- a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- c) Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- d) Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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, expose people residing or working in the project area to excessive noise levels; or
- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

### *Impact Discussion*

**Impact            Existing and future noise levels at the locations of proposed noise sensitive developments allowed for under the 2010-2035 General Plan could exceed the City's noise thresholds of acceptability.**

Under the proposed project, new noise-sensitive development is planned in noisy areas such as along major transportation corridors (e.g., El Camino Real, Stevens Creek Boulevard), railroads, and in the vicinity of Norman Y. Mineta San José International Airport. Single-family residential development, schools, libraries, hospitals, convalescent homes, and places of worship are considered the most noise-sensitive land uses. Residential development is sensitive to community noise both outdoors and indoors during the daytime and nighttime. High-density/mixed-use residential, commercial, and industrial development is less noise sensitive because uses are primarily indoors, and noise levels are mitigated with building design and construction. However, noise exposures along many roadways, the railroads, and in the environs of Mineta San José International Airport could exceed “normally acceptable” levels for these uses. Therefore, acoustical analyses should be conducted to design mitigation that would reduce noise as low as practical in exterior use areas that maintain interior noise levels at the “normally acceptable” level (45 dBA CNEL).

A computer model was used to calculate ground transportation noise levels throughout Santa Clara. The model, SoundPLAN V7.0, is a three-dimensional ray-tracing program, which takes into account the source of noise, the frequency spectra, the topography of the area, and shielding provided by buildings. Existing and future traffic noise levels throughout Santa Clara were modeled to determine the noise level contours along major roadways and the railroads. Figure 2

displays the projected 2035 ground transportation noise contours in Santa Clara for major roadways and the railroad.

Where exterior noise levels exceed 60 dBA CNEL in new residential development areas, interior levels may exceed 45 dBA CNEL. Interior noise levels are about 15 dBA lower than exterior levels within residential units with the windows partially open and approximately 20-25 decibels lower than exterior noise levels with the windows closed, assuming typical California construction methods. Where exterior day-night average noise levels are 60 to 70 dBA CNEL, interior noise levels can typically be maintained below 45 dBA CNEL with the incorporation of an adequate forced air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed. In areas exceeding 70 dBA CNEL, the inclusion of windows and doors with high Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems, may be necessary to meet 45 dBA CNEL.

The implementation of Draft General Plan Policies 5.10.6-P1, 5.10.6-P2, 5.10.6-P3, and 5.10.6-P6 would require that the General Plan compatibility standards be used to determine where noise levels in the community are acceptable or unacceptable, and require noise attenuation measures to achieve the “normally acceptable” noise level standards. Noise analyses of new development proposals are required when appropriate in order to maintain consistency with the interior and exterior noise standards of the Noise Element. The interior noise limits set forth in the State Building Code are extended to all sensitive land uses in Santa Clara. The proposed goals and policies of the Noise Element reduce potential impacts associated with noise and land use compatibility to a *less-than-significant* level. (Note to DJP – Please replace Table 5.10-1 with a Noise and Land Use Compatibility Table.)

**Impact**            **New noise-producing land uses could generate noise levels that would exceed the City’s noise thresholds of acceptability or Municipal Code noise limits at sensitive receivers in the vicinity.**

Mixed-use development projects often include residential uses located above or in proximity to commercial uses, and are located in areas served by rail and bus transit along major roadways and the railroad corridor. Under the 2010-2035 General Plan, mixed-use residential development is proposed in the downtown and along major roadways and the Caltrain rail (future High Speed Rail) corridor. Also, new research and development, office, commercial, retail, or other noise-generating uses developed under the 2010-2035 General Plan could substantially increase noise levels at noise-sensitive land uses or could expose receivers to noise levels that exceed the City’s Municipal Code noise limits.

Future operations at existing and proposed noise-producing land uses are dependent on many variables and information is unavailable to allow meaningful projections of noise. Noise conflicts may be caused by noise sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and delivery activities, public address systems, and parking lots (e.g., opening and closing of vehicle doors, people talking, car alarms). Development under the proposed General Plan would introduce new noise-generating

sources adjacent to existing noise-sensitive areas and new noise-sensitive uses adjacent to existing noise sources.

Draft General Plan Policy 5.10.6-P1 requires that all land uses and development proposals, including noise-generators, be reviewed to ensure consistency with the General Plan compatibility standards. General Plan Policies 5.10.6-P4 and 5.10.6-P5 encourage noise control at the source through site design measures and operational noise controls. General Plan policy 5.1006-P6 discourages locating incompatible land uses near to one another. New noise-generating projects developed under the proposed project would be subject to the City's Municipal Code, ensuring that existing residences and other noise-sensitive land uses would not be exposed to excessive noise. The impact resulting from the generation of noise levels in excess of standards established in any applicable plan or noise ordinance would be considered *less than significant*.

**Impact**            **Ground vibration levels resulting from railroad train operations at the setback of proposed residences could expose people to excessive groundborne vibration.**

The 2010-2035 General Plan could result in the construction of sensitive land uses within portions of the plan area where known vibration sources exist or are currently planned, primarily along the existing active railroad corridors and the VTA light rail. Ground vibration from conventional railroad trains, high-speed trains, and light-rail trains passing through the plan area could exceed the guidelines set forth by the FTA if new buildings are constructed within approximately 100 feet of the tracks. Under the 2010-2035 General Plan, regional mixed-use, community mixed-use, and office/R&D projects are envisioned along the Caltrain corridor (also future High Speed Rail Corridor) and high-density residential and low intensity office/R&D are proposed along the Union Pacific Railroad that parallels Lafayette Street. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time, however, such uses located in these areas could be exposed to ground vibration levels exceeding FTA guidelines.

Policy 5.10.6-P10 of the 2010-2035 General Plan states that the City will encourage transit agencies to develop and apply technologies to reduce vibration impacts from railroads and the light rail. The 2010-2035 General Plan should also consider the adoption of vibration standards to ensure compatible developments along these corridors with respect to potential vibration levels generated by railroad trains, light rail, and the future High Speed Rail system. Thus, the development of a Mitigation Measure would be required in addition to the New General Plan policies to ensure that program-level vibration impacts are reduced to a less than significant level. In addition, the City will require that individual development projects undergo project-specific environmental review. If project-level significant vibration impacts are identified, specific mitigation measures will be required under CEQA.

**Mitigation:** Use the Federal Transit Administration vibration impact criteria to evaluate the land use compatibility of sensitive uses proposed along the railroad/light-rail corridor using the best available information (e.g., High Speed Rail Program EIR) or site-specific measurements and analyses (assuming active railroad operations). Developers of sensitive uses shall demonstrate

that potential impacts of existing or potential vibration have been minimized to the maximum feasible extent. The implementation of this measure would reduce the impact to a *less-than-significant* level.

**Impact:       The anticipated increase in vehicular traffic would result in increased traffic noise, and in some cases, the increases would be substantial.**

Increases in traffic noise gradually degrade the environment in areas sensitive to noise. According to CEQA, “a substantial increase” is necessary to cause a significant environmental impact. An increase of 3 dBA CNEL is considered substantial in noise sensitive areas along roadways analyzed in Santa Clara. Vehicular traffic on roadways in the city would increase as development occurs and the city’s population increases. These projected increases in traffic would over time and would increase noise levels throughout the community. Traffic noise levels throughout Santa Clara were projected for General Plan build-out in the year 2035 to determine how changes in vehicular traffic volumes would affect traffic noise levels. The relative increases in traffic noise along affected roadway segments are shown in Table 6.

Noise impacts resulting from buildout of the General Plan are assessed by comparing projected noise levels to existing conditions. Noise levels along SR 237, Highway 101, Interstate 280, and Interstate 880 are expected to increase 0-1 dBA CNEL. A review of the data presented in Table 6 shows that noise levels would increase by less than 3 dBA CNEL between 2009 and 2035 with buildout of the General Plan except along certain segments of Trimble Road and Tasman Drive.

Existing land uses located adjacent to the segment of Trimble Road between De La Cruz Boulevard and the easternmost City limits are commercial and are not sensitive to increased traffic noise along Trimble Road. The noise environment in this area results from a combination of traffic noise along Trimble Road, traffic noise along Highway 101, and aircraft operations associated with Norman Y. Mineta San José International Airport. The overall increase in noise levels in the area would actually be less than 3 dBA CNEL as a result of the influence of Highway 101 traffic and aircraft in the area. Furthermore, there are no noise sensitive receptors known to exist along Trimble Road where this noise level increase is anticipated, so the increase in noise would not cause a significant impact in this area.

There are two segments of Tasman Drive where noise levels are expected to increase by 3 dBA CNEL. The first segment of Tasman Drive, from the westernmost City limits to Great America Parkway, is expected to experience a substantial increase in noise, however, the area is developed with commercial land uses that are not sensitive to increased traffic noise. Along Tasman Drive between Lafayette Street and the easternmost City limits, residential land uses are located south of the roadway. The traffic noise level increase would be substantial as noise levels are expected to increase by 3 dBA CNEL.

Policy 5.10.6-P11 states that the City will develop and include noise reduction measures with improvements and extensions of City streets. A combination of mitigation measures such as the repaving of area roadways with a “quiet pavement”, replacement or construction of noise barriers, traffic calming, and sound insulation could be implemented to reduce the effects of increased traffic noise generated by development under the proposed General Plan.

Case studies have shown that the replacement of dense grade asphalt (standard type) with open-grade or rubberized asphalt can reduce traffic noise levels along local roadways by 2 to 3 dBA CNEL. A possible noise reduction of 2 dBA would be expected using conservative engineering assumptions, and future traffic noise increases could be mitigated to a less than significant level by repaving roadways with “quieter pavements.” To be a permanent mitigation, subsequent repaving would also have to use “quieter” pavements.

Existing residential receivers located along Tasman Drive between Lafayette Street and the easternmost City limits either front the roadway (private outdoor use areas are located behind the homes) or have outdoor use areas adjacent to the roadway that may or may not be shielded by fences or noise barriers. In situations where private outdoor use areas are located adjacent to the roadway, new or larger noise barriers could be constructed to provide the additional necessary noise attenuation in private use areas. Typically, increasing the height of an existing barrier results in approximately one dBA of attenuation per one foot of additional barrier height. The design of such noise barriers would require additional analysis. Traffic calming could also be implemented to reduce noise levels expected with the project. Each five mph reduction in average speed provides approximately one dBA of noise reduction on an average basis ( $L_{eq}/CNEL$ ). Traffic calming measures that regulate speed improve the noise environment by smoothing out noise levels.

Residences could also be provided with sound insulation treatments if further study finds that interior noise levels within the affected residential units would exceed 45 dBA CNEL as a result of the projected increase in traffic noise. Treatments to the homes may include the replacement of existing windows and doors with sound-rated windows and doors and the provision of a suitable form of forced-air mechanical ventilation to allow the occupants the option of controlling noise to by closing the windows. The specific treatments for each affected residential unit would be identified on a case-by-case basis.

Each of these mitigation measures involves other non-acoustical considerations. Other engineering issues may dictate continued use of dense grade asphalt. Noise barriers and sound insulation treatments must be done on private property necessitating agreements with each property owner.

The implementation of measures associated with this policy, specifically with respect to reducing substantial traffic noise increases associated with the General Plan at residential land uses located south of Tasman Drive between Lafayette Street and the easternmost City limits, could feasibly reduce the significant noise impact to a *less-than-significant level*.

**Table 6 Existing and Future CNEL Noise Levels Along Santa Clara Roadways**

Roadway	Segment		Speed (mph)	CNEL at 100 ft. (dBA)		CNEL Increase (dBA)
	From	To		2009	2035	
				Existing	Build	
Lawrence Expwy	Pruneridge Ave	Stevens Creek Blvd	50	75	76	1
	Cabrillo Ave	El Camino Real	50	75	76	1
	Kifer Rd	Monroe St	50	75	76	1
	U.S. 101	Central Expwy	50	74	75	1
Kiely Ave	Pruneridge Ave	Stevens Creek Blvd	40	70	71	1
Bowers Ave	Monroe St	El Camino Real	40	70	70	0
	Hudson St	Monroe St	40	66	66	0
	U.S. 101	Scott Blvd	40	72	73	1
Great America Pkwy	Tasman Dr	Mission College Blvd	40	68	69	1
	SR 237	Tasman Dr	40	66	67	1
Saratoga Ave	Stevens Creek Blvd	San Thomas Expwy	40	67	69	2
San Thomas Expwy	Saratoga Ave	Stevens Creek Blvd	45	71	72	1
	Cabrillo Ave	El Camino Real	45	72	73	1
	U.S. 101	Scott Blvd	45	76	77	1
Montague Expwy	Lafayette St	Mission College Blvd	45	73	75	2
	N. 1 <sup>st</sup> St	De La Cruz Blvd	45	72	74	2
Winchester Blvd	Pruneridge Blvd	Stevens Creek Blvd	35	65	66	1
	Newhall St	Pruneridge Blvd	35	62	64	2
Bascom Ave	Newhall St	I-880	40	73	74	1
Stevens Creek Blvd	Lawrence Expwy	Kiely Blvd	40	66	67	1
Pruneridge Ave	Pomeroy Ave	Kiely Blvd	35	62	64	2
Homestead Rd	Pomeroy Ave	Kiely Blvd	40	66	67	1
The Alameda	El Camino Real	I-880	35	65	66	1
El Camino Real	Lawrence Expwy	Calabazas Blvd	40	67	67	0
	Scott Blvd	Lincoln St	40	68	68	0
Coleman Ave	De La Cruz Blvd	City Limits	40	67	69	2
Central Expwy	Lawrence Expwy	Bowers Ave	50	73	75	2
De La Cruz Blvd	U.S. 101	Central Expwy	40	62	64	2
	Montague Expwy	Trimble Rd	40	76	78	2
Trimble Road	City Limits	De La Cruz Blvd	35	68	71	3
Monroe St	Scott Blvd	El Camino Real	30	62	63	1
	Lawrence Expwy	Calabazas Blvd	35	67	68	1
Scott Blvd	City Limits	Bowers Ave	35	63	64	1
	Monroe St	El Camino Real	40	62	63	1
Wildwood Ave	City Limits	Mercado Driveway	40	76	76	0

**Table 6 Existing and Future CNEL Noise Levels Along Santa Clara Roadways**

Roadway	Segment		Speed (mph)	CNEL at 100 ft. (dBA)		CNEL Increase (dBA)
	From	To		2009 Existing	2035 Build	
Tasman Dr	City Limits	Great America Pkwy	40	64	67	<b>3</b>
	Great America Pkwy	Lafayette St	40	65	67	2
	Lafayette St	City Limits	40	65	68	<b>3</b>
Lafayette St	Reed St	El Camino Real	40	67	68	1
	Tasman Dr	Montague Expwy	40	65	67	2
	U.S. 101	Central Expwy	40	71	73	2
Kifer Rd	Lawrence Expwy	Bowers Ave	35	64	65	1
Benton St	Pomeroy Ave	Kiely Blvd	30	59	61	2
Park Ave	Bellomy St	I-880	30	59	60	1
US 101	De La Cruz Blvd	Montague Expwy	65	84	84	0
	Great America Pkwy	Lawrence Expwy	65	84	84	0
	Montague Expwy	Great America Pkwy	65	84	84	0
SR 237	N. 1 <sup>st</sup> St	Great America Pkwy	55	81	82	1
	Great America Pkwy	Lawrence Expwy	55	81	82	1
I-280	Lawrence Expwy	Wolfe Rd	65	84	84	0
I-880	Bascom Ave	The Alameda	65	83	83	0

*\* Substantial noise level increases (i.e., 3 dBA CNEL or greater) are indicated in **bold** font; such increases in proximity to existing noise-sensitive uses are shaded.*

**Impact: Construction noise would cause a temporary or periodic increase in noise exposure above ambient levels.**

The proposed 2010-2035 General Plan would facilitate the construction of new projects within the Planning Area. Residences and businesses located adjacent to proposed development sites would be affected at times by construction noise. Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time. For the purposes of this assessment, noise levels exceeding 60 dBA  $L_{eq}$  and the ambient noise environment by 5 dBA  $L_{eq}$  or more at nearby noise-sensitive land uses (e.g., residential land uses) for a period of more than one construction season would be considered significant. Where noise from construction activities exceeds 70 dBA  $L_{eq}$  and the ambient noise environment by 5 dBA  $L_{eq}$  or more at sensitive industrial, office, or commercial land uses for a period of more than one construction season, the impact would also be considered significant.

Major noise-generating construction activities associated with new projects would include removal of existing pavement and structures, site grading and excavation, the installation of utilities, the construction of building cores and shells, paving, and landscaping. The highest construction noise levels would be generated during grading and excavation because of the use of heavy equipment, with lower noise levels occurring during building construction activities when activities move indoors and less heavy equipment is required. Construction equipment would typically include, but would not be limited to, earth-moving equipment and trucks, pile driving rigs, mobile cranes, compressors, pumps, generators, paving equipment, and pneumatic, hydraulic, and electric tools. Table 7 presents the typical range of hourly average noise levels generated by different phases of construction measured at a distance of 50 feet. Hourly average noise levels generated by demolition and construction are about 77 dBA to 89 dBA  $L_{eq}$  measured at a distance of 50 feet from the center of a busy construction site. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA  $L_{max}$  at a distance of 50 feet. Typical hourly average construction-generated noise levels are about 81 to 89 dBA  $L_{eq}$  measured at a distance of 50 feet from the site during busy construction periods. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels.

**Table 7 Typical Ranges of Noise Levels at 50 Feet from Construction Sites (dBA L<sub>eq</sub>)**

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.

II - Minimum required equipment present at site.

Source: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

The City’s Noise Ordinance allows construction activities within 300 feet of any residentially zoned properties between the hours of 7:00 A.M. to 6:00 P.M. on weekdays other than holidays, and within the hours of 9:00 A.M. to 6:00 P.M. on any Saturday which is not a holiday. Quantitative noise limits for construction are not established in the ordinance.

Large construction projects facilitated by the 2010-2035 General Plan may result in a substantial temporary noise increase at adjacent noise-sensitive land uses. As a result, noise levels from these projects could exceed 60 dBA L<sub>eq</sub> and the ambient noise environment by 5 dBA L<sub>eq</sub> or more, and last over one year in duration. Thus, the development of a Mitigation Measure would be required in addition to the New General Plan policies to ensure that program-level construction noise impacts are reduced to a less-than-significant level.

**Mitigation Measure:** Develop construction noise control plans that consider the following available controls in order to reduce construction noise levels as low as practical:

- Utilize ‘quiet’ models of air compressors and other stationary noise sources where technology exists;
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;

- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- Notify all adjacent land uses of the construction schedule in writing;
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

The potential short-term noise impacts associated with construction facilitated by the 2010-2035 General Plan would be mitigated by the adoption and implementation of the above policy that requires reasonable noise reduction measures be incorporated into the construction plan and implemented during all phases of construction activity to minimize the exposure of neighboring properties. This measure, in combination with the limitations on hours set forth in the Noise Ordinance, would reduce the impact to a *less-than-significant* level.

**Impact:** Aircraft noise over proposed noise-sensitive land uses would exceed Santa Clara County Airport Land Use Commission (ALUC) noise thresholds, which could expose individuals living and working within the plan area to excessive aircraft noise.

The Santa Clara County ALUC has jurisdiction over new land uses in the vicinity of airports, and establishes 65 dBA CNEL as the maximum allowable noise level considered compatible with residential uses. The 2010-2035 General Plan would allow new residential development in areas of the City where existing and future aircraft noise levels associated with operations at Norman Y. Mineta San José International Airport would exceed 65 dBA CNEL (See Figure 5.10-5, Airport Noise Contours (2022)). The future 65 dBA CNEL noise contour passes through a portion of a proposed high density residential development area located northwest of the Great America Parkway/Tasman Drive intersection and through a portion of a proposed medium density residential development area located east of De La Cruz Boulevard. The County Airport Land Use Plan Guidelines consider such noise levels excessive for new residential development. The 2010-2035 General Plan would also allow low intensity office/R&D would be allowed in noise environments exceeding 65 dBA CNEL. The County Airport Land Use Plan Guidelines cautions against the development of commercial land uses in noise environments ranging from 65 to 75 dBA CNEL, and requires that noise insulation be carefully reviewed to ensure adequate noise reduction in interior spaces.

Draft General Plan Policies 5.10.6-P7, 5.10.6-P8, and 5.10.6-P9 would govern new development proposed for areas susceptible to noise associated with Norman Y. Mineta San José International Airport. Policies 5.10.6-P7, 5.10.6-P8, and 5.10.6-P9 would require that office/R&D land uses

be reviewed and mitigated; that safe and compatible land uses continue to be encouraged in the Airport Noise Restriction Area; and that the City work with the Airport to mitigate aircraft noise to the fullest extent possible. Furthermore, the implementation of Draft General Plan Policies 5.10.6-P1, 5.10.6-P2, 5.10.6-P3, and 5.10.6-P6 would require that the General Plan compatibility standards be used to determine where noise levels in the community are acceptable or unacceptable, and require noise attenuation measures to achieve the “normally acceptable” noise level standards. The City will require that individual development projects undergo project-specific environmental review. If significant project-level aircraft noise impacts are identified, specific mitigation measures will be required under CEQA. By ensuring compliance with the local airport land use plan and the City’s acceptable noise level standards, implementation of these policies would effectively reduce potential program-level aircraft noise impacts to a *less-than-significant* level.

### **Cumulative Impacts**

Cumulative noise impacts are considered as part of the project-levels analysis since the noise analysis is based on the traffic model where input included planned and approved projects in the City (Future Conditions) plus traffic anticipated by General Plan buildout projections. Therefore, cumulative impacts would be the same as project level impacts.

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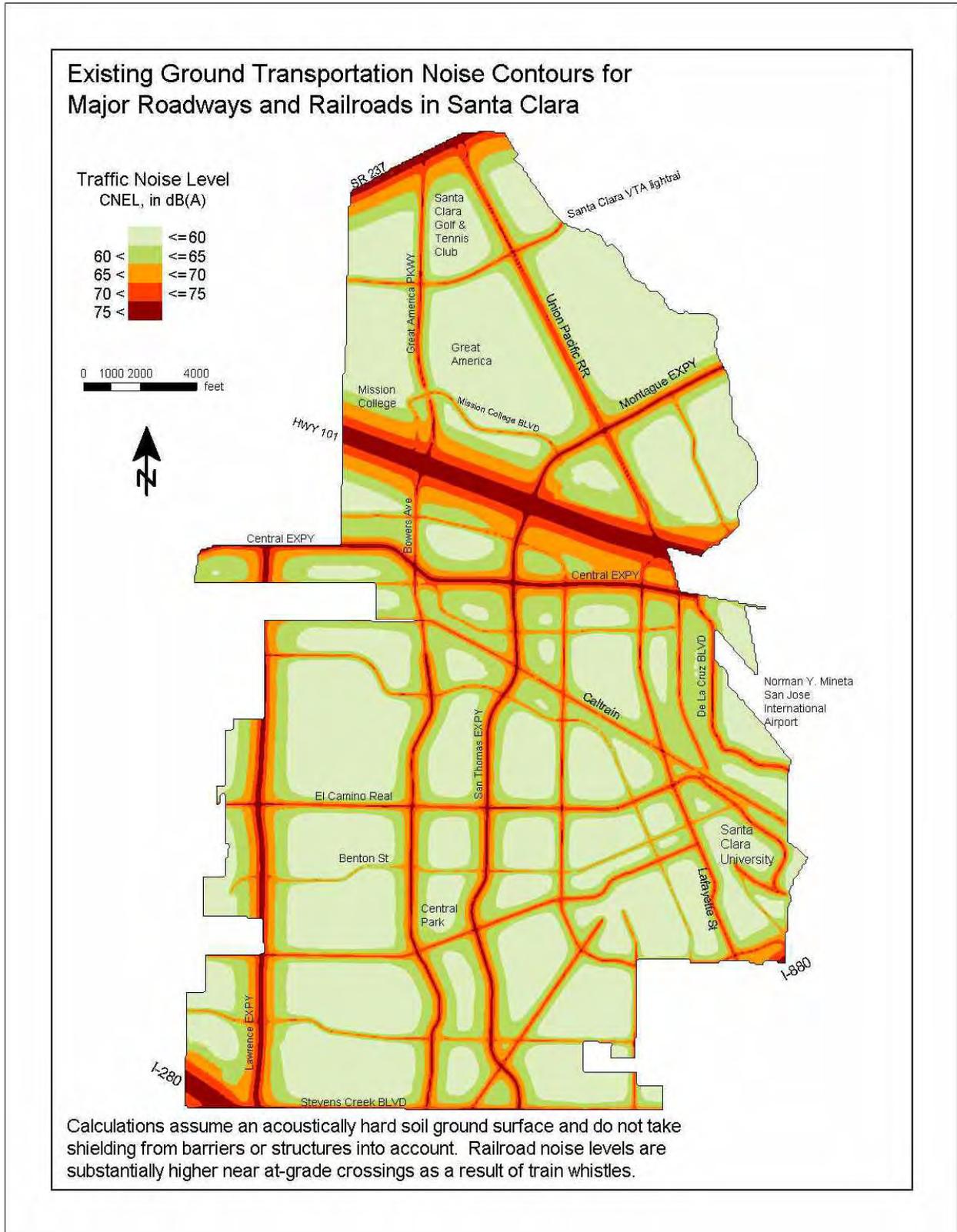
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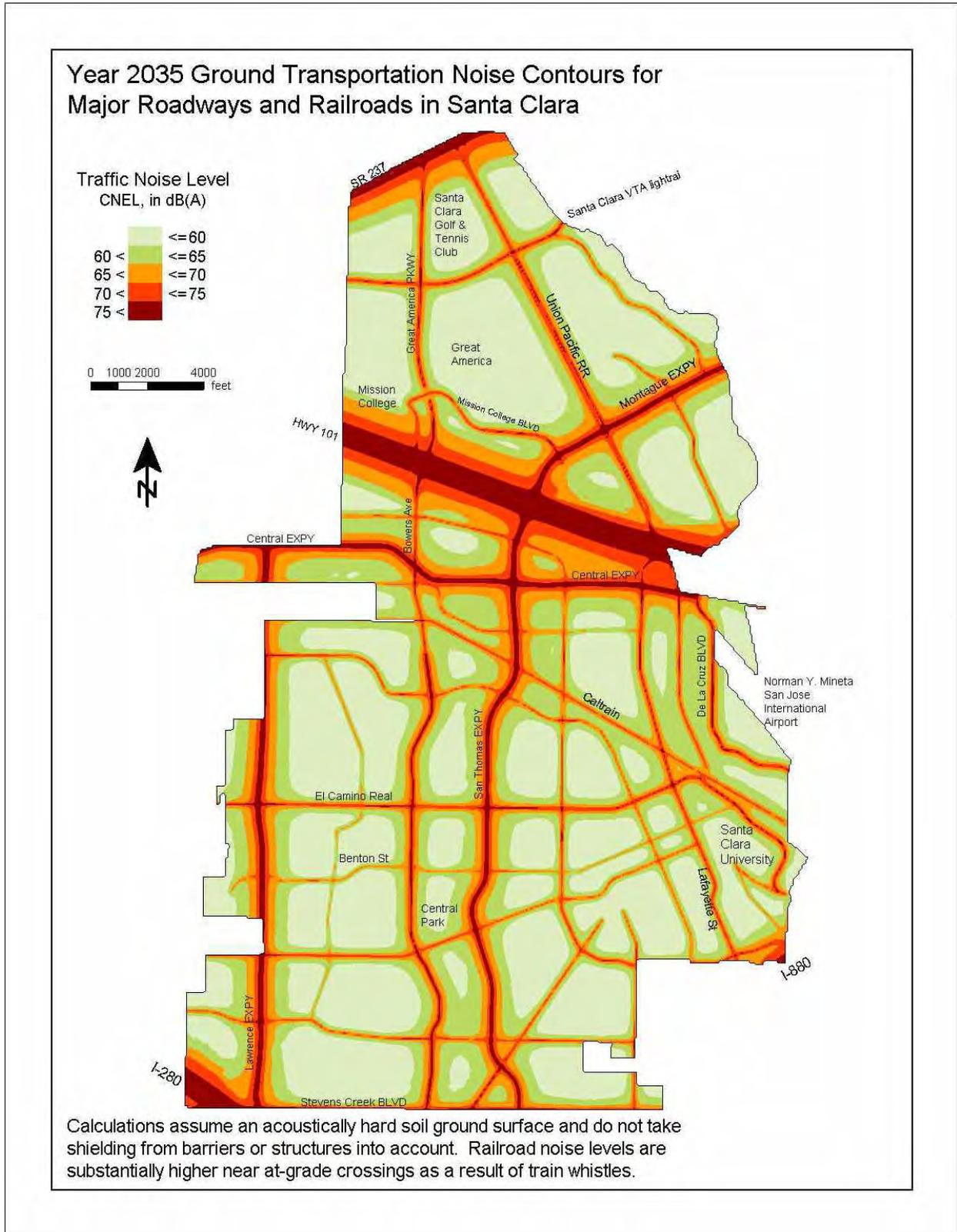
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**Figure 1 Existing Noise Contours**



**Figure 2 2035 Noise Contours**



**APPENDIX K  
SILICON VALLEY POWER ELECTRICAL GRID CAPACITY  
ASSESSMENT FOR THE  
2010 – 2035 GENERAL PLAN UPDATE REPORT**

# **Silicon Valley Power**

## **Electrical Grid Capacity Assessment for the 2010 – 2035 General Plan Update**

**3/1/10**

**Albert Saenz**

**Gian Paolo Martire**

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## Background

The City of Santa Clara is currently in the process of updating its General Plan. The General Plan build-out will occur over three phases: 2010 to 2015, 2015 to 2025, and 2025 to 2035. Certain areas of the City are identified for either change of land use or intensification of existing land uses. As part of the General Plan Update, Silicon Valley Power (SVP), the City's municipal electricity provider, conducted a study to evaluate (1) the potential impact upon the City's current and future electrical network, and (2) to identify areas within the City that might necessitate network infrastructure improvements to accommodate the development proposed under the General Plan Update.

## Model Development

Silicon Valley Power used an electric network model based on Geographic Information System (GIS) software to conduct this study. This model has been in use by SVP since 2006 as a way to track, analyze, and plan aspects of the City's electric service. The model projects the amount of millions of volt amps (MVA) that can be carried through the electrical grid within Santa Clara.

The GIS model was based on the location of substations and power coverage throughout the City. A map of the SVP substations is included in **Appendix A** of this report. The final product are two scenarios for each of the three phases of the General Plan that analyzes load capacities throughout the City. The first scenario used the buildout information from the three phases with existing electrical infrastructure capacity to 2035. The second scenario was run with the same information as the first scenario but included planned substations.

## Assumptions

In order to accurately estimate the capacity load in the electrical grid, a few assumptions were made. The first was that Santa Clara is located in Climate Zone X. Within Climate Zone X each land use type has an Average Peak Volt Amps/sqft. (VA/sqft.). See **Appendix B** for more detail as to the specific VA/sqft. by land use. When calculating the VA/sqft. for residential land uses, 2.8 VA/sqft. was used for low, medium density, and high density designations. VA/sqft. does not increase for developments above 30 du/acre because of saturation points resulting from coincident loads. The build-out assumptions for each phase of the General Plan were provided by the City's Planning Division and the General Plan consultant Dyett and Bhatia.

When calculating the Millions of Volt Amps (MVA) per substation area, 2008 was used as a base year. The MVA per substation is also based on non-coincident loads. This means that an average load throughout the day was used rather than during peak hours.

## Methodology

The first step in estimating the capacity load in the electrical grid is to input the build-out assumptions for the three land use phases into the GIS model. From these three phases, separate land use maps were created and are included in **Appendix C** of this document. MVA for each substation area was calculated by applying the appropriate VA/sqft. to the proposed land use designation. The load for each parcel depends on the size of the parcel, assumed floor area ratio (FAR), and the proposed land use. **Table 1** shows the breakdown by proposed land use and its respective VA/sqft. while **Table 2** shows the breakdown by existing land use and its respective VA/sqft.

**Table 1 – Proposed Land Use VA/Sqft.**

Proposed Land Use	VA/SQFT.
Commercial <sup>a</sup>	5.9
Heavy Industrial	10
Mixed Use <sup>b</sup>	4.3
Office/R&D Intensification	5.8
Office/R&D Intensification Higher	6.1
Station Area Plan	4
Low, Medium, & High Density Residential	2.8
Light Industrial	7
Public/Institutional	2

**Table 2 – Existing Land Use VA/Sqft.**

Existing Land Use	VA/SQFT.
Community Commercial	5.9
Heavy Industrial	10
High, Medium, Mixed Use, & Moderate Density Residential	2.8
Light Industrial	7
Low Density Residential	4
Office/R&D	5.8
Parking Lot	2
Parks/Recreation	2
Public/Institutional	2
Service Commercial/Auto Sales	4.2
Tourist/Visitors	6.4

Refer to **Appendix D** for a summary of the calculations used in the model and **Appendix E** for the parcel load results for the areas of potential development.

**Table 3** shows the results of the load growth per substation area in Millions of Volt Amps (MVA) as a result of the parcel loads per phase. Using 2008 as the base year, the results follow the final year of each phase. Two maps were generated calculating the load capacity (utilization factor) for each phase. The first is a Status Quo model that analyzed the impact of the proposed land use plan on the electric system if no new electric infrastructure projects are built over the thirty year period of the Plan. The second is a model that analyzed the impact of the proposed land use plan on the electric system if electric infrastructure projects are built over the twenty five year period of the Plan. A list and description of the projects are in **Table 4**.

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<sup>a</sup> Average of Commercial Uses in Appendix B.

<sup>b</sup> Includes Horizontal, Downtown, High Density, & Medium Density.

**Table 3 – Existing & Future Load**

Substation Area	2008 (MVA)	2015 (MVA)	2025 (MVA)	2035 (MVA)
Agnew	49	51	54	58
Brokaw	32	50	55	54
Center	34	33	37	40
Homestead	46	46	56	71
Lafayette	118	120	126	124
Raymond	33	43	50	58
Serra	17	26	27	28
Tasman	59	60	60	53
Uranium	22	37	54	58
Walsh	42	58	63	63
Zeno	22	28	23	28
<b>Total<sup>c</sup></b>	<b>474</b>	<b>552</b>	<b>605</b>	<b>635</b>

**Table 4 – Assumed Infrastructure Improvements**

Project	Year	Description	Net Increase	Area	Area Capacity
Palm Substation	2009	New substation: 2-20MVA Tx Banks, 14 Feeders	40 MVA	Agnew	85 MVA
Brokaw Substation	2010	Install 2 Feeders	3 MVA	Brokaw	45 MVA
Uranium Substation	2010	Install 1-20 MVA Tx. Bank and 5 Feeders	20 MVA	Uranium	62 MVA
Walsh Substation	2010	Replace 2-20 MVA Tx. Banks w/ 2-30 MVA Tx. Banks and add 4 Feeders	20 MVA	Walsh	60 MVA
Kenneth Substation	2010	Install 2-30 MVA Tx. Banks and 14 Feeders	60 MVA	Lafayette	127 MVA
Serra Substation	2011	Replace 1-15 MVA Tx. Bank w/ 2-20 MVA Tx. Banks. Replace 4 Feeders with 10 Feeders	25 MVA	Serra	40 MVA
Mission Substation	2011	Install 2-30 MVA Tx. Banks, 14 Feeders	60 MVA	Tasman	127 MVA
Brokaw Substation	2014	Install 1-30 MVA Tx. Bank and 4 Feeders	20 MVA	Brokaw	65 MVA
Feeder Balancing	<2015	Load Transfer between Zeno & Walsh Areas	4.5 MVA	Zeno Walsh	
Democracy Substation	<2015	Install 2-20 MVA Tx. Banks and 8 Feeders	36 MVA	Tasman	163 MVA
Feeder Balancing	<2015	Load Transfer between Brokaw and Homestead areas	9 MVA	Brokaw Homestead	
Feeder Balancing	<2025	Load Transfer between Brokaw and Homestead areas	13.5 MVA	Brokaw Homestead	
Coronado Substation	<2025	Install 2-30 MVA Tx. Banks, 14 Feeders	60 MVA	Uranium	122 MVA
Feeder Balancing	<2025	Load Transfer between Walsh and Zeno areas	9 MVA	Walsh Zeno	
Valley Substation	<2025	Install 2-20 MVA Tx. Banks and 8 Feeders	36 MVA	Homestead	81 MVA

## Electric Capacity Results

Capacity for the electricity network is based on the amount of MVAs that can be loaded in a substation area. For each phase of the General Plan Update, information was run in GIS which then provided two models. The first model analyzed grid capacity with no infrastructure projects and the second model analyzed grid capacity with planned infrastructure projects.

The results of the model runs for General Plan Phases I, II, & III are on **Figures 1-6**, respectively. The load capacity, or utilization factor for each substation area is based on the designed capacity. When the capacity of a substation

<sup>c</sup> Non coincident demand.

area is above 100%, additional capacity is needed.<sup>d</sup> Below listed are the phases and the capacity deficiencies for each model:

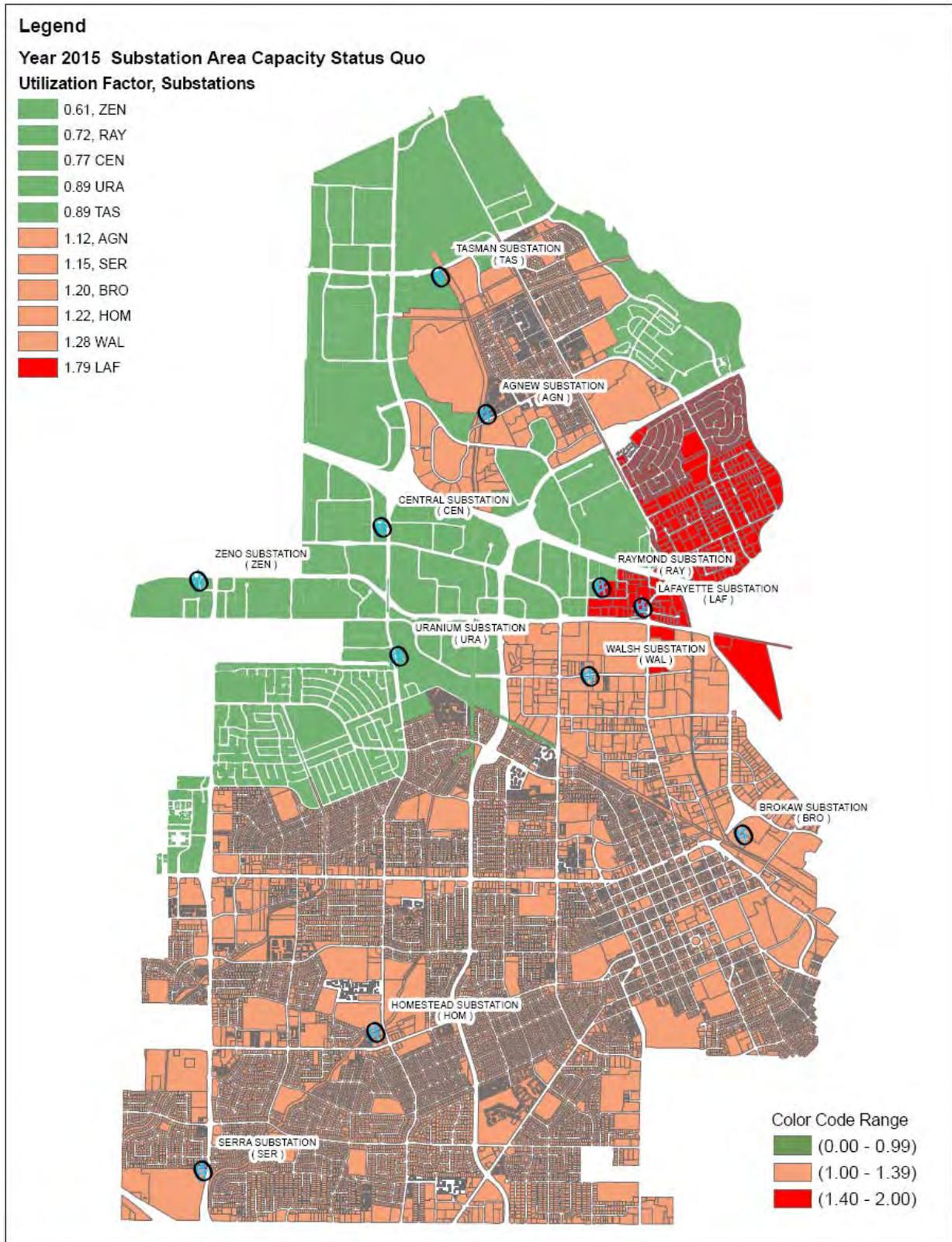
- *Phase I*
  - Status Quo: By 2015, capacity levels above 100% are primarily in the southern, central, and northeastern sections of the City, with the latter constituting the highest load deficiencies. The northern areas of the City between SR. 237 and Tasman Ave. are running at capacity, as well as much of the areas bordering the City of Sunnyvale and between Central Expressway and Hwy. 101. See **Figure 1**.
  - With Planned Infrastructure Projects: Most substation areas are below capacity with the exception of the Homestead substation area in the southwestern/central area of the City. This particular area is running slightly above 100%. See **Figure 2**.
  
- *Phase II*
  - Status Quo: By 2025 capacity levels above 100% are primarily in the southern, central, and northeastern sections of the City, with the latter constituting the highest load deficiencies. High load deficiencies now include The Old Quad, Station Area, and the eastern parts of the area between the Caltrain tracks and Hwy. 101. The northern areas of the City between SR. 237 and Tasman Ave. are running at capacity as well as the areas bordering the City of Sunnyvale. See **Figure 3**.
  - With Planned Infrastructure Projects: Slight load deficiencies are projected north of El Camino Real between Lafayette St. and Scott Blvd, and south of Central Expressway, as well as the Old Quad and Santa Clara Station Area. See **Figure 4**.
  
- *Phase III*
  - Status Quo: By 2035 capacity levels above 100% are primarily in the southern, central, and northeastern sections of the City, with the latter constituting the highest load deficiencies. High load deficiencies now include The Old Quad, Station Area, and the eastern parts of the area between the Caltrain tracks and Hwy. 101. The northern areas of the City between SR. 237 and Tasman Ave. are running at capacity as well as the areas bordering the City of Sunnyvale. See **Figure 5**.
  - With Planned Infrastructure Projects: Slight load deficiencies are projected north of El Camino Real between Lafayette St. and Scott Blvd, and south of Central Expressway, as well as the Old Quad and Santa Clara Station Area. See **Figure 6**.

In conclusion results of the analysis shows that if none of the planned infrastructure projects are completed and all the build-out scenarios are realized, the grid would have enough capacity to support the development, albeit strained. If all the planned infrastructure projects are completed and all the build-out scenarios are realized, the grid could comfortably support development of this magnitude.

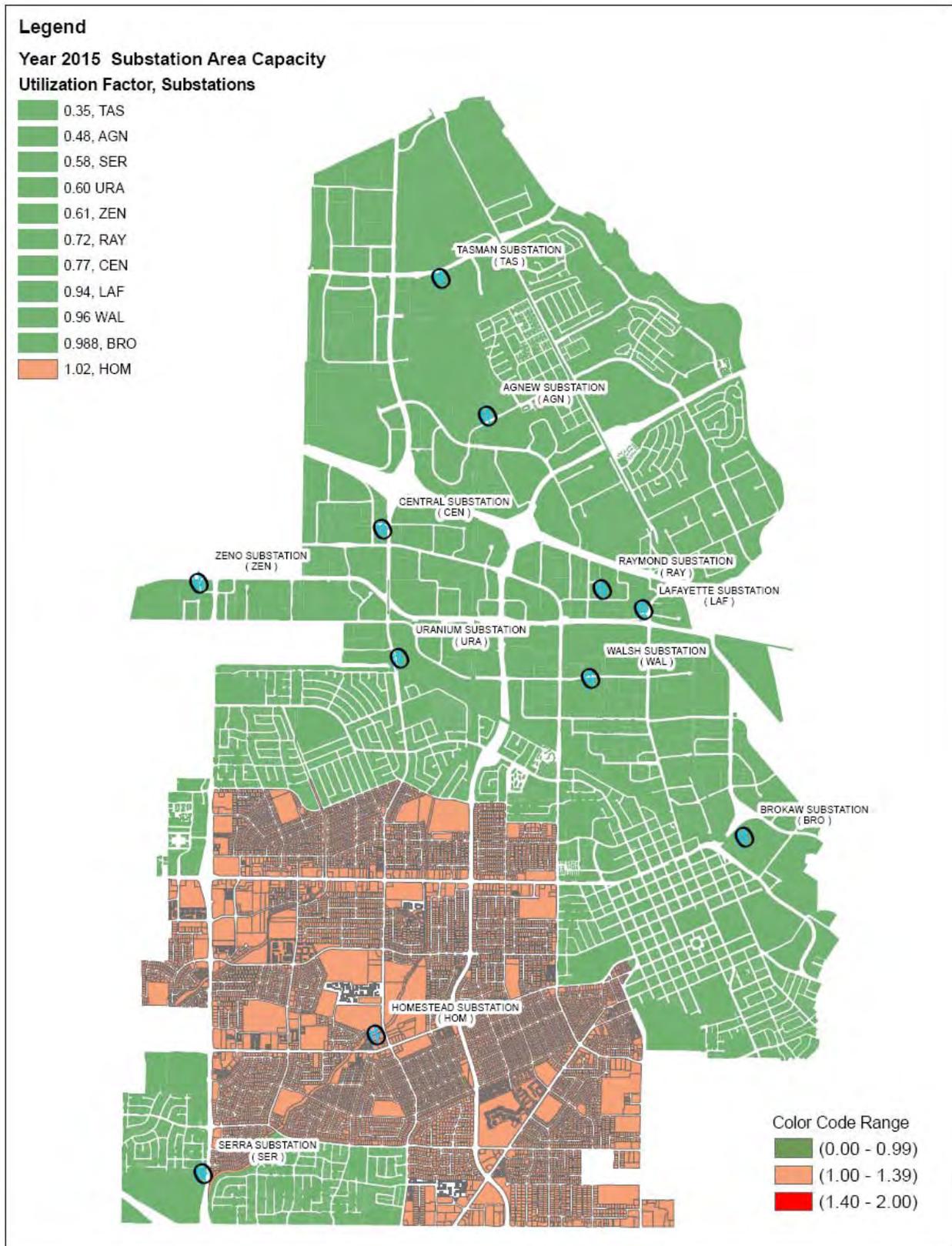
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<sup>d</sup> Substations are designed to run at half capacity. For example, if a substation is shown to be running at 100% capacity it is actually running at 50%.

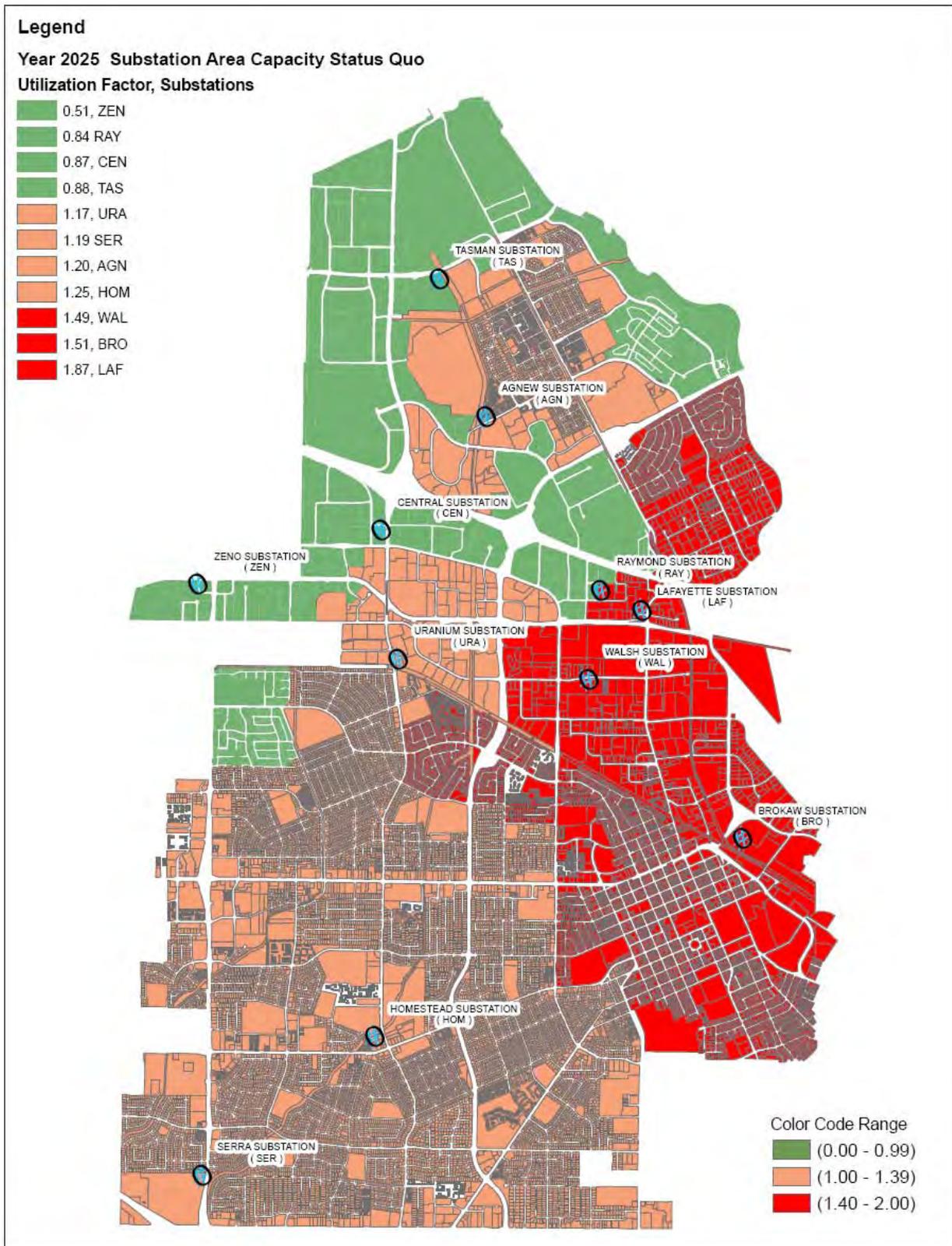
**Figure 1 – Capacity Status Quo (2015)**



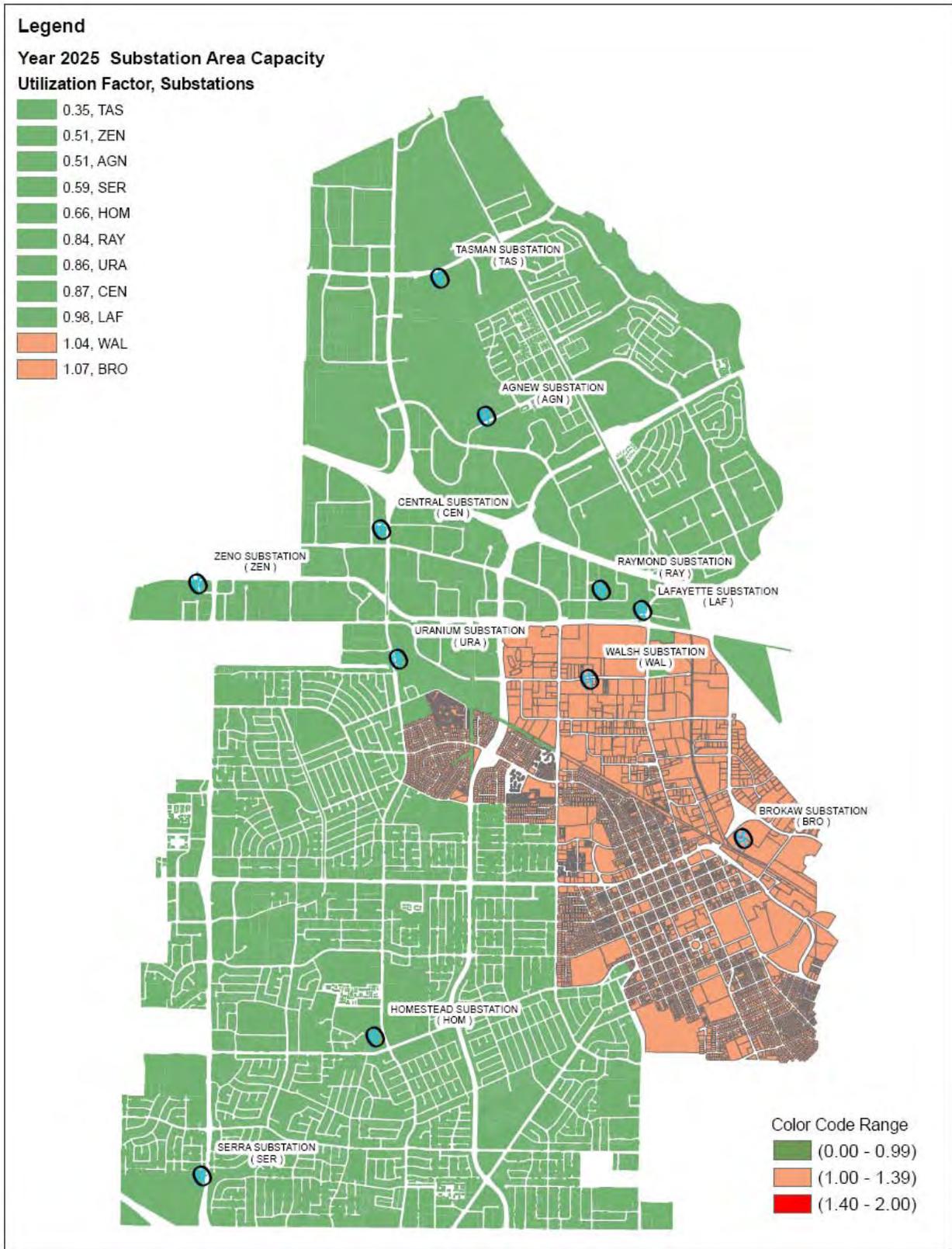
**Figure 2 – Planned Infrastructure Improvements (2015)**



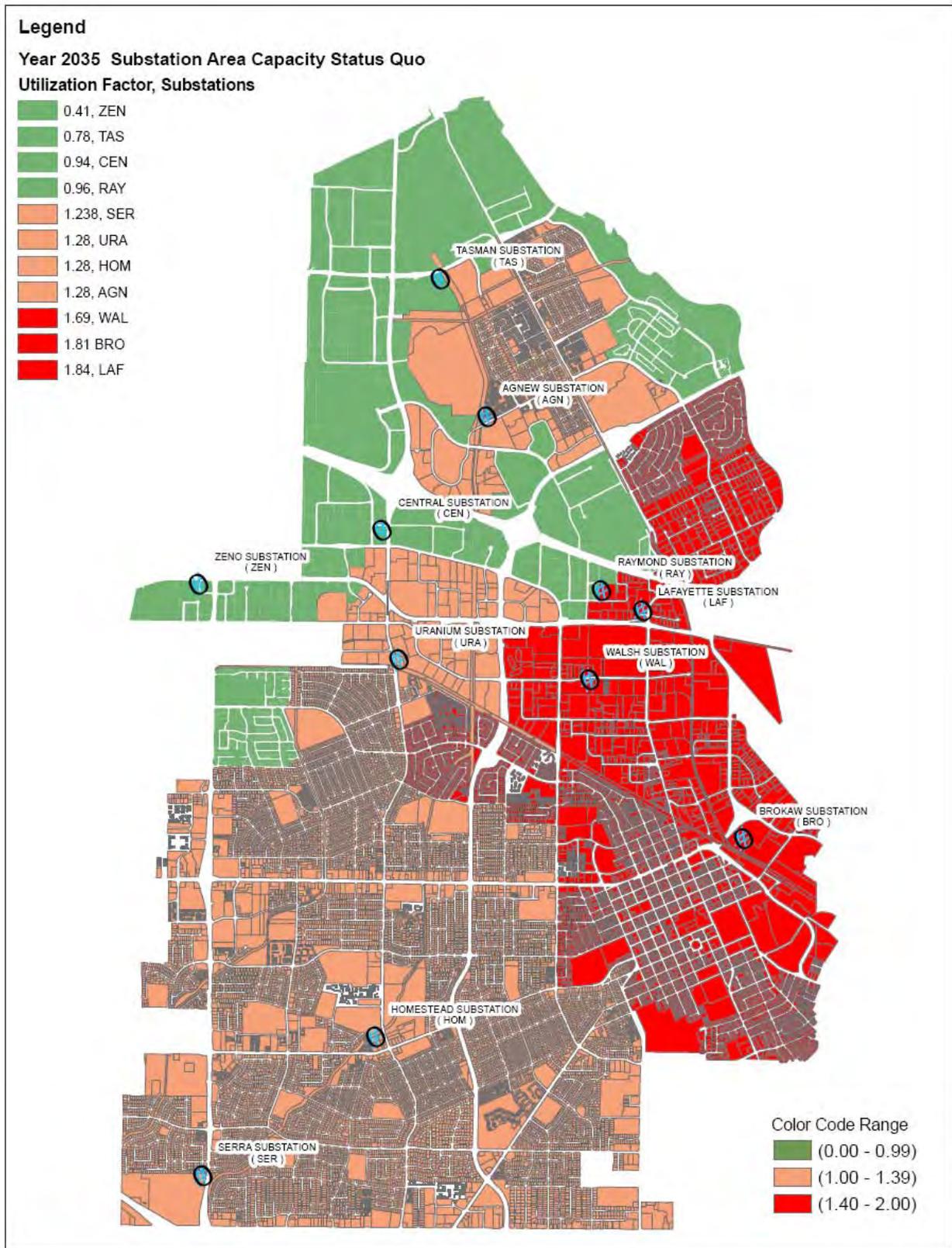
**Figure 3 – Capacity Status Quo (2025)**



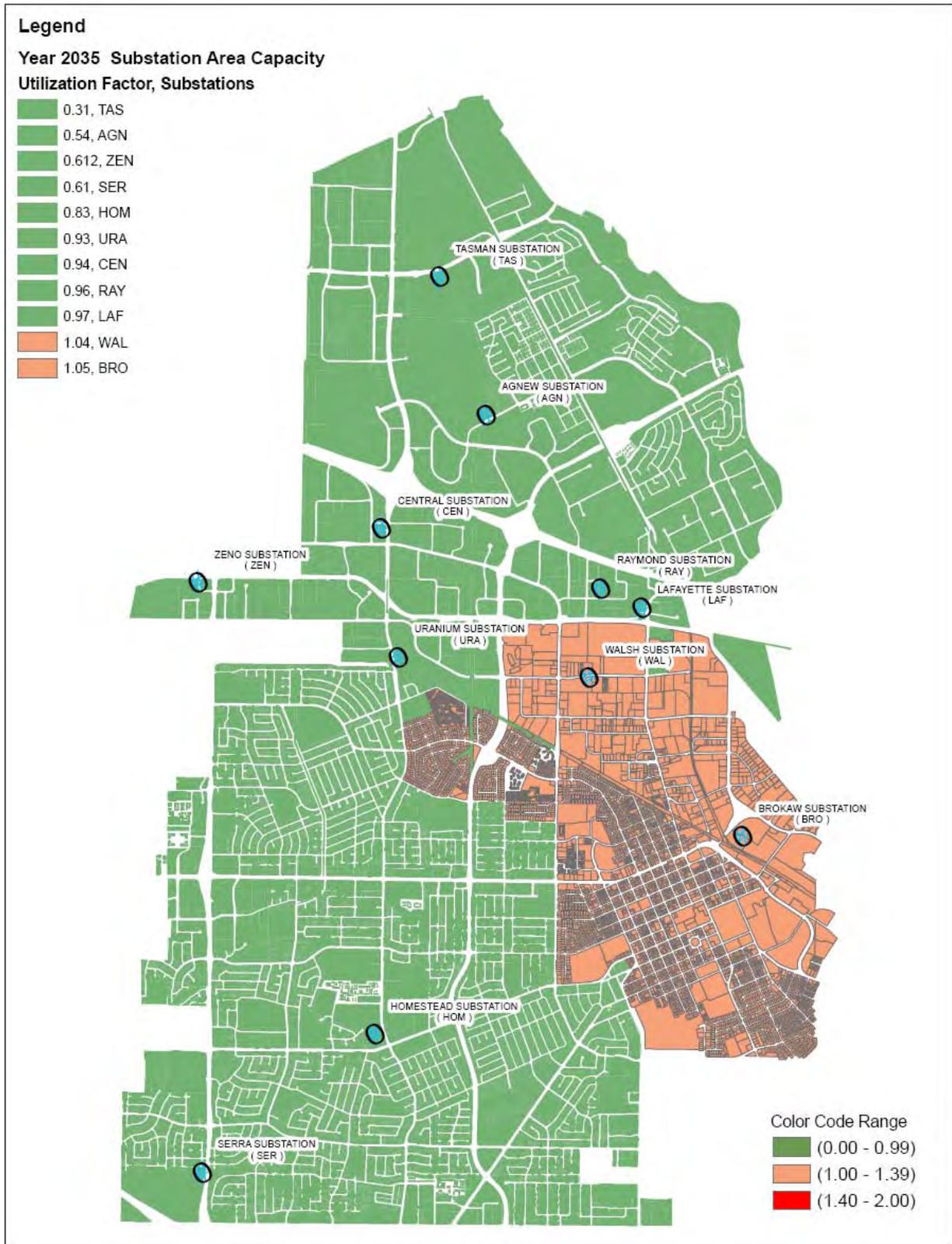
**Figure 4 – Planned Infrastructure Improvements (2025)**



**Figure 5 – Capacity Status Quo (2035)**



**Figure 6 – Planned Infrastructure Improvements (2035)**

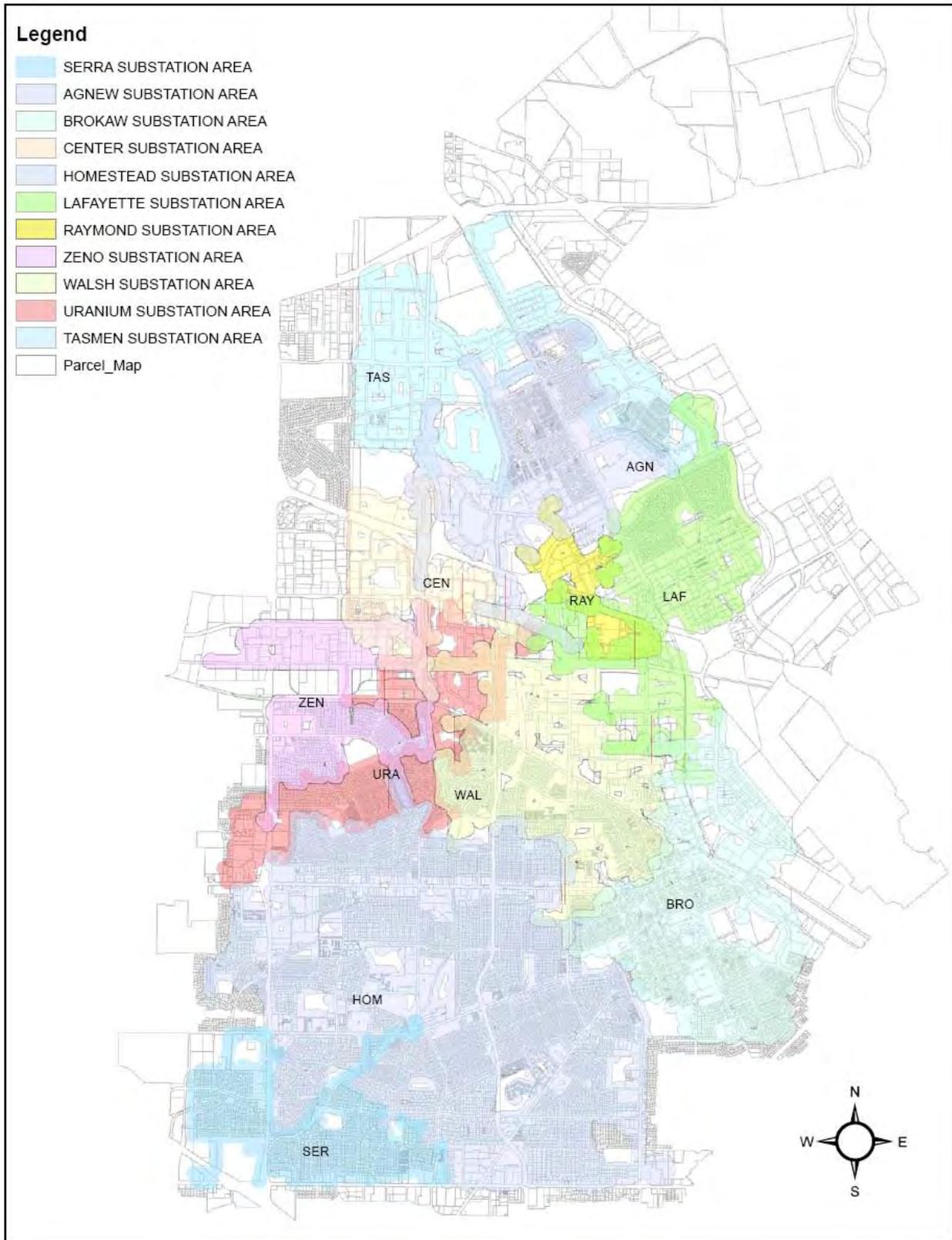


# Appendix A-Substation Areas

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## Map

**Figure 7 – Substation Areas (2008)**



## Appendix B – Specific Volt Amps/Square Foot

Table 5

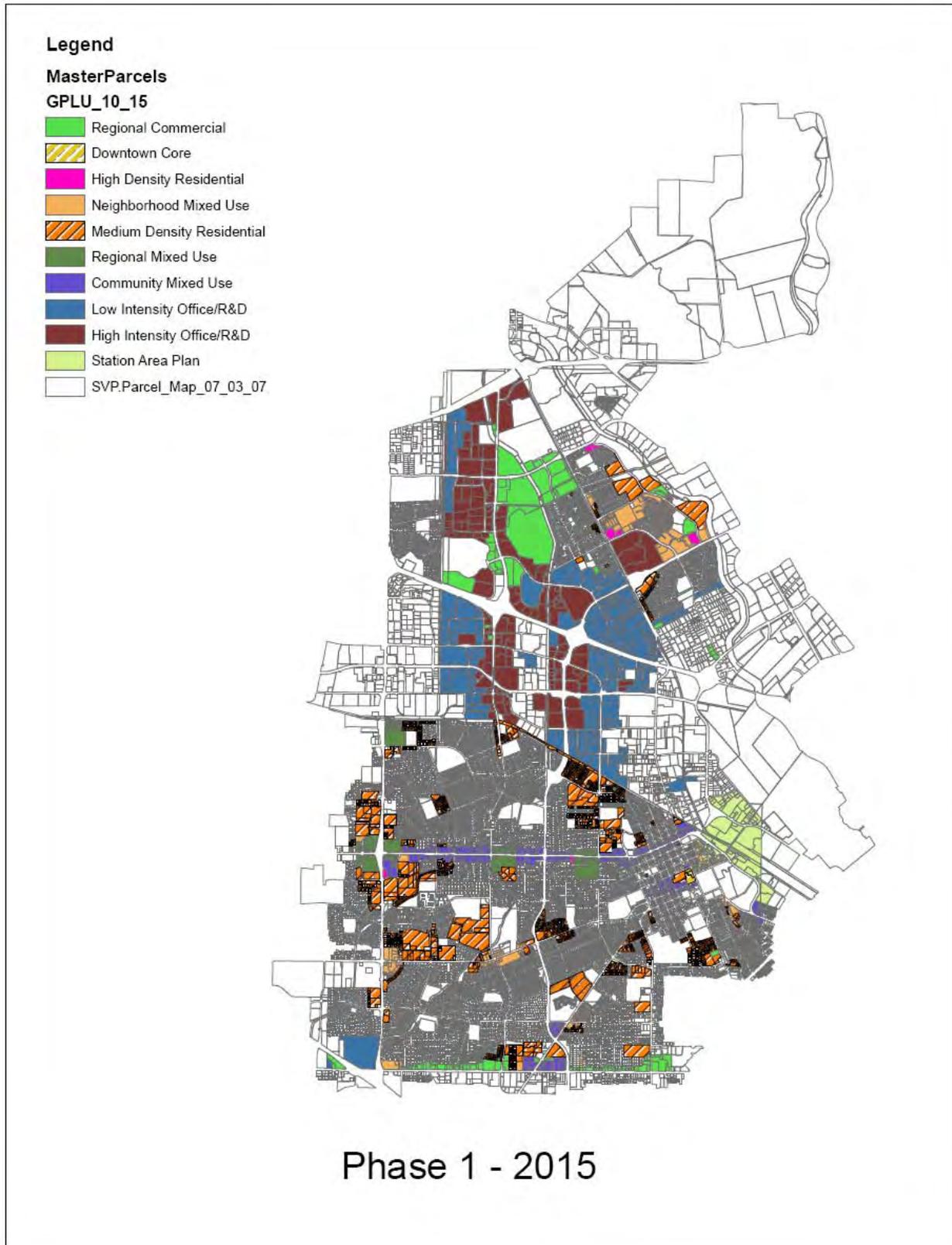
## Volt-Amperes per Square Foot By Type of Occupancy

	Occupancy Type	Peak Month Load Factor (%)	Power Factor (%)	Ave Peak VA/ft <sup>2</sup>		
				Climate Zone 'R', 'S'	Climate Zone 'T'	Climate Zone 'X'
* 1	Auto Repair	44	85	5.1	5.8	3.9
2	Auto Sales	48	85	3.9	3.2	4.2
3	Building/Hardware/Garden Supply	49	85	5.1	4.5	5.5
4	Clothing/Shoes	42	85	9.2	5.4	7.3
5	Colleges	47	82	6.0	3.8	4.6
6	Department Store, Major	50	89	5.9	5.4	5.8
7	Drug/Liquor	46	93	5.9	5.4	5.9
* 8	Fire/Police	60	80	9.3	3.5	6.7
9	Furn/Appliance/Home Electronics	45	85	5.1	5.3	5.5
10	Grocery ≤ 10,000 Sq. Ft.	64	85	Use Method 1 or Table 1		
11	Grocery > 10,000 Sq. Ft.	76	80	10.1	9.1	11.0
12	Health Services/Clinics	42	90	9.6	5.1	8.7
13	Hospital	65	80	7.7	5.5	6.2
14	Hotel/Motel	51	86	5.1	2.7	3.5
* 15	Jails	62	87	5.8	6.6	2.1
16	Library/Museum	47	87	7.8	4.7	6.4
* 17	Movie Theaters	46	85	6.7	3.7	7.3
18	Nursing	55	80	5.6	3.1	3.8
19	Office ≤ 30,000 Sq. Ft.	41	85	Use Method 1 or Graph A		
20	Office > 30,000 Sq. Ft.	46	84	6.1	4.5	5.8
21	Outdoor Business	48	85	3.6	4.1	3.5
22	Post Office	53	82	6.3	3.8	4.9
23	Recreation (Dance Studio, Bowling)	46	85	6.6	3.9	6.3
24	Religious Institutions	31	80	4.7	1.9	3.4
25	Restaurants ≤ 3,000 Sq. Ft.	49	85	Use Method 1 or Table 1		
26	Restaurants > 3,000 Sq. Ft.	54	85	12.9	10.2	12.5
27	Schools	28	78	5.7	2.3	3.3
28	Service Organizations	43	85	7.8	3.1	5.1
29	Service Station	60	85	Method 1	Method 1	Method 1
30	Shopping Center	52	84	6.2	5.3	5.8
31	Specialty Shops	44	85	6.2	5.3	6.8
32	Telephone	65	85	9.6	3.7	9.3
33	Trailer Park	Use Residential Load Estimation Technique				
* 34	Transport (Bus, Truck Depots)	46	80	6.0	3.0	5.4
35	Warehouse	46	82	3.5	2.5	3.8
36	Warehouse, Refrigerated	56	78	9.8	5.8	8.3

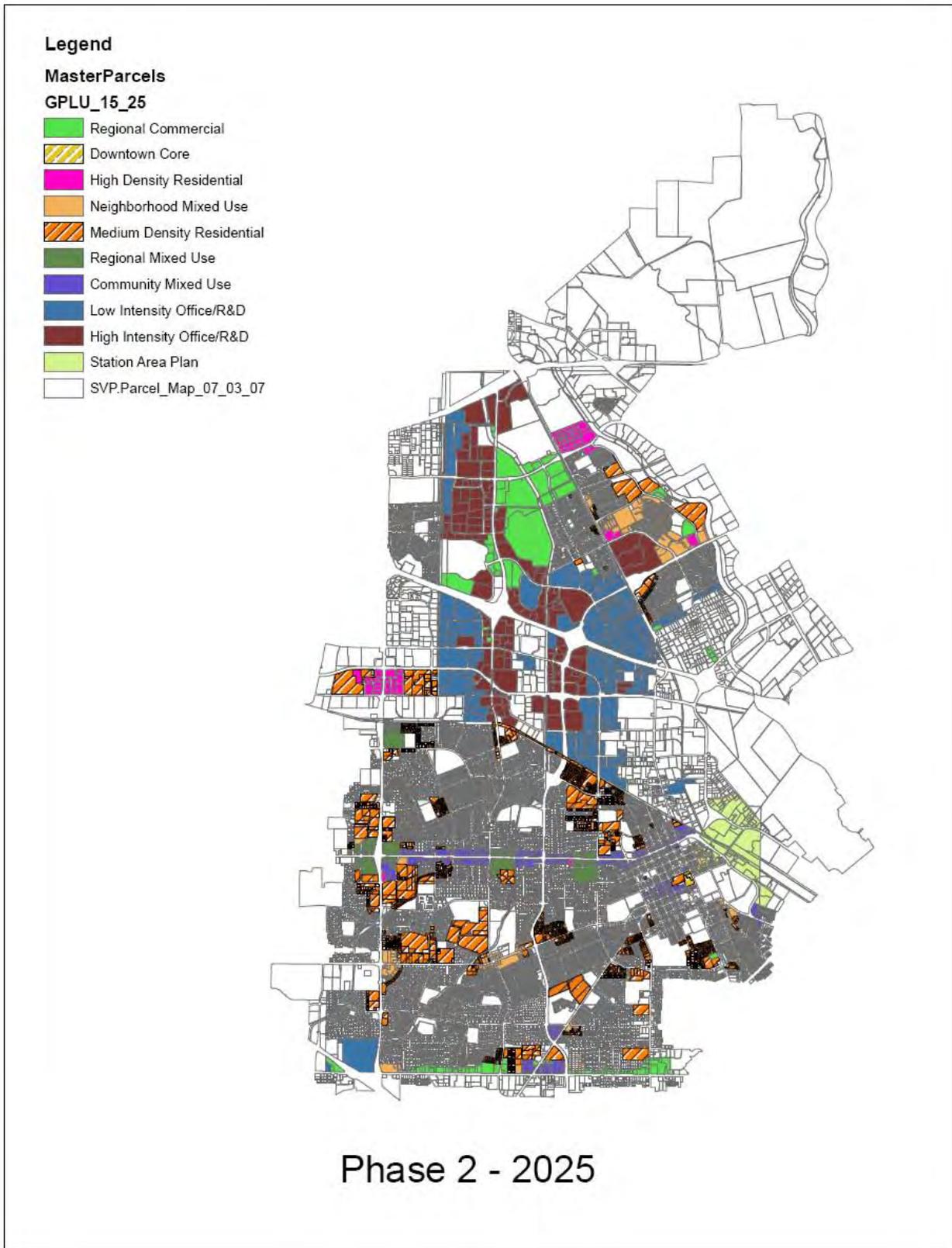
\*Averages for all Climate Zones. \*\* Based on limited data.

## Appendix C – Land Use Plan Phases

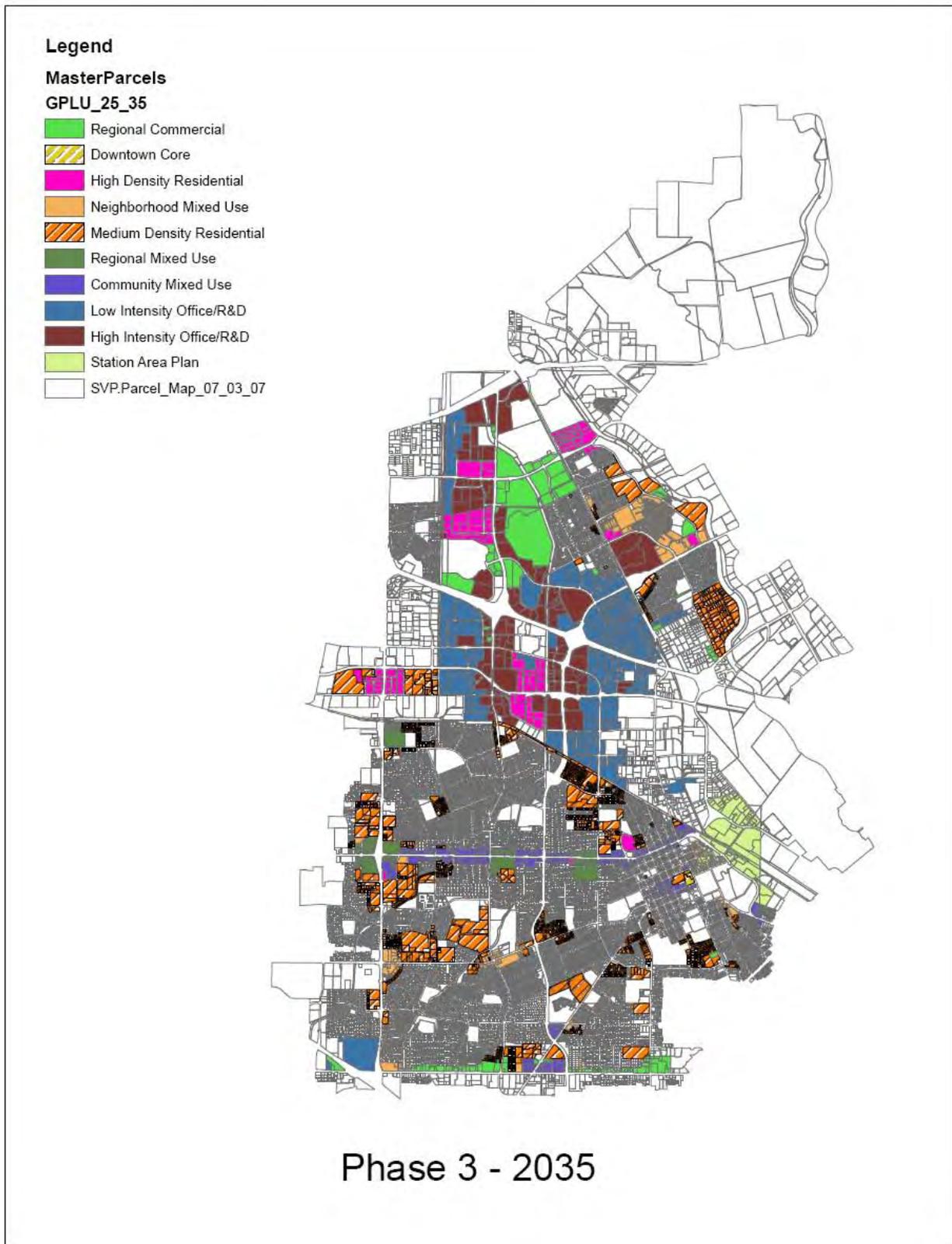
**Figure 8 – Proposed Land Use Phase I**



**Figure 9 – Proposed Land Use Phase II**



**Figure 9 – Proposed Land Use Phase III**



# Appendix D –Methodology in Calculating Peak Load Demand for Proposed Land Use Area

# Calculating Peak Load Demand for Proposed Land Use Area

Below are the formulas used for each parcel for calculating the capacity of the electrical grid.

## Phase I:

***Projected Load for Parcel in Phase I minus existing building area lost in Phase I = (Projected Phase I Building Sqft.)-(Projected Load Lost for Removal of Existing Building Sqft. in Phase I)+(Projected Load for Development Projects)***

- *Projected Phase I Building Sqft. = (Phase I Building Sqft.)x(VA/Sqft.)x(Proposed Phase I General Plan Land Uses)*
- *Projected Load Lost for Removal of Existing Building Sqft. in Phase I = (Existing Building Area Lost in Phase I)x(VA/Sqft.)x(Existing Land Uses<sup>e</sup>)*
- *Projected Load for Development Projects = (Projected Load for Development Project)-(Projected Load Lost for Removal of Existing Building in Development Project)*

## Phase II:

***Projected Load for Parcel in Phase II minus existing building area lost in Phase II = (Projected Phase II Building Sqft.)-(Projected Load Lost for Removal of Existing Building Sqft. in Phase II)***

- *Projected Phase II Building Sqft. = (Phase II Building Sqft.)x(VA/Sqft.)x(Proposed Phase II General Plan Land Uses)*
- *Projected Load Lost for Removal of Existing Building Sqft. in Phase II = (Existing Building Area Lost in Phase II)x(VA/Sqft.)x(Existing Land Uses<sup>f</sup>)*

## Phase III:

***Projected Load for Parcel in Phase III minus existing building area lost in Phase III = (Projected Phase III Building Sqft.)-(Projected Load Lost for Removal of Existing Building Sqft. in Phase III)***

- *Projected Phase III Building Sqft. = (Phase III Building Sqft.)x(VA/Sqft.)x(Proposed Phase III General Plan Land Uses)*
- *Projected Load Lost for Removal of Existing Building Sqft. in Phase III = (Existing Building Area Lost in Phase III)x(VA/Sqft.)x(Existing Land Uses<sup>g</sup>)*

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<sup>e</sup> Using 2002 General Plan Land Use Designation.

<sup>f</sup> Ibid

<sup>g</sup> Ibid

# Appendix E- Proposed General Plan Land Use Data

Microsoft Excel - MasterParcels\_122909.xls

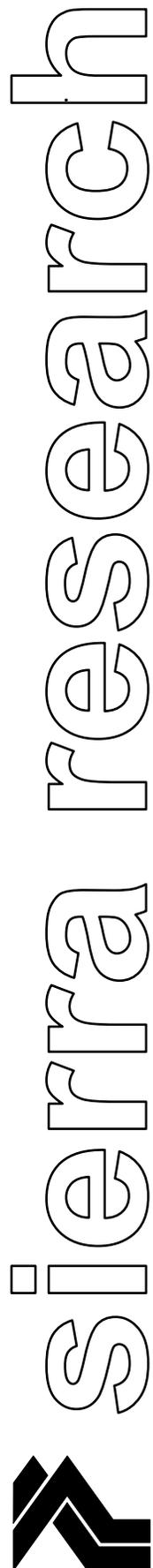
File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 10 B I U

A1	APN	ADDRESS	AREA	ACR	ENCL_2	ENCL_05	ENCL_FLT_SQFT	DP_T_1	DP_NAME	DP_LV	DP_SQF	DP_250	DP_25TA	EQ_TAG	SITENU	SITENLV	SITE
1	25002101	2341 El Camino Real	6249.80	0.14	Office	Community Commercial	0.00	2489.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
2	25024644	11711 El Camino Real	8789.93	0.20	Low Density Residential	Very Low Density Residential	1.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
3	25024644	11711 El Camino Real	12199.59	0.22	Medium-High Density Residential	Medium Density Residential	11.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 7a
4	25024644	11711 El Camino Real	7751.60	0.10	Low Density Residential	Very Low Density Residential	1.00	0.00	SAP	2.00	1675.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 13a
5	25024644	445 Eucalypt St	14354.29	0.33	Medium-High Density Residential	Medium Density Residential	15.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 7a
6	25024644	1551 Asato Dr	4619.29	0.22	Office	Low Intensity Office/RBD	0.00	1337.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
7	25045025	1415 Lawrence Rd	18072.33	0.41	Parking Lot	Vacant	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
8	22004040	1701 Laurence Rd	23945.01	0.55	Community Commercial	Medium Density Residential	0.00	0.00	Var 2010 1701 Laurence Rd	9.00	0.00	1645.00	0.00	0.00	0.00	0.00	Development Project
9	22423055	1531 Main St	9006.08	0.21	Medium Density Residential	Low Density Residential	4.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
10	25042101	4272 Davis St	16375.81	0.34	Low Density Residential	Low Density Residential	1.00	0.00	Var 2010 4272 Davis St	2.00	2064.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
11	25042101	4272 Davis St	14270.04	0.33	Medium-High Density Residential	Medium Density Residential	11.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 7a
12	25042101	1544 Asato Dr	12927.54	0.32	Medium-High Density Residential	Medium Density Residential	11.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 7a
13	25001102	2550 El Camino Real	50619.29	1.15	Tourist/Visitor	Community Commercial	0.00	24993.64		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 7a
14	25024644	1205 El Camino Real	11017.32	0.25	Community Commercial	Community Commercial	0.00	4616.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
15	25007015	2450 The Alameda	5926.08	0.13	Low Density Residential	Very Low Density Residential	1.00	0.00	SAP	2.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 13a
16	25005956	2520 El Camino Real	48591.44	1.05	Tourist/Visitor	Community Commercial	0.00	24524.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
17	25024071	3529 Stevens Creek B	48249.30	1.11	Community Commercial	Community Commercial	0.00	16339.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 4a
18	25040103	1523 Arbutus Ct	24194.45	0.60	Light Industrial	Light Industrial	0.00	9752.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
19	22487011	2171 S Cant Blvd	16954.26	2.39	Light Industrial	Light Industrial	0.00	16100.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
20	25023061	6250 Wash Ave	16246.29	3.71	Light Industrial	Light Industrial	0.00	9590.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
21	25003094	1550 El Camino Real	4000.12	0.09	Parking Lot	Vacant	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
22	25041408	1015 Flower Hill Ave	19742.62	0.45	Light Industrial	Light Industrial	0.00	19535.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
23	25050015	2390 Scott Blvd RB-5	115319.90	24.49	Light Industrial	Light Industrial	0.00	34241.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
24	25023060	2155 Aquatica Dr	47239.51	1.03	Community Commercial	Community Commercial	0.00	5839.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
25	25041408	1390 Herman Ave	32221.47	0.74	Heavy Industrial	Heavy Industrial	0.00	4100.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
26	22023068	3550 Lafayette St	19346.09	0.27	Community Commercial	Community Commercial	0.00	2524.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
27	25024644	1010 Richard Ave	19231.41	0.44	Service Commercial/Auto Sal	Community Commercial	0.00	4594.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
28	25004007	1470 Alhaja Ave	96792.89	2.22	Service Commercial/Auto Sal	Community Commercial	0.00	29239.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
29	25010597	2220 Calle De Luna	101904.40	2.32	Light Industrial	Light Industrial	0.00	4690.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 10b
30	25005104	1461 Main St B2	15292.87	0.35	Medium-High Density Residential	Medium Density Residential	10.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
31	25023102	2840 Head Ave	26109.75	5.99	Light Industrial	Light Industrial	0.00	13416.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
32	25018920	4011 Main St	23334.10	0.85	Heavy Industrial	Heavy Industrial	0.00	9400.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 9c1
33	25044931	3101 River Rd	802920.48	18.43	Light Industrial	Light Industrial	0.00	10214.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
34	25023064	3100 Lakeland Dr	122093.26	2.80	Tourist/Visitor	Community Commercial	0.00	133509.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
35	25011503	2491 Du La Cruz Blvd	32847.87	0.75	Light Industrial	Light Industrial	0.00	15519.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 9c1
36	25024010	Top Site Address*	2072.61	0.05	Vacant	Public/Other/Public	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 10b1
37	25023062	2105 Bascom St	232400.62	5.24	Light Industrial	Light Industrial	0.00	101907.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 2a
38	25019031	3405 Stevens Creek B	23212.06	5.25	Community Commercial	Community Commercial	0.00	47205.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 4a
39	25001011	3195 El Camino Real	51100.23	1.17	Service Commercial/Auto Sal	Community Commercial	0.00	509.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
40	25014627	2232 Calle Del Monte	45624.49	1.05	Light Industrial	Light Industrial	0.00	1731.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 10b
41	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
42	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
43	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
44	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
45	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
46	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
47	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
48	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
49	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
50	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
51	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
52	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
53	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
54	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
55	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
56	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
57	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
58	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
59	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
60	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
61	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
62	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.00	7500.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	Area of Potential Development 6a
63	25001893	2342 El Camino Real	28046.46	0.64	Community Commercial	Community Commercial	0.0										

**APPENDIX L**  
**TECHNICAL REPORT GREENHOUSE GAS INVENTORIES, CITY OF**  
**SANTA CLARA**



Report No. SR2010-07-02

**Technical Report  
Greenhouse Gas Inventories  
City of Santa Clara**

prepared for:

**David J. Powers & Associates, Inc.**

Baseline Update September July 2010

prepared by:

Sierra Research, Inc.  
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Sacramento, California 95811  
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**Report No. SR2010-07-02**

**Technical Report  
Greenhouse Gas Inventories  
City of Santa Clara**

prepared for:

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Baseline Update September ~~July~~ 2010

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**Technical Report  
Greenhouse Gas Inventories  
City of Santa Clara**

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## 1.0 EXECUTIVE SUMMARY

The City of Santa Clara (City) has published for public review and comment a Draft General Plan<sup>1\*</sup> for the period 2010 through 2035. The General Plan is the preferred alternative for the purpose of evaluating its potential environmental impacts as required by the California Environmental Quality Act (CEQA). Another alternative, analyzed herein, is to manage growth to achieve a 1:1 balance between the development of new housing for permanent residents and the economic development of the City to generate new jobs. The final and default alternative is No Project, which amounts to a continuation of the current 2000-2010 General Plan<sup>2</sup> that was published in 2002.

Although this report does not evaluate the potential environmental impacts of the 2010-2035 General Plan and the alternatives, such evaluation requires discussion of numerous types of environmental impacts, including the quantification of the potential generation of greenhouse gas (GHG) emissions from each alternative. Once a determination of the amounts of GHG emissions is made for the three alternatives, the potential impacts of the different emissions can be discussed in the context of global and regional climate change.

This report estimates the GHG emissions in the main categories of activities that occur within the City for two key future years. The year 2020 is the year set by the State of California to reduce GHG emissions to the same level that existed in the year 1990. The second key year is 2035, which is both the planning horizon for the 2010-2035 General Plan, and when GHG emissions need to be reduced to a level approximately 40% below the 1990 level if the State is to meet its goal to reduce GHG emissions 80% below the 1990 level by 2050. To provide context for these projected GHG emission inventories, a baseline GHG emissions inventory is developed herein for 2008.

The method of estimating GHG emissions is described for each of the following categories of activity within the City:

- Electric energy use (including conveyance of raw water and sewage);
- Non-electric energy (natural gas) use for building space heating;
- Combustion and other enterprise process use of energy;
- Off-road equipment use for construction, industry, lawn and garden care, etc.;
- On-road transportation;
- Other transportation by trains, aircraft and ships;
- Solid waste management; and
- Sewage treatment.

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\* Numbered superscripts refer to citations in Section 6.0 -References.

The resulting GHG emission inventories are summarized in Tables ES-1 and ES-2 for two different methods of accounting for emissions from on-road transportation as follows: (1) Within City, which accounted for all travel within the City of Santa Clara limits, including pass-through travel; and (2) City-Generated, representing travel from all trips generated or produced by City of Santa Clara land uses. The 2008 Baseline inventory is summarized in ~~both Tables ES-2~~ to provide reference emissions for the projected changes in 2020 and 2035. ~~(and not the Within City inventory) projected in the CEQA context of all GHG emissions associated with City general planning.~~

The largest contributing category is electric energy use, which appears reasonable for Santa Clara, a City known for having its own utility and low electricity rates that attract energy-intensive industries, and where high technology depends so strongly on electric-powered devices. Although the use of renewable sources of energy to produce electric energy is increasing, the overall expected need for electric power is greater in 2035 than in 2020 and the usage of electric energy under the 2010-2035 General Plan is greater than for the 1:1 balance of new housing and new jobs, which in turn is greater than would be generated under the current 2000-2010 General Plan. The GHG emission projections for electric energy use conservatively use the 2008 GHG emissions per unit electric energy provided by the utilities instead of attempting to forecast potential improvements in efficiency that various yet-to-be-implemented regulations may produce by 2020 and 2035. This “business as usual” approach follows the same procedure taken by the Air Resources Board for the statewide GHG emission inventory.<sup>3</sup> Separately, the City may want to estimate emission reductions that might result from implementation of the state Scoping Plan required by the 2006 Global Warming Solutions Act (Assembly Bill [AB] 32) or imposition of City-derived mitigations yet to be developed.

The approach of applying current levels of resource consumption and efficiency to the 2020 and 2035 projections for all activity categories except on-road transportation is conservative and internally consistent in avoiding the uncertainties of forecasting without adequate supporting data. Supporting legislation\* and a regulatory modeling tool† do exist for estimating greater fuel economy and resulting lower emission from on-road vehicles.

The second largest category generating GHG emissions comprises mobile sources, which are primarily on-road vehicles. Mobile sources also include off-road vehicles and equipment such as locomotives, construction and lawn/garden equipment. Generally speaking across all three General Plan alternatives and the two projection years, City-Generated travel activity, represented as daily vehicle miles traveled (VMT), was roughly one-third higher than Within City travel. This is because the City-Generated travel includes substantial VMT occurring beyond the City limits (e.g., a commute trip from Oakland to Santa Clara). Although guidance from the Bay Area Air Quality Management District (BAAQMD) suggests GHG emissions be estimated on a Within City basis, on-road GHG emissions were estimated both ways in this study because the Within City approach does not account for all the traffic resulting from City-related land

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\* Senate Bill (SB) 375 – Redesigning Communities to Reduce Greenhouse Gases, October 1, 2008.

† Pavley I + Low Carbon Fuel Standard Postprocessor, Version I, Air Resources Board  
<http://www.arb.ca.gov/cc/sb375/tools/pavleylfs-userguide.pdf>

uses. Under both geographic representations, the potential GHG emission increases from VMT increases of 8% to 16% from 2020 to 2035 are generally offset by expected improvements in vehicle fuel economy, and the associated reductions in GHG emissions, from recently adopted vehicle and fuel GHG standards.\*

The third largest category that generates GHG emissions is the diverse combustion and other process use of energy throughout industry and commerce within the City. This varied set of sources includes subsets defined by the BAAQMD inventory for Santa Clara County as follows: commercial cooking (i.e., restaurants, cafes), ozone-depleting substance substitutes, natural gas distribution, reciprocating engines (e.g., emergency generator engines), combustion gas turbines (i.e., not used for electric energy generation to the grid), major and minor natural gas combustion sources, and combustion by other fuels (i.e., again, not for electric energy generation to the grid).

The BAAQMD calculates GHG emission efficiency as the total annual GHG emissions divided by the service population (defined as the sum of the population and employment), expressed as metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) per service population. The District calculated this measure for the year 2020 as a target GHG emission efficiency for planning purposes. The value is 6.6 metric tons CO<sub>2</sub>e per service population,<sup>4</sup> found by dividing the total state inventory GHG emission rate of 426,600,000 metric tons CO<sub>2</sub>e, by the sum of the State service population. The GHG emission efficiency calculated for the City ranges from a high of 9.2 in 2020 for the proposed General Plan and the 1:1 balanced jobs/housing alternative if the City accounts for all vehicle miles traveled that are generated by its service population both within city limits and outside, to a low of 8.2 in 2035 for all three planning alternatives.

The GHG emissions increase from 2008 to 2020 and to 2035 for each scenario. The service population also increases, but faster, thereby resulting in a declining amount of GHG emitted per service population over time.

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\* Pavley I + Low Carbon Fuel Standard

**Table ES-1  
Summarized GHG Emission Inventory, 2008, 2020 and 2035  
Within-City VMT Emissions**

Category	GHG Emissions (MMTCO <sub>2</sub> e) <sup>a</sup>						
	2008	2020			2035		
	GHG Emissions (MMTCO <sub>2</sub> e) <sup>a</sup> Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/Housing Alternative	No Project/Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/Housing Alternative	No Project/Existing General Plan Alternative
Electric Energy, Total	0.890	1.124	1.109	0.962	1.249	1.226	1.050
<b>Non-Electric Energy Industrial/Commercial/Institutional</b>							
- Natural gas space heating	0.219	0.269	0.267	0.238	0.304	0.300	0.260
- Industrial/commercial combustion and other processes	0.292	0.342	0.338	0.317	0.404	0.396	0.351
- Total	0.511	0.611	0.605	0.554	0.708	0.696	0.610
<b>Mobile Sources</b>							
- Off-Road Equipment (lawn & garden, construction, industrial, light commercial)	0.075	0.108	0.106	0.099	0.127	0.122	0.108
- Transportation							
- On-Road	0.363512	0.325461	0.324458	0.325459	0.322439	0.327434	0.325432
- Off-Road (ships, aircraft, trains)	0.0092	0.0093	0.0093	0.0093	0.0093	0.0093	0.0093
- Total	0.448596	0.442578	0.440574	0.433567	0.458575	0.458566	0.442550
<b>Waste Management</b>							
- Solid Waste Management	0.013	0.019	0.019	0.017	0.022	0.022	0.019
- Sewage treatment	0.053	0.062	0.062	0.058	0.074	0.072	0.064
- Total	0.067	0.082	0.081	0.075	0.096	0.094	0.083
<b>Total GHG Emissions</b>	<b>1.9152064</b>	<b>2.260396</b>	<b>2.235369</b>	<b>2.023158</b>	<b>2.511627</b>	<b>2.474582</b>	<b>2.185292</b>
City of Santa Clara Service Population	222,180	260,255	257,567	241,208	307,850	301,801	267,235
GHG Emission Efficiency (metric tons CO <sub>2</sub> e/SP) <sup>b</sup>	8.693	8.792	9.287	8.49	8.25	8.26	8.26

Note: Some sums are rounded.

<sup>a</sup> Million metric tons carbon dioxide equivalent

<sup>b</sup> Calculated by dividing Total GHG Emissions in MMTCO<sub>2</sub>e by City of Santa Clara Service Population

**Table ES-2  
Summarized GHG Emission Inventory, 2008, 2020 and 2035  
City-Generated VMT Emissions**

Category	GHG Emissions (MMTCO <sub>2</sub> e) <sup>a</sup>						
	2008	2020			2035		
	GHG Emissions (MMTCO <sub>2</sub> e) <sup>a</sup> Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/Housing Alternative	No Project/ Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/Housing Alternative	No Project/ Existing General Plan Alternative
Electric Energy, Total	0.890	1.124	1.109	0.962	1.249	1.226	1.050
<b>Non-Electric Energy Industrial/Commercial/Institutional</b>							
- Natural gas space heating	0.219	0.269	0.267	0.238	0.304	0.300	0.260
- Industrial/commercial combustion and other processes	0.292	0.342	0.338	0.317	0.404	0.396	0.351
- Total	0.511	0.611	0.605	0.554	0.708	0.696	0.610
<b>Mobile Sources</b>							
- Off-Road Equipment (lawn & garden, construction, industrial, light commercial)	0.075	0.108	0.106	0.099	0.127	0.122	0.108
- Transportation							
- On-Road	0.512	0.461	0.458	0.459	0.439	0.434	0.432
- Off-Road (ships, aircraft, trains)	0.0092	0.0093	0.0093	0.0093	0.0093	0.0093	0.0093
- Total	0.596	0.578	0.574	0.567	0.575	0.566	0.550
<b>Waste Management</b>							
- Solid Waste Management	0.013	0.019	0.019	0.017	0.022	0.022	0.019
- Sewage treatment	0.053	0.062	0.062	0.058	0.074	0.072	0.064
- Total	0.067	0.082	0.081	0.075	0.096	0.094	0.083
<b>Total GHG Emissions</b>	<b>2.064</b>	<b>2.396</b>	<b>2.369</b>	<b>2.158</b>	<b>2.627</b>	<b>2.582</b>	<b>2.292</b>
City of Santa Clara Service Population	222,180	260,255	257,567	241,208	307,850	301,801	267,235
GHG Emission Efficiency (metric tons CO <sub>2</sub> e/SP) <sup>b</sup>	9.3	9.2	9.2	8.9	8.5	8.6	8.6

Note: Some sums are rounded.

<sup>a</sup> Million metric tons carbon dioxide equivalent

<sup>b</sup> Calculated by dividing Total GHG Emissions in MMTCO<sub>2</sub>e by City of Santa Clara Service Population

###

## 2.0 INTRODUCTION

David J. Powers & Associates, Inc. (Powers) contracted with Sierra Research to develop greenhouse gas (GHG) inventories for the City of Santa Clara for 2008 as the baseline year, and projected to the years 2020 and 2035 under the three following growth scenarios, which are also the CEQA alternatives:

- 2010-2035 General Plan/Preferred Alternative;
- 1:1 (Balanced) Jobs/Housing Alternative; and
- Existing General Plan/-No Project Alternative.

The year 2020 is selected for the first projected inventory because it corresponds to the year that the State of California intends to reach the goal of reducing GHG emissions to the same level as in 1990; the year 2035 is selected for the second projected inventory because the City is proposing its General Plan update out to 2035. The context for the GHG reduction goal for 2035 is provided by the state's goal to reduce GHG emissions 80% below the 1990 emission level by the year 2050. A linear reduction rate suggests a 40% reduction below the 1990 emission level by 2035, the halfway point between 2020 and 2050, as the City's goal for 2035.

The first growth scenario is the preferred alternative, based on the proposed 2010-2035 General Plan, which the City released as a public review draft in March 2010. The No Project Alternative is the existing General Plan, which addressed the time period of 2000-2010 and was issued July 23, 2002, predating the recent period of increasing concern about the potential impacts of GHG emissions on global climate change. The 1:1 Jobs/Housing scenario or alternative was developed to balance growth between the increase in housing needed in the City and the development of jobs.

Two larger geographic scale GHG emission inventories have been developed by other governmental agencies, one by the state Air Resources Board (ARB) and the other by the Bay Area Air Quality Management District (BAAQMD or District), that include, but do not separate out, the City of Santa Clara. The ARB has developed several GHG emission inventories for the entire State, including summarized annual inventories for each of the years 2000 through 2006, a detailed inventory for the baseline year 1990, and a projected inventory for the year 2020. The BAAQMD recently published a GHG emission inventory<sup>5</sup> for Santa Clara County in the year 2007, the six other counties wholly contained within its jurisdiction,<sup>6</sup> and the portions of the other two counties partially contained within its jurisdiction (Solano and Sonoma).

The City developed a more limited GHG emission inventory just for its government operations during the year 2005, but not for the entire City.<sup>7</sup> The GHG emission inventories in this report divided source categories differently, and also used different methodologies to calculate GHG emissions. This study used methodologies drawn from Version 1.0 of the Local Government Operations Protocol<sup>8</sup> that was used to develop the City government operations inventory, and from recent guidance issued by the BAAQMD on developing GHG inventories.<sup>9</sup>

An important concept in developing the two GHG emission inventories for the City is the extent to which GHG emissions from within and without the City should be included. The BAAQMD provided guidance with the statement that its “greenhouse gas inventory only includes GHGs that are emitted within the Bay Area, as well as GHGs emitted in the production of electricity that is imported to the region. The inventory does not include GHGs associated with other goods or products that are imported into the region.”<sup>10</sup> The GHG emissions projected in this report from the City in 2020 and 2035 have been estimated similarly. GHG emissions generated outside of the City but associated with other non-electric energy resources or products imported into the City have not been included. GHG emissions generated outside of the City for on-road travel generated by the City’s activities and land uses (e.g., municipal solid waste transfer to a landfill) are included.

The BAAQMD calculated a “target” GHG emission efficiency of 6.6 metric tons CO<sub>2</sub>e\* per service population<sup>†</sup> for the year 2020 in Table 7 of its December 7, 2009 guidance<sup>11</sup> by dividing the total state inventory GHG emission rate of 426,600,000 metric tons CO<sub>2</sub>e (or 426.6 million metric tons CO<sub>2</sub>e [MMT CO<sub>2</sub>e]), by the sum of the state population and employment (called the service population). This efficiency is used as a quantitative goal for city planning to help reduce future GHG emissions and any associated environmental impacts.

The remainder of the report is organized to present the calculation methodologies for each of the GHG emission categories (Section 3.0), show the two projected Citywide GHG emission inventories under each of the two geographic-based definitions of on-road vehicular travel (Section 4.0), discuss conclusions drawn from the two different inventories, two projection years, and three General Plan alternatives/scenarios (Section 5.0), list the reference documents used in the study (Section 6.0), and provide the various input data used to calculate the GHG emission inventories (Appendix A).

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\* CO<sub>2</sub>e means the carbon dioxide (CO<sub>2</sub>) equivalent emission when accounting for all six GHG categories of CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs), and their respective global warming potentials.

<sup>†</sup> Service population is the sum of the resident population and the number of people employed with jobs within city limits.

## 3.0 METHODOLOGIES

This section describes the methodology used to calculate GHG emissions for each of the following source categories:

- Electric energy
- Natural gas space heating
- Combustion and other process use
- On-road transportation
- Off-road mobile sources
- Solid waste management
- Sewage treatment

Inventory data for each category are presented in Section 4.0, and the input data used in the inventory calculations are included in Appendix A.

### 3.1 Electric Energy

The City of Santa Clara obtains almost all of its electric energy from its own municipal utility company, Silicon Valley Power (SVP). As such, SVP provided the actual annual electric energy use, in kilowatt-hours, during each year from 2006 through 2009 for the four following community sectors: industrial, commercial, public (including municipal), and residential. SVP also calculates the GHG emission intensity for its entire system of generation and importation of electric energy, in units of pounds of CO<sub>2</sub>e per megawatt hour (MWh), and accounts for the emission of all greenhouse gases. Assuming that the total electric energy used by each of the four community sectors is proportional to the building area of each sector (in square feet), the electric energy that would be used by each sector in each scenario for each projection year was calculated from a future projection of the building floor area in each sector provided by the City under each scenario. The amounts of electric energy used by each sector during 2008\* were adjusted by the change in sector building floor area for each of the three scenarios in each of the projection years. The City's 2010-2035 General Plan projects forward only the total building space for the sum of industrial, commercial, and public sectors in the three scenarios for each projection year. The proportion of the total building space in 2008 included in each of these three sectors was maintained constant to apportion the total building space in each scenario.

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\* 2008 is the most recent year for which adequate data on all needed variables are available..

Residential electric energy use was projected for each scenario slightly differently, in which the number of single-family detached units and multi-family attached units are projected rather than the total floor area for each of these two types of housing units. Because the number of each type of housing unit is known for 2008, along with the electric energy used by those units in 2008, future residential energy use in each scenario is calculated under the conservative assumption of constant electric energy use per housing unit. Any improvement homeowners may make in their use of electric energy (e.g., increased use of compact fluorescent lamps) is not forecasted.

Unlike SVP, PG&E did not provide its overall system GHG emission intensity, but instead calculated the CO<sub>2</sub> emissions generated by the small amount (0.13%) of electric energy it provided to the residential, commercial, and municipal/public use sectors for the City of Santa Clara in 2008. These PG&E GHG emissions, as calculated by PG&E, were added directly to the GHG emissions calculated for the use of SVP electric energy as described above.

### 3.2 Natural Gas Space Heating

Similar to electric energy-derived GHG emissions, emissions from natural gas space heating are projected for each scenario and projection year in the same four community sectors. The California mandatory GHG emission reporting regulation provides emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from combustion of natural gas.<sup>12</sup> The amount of natural gas used by each community sector was calculated by multiplying the building area projected for that sector times the natural gas energy intensity factor for space heating published by the U.S. Department of Energy.<sup>13</sup> This approach was used to calculate the GHG emissions used in this study because it addressed all four community sectors: industrial, commercial, public/quasi-public and residential.

Natural gas usage data received from PG&E allowed an independent calculation of GHG emissions associated with natural gas-fueled space heating of buildings in the commercial, public/quasi-public and residential sectors, but not the industrial sector. The independent calculation of GHG emissions by the two methods for the commercial, public/quasi-public and residential sectors produces comparable results that agree within ±5.5%. The differences for the three scenarios and two projection years are small: enough that they vary without a predictable pattern. Because neither the BAAQMD GHG inventory for Santa Clara County nor the ARB GHG inventory for the state were designed to identify natural gas space heating as a separate inventory item, their methodologies do not provide comparable information to the methodology used herein.

### 3.3 Combustion and Other Process Use

Because processes are diverse throughout the industrial community sector and vary widely in the amount of natural gas used for boilers, furnaces, process heaters, ovens, and other emitting units, the GHG emissions generated by these processes can be most accurately calculated directly from specific emitting unit consumption of fuel taken from

natural gas consumption records kept by the individual facilities and by the natural gas supplier, PG&E. PG&E is not allowed to release detailed fuel consumption data for identified individual users. Therefore, an alternate approach was taken using the BAAQMD GHG emission inventory for all of Santa Clara County. That inventory separated these combustion and process uses into the following categories:

- Cement plants;
- Commercial cooking;
- Ozone-depleting substance substitute use and natural gas distribution;
- Reciprocating engines;
- Turbines;
- Natural gas use for major combustion sources;
- Natural gas use for minor combustion sources; and
- Other fuel combustion.

The City has no cement plants within its boundary, but the GHG emissions generated by the other categories in the County were attributed to the City in direct proportion to the service population in each jurisdiction. Actual data from PG&E on total natural gas usage in the residential and commercial sectors was consistent with the estimates derived from the county to city apportionment approach. This proportioning approach was used to calculate the GHG emissions for these varied combustion and processes because the PG&E data did not explicitly address these processes in the industrial sector.

### 3.4 On-Road Transportation

On-road vehicle activity forecasts for each scenario (2 projection years ×3 General Plan alternatives) were provided by the City’s transportation consultant Fehr and Peers. These on-road vehicle activity estimates were supplied as both total daily VMT (vehicle miles traveled) and distributions of VMT by 5 mph-wide speed bin for input to ARB’s EMFAC2007 vehicle emissions model.

In consultation with Powers, Sierra requested these on-road activity estimates for two distinct geographic representations to both assure consistency with BAAQMD guidance and better inform the planning process. Each of these geographic on-road vehicle activity representations is described below:

1. *Within City* – In accordance with the BAAQMD Plan-Level GHG Inventory Guidance,<sup>9</sup> on-road VMT forecasts were developed for the geographic area entirely within the city boundaries, (i.e., city limits). This Within City activity also specifically included VMT from “pass-thru” vehicle trips going through the City, but not starting or ending within the City. In this definition, examples of pass-thru VMT include not just long-haul truck travel, but also travel from vehicle trips modeled to pass through the City but begin and end outside it. Following the BAAQMD guidance, this pass-thru VMT includes only the portion of these external trips traveling on roads within the city limits, not the entire trip.

2. *City-Generated* – Prior to the recent release of the BAAQMD guidance, urban area or Plan-level on-road vehicle GHG emission inventories were often calculated on a different basis that represented all vehicle travel produced or attracted by land uses within the area being considered, including portions of travel that occurred beyond the area’s geographic boundaries. As a result, separate City-Generated on-road travel estimates were also prepared by Fehr and Peers to represent VMT associated with any vehicle trips generated by City of Santa Clara land uses. This includes both trips that start and end within the City (Internal-Internal trips), as well as trips that start outside and end within the City (Internal-External trips) or vice versa. VMT from Internal-External (or External-Internal) trips were discounted by 50% to account for the fact that a portion of the GHG “burden” of a trip leaving the City or traveling into it from an outside point-of-origin was also related to land use outside the City. Because an Internal-External trip may start or end either many miles from or just outside the city limits, this 50% trip discounting is not the same as truncating trip VMT exactly at the City boundary as done for the Within City VMT described earlier. City-Generated travel also excludes all pass-thru (External-External) VMT, by definition.

Separate estimates of on-road vehicle GHG emissions were calculated for both Within City and City-Generated travel as defined above. Emissions from Within City VMT provide a more consistent basis for comparison of community or Plan-level inventories to the BAAQMD significance threshold (and follow the BAAQMD guidance), although this method attributes VMT that is passing through the City to the City, but yet has no real association with the City. A Bay Area example is VMT from pass-through trips on I-80 in Emeryville from non-Emeryville commuters bound for San Francisco or Oakland that has no association with Emeryville. Emissions estimated on the basis of City-Generated VMT may provide a better representation of the on-road vehicle activity over which an individual city has jurisdictional responsibility in that they reflect the VMT associated with the land uses in the City. For purposes of CEQA, City-generated VMT provides a more direct estimate of the impacts attributable to the project.

Table 3-1 summarizes the on-road VMT estimates for Santa Clara generated by Fehr and Peers by calendar year and General Plan alternative for both the Within City and City-Generated vehicle travel representations defined above.

As shown in Table 3-1, City-Generated VMT is roughly one-third higher than Within City VMT compared across analysis years and General Plan alternatives. This makes sense given the City’s high concentration of jobs and other attractions and the distance traveled to those attractions from well beyond the City’s boundaries. Table 3-1 also shows the breakdown of Pass-Thru and Local VMT reflected in the Within City travel forecasts.

Item	2008	2020			2035		
	Baseline	Preferred	No Project	1:1 Alt.	Preferred	No Project	1:1 Alt.
Within-City, Total	<u>2,202,594</u>	2,498,006	2,503,299	2,515,686	2,867,270	2,879,181	2,907,052
Within-City, Pass-Thru	<u>947,088</u>	1,164,507	1,189,696	1,188,744	1,436,280	1,492,956	1,490,814
Within-City, Local	<u>1,255,506</u>	1,333,499	1,313,603	1,326,942	1,430,990	1,386,225	1,416,238
City-Generated, Total	<u>3,188,015</u>	3,433,449	3,407,702	3,416,425	3,740,242	3,682,310	3,701,938

Table 3-2 presents the distributions of daily VMT by speed bin (as a percentage of total VMT across all bins) for each travel scenario (Within City and City Generated) and General Plan alternative developed by Fehr and Peers. In addition to the total daily VMT estimates, these VMT by speed distributions are the other primary input that was used to calculate on-road vehicle emissions for the General Plan alternatives.

Speed Bin (mph)	Within City Travel				City-Generated Travel			
	Baseline	Preferred	No Project	1:1 Alt.	Baseline	Preferred	No Project	1:1 Alt.
0-7.49	0.04%	0.04%	0.06%	0.06%	0.23%	1.45%	1.47%	1.45%
7.5-12.49	0.13%	0.20%	0.26%	0.17%	0.41%	2.49%	2.51%	2.54%
12.5-17.49	1.96%	2.65%	2.43%	2.11%	1.06%	4.09%	3.92%	4.05%
17.5-22.49	1.98%	2.93%	3.11%	3.16%	3.01%	6.25%	6.34%	6.16%
22.5-27.49	18.99%	23.00%	22.73%	22.90%	8.97%	12.28%	12.42%	12.39%
27.5-32.49	12.90%	15.46%	15.78%	16.35%	8.02%	11.69%	11.70%	11.77%
32.5-37.49	35.51%	34.22%	33.96%	33.65%	10.64%	12.60%	12.48%	12.48%
37.5-42.49	3.10%	3.49%	3.29%	3.14%	6.62%	7.73%	7.66%	7.63%
42.5-47.49	6.97%	4.60%	4.55%	4.62%	7.47%	6.88%	6.97%	7.04%
47.5-52.49	4.87%	2.96%	2.94%	2.85%	8.68%	5.45%	5.41%	5.37%
52.5-57.49	4.23%	2.54%	2.58%	2.76%	9.71%	5.20%	5.22%	5.28%
57.5-62.49	9.32%	7.27%	7.67%	7.59%	15.79%	10.38%	10.30%	10.33%
62.5-67.49	0.00%	0.64%	0.64%	0.64%	19.39%	13.51%	13.60%	13.51%
67.5-72.49	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
72.5-77.49	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
77.5-82.49	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
82.5+	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

In Table 3-2, the “Baseline” columns refer to the speed distributions for the 2008 Baseline under each travel scenario. Fehr and Peers could not provide separate speed distribution estimates for analysis year 2020. The distributions represented in Table 3-2 are based on the travel modeling for the 2035 horizon year and assumed to also apply in 2020, based on discussions with Powers, Fehr and Peers, and City staff. This is based on the assumption that overall roadway volumes are anticipated to be lower in 2020 than 2035, meaning that 2020 speeds should be no worse than, and may perhaps be higher than, 2035 speeds.

The EMFAC computer model EMFAC2007 (the most recent version of ARB’s vehicle emissions model) was used to estimate carbon dioxide (CO<sub>2</sub>) emissions separately for each projection year and scenario. EMFAC2007 estimates the emission rates of motor vehicles for the calendar years 1970 to 2040 operating in California. Emission rates in grams per mile traveled at specified speeds are calculated by the model for reactive organic gases (ROG), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), particulate matter from combustion, tire wear, and brake wear, lead, sulfur oxides (SO<sub>x</sub>), and CO<sub>2</sub>. Emissions are calculated for passenger cars, eight different classes of trucks, motorcycles, urban and school buses and motor homes. EMFAC can be used to calculate current and future inventories of motor vehicle emissions at the state, county, air district, air basin, or county-within-air-basin level.

EMFAC contains pre-loaded default vehicle activity and fleet characteristics data for each geographic region within California. These default data can be used to estimate a motor vehicle emission inventory in tons/day for a specific geographic area, day, month, or season, and as a function of ambient temperature, relative humidity, vehicle population, mileage accrual, miles of travel, and speeds. The EMFAC default data can easily be modified via a series of input screens within the model’s graphical user interface.

To generate CO<sub>2</sub> (and GHG) vehicle emission estimates for the City of Santa Clara, county-level EMFAC defaults for daily VMT and VMT by speed bin distributions were modified with the city-specific travel data presented earlier in Tables 3-1 and 3-2. In performing the city-level EMFAC runs, county-level default vehicle population and daily trip estimates were also modified to city levels and input to the model based on scaled ratios of city to county VMT.

On-road vehicle CO<sub>2</sub> emission estimates for city-level activity were calculated in this manner using the EMFAC2007 model. Since the EMFAC2007 model was released in late 2006, ARB has adopted two statewide regulations that will result in reduced per-mile on-road vehicle fleet emissions in 2020 and 2035:

1. Pavley new vehicle GHG emission standards (covering model years 2009 through 2016 for light-duty and medium-duty passenger vehicles); and
2. Low Carbon Fuel Standard (LCFS) which will reduce the carbon intensity in vehicle fuels (by a minimum of 10% by 2020).

The EMFAC2007 model has not yet been updated to account for reductions in future-year on-road vehicle GHG emissions associated with these adopted regulations (although ARB plans to release an updated version of EMFAC late in 2010). In the interim, ARB released a spreadsheet-based post-processor utility, referred to as the Pavley Post-Processor,\* that applies the benefits of these regulations to outputs from the EMFAC2007 model for the specific light- and medium-duty vehicle categories affected under these regulations. City-level outputs from EMFAC2007 model were input to the Pavley Post-Processor to account for the effects of these regulations in 2020 and 2035 for each General Plan alternative. (The earliest year that benefits from the Pavley and LCFS regulations begin to occur is 2009. Thus, the Post-Processor was not used to adjust GHG emissions for the 2008 Baseline.) A series of spreadsheets were used to generate these outputs by vehicle type (passenger car, light truck, etc.) and fuel type (gas vs. Diesel) and convert the tons per day EMFAC and Pavley Post-Processor CO<sub>2</sub> outputs to metric tons per year. Appendix B contains both EMFAC 2007 and Pavley Post-Processor outputs.

It is important to note that the Pavley and LCFS regulations were collectively estimated to reduce total on-road emissions by approximately 22% in 2020 and 31% in 2035 for the scenarios considered in this analysis.

On-road vehicle emission estimates for methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) were calculated from the gasoline and Diesel-fueled CO<sub>2</sub> outputs using relative emission factors for these two gases developed from generalized GHG emission factors by fuel type contained in the BAAQMD GHG Inventory.<sup>14</sup> Finally, the total estimates of GHG emissions were converted to CO<sub>2</sub> equivalents (CO<sub>2</sub>e), which weight the contribution of each gas by its relative global warming potential (GWP). The relative GWP weightings used in the BAAQMD GHG Inventory<sup>15</sup> were used to generate the City of Santa Clara CO<sub>2</sub>e emissions for on-road vehicles.

### 3.5 Off-Road Mobile Sources

Off-road mobile sources consist of two groups:

1. *Off-Road Vehicles* – aircraft, locomotives, ships and boats; and
2. *Off-Road Equipment* – lawn and garden equipment (mowers and trimmers), construction equipment (graders, scrapers, dozers, etc.), industrial equipment (forklifts, material handling equipment, etc.), and light commercial equipment (air compressors, pumps, welders, etc.).

Within the Off-Road Vehicles group, a review of the City's boundaries indicates that aircraft, commercial ship and recreational boating sources do not exist within the City limits. (This was also confirmed by City staff.) Locomotive sources within Santa Clara

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\* Pavley I + Low Carbon Fuel Standard Postprocessor, Version I, Air Resources Board  
<http://www.arb.ca.gov/cc/sb375/tools/pavleylcsf-userguide.pdf>.

consist of (1) a Union Pacific Railroad (UPRR) line running along Lafayette Street from El Camino north across SR 237 and continuing north into Alviso; and (2) a four-mile section of the Caltrain passenger rail line that runs through the City. In accordance with the Plan-level GHG inventory guidance from the BAAQMD,<sup>9</sup> heavy rail emissions from the UPRR were not included in this GHG inventory. The BAAQMD guidance notes that heavy rail emissions are operated as part of a large regional system and should therefore be excluded from community-level inventories. Thus, the Off-Road Vehicle emissions reflected in this inventory are simply those from the Caltrain Diesel locomotive operations. City and Powers staff estimated 2008 Baseline daily Caltrain activity to be 100 one-way train trips. In the absence of detailed Caltrain activity forecasts, this baseline Caltrain activity, was also assumed to occur in applicable to both the 2020 and 2035 calendar years. This daily train trip activity over the four-mile track length within Santa Clara was combined with a passenger rail CO<sub>2</sub> emission factor of 0.35 lb per passenger mile based on an analysis<sup>16</sup> of several nationwide Diesel passenger rail operations and an estimated<sup>17</sup> Caltrain average ridership level of 398 daily passengers per train.

This calculation is shown below:

$$\begin{aligned} 100 \text{ train trips/day} \times 0.35 \text{ lb CO}_2/\text{passenger mile} \times 398 \text{ passengers/day} \times 4 \text{ miles} &= 55,720 \text{ lb CO}_2/\text{day} \\ &= 9,225 \text{ MT CO}_2/\text{year} \end{aligned}$$

Emission factor ratios for CH<sub>4</sub> and N<sub>2</sub>O (relative to CO<sub>2</sub>) by fuel type from the BAAQMD GHG inventory were used to calculate the Diesel locomotive emission contributions from these two additional GHG.

Off-road equipment emissions were calculated by scaling emission estimates reflected in the BAAQMD GHG Inventory for Santa Clara County based on ratios of population, households, and employment between the City and County of Santa Clara. Off-road equipment emissions in the BAAQMD GHG Inventory were based on ARB's OFFROAD2007 model, which calculates county-level GHG and criteria pollutant emissions for an array of off-road equipment categories. The OFFROAD2007 model was executed for calendar years 2007, 2008, 2020 and 2035 using default equipment fleet characteristics and activity assumptions contained in the model. The calendar year 2007 model runs were generated to confirm that the off-road equipment emissions in the BAAQMD GHG Inventory were based on default OFFROAD model assumptions and to determine how emissions for each of the following sub-categories were tabulated and reported from the model outputs:

1. Lawn and garden equipment;
2. Construction equipment;
3. Industrial equipment; and
4. Light commercial equipment.

Once the OFFROAD2007 model runs were generated and the category mapping scheme used by the BAAQMD was determined, these County-level emissions were then scaled to

City-level estimates for each of the four sub-categories. Table 3-3 shows how these scaling ratios were calculated.

The first six rows of Table 3-3 contain Santa Clara County and City population, household and employment (jobs) forecasts for 2020 and 2035. The County forecasts were obtained from Association of Bay Area Governments (ABAG) projections prepared in 2009. The City forecasts were provided by Santa Clara City staff and include separate estimates by both calendar year and General Plan alternative.

The remaining rows in Table 3-3 present the resulting scaling ratios or factors for each of the four off-road equipment categories calculated by dividing County-wide attributes (e.g., jobs) by corresponding City values. In these rows, the “Parameters” column identifies the specific parameter or parameter combination used to generate the scaling factors in the most appropriate manner for each equipment type. For example, lawn and garden equipment emissions were scaled by summing households (HHs) and jobs at the County and City levels.

The scaling factors presented in Table 3-3 were then divided into County-level GHG emission estimates for each of the four off-road equipment categories developed for calendar years 2020 and 2035 from the aforementioned OFFROAD model runs. Appendix B also contains supporting calculations for both the offroad equipment and Caltrain passenger rail emissions.

Table 3-3 Development of County-to-City Scaling Factors for Off-Road Equipment Emissions								
Entity/Category	Parameter	2008 <sup>c</sup>	2020			2035		
		Baseline	Preferred	1:1 Alt	No Project	Preferred	1:1 Alt	No Project
County <sup>a</sup>	Population	<u>1,798,400</u>	2,063,100			2,431,400		
	Households	<u>606,680</u>	696,530			827,330		
	Jobs	<u>892,906</u>	1,071,980			1,412,620		
City <sup>b</sup>	Population	<u>115,500</u>	133,051	133,051	125,160	154,990	154,990	137,235
	Households	<u>44,166</u>	52,408	52,408	47,823	60,395	60,395	53,073
	Jobs	<u>106,680</u>	127,204	124,516	116,048	152,860	146,811	130,000
Lawn & Garden Equip	HHs+Jobs	<u>11.72</u>	9.85	10.00	10.79	10.50	10.81	12.24
Construction Equip	Jobs	<u>10.05</u>	8.43	8.61	9.24	9.24	9.62	10.87
Industrial Equip	Jobs	<u>10.05</u>	8.43	8.61	9.24	9.24	9.62	10.87
Light Commercial Equip	Jobs	<u>10.05</u>	8.43	8.61	9.24	9.24	9.62	10.87

<sup>a</sup> from Association of Bay Area Governments (ABAG)

<sup>b</sup> City of Santa Clara. Table of Service Populations and VMT by speed range, June 7, 2010.

<sup>c</sup> Interpolated between from 2005 and 2010 ABAG estimates for Santa Clara County.

An alternative approach to calculating lawn and garden and construction equipment emissions within the Off-Road Equipment sector using the URBEMIS model was also considered. However, this approach became problematic when trying to match or map the land use category scheme supplied by the City to the categories required for inputting data to URBEMIS. URBEMIS uses estimates of land uses, in dwelling/building units or acreage, to estimate types and amounts of off-road equipment used for sources such as construction. As a result of the difficulty in mapping the land use schemes between the City's database and URBEMIS, and the resulting uncertainty/variation in calculated equipment and emissions, this approach was rejected. It was believed that the scaling approach described above was more defensible.

### 3.6 Solid Waste Management

The City carries out, as one of its important municipal responsibilities, the collection and disposal of residential and commercial solid waste (municipal solid waste, MSW). The City has a contract to dispose of the MSW generated throughout the City at Newby Island Landfill through the year 2024, which is located at the intersection of Interstate 880 with Dixon Landing Road in Milpitas. The City calculated the GHG emissions generated by citywide MSW handling and disposal in 2005 as part of its government operations GHG inventory, including the transport of the waste beyond the City boundary to the landfill.<sup>18</sup> The 2005 GHG emissions generated per unit MSW disposal was computed from Combined with the amount of MSW handled, and disposed of, in 2005 (in tons per year) and the GHG emissions calculated for that activity in the government operations inventory. ~~the computed 2005 GHG emissions generated per unit MSW disposal was~~ The computed ratio was multiplied by used along with the amounts of MSW projected to be generated, handled and disposed in each scenario, to conservatively compute the GHG emissions that would be generated in the 2008 baseline year and each scenario for 2020 and 2035. Similar to the methodology used for projecting electric energy use, any improvement residential homeowners and commercial businesses may make in their generation of MSW (e.g., increased recycling of various materials) is not forecasted.

### 3.7 Sewage Treatment

Besides handling and disposing of MSW, the City builds the necessary infrastructure to transport and treat sewage generated by City residents and workers. The electric energy needed to convey raw water to all four community sectors and convey the sewage generated by the activities of these same sectors to the wastewater treatment plant was included in the calculation of the GHG emissions generated by electric energy usage discussed above in Section 3.1, but not broken out as a separate line item in the GHG emission inventories presented in Section 4.0. The primary and secondary sewage treatment processes and the final discharge of effluent generate the following GHG emissions:

- CH<sub>4</sub> from the incomplete combustion of digester gas in engines;
- Process CH<sub>4</sub> from wastewater treatment lagoons; and

- Process N<sub>2</sub>O emissions from discharge of the wastewater treatment plant effluent to surface water (e.g., to south San Francisco Bay).

The GHG emissions calculated for these three generation processes is proportional to the service population, and the detailed equations, obtained from Local Government Operations Protocol guidance,<sup>19</sup> were used as follows:

- Equation 10.2 was used for the default calculation of CH<sub>4</sub> from the incomplete combustion of digester gas in engines, as found on page 102 of Chapter 10, which was taken from page 8-9 of Chapter 8 in USEPA (2008)<sup>20</sup>;
- Equation 10.4 was used for the default calculation of process CH<sub>4</sub> from wastewater treatment lagoons, as found on page 103 of Chapter 10, which was taken from page 8-9 of Chapter 8 in USEPA (2008), and from Tchobanoglous et al (2003)<sup>21</sup>; and
- Equation 10.10 was used for the default calculation of process N<sub>2</sub>O emissions from discharge of the treatment plant effluent to surface water as found on page 107 of Chapter 10, which was taken from page 8-14 of Chapter.8 in USEPA (2010), and from Grady et al (1999).<sup>22</sup>

The GHG emissions from these three processes are combined to give the total GHG emissions associated with sewage treatment, and presented in Section 4.0.

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## **4.0 GREENHOUSE GAS EMISSION INVENTORIES FOR 2008, 2020 AND 2035**

The GHG emission inventories for each of the three scenarios in 2020 and 2035 are shown in Tables 4-1 and 4-2, with the only, but important, difference being that the on-road transportation emissions in Table 4-1 include only GHG emissions from travel occurring within Ceity limits, while Table 4-2 is based on City-generated VMT which includes trip activity that extends beyond the Santa Clara city limits.

**Table 4-1**  
**GHG Emission Inventory, 2008, 2020 and 2035**  
**Within-City VMT Emissions\***

Category		Units	GHG Emissions (MMTCO <sub>2</sub> e)						
			2008	2020			2035		
			Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative
<b>Electric Energy<sup>a</sup></b>			-	-	-	-	-	-	
-	- Industrial use	MMTCO <sub>2</sub> e	0.778	0.992	0.978	0.842	1.099	1.077	0.919
-	- Commercial use		0.028	0.035	0.035	0.030	0.039	0.038	0.033
-	- Municipal/public use		0.007	0.009	0.009	0.008	0.010	0.010	0.008
-	- Residential use		0.077	0.088	0.088	0.082	0.101	0.101	0.090
Total:			0.890	1.124	1.109	0.962	1.249	1.226	1.050
<b>Non-Electric Energy Industrial/Commercial/Institutional</b>									
- Natural gas space heating									
-	- Industrial/Office/R&D area	MMTCO <sub>2</sub> e	0.107	0.136	0.134	0.116	0.151	0.148	0.126
-	- Commercial use		0.024	0.030	0.030	0.026	0.034	0.033	0.028
-	- Public/Quasi-public		0.005	0.006	0.006	0.005	0.007	0.007	0.006
Subtotal:				0.135	0.172	0.170	0.146	0.191	0.187
-	- Residential use <sup>b,c,d,e,f</sup>		0.084	0.097	0.097	0.091	0.113	0.113	0.100
Natural Gas Space Heating Total:			0.219	0.269	0.267	0.238	0.304	0.300	0.260
-	- Industrial/commercial combustion and other processes <sup>(g)</sup>		0.292	0.342	0.338	0.317	0.404	0.396	0.351
Non-electric Energy Industrial/Commercial/Institutional Total:			0.511	0.611	0.605	0.554	0.708	0.696	0.610
<b>Mobile Sources</b>									
-	- Off-Road Equipment (lawn & garden, construction, industrial, light commercial) <sup>h</sup>	MMTCO <sub>2</sub> e	0.075	0.108	0.106	0.099	0.127	0.122	0.108
-	- Transportation								
-	- On-Road (cars, light trucks, heavy trucks, buses, motorcycles) <sup>i</sup>		0.363	0.461	0.458	0.459	0.439	0.434	0.432
-	- Off-Road (ships, aircraft, trains) <sup>j</sup>		0.0092	0.0093	0.0093	0.0093	0.0093	0.0093	0.0093
Total Mobile Sources:			0.448	0.578	0.574	0.567	0.575	0.566	0.550

\* Some sums are rounded.

**Table 4-1**  
**GHG Emission Inventory, 2008, 2020 and 2035**  
**Within-City VMT Emissions\***

Category	Units	GHG Emissions (MMTCO <sub>2</sub> e)						
		2008	2020			2035		
		Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative
<b>Waste Management</b>								
- Solid Waste Management	MMTCO <sub>2</sub> e							
- By city government for total city		0.013	0.019	0.019	0.017	0.022	0.022	0.019
- Collection, transport and disposal of MSW								
- Sewage treatment <sup>k</sup>		0.053	0.062	0.062	0.058	0.074	0.072	0.064
<b>Total Waste Management</b>		0.067	0.082	0.081	0.075	0.096	0.094	0.083
<b>Total GHG Emissions:</b>		1.915	2.396	2.369	2.158	2.627	2.582	2.292
City of Santa Clara Service Population	=	222,180	260,255	257,567	241,208	307,850	301,801	267,235
GHG Emission Efficiency	(metric tons CO <sub>2</sub> e/SP)	8.6	8.7	8.7	8.4	8.5	8.6	8.6

Note: This inventory accounts for on-road transportation GHG emissions generated only within city limits.

<sup>a</sup> Calculated from electric energy consumption projection and GHG emission intensity of electric energy generation from Silicon Valley Power (SVP), which includes all GHG and imported electric energy, augmented with PG&E usage data.

<sup>b</sup> Natural gas CO<sub>2</sub> emission factor = 53.02 kg/MMBtu = 116.6 lbs/MMBtu = 0.1198 lbs/scf = 0.05445 kg/scf.

<sup>c</sup> Natural gas CH<sub>4</sub> emission factor = 0.0009 kg/MMBtu = 0.00198 lbs/MMBtu = 2.033E-06 lb/scf = 9.243E-07 kg/scf. (Reference 12, page A-9) CH<sub>4</sub> global warming potential = 21 (Reference 12, page A-4)

<sup>d</sup> Natural gas N<sub>2</sub>O emission factor = 0.0001 kg/MMBtu = 0.00022 lbs/MMBtu = 2.259E-07 lbs/scf = 1.027E-07 kg/scf. (Reference 12, page A-9, N<sub>2</sub>O global warming potential = 310 (Reference 12, page A-4).

<sup>e</sup> LPG use for residential space heating within the City is considered de minimis because residential LPG GHG emissions in Santa Clara County are only 2.6% of the GHG emissions from residential natural gas use, and the overwhelming location for LPG use is in rural Santa Clara County, not the City of Santa Clara where natural gas is available in all residential areas.

<sup>f</sup> Wood use for residential space heating within the City is excluded as a biogenic emission of GHG, following BAAQMD guidance. (Reference 9, page 2)

<sup>g</sup> Proportioned from 2007 process emissions by service population. Amount of LPG fuel use and associated GHG emissions considered de minimis, and biomass combustion is excluded from the GHG inventory based on BAAQMD guidance. (Reference 9, page 2)

<sup>h</sup> Scaled by service population from BAAQMD GHG Inventory for Santa Clara County, which was based on OFFROAD2007 model.

<sup>i</sup> Based on Within City VMT and speed distributions combined with EMFAC2007 model and Pavley/LCFS post-processor.

<sup>j</sup> See Caltrain-Rail sheet in SantaClara\_TranspEmis\_0805410 Within City.xls

<sup>k</sup> GHG emissions to transport raw water and sewage are included in electric energy category to run the water pumps.

**Table 4-2**  
**GHG Emission Inventory, 2008, 2020 and 2035**  
**City-Generated VMT Emissions\***

Category		Units	GHG Emissions (MMTCO <sub>2</sub> e)						
			2008	2020			2035		
			Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative
<b>Electric Energy<sup>a</sup></b>		MMTCO <sub>2</sub> e							
	- Industrial use		0.778	0.992	0.978	0.842	1.099	1.077	0.919
	- Commercial use		0.028	0.035	0.035	0.030	0.039	0.038	0.033
	- Municipal/public use		0.007	0.009	0.009	0.008	0.010	0.010	0.008
	- Residential use		0.077	0.088	0.088	0.082	0.101	0.101	0.090
Total:			0.890	1.124	1.109	0.962	1.249	1.226	1.050
<b>Non-Electric Energy Industrial/Commercial/Institutional</b>									
	- Natural gas space heating								
	- Industrial/Office/R&D area	MMTCO <sub>2</sub> e	0.107	0.136	0.134	0.116	0.151	0.148	0.126
	- Commercial use		0.024	0.030	0.030	0.026	0.034	0.033	0.028
	- Public/Quasi-public		0.005	0.006	0.006	0.005	0.007	0.007	0.006
	Subtotal:		0.135	0.172	0.170	0.146	0.191	0.187	0.160
	- Residential use <sup>b,c,d,e,f</sup>		0.084	0.097	0.097	0.091	0.113	0.113	0.100
	Natural Gas Space Heating Total:		0.219	0.269	0.267	0.238	0.304	0.300	0.260
	- Industrial/commercial combustion and other processes <sup>(g)</sup>		0.292	0.342	0.338	0.317	0.404	0.396	0.351
	Non-electric Energy Industrial/Commercial/Institutional Total:		0.511	0.611	0.605	0.554	0.708	0.696	0.610
<b>Mobile Sources</b>									
	- Off-Road Equipment (lawn & garden, construction, industrial, light commercial) <sup>h</sup>	MMTCO <sub>2</sub> e	0.075	0.108	0.106	0.099	0.127	0.122	0.108
	- Transportation								
	- On-Road (cars, light trucks, heavy trucks, buses, motorcycles) <sup>i</sup>		0.512	0.461	0.458	0.459	0.439	0.434	0.432
	- Off-Road (ships, aircraft, trains) <sup>j</sup>		0.0092	0.0093	0.0093	0.0093	0.0093	0.0093	0.0093
	Total Mobile Sources:		0.596	0.578	0.574	0.567	0.575	0.566	0.550

\* Some sums are rounded.

**Table 4-2  
GHG Emission Inventory, 2008, 2020 and 2035  
City-Generated VMT Emissions\***

Category	Units	GHG Emissions (MMTCO <sub>2</sub> e)						
		2008	2020			2035		
		Baseline	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative	2010 - 2035 General Plan Preferred Alternative	1:1 Jobs/ Housing Alternative	No Project/ Existing General Plan Alternative
<b>Waste Management</b>								
- Solid Waste Management	MMTCO <sub>2</sub> e							
- By city government for total city		0.013	0.019	0.019	0.017	0.022	0.022	0.019
- Collection, transport and disposal of MSW								
- Sewage treatment <sup>k</sup>		0.053	0.062	0.062	0.058	0.074	0.072	0.064
<b>Total Waste Management</b>		0.067	0.082	0.081	0.075	0.096	0.094	0.083
<b>Total GHG Emissions:</b>		2.064	2.396	2.369	2.158	2.627	2.582	2.292
City of Santa Clara Service Population	-	222,180	260,255	257,567	241,208	307,850	301,801	267,235
GHG Emission Efficiency	(metric tons CO <sub>2</sub> e/SP)	9.3	9.2	9.2	8.9	8.5	8.6	8.6

Note: This inventory accounts for on-road transportation GHG emissions generated by the city resident population and employment, whether emitted within city limits or outside.

- <sup>a</sup> Calculated from electric energy consumption projection and GHG emission intensity of electric energy generation from Silicon Valley Power (SVP), which includes all GHG and imported electric energy
- <sup>b</sup> Natural gas CO<sub>2</sub> emission factor = 53.02 kg/MMBtu = 116.6 lbs/MMBtu = 0.1198 lbs/scf = 0.05445 kg/scf .
- <sup>c</sup> Natural gas CH<sub>4</sub> emission factor = 0.0009 kg/MMBtu = 0.00198 lbs/MMBtu = 2.033E-06 lb/scf = 9.243E-07 kg/scf . (Reference 12, page A-9) CH<sub>4</sub> global warming potential = 21 (Reference 12, page A-4)
- <sup>d</sup> Natural gas N<sub>2</sub>O emission factor = 0.0001 kg/MMBtu = 0.00022 lbs/MMBtu = 2.259E-07 lbs/scf = 1.027E-07 kg/scf. (Reference 12, page A-9, N<sub>2</sub>O global warming potential = 310 (Reference 12, page A-4).
- <sup>e</sup> LPG use for residential space heating within the City is considered de minimis because residential LPG GHG emissions in Santa Clara County are only 2.6% of the GHG emissions from residential natural gas use, and the overwhelming location for LPG use is in rural Santa Clara County, not the City of Santa Clara where natural gas is available in all residential areas.
- <sup>f</sup> Wood use for residential space heating within the City is excluded as a biogenic emission of GHG, following BAAQMD guidance. (Reference 9, page 2)
- <sup>g</sup> Proportioned from 2007 process emissions by service population. Amount of LPG fuel use and associated GHG emissions considered de minimis, and biomass combustion is excluded from the GHG inventory based on BAAQMD guidance. (Reference 9, page 2)
- <sup>h</sup> Scaled by service population from BAAQMD GHG Inventory for Santa Clara County, which was based on OFFROAD2007 model.
- <sup>i</sup> Based on City-generated VMT and speed distributions combined with EMFAC2007 model and Pavley/LCFS post-processor.
- <sup>j</sup> See Caltrain-Rail sheet in SantaClara\_TranspEmis\_061110 Within City.xls
- <sup>k</sup> GHG emissions to transport raw water and sewage are included in electric energy category to run the water pumps.

## 5.0 CONCLUSIONS

Both City of Santa Clara GHG emission inventories shown in Tables 4-1 and 4-2 (i.e., those based on Within City and City-Generated on-road travel) have a GHG emission efficiency in the range of 8.4 to 9.2, depending on the projection year and scenario, and an efficiency of 9.3 in the 2008 baseline year. This range is ~~27 to 39%~~ higher than the 2020 state “target” efficiency of 6.6 MT CO<sub>2</sub>e/SP as defined by the BAAQMD, but shows some improvement over the 2008 baseline year. At the state level, 2020 emissions are forecast under the ‘business as usual’ scenario to be 596 MMT CO<sub>2</sub>e, and need to be reduced to 422 MMT CO<sub>2</sub>e, a reduction of 174 MMT. Thus forecast State 2020 emissions will need to be reduced by 29% ( $0.292 \times 596 = 174$ ). On a service population basis, the City-Generated 2020 emissions are forecast to be 9.2 MT CO<sub>2</sub>e/SP, and need to be reduced to 6.6 MT CO<sub>2</sub>e/SP, a reduction of 28%. Baseline 2008 emissions of 9.3 MT CO<sub>2</sub>e/SP need to be reduced 29% to achieve the 2020 statewide efficiency.

Reducing City GHG emissions towards the target efficiency would require less mitigation if the City can start from the lower end of this range. The choice of using the less intensive inventory would require that the City, and presumably all cities doing similar GHG emission inventories, agree that the only on-road transportation emissions that should be attributed to a city are those that occur within city limits. This approach logically avoids the problem of multiple duplications of attributing outside city limit emissions to each of the surrounding cities developing its own inventory. However, the Within City approach assigns pass-through VMT to a jurisdiction that has no role in generating that VMT (e.g., San Francisco commuter pass-through trips in Emeryville) and does not account for VMT generated by land uses in a City that occurs outside its jurisdiction. For purposes of disclosing a project’s impacts to the environment pursuant to CEQA, which is unrelated to jurisdictional boundaries, City-Generated VMT provides a more direct estimate of the impacts attributable to the Project (i.e., General Plan) in that it reflects the VMT associated with the land uses over which the City has jurisdictional responsibility. For this reason, the City-Generated VMT approach is used with the baseline year 2008.

The three largest contributing categories to the City’s GHG emissions are electric energy use, on-road transportation, and industrial combustion and other process emissions.

Emissions were estimated using different approaches according to the availability of data for each activity sector. On-road transportation category emissions were calculated from a detailed foundation of VMT in the different vehicle classes and speed ranges, while the other GHG emission categories were scaled from the activity level and GHG emissions in

earlier years (e.g., 2005, 2007 and 2008), or from ratios of City to Santa Clara County activity. Both approaches inherently include the uncertainty in the projections of population and employment within the City.

As shown in Tables 4-1 and 4-2, the GHG emissions increase from 2008 to 2020 and to 2035 for each alternative. The service population also increases, but faster, thereby resulting in a declining amount of GHG emitted per service population over time.

###

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###

**APPENDIX M  
FIRST AMENDMENT FINAL EIR**

**FIRST AMENDMENT  
FINAL  
ENVIRONMENTAL IMPACT REPORT**

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**CITY OF SANTA CLARA  
DRAFT 2010-2035 GENERAL PLAN**

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City of Santa Clara

September 2010

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# 1 INTRODUCTION

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This document, together with the Draft Environmental Impact Report (DEIR), constitutes the Final Environmental Impact Report (FEIR) for the City of Santa Clara 2010-2035 General Plan project. The DEIR was circulated to affected public agencies and interested parties for a 45-day review period from July 12, 2010 and ending on August 25, 2010. This volume consists of comments received by the Lead Agency on the DEIR during the public review period, responses to those comments, and revisions to the text of the DEIR.

In conformance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the FEIR provides objective information regarding the environmental consequences of the proposed project. The FEIR also examines mitigation measures and alternatives to the project intended to reduce or eliminate significant environmental impacts. The FEIR is used by the City and other Responsible Agencies in making decisions regarding the project. The CEQA Guidelines advise that, while the information in the FEIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the DEIR by making written findings for each of those significant effects. According to the State Public Resources Code (Section 21081), no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:

(a) The public agency makes one or more of the following findings with respect to each significant effect:

- (1) Changes or alterations have been required in, or incorporated into, the project which will mitigate or avoid the significant effect on the environment.
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
- (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities of highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.

In accordance with CEQA and the CEQA Guidelines, the FEIR will be made available prior to certification of the Environmental Impact Report. All documents referenced in this FEIR are available for public review in the office of the Department of Planning and Inspection, 1500 Warburton Avenue, Santa Clara, California, on weekdays during normal business hours.

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## **2 LIST OF AGENCIES AND ORGANIZATIONS TO WHOM THE DRAFT EIR WAS SENT**

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### **2.1 STATE AGENCIES**

California Department of Fish and Game, Region 3  
California Department of Transportation, Division of Aeronautics  
California Highway Patrol  
Department of Parks and Recreation  
Department of Toxic Substances Control  
California Department of Transportation, District 4  
Environmental Protection Agency, Regional Administration  
Department of Water Resources  
Integrated Waste Management Board  
Native American Heritage Commission  
Resources Agency  
State Clearinghouse – Office of Planning and Research  
State Office of Historic Preservation  
Office of Emergency Services  
Peninsula Corridor Joint Powers Board (Caltrain)  
California: Climate Action Team  
California Department of Public Health  
Department of Housing and Community Development  
Office of Emergency Services  
Department of Toxic Substances Control  
Department of Conservation

### **2.2 REGIONAL AGENCIES**

Association of Bay Area Governments  
Bay Area Air Quality Management District  
California Regional Water Quality Control Board, San Francisco Bay Region II  
Metropolitan Transportation Commission  
Santa Clara County Planning Department  
Santa Clara County Roads and Airports  
Santa Clara County Airport Land Use Commission  
Santa Clara Valley Transportation Authority (VTA)  
Santa Clara Valley Water District  
Altamont Commuter Express (ACE) Train  
Amtrak  
Bay Area Rapid Transit (BART)

### **2.3 CITIES/LOCAL AGENCIES**

Cupertino Planning Department  
Cupertino Public Works Department  
Milpitas Planning Department  
Milpitas Transportation Department  
San José Planning Department  
San José Public Works Department  
San José International Airport  
Sunnyvale Planning Department

Sunnyvale Transportation and Traffic Division  
City of Campbell Community Development Division  
City of Campbell Traffic Division  
City of Mountain View Planning Division  
San Francisco Public Utilities Commission  
San Francisco Bay National Wildlife Refuge  
City of Milpitas  
City of Los Gatos  
Campbell Union School District  
Campbell Union High School District  
Fremont Union High School District  
Cupertino Unified School District  
City of San Jose Redevelopment Agency  
Santa Clara Unified School District

## **2.4 ORGANIZATIONS, BUSINESSES, AND INDIVIDUALS**

Joint Venture Silicon Valley  
Santa Clara University  
Mission College  
The Health Trust  
Sierra Club  
California Native Plant Society  
Greenbelt Alliance  
Santa Clara Weekly

### **3 LIST OF COMMENT LETTERS RECEIVED ON THE DRAFT EIR**

---

#### **3.1 STATE AGENCIES**

- A. California State Clearinghouse August 24, 2010
- B. California Department of Transportation August 23, 2010

#### **3.2 REGIONAL AGENCIES**

- C. County of Santa Clara Roads and Airports Departments August 25, 2010
- D. Santa Clara Valley Transportation Authority August 25, 2010
- E. Peninsula Corridor Joint Powers Board (Caltrain) August 25, 2010

#### **3.3 CITIES AND LOCAL AGENCIES**

- F. City of San José – Airport Department August 13, 2010
- G. City of Sunnyvale August 25, 2010

#### **3.4 ORGANIZATIONS/BUSINESSES**

- H. Greenbelt Alliance August 24, 2010
- I. Urban Ecology August 24, 2010

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## **4 RESPONSES TO COMMENTS RECEIVED ON THE DRAFT EIR**

The following section includes all the comments on the DEIR that were received by the City in letters and emails during the 45-day review period. The comments are organized under headings containing the source of the letter and the date submitted. The specific comments from each of the letters or emails are presented as “Comment” with each response to that specific comment directly following. Each of the letters and emails submitted to the City of Santa Clara are attached in their entirety (with any enclosed materials) in *Chapter 6* of this document.

CEQA Guidelines Section 15086 requires that a local lead agency consult with and request comments on the Draft EIR prepared for a project of this type from responsible agencies (government agencies that must approve or permit some aspect of the project), trustee agencies for resources affected by the project, adjacent cities and counties, and transportation planning agencies. Section 2 of this document lists all of the recipients of the DEIR.

Seven of the comment letters received are from public agencies, two of whom (Caltrans and the VTA) may be Responsible Agencies under CEQA for the proposed project. The CEQA Guidelines require that:

A responsible agency or other public agency shall only make substantive comments regarding those activities involved in the project that are within an area of expertise of the agency or which are required to be carried out or approved by the responsible agency. Those comments shall be supported by specific documentation. [§15086(c)]

This FEIR also lists the public agencies that may have permitting or other authority for some aspect of the project, in addition to the City of Santa Clara.

Regarding mitigation measures identified by commenting public agencies, the CEQA Guidelines state that:

Prior to the close of the public review period, a responsible agency or trustee agency which has identified what the agency considers to be significant environmental effects shall advise the lead agency of those effects. As to those effects relevant to its decisions, if any, on the project, the responsible or trustee agency shall either submit to the lead agency complete and detailed performance objectives for mitigation measures addressing those effects or refer the lead agency to appropriate, readily available guidelines or reference documents concerning mitigation measures. If the responsible or trustee agency is not aware of mitigation measures that address identified effects, the responsible or trustee agency shall so state. [§15086(d)]

The CEQA Guidelines state that the lead agency shall evaluate comments on the environmental issues received from persons who reviewed the DEIR and shall prepare a written response to those comments. The lead agency is also required to provide a written proposed response to a public agency on comments made by that public agency at least 10 days prior to certifying an environmental impact report. This FEIR contains written responses to all comments made on the DEIR received during the advertised 45-day review period. No performance objectives or guidelines concerning mitigation measures were submitted. Copies of this FEIR have been supplied to all persons and agencies that submitted comments.

---

#### **4.1 RESPONSE TO COMMENTS FROM THE CALIFORNIA STATE CLEARINGHOUSE, AUGUST 24, 2010 (LETTER A):**

##### **Comment A-1:**

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 23, 2010, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 211 04(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

##### **Response A-1:**

This comment is noted.

#### **4.2 RESPONSE TO COMMENTS FROM CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), AUGUST 23, 2010 (LETTER B):**

##### **Comment B-1:**

Thank you for continuing to include the California Department of Transportation (Department) in the environmental review process for the Santa Clara General Plan Update project. The following comments are based on the Draft Environmental Impact Report (DEIR).

##### **Response B-1:**

This comment is noted. Please refer to Response B-2 through Response B-8 below.

##### **Comment B-2**

Traffic Forecasting and Highway Operations

The Department recommends that the background and cumulative conditions of the General Plan include a listing of on-going and anticipated proposed project facilities for Phase I, Phase II and Phase III development conditions.

**Response B-2:**

Traffic was analyzed for 2035 conditions, based upon the anticipated level of development that would occur during the General Plan horizon. Conditions were not analyzed for each specific phase. Areas of potential development are defined in each Phase of the proposed Draft 2010-2035 General Plan, as discussed in the Draft EIR in Section 2.5 Project Phases and shown on Figure 2-3, Figure 2-4 and Figure 2-5. Phase I includes projects approved, on file or under construction, and expected to be implemented by the end of 2010; and projects on file or approved as of 2009, but not expected to be under construction until after January 1, 2010; these projects are listed in Appendix D of the Draft EIR (refer to Table 8.6-2).

The proposed project facilities (roadway and transit improvements) have been defined for Phase I, but cannot be defined in Phase II or Phase III, until the prerequisites for planning the next phase development have been met, per the policies of the proposed Draft 2010-2035 General Plan. This process will determine if there is adequate infrastructure, utilities and services, transportation facilities, access to transit, open space and recreation facilities, retail services, and sufficient public facilities, for new development. As such, the anticipated proposed project facilities will not be defined for Phase II or Phase III until the availability of public resources and infrastructure to support the development has been evaluated and a comprehensive plan for the future Focus Area has been created.

In regard to traffic forecasting and highway operations, the City of Santa Clara's Travel Demand Model estimated the trip generation based on the type and density/intensity of land uses (for example, number of households) within each defined traffic analysis zone. The model did not include specific project facilities, as they have yet to be defined as part of the comprehensive plan that will be created for each area of development under Phase II and Phase III.

**Comment B-3**

Page 363, Section 4, 12.4.2: Travel Demand Forecasting, Table 4.12-8: Change in Citywide Vehicle Trip Generation Compared to Existing Conditions, demonstrates 545,900 vehicles per hour (vph) under Existing Conditions and 625,750 vph under 2035 General Plan Conditions. In other words, Table 4.12-8 shows an increase of generated trips of 79,850 vph between Existing Conditions and 2035 General Conditions, which could potentially cause a significant traffic impact on US 101 and State Route (SR) 237 within the study area.

**Response B-3:**

As part of the transportation analysis for the General Plan, daily freeway segment operations were reviewed on segments of US 101, SR 237, I-880, and I-280. Within the City of Santa Clara, the following freeway segments were analyzed:

- US 101 from De La Cruz Boulevard to Montague Expressway
- US 101 from Montague Expressway to Great America Parkway
- US 101 from Great America Parkway to Lawrence Expressway
- SR 237 from N. 1<sup>st</sup> Street to Great America Parkway
- SR 237 from Great America Parkway to Lawrence Expressway
- I-880 from Bascom Avenue to The Alameda
- I-880 from The Alameda to Coleman Avenue
- I-280 from Saratoga Avenue to Lawrence Expressway

These segments were analyzed using average daily traffic (ADT) volumes and per-lane capacity thresholds developed using the methods in the Transportation Research Board, Highway Capacity Manual (2000).

Freeway segments outside the City boundaries that met the criteria for inclusion for study<sup>1</sup> in the DEIR were analyzed for external impacts. The freeway segments analyzed include:

- US 101 from Ellis Street to SR 237
- US 101 from SR 237 to Mathilda Avenue
- US 101 from Mathilda Avenue to Fair Oaks Avenue
- US 101 from De La Cruz Boulevard to SR 87
- US 101 from SR 87 to N. 1<sup>st</sup> Street
- SR 237 from Moffett Boulevard to US 101
- SR 237 from US 101 and Mathilda Avenue
- SR 237 from Mathilda Avenue to Fair Oaks Avenue
- SR 237 from N. 1<sup>st</sup> Street to Zanker Road
- SR 87 from Airport Boulevard and US 101
- SR 17 from Hamilton Avenue and I-280
- I-280 from Meridian Avenue and Bascom Avenue/Leigh Avenue
- I-280 from Bascom Avenue/Leigh Avenue and I-880/SR 17
- I-280 from Wolfe Road and De Anza Boulevard
- I-280 from De Anza Boulevard to SR 85

Significant impacts were identified, per Table 4.12-9 on page 371 in the Draft EIR, on several of these segments. While several regional improvements are planned that would improve freeway operations, no plans to widen the segments or significantly add capacity are currently in process. Additionally, no regional fee mechanism currently exists or is anticipated to collect contributions for regional improvements.

#### **Comment B-4**

The Department notes that the report conducts roadway segment analysis in Table 4.12-9: Existing and 2010-2035 General Plan Roadway Segment LOS Summary and Table 4.12-12: Roadway Segments in Adjacent Communities Analysis Summary. However, the report should also include turning movement traffic per study intersection per AM and PM peak hour shown in the diagram under Existing Conditions and 2035 General Plan Conditions. It is particularly important that the report include intersection/interchange analysis of US 101 and SR 237 under Existing Conditions and 2035 General Plan Conditions.

#### **Response B-4:**

A General Plan is a set of long-term goals and policies that guide local land use decisions. The Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private (State of California General Plan Guidelines, 2003). It is a high-level planning document, meant to guide future (2035) development practices. As such, the accompanying transportation analysis is meant to quantify the interaction between the planned land uses in the General Plan and the

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<sup>1</sup> As defined on pages 360-361 of the DEIR, these include a peak-hour volume-to-capacity ratio of 0.9 or greater (in either peak hour), and more than ten (10) percent of the peak-hour traffic volume on the segment attributable to the City of Santa Clara (in either peak hour).

transportation network in 2035. The purpose of the analysis is to determine if the transportation system is appropriately sized for the projected amount of future traffic on the roadway network (for example, does a roadway segment need two, four, or six travel lanes?).

Using peak-hour level of service analysis would result in a roadway network sized to peak-hour operating conditions, with potentially excess roadway capacity provided during all other times of day. Using daily analysis to size the network, results in more efficient use of the roadway network over the course of a typical day. Application of daily roadway segment analysis is standard practice for evaluating the interrelationship of land uses and the roadway network in a General Plan; peak-hour intersection and/or interchange analysis is more appropriate for use in project-level analyses, or as part of a project study report.

Additionally, as development projects are proposed under the General Plan, transportation studies will be conducted, consistent with CMP and City policies that would evaluate peak hour operations at intersections in the vicinity of a proposed Project. These studies would help inform decisions about transportation improvements needed to accommodate specific development.

**Comment B-5**

As traffic growth occurs, the report should discuss the impacts to the surrounding freeway corridors. Include freeway segment analysis for US 101, SR 237 and Interstate 280.

**Response B-5:**

Please see previous Response B-3.

**Comment B-6**

The report should discuss Transportation Demand Management (TDM) programs in more detail. It should specify clearly what kind of measures the City is planning to implement, such as free shuttle bus rides within the downtown core, park and ride facilities, car and van pooling pickup locations, and other incentives to mitigate and reduce traffic demand.

**Response B-6:**

The proposed Draft 2010-2035 General Plan includes Transportation Demand Management Policies, as listed below, which together form the Transportation Demand Management Program for the City. These policies are also included in Table 4.10-6 of the Draft EIR.

<b><u>Transportation Demand Management Policies</u></b>	
<u>5.8.5-P1</u>	<u>Require new development to include transportation demand management site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.</u>
<u>5.8.5-P2</u>	<u>Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.</u>
<u>5.8.5-P3</u>	<u>Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.</u>
<u>5.8.5-P4</u>	<u>Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.</u>
<u>5.8.5-P5</u>	<u>Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single occupant vehicles.</u>
<u>5.8.5-P6</u>	<u>Encourage transportation demand management programs that include shared bicycle</u>

	<u>and autos for part-time use by employees and residents to reduce the need for personal vehicles.</u>
<u>5.8.5-P7</u>	<u>Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, homebased businesses and off -site business centers, and encourage businesses to provide alternate, off - peak hours for operations.</u>
<u>5.8.5-P8</u>	<u>Encourage local events that connect employees and residents with local transit providers and ridesharing options.</u>
<u>5.8.5-P9</u>	<u>Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.</u>

**Comment B-7**

Please discuss what feasible strategies or fair-share contributions to state and Congestion Management Program facilities will significantly improve the City's major and local roadway traffic movements and conditions.

**Response B-7:**

As described in Section 4.12 Transportation and Traffic, of the Draft EIR, future development will generate substantial additional traffic volumes that will cause congestion along certain roadway segments, as identified in Table 4.12-12, covered within the CMP. The City, County, and VTA have identified roadway segment improvements that would improve operations on several of these segments. These are further described in Section 3.5 of the Draft EIR.

The proposed Draft 2010-2035 General Plan includes policies to encourage travel via alternative modes by improving the efficiency of the existing transportation system, while minimizing addition of new roadways and widening of existing streets and intersections, and specific alternative mode supportive policies. The proposed Draft 2010-2035 General Plan policies identify the need for Area Development Policies (an alternate term for a Deficiency Plan) and coordination with the VTA to address CMP impacts. The policies are included in Section 3.5 of the Draft EIR.

**Comment B-8**

The City should consider installing traffic monitoring devices for traffic management, such as installing red-light and no-right-turn violator CCTV monitoring systems on some major city intersections.

**Response B-8:**

This comment is noted. No further response is required as the comment does not raise any environmental issues or questions about the adequacy of the Draft EIR. This comment also addresses daily traffic operations and is not applicable to the scope of the General Plan.

#### **4.3 RESPONSE TO COMMENTS FROM COUNTY OF SANTA CLARA ROADS AND AIRPORTS DEPARTMENT, AUGUST 25, 2010 (LETTER C):**

**Comment C-1:**

1. There are four County expressways within the limits of the City of Santa Clara: Central Expressway, Lawrence Expressway, Montague Expressway, and San Tomas Expressway. The 2010-2035 General Plan and DEIR refer to Montague and San Tomas Expressways as one expressway throughout both documents. These are considered two separate expressways (San Tomas is a north-south expressway and Montague is an east-west expressway). For consistency with County

documents, countywide transportation plans, and regional transportation plans, please reference them as two expressways in the General Plan and EIR.

**Response C-1:**

Text in the EIR has been revised to clarify that Montague and San Tomas Expressways are separate facilities that connect at their interchange with US 101. See *Chapter 5 Text Revisions*, under section 5.12 Transportation and Traffic.

**Comment C-2:**

2. As noted on page 362 of the DEIR, the City opted to perform "a conservative analysis" of traffic impacts in the vehicular traffic modeling and roadway segment analysis. They did this by excluding several expressway-related projects that are listed in the *Comprehensive County Expressway Planning Study 2008 Update* adopted by the Board of Supervisors on March 3, 2009. The 2008 Update was endorsed by several cities, including the Santa Clara City Council on December 2, 2008. The City's reason for excluding these projects was to test whether each of these capacity enhancement projects was really needed. The County has the following comments about the list of projects excluded from analysis (page 362):

**Response C-2:**

As identified on page 362 of the Draft EIR, as part of the transportation analysis for the City of Santa Clara's General Plan Update, the City chose not to include several capacity-enhancing improvements identified in the Santa Clara County Expressway Study (2008) and the VTA's Valley Transportation Plan (VTP) 2035 in the future year analyses for the General Plan. The removal of these improvements represents a conservative analysis (in that it does not assume future improvements outside of the City's control) of transportation conditions with the implementation of the City's General Plan. The purpose for not including these improvements was to test the overall operations of the transportation network, should these improvements not be constructed by other public agencies (due to fiscal or environmental constraints, for example) and to confirm they were necessary as mitigation to add needed capacity to the roadway system. This approach allowed City staff to identify which of the improvements were necessary to maintaining the City's minimum operating levels. All except two of these improvements were then identified as mitigation measures. The two that were not assumed as mitigation measures are: 1) El Camino Real was assumed at four travel lanes in order to potentially accommodate an exclusive BRT lane and other streetscape improvements, and 2) the Lawrence Expressway grade separations near the Lawrence Caltrain Station were not assumed pending the results of the Sunnyvale/Santa Clara Lawrence Station Area Plan.

**Comment C-3:**

a. Project #1 (Widening Central Expressway between Lawrence Expressway and San Tomas Expressway), Project #4 (Widening Central Expressway between Mary Avenue and Lawrence Expressway), and Project #7 (Converting US 101/Montague Expressway interchange to partial cloverleaf) - The City's traffic analysis indicated LOS deficiencies for these segments without the projects and, therefore, listed these projects as mitigations. Our understanding is that this means these projects would be consistent with the 2010-2035 General Plan. Please confirm this understanding.

**Response C-3:**

The roadway segment improvements to Central Expressway and to the US 101/Montague Expressway interchange referenced in this comment were identified in the Draft EIR as

capacity-enhancing measures that would reduce future traffic congestion, although not to a less than significant level, and they would be consistent with the 2010-2035 General Plan.

**Comment C-4:**

b. Project #2 (Widening Montague Expressway between Trade Zone and Park Victoria) - This project is not listed as a mitigation in the Transportation and Traffic section of the DEIR. In addition, this segment of Montague Expressway is not listed in Table 4.12-12 so there is no indication of whether Santa Clara's growth affects this segment of Montague Expressway. The County does not concur with excluding an approved project from the traffic modeling when the project is completely outside of the boundaries of the City of Santa Clara and the cities through which the project travels support the project. The EIR should provide traffic impact analysis for this segment to indicate whether it is needed as a mitigation for Santa Clara City's growth projections in the General Plan.

**Response C-4:**

The impacts of the General Plan in adjacent communities were defined using the criteria described on pages 360-361 of the DEIR, and as described below. Roadway segments were identified for inclusion in the EIR when:

1. The segment operates with a peak-hour volume-to-capacity ratio of 0.9 or greater (in either peak hour), and
2. More than ten (10) percent of the peak-hour traffic volume on the segment is attributable to the City of Santa Clara (in either peak hour)

Impacts on the study segments were considered significant when the Draft General Plan traffic resulted in a daily traffic increase of more than one (1) percent of a roadway segment's daily capacity.

The segment of Montague Expressway, between Trade Zone and Park Victoria, did not meet the criteria listed above for inclusion in the study; therefore, the Santa Clara Draft General Plan is not expected to substantially impact this segment, and the widening improvement is not required as mitigation to accommodate future Santa Clara generated traffic. As noted in the comment, this segment is located in another jurisdiction and the County and the other jurisdiction will decide whether/when to complete the widening project.

**Comment C-5:**

c. Project #3 (Widening San Tomas Expressway between Williams Road and El Camino Real) - This project is not listed as a mitigation in the Transportation and Traffic section of the DEIR. In addition, the General Plan DEIR traffic analysis was based only segment analysis and 24-hour ADT volumes and did not look at peak period intersection LOS. We note that Page 8.7-13 in the Draft 2010-2035 General Plan lists some forecasted intersection LOS conditions but does not include any San Tomas Expressway intersections most of which are CMP intersections. The County requests that the General Plan DEIR provide information on the future condition peak hour intersection LOS for San Tomas Expressway as was done for the 13 intersections listed in Table 8.7-6 in the General Plan.

**Response C-5:**

The intersections analyzed as part of the proposed Draft 2010-2035 General Plan were chosen for inclusion in focused areas with the most projected growth in land use with development of the Plan or in areas of potential concern to staff and residents, and were identified in consultation with City staff. This analysis was used to inform the development of the proposed Draft 2010-2035 General Plan, but was not used to identify impacts and

mitigation measures, as, generally, daily roadway segment analysis is more appropriate for general plan-level analysis, as discussed previously in Response B-4.

Additionally, as development projects are proposed under the General Plan, transportation studies will be conducted that will evaluate peak hour operations at intersections in the vicinity of a proposed Project. These studies will help inform decisions about transportation improvements needed to accommodate specific development.

The segments of San Tomas Expressway south of El Camino Real, within the City of Santa Clara, operate acceptably based on daily operations, at LOS D or better, under Existing and Draft General Plan (2035) conditions. Outside of Santa Clara, external traffic impacts were reviewed per the impact criteria as described on pages 360-361 in the Draft EIR, and described above in Response C-4. The section of San Tomas Expressway south of the Santa Clara City boundary to Williams Road was not identified as a significant impact, as the traffic growth attributable to the Draft General Plan was less than one (1) percent of the segments' daily capacity. Therefore, the Santa Clara Draft General Plan is not expected to significantly impact this segment, and the widening improvement is not required as mitigation to accommodate future Santa Clara generated traffic.

**Comment C-6:**

In addition, please clarify whether the San Tomas widening project is consistent with the 2010-2035 General Plan.

**Response C-6:**

The goals and policies of the Santa Clara Draft General Plan include a more balanced approach to implementation of transportation improvements. The goals and policies listed below highlight Santa Clara's approach to the City's future transportation network:

<b><u>Roadway Network Goals and Policies</u></b>	
5.8.2-G2	Roadway design, construction, operation, and maintenance that supports the goals for "Full-Service Streets" throughout the City.
5.8.2-G3	A roadway network designed to accommodate alternate transportation modes in addition to vehicles.
5.8.2-P1	Require that new and retrofitted roadways implemented "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.
5.8.2-P2	Discourage widening of existing roadway or intersection rights-of-way without first considering operational improvements, such as traffic signal modifications, turn-pocket extensions and intelligent transportation systems.
5.8.2.-P10	Support roadway improvements that add missing links or correct non-standard design features or safety.

These policies, and others in the Draft General Plan, support a multi-modal system that minimizes pedestrian exposure at intersections, provides safe and efficient connections for bicyclists and pedestrians, prioritizes transit service, and provides efficient traffic flow throughout the system. While widening of San Tomas Expressway is not necessarily inconsistent with the goals and policies identified in the Draft General Plan, it would only be considered if other operational improvements have been considered first and determined infeasible.

**Comment C-7:**

d. Project #5 (Converting Central Expressway HOV queue jump lanes at Bowers Avenue to mixed-flow lanes) - This project was completed by the County in 2009 and, therefore, it should be removed from the list of projects on page 362.

**Response C-7:**

Text in the EIR has been revised to delete the referenced improvement to Central Expressway that was completed in 2009. See *Chapter 5 Text Revisions*, under section 5.12 Transportation and Traffic.

**Comment C-8:**

e. Project #6 (Converting at-grade intersections on Lawrence Expressway at Arques Avenue, Kiefer Road, and Monroe Street to grade-separated interchanges) – These projects are not listed as mitigations and, as explained to us at a meeting with City staff and consultants on July 29, 2010, would not be considered consistent with the 2010-2035 General Plan. The analysis for Lawrence Expressway was based only on segment analysis and did not include LOS analysis for the intersections in question. The Lawrence/Arques and Lawrence/Monroe intersections are CMP intersections and must meet CMP standards. These grade separation projects were included in the Expressway Study due to intersection LOS F conditions in 2002. The Lawrence/Monroe intersection continued to be LOS F in 2007 and the remaining two intersections are expected to return to LOS F in the future. We note that Page 8.7-13 in the Draft 2010-2035 General Plan lists some forecasted peak hour intersection LOS conditions but these three Lawrence Expressway intersections are not included in the list. In addition, the Arques project is completely located within City of Sunnyvale and the Kifer and Monroe intersections are shared with the City of Sunnyvale. The County requests that the General Plan DEIR analyze the future condition peak hour LOS for these intersections to determine if the planned grade separations should be included as mitigations for General Plan growth impacts.

**Response C-8:**

The intersections analyzed as part of the Draft General Plan were chosen for inclusion in focused areas with the most projected growth in land use with development of the Plan and in areas of potential concern to staff and residents, and were identified in consultation with City staff. This analysis was used to inform the development of the Draft General Plan, but was not used to identify impacts and mitigation measures, as, generally, daily roadway segment analysis is more appropriate for general plan-level analysis, as discussed previously in Response B-4.

As the commenter notes, the segments of Lawrence Expressway were studied based on daily roadway segment analyses. The results show that these segments of Lawrence Expressway would operate at LOS D or better on a daily basis. Therefore, these segments operate acceptably, and no significant impacts (or resulting mitigation measures) were identified.

The three (3) intersections in question along Lawrence Expressway at Arques Avenue, Kifer Road, and Monroe Street are closely spaced (approximately ½ mile between each location), and the operations of the intersections are linked closely given their proximity to each other. Although the City of Sunnyvale and Santa Clara borders weave across Lawrence Expressway along these segments, their operations should be evaluated as a system. While the City acknowledges that future improvements to enhance vehicle capacity may need to be considered at these locations to meet CMP requirements or as mitigation for specific

development projects, the detailed analysis requested is not appropriate for inclusion in the General Plan transportation analysis of conditions in 2035.

As described previously in Response C-6, the goals and policies of the Santa Clara Draft General Plan include a more balanced approach to the implementation of transportation improvements. With the ongoing development of the Lawrence Station Area Plan, led by the City of Sunnyvale, the City of Santa Clara would like to ensure that access to the Lawrence Station is preserved or improved pending the results of this Plan. While the proposed widening projects are not necessarily inconsistent with the goals and policies identified in the Draft General Plan, the City of Santa Clara will work closely with the County and City of Sunnyvale to review alternatives for the project to ensure that the project is compatible with the community goals defined in the Draft General Plan, and that access to the Lawrence Station is preserved or improved pending the results of the Lawrence Station Area Plan.

**Comment C-9:**

f. Project #8 (Improvements at I-280/Lawrence Expressway/Calvert Drive interchange) - This is an operational improvement project, not a capacity enhancing project. It should be removed from the list of projects on page 362 and it should be considered consistent with the General Plan.

**Response C-9:**

Text in the EIR has been revised to delete the referenced improvement to the I-280/Lawrence Expressway/Calvert Drive interchange. See *Chapter 5 Text Revisions*, under section 5.12 Transportation and Traffic.

**Comment C-10:**

3. Page 8.7-4 of the Draft 2010-2035 General Plan lists the CMP facilities. This listing needs to be consistent with the existing conditions for Lawrence Expressway/El Camino Real and Lawrence Expressway/Stevens Creek Blvd. Both of these locations have existing grade separations in a tight diamond configuration which includes two different signalized intersections for the on- and off-ramps at each location. Therefore, the list should indicate that there are the two separate CMP facilities for each location.

**Response C-10:**

This is a comment concerning the description of CMP facilities in the Draft 2010-2035 General Plan, and not the Draft EIR. The additional clarification that the Lawrence Expressway/El Camino Real and Lawrence Expressway/Stevens Creek Boulevard intersections are grade-separated, with signalized ramp terminal intersections for the on- and off-ramps has been added to the General Plan text at Page 8.7-4.

**Comment C-11:**

This is also true for Table 8.7-6 on page 8.7-13 which is showing existing and future peak hour LOS conditions for Lawrence Expressway/El Camino Real - there should be LOS information for both of the Lawrence Expressway/El Camino Real signalized intersections.

**Response C-11:**

The Lawrence Expressway/El Camino Real analysis was completed with the two ramp intersections modeled as a single location. This method for analysis is consistent with how the City has analyzed this intersection for Congestion Management Program reporting in 2006 and 2008, and with recent development project studies that reviewed impacts to this intersection.

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#### **4.4 RESPONSE TO COMMENTS FROM SANTA CLARA VALLEY TRANSPORTATION AUTHORITY, AUGUST 25, 2010 (LETTER D):**

Thank you for involving Valley Transportation Authority (VTA) early in the development of your General Plan Update. VTA has reviewed the draft Santa Clara General Plan Update 2010- 2035 and accompanying Draft Environmental Impact Report (EIR). Based on our review and discussions with City staff, we have the following comments:

##### **Comment D-1:**

In general, VTA commends the City for its vision and for adopting a multi-modal approach in the Mobility and Transportation Element of the General Plan Update. We support the introduction of the "full service streets" concept and the City's efforts to incorporate sidewalks, bicycle lanes, and transit improvements as appropriate in roadway improvements included in the General Plan Update. These improvements will help make alternative modes more attractive for Santa Clara residents and workers and help reduce single-occupant automobile travel in the City, which can help reduce the transportation impacts identified in the Draft EIR.

##### **Response D-1:**

The VTA's support for the 2010-2035 General Plan's multi-modal approach to reduce single occupant vehicle travel is acknowledged. No further response is required.

##### **Comment D-2:**

###### El Camino Real Focus Area

VTA supports the overall direction in the General Plan update to designate the El Camino Real corridor as a Focus Area and work toward a roadway design that includes enhanced facilities for transit users, pedestrians and bicyclists. As noted in the draft General Plan and EIR, VTA is in the process of planning for Bus Rapid Transit (BRT) service on El Camino Real. In May 2009, the VTA Board adopted the VTA BRT Strategic Plan, which included three corridors for near term implementation: El Camino Real, Alum Rock Avenue and Stevens Creek Boulevard in Santa Clara County. In April 2010 VTA initiated Conceptual Engineering for the El Camino Real BRT project. The proposed schedule for the new BRT service between the Palo Alto Transit Center and Downtown San Jose is for service to begin in 2015, with East Valley service starting in 2013. VTA believes that BRT can play a significant role in reducing single-occupant automobile trips and supporting development goals in the El Camino Real Focus Area in Santa Clara.

##### **Response D-2:**

The VTA's support for the El Camino Real Focus Area is acknowledged, and the additional details concerning the implementation schedule for the El Camino Real BRT project have been incorporated as text revisions to the EIR. See *Chapter 5 Text Revisions*, under section 5.2 Project Description.

##### **Comment D-3:**

It is important to note that the BRT service may either run in a dedicated transit lane in the middle of the roadway, or in a mixed-flow travel lane on the outside of the roadway. The location and configuration of BRT facilities along the corridor will be determined through the Conceptual Engineering and environmental review process for the El Camino Real BRT project, which will include coordination between VTA, the cities along the corridor, and Caltrans. Until the configuration of the BRT alignment is determined, it is important to ensure that options are not precluded. Accordingly, we are concerned that Figure 5.4-2 in the draft General Plan and Figure 2-12 in the DEIR is misleading because it does not show a center-running BRT lane as the 2009 BRT

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Strategic Plan indicates. For this reason, we suggest that these figures be modified to show potential BRT lanes in the median and explain that these figures are only illustrative and are not intended to preclude dedicated lanes for BRT.

**Response D-3:**

In providing the illustrative figure depicting a potential future El Camino Real street design, it is not the City's intent to preclude the VTA's options for future BRT facilities. Until the design is solidified by VTA that confirms the BRT line is adjacent to the median, the City through its General Plan is not making that assumption. Rather, the General Plan gives policy priority to the BRT line over single occupancy vehicles on El Camino Real. A note has been added to the referenced Figures in the General Plan and associated EIR noting the roadway section detail is illustrative and does not preclude any particular BRT options the VTA may pursue. See *Chapter 5 Text Revisions*, under section 5.2 Project Description.

**Comment D-4:**

Stevens Creek Focus Area

As noted above, the Stevens Creek Boulevard corridor is also included in the VTA BRT Strategic Plan and is identified for near-term implementation, next in priority after the Santa Clara/Alum Rock and El Camino Real corridors. We commend the City for including policies in the draft General Plan (such as Policy 5.4.4-P10 and 5.4.4-P11) that support BRT and multimodal transportation improvements along the Stevens Creek Boulevard corridor.

**Response D-4:**

The VTA's support for the General Plan policies related to encouraging future BRT service along Stevens Creek Boulevard is acknowledged, and the additional details concerning the implementation schedule for the Stevens Creek BRT project have been incorporated as text revisions to the EIR. See *Chapter 5 Text Revisions*, under section 5.2 Project Description.

**Comment D-5:**

Similar to our comment about the El Camino Real Focus Area, we suggest that the Stevens Creek Boulevard graphic (Figure 5.4-5 in the draft General Plan and Figure 2-15 in the DEIR) be modified to include a possible median alignment.

**Response D-5:**

In providing the illustrative figure depicting a potential future Stevens Creek Boulevard street design, it is not the City's intent to preclude the VTA's options for future BRT facilities. Until the design is solidified by VTA that confirms the BRT line is adjacent to the median, the City through its General Plan is not making that assumption. Given that the south side of Stevens Creek Boulevard is located within San Jose, coordination will be necessary between the VTA and both affected cities. A note has been added to the referenced Figures in the General Plan and associated EIR noting the roadway section detail is illustrative and does not preclude any particular BRT options the VTA may pursue for Stevens Creek Boulevard. See *Chapter 5 Text Revisions*, under section 5.2 Project Description.

**Comment D-6:**

In addition, we suggest that the language in the draft General Plan and DEIR be modified to clarify that "While the City expects that the land uses along the corridor will generally retain their auto-oriented character, the streetscape is expected to be improved to better accommodate multimodal travel including transit, pedestrian, and bicycle facilities."

**Response D-6:**

As noted in Response D-5, the south side of Stevens Creek Boulevard is within the jurisdiction of the City of San Jose. Text in the EIR concerning Stevens Creek Boulevard has been revised as suggested in the comment. See *Chapter 5 Text Revisions*, under section 5.2 Project Description.

**Comment D-7:****LOS Approach**

Based on conversations with City staff and consultants, our understanding is that the City assumed an "averaged" LOS approach. Please provide further details of the methodology and an explanation of how this approach would be applied.

**Response D-7:**

The "averaged" LOS approach referenced by the commenter was not used for the analysis included in the General Plan and DEIR. The methods used to evaluate roadway segment level of service in the General Plan and DEIR were developed using average daily traffic (ADT) volumes and per-lane capacity thresholds developed using the methods in the Transportation Research Board, Highway Capacity Manual (2000).

The "averaged" LOS approach was referenced as one of the possible methods the City is considering for the future to define a LOS standard and to evaluate transportation impacts of development projects. As part of this approach, individual intersections would be analyzed for LOS, and then the results of several intersections (such as within a particular development zone, or citywide, for example) would be averaged together to calculate an average delay and LOS for the area. This approach is just one example policy/method the City is considering to identify an alternative LOS method in the future. A future study and analysis required by Prerequisite Policy 5.1.1-P12, would be conducted before implementation of an Average LOS approach, or any other alternative LOS method.

**Comment D-8:****Consistency with the Valley Transportation Plan 2035**

Section 4.12 of the General Plan shows that ten roadway projects included in the Valley Transportation Plan (VTP) 2035 financially constrained project list (projects 1 to 7) were not included in the assumptions. While we gained a preliminary understanding of the intent for not including these improvements, the rationale is not sufficiently explained in the General Plan documents.

**Response D-8:**

Please see previous Response C-2.

**Comment D-9:**

Furthermore, the impacts of the inconsistency with the VTP and the 2008 Countywide Expressway Study were not analyzed. We believe it is important to understand the effects on the City's transportation system, as well as CMP facilities, of including and not including these projects. Accordingly, we would like to suggest further analysis on the impacts with and without these improvements be provided in the General Plan and EIR.

**Response D-9:**

Please see previous Response C-2.

**Comment D-10:****Roadway Level of Service Policy & Congestion Management Program**

VTA supports the City's proposed approach of pursuing more flexible, multimodal roadway level of service standards at a citywide level, as described in Policy 5.8.1-P6. VTA also generally supports the proposed approach of exempting specific intersections in Focus Areas from the City-wide level of service standard for vehicles on a case-by-case basis or adopting an alternate standard in these areas, as described for example in Policy 5.4.1-P17.

**Response D-10:**

The VTA's support for the identified General Plan policies is acknowledged. No further response is required.

**Comment D-11:**

Because the DEIR transportation analysis shows vehicular level of service on a number of CMP facilities deteriorating below LOS E under the proposed General Plan, the City will need to prepare a Deficiency Plan in accordance with VTA's Deficiency Plan Requirements. The Deficiency Plan can be prepared in conjunction with the Area Development Policy and must contain a list of actions to help offset the vehicular level of service impacts, and an implementation plan with specific responsibilities and a schedule.

**Response D-11:**

This comment concerns the City's future preparation of a Deficiency Plan to address the forecast deterioration of CMP facilities below LOS E. The comment's description of what the Deficiency Plan must include is consistent with the Draft EIR's discussion of the 2010-2035 General Plan's consistency with the Congestion Management Plan, beginning on page 79 of the Draft EIR. The following excerpt from page 80 spells out what the Deficiency Plan will include:

“To comply with the VTA standards, the Deficiency Plan should include actions to (based on the VTA's *Requirements for Deficiency Plans* (1992)):

- Coordinate transportation infrastructure with appropriate land uses
- Build new transit facilities and increasing transit service
- Provide coordinated bicycle facilities
- Enhance transportation demand management (TDM) programs
- Encourage walking by providing safe, direct, and enjoyable walkways between major traffic generators”

**Comment D-12:****Impacts on Transit Bus Travel Times**

The DEIR states that increased motor vehicle traffic and increased congestion with the proposed draft General Plan would result in increased transit travel times on transit corridors and classifies this as a Significant and Unavoidable Impact (Impact 4.12-6). While VTA agrees that the build out of the proposed General Plan and the accompanying changes to the level of service policy to exempt certain intersections would lead to increased travel times for buses running in mixed flow operations, we do not agree that these impacts are de facto unavoidable. Adopting transit priority measures such as transit-only lanes, queue jump lanes, and transit signal priority could largely mitigate these impacts. Chapter 4 of the DEIR contains a thorough discussion of this impact and mentions the possible mitigation measures and the limitations on what can be assumed for the DEIR purposes. However, the Executive Summary (DEIR page ES-9) is inconsistent with this by omitting this discussion and simply classifying this impact as Significant and Unavoidable and that "There are no feasible

measures to reduce this impact." As noted, VTA disagrees with this statement and requests that the language in the Executive Summary for this impact be modified to note that "Measures to reduce this impact such as transit-only lanes, queue jump lanes, and transit signal priority exist, but may not be fully within the control of the City of Santa Clara. However, the City of Santa Clara will work with VTA and Caltrans to pursue these transit priority measures, as stated in draft General Plan Policy 5.8.3-P3."

**Response D-12:**

As suggested by the comment, the Executive Summary has been revised to include additional discussion (already present in the main text of the Draft EIR, see page 390) of the potential strategies, including provision of transit-only lanes, that will be considered by the City to alleviate the effects of increased congestion on transit operations. General Plan transit network policy 5.8.3 P-3 states the City will:

<b>Transit Network Policies</b>	
5.8.3 P-3	Support transit priority for designated Bus Rapid Transit, or similar transit service, through traffic signal priority, bus queue jump lanes, exclusive transit lanes and other appropriate techniques.

As discussed in the Draft EIR, because the feasibility of transit-only lanes would be evaluated in more detailed studies and the effect of these policies is not fully known, including potential secondary impacts, the impact is considered significant and unavoidable. See *Chapter 5 Text Revisions*, under section 5.1 Executive Summary.

**Comment D-13:**

Transit Network Policies - North-South Transit Service

The Mobility & Transportation Diagram - Transit Network (Figure 5.7-2 of the DEIR) indicates "Potential Express Bus or BRT Corridor" along the Bowers/Great America corridor and the Lafayette Street corridor. The existing land use and projected growth patterns will likely not sustain enhanced transit service along this corridor. Therefore, VTA does not support the inclusion of this statement. VTA's *Transit Sustainability Policy & Service Design Guidelines* (TSP/SDG), adopted by the VTA Board in February 2007, contain information about land use thresholds and characteristics for considering potential service changes. We recommend that the draft General Plan policies (such as Policies 5.8.3-P2 and 5.8.3-P5) be modified to include a reference to the VTA TSP/SDG.

**Response D-13:**

Figure 5.7-2 of the General Plan (Figure 4.12-7 of the Draft EIR) depicts the Mobility and Transit Diagram as anticipated in 2035. El Camino Real and Stevens Creek Boulevard are indicated as potential Express Bus or BRT corridors, consistent with VTA plans. The text indicating that Bowers Ave/Great America Parkway and Lafayette Street are "Potential Express Bus or BRT Corridor" will be deleted, however, the legend will still indicate that these corridors are transit opportunities, which could take a variety of forms, including standard bus service, employer-provided transit and/or transit provided through public-private partnerships. Chapter 6 of the General Plan includes language under the discussion of the VTA planning projects that references the TSP/SDG and how typically the design of systems would be consistent with this document.

**Comment D-14:**

In addition, we encourage the City to explore opportunities for public-private partnerships or employer contributions to provide improved transit service for the spread-out employment areas along these north-south corridors.

**Response D-14:**

This comment is consistent with and supportive of General Plan Policy 5.8.3-P10, which states the City will:

Transit Network Policies	
5.8.3 P-10	Require new development to participate in public-private partnerships to provide new transit options between Santa Clara residences and businesses.

**Comment D-15:**

BART Extension to Silicon Valley

In order to provide updated information, we recommend that Section 6.2.1 of the Cumulative Analysis, the Draft EIR, on the BART Extension to Silicon Valley, be revised as shown in Attachment 1 to our letter. (copied below)

**6.2.1 BART Extension to Silicon Valley**

The BART to Silicon Valley Project consists of an extension of the existing BART regional heavy rail system to Milpitas, San José and Santa Clara. The BART Extension to Silicon Valley will extend over 16 miles along the existing Union Pacific Railroad alignment south of the planned BART Warm Springs Station in Fremont. When completed, this fully grade-separated project will include: six stations – one in Milpitas, four in San José and one in Santa Clara; a 10-mile extension to Milpitas and the Berryessa area in east San Jose; a 5-mile tunnel in downtown San Jose; and a new maintenance and storage facility in Santa Clara. The BART extension from Fremont to Warm Springs is now under construction. This project is being managed by the Valley Transportation Authority on behalf of BART. The 5-mile extension to Warm Springs is planned to be complete by 2014.

The current efforts by VTA are focused on obtaining \$900 million in Federal funding for ~~the a~~ first phase extension from Warm Springs to Berryessa. This \$2 billion, 10-mile project ~~is it will~~ begin final design in 2011 and is planned to start construction in 2012 and be complete by 2018. The remaining gap in the BART to Silicon Valley project is the 6-mile, ~~\$4 billion~~ link from Berryessa to Downtown San Jose, Diridon Station, and the Santa Clara station near the Mineta San Jose International Airport. This section includes 5 miles of tunnel construction. The project is at 65 percent design completion and will resume project development when federal funding is secured for the first phase, ~~but is "on hold" until construction funding is secured. The possible~~ financing strategies are based on: improvement in the local economy (sales tax revenues are the source of local BART funds); seeking additional Federal funds (once the Berryessa extension funds are secured); increased Federal funding opportunities for urban transit as part of new Federal transportation policy bill (expected in 2011); and increased BART ridership projections based on connectivity with HSR service at Diridon Station (not accounted for in current BART studies). ~~Overall, the goal is to secure funding to allow t~~ For purposes of this EIR, the Berryessa-Downtown San Jose-Santa Clara Station BART segment is assumed in the cumulative analysis to be complete sometime between 2025 and 2035.

**Response D-15:**

The comment is noted and the EIR text has been revised as requested. See *Chapter 5 Text Revisions*, under section 5.17 Cumulative Analysis. For purposes of this EIR, the Berryessa-Downtown San Jose-Santa Clara Station BART segment is assumed in the cumulative analysis to be complete sometime between 2025 and 2035.

**Comment D-16:**

VTA looks forward to continuing to partner with the City of Santa Clara in the General Plan 2010-2035 Update process, as well as future planning activities to implement the updated General Plan. If you have any questions, please call me at (408) 321-7093 or Robert Swierk at (408) 321-5949.

**Response D-16:**

The City will continue to coordinate and partner with the VTA as part of the 2010-2035 General Plan Update process and into the future with implementation activities that concern both public agencies.

#### **4.5 RESPONSE TO COMMENTS RECEIVED FROM THE PENINSULA CORRIDOR JOINT POWERS BOARD (CALTRAIN), AUGUST 25, 2010 (LETTER E):**

**Comment E-1:**

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan Update. The Peninsula Corridor Joint Powers Board (JPB) supports your objectives to reduce traffic congestion and promote expansion of the public transportation system. We applaud your efforts to support the development of Bus Rapid Transit (BRT) corridors and transit stations with transit-supportive land use policies, enhance pedestrian and bicycle mobility, and pursue environmentally sustainable and economically viable development patterns.

We respectfully submit the following comments:

**Response E-1:**

The Peninsula Corridor Joint Powers Board (JPB) support for the 2010-2035 General Plan objectives is acknowledged. Please refer to Response E-2 through Response E-9 below, regarding responses to specific comments on the Draft EIR.

**Comment E-2**

A project to construct a new center platform and pedestrian underpass is currently underway at the Caltrain Santa Clara station. Please incorporate the new project layout in your focus area planning at the station.

**Response E-2:**

This comment is noted. The figure illustrating the Santa Clara Station Focus Area in the Draft EIR (Figure 2-14) is for illustrative purposes only and does not include the specific design level details of the project, as this goes beyond the scope of the General Plan. The City of Santa Clara will, however, coordinate with the Peninsula Corridor Joint Powers Board (Caltrain) to ensure that the design level details of projects associated with the Santa Clara Station Focus Area will be incorporated into future project-specific proposals.

**Comment E-3**

We look forward to the further development of the BRT on the EI Camino Real corridor and its key intermodal link at the Santa Clara transit station.

**Response E-3:**

This comment is noted. No further response is required as the comment does not raise any environmental issues or questions about the adequacy of the Draft EIR.

**Comment E-4**

Bike and pedestrian access routes near the JPB right-of-way should incorporate safety features, such as warning signage and fencing, to ensure public safety around an active railroad. Existing grade separated street crossings should be used for bike and pedestrian access to cross the tracks.

**Response E-4:**

This comment is noted. The General Plan encourages bike and pedestrian access by providing additional pedestrian connections and dedicated bicycle paths, and the inclusion of bicycle and pedestrian facilities at railroad crossing, grade separations, interchanges, and freeways, as discussed in Section 4.12 of the Draft EIR. The General Plan also includes policies to address the safety of pedestrians and bicyclists, as listed below. These policies are included in Table 4.10-6 of the Draft EIR.

<b><u>Bicycle and Pedestrian Network Polices</u></b>	
<u>5.8.4-P10</u>	<u>Encourage safe, secure and convenient bicycle parking and end-of-trip, or bicycle “stop”, facilities, such as showers or bicycle repair near destinations for all users, including commuters, residents, shoppers, students and other bicycle travelers.</u>
<u>5.8.4-P11</u>	<u>Provide pedestrian crossings that are well-marked using measures, such as audio/visual warnings, bulb-outs and median refuges, to improve safety.</u>
<u>5.8.4-P13</u>	<u>Promote pedestrian and bicycle safety through “best practices” or design guidelines for sidewalks, bicycle facilities, landscape strips and other buffers, as well as crosswalk design and placement.</u>

**Comment E-5**

The use of a 100 foot setback measured from the edge of railroad right-of-way is encouraged as a buffer to diesel particulate matter and vibration impacts. Although the JPB plans to electrify the Caltrain fleet, resulting in the elimination of diesel particulate matter emissions and a reduction in vibration, heavy freight rail will continue to operate on these tracks and the setback is a prudent precaution.

**Response E-5:**

Section 4.10.5 and Section 4.10.6 in the Draft EIR include a discussion of a 100-foot setback from railroads to minimize exposure of sensitive receptors to diesel particulate matter (refer to Impact 4.10.5.3). In addition, the General Plan includes a policy (5.8.7-P5) that requires new development to implement measures to reduce the negative effects of rail and freight services. The text of the Draft EIR has been updated to include this policy (5.8.7-P5). See *Chapter 5 Text Revisions*, under section 5.10 Air Quality.

**Comment E-6**

A new street crossing of the JPB and Union Pacific Railroad (UPRR) railroad tracks, south of the Santa Clara Station, is proposed in the Santa Clara Station Focus Area. A new crossing south of the historic station depot and historic track may have impacts to the setting of the Caltrain Santa Clara station or to archaeological resources. The JPB has an obligation to preserve and maintain the station, as well as enhance those qualities that make the station eligible for inclusion in the National Register of Historic Places. Consultation with the South Bay Railroad Historical Society is recommended to avoid impacts to the JPB's historic asset.

**Response E-6:**

There are known historic resources within the Santa Clara Station Focus Area, as discussed in Section 4.11 of the Draft EIR. The General Plan includes a range of policies to ensure the protection of historic and archaeological resources, which are listed in Section 4.11.6 of the

Draft EIR. These include the coordination with historic organizations regarding historic preservation efforts. Therefore, the City will coordinate with the appropriate historic agencies during the project-level design and implementation of the Santa Clara Station Focus Area to ensure preservation and protection of historic and archaeological resources.

**Comment E-7**

Coordination with our agency, the UPRR, and the California Public Utilities Commission (CA PUC) is required to implement a new highway rail crossing. As part of its mission to reduce hazards associated with at-grade crossings and in support of the national goal of the Federal Railroad Administration (FRA), the CA PUC's policy is to reduce the number of at-grade crossings on freight or passenger railroad mainlines in California. The JPB also supports this goal. Any new crossing will need to be grade separated for public safety and to avoid traffic and operational impacts.

**Response E-7:**

No new at-grade highway rail crossings are planned as part of the General Plan. Improved transit service and connections would be developed as part of the General Plan, which could include upgraded or additional crossings to accommodate the future high speed rail, as further discussed in Section 4.12.5.4 of the Draft EIR. The General Plan includes a policy regarding coordination with the CA PUC to upgrade at-grade rail crossing equipment (5.8.7-P3). This policy is included in Table 4.10-6 of the Draft EIR. The General Plan also includes a policy to support grade-separated crossings to avoid traffic and operational impacts, as listed below.

<b><u>Rail and Freight Policies</u></b>	
<u>5.8.7-P4</u>	<u>Support grade-separated crossings and other appropriate measures to avoid mobility conflicts and traffic disruption associated with rail traffic.</u>

**Comment E-8**

The EI Camino Real between De La Cruz Boulevard/Coleman Avenue and The Alameda is projected to degrade from the existing LOS D to a LOS F. The Santa Clara Caltrain station is accessed via this section of EI Camino Real. We strongly advise the need for offsetting mitigation and transit priority measures to support the transportation needs of the high densities planned in the focus areas and to ensure the success of BRT on the EI Camino Real.

**Response E-8:**

The City's Draft General Plan designates the Santa Clara Transit Station part of the Santa Clara Station Focus Area, with specific goals and policies to encourage mixed-use development, including residential, office, and hotels, that capitalize on the proximity to transit. As noted, operations of El Camino Real between De La Cruz Boulevard/Coleman Avenue and The Alameda are forecasted to degrade to LOS F, based on a daily roadway volume segment analysis. The future level of service results are based on the scenario of narrowing of El Camino Real from six (6) travel lanes to four (4) travel lanes. The roadway width gained from this vehicle lane reduction may be used to provide transit-only lanes through Santa Clara or to provide enhanced sidewalks or bicycle facilities.

The General Plan also incorporates several transit-friendly policies to facilitate access to the Station:

<b>Santa Clara Station Focus Area Policies</b>	
5.4.3-P15	Prioritize vehicular and transit transportation modes on roadways, such as Coleman Avenue and De La Cruz Boulevard, that provide access to the Station and prioritize pedestrian and bicycle transportation modes on internal streets within the Santa Clara Station Focus Area.
5.4.3-P17	Work with appropriate transportation agencies and surrounding cities to maximize rail and bus transit to and from the Station.
<b>Transit Network Policies</b>	
5.8.3-P3	Support transit priority for designated Bus Rapid Transit, or similar transit service, through traffic signal priority, bus queue jump lanes, exclusive transit lanes, and other appropriate techniques.

With the planned improvements to El Camino Real and the support of General Plan policies described above, adequate connecting transit service is expected to serve the Station.

### **Comment E-9**

We look forward to seeing the results of your cooperative work with the City of San Jose on the development of the station area plan at the Caltrain Santa Clara station and with the City of Sunnyvale on the development of a station area plan at the Caltrain Lawrence station. Please ensure our adopted Caltrain Access Policy, which can be found at <http://www.caltrain.com/Assets/Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>, is incorporated into future station area planning.

### **Response E-9:**

This comment is noted. Section 4.1.4.2 of the Draft EIR discusses the development of the Focus Areas, including the areas near the Santa Clara Station and Lawrence Station. Individual development proposals associated with each of these areas will go through a development review process, which will help minimize potential conflicts between environmental and land use goals that could occur at the site-specific project level by providing a means for addressing and correcting conflicts. As part of this process, the City will ensure that the development proposals for these areas conform to the adopted Caltrain Access Policy.

## **4.6 RESPONSE TO COMMENTS FROM THE CITY OF SAN JOSE AIRPORT DEPARTMENT, AUGUST 13, 2010 (LETTER F):**

### **Comment F-1:**

The City of San Jose Airport Department has reviewed the aviation-related sections of the subject Draft EIR and has no major concerns with the information and analyses presented. We do recommend, however, consideration of the comments presented below to clarify or add to the relevant aviation-related information.

### **Response F-1:**

This comment is noted. Please refer to Response F-2 through Response F-4 below, regarding responses to specific comments on the Draft EIR.

### **Comment F-2**

1. Chapter 3 (Consistency with Adopted Plans) or Chapter 4.1 (Land Use). In one of these EIR sections, the ongoing implementation of the City of San Jose's Airport Master Plan for the Norman

Y. Mineta San Jose International Airport (SJC) can be referenced. SJC is the only commercial airport in the South Bay, and its Airport Master Plan currently presents a facility development program intended to adequately accommodate air passenger, air cargo, and general aviation demand projected out to the year 2027. As part of the SJC Master Plan implementation, San Jose has completed a noise mitigation program that included the soundproofing of over 1300 dwelling units in the aircraft noise-impacted residential neighborhoods of Santa Clara north of Hwy. 101.

**Response F-2:**

The Draft EIR included a description of the San Jose Airport Master Plan in the cumulative projects discussion, under Section 6.2.14. The Draft EIR included the discussion under the cumulative projects because the Airport Master Plan is specific to the boundaries of the Airport property and does not apply to the land use and development considerations within the City of Santa Clara in regards to consistency or conflicts with land use. The text of the Draft EIR has been updated to include the additional information regarding the Airport Master Plan as suggested in this comment. See *Chapter 5 Text Revisions*, under section 5.17 Cumulative Analysis.

**Comment F-3**

Along with interior sound insulation and dedication of aviation easements for newer residential development, there are currently no existing land uses in the City considered incompatible with the Airport under State noise standards. Further supporting Airport compatibility, it appears that the Draft 2010-2035 General Plan does not propose expansion of residential development into any new areas projected by the SJC Master Plan to be exposed to high aircraft noise levels.

**Response F-3:**

Section 4.14.5.6 of the Draft EIR includes a discussion of the exposure of new development under the proposed Draft 2010-2035 General Plan to aircraft noise. The future 65 decibel (dBA) community noise equivalent level (CNEL) noise contour passes through a portion of the De La Cruz Future Focus Area located east of De La Cruz Boulevard, which requires a comprehensive planning effort prior to implementation of any land use changes allowed under the existing Light and Heavy Industrial designations. In addition, the proposed General Plan includes policies that address airport noise; these are listed in Section 4.14.5.6 of the Draft EIR. In addition, as part of the Noise Policies of the proposed Draft 2010-2035 General Plan, the City will implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/R&D uses compatible with the Airport land use restrictions.

**Comment F-4**

2. Chapter 4.13 (Hazards). The paragraph under "Federal Aviation Administration Regulations" on p. 395 is not fully accurate or as comprehensive as may be warranted. The following explanatory text is offered:

The Federal Aviation Administration (FAA) has promulgated regulations and policies to protect the safety and compatibility of aircraft operations. Foremost is Part 77 of Federal Aviation Regulations (FAR Part 77), "Objects Affecting Navigable Airspace", which sets forth standards and review requirements for protecting the airspace near airports, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft approaching or departing an airport.

Under FAR Part 77, the FAA must be notified of proposed structures within an extended zone defined by an imaginary slope that radiates out several miles from an airport's runways (almost 4 miles in the case of San Jose International Airport). Any proposed structure, including buildings, trees, poles, antennae, and temporary construction cranes, which would penetrate this slope, or which would stand 200 feet or more in height irrespective of location relative to an airport, must be submitted to the FAA for an aeronautical review. The FAA typically makes one of three determinations based on its aeronautical study: (a) the structure as proposed would not be an airspace obstruction or hazard; (b) the structure as proposed would be an airspace obstruction but not a hazard if subject to specified conditions, such as rooftop lighting/markings and subsequent notification to the FAA of completed construction; or (c) the structure as proposed would be an airspace hazard and should not be approved.

As the FAA does not have authority to approve or disapprove a proposed off-airport land use, it is the responsibility of the City and other local land use jurisdictions to ensure that proposed development complies with the FAR Part 77 notification requirements and resulting FAA-issued determinations (the FAA does have the authority to protect the airspace by modifying flight procedures if feasible and/or restricting use of the airport). In its project review process, the City does coordinate with SJC staff on compliance with applicable FAA regulations and aeronautical determinations, including granting of aviation easements to San Jose to establish elevation limits over the project property.

The FAA also has policies discouraging potential hazardous wildlife attractants near airports, such as landfills, other trash processing facilities, and waste-water treatment facilities.

**Response F-4:**

The text of the Draft EIR has been updated to include the additional information on the FAA regulations as suggested in this comment. See *Chapter 5 Text Revisions*, under section 5.13 Hazards and Hazardous Materials.

**4.7 RESPONSE TO COMMENTS FROM THE CITY OF SUNNYVALE, AUGUST 25, 2010 (LETTER G):**

**Comment G-1:**

Thank you for allowing the City of Sunnyvale to review the General Plan Update Draft Environmental Impact Report (DEIR).

**Land Use Comments**

We understand the City is using a "Progressive Phasing" approach for the Plan, with different land use and intensities being phased in over time. Will environmental review be completed at each phase to ensure changes in the environmental setting are taken into account?

**Response G-1:**

Section 2.6 of the Draft EIR includes a discussion of the steps, conditions and improvements as prerequisites for implementation of subsequent development phases of the proposed Draft 2010-2035 General Plan, in order to evaluate future growth and the associated increased demand for services. Assessment of the proposed Draft 2010-2035 General Plan utilizing the parameters included in the prerequisites will take place prior to implementing the next phase of the Plan's implementation. This process will include development of a comprehensive plan for each area and an environmental evaluation to determine if there is adequate infrastructure, utilities and services, transportation facilities, access to transit, open

space and recreation facilities, retail services, and sufficient public facilities, for new development. Phasing, and the associated prerequisites, helps to coordinate the timing of new development as well as to sustain environmental quality.

**Comment G-2**

4.1.2.2 Adjoining Jurisdictions- Sunnyvale

EI Camino Real Precise Plan-The DEIR should be amended to ensure the following statement is correct:

*The City of Sunnyvale has adopted a precise plan for its portion of EI Camino Real. This Plan provides design guidelines and identifies opportunities for redevelopment at specific locations, including the "gateway" to Santa Clara at Lawrence Expressway. The design guidelines encourage landscaping and signage to signify arrival into Sunnyvale. Sunnyvale allows building heights of up to eight stories and residential densities of up to 45 units per acre.*

The actual name for the document is the Precise Plan for EI Camino Real.

The Precise Plan does not set out densities or height standards (it does provide some guidance for these factors), but the Zoning Code does address these issues. The majority of properties along EI Camino Real are zoned either C- 2/ECR (Highway Business with the EI Camino Real Combining District) or R- 4/ECR (High Density Residential with the EI Camino Real Combining District).

The density allowance for R-4 is 45 units per acre. There is no set residential density for the C-2 zoning district, although a minimum density of 36 units per acre is assumed for mixed use proposals.

Height requirements along EI Camino Real are as follows:

For properties located in designated Node areas (as shown in the Precise Plan), the maximum height is 75 feet, except when within 75 feet of a single-family residential district when the height limitation is 30 feet. For properties located outside designated Node areas, the maximum height is 55 feet, except when within 75 feet of a single-family residential district when the height limitation is 30 feet.

**Response G-2:**

The text of the Draft EIR has been updated to include the additional information on the Precise Plan as suggested in this comment. See *Chapter 5 Text Revisions*, under section 5.4 Land Use.

**Comment G-3**

4.1.4.1 Physically divide an established community?

Many of the policies listed below describe that efforts should be taken to work with the existing neighborhoods. Please consider adding language that requires these policies to apply to established neighborhoods in adjoining cities. This change will help ensure the impact on adjoining city neighborhoods is less than significant.

These policies include:

5.3.1-P1: Preserve the unique character and identity of neighborhoods through community-initiated neighborhood planning and design elements incorporated in new development.

5.3.1-P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

5.3.2-P11: Maintain the existing character and integrity of established neighborhoods through infill development that is in keeping with the scale, mass and setbacks of existing or planned adjacent development.

5.4.1-P5: Provide appropriate transition between new development in the Focus Area and adjacent uses consistent with General Plan Transition Policies.

5.4.1-P6: Encourage lower profile development, in areas designated for Community Mixed Use in order to minimize land use conflicts with existing neighborhoods.

Transition Policies: all

**Response G-3:**

Section 4.3.5.1 of the Draft EIR includes a discussion of the effects of the new development under the proposed Draft 2010-2035 General Plan on surrounding neighborhoods. Careful planning of each area is essential to ensure the appropriate interface with surrounding development, including implementation of proposed Draft 2010-2035 General Plan Land Use and Transition policies. These policies have been developed to protect the integrity of residential neighborhoods and are not limited to the City's jurisdictional boundary, but apply to any neighboring development, including those in adjoining cities.

**Comment G-4**

Traffic Comments

Please ensure that the transportation elements of the General Plan are consistent with other local plans, specifically Santa Clara County's Comprehensive County Expressway Planning Study Implementation Plan and the Santa Clara County Congestion Management Program. Any inconsistency should be identified as a significant impact and include mitigation.

**Response G-4:**

Chapter 3 of the Draft EIR includes a discussion of the proposed Draft 2010-2035 General Plan consistency with the Santa Clara County Congestion Management Program (CMP) (refer to Section 3.5). Section 4.12 of the Draft EIR also includes an evaluation of the operation of CMP roadway segments associated with the growth under the proposed Draft 2010-2035 General Plan (refer to Section 4.12.6 – Impact 4.12-2).

**4.8 RESPONSE TO COMMENTS FROM GREENBELT ALLIANCE, AUGUST 24, 2010 (LETTER H):**

**Comment H-1:**

Thank you for allowing Greenbelt Alliance the opportunity to comment on the Draft Environmental Impact report for the City of Santa Clara's Draft General Plan. Greenbelt Alliance has had the opportunity to follow this process from the beginning as part of the City's General Plan steering committee. Our goal has been to work with the City in crafting an updated General Plan that is equitable, sustainable and progressive. Greenbelt Alliance has had the benefit of partnering with residents and organizations on reviewing and commenting on the Draft Plan and DEIR. The summation of those conversations is included in this letter. Greenbelt Alliance is also submitting two

attachments: commentary provided by Urban Ecology as well as State Attorney General Brown's January 2009 letter to the City of Pleasanton on their General Plan update.

**Response H-1:**

This comment notes that two attachments have been provided in support of the Greenbelt Alliance's comment letter. The first, commentary provided by Urban Ecology, has been responded to directly as a separate comment letter in this First Amendment/Final EIR. See the following section *Response to Comments From Urban Ecology, August 24, 2010*. The second attachment, the State Attorney General's January 2009 comment letter concerning the City of Pleasanton's General Plan update, does not specifically address the City of Santa Clara's 2010-2035 General Plan or the associated Draft EIR, and therefore providing specific responses to the Attorney General's comments (to another jurisdiction prepared more than a year and a half ago) is not possible. Rather, responses are provided below to comments from Greenbelt Alliance addressing the City of Santa Clara that reference the Attorney General's letter to the City of Pleasanton.

**Comment H-2**

The Draft Santa Clara General Plan is based on seven major strategies. They include such noble goals as enhancing the City's high quality of life, promoting sustainability and maximizing health and safety benefits. Unfortunately, the policies contained within the General Plan, which also double as mitigation measures for environmental impacts in the DEIR, are vague and weak. They have been designed to preserve the status quo rather than prepare the City for the inevitable changes of the next few decades. The Bay Area, California and the nation as a whole, are at an important crossroads in history. Cities that are currently updating their general plans have a golden opportunity to play a significant role in re-shaping their communities so that they respond proactively to the structural changes on the horizon. Global climate change, a growing and aging population, rising energy costs and disappearing farmland are just some of the issues our cities will face, whether we choose to plan for them or not.

**Response H-2:**

This comment expresses an opinion that the General Plan policies are vague and weak, and were designed to preserve the status quo, and that the City through its General Plan update process has an opportunity to proactively face issues including global climate change, demographic changes, rising energy costs, and loss of farmland. No specific example is provided illustrating a supposed vague or weak policy.

A General Plan is a city's constitution for development and the framework for decisions related to growth, public services and facilities, and environmental protection. Santa Clara's 2010-2035 General Plan identifies the amount and location of new development anticipated over the next 25 years, and includes a wide range of policies designed to manage change in a way that preserves the character and qualities that make the City a desirable place to live and work. As stated in the General Plan, most areas of the City, especially established residential neighborhoods, are not expected to change substantially over the course of the Plan.

While the "Balanced Overall City Alternative" in the EIR was not specifically analyzed as an alternative to the Project, Table 5.1-Alternative Residential Growth and Density, indicates that in order to achieve a jobs per employed resident ratio of 1:1 for both existing conditions as well as new projected growth would require an additional 57,311 new units at an average density of 140 units to the acre. The resulting population would be 254,766, far in excess of ABAG projections for the City. Alternatively, if the assumed average density of 32.5 units to

the acre for new growth is held constant, the amount of land designated for housing would need to be increased by a factor of four compared to the proposed General Plan. Furthermore, this alternative would fall short of meeting many other goals of the General Plan, Santa Clara citizens, State and regional agencies, and would likely result in greater environmental impacts due to the substantially greater population.

### **Comment H-3**

#### **Phased Plan**

The Draft General Plan is touted as a model due to its multi-horizon sequence for development. Phase I cannot move into Phase II until certain prerequisites are met and the same is true for transition from Phase II to Phase III. The need to meet prerequisites before opening up the next phase of development may be interpreted as a housing cap. While some prerequisites may be actual physical limitations, others are more subjective and poor interpretation could lead to further housing shortages. This is especially acute in a city like Santa Clara which is jobs-rich. With the region expected to grow by another two million by the year 2035, all cities are expected to take on their fair share of growth.

#### **Response H-3:**

The primary objective for phasing is to ensure that new development, whether residential, commercial or industrial, is supported by the appropriate infrastructure and services. Phasing primarily affects the location and timing for planned land use changes in the future Focus Areas. It is a basic tenet of land use planning to manage growth according to a jurisdiction's ability to provide adequate levels of service for existing and new development. The progressively phased General Plan provides clear direction about what areas of the City are appropriate for redevelopment over time, to allow the City to meet its RHNA obligations while maintaining acceptable service levels. Phasing does not represent or infer a housing cap.

### **Comment H-4**

In June of 2009, State Attorney General Edmund G. Brown Jr., sued the City of Pleasanton over its housing cap. Pleasanton is a city where, much like Santa Clara, the number of new housing units has not kept pace with demand. Job growth in Pleasanton has nearly doubled in the past ten years. According to the Attorney General, if Pleasanton's housing cap continues to be enforced, the environmental consequences include increased traffic congestion and longer commute times, urban sprawl, increased greenhouse gas emissions and increased dependence on foreign oil. As a result of the Attorney General's involvement, Pleasanton agreed to build more housing.

#### **Response H-4:**

As discussed in the previous two responses, the City of Santa Clara has no housing cap and, through its 2007-2014 Housing Element, accommodates its near-term Regional Housing Needs Allocation (RHNA) and long term population growth (over 39,000 new residents in over 16,000 housing units) as forecast by ABAG for 2035. The environmental consequences of the 2010-2035 Santa Clara General Plan, including increased traffic congestion, have been disclosed in the Draft EIR. The Plan will lead to a decrease in VMT per service population, compared to current conditions, and growth in VMT is only 50 percent of the growth in service population, indicating the mix and distribution of planned housing and job growth results in a more efficient land use pattern than existing conditions. The City commits to reducing its greenhouse gas emissions consistent with statewide AB 32 goals through a Climate Action Plan.

**Comment H-5**

Does Santa Clara's phasing plan and prerequisite goals prevent the City from meeting its share of the Regional Housing Needs Allocation in a timely manner? If so, can it be construed as a housing cap? The DEIR does not adequately analyze the environmental impacts of failing to build enough housing and consistently ignores the opportunity to build more housing as a mitigation measure.

**Response H-5:**

The relationship of phasing and prerequisite policies to the City's RHNA obligations is discussed above in Responses H-2, H-3, and H-4.

As discussed in Chapter 4.2 Population and Housing, the City's jobs/housing balance improves under the 2010-2035 General Plan, although not to a 1:1 ratio, and the City will remain 'job-rich'. This means that it provides for more employment than housing and will lead to insufficient housing opportunities for future Santa Clara workers and will require substantial residential development elsewhere in the region to provide adequate housing opportunities for future workers. The Draft EIR discloses this is a significant impact due to the related secondary effects discussed in detail in the *Transportation, Air Quality, and Climate Change* sections, respectively. The City does plan to accommodate population growth as forecast by ABAG.

It should be noted that only 30 percent of Santa Clara's employed residents currently work in Santa Clara, meaning a large majority (70 percent) of the City's employed residents commute to jobs outside the City even though it is currently job-rich, reflecting the highly interconnected nature of the region. Therefore, achieving a 1:1 jobs/housing balance provides *opportunities* for living and working in the same community but by no means guarantees that future residents will in fact work in the same city they call home. Therefore, building more housing than forecast by ABAG would not necessarily serve to appreciably mitigate traffic impacts, rather given the interconnected nature of the region it is likely to result in continued inter-jurisdictional travel and traffic impacts in adjacent jurisdictions. Alternatives that would achieve a 1:1 jobs/housing balance are discussed in Chapter 5 Alternatives of the Draft EIR.

**Comment H-6****Jobs- Housing Balance**

The City of Santa Clara has a jobs to employed resident ratio of 1.85, one of the highest in the County. This ratio decreases to 1.77 jobs per employed resident by 2035. Santa Clara could decide to build more housing on land currently designated for non-residential uses and, thereby, reduce the jobs/housing imbalance (a significant impact) much more than it has chosen to do. Doing this would positively advance transportation, air quality, energy and climate change goals.

**Response H-6:**

The City has planned for substantial population growth (over 39,000 new residents in over 16,000 housing units) as forecast by ABAG for 2035, and has done so by identifying a number of future Focus Areas that involve developing new housing on significant amounts of land currently designated for non-residential uses, as suggested by the comment. Please also see Response H-5.

**Comment H-7**

The DEIR identifies many significant and unavoidable impacts, but in several cases states there are no feasible measures to reduce this impact. This is inadequate and the DEIR must go back and

clearly define feasible mitigation measures to reduce impacts. For example, on page ES-9, it is stated that, “*Motor vehicle traffic and congestion due to the proposed Draft 2010-2035 General Plan would increase on roadway segments in other jurisdictions. (Significant and Unavoidable)*”

**Response H-7:**

The comment correctly notes that the Draft EIR discloses the 2010-2035 General Plan would result in significant and unavoidable impacts, however the comment requests that feasible mitigation measures be defined to reduce impacts. It is not surprising that a 25 year plan for development that would accommodate more than 39,000 additional residents and more than 46,000 jobs additional jobs would, by virtue of scale alone, result in a number of significant impacts. The issue raised in the comment is whether there are feasible means to reduce those impacts to a less than significant level. According to the CEQA Guidelines, “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Given that the project at issue is a comprehensive General Plan that will govern future City actions and private development activities in Santa Clara through 2035, and not a specific development on a specific site, the mitigation options consist of policies and programs the City could undertake or require of private development occurring within the City’s jurisdiction. Fortunately, many of the General Plan’s significant impacts can be reduced by measures within the City’s control through implementation of policies contained in the Plan.

However, measures to reduce impacts that require actions by other public agencies or that occur outside Santa Clara cannot be feasibly addressed by Santa Clara in adopting its own policies. The specific example raised in the comment concerns traffic impacts to facilities under the control of adjacent jurisdictions. In assessing traffic impacts outside the City, the analysis either assumed all planned transportation improvements by the adjacent jurisdictions were in place, or identified the planned improvements as future mitigation. In other words, any anticipated improvements outside the City of Santa Clara’s boundaries were assumed to exist to accommodate future traffic levels.

What the City of Santa Clara could not do was identify additional roadway widening projects or other improvements not already planned by the adjacent jurisdictions (i.e. assuming a roadway already planned by another agency for a maximum of four lanes could instead be widened to six lanes) since Santa Clara has no authority to guarantee implementation and/or that roadway improvements are physically feasible, i.e. would not entail removing existing land uses such as existing homes and/or businesses. Therefore, due to the lack of a solution or Santa Clara’s inability to guarantee its implementation because it would occur in another jurisdiction, the Draft EIR appropriately discloses the impact would be significant and unavoidable. No comments were received from adjacent jurisdictions suggesting additional feasible mitigation measures for external transportation impacts beyond what has already been assumed in the Draft EIR’s traffic analysis.

**Comment H-8**

While vehicular traffic may increase under any alternative, the amount of the increase could be reduced by a jobs/housing balance more equal than that proposed under the plan and by more aggressive land use and transportation policies. Why isn’t building more homes a feasible mitigation? Correcting the City’s jobs/ housing imbalance is not mentioned at all in the transportation and traffic executive summary. This is a feasible mitigation measure, however, it is one that Santa Clara prefers not to use.

**Response H-8:**

As discussed in Response H-5, Santa Clara is currently a job-rich city, yet only 30 percent of its employed residents currently work in Santa Clara, meaning a large majority (70 percent) of the City's employed residents commute to jobs outside the City, reflecting the highly interconnected nature of the region. Therefore, achieving a jobs/housing balance would provide opportunities for living and working in the same community but provides no guarantees residents will work in the same city they call home and achieve the trip internalization the comment is suggesting would result. Alternatives that would achieve a 1:1 jobs/housing balance by constructing more housing are discussed in Chapter 5 Alternatives of the Draft EIR, although they are considered infeasible for the various reasons identified.

**Comment H-9**  
**Alternatives**

The Draft EIR discussion on alternatives seems to miss the point on the benefits of smart land use planning. The Balanced General Plan Growth Jobs/Housing Alternative proposes to meet ABAG's projected housing growth while reducing the number of net new jobs. When comparing this to the Draft Plan, the DEIR states on page 505, "*Modeling results indicate the modest reduction in jobs (5,600 fewer, for a citywide total of 147,000) under this Alternative would not substantially affect overall commute travel patterns, trip lengths, or travel modes share compared to the Draft 2010-2035 General Plan. Given the incremental decrease in overall daily VMT under the Balanced General Plan Growth Jobs/Housing Alternative, traffic impacts would be incrementally decreased, although on a per unit basis, traffic impacts would be equivalent to the Draft 2010-2035 General Plan.*" The same "minor reduction" is stated under Climate Change on page 506. The DEIR chose an alternative that would have only a minor reduction making it easy to dismiss it (despite showing a reduction in Vehicle Miles Traveled) and go with the Draft Plan.

**Response H-9:**

The purpose of the Balanced General Plan Growth Jobs/Housing Alternative was to evaluate whether limiting job growth to match the increase in employed residents would result in a more efficient land use pattern as evidenced by a decrease in VMT per service population (i.e. fewer and/or shorter trips per person and job). However, the traffic analysis found no reduction in VMT per service population compared to the 2010-2035 General Plan. As noted in the comment, the Draft EIR discloses this alternative would have reduced VMT (and associated vehicular emissions) in total compared to the 2010-2035 General Plan, by virtue of developing 5,600 fewer jobs, and therefore would be environmentally superior to the Plan.

The comment states an opinion that it will be 'easy' for this alternative to be dismissed. The degree to which this environmentally superior alternative satisfies the City's stated objectives, and whether this alternative is feasible, will be determined by the City Council as it makes a decision about whether to adopt the proposed 2010-2035 General Plan and adopt associated findings about the feasibility of the mitigation measures and alternatives identified in the EIR.

**Comment H-10**

Furthermore, the discussion around rejecting alternatives that add more homes and jobs while attaining a jobs/housing ratio of 1:1 is insubstantial. Why is it impractical for the City to consider higher density housing, or converting industrial land to residential, or encouraging high-rise mixed-use developments? These alternatives have been rejected because they would disrupt the status quo.

**Response H-10:**

The City, in crafting a General Plan that accommodates an additional 39,000 new residents in over 16,000 new housing units, has made substantial plans for higher density housing, largely by encouraging mixed-use development along existing or planned transit corridors and by re-designating large areas currently devoted to industrial uses for conversion to high density residential and/or mixed use development (the future Focus Areas). The implication in the comment is that the City should attempt to add more housing. The purpose in discussing the Balanced Cumulative Growth Alternative and the Balanced Overall City Alternative was to identify the substantial increase in land area and/or assumed density necessary to accommodate the identified additional housing, as well as the policy implications and practical challenges that render these two potential alternatives infeasible. Finally, as discussed in Response H-2, the General Plan does not preserve the status quo, rather it is crafted to manage substantial change over the next 25 years in a way that retains the character and qualities that make City an attractive place to live and work while transitioning Santa Clara to become a more mature city with a vibrant, sustainable, multi-modal land use pattern.

**Comment H-11**

Even further, the Environmentally Superior Alternative is ultimately dismissed due to fiscal reasons. Even though there are significant environmental benefits to Santa Clara providing more homes to meet current and future demand, the City chooses not to go down this path because of the “reduced revenue stream”.

**Response H-11:**

As discussed in Response H-9, the degree to which the Environmentally Superior Alternative satisfies the City’s stated objectives, and whether this alternative is feasible, will be determined by the City Council as it makes a decision about whether to adopt the proposed 2010-2035 General Plan and adopt associated findings about the feasibility of the mitigation measures and alternatives identified in the EIR. The EIR identifies several factors that could affect the feasibility of this alternative; the final determination of feasibility will be made by the City Council.

**Comment H-12**

The City should include for study an Alternative that provides for a more equal jobs/housing balance. To quote the Attorney General’s letter to Pleasanton (second attachment),

*“The DEIR examines only three alternatives to the proposed General Plan Update, none of which consider significantly reducing business development or significantly increasing residential development. CEQA requires a local agency to identify and study a reasonable range of alternatives that would attain most of the basic objectives of the project. <sup>54</sup> The fundamental purpose of alternatives analysis is to examine alternatives that can eliminate or reduce significant environmental impacts. <sup>55</sup> An EIR must meaningfully compare the alternatives as they contribute to global warming and an EIR should compare the alternatives’ greenhouse gas emissions. Further, the differences in greenhouse gas emissions associated with the various alternatives should figure into the lead agency’s identification of the “environmentally superior alternative.”*

Santa Clara has failed to do this which has resulted in an inadequate DEIR. Instead of rushing through the General Plan update, the City must go back and provide a full range of alternatives and craft a General Plan that provides for more housing and less traffic congestion.

**Response H-12:**

Contrary to the comment, the EIR did consider an alternative, the Balanced General Plan Growth Jobs/Housing Alternative, that would limit business development (job growth) to match the increase in new employed residents under the General Plan, and discussed why additional alternatives that would provide housing beyond the City's 2014 RHNA obligation and ABAG's 2035 population forecast were infeasible. The alternatives analysis did compare the greenhouse gas emissions resulting from the alternatives, and used that information, along with other environmental factors, to determine which of the alternatives was environmentally superior to the proposed General Plan. Therefore, the issues raised in the Attorney General's comments concerning Pleasanton are inapplicable to Santa Clara.

**Comment H-13****Climate Change**

The DEIR acknowledges in several places that efficient land use patterns and multi-modal transit reduce greenhouse gas emissions. When it comes to proactively including policies that support GHG emissions reduction, the City becomes vague. On page 468, the DEIR states,

*“Santa Clara’s 2035 General Plan has a direct relationship to SB 375 in that the City’s future mix and distribution of land uses will influence vehicle miles traveled (VMT) within and to/from the City....Reducing GHG from passenger vehicles relies upon a ‘three-legged stool’ of strategies: driving less, using less fuel per mile, and using fuel with a lower carbon intensity. The City can only directly influence one ‘leg’ of the stool – VMT due to land use patterns. The other two ‘legs’ (vehicle fuel efficiency standards and the carbon-intensity of fuels) are the purview of state and/or federal agencies.”*

The City is building the case that there is little they can do to truly have an impact on reducing GHG emissions. This gives the City an excuse for inaction and maintaining the status quo of far more jobs than homes. On page 477 the DEIR talks about “new and substantially advanced technologies”, which is “out of the City’s control.” What is in the City’s control is land use, allowing more homes to be built in key locations. Building more homes is appropriate mitigation for the significant environmental impacts associated with adding far more jobs and forcing people to commute long distances to get to those jobs. However, as was apparent in the Alternatives Analysis, the City does not choose the alternative with the lowest VMT and consistently avoids any concrete language around adding more homes as a way for the City to meet its AB32 goals. One can assume that the City is more interested in its bottom line than in seriously addressing the Draft Plan’s environmental impacts.

**Response H-13:**

The excerpted text from the Draft EIR included in the comment appropriately identifies that reducing GHG from passenger vehicles will depend upon 1) driving less (which the City can influence through its land use pattern), 2) using less fuel per mile (not within City’s control, but being dealt with through State regulations authorized by the federal government), and 3) using fuel with a lower carbon intensity (also not within City’s control, but being addressed by State regulations). The positive effect of reduced GHG emissions resulting from these latter two strategies has been accounted for in modeling future GHG emissions resulting from the VMT attributable to the City, such that VMT-related GHG emissions are forecast to decrease in 2020 and 2035 compared to 2008 conditions, despite the overall increase in VMT due to planned growth. In clarifying the three separate factors that affect GHG emissions resulting from the VMT, it was not intended to suggest the City could or would do little to

reduce future emissions. Instead, the City is committing to a Climate Action Plan to reduce its aggregate GHG emissions in 2020 to comply with the requirements of AB 32 California Global Warming Solutions Act.

The referenced text on Page 477 of the Draft EIR concerns substantial emission reductions necessary in 2035 to maintain a trajectory to meet the State's 2050 GHG emissions targets of 80 percent below 1990 levels. While it can be expected technologies will continue to improve and future regulations at the state and federal level will serve to further reduce GHG emissions, the City in 2010 is not able to conclude the dramatic emissions reductions necessary in 2035 can be feasibly attained given doing so will entail actions and developments outside the City's control. To illustrate this, consider that eliminating GHG emissions in 2035 from all sectors (including VMT) other than electrical energy would still not achieve the reductions necessary for Santa Clara to maintain a trajectory toward the 2050 state target. See *Draft EIR Figure 4.16-3 Santa Clara 2035 GHG Emissions Forecast*. Clearly, actions will be necessary at the federal and state level to reduce emissions unrelated to land use and other sectors not directly within the City's control.

#### **Comment H-14**

In fact, the City relies on a deferred Climate Action Plan as mitigation for known impacts. Relying on some possible future event as mitigation for a certain significant impact is inadequate. The City initially stated it would do the Climate Action Plan as part of the General Plan update, and that has not happened, so how do we know a CAP will happen before 2015? How can the CAP even comply with State goals when the City continues to pursue a significant jobs/ housing imbalance? And even if all cars ran on non-fossil fuels, the DEIR fails to adequately analyze the impact of more jobs on urban sprawl and lost farmland. People will need to live somewhere to get to these jobs, and farmland in Gilroy and Livermore is often paved to meet the demands of Silicon Valley jobs.

#### **Response H-14:**

As explained in Response H-7, because the project at issue is a comprehensive General Plan that will govern City actions and private development activities over the next 25 years in Santa Clara through 2035, and not a specific development project on a specific site, the available mitigation options consist of policies and programs the City could undertake or require of private development occurring within the City's jurisdiction. Therefore, it is appropriate for the City to incorporate a policy into the General Plan to commit to preparation of a Climate Action Plan prior to 2015 (Phase II) to feasibly reduce emissions consistent with AB 32 in 2020. As discussed in detail beginning on page 489 in the Draft EIR, a commitment to prepare and implement a Climate Action Plan by 2015 for emissions ten years into the future is not deferred mitigation and comports with published case law. The comment provides no alternative reading of the identified published cases noted in the Draft EIR text, nor identifies other published cases that suggest a contrary conclusion.

The comment speculates about a future need to convert farmland in Gilroy or Livermore for housing. Any decision to convert farmland in Gilroy or Livermore to accommodate housing will be made by each respective city, and their decision-makers will presumably consider the environmental implications (including GHG emissions) of those actions. As mentioned above, only 30n percent of Santa Clara's current employed residents work in the City, so it is foreseeable that the majority of future Santa Clara employed residents accommodated in the new 16,000 housing units will likely work outside the City. There is no reason to predict the Santa Clara 2010-2035 General Plan will cause any other jurisdiction to plan for more housing growth than already forecast by ABAG for 2035. The current and future anticipated

locations (according to the regional Travel Demand Model) of employees working in Santa Clara is depicted in Figure 4.12-9 (included in *Chapter 5 Text Revisions* section 5.12 below), and it predicts minor incremental change in employee housing locations. For example, Alameda County's percentage share (8.8 percent) holds constant, while Gilroy's percentage share actually drops (from 0.5 percent to 0.3 percent).

### **Comment H-15**

On page 489, the DEIR provides a list of what will be included in the CAP for 2020. However, these measures lack strong implementation procedures and timelines that would ensure the City does not back out of its commitment.

*“Implementation of the CAP will be an ongoing adaptive management process, whereby opportunities to reduce GHGs will be evaluated and selected based on a variety of factors, **including available technology, relative cost, and policy preferences, among others.** Therefore, it is **not possible to precisely predict the specific set of actions and strategies the City will pursue and implement over the next 10 years** to achieve the overall magnitude of GHG emission reductions necessary to achieve statewide 2020 goals. However, as a matter of policy integral to the General Plan itself, the City is committing to do its part to meet statewide AB 32 goals by 2020.”*

Is the City stating that if the CAP identifies a reasonable opportunity to reduce GHGs that Santa Clara does not like (policy preferences), it may not select it? How is this a mitigation measure allowed under CEQA? Why won't Santa Clara commit to some strong measurable tactics now, as part of this General Plan update? The City points to various policies throughout the Plan as mitigation, but the language is weak, vague, lacks clear implementable actions and provides opportunity after opportunity for the City to choose to maintain the status quo. Again, the City chooses to be vague about its commitments, preferring inaction and deferral to strong implementable policies that will lead to significant reductions in GHG emissions.

### **Response H-15:**

The Draft EIR, page 489, provides a list of what will be included in the Climate Action Plan for 2020. The comment states an opinion that strong implementation procedures and timelines are lacking and the City might back out of its commitment. As discussed in Response H-14, it is appropriate for the City to incorporate a policy into the General Plan to commit to preparation of a Climate Action Plan prior to 2015 (Phase II) to feasibly reduce emissions consistent with AB 32 in 2020. While the City is committed to developing an effective Climate Action Plan, CEQA does not mandate that every potential policy for the CAP be individually enforceable as a mitigation measure, as long as the overall GHG emissions reductions necessary to meet State targets are achieved. The CAP itself will be the enforceable mitigation to reduce emissions, and is anticipated to rely on a variety of strategies.

The Draft EIR text excerpted in the comment was intended to explain that the City would select from a variety of GHG reduction strategies to achieve the overall emissions reduction necessary to meet AB 32 goals for 2020. As depicted in *Figure 4.16-2 Santa Clara 2020 GHG Emissions Forecast*, the City will need to reduce GHG emissions by approximately 700,000 metric tons (from 2,395,000 metric tons), and is committed to doing so by 2020. What the City will determine through the Climate Action Plan is what amount of GHG reduction will be achieved from each sector (waste management, natural gas space heating, combustion processes, mobile sources, and electric energy), depending upon factors such as

available technology, cost, and policy preference, while achieving in 2020 the aggregate 700,000 metric ton reduction.

As an example, it may be more cost effective or the City may have a policy preference for achieving a substantial portion of the GHG reductions through increased reliance on renewable energy by its electrical utility (Silicon Valley Power). Or the City may determine technological advances over the next decade may cause GHG reductions in the natural gas space heating sector to become more cost effective than achieving the same reduction amount from the waste management sector. The City is not being vague about its commitment to do its part to achieve AB 32, rather the Draft EIR is disclosing there will be flexibility for the City to consider multiple options to achieve the required reductions, and technology, cost, and policy preferences will presumably factor into the eventual mix the City selects by 2015 to reduce 2020 emissions.

**Comment H-16**

A long list of policies is given in the climate change chapter as proof that the Draft General Plan is reducing greenhouse gas emissions. The column that includes measures from the California Scoping Plan has clear, measurable programs such as “Install 3,000 MW of solar-electric capacity under California’s existing solar programs” and “Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials.” The language from the Draft General Plan, however, is weak, leading to the conclusion that many of these policies will never be implemented:

**Response H-16:**

Please see previous Response H-15.

**Comment H-17**

5.10.3-P4 “*Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.*” How will this be promoted? This is an inadequate measure to reduce a significant impact.

**Response H-17:**

The comment references a General Plan energy policy rather than an individually enforceable future project-level mitigation measure. Sustainable buildings and new development will be promoted through implementation of a range of mechanisms, including incentives such as Policy 5.5.1-P6, which provides a 10 percent density or intensity bonus for projects proposing to meet green building requirements equivalent to a minimum LEED Gold certification.

**Comment H-18**

5.5.1-P6 “*For development proposing a minimum LEED Gold or greater equivalent, allow a ten percent increase in residential density and/or a ten percent increase in the maximum allowed non-residential square-footage, provided that the increased density and/or intensity is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.*” So does this last statement effectively cancel out the density increase given the community’s aversion to building more homes?

**Response H-18:**

The qualification included in the Policy 5.5.1-P6 is intended to ensure that new development that receives a ‘bonus’ for being green and therefore is allowed to develop at increased

residential densities or non-residential intensities is compatible with its surroundings and consistent with applicable City policies. It does not ‘cancel out’ the density bonus, but rather requires that the additional density be designed in a manner that is compatible with surrounding uses and consistent with City policies.

**Comment H-19**

5.1.1-P11 “...*encourage a 20 percent reduction in consumption.*” Encourage is not good enough for mitigation. How will the City encourage? Again, this is an inadequate measure to reduce a significant impact.

**Response H-19:**

The comment refers to a General Plan Policy rather than an individually enforceable future project-level mitigation measure. As indicated by the General Plan’s Water Policies (see *Draft EIR* pgs.223-224), a reduction in consumption will be promoted through development standards, building requirements, landscape design guidelines requiring installation of native and low-water consumption plant species, education, and compliance with State water conservation landscaping ordinance.

**Comment H-20**

5.8.6-P3 “*Encourage flexible parking standards that meet business and resident needs as well as avoid an oversupply in order to promote transit ridership, bicycling and walking.*” How does this help the City achieve its greenhouse gas reduction targets? Why isn’t this required? Why not propose abolishing all parking minimums?

**Response H-20:**

Minimum parking standards for specific uses and situations are established in the Zoning Ordinance, while the General Plan policy referenced in the comment sets the general standard for parking flexibility, recognizing the different parking demands for various land uses, based in large part on the context for the use, i.e. the degree to which the area is served by transit and/or can be easily accessed by bicyclists or pedestrians. The policy also acknowledges that an oversupply of parking can increase demand for auto use and decrease demand for non-auto travel modes, thereby increasing VMT-related GHG emissions. As the City moves forward to update the Zoning Ordinance following completion of the General Plan update process, parking standards for specific uses and situations would be refined in light of this General Plan policy.

**Comment H-21**

5.10.2-P2 “*Encourage development patterns that reduce vehicle miles traveled and air pollution.*” Again, this is an inadequate measure to reduce a significant impact. Why not commit to building more homes along transit corridors than is currently being proposed?

**Response H-21:**

The comment refers to a General Plan policy rather than an individually enforceable future project-level mitigation measure. The policy referenced in the comment is intended to support the transition in land use planned for the Focus Areas to locate jobs and housing in proximity to each other and in areas that are or can be accessed by transit, on foot, or bicycle. Modeling of future travel patterns in 2035 indicates the proposed mix and distribution of land uses results in a decrease in VMT per service population.

**Comment H-22**

Santa Clara is required by law to adopt enforceable mitigation measures to lessen the project's greenhouse gas emissions, yet it has failed to do so. "Encouraging" flexible parking standards and more efficient land use patterns is not enforceable language and therefore not proper mitigation measures under CEQA. The City does not commit to doing anything that might reduce impacts and instead relies on voluntary measures that are not enforceable. The City must go back and formulate specific and binding mitigation measures to be included in the General Plan update.

**Response H-22:**

Please see previous Response H-14 and Response H-15.

**Comment H-23**

Much of the City's vague language can be interpreted in a manner that prevents housing. The transition policies in particular seem to be designed to prevent infill housing. Additionally, Santa Clara's new land use designations sound nice, but the definitions do not support these new designations. For example, a minimum 0.15 FAR is too low to support regional mixed-use. This reduces the amount of land available to build more housing and encourages more driving and less walking. As a result, more homes are pushed to the urban edge which leads to a loss of open space and increased VMT. This is a reasonably foreseeable impact that the DEIR fails to analyze.

**Response H-23:**

Santa Clara is a 'built out' city, with no room for geographic expansion, so therefore all new development will occur as a result of converting existing underutilized urban parcels to new, more dense/intense uses. Therefore, all new housing planned through 2035, over 16,000 new attached units housing more than 39,000 new residents, will be infill housing.

The comment expresses an opinion that a minimum 0.15 FAR is too low to support regional mixed use. This classification is intended for high-intensity, mixed-use development along major transportation corridors in the City. This FAR minimum requirement applies to the commercial portion of a mixed use project and is in addition to the residential density requirement between 37 to 50 units per acre. Overall development heights with this designation would typically be between three to five stories. Development at this density is supportive of transit, and is an efficient use of land that allows the City to meet its fair share of regional housing growth as forecast by ABAG through 2035. Contrary to the comment, the traffic modeling conducted for the General Plan indicates infill development at this density/intensity, in the planned locations, will serve to reduce VMT per service population compared to the City's existing travel patterns.

**Comment H-24**

Here, the City has an opportunity to strengthen its vague language, make good on its stated intentions and provide a measurable mitigation measure. Policy 5.3.1-P13 states "Support high intensity development within a quarter mile of transit hubs and stations and along transit corridor". Here, the City should do more than "support." It should set minimum FAR and height standards for development within a quarter-mile of transit hubs and along transit corridors. An FAR that leads to a more compact, walkable environment is much higher than 0.15. Setting a minimum of 0.15 is setting the bar too low.

**Response H-24:**

The General Plan, through application of the proposed land use designations (i.e. High Density Residential, Regional Mixed Use, etc.) to properties within a quarter mile of transit,

does set minimum FAR and residential densities that are supportive of transit. Within the Santa Clara Station Focus Area, as an example, the Very High Density Residential land use designation requires residential densities between 51 and 90 dwelling units per acre and the Regional Commercial designation allows commercial FARs up to 6.0. Please also see Response H-23 concerning the 0.15 minimum FAR for the Regional Mixed Use designation.

### **Comment H-25**

#### **Conclusion**

Greenbelt Alliance is concerned that the City of Santa Clara is avoiding its responsibility to commit to concrete mitigation measures that reduce significant environmental impacts. While advance technologies and support at the federal level will help in addressing climate change, relying on these uncertainties does not excuse the city from taking aggressive measures to address climate change.

#### **Response H-25:**

Please see previous Response H-14 and Response H-15.

### **Comment H-26**

The prerequisites for phasing are an impediment to providing more homes. Stating the need to provide adequate services is an unsatisfactory reason for not providing homes for people who work in your community. This is an Environmental Impact Report, not a Fiscal Analysis. The City has also failed to provide a range of feasible alternatives. An alternative that provides more homes and a more balanced jobs/ housing ratio is entirely feasible for the City of Santa Clara considering the amount of land dedicated to surface parking and low-density strip malls. The reasoning behind rejecting such an alternative is flawed.

#### **Response H-26:**

Please see previous Response H-3 and Response H-10.

### **Comment H-27**

The City's combination of vague policies and deferred mitigation is not legal under CEQA. Greenbelt Alliance recommends strengthening the Draft General Plan and re-writing the DEIR. We will continue to follow the City's process closely.

#### **Response H-27:**

Please see previous Response H-14 and Response H-15.

### **Comment H-28**

Lastly, we wish to draw your attention to the two attachments. Urban Ecology raises many great points, several of which we have included in this letter. Please review their comments, especially as to how a General Plan update fails to make any mention of a professional sports stadium. The DEIR is woefully inadequate when it comes to any discussion of the 49ers stadium. Also note the letter from the Attorney General to the City of Pleasanton. The Attorney General is coming down hard on cities that fail to provide enough housing or adequate mitigation for environmental impacts. Santa Clara's General Plan continues to exacerbate the regional jobs/ housing imbalance. Expecting to rely on cities like San Jose to pick up the slack is irresponsible.

#### **Response H-28:**

With regard to the two referenced attachments, see Response H-1. With regard to the City's proposed jobs/housing balance, see Response H-5.

The comment also notes the General Plan Draft EIR makes no specific mention of the 49ers stadium. This is due to the type of project being analyzed in the Draft EIR and the corresponding level of detail and specificity with which impacts are disclosed. As explained in *Chapter 1.1 Introduction*, the Draft EIR is a program-level document providing environmental review for the Santa Clara 2010-2035 General Plan, the City's comprehensive, long-range plan for the next 25 years of development. The Draft EIR analyzes the range of land uses that could occur on properties depending upon the particular General Plan designation. A General Plan EIR is not intended, nor suited, to evaluate the effects of specific development projects on specific sites, such as a professional sports stadium on a particular site. The City prepared a project-level EIR to evaluate the 49ers stadium. The General Plan designates the site proposed for the 49ers stadium as Regional Commercial, which allows a broad range of commercial uses including sports facilities, and accordingly the Draft EIR evaluated the environmental impacts of the broad range of commercial uses allowed by the Regional Commercial designation, and identifies various policies included in the General Plan to avoid or reduce impacts, with project-specific mitigation measures to be developed as individual developments are considered, such as in the case of the 49ers stadium which has its own project-specific EIR.

**Comment H-29**

Greenbelt Alliance requests that the City post all letters related to the Draft General Plan and DEIR on the City's website. This is our second request. Since all letters are part of the public record, the City should make it easy for people to find comment letters. We wish to remain informed of all meetings, reports, and changes to the calendar in a timely manner.

**Response H-29:**

All formal letters received by the City regarding the General Plan Update and the EIR are a part of the project files. These files can view viewed at the Permit Center between Monday and Friday, during normal business hours.

**4.9 RESPONSE TO COMMENTS FROM URBAN ECOLOGY, AUGUST 24, 2010 (LETTER I):**

**Comment I-1:**

ES-7 The city could decide to build more housing on land currently designated for non-residential development and, thereby, reduce the jobs/housing imbalance (a significant impact) much more than it has chosen to do. Doing this would positively advance transportation, air quality, energy, climate change goals.

**Response I-1:**

Please see previous Response H-10.

**Comment I-2**

ES-12 Traffic and Circulation. Although vehicular traffic may increase under any alternative, the amount of the increase could be reduced by a jobs/housing balance more equal than that proposed under the plan and by more aggressive land use and transportation policies.

**Response I-2:**

Please see previous Response H-5 and Response H-8.

**Comment I-3**

ES-12 Climate Change. The EIR states: "Achieving the substantial reductions [by 2035] will require policy decisions at the federal and state level and new and substantially advanced technologies that cannot be anticipated, and are outside the City's control, and therefore cannot be relied upon as feasible mitigation strategies." First, no analysis is presented for this statement. Second, even if this is true, it does not excuse the city from taking aggressive measures to address climate change. Third, many, if not most, policy issues involve decisions and technologies "outside of the City's control" ; this uncertainty is not generally accepted as an excuse for inaction.

**Response I-3:**

Please see previous Response H-13.

**Comment I-4**

ES-12-14 The Summary of Project Alternatives is noticeably user-unfriendly. It is quite difficult for the reader to determine the benefits and disadvantages of the alternatives and, therefore, come to decisions on environmental preference.

**Response I-4:**

The comment expresses an opinion that *Table 5.2 Comparison of Impacts by Alternative* is difficult to understand. To clarify, the summary table presents the impacts conclusions by resource category resulting from the proposed General Plan, then identifies whether the level of impact resulting from the identified alternative would be less than, equal to, or greater than, the General Plan's impact in that resource category. As an example, the General Plan's Land Use impacts are 'less than significant', while the table indicates the No Project/Existing General Plan would have comparably greater land use impacts, while the Balanced General Plan Growth Jobs/Housing Alternative would have essentially the same impact as the General Plan.

**Comment I-5**

ES-14 The reasoning behind the formulation of the "Environmentally Superior Alternative" is not documented - it is not clear that an alternative that included more housing would be impractical. A city that is largely built out and with such a high jobs/housing imbalance should be capable of financially managing additional residential development, even in these difficult times. Also, see discussion on page 510, which is inadequate in its rationale for rejection of an alternative that would provide more housing.

**Response I-5:**

Please see previous Response H-10 and Response H-12.

**Comment I-6**

86 A minimum FAR of 0.10 is too low to support the definition of, and commonly accepted standards for, the neighborhood and community mixed use categories. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.

**Response I-6:**

The comment expresses an opinion that a minimum 0.1 FAR is too low to support neighborhood and community mixed use. This FAR minimum requirement applies to the commercial portion of a mixed use project, and is in addition to the residential density requirement of between 19 to 36 units per acre. Development at these densities/intensities

will allow the City to accommodate its fair share of regional housing growth as forecast by ABAG through 2035.

**Comment I-7**

86 A minimum FAR of 0.15 is too low to support the definition of, and commonly accepted standards for, the regional mixed use category. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.

**Response I-7:**

Please see previous Response H-23.

**Comment I-8**

88 The maximum FAR's for the neighborhood commercial and community commercial categories (which appear to be the same except for the FAR) are too low for the defined intent; a more compact urban form is more likely to result in community acceptance and will take up less land that could be used for residential uses.

**Response I-8:**

The comment expresses an opinion that the maximum FARs for the Neighborhood Commercial and Community Commercial designations (0.4 and 0.5, respectively), are too low (without providing an explanation), and states the City could develop at higher commercial intensities, thereby making more land available for housing. The City has designated sufficient land at appropriate densities to accommodate its RHNA obligation in the near term through 2014 and its fair share of regional housing growth as forecast by ABAG through 2035.

**Comment I-9**

103 The "Land Use Policies" in the table are simply a restatement of one of the plan strategies - they are too general to ensure any results. Policies like these make it unlikely that the plan objectives can be achieved and will, therefore, have negative environmental impacts.

**Response I-9:**

The comment expresses an opinion that the General Plan's land use policies are "too general" to ensure any results without offering specific examples of being neither too-general nor specific suggestions of how they might be revised to "ensure results." The project being analyzed is a General Plan consisting of broad policies intended to apply in a variety of situations and circumstances across the City for the next 25 years, and the Draft EIR provides a program-level analysis of environmental impacts. Specific, project-level measures will be required of future individual development projects to implement the General Plan's broad policies.

**Comment I-10**

104 Policy 5.3.2-P5 appears to be contrary to state law. It also is an example of a policy that can easily be used to limit new residential development.

**Response I-10:**

Second or 'accessory' units are included as a component of the Housing Element. General Plan Appendix 8.12 TABLE 8.12-5-1: PERMITTED HOUSING TYPES WITHIN

RESIDENTIAL ZONING CLASSIFICATIONS identifies second units as permitted in R1-8L and R1-6L zoning districts.

Page 8.12-73 of General Plan Appendix 8.12, states second units or accessory units are permitted by right on single family lots of 7,000 square feet or greater. The Zoning Ordinance Update may result in increased opportunities for second units through changes such as a reduction in the minimum lot size requirement for these units.

**Comment I-11**

103-104 Taken together, the policies appear to be designed to effectively prevent infill development. The vague policies on neighborhood compatibility offer almost unlimited discretion for not approving residential development while approving non-residential development.

**Response I-11:**

The comment expresses an opinion that the Plan’s Land Use policies prevent infill development. Please see previous Response H-23.

Second, the comment suggests the City will have discretion to approve non-residential development while not approving residential development. The Draft EIR evaluates implementation of the Plan’s new and redevelopment through 2035, including the benefits of internalization expected to result from placing substantial amounts of new housing (over 16,000 new units) near existing and planned employment lands. To ensure this future internalization, the General Plan includes the following policy for metering non-residential development per each phase concurrent with housing development:

<b>General Land Use Policies</b>	
5.3.1-P18	Meter net new industrial and commercial development excluding “Approved/not Constructed and Pending Projects” identified on Figure 2.1-1 so as to not exceed 2.75 million square feet in Phase I, 5.5 million square feet in Phase II and 5.5 million square feet in Phase III in order to maintain the City’s jobs/housing balance and to ensure adequate infrastructure and public services.

**Comment I-12**

103-104 The set of land use policies make it extremely unlikely that the city will meet its Regional Housing Needs Allocation. Therefore, it is very likely that more than "roughly 3,500 housing units" will be needed elsewhere in the area to accommodate the job growth in the city, thus increasing adverse environmental impacts in the area. It is also possible that the land use policies, which are skewed in favor of non-residential development, will exacerbate the job/housing imbalance.

**Response I-12:**

The comment offers an unsupported, speculative opinion that the City will not meet its RHNA obligation. The City of Santa Clara, through its 2007-2014 Housing Element, has identified sufficient suitable, appropriate land to accommodate its near-term RHNA target, the large majority of which units will be developed by private development, both for-profit and non-profit. The City, through supportive policies, programs, and incentives, can help create the conditions for the construction of new housing, but is not in the business of building new housing, other than through the modest resources available to its Housing and Community Services Division.

The City, in crafting a General Plan that over the next 25 years accommodates an additional 39,000 new residents in over 16,000 new housing units, has made substantial plans for higher density housing, largely by encouraging mixed-use development along existing or planned transit corridors and by re-designating large areas currently devoted to industrial uses for conversion to high density residential and/or mixed use development (the future Focus Areas). As stated above in Response I-11, General Plan Policy 5.3.1-P18 meters new non-residential per each phase with new residential development.

**Comment I-13**

119 The EIR correctly states that "From 2007-2014, the City has a RHNA of 5,783 units, of which 2,207 are designated for lower-income households." With the 10% inclusionary housing provision, the city's only significant affordable housing strategy, it will have to build 22,070 units before 2014 to provide its share.

**Response I-13:**

The comment is incorrect, there is not a need or an obligation, nor does the City intend, to construct 22,070 units as part of the 2007-2014 Housing Element. The 2007-2014 Housing Element contains a range of strategies, in addition to the referenced inclusionary requirement, to achieve the affordable housing RHNA targets. Specifically,

General Plan Appendix 8.12 (Housing Element) Page 8.12-83 and 84

Policy C-1: Construct and preserve affordable housing for lower and moderate income households through the use of public subsidies, regulatory incentives and flexible development standards.

General Plan Appendix 8.12 (Housing Element) Page 8.12-85

Policy C-2: Participate in local, regional, State and federal programs that support affordable, transitional, supportive and permanent housing.

General Plan Discretionary Use Policies, 5.5.1-P1 thru P5 allow increased residential density under certain cases, increasing the inclusionary component, as well as providing increased density if such development meets affordability criteria above and beyond minimum requirements.

**Comment I-14**

119 Prior to the Draft EIR, the city only built 65% of its then-applicable RHNA. This was during a time of steady home building. Is there any reason to suspect that it will do better this time, especially in hard economic times?

**Response I-14:**

Please see previous Response I-12.

**Comment I-15**

119 The EIR refers to the draft General Plan Table 5.2-1. This table says that by 2010 the city will have built half of its RHNA targets. Did that actually happen?

**Response I-15:**

As explained in previous responses, the City is not in the business of constructing housing, other than through the modest resources available to its Housing and Community Services Division. Rather the vast majority of new housing is built by private, for-profit housing

developers, as well as to a lesser extent, by non-profit affordable housing developers which typically rely upon some form of public subsidy, such as tax credits or low-interest loans, or incentives such as density bonuses in appropriate circumstances. The 2,917 housing units identified in Table 5.2-1 consisted (in 2008 when the table was created as the General Plan was drafted) of projects that were approved, on file or under construction, and were (in 2008) expected to be implemented before the end of 2010. Given the passage of time, some of the projects have progressed from being 'on file' to 'approved', but due to the ongoing economic challenges in the housing market, and specifically difficulty obtaining project financing for new construction, very few, if any, of the units have actually been built, but are expected to be constructed when favorable economic conditions return.

**Comment I-16**

287-294 Some of the policies are unnecessarily vague. For example:

- Policy 5.3.1-P13: "The city should do more than 'support.' It should set minimum FAR and height standards for development within a quarter-mile of transit hubs and stations and along transit corridors.
- Policy 5.3.2-P2: The city should do more than "encourage." It should require some minimum level.
- Policy 5.3.3-P6: The city should do more than 'encourage.'" It should require zoning regulations that meet the policy intent.
- Policy 5.3.4-P2: The city should do more than "encourage." It should require zoning regulations that meet the policy intent.
- Policy 5.8.4-P9: To what does this apply? Policy 5.8.4-P8 already requires these features for new development.
- Policy 5.3.4-P11: The city should do more than "foster." It should require pedestrian-friendly uses at the ground floor in some areas.
- There are numerous other examples, although many of them may not be so obvious. This vagueness undermines the probability that the city will achieve even its own modest jobs/housing balance objectives.

**Response I-16:**

This comment expresses an opinion that some of the Plan's policies are unnecessarily vague, and cites several examples, with the conclusion the City may not achieve its jobs/housing objectives. As explained in Response I-11, the Plan includes *Policy 5.3.1-P18*, which meters non-residential development with new housing development in each Phase. See also Response I-12.

**Comment I-17**

296 Policy 5.3.4-P16: Table 4.1-3 prohibits some auto-oriented uses in several mixed use districts. The policy and the table should be consistent.

**Response I-17:**

This comment does not concern the Draft EIR; rather it provides an opinion about the purported lack of consistency between a General Plan policy and the description of new mixed-use land use designations. The referenced Policy 5.2.4-P16 'discourages' auto-oriented uses in mixed-use designations, while Table 4.1-3 includes descriptions of the various mixed use land use designations, all of which include text that auto-oriented uses are 'not appropriate' in each mixed use designation. The Policy and Table are consistent.

**Comment I-18**

303 Policy 5.8.1-P6: The deferred adoption of LOS standards, together with the deferred adoption of the CAP, provides little assurance that the air quality objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.

**Response I-18:**

The referenced policy speaks to the need to consider the adoption of alternative LOS standards that favor alternative travel modes as traffic congestion levels increase in select areas of the City as new development occurs over the next 25 years. The current citywide vehicular LOS policy establishes a LOS ‘D’ requirement which only considers the peak a.m. or p.m. period level of service for vehicular traffic only, with minimal consideration for bicycle, pedestrian or transit levels of service. Policy 5.1.1-P14 requires that prior to 2015, the City will implement LOS standards for transit, bicycle and pedestrian facilities that support the vehicular LOS standard.

Please see previous Response H-14 and Response H-15 addressing the contention that the Climate Action Plan would constitute impermissibly deferred mitigation.

**Comment I-19**

304 Policy 5.1.1-P 10: The deferred adoption of the CAP, together with the deferred adoption of the LOS standards, provides little assurance that the GHG objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.

**Response I-19:**

Please see previous Response I-18.

**Comment I-20**

478 Polity 5.5.1-P6: Introducing an explicit compatibility test, given opposition to increased densities, will assure that no such development actually takes place.

**Response I-20:**

Please see previous Response H-18.

**Comment I-21**

478-486 Discussion of local food systems (community gardens, farmers markets, etc.) is missing. Food systems are normally part of a local sustainability plan.

**Response I-21:**

Several of the General Plan’s Commercial Land Use Policies address this issue:

<b>General Land Use Policies</b>	
5.3.3-P4	Promote community events, such as farmer’s markets and street festivals within the public right-of-way and on City-owned land, in order to support economic development, business retention, and healthy food options within the City.
5.3.3-P10	Encourage new grocery stores near residential neighborhoods to provide Santa Clara residents with access to fresh and healthy food options.
5.3.2-P22	Allow residential gardens to be credited toward development landscaping requirements where appropriate.
<b>Parks, Open Space, and Recreation Polices</b>	
5.9.1-P9	Support access to local food sources by providing opportunities for community gardening and farmers’ markets.
5.9.1-P10	Explore opportunities to partner with local private non-profits and public

	agencies, such as school districts, to provide community gardens and opportunities for community socialization in the City.
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**Comment I-22**

478-486 Many of the policies are noticeably weak, leading to the conclusion that they may never be implemented. For example, Policy 5.3.3-P6 encourages neighborhood retail uses; the city, given its zoning powers, should have a more proactive policy to ensure that such uses take place.

**Response I-22:**

This comment suggests many of the policies identified in Draft EIR Table 4.16-5 that will help reduce GHG emissions are ‘weak’ and may never be implemented. The comment’s implication, presumably, is that the City will not be able to honor its commitment to reducing GHG emissions per AB 32. See Response H-15.

The comment calls attention to Policy 5.3.3-P6. *Draft EIR Figure 5.3-1 Retail and Commercial Accessibility (2035)* depicts the various locations of retail and mixed use nodes and the 5- and 10-minute walking distance zones surrounding them. Policy 5.3.3-P6 encourages neighborhood retail within a ten minute walk of residential uses throughout the City, and the Land Use Diagram supports this policy by providing substantial new mixed-use development along the El Camino and Stevens Creek corridors, Downtown, and in the future Focus Areas, the large majority of which will be within a ten minute walk of neighborhood retail. The City through its upcoming Zoning Ordinance update process will have additional opportunities to facilitate retail uses through supportive use regulations and development standards.

**Comment I-23**

478-486 Many of the policies are redundant and confusing. For example, Policy 5.8.5-P3 encourages bicycle facilities. First, it is extremely unlikely that the city means to apply this to "all new development." Second, this policy covers the same topic, but not as well, as Policy 5.8.4-P8, which requires such facilities. A long list of policies does not necessarily make for good planning

**Response I-23:**

This comment expresses an opinion that certain policies may overlap, and that the Plan’s long list of policies don’t necessarily result in ‘good planning.’ This is not a comment directed at the Draft EIR’s analysis and conclusions. While there is overlap between the two referenced policies, they serve not-mutually exclusive purposes: the former is a transportation demand management policy primarily directed at reducing vehicle use at employment sites, while the latter is a bicycle and pedestrian network policy emphasizing mobility, safety, and access for cyclist to amenities and services.

**Comment I-24**

489 Relying on a Climate Action Plan, which may or may not be adopted according to schedule in 2015, is, contrary to the discussion in the EIR, deferred mitigation. Sufficient knowledge currently exists for devising measures to mitigate the impacts of climate change at a citywide level.

**Response I-24:**

Please see previous Response H-14 and Response H-15.

**Comment I-25**

504 The EIR states that "It is anticipated that the lower level of job growth would result in 38,000 less daily VMT compared to the proposed Draft 2010-2035 General Plan." This does not appear realistic, assuming that the average commute is only 3 miles each way?

**Response I-25:**

According to the travel demand model, the average trip length is 5.72 miles. The total VMT generated under the proposed 2010-2035 General Plan is estimated to be 3.74 million vehicle-miles per day, while the Balanced General Plan Growth Jobs/Housing Alternative would result in 38,000 fewer (roughly 1 percent less) daily vehicle miles traveled.

**Comment I-26**

506 The EIR states that "Emissions on a per unit basis would ... continue to exceed state goals." This is a continued acknowledgement that the mitigation measures fall short of meeting legislatively adopted goals.

**Response I-26:**

The Draft EIR text from page 506 quoted above addresses the climate change impacts of the Balanced General Plan Growth Jobs/Housing Alternative. The discussion notes overall GHG emissions would be incrementally reduced, but on a service population basis, GHG emissions would be essentially equivalent to the proposed Plan, and would exceed state goals, such that a Climate Action Plan would continue to be necessary to reduce emissions. This is not an acknowledgment that mitigation measures will fall short, rather it is indicating that the same mitigation measure (a Climate Action Plan) would be necessary to reduce the Alternative's GHG emissions that is necessary for the General Plan.

**Comment I-27**

506 The EIR states that "A Climate Action Plan would continue to be necessary to reduce 2020 emissions to comply with State goals." In addition to being deferred mitigation, (1) it is very unlikely that the CAP can meet state goals with the proposed jobs/housing balance, and (2) even with a transportation sector fueled by non-fossil fuels there will still be a need to significantly reduce VMT, according to the EIR analysis, in order to achieve a 40% reduction of GHG by 2035.

**Response I-27:**

Please see previous Response H-15 for discussion of 2020 GHG emissions, and previous Response H-13 for 2035 GHG emissions. Mobile source emissions, including VMT-related emissions, represent less than a quarter of the City's emissions. In fact, City-generated on-road VMT emissions decrease in 2020 and 2035 compared to 2008 emissions, despite the increase in total VMT from 2008 to 2020 and 2035, due to state-mandated increases in fuel efficiency and fuel with lower carbon intensity. See *Table ES-2 of Technical Report Greenhouse Gas Inventories City of Santa Clara, September 2010*.

**Comment I-28**

509-510 The EIR presents insufficient reasons for not even including the "Additional Jobs/Housing Alternatives" in the subsequent comparison of alternatives. The reader is, therefore, deprived of a useful way of comparing possible alternatives, such as in Table 5.2 Comparison of Impacts of Alternative.

**Response I-28:**

Please see previous Response H-10 and Response H-12.

**Comment I-29**

509-510 The "Additional Jobs/Housing Alternatives" is a "red herring:" designed to be rejected. A more reasonable way of constructing this alternative would be to produce more housing than the "Balanced General Plan Growth Jobs/Housing Alternative" but fewer than the proposed "Additional Jobs/Housing Alternatives." This would provide more housing, improve transportation and air quality, and more effectively address climate change. Providing services are important, but they should not be used as an excuse for denying people a place to live. In any case, the financial impacts should be within the city's capabilities to manage.

**Response I-29:**

Please see previous Response H-10.

**Comment I-30**

A. The Prerequisite Goals and Policies, while admirable on their face, constitute a *de facto* impediment for improving the jobs/housing balance and, therefore, undermine the housing, air quality, energy, and climate change objectives.

**Response I-30:**

Please see previous Response H-2 and H-3.

**Comment I-31**

B. The EIR is remarkable in its omission of any discussion of a probable professional sports stadium.

**Response I-31:**

Please see previous Response H-28.

**Comment I-32**

C. An alternative that provides for a more equal jobs/housing balance should have been considered. It is difficult to believe that a city with the characteristics of Santa Clara cannot manage its finances in order to build adequate housing.

**Response I-32:**

Please see previous Response H-12.

**Comment I-33**

D. The combination of vague policies to protect existing residential development, vague policies that may or may not result in any concrete action, prerequisites for phasing development, and relying on a Climate Action Plan that may or may not be adopted in some form constitutes a system that makes it unlikely that even the very modest jobs/housing goals will be achieved.

**Response I-33:**

This comment raises no new issues, but generally restates in combination previous issues raised by this commenter, as well as Greenbelt Alliance. No additional response is required beyond what has already been provided in the context of each individual comment/response presented above and in the aforementioned Greenbelt Alliance comment letter.

## 5 TEXT REVISIONS TO THE DRAFT EIR

The following section contains revisions/additions to the text of the Draft Environmental Impact Report, City of Santa Clara 2010-2035 General Plan, dated July 2010. Revised or new language is underlined. All deletions are shown with a ~~line through the text~~.

### 5.1 EXECUTIVE SUMMARY

Page ES-6 Executive Summary, Table ES-1 will be REVISED as follows:

Increased motor vehicle traffic and increased congestion with the proposed Draft 2010-2035 General Plan would result in increased transit travel times on transit corridors. (Significant and Unavoidable)	<del>There are no feasible measures to reduce this impact.</del> The proposed Draft 2010-2035 General Plan also includes policies to support transit and relieve congestion along transit routes – including a key policy to support Bus Rapid Transit or similar service on El Camino Real. However, because implementation feasibility of transit-only lanes would be evaluated in more detailed studies and the effect of these policies is not fully known, the impact is considered significant and unavoidable.
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### 5.2 PROJECT DESCRIPTION

Page 23 Chapter 2, Project Description; Section 2.5.3 Phase III: 2025-2035; the first bullet in the description of Phase III will be REVISED as follows:

- Develop new residential neighborhoods in conjunction with appropriate retail, parks, open space and other public uses, along transit corridors, such as Great America Parkway, Central Expressway, and De La Cruz Boulevard. ~~and Tasman Drive~~

Page 27 Chapter 2, Project Description; Table 2-2 will be REVISED as follows:

TABLE 2-2: SUMMARY OF GENERAL PLAN DEVELOPMENT POTENTIAL 2008-2035						
	2008 Existing Development <sup>A</sup>	2008-2010 Proposed (Net) <sup>B</sup>	2010-2015 Proposed (Net) <sup>C</sup>	2010-2035 Projected General Plan (Net) <sup>1 D</sup>	2008-2035 Total Proposed + Projected General Plan (Net) <sup>E</sup>	City at 2035 <sup>F</sup>
Population <sup>2</sup>	115,500	<del>7,090</del> <u>7,190</u>	0	<del>32,400</del> <u>32,135</u>	<del>39,490</del> <u>39,325</u>	<del>154,990</del> <u>154,825</u>
Jobs <sup>3</sup>	106,680	<del>660</del> <u>2,225</u>	<del>20,480</del> <u>16,875</u>	<del>25,040</del> <u>28,500</u>	<del>46,180</del> <u>47,620</u>	<del>152,860</del> <u>154,300</u>
Detached Housing Units	18,617	0	0	0	0	18,617
Attached Housing Units	25,549	<del>2,917</del> <u>2,957</u>	0	<del>13,312</del> <u>13,222</u>	<del>16,229</del> <u>16,179</u>	<del>41,778</del> <u>41,728</u>
Total Residential Development	44,166	<del>2,917</del> <u>2,957</u>	0	<del>13,312</del> <u>13,222</u>	<del>16,229</del> <u>16,179</u>	<del>60,395</del> <u>60,345</u>
Commercial (sf) <sup>2,4</sup>	10,323,600	523,600	0	<del>4,892,100</del> <u>1,857,100</u>	<del>2,415,700</del> <u>2,380,700</u>	<del>12,739,300</del> <u>12,704,300</u>
Office/R&D/Industrial (sf)	<del>46,444,800</del> <u>48,522,400</u>	<del>287,300</del> <u>417,300</u>	<del>9,852,100</del> <u>9,012,100</u>	<del>11,545,000</del> <u>11,708,400</u>	<del>21,684,400</del> <u>21,137,800</u>	<del>68,129,200</del> <u>68,660,200</u>
Public/Quasi-Public (sf) <sup>3</sup>	<del>2,077,600</del>	<del>130,000</del>	0	<del>23,500</del>	<del>153,500</del>	<del>2,231,100</del>
Total Non-Residential	58,846,000	940,900	<del>9,852,100</del>	<del>13,460,600</del>	<del>24,253,600</del>	<del>83,099,600</del>

Development <sup>5</sup>			<u>9,012,100</u>	<u>13,565,500</u>	<u>23,518,500</u>	<u>82,364,500</u>
Park (acres) <sup>4,6</sup>	272.5	9.1	0.0	<del>60.7</del> <u>89.5</u>	69.8	<del>342.3</del> <u>371.1</u>

1. The net new development for the Santa Clara Station Area Plan and the Downtown Plan is included as part of this total. This includes: 1,663 attached housing units with a population of approximately 4,040; 1,490,000 square feet of commercial (retail/hotel) and 550,000 square feet of office space resulting in approximately 4,300 jobs; and 4.5 acres parkland, for the Santa Clara Station Area. This also includes 396 attached housing units, with a population of approximately 960, and 129,000 square feet of commercial (retail) resulting in approximately 270 jobs for the Downtown Core.

2. Assumes a 2.78 percent vacancy rate and 2.5 persons per household for new residential units.

3. Assumes a 6.5 percent vacancy rate for new non-residential square footage.

4. Commercial development includes retail, hotel, professional offices, entertainment, and eating and drinking establishments, as well as approximately seven percent of Office/R&D square footage for supporting commercial uses.

5. Includes data centers and Public/Quasi-Public uses such as schools, institutions, places of assembly, civic/municipal and other public/quasi public facilities.

4.6. The total park acreage for the proposed General Plan (Net) includes one ~~20-25~~-acre park to be located north of the Caltrain corridor.

A. This represents existing development on the ground as of the beginning of 2009.

B. This includes the projects approved, on file or under construction expected to be implemented by the end of 2010.

C. This column indicates projects on file or approved as of 2009, but not expected to be under construction until after January 1, 2010. New housing units anticipated in Phase I are included in the 2010-2035 Projected General Plan numbers.

D. This represents the expected development for the three phases of the General Plan. Existing development lost to redevelopment was subtracted from gross new development.

E. This total summarizes the total development assumed from both proposed (i.e., approved, on file, or under construction) development and projected development resulting from the General Plan between 2010 and 2035.

F. Adding existing (A) to the total proposed + projected General Plan development (E) provides an overall picture of the City in 2035 (F).

Page 32 Chapter 2 Project Description; Figure 2-6 Land Use Diagram Phase I: 2010-2015 REVISED to update the land use designation parcel colors for one property in the southeast corner of the City to Regional Commercial. The property is located at the northwest corner of Dorcich Street and North Winchester Boulevard; 3101 Dorcich St. (APN 303-17-046). The revised figure is below:

Page 33 Chapter 2 Project Description; Figure 2-7 Land Use Diagram Phase II: 2015-2025 REVISED to update the land use designation parcel colors for two properties in the southeast corner of the City to Regional Commercial. One property is located at the northwest corner of Dorcich Street and North Winchester Boulevard; 3101 Dorcich St. (APN 303-17-046). The other property is located at the southwest corner of Pruneridge Avenue and Stevens Creek Boulevard; 1850 Pruneridge (APN 303-16-080). The revised figure is below:

Page 34 Chapter 2 Project Description; Figure 2-6 Land Use Diagram Phase III: 2025-2035 REVISED to update the land use designation parcel colors for two properties in the southeast corner of the City to Regional Commercial. One property is located at the northwest corner of Dorcich Street and North Winchester Boulevard; 3101 Dorcich St. (APN 303-17-046). The other property is located at the southwest corner of Pruneridge Avenue and Stevens Creek Boulevard; 1850 Pruneridge (APN 303-16-080). The revised figure is below:

- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Community Commercial
- Regional Commercial
- Neighborhood Mixed Use
- Community Mixed Use
- Regional Mixed Use
- Public/Quasi Public
- Low Intensity Office/R&D
- High Intensity Office/R&D
- Parks/Open Space
- Light Industrial
- Heavy Industrial
- Santa Clara Station Area
- Downtown Core

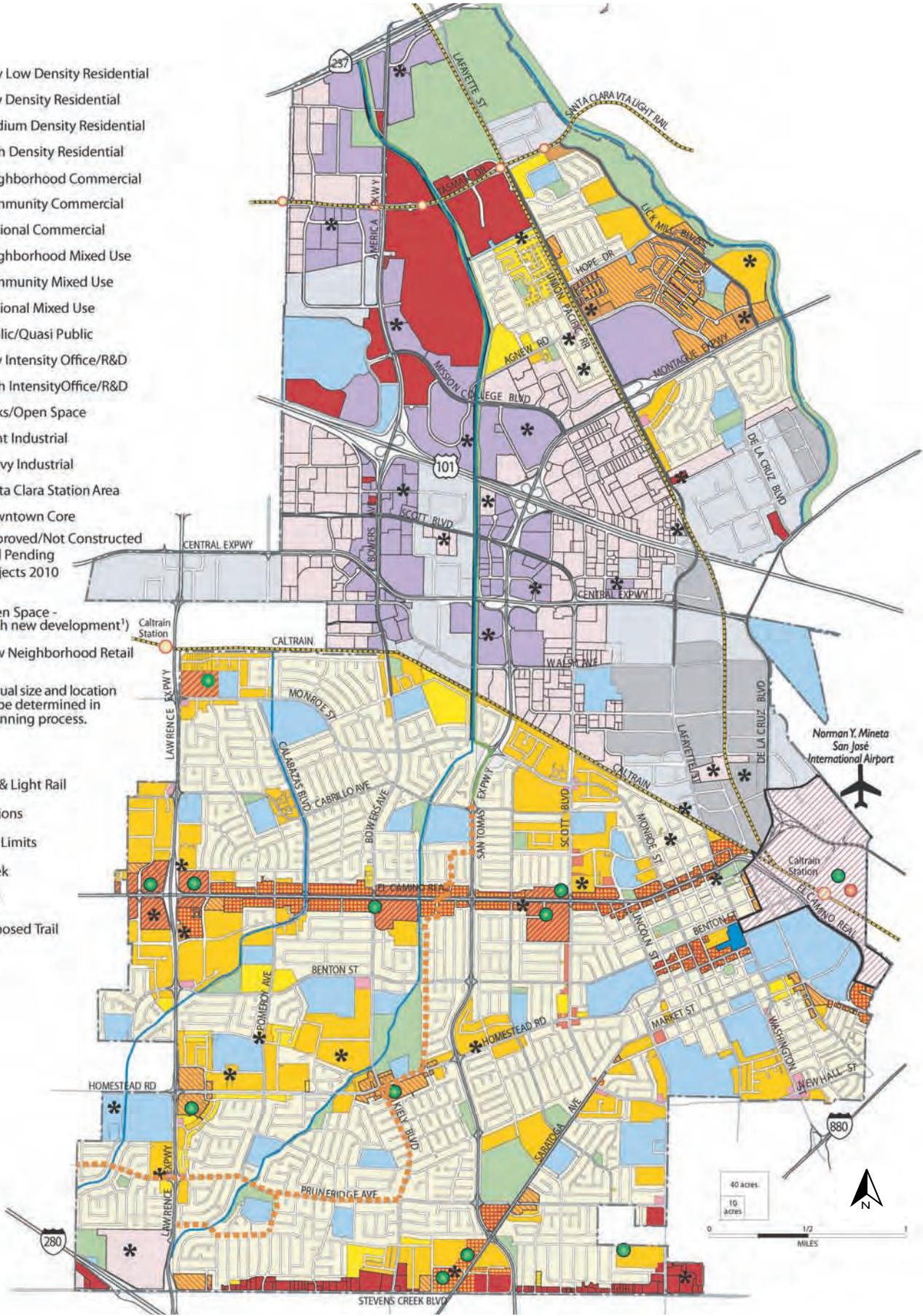
\* Approved/Not Constructed and Pending Projects 2010

● Open Space - (with new development<sup>1</sup>)

● New Neighborhood Retail

<sup>1</sup> Actual size and location to be determined in planning process.

- Rail & Light Rail
- Stations
- City Limits
- Creek
- Trail
- Proposed Trail



LAND USE DIAGRAM PHASE I : 2010-2015

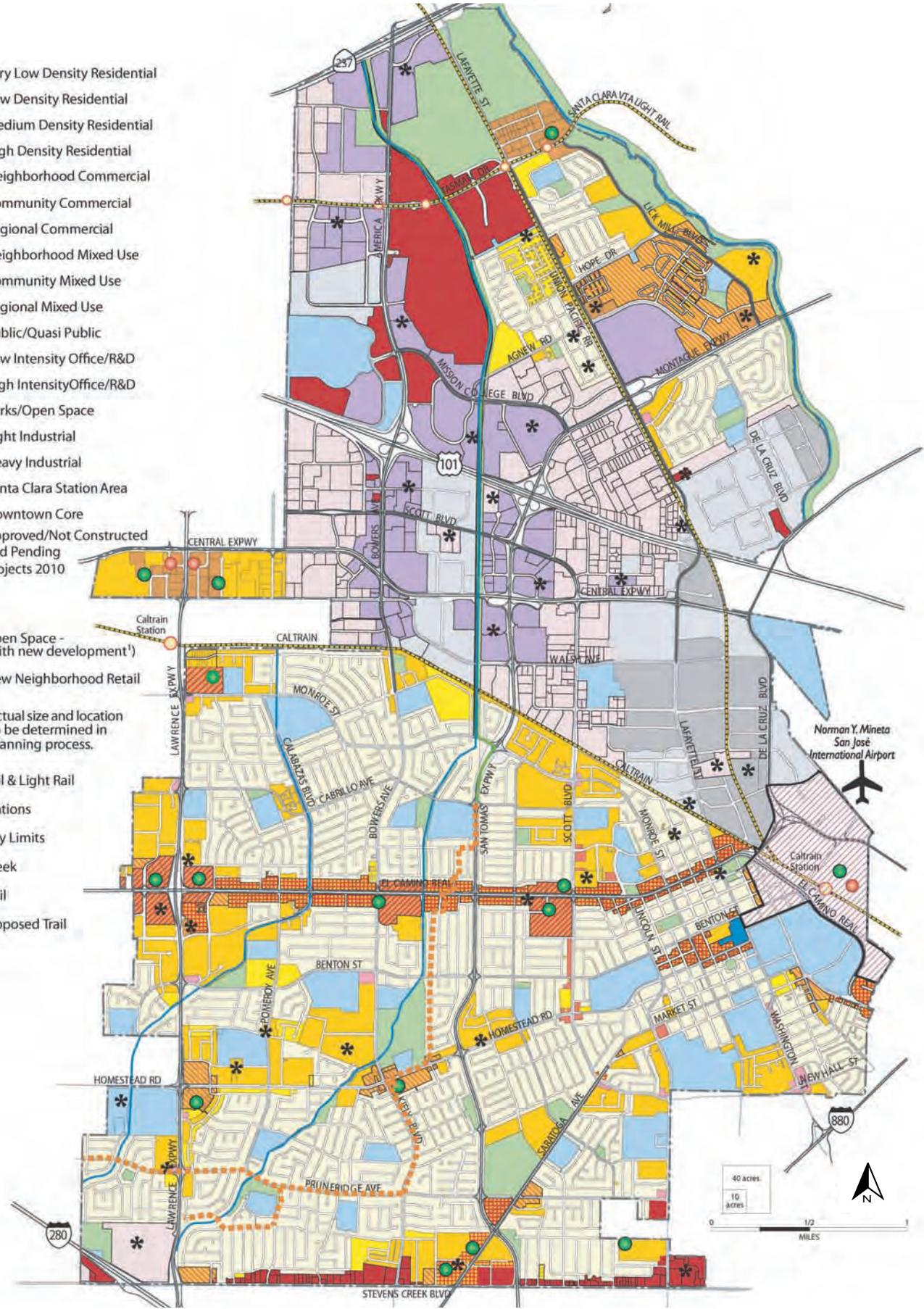
FIGURE 2-6

- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Community Commercial
- Regional Commercial
- Neighborhood Mixed Use
- Community Mixed Use
- Regional Mixed Use
- Public/Quasi Public
- Low Intensity Office/R&D
- High Intensity Office/R&D
- Parks/Open Space
- Light Industrial
- Heavy Industrial
- Santa Clara Station Area
- Downtown Core

\* Approved/Not Constructed and Pending Projects 2010

- Open Space - (with new development<sup>1</sup>)
  - New Neighborhood Retail
- <sup>1</sup> Actual size and location to be determined in planning process.

- Rail & Light Rail
- Stations
- City Limits
- Creek
- Trail
- Proposed Trail

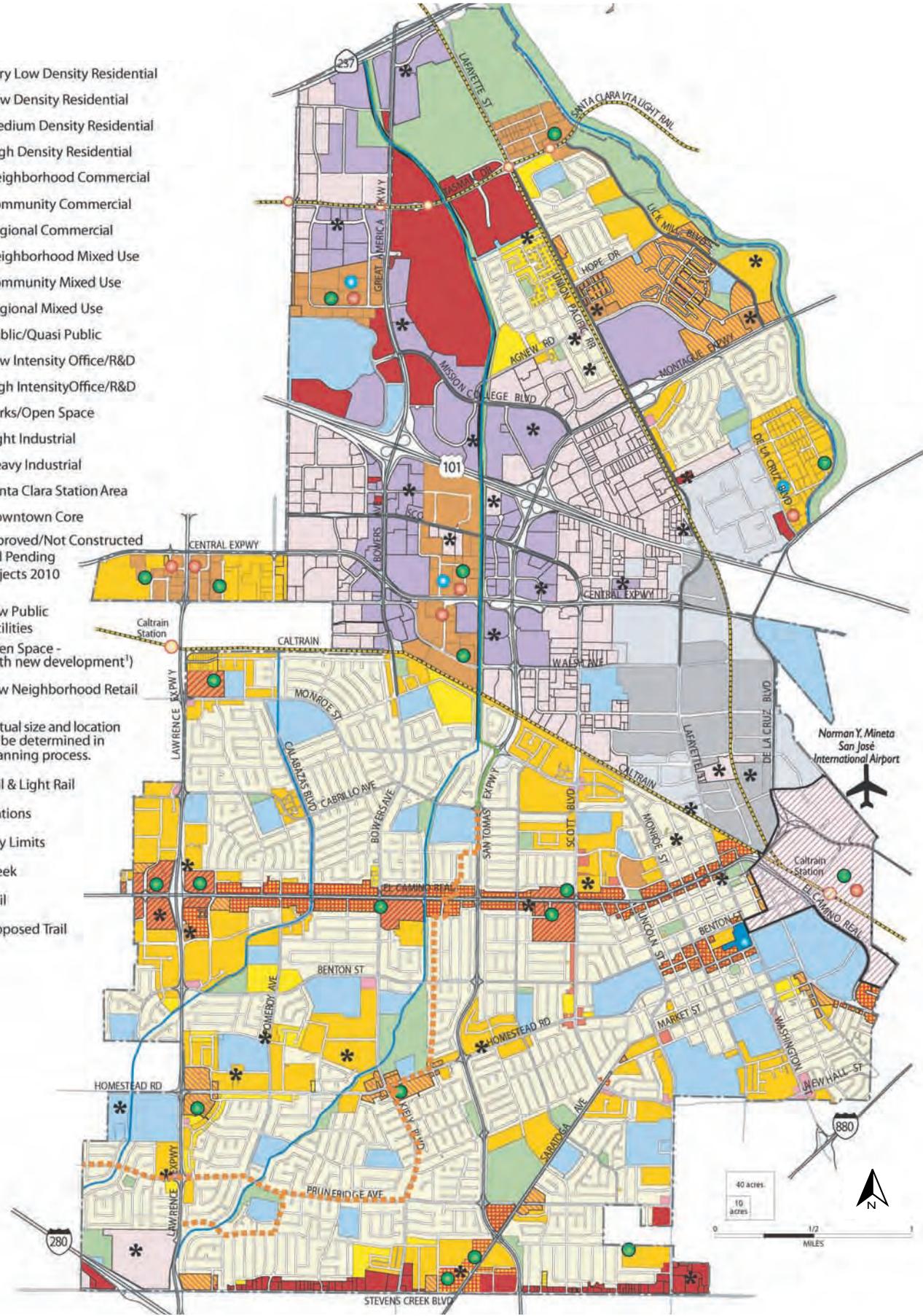


LAND USE DIAGRAM PHASE II : 2015-2025

FIGURE 2-7

- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Community Commercial
- Regional Commercial
- Neighborhood Mixed Use
- Community Mixed Use
- Regional Mixed Use
- Public/Quasi Public
- Low Intensity Office/R&D
- High Intensity Office/R&D
- Parks/Open Space
- Light Industrial
- Heavy Industrial
- Santa Clara Station Area
- Downtown Core

- \* Approved/Not Constructed and Pending Projects 2010
  - New Public Facilities
  - Open Space - (with new development<sup>1</sup>)
  - New Neighborhood Retail
- <sup>1</sup> Actual size and location to be determined in planning process.
- Rail & Light Rail
  - Stations
  - City Limits
  - Creek
  - Trail
  - Proposed Trail



LAND USE DIAGRAM PHASE III : 2025-2035

FIGURE 2-8

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Page 41 Chapter 2 Project Description; Section 2.8 Areas of Potential Development; the description in the second paragraph of will be REVISED as follows:

Proposed projects, or development that is approved, pending or under construction as of the end of 2008, are included in the General Plan build-out (refer to Appendix 8.6 and Table 8.6-2<sup>1</sup> in the proposed Draft 2010-2035 General Plan). By the end of 2010, the City anticipates that all proposed residential, commercial, mixed-use and public/quasi public projects will be completed (resulting in 523,600 square feet of commercial space, 130,000 square feet of quasi public space, and ~~2,917~~ 2,957 dwelling units). For proposed Office/ R&D projects, 287,300 square feet are anticipated to be complete by 2010 and the remaining ~~9,852,100~~ 9,012,100 square feet is anticipated for completion between 2010 and 2015.

<sup>1</sup>Note that the proposed non-residential square-footage in Table 8.6-2 excludes the proposed San Francisco 49ers Stadium proposal because its unique development characteristics do not translate into equivalent square feet.

Page 46 Chapter 2 Project Description; Section 2.9.1 El Camino Real Focus Area; ADD footnote to text in last paragraph:

Transit, whether Bus Rapid Transit (BRT)<sup>1</sup> or similar facility, is emphasized along the entire corridor and takes priority over single occupancy vehicles. For Regional Mixed use development, both transit and pedestrian circulation have priority. To support this emphasis, intersections in the El Camino Real Focus Area may be exempted from the City-wide level of service (LOS) standard for vehicles on a case-by-case basis until the City completes the prerequisite for an alternate LOS under General Plan policies, as further described below under Mobility and Transportation Classifications. This corridor should emphasize LOS for pedestrian and transit circulation rather than single-occupancy vehicles.

<sup>1</sup>VTA is in the process of planning for BRT service on El Camino Real. In May 2009, the VTA Board adopted the VTA BRT Strategic Plan, which included three corridors for near term implementation: El Camino Real, Alum Rock Avenue and Stevens Creek Boulevard in Santa Clara County. In April 2010 VTA initiated Conceptual Engineering for the El Camino Real BRT project. The proposed schedule for the new BRT service between the Palo Alto Transit Center and Downtown San Jose is for service to begin in 2015, with East Valley service starting in 2013.

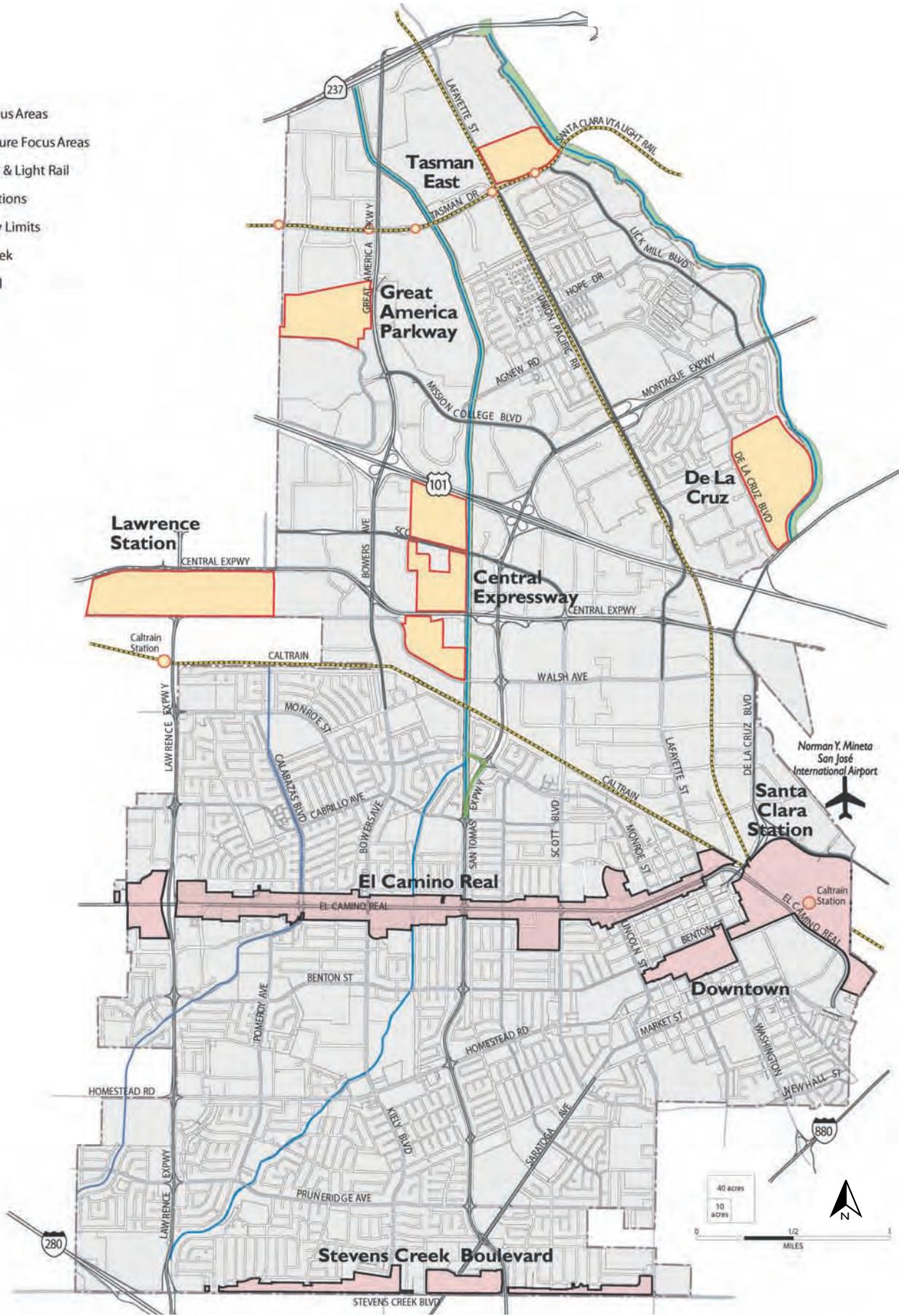
Page 47 Chapter 2 Project Description; Figure 2-11 Focus Areas REVISED to remove the Proposed Trail. The trail is proposed to begin at the terminus of the existing San Tomas Aquino Creek trail and head south through existing neighborhoods and across El Camino Real, then follow Arroyo Drive/White Drive adjacent to Central Park, then head west along Homestead Road to Kiely Boulevard, then follow Kiely Boulevard to Pruneridge Avenue, and head west along Pruneridge Avenue to the City limits. The Proposed Trail also splits at the corner of Pruneridge Avenue and Redwood Avenue and heads west on Mauricia Avenue to terminate at Lawrence Espressway. The revised figure is below:

Page 48 Chapter 2 Project Description; Figure 2-12 El Camino Real Focus Area REVISED to note that the roadway section detail is illustrative and does not preclude any particular BRT options the VTA may pursue; the revised figure is below:

Page 51 Chapter 2 Project Description; Figure 2-13 Downtown Focus Area REVISED to include the Downtown/BART Transit Loop on the figure; the revised figure is below:

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- Focus Areas
- Future Focus Areas
- Rail & Light Rail
- Stations
- City Limits
- Creek
- Trail



FOCUS AREAS

FIGURE 2-11



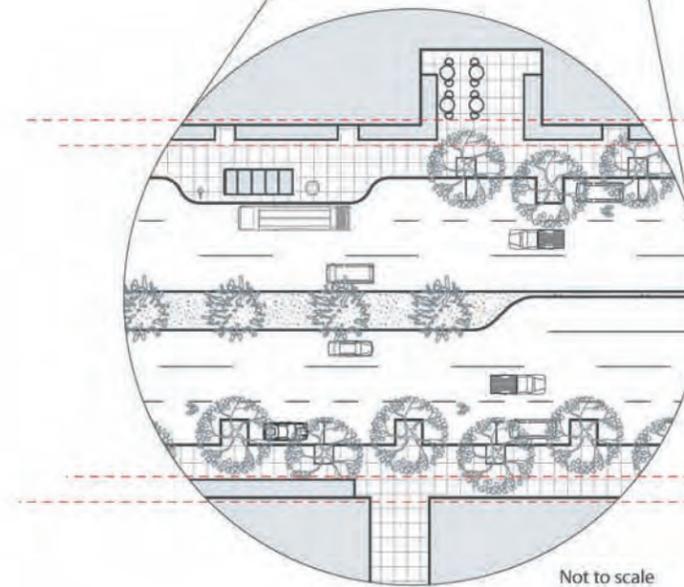
### Legend

#### Land Uses Within the Focus Area

- High Density Residential
- Neighborhood Mixed Use
- Community Mixed Use
- Regional Mixed Use
- Parks/Open Space
- City Limits

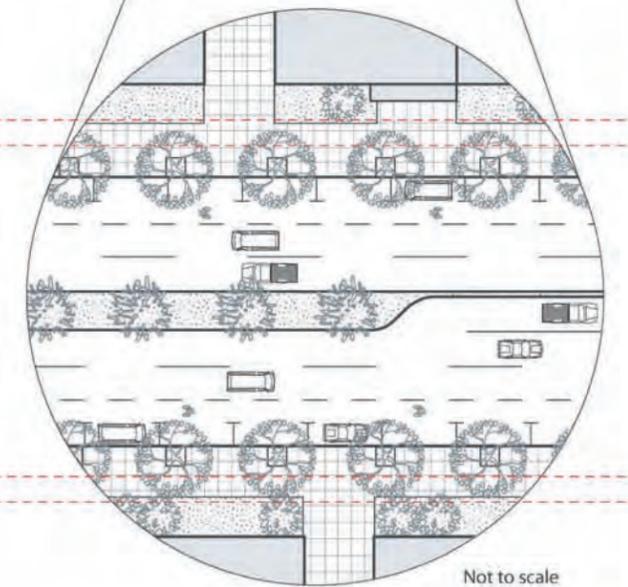
#### Urban Design Features

- Focus Area Boundary
- Potential Street
- Pedestrian Connection
- Pedestrian Orientation/Active Street Frontage
- Proposed Open Space (Not to scale)
- Tree-Lined Median
- Greenway
- Gateway Intersection
- Signature Streetscape
- Corridor Streetscape



#### Illustrative Streetscape for Regional Mixed Use Areas

Streetscapes are enhanced with street furniture, wayfinding signage, public art, a double row of street trees, bulb-outs and special paving at crosswalks. Plazas and public gathering spaces are located along the widened sidewalk. Streetscape design features and travel lane configurations shown are illustrative and do not preclude implementation of alternative street design to accommodate future transit and the like.



#### Illustrative Streetscape for Community Mixed Use Areas

Streetscapes maintain an active street edge, a consistent street tree scheme and a consistent building-to-street relationships. Streetscape design features and travel lane configurations shown are illustrative and do not preclude implementation of alternative street design to accommodate future transit and the like.

Future transit loop to connect Downtown with the Santa Clara Station Area.

Pedestrian connections link Downtown to the Old Quad neighborhood, the El Camino Real corridor the Santa Clara Station Area, and the University.

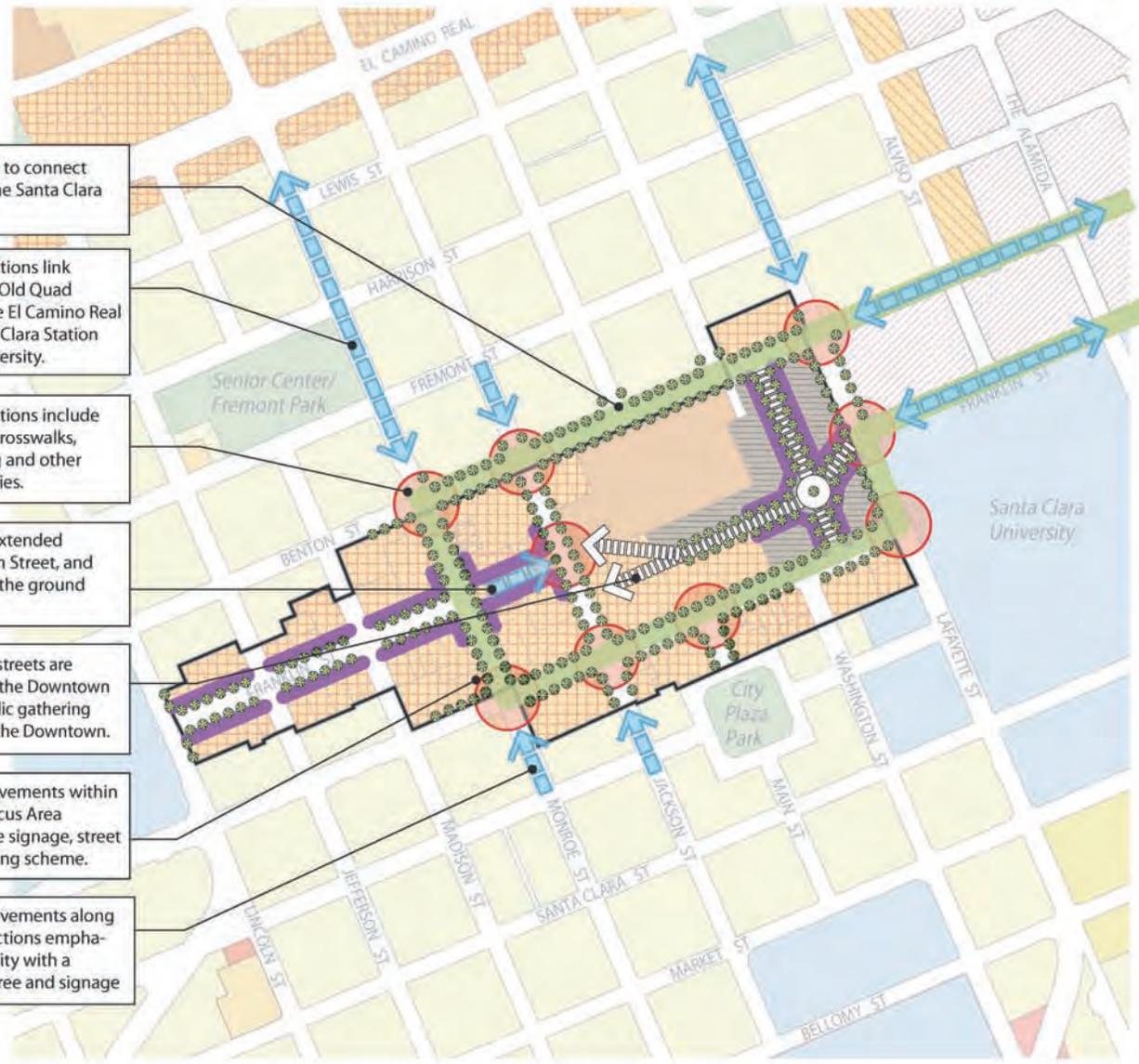
Enhanced intersections include special paving at crosswalks, bulb-outs, lighting and other pedestrian amenities.

Franklin Street is extended through to Jackson Street, and active uses are on the ground floor.

Vehicular through streets are established within the Downtown superblock. A public gathering space is central to the Downtown.

Streetscape improvements within the Downtown Focus Area include a signature signage, street tree and landscaping scheme.

Streetscape improvements along pedestrian connections emphasize visual continuity with a consistent street tree and signage



### Legend

#### Land Uses Within the Focus Area

- High Density Residential
- Community Mixed Use
- Downtown Core

#### Urban Design Features

- Focus Area Boundary
- Potential Street
- Pedestrian Connection
- Pedestrian Orientation/Active Street Frontage
- Enhanced Intersection
- Transition Zone
- Signature Streetscape
- Downtown / BART Transit Loop



DOWNTOWN FOCUS AREA

FIGURE 2-13

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Page 57 Chapter 2 Project Description; Section 2.9.4 Stevens Creek Boulevard Focus Area; ADD footnote to text in third paragraph and REVISE text as follows:

Vehicular access is a priority along Stevens Creek Boulevard to support the primary commercial uses, with transit access a priority for the mixed uses planned near Saratoga Avenue and Stevens Creek Boulevard. Parking, loading and bus rapid transit<sup>1</sup>, in conjunction with streetscape amenities, street trees and wider sidewalks should be incorporated into the street design along the corridor. ~~While pedestrian comfort will be improved along the street overall, the corridor will retain its auto-dominant character.~~ While the City expects that the land uses along the corridor will generally retain their auto-oriented character, the streetscape is expected to be improved to better accommodate multimodal travel including transit, pedestrian, and bicycle facilities.

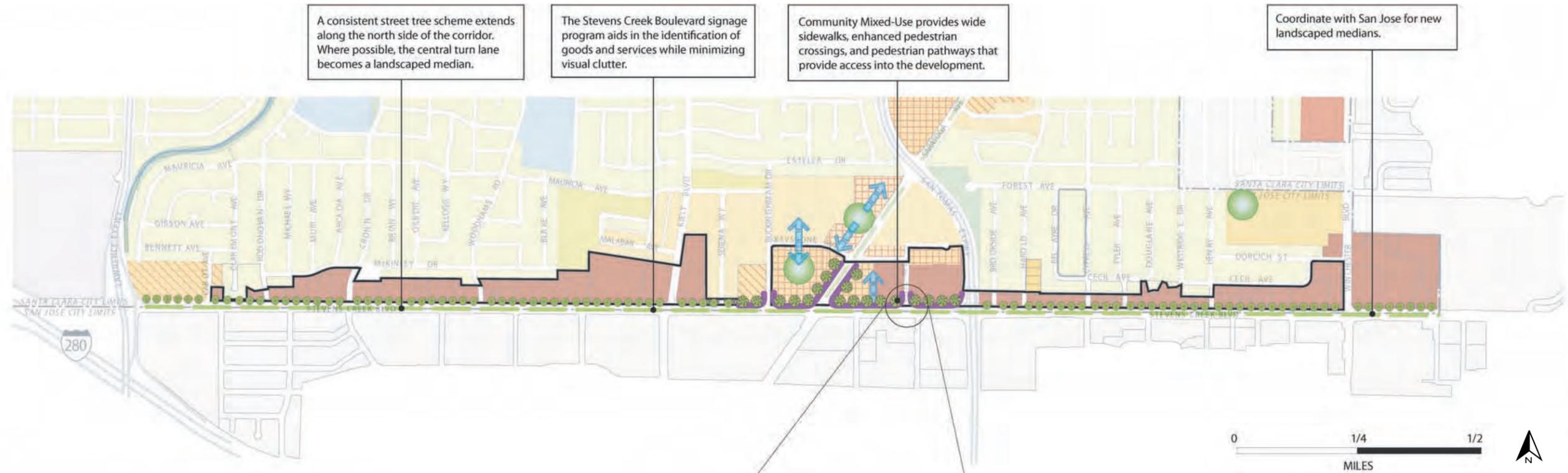
<sup>1</sup> In May 2009, the VTA Board adopted the VTA BRT Strategic Plan, which included three corridors for near term implementation: El Camino Real, Alum Rock Avenue and Stevens Creek Boulevard in Santa Clara County. The Stevens Creek Boulevard corridor is next in priority after the Santa Clara/Alum Rock and El Camino Real corridors.

Page 59 Chapter 2 Project Description; Figure 2-15 Stevens Creek Boulevard Focus Area REVISED to note that the roadway section detail is illustrative and does not preclude any particular BRT options the VTA may pursue; the revised figure is below:

Page 65 Chapter 2 Project Description; Figure 2-18 Bicycle & Pedestrian Network REVISED to remove asterisk notation and include potential bicycle corridors for future study along Mauricia Avenue at the bridges located below Pruneridge Avenue and to the east of Lawrence Expressway; the revised figure is below:

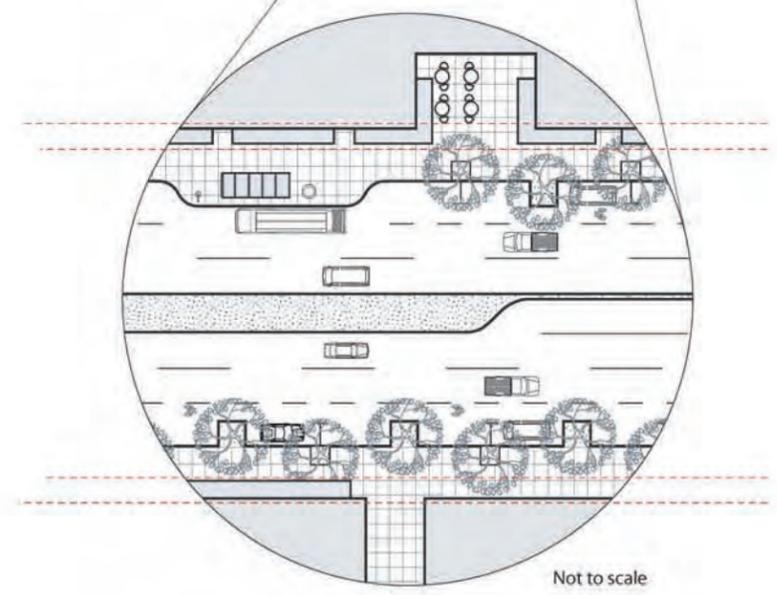
Page 69 Chapter 2 Project Description; Figure 2-20 Public Facilities REVISED to incorporate the Proposed Trail. The trail is proposed to begin at the terminus of the existing San Tomas Aquino Creek trail and head south through existing neighborhoods and across El Camino Real, then follow Arroyo Drive/White Drive adjacent to Central Park, then head west along Homestead Road to Kiely Boulevard, then follow Kiely Boulevard to Pruneridge Avenue, and head west along Pruneridge Avenue to the City limits. The Proposed Trail also splits at the corner of Pruneridge Avenue and Redwood Avenue and heads west on Mauricia Avenue to terminate at Lawrence Espressway. The revised figure is below:

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**Legend**

- |  |   |
|--|---|
| <b>Land Uses Within the Focus Area</b> | <b>Urban Design Features</b>                  |
| Regional Commercial                    | Focus Area Boundary                           |
| Neighborhood Mixed Use                 | Pedestrian Connection                         |
| Community Mixed Use                    | Pedestrian Orientation/Active Street Frontage |
| City Limits                            | Proposed Open Space (Not to scale)            |
|  | Tree-Lined Median                             |
|  | Transition Zone                               |
|  | Signature Streetscape                         |
|  | Corridor Streetscape                          |



**Illustrative Streetscape for Regional Commercial Areas**  
 Streetscapes are enhanced with street furniture, wayfinding signage, public art, a double row of street trees, bulb-outs and special paving at crosswalks. Plazas and public gathering spaces are located along the widened sidewalk. Streetscape design features and travel lane configurations shown are illustrative and do not preclude implementation of alternative street design to accommodate future transit and the like.

- Existing Class I Bike Path
- Proposed Class I Bike Path
- Existing Class II Bike Lane
- Proposed Class II Bike Lane
- Existing Class III Bike Route
- Proposed Class III Bike Route
- Potential Bicycle Corridors for Future Study
- Existing County Bike Facility
- Existing Bicycle or Pedestrian Bridge/Undercrossing
- Proposed Bicycle or Pedestrian Bridge/Undercrossing
- Rail & Light Rail
- City Limits
- Creek
- Trail



BICYCLE & PEDESTRIAN NETWORK

FIGURE 2-18

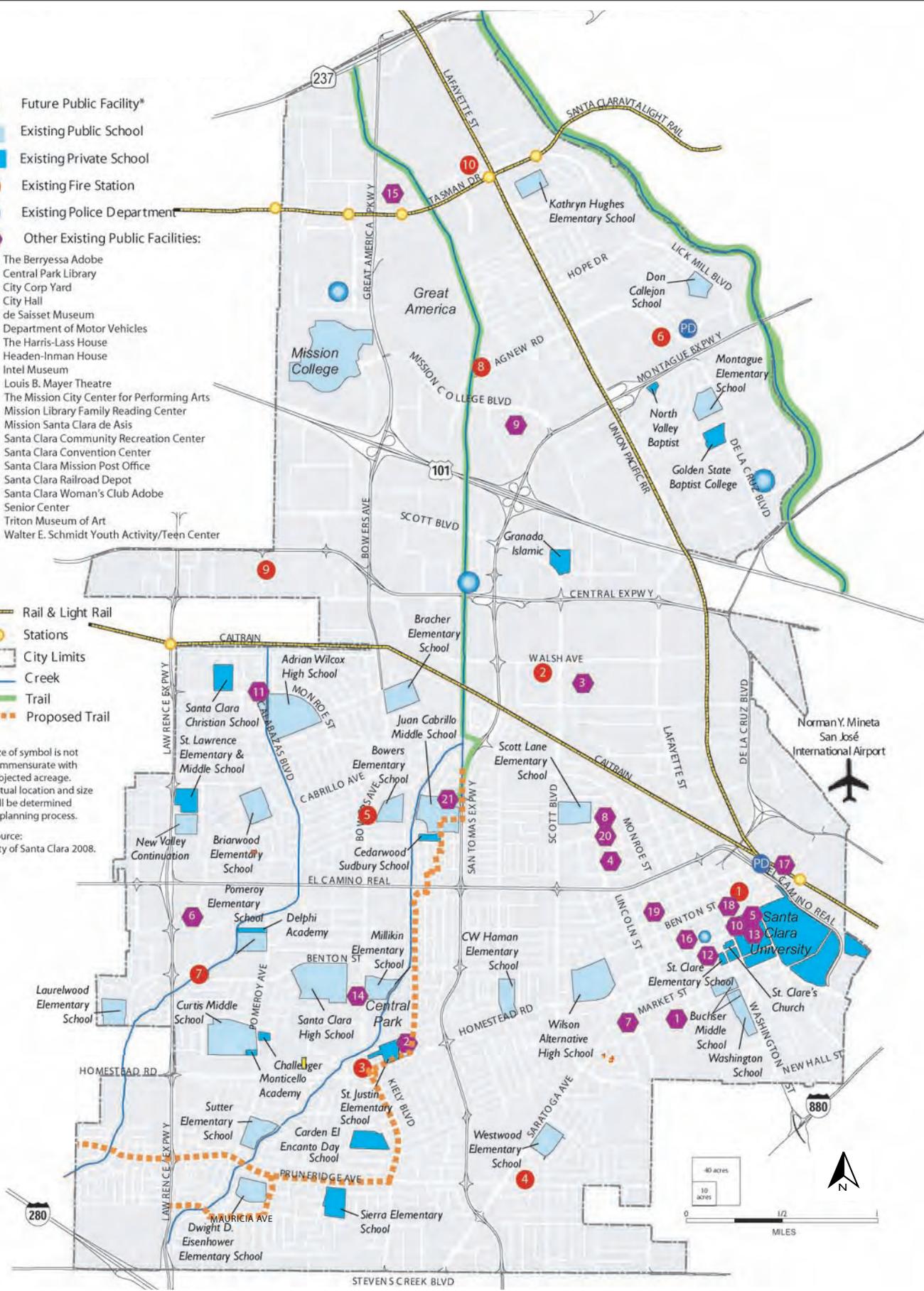
- Future Public Facility\*
- Existing Public School
- Existing Private School
- # Existing Fire Station
- PD Existing Police Department
- Other Existing Public Facilities:

1. The Berryessa Adobe
2. Central Park Library
3. City Corp Yard
4. City Hall
5. de Saisset Museum
6. Department of Motor Vehicles
7. The Harris-Lass House
8. Headen-Inman House
9. Intel Museum
10. Louis B. Mayer Theatre
11. The Mission City Center for Performing Arts
12. Mission Library Family Reading Center
13. Mission Santa Clara de Asis
14. Santa Clara Community Recreation Center
15. Santa Clara Convention Center
16. Santa Clara Mission Post Office
17. Santa Clara Railroad Depot
18. Santa Clara Woman's Club Adobe
19. Senior Center
20. Triton Museum of Art
21. Walter E. Schmidt Youth Activity/Teen Center

- Rail & Light Rail
- Stations
- City Limits
- Creek
- Trail
- Proposed Trail

\* Size of symbol is not commensurate with projected acreage. Actual location and size will be determined in planning process.

Source: City of Santa Clara 2008.



PUBLIC FACILITIES

FIGURE 2-20

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### 5.3 CONSISTENCY WITH ADOPTED PLANS

Pages 77-78 Chapter 3 Consistency; Section 3.3.2 Draft Bay Area 2010 Clean Air Plan; text will be REVISED as follows:

#### 3.3.2 Draft Bay Area 2010 Clean Air Plan

The ~~Draft~~ Bay Area 2010 Clean Air Plan (2010 CAP)<sup>2</sup> provides an updated comprehensive plan to improve Bay Area air quality and protect public health, taking into account future growth projections to 2035. The legal impetus for the Bay Area 2010 CAP is to update the most recent ozone plan, the *Bay Area 2005 Ozone Strategy*, to comply with State air quality planning requirements as codified in the California Health & Safety Code. On March 11, 2010, the Air District released the Draft 2010 CAP, as well as a Draft Programmatic Environmental Impact Report addressing the 2010 CAP. On September 15, 2010 the District's Board of Directors adopted the 2010 CAP. ~~Once the environmental process has been completed, the Air District staff will present the 2010 CAP to the District's Board of Directors for potential adoption.~~

**Consistency:** The consistency of the proposed project with the 2010 CAP is primarily a question of consistency with population/employment assumptions utilized in developing BAAQMD's plans. The Ozone Strategy projections were based on the most current ABAG growth projections at the time, *Projections 2002* and *Projections 2003*. The population projections used in the 2010 CAP were based on ABAG *Projections 2007*.

Population projections under the proposed General Plan are slightly above (approximately 5 percent) the *Bay Area 2005 Ozone Strategy* and the ~~Draft~~ Bay Area 2010 Clean Air Plan, as further described in section 4.10 Air Quality. However, traffic modeling completed for the General Plan (see Section 4.12 Transportation, Table 4.12-11) indicates the proposed mix and distribution of land uses cause VMT to grow at slightly less than half the rate of population growth and VMT per service population decreases compared to existing levels. Consequently even if population growth exceeds BAAQMD projections by five percent, that increased growth, occurring in a VMT-efficient manner, would not cause emissions to exceed BAAQMD's projections. In addition, the policies under the proposed Draft 2010-2035 General Plan support and reasonably implement the applicable *Bay Area 2005 Ozone Strategy* and the ~~Draft~~ Bay Area 2010 Clean Air Plan transportation control measures (TCMs). Therefore, the proposed Draft 2010-2035 General Plan would be consistent with the 2010 CAP.

Page 80 Chapter 3 Consistency; Section 3.5 Santa Clara Congestion Management Program; text in bullet list of policies will be REVISED as follows:

- 5.8.2-P1 Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.

<sup>2</sup> Bay Area Air Quality Management District (BAAQMD). 2010. ~~Draft~~ Bay Area 2010 Clean Air Plan. ~~March~~ September 2010.

## 5.4 LAND USE

Page 86 4.1 Land Use; Table 4.1-3 will be REVISED as follows:

Proposed 2010-2035 General Plan Land Use Designation	Definition
Community Mixed Use (19 to 36 DU/AC)	This classification is a combination of the Community Commercial and Medium Density Residential designations and is intended to encourage a mix of residential and commercial uses along major streets. Auto-oriented uses, including gas stations, are not appropriate in this designation. Parking should be behind buildings, below-grade or in structures, to ensure that active uses face public streets. Retail, commercial and neighborhood office uses, <del>with</del> <u>at</u> a minimum FAR of 0.10, <del>is</del> <u>are</u> required, <del>in conjunction with residential development between 19 and 36 units per acre.</del>
Regional Mixed Use (37 to 50 DU/AC)	This classification is a combination of the Regional Commercial and High Density Residential designations and is intended for high-intensity, mixed use development along major transportation corridors in the City. This designation permits all types of retail, hotel and service uses, except for auto-oriented uses (such as gas stations) along with local-serving offices, to meet local and regional needs. A minimum FAR of 0.15 for commercial uses is required. <u>Residential development of 37 to 50 units per gross acre is required.</u> Site frontage along major streets (arterials or collectors) is required to have active, commercial uses.
Very Low Density Residential ( up to 10 DU/AC)	Development is typically single family in scale and character, with a prevailing building type of single family detached dwelling units. Development in this classification maintains a feeling of sub-urban living with setbacks between structures, <u>parking</u> , large landscaped yards and tree lined streets.
Neighborhood Commercial	This classification is intended for local-serving retail, personal service and office uses that meet neighborhood needs, excluding new gas stations. Permitted uses include supermarkets, stores, <u>local serving offices</u> , restaurants, cafes, hair salons/barber shops, and banks. The maximum FAR is 0.4.
Regional Commercial	This classification is intended for retail and commercial uses that provide local and regional services. It is intended for commercial developments that serve both Santa Clara residents and the surrounding region. A broad range of retail uses is allowed, including regional shopping centers, local-serving offices, home improvement/durable goods sales and service, warehouse membership clubs, new <u>and used</u> auto sales and services, <del>hotels</del> , and travel-related services such as hotels, gas stations, restaurants, convention centers, amusement parks, and <del>professional</del> sports venues. The maximum FAR is 0.60.
Light Industrial	This classification is intended to accommodate a range of light industrial uses, including general service, warehousing, storage and distribution, and manufacturing. It includes flexible space, such as buildings that allow combinations of single and multiple users, warehouses, mini-storage, wholesale, bulk retail, <u>gas stations</u> , data centers, indoor auto-related use, and other uses that require large, warehouse-style buildings. Ancillary office uses are also permitted to a maximum of 20 percent of the building area. Because uses in the designation may be noxious or include hazardous materials, places of assembly, such as clubs, theaters, religious institutions and schools and uses catering to sensitive receptors, such as children and the elderly, are prohibited. The maximum FAR is 0.60.

Public/Quasi Public	<p>This classification is intended for a variety of public and quasi public uses, including government offices, fire and police facilities, transit stations, commercial <u>adult care and child care centers, religious institutions, schools, cemeteries, sports venues, hospitals and convalescent care facilities,</u> places of assembly, and other facilities that have a unique public character.</p> <p>New public and quasi-public uses, <del>including places of assembly,</del> may also be allowed in all <del>other</del> General Plan land use designations, except Heavy and Light Industrial, provided that they take access from a Collector, or larger street, that they are compatible with planned uses on neighboring properties and other applicable General Plan policies, and that they are on parcels of less than one-half acre in areas designated for High or Low Intensity Office/Research and Development.</p>
Parks/Open Space	<p>This classification is intended for improved and unimproved public or private park and open space facilities, managed natural resource areas, and outdoor recreation areas. It includes neighborhood, community, and regional parks, public golf courses, recreational facilities, and nature preserves, such as Ulistac Natural Area, that provide <u>active or visual</u> open space and serve the outdoor recreational needs of the community.</p>

Page 96 4.1 Land Use; Section 4.1.2.1 Long Range Plans; ADD text to this section as follows:

#### **Mission College**

Mission College is the only public community college in Santa Clara. Currently, the College is undergoing an update to their Master Plan, planning for future facilities. Mission College has spoken with the City about future housing on their property, as well as other future expansion opportunities.

#### **Santa Clara Unified School District**

Santa Clara Unified School District (SCUSD) covers approximately 90 percent of the City, enrolling 89 percent of the City's student population (2009). Demographic trends indicate an increase in school age children, possibly requiring additional school facilities in the future. The City maintains an open relationship with the District, with members of staff sitting on the long range planning committee and District representatives sitting on the General Plan Steering Committee.

#### **Santa Clara University**

Santa Clara University (SCU) is one of the major universities in the region. SCU is an asset to the community, providing highly educated graduates to the workforce. The City works closely with the University regarding new buildings, both on and off campus, as well as regarding community relations and student activities.

Page 98 4.1 Land Use; Section 4.1.2.2 Adjoining Jurisdictions; the text in the second paragraph will be REVISED as follows:

#### Precise Plan for El Camino Real ~~Precise Plan~~

The City of Sunnyvale has adopted a precise plan for its portion of El Camino Real (Precise Plan). Theis Precise Plan provides design guidelines and identifies opportunities for redevelopment at specific locations, including the "gateway" to Santa Clara at Lawrence Expressway. The design guidelines encourage landscaping and signage to signify arrival into Sunnyvale. The majority of properties along El Camino Real are zoned either C- 2/ECR (Highway Business with the El Camino Real Combining District) or R-4/ECR (High Density Residential with the El Camino Real Combining District). Sunnyvale allows ~~building heights of up to eight stories and~~ residential

densities of up to 45 units per acre for the R-4 zoning district and minimum density of 36 units per acre is assumed for mixed use proposals (C-2). For properties located in designated Node areas (as shown in the Precise Plan), the maximum building height is 75 feet (except when within 75 feet of a single-family residential district when the height limitation is 30 feet). For properties located outside designated Node areas, the maximum height is 55 feet (except when within 75 feet of a single-family residential district when the height limitation is 30 feet).

Page 99 4.1 Lane Use, Section 4.1.2.3 Regional Planning Efforts; Table 4.1-5 will be REVISED as follows:

TABLE 4.1-5. REGIONAL PLANNING EFFORTS	
Jurisdiction	Plan Name
Association of Bay Area Governments	Local Hazard Mitigation Plan: Taming Natural Disasters
Association of Bay Area Governments, Bay Area Air Quality Management District, San Francisco Bay Conservation and Development Commission, and Metropolitan Transportation Commission	Transportation 2035 Plan for the San Francisco Bay Area FOCUS Program – Priority Development Areas
California High Speed Rail Authority	California High Speed Rail
Caltrain	Caltrain Electrification Project
Joint Silicon Valley Network	El Camino Real Grand Boulevard Initiative
	Climate Protection
	Disaster Planning Initiative
	Silicon Valley Economic Development Alliance
Metropolitan Transportation Commission	Transportation 2035 Plan for the San Francisco Bay Area
Santa Clara County Airport Land Use Commission	San Jose International Airport Comprehensive Land Use Plan
San Jose/Santa Clara Water Pollution Control Plant	San Jose/Santa Clara Water Pollution Control Master Plan
	South Bay Water Recycling Project
Santa Clara Valley Transportation Authority	Bus Rapid Transit Facilities Design Valley Transportation Plan 2035
Source: City of Santa Clara 2010-2035 Draft General Plan. March 2010.	

Page 106 4.1 Lane Use, Section 4.1.4.2; the text in the second paragraph under the El Camino Real Focus Area description and table will be REVISED as follows:

The vision for El Camino Real is to transform this Focus Area from a series of automobile-oriented strip-malls to a pedestrian- and transit-oriented corridor with a mix of residential and retail uses. Future development in these areas would be characterized by lower-intensity mixed-, or single-use, development (as compared to the existing uses and land use identified in the current 2000-2010 General Plan) with signature landscaping, streetscape design, signage and public art, to contribute to the area's identity of this Focus Area. ~~Future development in these areas would be characterized by higher intensity (as compared to the existing uses and land use identified in the current 2000-2010 General Plan) mixed-, or single use, development. Larger properties, designated as Regional Mixed use and located at key intersections, will provide the primary catalyst for this transformation. The Regional Mixed Use designation may be developed at an intensity of up to 1.5 FAR for combined retail and residential uses, with a minimum 0.20 FAR for commercial uses.— The Regional Mixed Use designation should be developed with a minimum 0.15 FAR for commercial uses.~~ Overall development heights would typically be between three and five stories. The predominate designation on properties located throughout the Focus Area, between the larger Regional Mixed Use designated properties, is Community Mixed Use. Within the El Camino Real Focus Area, this designation may be implemented consistent with either Community Commercial, or Medium Density Residential, or a

combination of both. Retail, commercial and neighborhood offices uses, at a minimum FAR of 0.10 are required in conjunction with residential development between 19 and 36 units per acre in the Community Mixed Use designation. ~~The maximum building density for Community Mixed Use in this area is 36 residential units per gross acre. For properties under one half acre, there is a maximum 0.75 FAR for combined residential and commercial uses.~~ The resulting development is proposed to allow a mix of residential and retail uses, which is a change from the existing automobile-oriented strip malls.

Page 107 4.1 Lane Use, Section 4.1.4.2; the text in the second paragraph under the Downtown Focus Area will be REVISED as follows:

The vision for the Downtown Focus Area includes boutique shopping, restaurants, public gathering places and civic venues, as well as a transit loop connection to the Santa Clara Station Area. This vision for Santa Clara's Downtown also includes approximately 130,000 square feet of retail and commercial uses along with almost 400 new residences on the seven-acre Focus Area property that will be designated Community Mixed Use and High-Density residential. Development under this designation could be at intensities of approximately 2.0 FAR, with building heights between five and eight stories. Allowed building intensity and heights in the remainder of the Downtown Focus Area are typically lower, ~~ranging from 0.75 FAR to a maximum combined 1.25 FAR~~ with maximum heights of between three and five stories. The buildout of the Downtown Focus Area will differ from existing mixed uses by including higher density residential and retail development and a transit loop connection.

## 5.5 POPULATION AND HOUSING

Page 120 4.2 Population and Housing; Section 4.2.5.2 Jobs/Housing Balance; the second paragraph and Table 4.2-2 in this section will be REVISED as follows:

The cumulative total of new development anticipated within the proposed Draft 2010-2035 General Plan horizon ('in process' development + General Plan growth) is 39,490 residents (yielding 23,694 employed residents) and ~~46,180~~ 47,500 jobs. Therefore, the cumulative new growth jobs/employed resident ratio is ~~1.95~~ 2.0, or ~~46,180~~ 47,500 jobs divided by 23,694 employed residents. The resulting citywide jobs/employed resident ratio as envisioned by the General Plan in 2035, taking into account existing (as of 2008) and planned jobs and population anticipated in 2035, is projected to be ~~1.64~~ 1.77. This decrease from 1.85 jobs/employed resident is primarily attributable to regional demographic trends where more workers are assumed per household, reflecting a return to historic levels of roughly 0.6 employed residents per capita as the regional economy recovers from the recession.<sup>3</sup>

TABLE 4.2-2. JOBS/HOUSING				
	Jobs	Population	employed residents	jobs per employed resident
Existing 2008	106,700	115,500	57,600	1.85
Net New GP	25,040	32,400	19,440	1.29
Combined	<del>46,180</del> <u>47,500</u>	39,490	23,694	<del>1.95</del> <u>2.0</u>

<sup>3</sup> Hing Wong, Senior Regional Planner. Association of Bay Area Governments. Personal Communication. March 16, 2010.

Citywide 2035	<del>152,860</del> 154,000	154,990	<del>92,994</del> 86,800	<del>1.64</del> 1.77
Source: ABAG 2007, 2010-2035 General Plan. Note: Combined equals 'in process' development plus net new General Plan growth.				

**5.6 HYDROLOGY AND WATER QUALITY**

Page 142 4.4 Hydrology and Water Quality; Figure 4.4-1 Water Courses and Flood Zones REVISED to remove the Proposed Trail. The trail is proposed to begin at the terminus of the existing San Tomas Aquino Creek trail and head south through existing neighborhoods and across El Camino Real, then follow Arroyo Drive/White Drive adjacent to Central Park, then head west along Homestead Road to Kiely Boulevard, then follow Kiely Boulevard to Pruneridge Avenue, and head west along Pruneridge Avenue to the City limits. The Proposed Trail also splits at the corner of Pruneridge Avenue and Redwood Avenue and heads west on Mauricia Avenue to terminate at Lawrence Espressway. The revised figure is below:

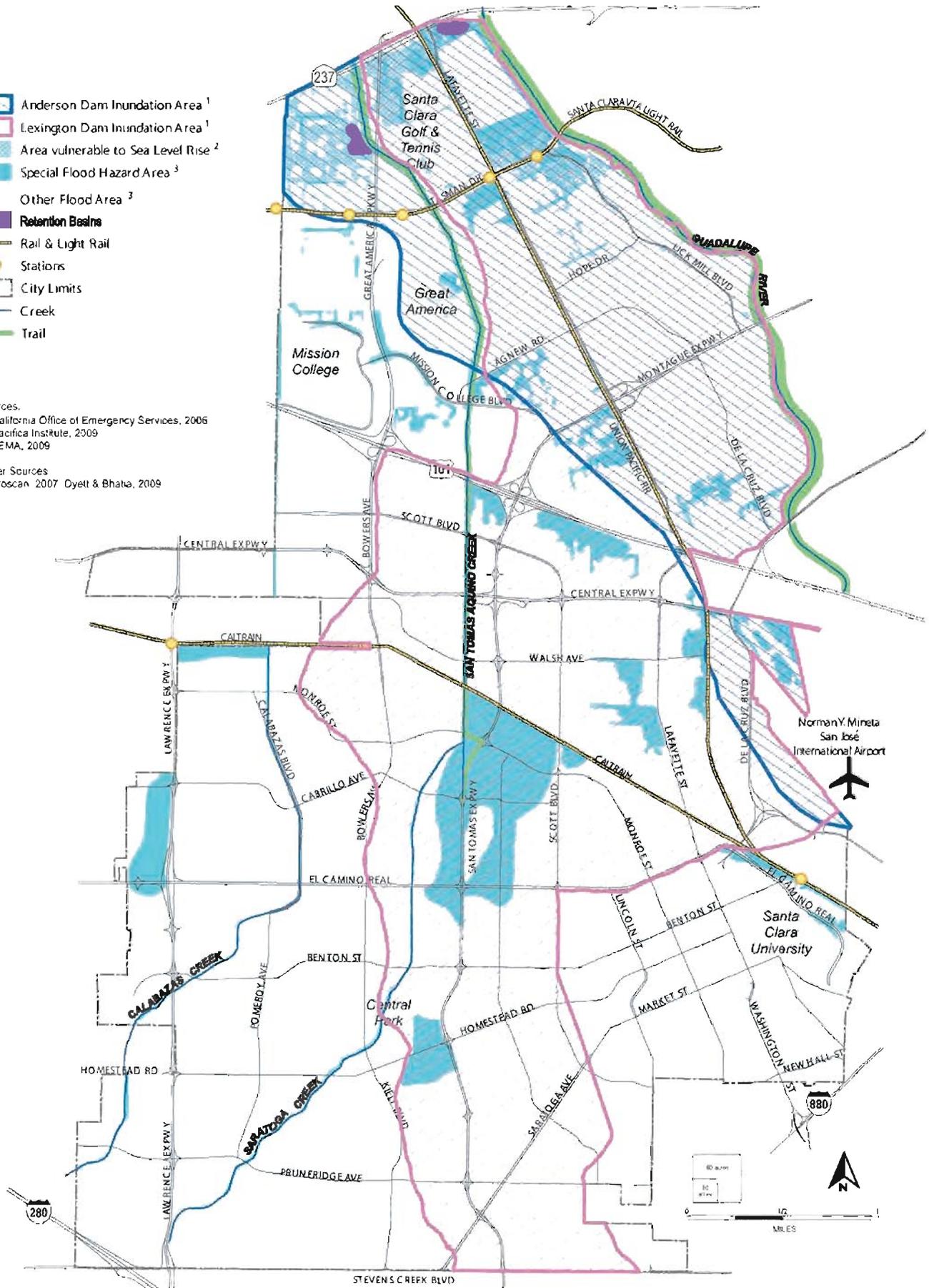
Page 168 4.4 Hydrology and Water Quality; Section 4.4.4.7; ADD text to the policies table as follows:

<u>Water Policies</u>	
<u>5.10.4-P12</u>	<u>Encourage diversion of run-off from downspouts, and replacement of hardscapes to landscaped areas and permeable surfaces.</u>

-  Anderson Dam Inundation Area <sup>1</sup>
-  Lexington Dam Inundation Area <sup>1</sup>
-  Area vulnerable to Sea Level Rise <sup>2</sup>
-  Special Flood Hazard Area <sup>3</sup>
-  Other Flood Area <sup>3</sup>
-  Retention Basins
-  Rail & Light Rail
-  Stations
-  City Limits
-  Creek
-  Trail

Sources:  
 1 California Office of Emergency Services, 2006  
 2 Pacific Institute, 2009  
 3 FEMA, 2009

Other Sources  
 Merrosan 2007 Dyett & Bhatta, 2009



**WATER COURSES AND FLOOD ZONES**

**FIGURE 4.4-1**

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## 5.7 PUBLIC SERVICES

Page 196 4.6 Public Services; Section 4.6.1.4 Library Services; text in the first paragraph will be REVISED as follows:

Existing libraries in Santa Clara are the Central Park Library, the Main Library, located on Homestead Road, and the Mission Library Family Reading Center, located in the historic core of the City (shown on Figure 4.6-1). The Central Park Library is 84,000 square feet and was reconstructed and expanded in 2004. With more than 1.4 million visitors per year, and over 3,000 people per day using the library, the facility is able to handle the existing volume of people and activities; features include: group study and large community rooms, a computer training classroom, genealogy and local history collection, and an extensive collection of materials for educational and recreational use. The Mission Library Family Reading Center, located on Lexington Street at Main Street, ~~provides books and resources, community and group study rooms, computers with internet access, children and adult classes, and book clubs~~ is a full service library facility including Read Santa Clara, and the adult and family literacy program of the Santa Clara library.

Page 196 4.6 Public Services; Section 4.6.1.5 Arts, Cultural and Community Facilities; the following text will be REVISED as follows:

- *Triton Museum of Art* collects and exhibits contemporary and historical works of art with an emphasis on artists from the Greater Bay Area. The Triton building is owned by the City, which is a major sponsor of the museum.
- *Santa Clara Convention Center*, a City owned facility, is located on Great America Parkway at Tasman Drive, has fully-equipped facilities that accommodate meetings, trade shows, conventions, association gatherings, banquets and special events.

Page 197 4.6 Public Services; Section 4.6.1.5 Arts, Cultural and Community Facilities; the following text will be REVISED as follows:

- *Berryessa Adobe* is the City's oldest adobe structure which features documents, objects, and other artifacts from the era before California's Statehood in 1850. It was purchased and restored by the City, and is open to tours as a historic resource for the community.
- *Teen Center*, located in front of the Youth Activity Center on Cabrillo Avenue near San Tomas Expressway, offers a variety of activities and services to the teen community which consists of an after school program, recreation classes, Teen Breakaway (summer only) and special events, and operates the City's Skate Park.

Page 205 4.6 Public Services; Section 4.6.5.2 Schools and Community Facilities; the text in the second paragraph under the Library and Community Facilities header will be REVISED as follows:

New growth as a result of the implementation of the proposed Draft 2010-2035 General Plan is expected to increase the demand for arts, cultural and community facilities. This future demand does not, however, appear to exceed the existing service capacity or generate the need for additional

facilities particularly when the City can optimize the use of streets or other existing neighborhood amenities for community events.

Page 209 4.7 Public Utilities; Section 4.7.1.1 Water Supply; the text in the first paragraph will be REVISED as follows:

*Recycled Water.* Tertiary treated (or ‘recycled’) water serves as the fourth source of Valley water supply and comprises approximately 10 percent of the City’s overall water supply. It is supplied from the San José/Santa Clara Water Pollution Control Plant (WPCP), which is an advanced tertiary treatment facility. Its primary use is irrigation of large turf areas at golf courses, parks and schools. Several City industries also use recycled water as industrial process water, in cooling towers, or for toilet flushing in dual-plumbed buildings. In addition, the City’s electric utility operates a 147-MW power plant that uses recycled water exclusively for cooling and steam for power production.

Use of recycled water in the City is well-established through the recycled water program. In 2009, the program delivered more than one billion gallons of recycled water throughout the City for parks, landscaping, public services, and businesses, including Intel, Sun Microsystems/Oracle, California Paperboard, Municipal Golf & Tennis Club and the San Francisco 49ers training facility.

Page 226 4.7 Public Utilities; Section 4.7.5.4 Solid Waste Impacts; the text in the policies table will be REVISED as follows:

5.1.1-P8	Prior to approval of residential development for Phase II and for Phase III in any Future Focus Area, complete a comprehensive plan for each area that specifies: <i>Infrastructure and Utilities</i> , with provisions for sufficient storm drain, <u>sanitary sewer conveyance</u> , wastewater <u>treatment</u> , water, solid waste disposal and energy capacity.
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## 5.8 OPEN SPACE, PARKS AND RECREATION

Page 230 4.8 Open Space, Parks, and Recreation; Section 4.8.1.1 Parks and Recreation Facilities; text in second paragraph will be REVISED as follows:

The City’s parks and recreation facilities are organized into categories based on typical size, programming and intended use, as listed below. In 2008, the City’s Neighborhood and Community Parks served a population of approximately 115,500 residents, resulting in 2.4 acres of local serving parkland per 1,000 residents. This ratio includes parks that primarily serve Santa Clara residents and businesses, and excludes regional serving facilities such as Ulistac Natural Area, the Municipal Santa Clara Golf & Tennis Club and the Pruneridge Golf Course.

Page 232 4.8 Open Space, Parks, and Recreation; Section 4.8.1.1 Parks and Recreation Facilities; text in second paragraph under the Public Open Space header will be REVISED as follows:

Several of the City’s prominent civic and community buildings are located within parks, offering open space focused on civic activities. For example, the Agnews Historic Park, on Sun Microsystem/Oracle’s Oracle’s (formerly Sun Microsystems) Santa Clara campus, provides a peaceful open space that also houses four historic buildings, preserved through a historic easement (Figure 4.8-1). The park is open to the public and provides restrooms, picnic areas, benches, beautiful trees and grass areas. Use of these parks is primarily passive; however, they provide an open,

landscaped setting for historic resources in the City. Ulistac Natural Area, 40 acres of open space located along the Guadalupe River on Lick Mill Boulevard, between Tasman Drive and Montague Expressway, showcases seven distinct natural California and wildlife habitats. Only a few parks are classified as public open space, making up a little more than six percent of the City's total park acreage.

Page 233 4.8 Open Space, Parks, and Recreation; Section 4.8.1.1 Parks and Recreation Facilities; text in third paragraph under the Regional Trails, Open Space, and Facilities header will be REVISED as follows:

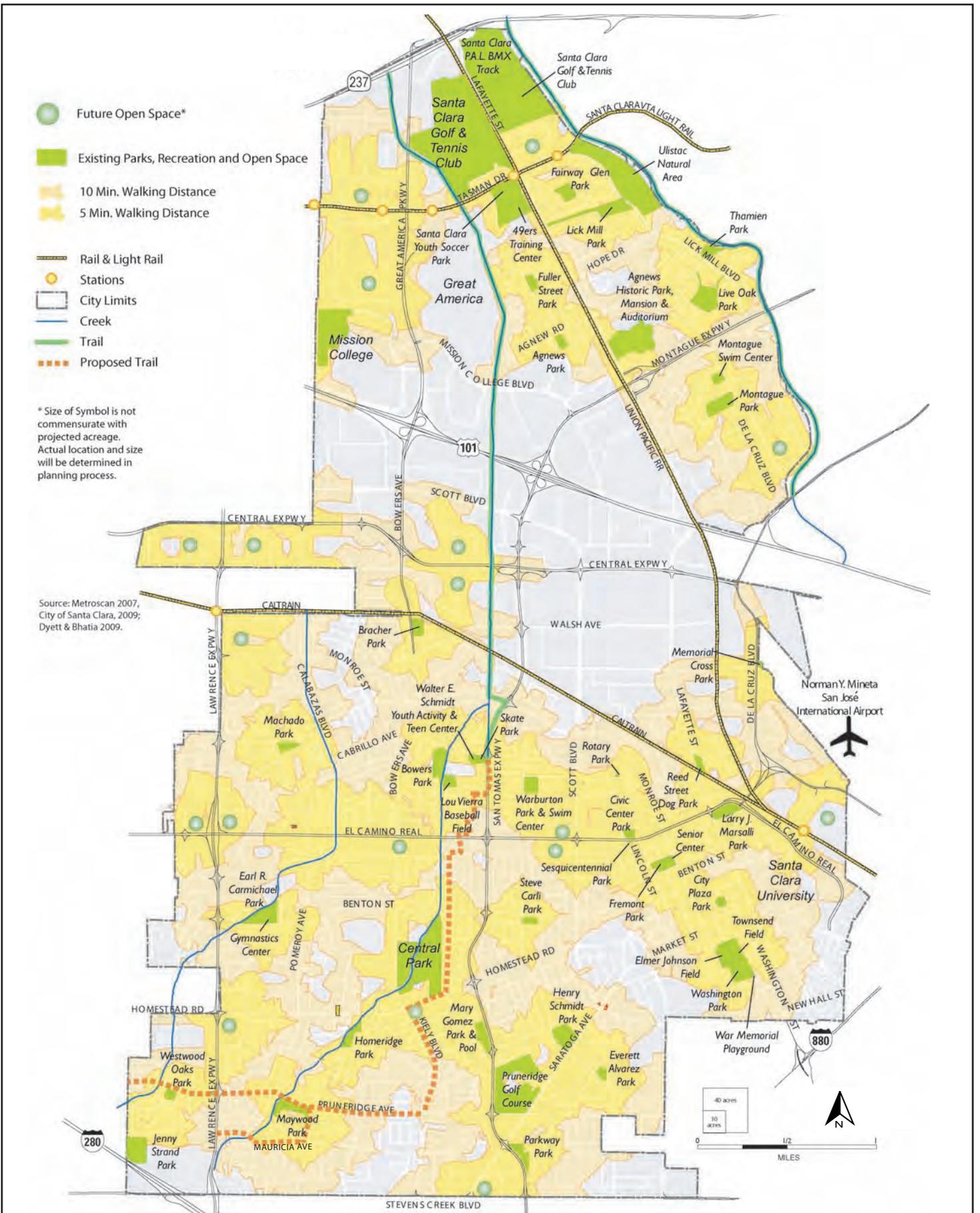
Located on the Bay, just to the north of Santa Clara (and connected to Guadalupe River Park through bicycle and pedestrian trails), the San Francisco Bay National Wildlife Refuge provides 30,000 acres of a habitat and conservation area for wildlife, migratory birds, and threatened and endangered species. Within Santa Clara, the ~~40.8~~ 40-acre Ulistac Natural Area, located in Santa Clara along Lick Mill Boulevard south of Tasman Drive, is home to several natural Bay Area habitats. Opportunities for additional regional open space within the City are limited as most of the City is built-out. Enhancement of existing non-park open space, such as the Hetch-Hetchy Aqueduct right-of-way, east of Lafayette Street, and the City's two retention basins, located near the Baylands, have some potential as open space resources.

Page 234 4.8 Open Space, Parks, and Recreation; Figure 4.8-1 Parks, Recreation, and Open Space and Pedestrian Accessibility REVISED to reflect the split in the Proposed Trail. The trail is proposed to begin at the terminus of the existing San Tomas Aquino Creek trail and head south through existing neighborhoods and across El Camino Real, then follow Arroyo Drive/White Drive adjacent to Central Park, then head west along Homestead Road to Kiely Boulevard, then follow Kiely Boulevard to Pruneridge Avenue, and head west along Pruneridge Avenue to the City limits. The Proposed Trail also splits at the corner of Pruneridge Avenue and Redwood Avenue and heads west on Mauricia Avenue to terminate at Lawrence Espressway. The revised figure is below:

Page 239 4.8 Open Space, Parks, and Recreation; Section 4.8.4.2 Future Recreation Facilities; text in second paragraph following the table will be REVISED as follows:

Figure 4.8-1 illustrates potential future locations for new parkland. In accordance with maintaining 2.4 acres of parkland per 1,000 residents, the City anticipates approximately 78 acres of new parkland to serve the 32,400 people anticipated with the buildout of the proposed Draft 2010-2035 General Plan. ~~The City is also considering an optional 3.0 acres of parkland per 1,000 residents as a goal to achieve for existing and future population~~ In addition, increasing the standard to 3.0 acres of parkland per 1,000 residents will be explored in the context of the Parks and Recreation Needs Assessment (Parks Master Plan), which would result in approximately 97 acres of new parkland. Strategies to meet this higher standard could include increasing the building intensity (i.e., taller structures) on planned residential sites, which would reduce the overall building footprint and free up more land for parks. The City could also devote more land for residential development overall, with the extra land used for the increased parkland. This latter strategy would reduce the supply of land for non-residential uses, meaning less land available for job growth or retail tax generating commercial uses.

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**PARKS, RECREATION, AND OPEN SPACE AND PEDESTRIAN ACCESSIBILITY**

**FIGURE 4.8-1**

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Page 241 4.8 Open Space, Parks, and Recreation, Section 4.8.4.2 Future Recreation Facilities; ADD text to the policies table as follows:

<u>Residential Land Use Policies</u>	
<u>5.3.2-P4</u>	<u>Encourage private and common open space as part of all new residential developments, including clustering of units to maximize open space opportunities where appropriate.</u>
<u>Parks, Open Space, and Recreation Policies</u>	
<u>5.9.1-P20</u>	<u>Promote the continuation of a parks per population ratio of 2.4 per 1,000 residents and explore the potential to increase the ratio to 3.0, based on the Parks and Recreation Needs Assessment (Parks Master Plan), referenced in Plan Prerequisite 5.1.1- P24.</u>

## 5.9 BIOLOGICAL RESOURCES

Page 249 4.9 Biological Resources; Section 4.9.3.1 Vegetative Communities; the text in the first paragraph will be REVISED as follows:

The City is located at the south end of San Francisco Bay, where temperate climate and diverse landscape combine to support one of the most biologically diverse regions in the world. However, there are few natural areas within Santa Clara; native habitats have largely been replaced with urban hardscape accompanied by ornamental landscaping. Landscaped areas can provide some habitat value to common native species, particularly birds and insects. Although some of these areas support native flora and fauna, habitats in the City are generally not representative of the unique environs found throughout the Bay Area. In summary, the biological resources in the City of Santa Clara are limited and constrained by the urbanized character of the planning area.

Page 250 4.9 Biological Resources; Section 4.9.3.3 Riparian/Riverine; the text in the first paragraph will be REVISED as follows:

As identified in section 4.4, *Hydrology and Water Quality*, all of the creeks that flow through the City have been modified for flood control purposes. As a result, there is limited native riparian vegetation along the creek corridors, providing the City an opportunity to restore habitat in these areas. For the majority of their span, Calabazas, Saratoga, and San Tomás Aquino creeks are concrete-lined trapezoidal flood control channels with little native riparian vegetation, while the Guadalupe River is a large, mostly earthen channel, portions of which support some in-channel emergent vegetation and remnant riparian corridor.

Page 261 4.9 Biological Resources; Section 4.9.5.1; ADD text to the policies table as follows:

<u>Conservation Policies</u>	
<u>5.10.1-P11</u>	<u>Require use of native plants and wildlife compatible non-native plants, when feasible, for landscaping on City property.</u>
<u>5.10.1-P12</u>	<u>Encourage property owners and landscapers to use native plants and wildlife-compatible nonnative plants, when feasible.</u>

Page 262 4.9 Biological Resources; Section 4.9.5.3; the text in the last paragraph will be REVISED as follows:

The two riparian protection policies are functionally equivalent and will ensure that new and redevelopment on either bank of the Guadalupe River doesn't significantly impact wildlife movement along the Guadalupe River. In addition, the proposed Draft 2010-2035 General Plan includes updated biological policies that address impacts to riparian habitat; listed below. There are no other sensitive natural communities present in the City. (**Less Than Significant Impact**)

Conservation Policies	
5.10.1-P2	<u>Work with Santa Clara Valley Water District and require that new development follow the "Guidelines and Standards for Lands Near Streams" to protect streams and riparian habitats.</u>
5.10.1-P5	<u>Encourage enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible.</u>

## 5.10 AIR QUALITY

Pages 284-285 4.10 Air Quality; Section 4.10.5.1 Consistency with Clean Air Plan Projections; text starting in the third paragraph under the Draft Bay Area 2010 Clean Air Plan will be REVISED as follows:

### **Draft Bay Area 2010 Clean Air Plan**

The *Bay Area 2010 Clean Air Plan* (2010 CAP)<sup>4</sup> provides an updated comprehensive plan to improve Bay Area air quality and protect public health, taking into account future growth projections to 2035. The legal impetus for the Bay Area 2010 CAP is to update the most recent ozone plan, the *Bay Area 2005 Ozone Strategy*, to comply with State air quality planning requirements as codified in the California Health & Safety Code. On March 11, 2010, the Air District released the Draft 2010 CAP, as well as a Draft Programmatic Environmental Impact Report addressing the 2010 CAP. ~~Once the environmental process has been completed, the Air District staff will present the 2010 CAP to the District's Board of Directors for potential adoption.~~ On September 15, 2010 the District's Board of Directors adopted the 2010 CAP. The population projections used in the 2010 CAP were based on ABAG 2007 Projections.

Table 4.10-5 compares the forecast Santa Clara population BAAQMD used in preparing the *2005 Ozone Strategy* and ~~Draft~~ 2010 CAP with the population accommodated by the 2035 General Plan.

The additional population accommodated under the General Plan, beyond what has been assumed by BAAQMD in the *2005 Ozone Strategy* and the ~~Draft~~ 2010 CAP, could lead to increased emissions of ozone precursor pollutants and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>). In 2025 and 2030, Santa Clara's population could be approximately four to six percent greater than assumed by BAAQMD in preparing the 2005 Ozone strategy. At build-out in 2035, Santa Clara's population could be as much as six percent greater (approximately 9,000 more residents) than assumed by BAAQMD in developing the ~~draft~~ 2010 CAP.

The General Plan is forecast to accommodate roughly five percent more population growth than BAAQMD assumed in either the 2005 Ozone Strategy or the ~~Draft~~ 2010 CAP. This is a potentially

<sup>4</sup> Bay Area Air Quality Management District (BAAQMD). 2010. ~~Draft~~ Bay Area 2010 Clean Air Plan. ~~March~~ September 2010.

significant impact because, depending upon that nature of that additional growth, it could lead to emissions beyond what BAAQMD has assumed in its regional air quality plans. However, as discussed below, the traffic modeling (see Section 4.12 *Transportation* Table 4.12-11) completed for the General Plan indicates the proposed mix and distribution of land uses cause VMT to grow at slightly less than half the rate of population growth, so therefore, even if population growth is roughly five percent more than BAAQMD assumed in its plans, that increased growth, occurring in this VMT-efficient manner, would not lead to emissions exceeding BAAQMD’s plans.

Page 286 4.10 Air Quality; Section 4.10.5.1 Consistency with Clean Air Plan Projections; text in first paragraph will be REVISED as follows:

**Impact 4.10-1:** Population projections under the proposed General Plan are slightly above the *Bay Area 2005 Ozone Strategy* and the ~~Draft~~ *Bay Area 2010 Clean Air Plan*, but the rate of VMT growth is less than half the rate of population growth. Therefore, the proposed Draft 2010-2035 General Plan would be consistent with the CAP. **(Less Than Significant Impact)**

Page 286 4.10 Air Quality; Section 4.10.5.2 Consistency with Clean Air Plan Transportation Control Measures; text in second paragraph will be REVISED as follows:

**Impact 4.10-2:** The policies under the proposed Draft 2010-2035 General Plan support and reasonably implement the applicable *Bay Area 2005 Ozone Strategy* and the ~~Draft~~ *Bay Area 2010 Clean Air Plan* TCMs. Therefore, the proposed Draft 2010-2035 General Plan would be consistent with the TCMs. **(Less Than Significant Impact)**

Page 287 4.10 Air Quality; header text in Table 4.10-6 will be REVISED as follows:

Bay Area 2005 Ozone Strategy Transportation Control Measures	<del>Draft</del> -Bay Area 2010 Clean Air Plan Transportation Control Measures	Relevant General Plan Policies
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Page 290 4.10 Air Quality; text in Table 4.10-6 will be REVISED as follows:

<b>Relevant General Plan Policies</b>
<ul style="list-style-type: none"> <li>5.8.2-P1 Require that new and retrofitted roadways implement “Full-Service Streets” standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.</li> </ul>

Page 297 4.10 Air Quality; Section 4.10.5.3 Expose Sensitive Receptors to Substantial Pollutant Concentrations; ADD text to the policies table as follows:

<b>Rail and Freight Policies</b>	
5.8.7-P5	<u>Require new development to implement appropriate measures to reduce the negative effects, such as noise and vibration, of rail and freight services.</u>

Page 297 4.10 Air Quality; Section 4.10.5.3 Expose Sensitive Receptors to Substantial Pollutant Concentrations; text in bullet list under headed Existing Regulations and Programs will be REVISED as follows:

- Clean Air Act
- Bay Area 2005 Ozone Strategy
- ~~Draft~~ Bay Area 2010 Clean Air Plan
- BAAQMD CEQA Guidelines
- Santa Clara City Code Chapter 16.65

Page 298 4.10 Air Quality; Section 4.10.5.4 Expose Sensitive Receptors to Objectionable Odors; text in bullet list under headed Existing Regulations and Programs will be REVISED as follows:

- Clean Air Act
- Bay Area 2005 Ozone Strategy
- ~~Draft~~ Bay Area 2010 Clean Air Plan
- BAAQMD CEQA Guidelines

Page 302 4.10 Air Quality; Section 4.10.5.5 Construction Dust and Exhaust Emissions; text in bullet list under headed Existing Regulations and Programs will be REVISED as follows:

- Clean Air Act
- Bay Area 2005 Ozone Strategy
- ~~Draft~~ Bay Area 2010 Clean Air Plan

Page 303 4.10 Air Quality; Section 4.10.5.6; text in bullet list under headed Existing Regulations and Programs will be REVISED as follows:

- Clean Air Act
- Bay Area 2005 Ozone Strategy
- ~~Draft~~ Bay Area 2010 Clean Air Plan
- Santa Clara City Code Chapter 16.65

Page 304 4.10 Air Quality; Section 4.10.5.7 Climate Change; text in bullet list under headed Existing Regulations and Programs will be REVISED as follows:

- California Global Warming Solutions Act of 2006 (AB 32)
- ~~Draft~~ Bay Area 2010 Clean Air Plan

Page 305 4.10 Air Quality; Section 4.10.6; text in first paragraph will be REVISED as follows:

Policy 5.1.1-P25: Prior to implementation of Phase II, the City will include The BAAQMD CEQA Guidelines also recommend that communities adopt a Community Risk Reduction Plan (CRRP) for acceptable to address TACs concentrations, consistent with the . Prior to 2015, develop and adopt a CRRP, to bring TAC and PM2.5 concentrations down to acceptable levels as identified by BAAQMD CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participation process.

Page 305 4.10 Air Quality; Section 4.10.6; text in second paragraph will be REVISED as follows:

Policy 5.10.5-P34: Include minimum setbacks of 500 feet for ~~freeways (or busy arterial roadways with average daily trips of 100,000 or more)~~ and 100 feet for railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as ~~Exceptions may be made for projects that do not meet the distance requirements, but can be determined compatible with adjacent uses through a project specific study that determines potential health risks. Complete modeling for health risks for individual projects located within the minimum setbacks for roadways and railroads. Mitigation measures such as (but not limited to); site redesign, tiered landscaping plantings of trees, air filtration systems, and location of air intakes and design of windows~~ design to reduce exposure, demonstrating that the potential shall be required to reduce these risks can be reduced to acceptable levels.

Page 305 4.10 Air Quality; Section 4.10.6; text in third paragraph will be REVISED as follows:

Policy 5.10.5-P35: ~~Implement BAAQMD guidelines that e-~~Establish minimum screening or buffers ~~distances between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless .~~ Exceptions may be made for projects that do not meet the distance requirements, but can be determined compatible with adjacent uses through a project-specific study demonstrates that these risks can be reduced that determines potential nuisance. ~~Mitigation measures shall be required to reduce these risks to acceptable levels. The mitigation measures will vary depending on the source of the odor (i.e., wastewater treatment plant, landfill, food services, etc) and could include scrubbers, filters and covers.~~

## 5.11 CULTURAL AND HISTORIC RESOURCES

Page 314 4.11 Cultural and Historic Resources; Section 4.11.2.3 Local; text in paragraph under the City of Santa Clara Criteria for Local Significance header will be REVISED as follows:

The Criteria for Local Significance were adopted on April 8, 2004, by the City of Santa Clara City Council. These criteria establish evaluation measures that help to determine significance for properties not yet included on the historic list. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archeological significance is potentially eligible. As buildings and other resources age, additional properties will be added to the inventory. In order to accomplish this, a property owner can apply to have their property listed as a historic resource, or the City can nominate properties. The Historical and Landmarks Commission evaluates these applications and forwards a recommendation to the City Council. Updates to the Historic Preservation and Resource Inventory are considered an amendment to the General Plan.

Page 317 4.11 Cultural and Historic Resources; Section 4.11.3.2 Historic Resources; text in second paragraph will be REVISED as follows:

Historical resources are buildings, structures, objects, sites, and districts of significance in history, archaeology, architecture, and culture. These resources include intact structures of any type that are 50 years or more of age. They are sometimes called the built environment and can include, in addition to houses, structures such as irrigation works and engineering features. Historical resources are preserved because they provide a link to a region's past and a frame of reference for a community. Often these sites are a source of pride for a City. The City's list of historic resources includes properties that appear eligible for local, State, and/or national listing and properties that have been designated local, State, and/or national landmarks. Properties that have been surveyed; catalogued; determined to meet local, State, or national significance criteria; and have been

designated as local landmarks as of May 2010 are included in Appendix 8.9 of the proposed Draft 2010-2035 General Plan, Appendix I of this EIR, and shown on Figure 4.11-1.

## 5.12 TRANSPORTATION AND TRAFFIC

Page 333 4.12 Transportation and Traffic; Section 4.12.1.2 Motor Vehicle Circulation; the first bullet list text will be REVISED as follows:

Major north/south roadways connect residential uses in the south to key employment centers in the central and north areas of Santa Clara:

- Lawrence Expressway
- San Tomas/~~Montague~~ Expressway
- Montague Expressway
- Great America Parkway/Bowers Avenue/Kiely Boulevard
- De La Cruz Boulevard
- Lafayette Street

Montague and San Tomas Expressways are considered two separate expressways (San Tomas is a north-south expressway and Montague is an east-west expressway), that connect at their interchange with the US 101.

Page 350 4.12 Transportation and Traffic; Section 4.12.1.10 Pedestrian Circulation; text in third paragraph will be REVISED as follows:

Key pedestrian focus areas in Santa Clara include Mixed Use Nodes, Neighborhood Centers, Downtown, and City Hall. Pedestrian amenities near these focus areas are enhanced with wide sidewalks, street trees, pedestrian-scale lighting, and attractive landscaping. Major barriers limiting pedestrian movement in Santa Clara include the US 101 freeway, Lawrence, San Tomas/~~Montague~~, Montague, and Central Expressways, railroad tracks, and El Camino Real.

Page 358 4.12 Transportation and Traffic; Section 4.12.2 Regulatory Setting; text in first paragraph will be REVISED as follows:

The City of Santa Clara has jurisdiction over all City streets and City-operated traffic signals. The neighboring Cities of Sunnyvale, Cupertino, and San Jose have jurisdiction over local roadways outside the City limits. The California Department of Transportation (Caltrans) has jurisdiction over State facilities including I-280, I-880, US 101, SR 237, and SR 82 (El Camino Real). Caltrans also has jurisdiction over on- and off-ramp intersections with local streets such as the traffic signals that control access to and from US 101 at Great America Parkway, although the City maintains these intersections. The County of Santa Clara has jurisdiction over the Countywide Expressway system, including Lawrence Expressway, Central Expressway, Montague Expressway, and San Tomas/~~Montague~~ Expressway. Transit agencies with operations within the City limits are VTA, Caltrain, ACE, and the Capitol Corridor.

Page 358 4.12 Transportation and Traffic; Section 4.12.2 Regulatory Setting; ADD text to the third paragraph under the Valley Transportation Authority (VTA) header:

VTA requires that the proposed project impacts on the Congestion Management Program (CMP) System be addressed. The CMP system in Santa Clara includes the freeway and expressway systems,

El Camino Real (SR 82), and intersections of regional significance, such as those along Great America Parkway-Bowers Avenue.

VTA has developed the Valley Transportation Plan 2035, which identifies the programs, projects and policies the VTA would like to pursue by 2035. It connects projects with anticipated funds and lays out a framework for the development and maintenance of the transportation system over the next 25 years. It considers all travel modes and addresses the links between transportation and land use, air quality, energy use and community livability.

Page 358      4.12 Transportation and Traffic; Section 4.12.2 Regulatory Setting; ADD text to the fourth paragraph under the Metropolitan Transportation Commission (MTC) header:

The majority of federal, State, and local financing available for transportation projects is allocated at the regional level by the Metropolitan Transportation Commission (MTC), the transportation planning, coordinating, and financing agency for the nine-county Bay Area. The current regional transportation plan, known as Transportation 2035, was adopted by MTC on April 22, 2009. Transportation 2035 specifies a detailed set of investments and strategies throughout the region from 2009 through 2035 to maintain, manage, and improve the surface transportation system. The Plan outlines eight goals: Maintenance and Safety, Reliability, Efficient Freight Travel, Security and Emergency Management, Clean Air, Climate Protection, Equitable Access and Livable Communities. The Plan specifies how anticipated federal, state, and local transportation funds will be spent in the Bay Area during the next 25 years. Most of this “committed funding” will go toward maintaining the region’s existing transportation infrastructure. Major transit projects included in the Transportation 2035 Plan include a BART extension from Fremont to San Jose/Santa Clara; electrification of the Caltrain system; enhanced service along the Amtrak Capitol Corridor; and improvements to local and express bus services (including Bus Rapid Transit services on San Jose’s Santa Clara Street/Alum Rock Corridor).

Page 362 to 363      4.12 Transportation and Traffic; Section 4.12.4.1 Planned Transportation Changes; text of list will be REVISED as follows:

1. Widening Central Expressway to six lanes between Lawrence Expressway and San Tomas Expressway (Countywide Expressway Study Funding Tier 1A)
2. Widening Montague Expressway to eight lanes between Trade Zone to Park Victoria (Countywide Expressway Study Funding Tier 1A)
3. Widening San Tomas Expressway to eight lanes between Williams Road and El Camino Real (Countywide Expressway Study Funding Tier 1A)
4. Widening Central Expressway between Mary Avenue and Lawrence Expressway to provide auxiliary lanes or acceleration/deceleration lanes (Countywide Expressway Study Funding Tier 1A)
5. ~~Converting Central Expressway HOV queue jump lanes at Bowers Avenue to mixed flow lanes (Countywide Expressway Study Funding Tier 1A)~~
6. 5.      Converting at-grade intersections on Lawrence Expressway at Arques Avenue, Kifer Road, and Monroe Street to grade-separated interchanges (Countywide Expressway Study Funding Tier 1B)

~~7. 6. Converting US 101/Montague Expressway interchange to partial cloverleaf (Countywide Expressway Study Funding Tier 1B)~~

~~8. Improvements at I 280/Lawrence Expressway/Calvert Drive interchange (Countywide Expressway Study Funding Tier 1C):~~

- ~~a. Providing additional southbound through lane at Calvert Drive~~
- ~~b. Widening I 280 southbound on ramp to add one mixed flow lane~~
- ~~c. Constructing I 280 southbound slip on ramp from Calvert Drive west of Lawrence Expressway~~
- ~~d. Prohibiting eastbound through movement at Calvert Drive/Lawrence Expressway intersection~~

~~9. Improvements at Great America Parkway/Mission College Boulevard (City of Santa Clara Capital Improvement Project):~~

- ~~e. Constructing third westbound left turn lane from Mission College Boulevard to southbound Great America Parkway~~
- ~~f. Adding a southbound through lane on Great America Parkway~~
- ~~g. Adding a third northbound left turn lane from Great America Parkway to Mission College Boulevard~~

~~10. 7. Widening the westside of Coleman Avenue from two to three lanes from Brokaw Road to City Limits (City of Santa Clara Capital Improvement Project)~~

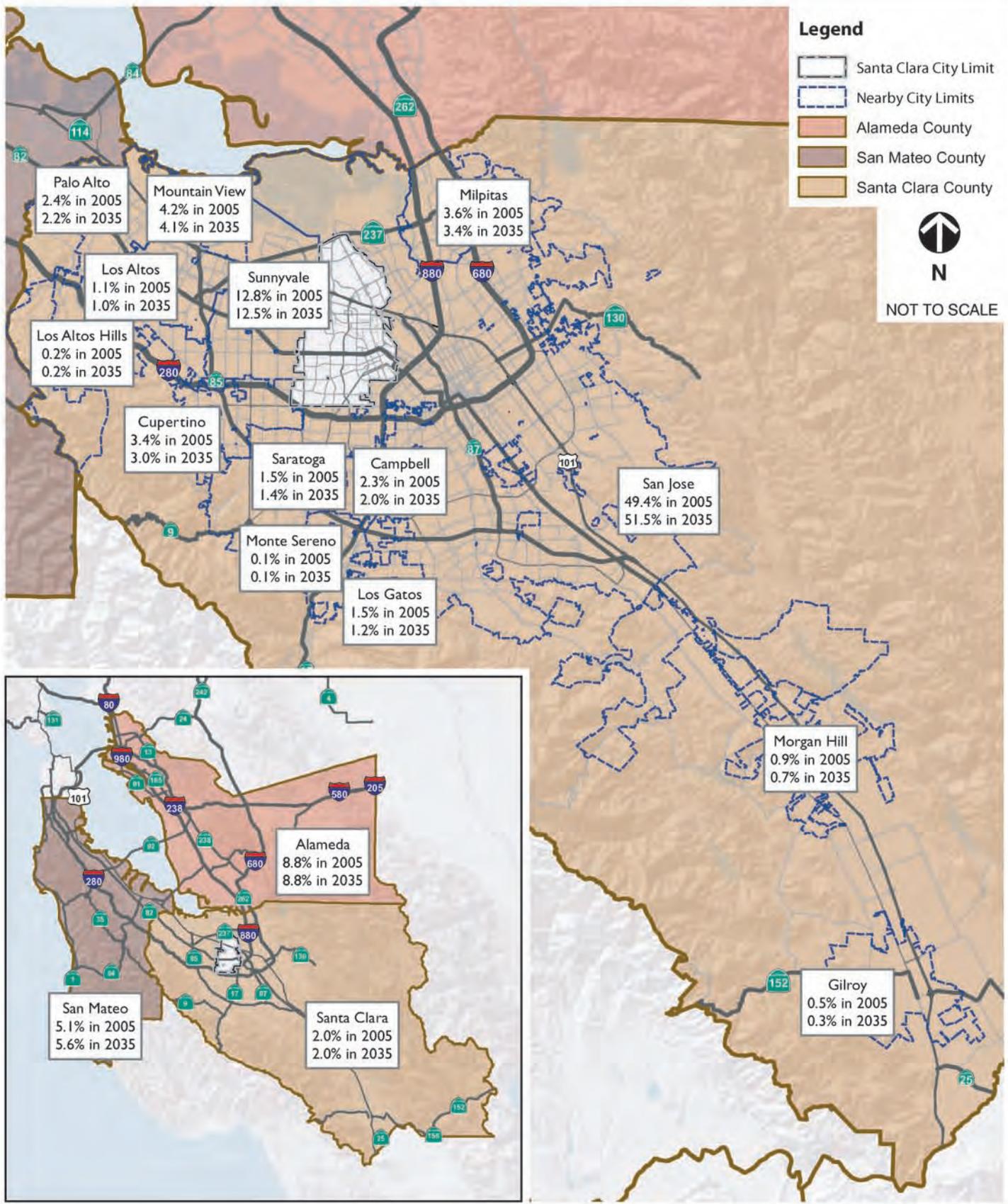
Page 378      4.12 Transportation and Traffic; Section 4.12.5.6 Roadway Segment Traffic Analysis in Adjacent Communities; text in second paragraph will be REVISED as follows:

Figure 4.12-8 presents the roadway segments in adjacent communities that meet these criteria, and thus, were included in the analysis. Table 4.12-12 summarizes the chosen study segments, daily capacity, calculated one (1) percent of the daily capacity, and growth due to the proposed Draft 2010-2035 General Plan. Growth due to the proposed Draft 2010-2035 General Plan was determined by isolating the traffic volume attributable to Santa Clara land uses for both the proposed Draft 2010-2035 General Plan and current 2000-2010 General Plan, and taking the difference between the two scenarios. Figure 4.12-9 identifies the current (2008) and future (2035) distribution of Santa Clara employees residing in other cities and counties.

Page 381      ADD Figure 4.12-9 Locations of Employees Living Outside of the City of Santa Clara as follows:

Page 386      4.12 Transportation and Traffic; text in policy table will be REVISED as follows:

5.8.2-P1	Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.
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LOCATIONS OF EMPLOYEES LIVING OUTSIDE OF THE CITY OF SANTA CLARA

FIGURE 4.12-9

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Page 390 4.12 Transportation and Traffic; Section 4.12.6; text in bullet list under Impact 4.12-6 will be REVISED as follows:

- El Camino Real
- Montague-San Tomas Expressways
- San Tomas Expressway
- Central Expressway
- Bascom Avenue
- Coleman Avenue
- De La Cruz Boulevard
- Trimble Road

Page 392 4.12 Transportation and Traffic; Section 4.12.6; text in bullet list under Impact 4.12-10 will be REVISED as follows:

- El Camino Real-The Alameda
- Montague Expressway-San Tomas Expressway
- San Tomas Expressway
- De La Cruz Boulevard
- Coleman Avenue
- Central Expressway
- Trimble Road

### 5.13 HAZARDS AND HAZARDOUS MATERIALS

Page 395 4.13 Hazards and Hazardous Materials; Section 4.13.1.1; the text under Federal Aviation Administration Regulations will be REVISED as follows:

#### **Federal Aviation Administration Regulations**

~~The Federal Aviation Administration (the FAA) issues and administers the Federal aviation Regulations (the "FAR" set forth in Title 14 of the Code of Federal Regulations Part 77 of the FAR) sets standards for obstructions to navigable airspace. The FAA sets height restrictions around each of Santa Clara County's airports based on the approach and departure surfaces outlined in the Part 77 regulations. In general, any structure or object that penetrates an FAR Part 77 surface is presumed to be a hazard to air navigation and will be considered an incompatible land use. If, however, the structure or object is above the FAR Part 77 surface and the proponent submits the project data to the FAA for evaluation, the FAA may determine that there is no incompatibility.~~

The Federal Aviation Administration (FAA) has promulgated regulations and policies to protect the safety and compatibility of aircraft operations. Foremost is Part 77 of Federal Aviation Regulations (FAR Part 77), "Objects Affecting Navigable Airspace", which sets forth standards and review requirements for protecting the airspace near airports, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft approaching or departing an airport.

Under FAR Part 77, the FAA must be notified of proposed structures within an extended zone defined by an imaginary slope that radiates out several miles from an airport's runways (almost 4 miles in the case of San Jose International Airport). Any proposed structure, including buildings,

trees, poles, antennae, and temporary construction cranes, which would penetrate this slope, or which would stand 200 feet or more in height irrespective of location relative to an airport, must be submitted to the FAA for an aeronautical review. The FAA typically makes one of three determinations based on its aeronautical study: (a) the structure as proposed would not be an airspace obstruction or hazard; (b) the structure as proposed would be an airspace obstruction but not a hazard if subject to specified conditions, such as rooftop lighting/marketing and subsequent notification to the FAA of completed construction; or (c) the structure as proposed would be an airspace hazard and should not be approved.

As the FAA does not have authority to approve or disapprove a proposed off-airport land use, it is the responsibility of the City and other local land use jurisdictions to ensure that proposed development complies with the FAR Part 77 notification requirements and resulting FAA-issued determinations (the FAA does have the authority to protect the airspace by modifying flight procedures if feasible and/or restricting use of the airport). In its project review process, the City of Santa Clara does coordinate with San Jose staff on compliance with applicable FAA regulations and aeronautical determinations, including granting of avigation easements to San Jose to establish elevation limits over the project property.

The FAA also has policies discouraging potential hazardous wildlife attractants near airports, such as landfills, other trash processing facilities, and waste-water treatment facilities.

## 5.14 NOISE

Page 445      4.14 Noise; Section 4.14.5.3; the text in the policies table will be REVISED as follows:

Rail and Freight Policies	
5.8.7-P6 5.8.7-P7	Maintain consistency with the Federal Transportation Authority vibration standards for land uses in proximity to railroads, light rail and future high speed rail.

## 5.15 ENERGY

Page 456-457      4.15 Energy; Table 4.15-1 will be REVISED as follows:

Generation Resource	Type	Total Capacity	Percent Capacity to SVP	Capacity to SVP
Donald Van Raesfeld Power Plant, City of Santa Clara	Natural Gas	147 MW	100%	147 MW
Cogeneration Plant No. 1, City of Santa Clara	Natural Gas	7 MW	100%	7 MW
Gianera Generating Station, City of Santa Clara	Natural Gas	49.5 MW	100%	49.5 MW
M-S-R Bighorn Wind Project, Bickleton, WA	Wind	200 MW	52.5% Purchase Agreement	105 MW
NCPA Geothermal Project, Sonoma/Lake County Border, CA	Geothermal	238 MW	44%	105 MW
Stoney Creek Hydroelectric System, Stoney Creek River System, CA	Hydroelectric	11.6 MW	100%	11.6 MW
Grizzly Hydroelectric Project, Plumas County, CA	Hydroelectric	20 MW	100%	20 MW

Generation Resource	Type	Total Capacity	Percent Capacity to SVP	Capacity to SVP
Altamont Wind Power Project, Alameda County, CA	Wind	20 MW	100% Purchase Agreement	20 MW
NCPA Combustion Turbine Project No. 1; Roseville, Alameda and Lodi, CA	Natural Gas	124.5 MW	25%	31 MW
Western Area Power Administration (WAPA), Sacramento, CA	Hydroelectric	N/A	Purchase Agreement	136 MW
M-S-R/San Juan, Four Corners, NM	Coal	507 MW	10%	51 MW
NCPA Calaveras Hydroelectric Project, Stanislaus River Basin, CA	Hydroelectric	247 MW	37%	91.4 MW
<u>Ameresco – Forward, Manteca, CA<sup>1</sup></u>	<u>Landfill Gas (LFG)</u>	<u>4.2 MW</u>	<u>100% Purchase Agreement</u>	<u>4.2MW</u>
<u>Ameresco – Santa Clara, City of Santa Clara</u>	<u>Landfill Gas (LFG)</u>	<u>0.8 MW</u>	<u>100% Purchase Agreement</u>	<u>0.8 MW</u>
<u>G2 Energy, Wheatland, CA</u>	<u>Landfill Gas (LFG)</u>	<u>1.3 MW</u>	<u>100% Purchase Agreement</u>	<u>1.3 MW</u>
<u>Lodi Energy Center, Lodi, CA<sup>1</sup></u>	<u>Natural Gas</u>	<u>280 MW</u>	<u>26%</u>	<u>72 MW</u>
<u>M-S-R Bighorn Wind Project II, Bickleton, WA<sup>1</sup></u>	<u>Wind</u>	<u>50 MW</u>	<u>35% Purchase Agreement</u>	<u>17.5 MW</u>
Total Owned or Purchased				<del>774.5 MW</del> <b>870.3</b>
Total SVP Owned				<b>513.5 MW</b>
Notes:				
1- This project is still under construction and not yet producing power, but the contracts are finalized or bonds are already sold.				

Page 461 4.15 Energy; Section 4.15.3 Regulatory Environment; ADD text to the section as follows:

#### **4.15.3.3 Local**

##### **City of Santa Clara Silicon Valley Power Environmental Stewardship and Renewable Portfolio Standard Policy**

It is the policy of the City of Santa Clara to support the purchase and delivery of renewable energy to all customers in Santa Clara as a part of its business plan. Renewable energy shall be included in the utility portfolio of energy provided to customers. These resources shall be cost-effective, reliable, clean, and part of the ongoing energy purchase operations that reduces risk through a diversity of resources. Public Utilities Code Section 399.15 requires electric utilities to maintain a minimum of 20 percent of their energy from Eligible Renewable Resources by 2017 with one percent annual increases until that requirement is reached. The 2017 target was subsequently advanced to 2010 via Senate Bill 107 passed in 2006. Current proposed legislation would increase the 20 percent minimum to 33 percent by 2020.

SVP has exceeded California's 20 percent target for the past 20 years. More than 28 percent of SVP electricity is currently derived from Eligible Renewable Resources, as defined by Section 387 (which excludes large hydropower facilities). When large hydropower facilities are included, over 50 percent of SVP resources are derived from renewable resources.

It is the intent of the City of Santa Clara to continue to support the acquisition and/or ownership of renewable resources, work diligently to increase the amount of renewable power in our portfolio, and set yearly goals and milestones to increase their use. The goal and milestones under this policy statement are as follows:

Santa Clara's resource portfolio used to supply its retail electricity customers should contain:

- at least 33 percent Eligible Renewable Resources in the year 2020, with milestones of:
  - at least 20 percent Eligible Renewable Resources through 2013,
  - 24 percent Eligible Renewable Resources from 2014-2016, and
  - 28 percent Eligible Renewable Resources from 2017-2019.

Customers also are given the opportunity to participate directly in programs that increase their individual use of renewable energy. Programs that support the retail installation of renewable energy resources, such as the Neighborhood Solar Program or rebates for the installation of Solar Electric generation systems, are available to customers through the Public Benefits Program.

## 5.16 CLIMATE CHANGE

Page 464 4.16 Climate Change; text in first paragraph will be REVISED as follows:

This report is based in part on quantitative modeling of future greenhouse gas (GHG) emissions completed by Sierra Research, Inc. (see Technical Appendix L entitled *Technical Report Greenhouse Gas Inventories, City of Santa Clara*, dated September June 2010).

Page 464 4.16 Climate Change; Section 4.16.2.1 Climate Science Overview; text in first paragraph will be REVISED as follows:

Unlike emissions of criteria and toxic air pollutants (previously described in Section 4.10 Air Quality), which have local or regional impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated compounds. The primary GHGs of concern are summarized in Table 4.16-1.

Page 465 4.16 Climate Change; Section 4.16.2.3; text will be REVISED as follows:

### **4.16.2.3 Effects of Climate Change Santa Clara 2008 Emissions Inventory**

Santa Clara, with a service population of 222,000 (employees + residents) in 2008 is estimated to have generated GHG emissions of approximately 2.064 MMT, for emissions of approximately 9.3 MT CO<sub>2</sub>e/SP/yr. The largest emission sector was electric energy consumption (43%), followed by mobile sources including on-road VMT (29%), industrial/commercial combustion processes (14%), natural gas space heating (11%), and waste management (3%). For a detailed breakdown of emissions by each sector, refer to Technical Appendix L.

#### **4.16.2.3 4.16.2.4 Effects of Climate Change**

Among the potential implications of global warming are rising sea levels, and adverse impacts to water supply, water quality, agriculture, forestry, and habitats. In addition, global warming may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health. Details of these changes in California include<sup>5</sup>:

- Mean annual temperature increases from 2 to 6 degree C. California's complex terrain will modulate the temperature gains locally.
- Unknown change to annual precipitation total but an increase in extreme wet and dry conditions is expected. More precipitation will fall as rain than snow in the middle elevations of the mountains.
- Decreased seasonal snowpack accumulation particularly in the northern Sierra (up to 90 percent by 2100) and earlier melt time.
- Less mountain block recharge from snowpack expected with possible implications for long-term support of regional aquifers.
- Annual runoff concentrated more in winter months with more variability and greater extremes.
- Sea level rise up to 55 inches with the potential for higher rises if ice sheets collapse.
- Ecosystem challenges increased due to exacerbation of existing threats from above changes.

Page 472      4.16 Climate Change; Section 4.16.5.4; text in second paragraph will be REVISED as follows:

However, the Plan-level GHG emissions per service population methodology adopted by BAAQMD for assessing a comprehensive General Plan's contribution to future climate change involves a fundamentally different analysis in that a Plan's emissions are compared to desired *future* levels, in 2020 and 2035 (based on a straight-line projection to 2050). In this analytical approach, the City's *existing* GHG emissions are only of secondary importance. As described above, Santa Clara, with a service population of 222,000 (employees + residents) in 2008 is estimated to have generated GHG emissions of approximately 2.064 MMT, for emissions of approximately 9.3 MT CO<sub>2</sub>e/SP/yr. The primary focus is a comparison of the City's *future* GHG emissions against *future* statewide 'carbon-efficiency' targets. The City's *existing 2008* GHG emissions become relevant in identifying how 'carbon-efficient' the City is at the moment, and how much more carbon-efficient the City may need to become over time. Baseline 2008 emissions of 9.3 MT CO<sub>2</sub>e/SP need to be reduced 29% to achieve the 2020 statewide efficiency. However, determining the significance of the General Plan's forecast GHG emissions (whether cumulatively considerable or not), and if so, the magnitude of GHG emissions reduction necessary, depends on the comparison of *future* conditions - 2020 and 2035 GHG emissions under the General Plan and whether they would: 1) exceed AB32; and 2) be on a trajectory to meet EO S-3-05 emissions levels, respectively.

Page 475      4.16 Climate Change; Section 4.16.6.1 Santa Clara 2020 GHG Emissions; text in first paragraph will be REVISED as follows:

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<sup>5</sup> California Climate Change Center, *Our changing Climate- Assessing the Risks to California*. 2006. Available at [http://www.climatechange.ca.gov/publications/biennial\\_reports/index.html#2006report](http://www.climatechange.ca.gov/publications/biennial_reports/index.html#2006report).

Dividing the total emissions by the City's 2020 service population yields an average carbon-efficiency of 9.2 MT CO<sub>2</sub>e/SP, or ~~roughly 39 percent~~ 2.6 MT CO<sub>2</sub>e/SP above the statewide efficiency standard of 6.6 MT CO<sub>2</sub>e/SP necessary to achieve AB 32 goals for 2020. At the state level, 2020 emissions are forecast under the 'business as usual' scenario to be 596 MMT CO<sub>2</sub>e, and need to be reduced to 422 MMT CO<sub>2</sub>e, a reduction of 174 MMT. Thus forecast state emissions will need to be reduced by 29% ( $0.292 \times 596 = 174$ ).

Santa Clara's 2020 forecast CO<sub>2</sub>e emissions are 2.395 MMT, and need to be reduced to 1.7 MMT, a reduction of 0.695 MMT. As a percentage, this largely matches the state as a whole; City 2020 emissions need to be reduced 29% to meet the AB 32 target ( $2.395 \times 0.29 = 0.695$ ). On a service population basis, City's 2020 emissions are forecast to be 9.2 MT CO<sub>2</sub>e/SP, and need to be reduced to 6.6 MT CO<sub>2</sub>e/SP, a reduction of 28% on a per person and job basis.

So, Santa Clara's 2020 emissions need to be reduced by the same ~~Proportionally, this is somewhat more than the~~ percentage as the statewide reduction in GHG emissions mandated under AB 32. ~~However,~~ ~~†~~ The estimates of the City's future GHG emissions largely reflect past and current performance and may represent scenarios that are in fact worse than what is likely to occur. An updated, more refined 2020 emissions inventory estimate will be made as part of the Climate Action Plan prior to 20156. Figure 4.16-2 depicts the relative contribution of the City's various emissions sectors as forecast in 2020, and the emission reduction necessary to meet the 2020 state target as translated for Santa Clara's projected 2020 service population.

Page 479      4.16 Climate Change; Section 4.16.6.3 Mitigation; DELETE the following text from Table 4.16-5:

5.10.4 P2 Implement water transmission alternatives to ensure a reliable supply in Santa Clara.
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Page 487      4.16 Climate Change; text in Table 4.16-6 will be REVISED as follows:

Santa Clara 2035 General Plan Policy	BAAQMD Sector Reduction Percentage
5.8.2-P1 Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.	0% to 9%

## 5.17 CUMULATIVE ANALYSIS

Page 513      Chapter 6 Cumulative Analysis; Section 6.2.1 BART Extension to Silicon Valley; the text will be REVISED as follows:

The BART to Silicon Valley Project consists of an extension of the existing BART regional heavy rail system to Milpitas, San José and Santa Clara. The BART Extension to Silicon Valley will extend over 16 miles along the existing Union Pacific Railroad alignment south of the planned BART Warm Springs Station in Fremont. When completed, this fully grade-separated project will include: six stations – one in Milpitas, four in San José and one in Santa Clara; a 10-mile extension to Milpitas and the Berryessa area in east San Jose; a 5-mile tunnel in downtown San Jose; and a new

maintenance and storage facility in Santa Clara. The BART extension from Fremont to Warm Springs is now under construction. This project is being managed by the Valley Transportation Authority on behalf of BART. The 5-mile extension to Warm Springs is planned to be complete by 2014.

The current efforts by VTA are focused on obtaining \$900 million in Federal funding for ~~the a first~~ phase extension from Warm Springs to Berryessa. This \$2 billion, 10-mile project ~~is in~~ will begin final design in 2011 and is planned to start construction in 2012 and be complete by 2018. The remaining gap in the BART to Silicon Valley project is the 6-mile, ~~\$4 billion~~ link from Berryessa to Downtown San Jose, Diridon Station, and the Santa Clara station near the Mineta San Jose International Airport. This section includes 5 miles of tunnel construction. The project is at 65 percent design completion and will resume project development when federal funding is secured for the first phase., ~~but is "on hold" until construction funding is secured.~~ The possible financing strategies are based on: improvement in the local economy (sales tax revenues are the source of local BART funds); seeking additional Federal funds (once the Berryessa extension funds are secured); increased Federal funding opportunities for urban transit as part of new Federal transportation policy bill (expected in 2011); and increased BART ridership projections based on connectivity with HSR service at Diridon Station (not accounted for in current BART studies). ~~Overall, the goal is to secure funding to allow~~ For purposes of this EIR, the Berryessa-Downtown San Jose-Santa Clara Station BART segment is assumed in the cumulative analysis to be complete sometime between 2025 and 2035.

Page 518 Chapter 6 Cumulative Analysis; Section 6.2.14 San Jose Airport Master Plan; the text will be REVISED as follows:

A portion of the City of Santa Clara's eastern border is adjacent to the San Jose Airport. The Airport Master Plan for San Jose International consists of a program of facility improvements designed to fully accommodate commercial aviation demand (passengers and cargo) projected for the year 2017, with development phased as demand warrants and is determined to be financially feasible. The Master Plan was originally adopted by the City of San Jose in June 1997 and approved by the Federal Aviation Administration (FAA) in December 1999. Subsequent to its 1997 approval, the Airport Master Plan has been revised through a series of City-approved amendments and construction of various capital improvement projects has been completed or is currently underway. Most of the airfield improvement projects have been completed. Other projects that have been completed include various improvements to the on-Airport roadway system, a new Federal Inspection Services (FIS) building for international flights, and a new jet fuel storage and distribution facility. As part of the Airport Master Plan implementation, the City of San Jose has also completed a noise mitigation program that included the soundproofing of over 1,300 dwelling units in the aircraft noise-impacted residential neighborhoods of Santa Clara north of US 101. Current construction activities include a new passenger terminal and adjacent parking garage with associated roadway improvements.

The City of San Jose is proposing to amend the approved Airport Master Plan in two primary categories: 1) Shift the horizon year from 2017 to 2027; and 2) With regard to air passenger, air cargo and general aviation, modify development program objectives and future facilities requirements to reflect updated demand forecasts. In 2009, the City completed an update to the aviation demand forecasts for San Jose Airport. Based on this 2009 updated forecast, the level of air passenger activity (i.e., 17.6 million annual passengers) at San Jose Airport that was originally projected to be reached by year 2010, and subsequently projected to be reached by 2017, is now projected not to be reached until year 2027. The projected annual air cargo volume for year 2027 is

189,700 tons. This demand level is 40 percent less than the 315,300 tons that had been previously projected to occur by year 2017.

### **5.18 REFERENCES**

Page 538 Chapter 8 References; text under Consistency header will be REVISED as follows:

Bay Area Air Quality Management District (BAAQMD). 2010. ~~Draft~~ Bay Area 2010 Clean Air Plan. ~~March~~ September 2010.

Page 545 Chapter 8 References; text under Air Quality header will be REVISED as follows:

BAAQMD. 2010. ~~Draft~~ Bay Area 2010 Clean Air Plan. ~~March~~ September 2010.

### **5.19 APPENDICES**

Appendix L Appendix L Technical Report Greenhouse Gas Inventories, City of Santa Clara; the July 2010 version has been REPLACED by a September 2010 version as follows:

The file is included on CD in the back cover of this document. Copies are available in print upon request to the City.

## **6 COPIES OF THE COMMENT LETTERS ON THE DRAFT EIR**

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**LETTER A**

**CALIFORNIA STATE CLEARINGHOUSE**

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Arnold Schwarzenegger  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Cathleen Cox  
Acting Director

August 24, 2010

Julie Moloney  
City of Santa Clara  
1500 Warburton Avenue  
Santa Clara, CA 95050

Subject: City of Santa Clara Draft 2010-2035 General Plan  
SCH#: 2008092005



Dear Julie Moloney:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 23, 2010, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

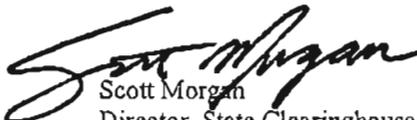
Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

  
Scott Morgan  
Director, State Clearinghouse

Enclosures  
cc: Resources Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2008092005  
**Project Title** City of Santa Clara Draft 2010-2035 General Plan  
**Lead Agency** Santa Clara, City of

**Type** EIR Draft EIR

**Description** The proposed Draft 2010-2035 General Plan has a planning horizon through 2035 and includes goals and policies for land use, community design, circulation, housing, public facilities, open space, recreation, conservation, noise seismic, and safety, sustainability, and historic preservation. The 2009-2014 Housing Element is also a part of the Draft General Plan. Potential development identified in the proposed Draft 2010-2035 General Plan includes both intensification of existing land uses and expansion of the allowed uses under the previous General Plan. In addition to the General Plan update, the project include specific General Plan land use designation and map amendments to sites through the City. The purpose of these individual amendments is to modify each site's General Plan land use designation to reflect the existing land use on that site. The project also includes two Redevelopment Plan Amendments. The Bayshore North Redevelopment Plan Amendment and the University Redevelopment Plan Amendment both include a change to the text requiring all land uses in the Redevelopment Area to conform to the proposed Draft 2010-2035 General Plan, as well as to any proposed individual land use amendments within the Redevelopment Project Area.

**Lead Agency Contact**

**Name** Julie Moloney  
**Agency** City of Santa Clara  
**Phone** (408) 615-2450 **Fax**  
**email**  
**Address** 1500 Warburton Avenue  
**City** Santa Clara **State** CA **Zip** 95050

**Project Location**

**County** Santa Clara  
**City** Santa Clara  
**Region**  
**Lat / Long**  
**Cross Streets** City-wide  
**Parcel No.**  
**Township**

**Range** **Section** **Base**

**Proximity to:**

**Highways**  
**Airports**  
**Railways**  
**Waterways**  
**Schools**  
**Land Use** City-wide

**Project Issues** Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Geologic/Seismic; Growth Inducing; Landuse; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Other Issues

**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Management Agency, California; Resources, Recycling and Recovery; California Highway Patrol; Caltrans, District 4; Department of Housing and Community Development; Regional Water

**Document Details Report  
State Clearinghouse Data Base**

Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission

---

*Date Received* 07/09/2010      *Start of Review* 07/09/2010      *End of Review* 08/23/2010

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STATE OF CALIFORNIA — BUSINESS TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

**DEPARTMENT OF TRANSPORTATION**

111 GRAND AVENUE  
P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 622-5491  
FAX (510) 286-5559  
TTY 711



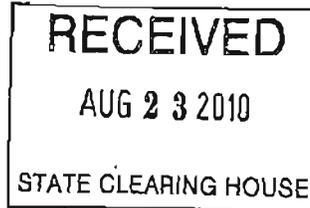
*Flex your power!  
Be energy efficient!*

August 23, 2010

SCL-GEN  
SCL00197  
SCH#2008092005

Ms. Julie Moloney  
City of Santa Clara  
1500 Warburton Avenue  
Santa Clara, CA 95050

Clear  
08/23/10  
Q.



Dear Ms. Moloney:

**CITY OF SANTA CLARA DRAFT 2010-2035 GENERAL PLAN - DRAFT ENVIRONMENTAL IMPACT REPORT**

Thank you for continuing to include the California Department of Transportation (Department) in the environmental review process for the Santa Clara General Plan Update project. The following comments are based on the Draft Environmental Impact Report (DEIR).

***Traffic Forecasting and Highway Operations***

The Department recommends that the background and cumulative conditions of the General Plan include a listing of on-going, approved and anticipated proposed project facilities for Phase I, II and III development conditions.

Page 363, Section 4.12.4.2: Travel Demand Forecasting, Table 4.12-8: Change in Citywide Vehicle Trip Generation Compared to Existing Conditions, demonstrates 545,900 vehicles per hour (vph) under Existing Conditions and 625,750 vph under 2035 General Plan Conditions. In other words, Table 4.12-8 shows an increase of generated trips of 79,850 vph between Existing Conditions and 2035 General Conditions, which could potentially cause a significant traffic impact on US 101 and State Route (SR) 237 within the study area. The Department notes that the report conducts roadway segment analysis in Table 4.12-9: Existing and 2010-2035 General Plan Roadway Segment LOS Summary and Table 4.12-12: Roadway Segments in Adjacent Communities Analysis Summary. However, the report should also include turning movement traffic per study intersection per AM and PM peak hour shown in the diagram under Existing Conditions and 2035 General Plan Conditions. It is particularly important that the report include intersection/interchange analysis of US 101 and SR 237 under Existing Conditions and 2035 General Plan Conditions.

As traffic growth occurs, the report should discuss the impacts to the surrounding freeway corridors. Include freeway segment analysis for US 101, SR 237 and Interstate 280.

Ms. Julie Moloney / City of Santa Clara  
August 23, 2010  
Page 2

The report should discuss Transportation Demand Management (TDM) programs in more detail. It should specify clearly what kind of measures the City is planning to implement, such as free shuttle bus rides within the downtown core, park and ride facilities, car and van pooling pickup locations, and other incentives to mitigate and reduce traffic demand.

Please discuss what feasible strategies or fair-share contributions to state and Congestion Management Program facilities will significantly improve the City's major and local roadway traffic movements and conditions.

The City should consider installing traffic monitoring devices for traffic management, such as installing red-light and no-right-turn violator CCTV monitoring systems on some major city intersections.

Please feel free to call or email me at (510) 622-5491 or [Lisa\\_Carboni@dot.ca.gov](mailto:Lisa_Carboni@dot.ca.gov) with any questions regarding this letter.

Sincerely,



LISA CARBONI  
District Branch Chief  
Local Development - Intergovernmental Review

c: State Clearinghouse

**LETTER B**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION**

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**DEPARTMENT OF TRANSPORTATION**  
111 GRAND AVENUE  
P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 622-5491  
FAX (510) 286-5559  
TTY 711



*Flex your power!  
Be energy efficient!*

August 23, 2010

SCL-GEN  
SCL00197  
SCII#2008092005

Ms. Julie Moloney  
City of Santa Clara  
1500 Warburton Avenue  
Santa Clara, CA 95050

Dear Ms. Moloney:

**CITY OF SANTA CLARA DRAFT 2010-2035 GENERAL PLAN - DRAFT ENVIRONMENTAL IMPACT REPORT**

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Ms. Julie Moloney / City of Santa Clara

August 23, 2010

Page 2

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Please feel free to call or email me at (510) 622-5491 or [Lisa\\_Carboni@dot.ca.gov](mailto:Lisa_Carboni@dot.ca.gov) with any questions regarding this letter.

Sincerely,



LISA CARBONI  
District Branch Chief  
Local Development – Intergovernmental Review

c: State Clearinghouse

**LETTER C**

**SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT**

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# County of Santa Clara

Roads and Airports Department



101 Skyport Drive  
San Jose, California 95110-1302  
(408) 573-2400

August 25, 2010

Ms. Julie Moloney, Associate Planner  
City of Santa Clara, Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

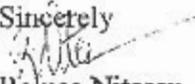
Subject: City of Santa Clara 2010-2035 General Plan Update, Draft Environmental Impact Report (DEIR)

Dear Ms. Moloney,

Your July 12, 2010 e-mail with the information regarding the subject application has been reviewed. Please see our comments attached.

If you have any questions, please contact me at 408-573-2464.

Sincerely,

  
Raluca Nitescu, PE  
Project Engineer

Attachment: Roads and Airports Department (RAD) Comments

cc: Dawn Cameron, RAD, Consulting Transportation Planner  
DEC, MA, WRL, File

**Santa Clara County Roads & Airports Department**  
**Comments on Draft Santa Clara 2010-2035 General Plan and DEIR**

1. There are four County expressways within the limits of the City of Santa Clara: Central Expressway, Lawrence Expressway, Montague Expressway, and San Tomas Expressway. The 2010-2035 General Plan and DEIR refer to Montague and San Tomas Expressways as one expressway throughout both documents. These are considered two separate expressways (San Tomas is a north-south expressway and Montague is an east-west expressway). For consistency with County documents, countywide transportation plans, and regional transportation plans, please reference them as two expressways in the General Plan and EIR.
2. As noted on page 362 of the DEIR, the City opted to perform “a conservative analysis” of traffic impacts in the vehicular traffic modeling and roadway segment analysis. They did this by excluding several expressway-related projects that are listed in the *Comprehensive County Expressway Planning Study 2008 Update* adopted by the Board of Supervisors on March 3, 2009. The 2008 Update was endorsed by several cities, including the Santa Clara City Council on December 2, 2008. The City’s reason for excluding these projects was to test whether each of these capacity enhancement projects was really needed. The County has the following comments about the list of projects excluded from analysis (page 362):
  - a. Project #1 (Widening Central Expressway between Lawrence Expressway and San Tomas Expressway), Project #4 (Widening Central Expressway between Mary Avenue and Lawrence Expressway), and Project #7 (Converting US 101/Montague Expressway interchange to partial cloverleaf) – The City’s traffic analysis indicated LOS deficiencies for these segments without the projects and, therefore, listed these projects as mitigations. Our understanding is that this means these projects would be consistent with the 2010-2035 General Plan. Please confirm this understanding.
  - b. Project #2 (Widening Montague Expressway between Trade Zone and Park Victoria) – This project is not listed as a mitigation in the Transportation and Traffic section of the DEIR. In addition, this segment of Montague Expressway is not listed in Table 4.12-12 so there is no indication of whether Santa Clara’s growth affects this segment of Montague Expressway. The County does not concur with excluding an approved project from the traffic modeling when the project is completely outside of the boundaries of the City of Santa Clara and the cities through which the project travels support the project. The EIR should provide traffic impact analysis for this segment to indicate whether it is needed as a mitigation for Santa Clara City’s growth projections in the General Plan.
  - c. Project #3 (Widening San Tomas Expressway between Williams Road and El Camino Real) – This project is not listed as a mitigation in the Transportation and Traffic section of the DEIR. In addition, the General Plan DEIR traffic analysis was based only segment analysis and 24-hour ADT volumes and did not look at peak period intersection LOS. We note that Page 8.7-13 in the Draft 2010-2035 General Plan lists some forecasted intersection LOS conditions but does not include any San Tomas Expressway intersections most of which are CMP intersections. The County requests that the General Plan DEIR provide information on the future condition peak hour intersection LOS for San Tomas Expressway as was done for the 13 intersections listed in Table 8.7-6 in the

General Plan. In addition, please clarify whether the San Tomas widening project is consistent with the 2010-2035 General Plan.

- d. Project #5 (Converting Central Expressway HOV queue jump lanes at Bowers Avenue to mixed-flow lanes) – This project was completed by the County in 2009 and, therefore, it should be removed from the list of projects on page 362.
  - e. Project #6 (Converting at-grade intersections on Lawrence Expressway at Arques Avenue, Kifer Road, and Monroe Street to grade-separated interchanges) – These projects are not listed as mitigations and, as explained to us at a meeting with City staff and consultants on July 29, 2010, would not be considered consistent with the 2010-2035 General Plan. The analysis for Lawrence Expressway was based only on segment analysis and did not include LOS analysis for the intersections in question. The Lawrence/Arques and Lawrence/Monroe intersections are CMP intersections and must meet CMP standards. These grade separation projects were included in the Expressway Study due to intersection LOS F conditions in 2002. The Lawrence/Monroe intersection continued to be LOS F in 2007 and the remaining two intersections are expected to return to LOS F in the future. We note that Page 8.7-13 in the Draft 2010-2035 General Plan lists some forecasted peak hour intersection LOS conditions but these three Lawrence Expressway intersections are not included in the list. In addition, the Arques project is completely located within City of Sunnyvale and the Kifer and Monroe intersections are shared with the City of Sunnyvale. The County requests that the General Plan DEIR analyze the future condition peak hour LOS for these intersections to determine if the planned grade separations should be included as mitigations for General Plan growth impacts.
  - f. Project #8 (Improvements at I-280/Lawrence Expressway/Calvert Drive interchange) – This is an operational improvement project, not a capacity enhancing project. It should be removed from the list of projects on page 362 and it should be considered consistent with the General Plan.
3. Page 8.7-4 of the Draft 2010-2035 General Plan lists the CMP facilities. This listing needs to be consistent with the existing conditions for Lawrence Expressway/El Camino Real and Lawrence Expressway/Stevens Creek Blvd. Both of these locations have existing grade separations in a tight diamond configuration which includes two different signalized intersections for the on- and off-ramps at each location. Therefore, the list should indicate that there are the two separate CMP facilities for each location. This is also true for Table 8.7-6 on page 8.7-13 which is showing existing and future peak hour LOS conditions for Lawrence Expressway/El Camino Real – there should be LOS information for both of the Lawrence Expressway/El Camino Real signalized intersections.

**LETTER D**

**SANTA CLARA VALLEY TRANSPORTATION AUTHORITY**

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August 25, 2010

City of Santa Clara  
Planning Department  
1500 Warburton Avenue  
Santa Clara, CA 95050

Attention: Carol Anne Painter

Subject: Draft Santa Clara General Plan Update 2010-2035 and Draft EIR

Dear Ms. Painter:

Thank you for involving Valley Transportation Authority (VTA) early in the development of your General Plan Update. VTA has reviewed the draft Santa Clara General Plan Update 2010-2035 and accompanying Draft Environmental Impact Report (EIR). Based on our review and discussions with City staff, we have the following comments:

In general, VTA commends the City for its vision and for adopting a multi-modal approach in the Mobility and Transportation Element of the General Plan Update. We support the introduction of the “full service streets” concept and the City’s efforts to incorporate sidewalks, bicycle lanes, and transit improvements as appropriate in roadway improvements included in the General Plan Update. These improvements will help make alternative modes more attractive for Santa Clara residents and workers and help reduce single-occupant automobile travel in the City, which can help reduce the transportation impacts identified in the Draft EIR.

El Camino Real Focus Area

VTA supports the overall direction in the General Plan update to designate the El Camino Real corridor as a Focus Area and work toward a roadway design that includes enhanced facilities for transit users, pedestrians and bicyclists. As noted in the draft General Plan and EIR, VTA is in the process of planning for Bus Rapid Transit (BRT) service on El Camino Real. In May 2009, the VTA Board adopted the VTA BRT Strategic Plan, which included three corridors for near-term implementation: El Camino Real, Alum Rock Avenue and Stevens Creek Boulevard in Santa Clara County. In April 2010 VTA initiated Conceptual Engineering for the El Camino Real BRT project. The proposed schedule for the new BRT service between the Palo Alto Transit Center and Downtown San Jose is for service to begin in 2015, with East Valley service starting in 2013. VTA believes that BRT can play a significant role in reducing single-occupant automobile trips and supporting development goals in the El Camino Real Focus Area in Santa Clara.

It is important to note that the BRT service may either run in a dedicated transit lane in the middle of the roadway, or in a mixed-flow travel lane on the outside of the roadway. The location and configuration of BRT facilities along the corridor will be determined through the Conceptual Engineering and environmental review process for the El Camino Real BRT project, which will include coordination between VTA, the cities along the corridor, and Caltrans. Until the configuration of the BRT alignment is determined, it is important to ensure that options are not precluded. Accordingly, we are concerned that Figure 5.4-2 in the draft General Plan and Figure 2-12 in the DEIR is misleading because it does not show a center-running BRT lane as the 2009 BRT Strategic Plan indicates. For this reason, we suggest that these figures be modified to show potential BRT lanes in the median and explain that these figures are only illustrative and are not intended to preclude dedicated lanes for BRT.

#### Stevens Creek Focus Area

As noted above, the Stevens Creek Boulevard corridor is also included in the VTA BRT Strategic Plan and is identified for near-term implementation, next in priority after the Santa Clara/Alum Rock and El Camino Real corridors. We commend the City for including policies in the draft General Plan (such as Policy 5.4.4-P10 and 5.4.4-P11) that support BRT and multimodal transportation improvements along the Stevens Creek Boulevard corridor.

Similar to our comment about the El Camino Real Focus Area, we suggest that the Stevens Creek Boulevard graphic (Figure 5.4-5 in the draft General Plan and Figure 2-15 in the DEIR) be modified to include a possible median alignment. In addition, we suggest that the language in the draft General Plan and DEIR be modified to clarify that "While the City expects that the land uses along the corridor will generally retain their auto-oriented character, the streetscape is expected to be improved to better accommodate multimodal travel including transit, pedestrian, and bicycle facilities."

#### LOS Approach

Based on conversations with City staff and consultants, our understanding is that the City assumed an "averaged" LOS approach. Please provide further details of the methodology and an explanation of how this approach would be applied.

#### Consistency with the Valley Transportation Plan 2035

Section 4.12 of the General Plan shows that ten roadway projects included in the Valley Transportation Plan (VTP) 2035 financially constrained project list (projects 1 to 7) were not included in the assumptions. While we gained a preliminary understanding of the intent for not including these improvements, the rationale is not sufficiently explained in the General Plan documents. Furthermore, the impacts of the inconsistency with the VTP and the 2008 Countywide Expressway Study were not analyzed. We believe it is important to understand the effects on the City's transportation system, as well as CMP facilities, of including and not including these projects. Accordingly, we would like to suggest further analysis on the impacts with and without these improvements be provided in the General Plan and EIR.

#### Roadway Level of Service Policy & Congestion Management Program

VTA supports the City's proposed approach of pursuing more flexible, multimodal roadway level of service standards at a citywide level, as described in Policy 5.8.1-P6. VTA also generally supports the proposed approach of exempting specific intersections in Focus Areas from the City-wide level of service standard for vehicles on a case-by-case basis or adopting an alternate standard in these areas, as described for example in Policy 5.4.1-P17. Because the DEIR transportation analysis shows vehicular level of service on a number of CMP facilities deteriorating below LOS E under the proposed General Plan, the City will need to prepare a Deficiency Plan in accordance with VTA's Deficiency Plan Requirements. The Deficiency Plan can be prepared in conjunction with the Area Development Policy and must contain a list of actions to help offset the vehicular level of service impacts, and an implementation plan with specific responsibilities and a schedule.

#### Impacts on Transit Bus Travel Times

The DEIR states that increased motor vehicle traffic and increased congestion with the proposed draft General Plan would result in increased transit travel times on transit corridors and classifies this as a Significant and Unavoidable Impact (Impact 4.12-6). While VTA agrees that the build out of the proposed General Plan and the accompanying changes to the level of service policy to exempt certain intersections would lead to increased travel times for buses running in mixed-flow operations, we do not agree that these impacts are de facto unavoidable. Adopting transit priority measures such as transit-only lanes, queue jump lanes, and transit signal priority could largely mitigate these impacts. Chapter 4 of the DEIR contains a thorough discussion of this impact and mentions the possible mitigation measures and the limitations on what can be assumed for the DEIR purposes. However, the Executive Summary (DEIR page ES-9) is inconsistent with this by omitting this discussion and simply classifying this impact as Significant and Unavoidable and that "There are no feasible measures to reduce this impact." As noted, VTA disagrees with this statement and requests that the language in the Executive Summary for this impact be modified to note that "Measures to reduce this impact such as transit-only lanes, queue jump lanes, and transit signal priority exist, but may not be fully within the control of the City of Santa Clara. However, the City of Santa Clara will work with VTA and Caltrans to pursue these transit priority measures, as stated in draft General Plan Policy 5.8.3-P3."

#### Transit Network Policies - North-South Transit Service

The Mobility & Transportation Diagram – Transit Network (Figure 5.7-2 of the DEIR) indicates "Potential Express Bus or BRT Corridor" along the Bowers/Great America corridor and the Lafayette Street corridor. The existing land use and projected growth patterns will likely not sustain enhanced transit service along this corridor. Therefore, VTA does not support the inclusion of this statement. VTA's *Transit Sustainability Policy & Service Design Guidelines* (TSP/SDG), adopted by the VTA Board in February 2007, contain information about land use thresholds and characteristics for considering potential service changes. We recommend that the draft General Plan policies (such as Policies 5.8.3-P2 and 5.8.3-P5) be modified to include a reference to the VTA TSP/SDG. In addition, we encourage the City to explore opportunities for public-private partnerships or employer contributions to provide improved transit service for the spread-out employment areas along these north-south corridors.

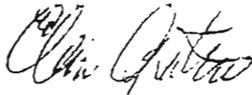
City of Santa Clara  
August 25, 2010  
Page 4

BART Extension to Silicon Valley

In order to provide updated information, we recommend that Section 6.2.1 of the Cumulative Analysis, the Draft EIR, on the BART Extension to Silicon Valley, be revised as shown in Attachment 1 to our letter.

VTA looks forward to continuing to partner with the City of Santa Clara in the General Plan 2010-2035 Update process, as well as future planning activities to implement the updated General Plan. If you have any questions, please call me at (408) 321-7093 or Robert Swierk at (408) 321-5949.

Sincerely,



Chris Augenstein, AICP  
Deputy Director, Planning

CA:YS:RS:kh

cc: Ying Smith, Robert Swierk, Roy Molseed, VTA

SC0806

### 6.2.1 BART Extension to Silicon Valley

The BART to Silicon Valley Project consists of an extension of the existing BART regional heavy rail system to Milpitas, San José and Santa Clara. The BART Extension to Silicon Valley will extend over 16 miles along the existing Union Pacific Railroad alignment south of the planned BART Warm Springs Station in Fremont. When completed, this fully grade-separated project will include: six stations – one in Milpitas, four in San José and one in Santa Clara; a 10-mile extension to Milpitas and the Berryessa area in east San Jose; a 5-mile tunnel in downtown San Jose; and a new maintenance and storage facility in Santa Clara. The BART extension from Fremont to Warm Springs is now under construction. This project is being managed by the Valley Transportation Authority on behalf of BART. The 5-mile extension to Warm Springs is planned to be complete by 2014.

The current efforts by VTA are focused on obtaining \$900 million in Federal funding for ~~the a~~ first phase extension from Warm Springs to Berryessa. This \$2 billion, 10-mile project is in final design and is planned to start construction in 2012 and be complete by 2018. The remaining gap in the BART to Silicon Valley project is the 6-mile, ~~\$4 billion~~ link from Berryessa to Downtown San Jose, Diridon Station, and the Santa Clara station near the Mineta San Jose International Airport. This section includes 5 miles of tunnel construction. The project is at 65 percent design completion, but is ~~“on hold” until construction funding is secured~~ does not have a capital funding plan. The financing strategies are based on: improvement in the local economy (sales tax revenues are the source of local BART funds); seeking additional Federal funds (once the Berryessa extension funds are secured); increased Federal funding opportunities for urban transit as part of new Federal transportation policy bill (expected in 2011); and increased BART ridership projections based on connectivity with HSR service at Diridon Station (not accounted for in current BART studies). ~~Overall, the goal is to secure funding to allow the Berryessa-Downtown San Jose-Santa Clara Station BART segment to be complete sometime between 2025 and 2035.~~

**LETTER E**

**PENINSULA CORRIDOR JOINT POWERS BOARD (CALTRAIN)**

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BOARD OF DIRECTORS 2010

SEAN ELSBERND, CHAIR  
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ARTHUR L. LLOYD  
KEN YEAGER

MICHAEL J. SCANLON  
EXECUTIVE DIRECTOR

August 25, 2010

Ms. Julie K. Moloney  
1500 Warburton Avenue  
Santa Clara, CA 95050

RE: Comments on the Draft Environmental Impact Report the City of Santa Clara Draft  
2010-2035 General Plan Update

Dear Ms. Moloney:

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan Update. The Peninsula Corridor Joint Powers Board (JPB) supports your objectives to reduce traffic congestion and promote expansion of the public transportation system. We applaud your efforts to support the development of Bus Rapid Transit (BRT) corridors and transit stations with transit-supportive land use policies, enhance pedestrian and bicycle mobility, and pursue environmentally sustainable and economically viable development patterns.

We respectfully submit the following comments:

- A project to construct a new center platform and pedestrian underpass is currently underway at the Caltrain Santa Clara station. Please incorporate the new project layout in your focus area planning at the station.
- We look forward to the further development of the BRT on the El Camino Real corridor and its key intermodal link at the Santa Clara transit station.
- Bike and pedestrian access routes near the JPB right-of-way should incorporate safety features, such as warning signage and fencing, to ensure public safety around an active railroad. Existing grade separated street crossings should be used for bike and pedestrian access to cross the tracks.
- The use of a 100 foot setback measured from the edge of railroad right-of-way is encouraged as a buffer to diesel particulate matter and vibration impacts. Although the JPB plans to electrify the Caltrain fleet, resulting in the elimination of diesel particulate matter emissions and a reduction in vibration, heavy freight rail will continue to operate on these tracks and the setback is a prudent precaution.

**PENINSULA CORRIDOR JOINT POWERS BOARD**

1250 San Carlos Ave. – P.O. Box 3006  
San Carlos, CA 94070-1306 650.508.6269

- A new street crossing of the JPB and Union Pacific Railroad (UPRR) railroad tracks, south of the Santa Clara Station, is proposed in the Santa Clara Station Focus Area. A new crossing south of the historic station depot and historic track may have impacts to the setting of the Caltrain Santa Clara station or to archaeological resources. The JPB has an obligation to preserve and maintain the station, as well as enhance those qualities that make the station eligible for inclusion in the National Register of Historic Places. Consultation with the South Bay Railroad Historical Society is recommended to avoid impacts to the JPB's historic asset.

Coordination with our agency, the UPRR, and the California Public Utilities Commission (CA PUC) is required to implement a new highway rail crossing. As part of its mission to reduce hazards associated with at-grade crossings and in support of the national goal of the Federal Railroad Administration (FRA), the CA PUC's policy is to reduce the number of at-grade crossings on freight or passenger railroad mainlines in California. The JPB also supports this goal. Any new crossing will need to be grade separated for public safety and to avoid traffic and operational impacts.

- The El Camino Real between De La Cruz Boulevard/Coleman Avenue and The Alameda is projected to degrade from the existing LOS D to a LOS F. The Santa Clara Caltrain station is accessed via this section of El Camino Real. We strongly advise the need for offsetting mitigation and transit priority measures to support the transportation needs of the high densities planned in the focus areas and to ensure the success of BRT on the El Camino Real.
- We look forward to seeing the results of your cooperative work with the City of San Jose on the development of the station area plan at the Caltrain Santa Clara station and with the City of Sunnyvale on the development of a station area plan at the Caltrain Lawrence station. Please ensure our adopted Caltrain Access Policy, which can be found at <http://www.caltrain.com/Assets/Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>, is incorporated into future station area planning.

Thank you for the opportunity to comment on your General Plan Update. If you have questions, please contact me at 650.508.7704 or via email at [cox@samtrans.com](mailto:cox@samtrans.com).

Sincerely,



Sylvia Cox  
Senior Planner,  
Capital Projects and Environmental Planning

Cc: Hilda Lafebre, DBIA  
Marisa Espinosa

**LETTER F**

**CITY OF SAN JOSE – AIRPORTS DEPARTMENT**

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SAN JOSE  
INTERNATIONAL  
AIRPORT

August 13, 2010

Ms. Julie Moloney  
City of Santa Clara Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

**Subject: Draft EIR for Proposed 2010-2035 General Plan**

Dear Ms. Moloney:

The City of San Jose Airport Department has reviewed the aviation-related sections of the subject Draft EIR and has no major concerns with the information and analyses presented. We do recommend, however, consideration of the comments presented below to clarify or add to the relevant aviation-related information.

1. Chapter 3 (Consistency with Adopted Plans) or Chapter 4.1 (Land Use). In one of these EIR sections, the ongoing implementation of the City of San Jose's Airport Master Plan for the Norman Y. Mineta San Jose International Airport (SJC) can be referenced. SJC is the only commercial airport in the South Bay, and its Airport Master Plan currently presents a facility development program intended to adequately accommodate air passenger, air cargo, and general aviation demand projected out to the year 2027. As part of the SJC Master Plan implementation, San Jose has completed a noise mitigation program that included the soundproofing of over 1300 dwelling units in the aircraft noise-impacted residential neighborhoods of Santa Clara north of Hwy. 101. Along with interior sound insulation and dedication of aviation easements for newer residential development, there are currently no existing land uses in the City considered incompatible with the Airport under State noise standards. Further supporting Airport compatibility, it appears that the Draft 2010-2035 General Plan does not propose expansion of residential development into any new areas projected by the SJC Master Plan to be exposed to high aircraft noise levels.
2. Chapter 4.13 (Hazards). The paragraph under "Federal Aviation Administration Regulations" on p. 395 is not fully accurate or as comprehensive as may be warranted. The following explanatory text is offered:

The Federal Aviation Administration (FAA) has promulgated regulations and policies to protect the safety and compatibility of aircraft operations. Foremost is Part 77 of Federal Aviation Regulations (FAR Part 77), "Objects Affecting Navigable Airspace", which sets forth standards and review requirements for protecting the airspace near airports, particularly by restricting the height of potential structures and minimizing

other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft approaching or departing an airport.

Under FAR Part 77, the FAA must be notified of proposed structures within an extended zone defined by an imaginary slope that radiates out several miles from an airport's runways (almost 4 miles in the case of San Jose International Airport). Any proposed structure, including buildings, trees, poles, antennae, and temporary construction cranes, which would penetrate this slope, or which would stand 200 feet or more in height irrespective of location relative to an airport, must be submitted to the FAA for an aeronautical review. The FAA typically makes one of three determinations based on its aeronautical study: (a) the structure as proposed would not be an airspace obstruction or hazard; (b) the structure as proposed would be an airspace obstruction but not a hazard if subject to specified conditions, such as roof-top lighting/markings and subsequent notification to the FAA of completed construction; or (c) the structure as proposed would be an airspace hazard and should not be approved.

As the FAA does not have authority to approve or disapprove a proposed off-airport land use, it is the responsibility of the City and other local land use jurisdictions to ensure that proposed development complies with the FAR Part 77 notification requirements and resulting FAA-issued determinations (the FAA does have the authority to protect the airspace by modifying flight procedures if feasible and/or restricting use of the airport). In its project review process, the City does coordinate with SJC staff on compliance with applicable FAA regulations and aeronautical determinations, including granting of aviation easements to San Jose to establish elevation limits over the project property.

The FAA also has policies discouraging potential hazardous wildlife attractants near airports, such as landfills, other trash processing facilities, and waste-water treatment facilities.

If your office or the EIR consultant has any questions regarding the above comments, please contact me at (408) 501-7702 or [cgreene@sjc.org](mailto:cgreene@sjc.org). Please also provide the San Jose Airport Department a copy of any further DEIR or Final EIR document when available.

Sincerely,



Cary Greene  
Airport Planner

**LETTER G**

**CITY OF SUNNYVALE**

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August 25, 2010

Julie K. Moloney  
Associate Planner  
Planning Division  
City of Santa Clara  
1500 Warburton Avenue  
Santa Clara, CA 95050

Re: Comments on the City of Santa Clara General Plan Update Draft Environmental Impact Report

Dear Ms. Moloney:

Thank you for allowing the City of Sunnyvale to review the General Plan Update Draft Environmental Impact Report (DEIR).

**Land Use Comments**

We understand the City is using a "Progressive Phasing" approach for the Plan, with different land use and intensities being phased in over time. Will environmental review be completed at each phase to ensure changes in the environmental setting are taken into account?

**4.1.2.2 Adjoining Jurisdictions- Sunnyvale**

El Camino Real Precise Plan-The DEIR should be amended to ensure the following statement is correct:

*The City of Sunnyvale has adopted a precise plan for its portion of El Camino Real. This Plan provides design guidelines and identifies opportunities for redevelopment at specific locations, including the "gateway" to Santa Clara at Lawrence Expressway. The design guidelines encourage landscaping and signage to signify arrival into Sunnyvale. Sunnyvale allows building heights of up to eight stories and residential densities of up to 45 units per acre.*

The actual name for the document is the Precise Plan for El Camino Real.

The Precise Plan does not set out densities or height standards (it does provide some guidance for these factors), but the Zoning Code does address these issues. The majority of properties along El Camino Real are zoned either C-2/ECR (Highway Business with the El Camino Real Combining District) or R-4/ECR (High Density Residential with the El Camino Real Combining District). The density allowance for R-4 is 45 units per acre. There is no set residential

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density for the C-2 zoning district, although a minimum density of 36 units per acre is assumed for mixed use proposals.

Height requirements along El Camino Real are as follows:

- For properties located in designated Node areas (as shown in the Precise Plan), the maximum height is 75 feet, except when within 75 feet of a single-family residential district when the height limitation is 30 feet.
- For properties located outside designated Node areas, the maximum height is 55 feet, except when within 75 feet of a single-family residential district when the height limitation is 30 feet.

#### 4.1.4.1 Physically divide an established community?

Many of the policies listed below describe that efforts should be taken to work with the existing neighborhoods. Please consider adding language that requires these policies to apply to established neighborhoods in adjoining cities. This change will help ensure the impact on adjoining city neighborhoods is less than significant.

These policies include:

5.3.1-P1: Preserve the unique character and identity of neighborhoods through community-initiated neighborhood planning and design elements incorporated in new development.

5.3.1-P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

5.3.2-P11: Maintain the existing character and integrity of established neighborhoods through infill development that is in keeping with the scale, mass and setbacks of existing or planned adjacent development.

5.4.1-P5: Provide appropriate transition between new development in the Focus Area and adjacent uses consistent with General Plan Transition Policies.

5.4.1-P6: Encourage lower profile development, in areas designated for Community Mixed Use in order to minimize land use conflicts with existing neighborhoods.

Transition Policies: all

#### Traffic Comments

Please ensure that the transportation elements of the General Plan are consistent with other local plans, specifically Santa Clara County's

Comprehensive County Expressway Planning Study Implementation Plan and the Santa Clara County Congestion Management Program. Any inconsistency should be identified as a significant impact and include mitigation.

Thank you for your consideration in this matter. Please contact Andrew Miner, Principal Planner, at 408 730-7707, if you have any questions or concerns about items discussed in this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Miner". The signature is fluid and cursive, with a large initial "A" and "M".

Andrew Miner  
Principal Planner  
Planning Division of the Community Development Department

Cc: Hanson Hom, Director of Community Development  
Trudi Ryan, Planning Officer  
Jack Witthaus, Transportation and Traffic Manager

**LETTER H**

**GREENBELT ALLIANCE**

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August 24, 2010

Ms. Carol Anne Painter, City Planner  
City of Santa Clara  
Planning Division  
1500 Warburton Avenue  
Santa Clara, CA 95050

RE: Comments on the Draft Environmental Impact Report (DEIR) for the City of Santa Clara's General Plan

Dear Ms. Painter,

Thank you for allowing Greenbelt Alliance the opportunity to comment on the Draft Environmental Impact report for the City of Santa Clara's Draft General Plan. Greenbelt Alliance has had the opportunity to follow this process from the beginning as part of the City's General Plan steering committee. Our goal has been to work with the City in crafting an updated General Plan that is equitable, sustainable and progressive. Greenbelt Alliance has had the benefit of partnering with residents and organizations on reviewing and commenting on the Draft Plan and DEIR. The summation of those conversations is included in this letter. Greenbelt Alliance is also submitting two attachments: commentary provided by Urban Ecology as well as State Attorney General Brown's January 2009 letter to the City of Pleasanton on their General Plan update.

The Draft Santa Clara General Plan is based on seven major strategies. They include such noble goals as enhancing the City's high quality of life, promoting sustainability and maximizing health and safety benefits. Unfortunately, the policies contained within the General Plan, which also double as mitigation measures for environmental impacts in the DEIR, are vague and weak. They have been designed to preserve the status quo rather than prepare the City for the inevitable changes of the next few decades. The Bay Area, California and the nation as a whole, are at an important crossroads in history. Cities that are currently updating their general plans have a golden opportunity to play a significant role in re-shaping their communities so that they respond proactively to the structural changes on the horizon. Global climate change, a growing and aging population, rising energy costs and disappearing farmland are just some of the issues our cities will face, whether we choose to plan for them or not.

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## Phased Plan

The Draft General Plan is touted as a model due to its multi-horizon sequence for development. Phase I cannot move into Phase II until certain prerequisites are met and the same is true for transition from Phase II to Phase III. The need to meet prerequisites before opening up the next phase of development may be interpreted as a housing cap. While some prerequisites may be actual physical limitations, others are more subjective and poor interpretation could lead to further housing shortages. This is especially acute in a city like Santa Clara which is jobs-rich. With the region expected to grow by another two million by the year 2035, all cities are expected to take on their fair share of growth.

In June of 2009, State Attorney General Edmund G. Brown Jr., sued the City of Pleasanton over its housing cap. Pleasanton is a city where, much like Santa Clara, the number of new housing units has not kept pace with demand. Job growth in Pleasanton has nearly doubled in the past ten years. According to the Attorney General, if Pleasanton's housing cap continues to be enforced, the environmental consequences include increased traffic congestion and longer commute times, urban sprawl, increased greenhouse gas emissions and increased dependence on foreign oil. As a result of the Attorney General's involvement, Pleasanton agreed to build more housing.

Does Santa Clara's phasing plan and prerequisite goals prevent the City from meeting its share of the Regional Housing Needs Allocation in a timely manner? If so, can it be construed as a housing cap? The DEIR does not adequately analyze the environmental impacts of failing to build enough housing and consistently ignores the opportunity to build more housing as a mitigation measure.

## Jobs- Housing Balance

The City of Santa Clara has a jobs to employed resident ratio of 1.85, one of the highest in the County. This ratio decreases to 1.64 jobs per employed resident by 2035. Santa Clara could decide to build more housing on land currently designated for non-residential uses and, thereby, reduce the jobs/housing imbalance (a significant impact) much more than it has chosen to do. Doing this would positively advance transportation, air quality, energy and climate change goals.

The DEIR identifies many significant and unavoidable impacts, but in several cases states there are no feasible measures to reduce this impact. This is inadequate and the DEIR must go back and clearly define feasible mitigation measures to reduce impacts. For example, on page ES-9, it is stated that, "*Motor vehicle traffic and congestion due to the proposed Draft 2010-2035 General Plan would increase on roadway segments in other jurisdictions. (Significant and Unavoidable)*" While vehicular traffic may increase under any alternative, the amount of the increase could be reduced by a jobs/housing balance more equal than that proposed under the plan and by more aggressive land use and transportation policies. Why isn't building more homes a feasible mitigation? Correcting the City's jobs/ housing imbalance is not mentioned **at all** in the transportation and traffic executive summary. This is a feasible mitigation measure, however, it is one that Santa Clara prefers not to use.

## Alternatives

The Draft EIR discussion on alternatives seems to miss the point on the benefits of smart land use planning. The Balanced General Plan Growth Jobs/Housing Alternative proposes to meet ABAG's projected housing growth while reducing the number of net new jobs. When comparing this to the Draft Plan, the DEIR states on page 505, "*Modeling results indicate the modest reduction in jobs (5,600 fewer, for a citywide total of 147,000) under this Alternative would not substantially affect overall commute travel patterns, trip lengths, or travel modes share compared to the Draft 2010-2035 General Plan. Given the incremental decrease in overall daily VMT under the Balanced General Plan Growth Jobs/Housing Alternative, traffic impacts would be incrementally decreased, although on a per unit basis, traffic impacts would be equivalent to the Draft 201-2035 General Plan.*" The same 'minor reduction' is stated under Climate Change on page 506. The DEIR chose an alternative that would have only a minor reduction making it easy to dismiss it (despite showing a reduction in Vehicle Miles Traveled) and go with the Draft Plan.

Furthermore, the discussion around rejecting alternatives that add more homes and jobs while attaining a jobs/housing ratio of 1:1 is insubstantial. Why is it impractical for the City to consider higher density housing, or converting industrial land to residential, or encouraging high-rise mixed-use developments? These alternatives have been rejected because they would disrupt the status quo. Even further, the Environmentally Superior Alternative is ultimately dismissed due to fiscal reasons. Even though there are significant environmental benefits to Santa Clara providing more homes to meet current and future demand, the City chooses not to go down this path because of the "reduced revenue stream".

The City should include for study an Alternative that provides for a more equal jobs/housing balance. To quote the Attorney General's letter to Pleasanton (second attachment),

The DEIR examines only three alternatives to the proposed General Plan Update, none of which consider significantly reducing business development or significantly increasing residential development. CEQA requires a local agency to identify and study a reasonable range of alternatives that would attain most of the basic objectives of the project.<sup>54</sup> The fundamental purpose of alternatives analysis is to examine alternatives that can eliminate or reduce significant environmental impacts.<sup>55</sup> An EIR must meaningfully compare the alternatives as they contribute to global warming and an EIR should compare the alternatives' greenhouse gas emissions. Further, the differences in greenhouse gas emissions associated with the various alternatives should figure into the lead agency's identification of the "environmentally superior alternative."<sup>56</sup>

Santa Clara has failed to do this which has resulted in an inadequate DEIR. Instead of rushing through the General Plan update, the City must go back and provide a full range of alternatives and craft a General Plan that provides for more housing and less traffic congestion.

## Climate Change

The DEIR acknowledges in several places that efficient land use patterns and multi-modal transit reduce greenhouse gas emissions. When it comes to proactively including policies that support GHG emissions reduction, the City becomes vague. On page 468, the DEIR states,

*"Santa Clara's 2035 General Plan has a direct relationship to SB 375 in that the City's future mix and distribution of land uses will influence vehicle miles traveled (VMT) within and to/from*

*the City....Reducing GHG from passenger vehicles relies upon a „thræ-legged stool’ of strategies: driving less, using less fuel per mile, and using fuel with a lower carbon intensity. The City can only directly influence one ‚leg’ of the stool – VMT due to land use patterns. The other two ‚legs’ (vehicle fuel efficiency standards and the carbon-intensity of fuels) are the purview of state and/or federal agencies.”*

The City is building the case that there is little they can do to truly have an impact on reducing GHG emissions. This gives the City an excuse for inaction and maintaining the status quo of far more jobs than homes. On page 477 the DEIR talks about “*new and substantially advanced technologies*”, which is “*out of the City’s control.*” What *is* in the City’s control is land use, allowing more homes to be built in key locations. Building more homes is appropriate mitigation for the significant environmental impacts associated with adding far more jobs and forcing people to commute long distances to get to those jobs. However, as was apparent in the Alternatives Analysis, the City does not choose the alternative with the lowest VMT and consistently avoids any concrete language around adding more homes as a way for the City to meet its AB32 goals. One can assume that the City is more interested in its bottom line than in seriously addressing the Draft Plan’s environmental impacts.

In fact, the City relies on a deferred Climate Action Plan as mitigation for known impacts. Relying on some possible future event as mitigation for a certain significant impact is inadequate. The City initially stated it would do the Climate Action Plan as part of the General Plan update, and that has not happened, so how do we know a CAP will happen before 2015? How can the CAP even comply with State goals when the City continues to pursue a significant jobs/ housing imbalance? And even if all cars ran on non-fossil fuels, the DEIR fails to adequately analyze the impact of more jobs on urban sprawl and lost farmland. People will need to live somewhere to get to these jobs, and farmland in Gilroy and Livermore is often paved to meet the demands of Silicon Valley jobs.

On page 489, the DEIR provides a list of what will be included in the CAP for 2020. However, these measures lack strong implementation procedures and timelines that would ensure the City does not back out of its commitment.

*“Implementation of the CAP will be an ongoing adaptive management process, whereby opportunities to reduce GHGs will be evaluated and selected based on a variety of factors, including available technology, relative cost, and policy preferences, among others. Therefore, it is not possible to precisely predict the specific set of actions and strategies the City will pursue and implement over the next 10 years to achieve the overall magnitude of GHG emission reductions necessary to achieve statewide 2020 goals. However, as a matter of policy integral to the General Plan itself, the City is committing to do its part to meet statewide AB 32 goals by 2020.”*

Is the City stating that if the CAP identifies a reasonable opportunity to reduce GHGs that Santa Clara does not like (policy preferences), it may not select it? How is this a mitigation measure allowed under CEQA? Why won’t Santa Clara commit to some strong measurable tactics now, as part of this General Plan update? The City points to various policies throughout the Plan as mitigation, but the language is weak, vague, lacks clear implementable actions and provides opportunity after opportunity for the City to choose to maintain the status quo. Again, the City chooses to be vague about its commitments, preferring inaction and deferral to strong implementable policies that will lead to significant reductions in GHG emissions.

A long list of policies is given in the climate change chapter as proof that the Draft General Plan is reducing greenhouse gas emissions. The column that includes measures from the California Scoping Plan has clear, measurable programs such as “Install 3,000 MW of solar-electric capacity under California’s existing solar programs” and “Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials.” The language from the Draft General Plan, however, is weak, leading to the conclusion that many of these policies will never be implemented:

5.10.3-P4 “*Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.*” How will this be promoted? This is an inadequate measure to reduce a significant impact.

5.5.1-P6 “*For development proposing a minimum LEED Gold or greater equivalent, allow a ten percent increase in residential density and/or a ten percent increase in the maximum allowed non-residential square-footage, **provided that the increased density and/or intensity is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.***” So does this last statement effectively cancel out the density increase given the community’s aversion to building more homes?

5.1.1-P11 “*...encourage a 20 percent reduction in consumption.*” Encourage is not good enough for mitigation. How will the City encourage? Again, this is an inadequate measure to reduce a significant impact.

5.8.6-P3 “*Encourage flexible parking standards that meet business and resident needs as well as avoid an oversupply in order to promote transit ridership, bicycling and walking.*” How does this help the City achieve its greenhouse gas reduction targets? Why isn’t this required? Why not propose abolishing all parking minimums?

5.10.2-P2 “*Encourage development patterns that reduce vehicle miles traveled and air pollution.*” Again, this is an inadequate measure to reduce a significant impact. Why not commit to building more homes along transit corridors than is currently being proposed?

Santa Clara is required by law to adopt enforceable mitigation measures to lessen the project’s greenhouse gas emissions, yet it has failed to do so. “*Encouraging*” flexible parking standards and more efficient land use patterns is not enforceable language and therefore not proper mitigation measures under CEQA. The City does not commit to doing anything that might reduce impacts and instead relies on voluntary measures that are not enforceable. The City must go back and formulate specific and binding mitigation measures to be included in the General Plan update.

Much of the City’s vague language can be interpreted in a manner that prevents housing. The transition policies in particular seem to be designed to prevent infill housing. Additionally, Santa Clara’s new land use designations sound nice, but the definitions do not support these new designations. For example, a minimum 0.15 FAR is too low to support regional mixed-use. This reduces the amount of land available to build more housing and encourages more driving and less walking. As a result, more homes are pushed to the urban edge which leads to a loss of open space and increased VMT. This is a reasonably foreseeable impact that the DEIR fails to analyze.

Here, the City has an opportunity to strengthen its vague language, make good on its stated intentions and provide a measurable mitigation measure. Policy 5.3.1-P13 states “*Support high intensity development within a quarter mile of transit hubs and stations and along transit corridor*”. Here, the City should do more than “support.” It should set minimum FAR and height standards for development within a quarter-mile of transit hubs and along transit corridors. An FAR that leads to a more compact, walkable environment is much higher than 0.15. Setting a minimum of 0.15 is setting the bar too low.

## **Conclusion**

Greenbelt Alliance is concerned that the City of Santa Clara is avoiding its responsibility to commit to concrete mitigation measures that reduce significant environmental impacts. While advance technologies and support at the federal level will help in addressing climate change, relying on these uncertainties does not excuse the city from taking aggressive measures to address climate change.

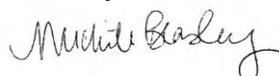
The prerequisites for phasing are an impediment to providing more homes. Stating the need to provide adequate services is an unsatisfactory reason for not providing homes for people who work in your community. This is an Environmental Impact Report, not a Fiscal Analysis. The City has also failed to provide a range of feasible alternatives. An alternative that provides more homes and a more balanced jobs/ housing ratio is entirely feasible for the City of Santa Clara considering the amount of land dedicated to surface parking and low-density strip malls. The reasoning behind rejecting such an alternative is flawed.

The City’s combination of vague policies and deferred mitigation is not legal under CEQA. Greenbelt Alliance recommends strengthening the Draft General Plan and re-writing the DEIR. We will continue to follow the City’s process closely.

Lastly, we wish to draw your attention to the two attachments. Urban Ecology raises many great points, several of which we have included in this letter. Please review their comments, especially as to how a General Plan update fails to make any mention of a professional sports stadium. The DEIR is woefully inadequate when it comes to any discussion of the 49ers stadium. Also note the letter from the Attorney General to the City of Pleasanton. The Attorney General is coming down hard on cities that fail to provide enough housing or adequate mitigation for environmental impacts. Santa Clara’s General Plan continues to exacerbate the regional jobs/ housing imbalance. Expecting to rely on cities like San Jose to pick up the slack is irresponsible.

Greenbelt Alliance requests that the City post all letters related to the Draft General Plan and DEIR on the City’s website. This is our second request. Since all letters are part of the public record, the City should make it easy for people to find comment letters. We wish to remain informed of all meetings, reports, and changes to the calendar in a timely manner.

Sincerely,



Michele Beasley  
Senior Field Representative, South Bay

## COMMENTS ON SANTA CLARA GENERAL PLAN EIR

Page	Comment
ES-7	The city could decide to build more housing on land currently designated for non-residential development and, thereby, reduce the jobs/housing imbalance (a significant impact) much more than it has chosen to do. Doing this would positively advance transportation, air quality, energy, climate change goals.
ES-12	Traffic and Circulation. Although vehicular traffic may increase under any alternative, the amount of the increase could be reduced by a jobs/housing balance more equal than that proposed under the plan and by more aggressive land use and transportation policies.
ES-12	Climate Change. The EIR states: “Achieving the substantial reductions [by 2035] will require policy decisions at the federal and state level and new and substantially advanced technologies that cannot be anticipated, and are outside the City’s control, and therefore cannot be relied upon as feasible mitigation strategies.” First, no analysis is presented for this statement. Second, even if this is true, it does not excuse the city from taking aggressive measures to address climate change. Third, many, if not most, policy issues involve decisions and technologies “outside of the City’s control”; this uncertainty is not generally accepted as an excuse for inaction.
ES-12-14	The Summary of Project Alternatives is noticeably user-unfriendly. It is quite difficult for the reader to determine the benefits and disadvantages of the alternatives and, therefore, come to decisions on environmental preference.
ES-14	The reasoning behind the formulation of the “Environmentally Superior Alternative” is not documented – it is not clear that an alternative that included more housing would be impractical. A city that is largely built out and with such a high jobs/housing imbalance should be capable of financially managing additional residential development, even in these difficult times. Also, see discussion on page 510, which is inadequate in its rationale for rejection of an alternative that would provide more housing.
86	A minimum FAR of 0.10 is too low to support the definition of, and commonly accepted standards for, the neighborhood and community mixed use categories. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.
86	A minimum FAR of 0.15 is too low to support the definition of, and commonly accepted standards for, the regional mixed use category. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.

Page	Comment
88	The maximum FAR's for the neighborhood commercial and community commercial categories (which appear to be the same except for the FAR) are too low for the defined intent; a more compact urban form is more likely to result in community acceptance and will take up less land that could be used for residential uses.
103	The "Land Use Policies" in the table are simply a restatement of one of the plan strategies – they are too general to ensure any results. Policies like these make it unlikely that the plan objectives can be achieved and will, therefore, have negative environmental impacts.
104	Policy 5.3.2-P5 appears to be contrary to state law. It also is an example of a policy that can easily be used to limit new residential development.
103-104	Taken together, the policies appear to be designed to effectively prevent infill development. The vague policies on neighborhood compatibility offer almost unlimited discretion for not approving residential development while approving non-residential development.
103-104	The set of land use policies make it extremely unlikely that the city will meet its Regional Housing Needs Allocation. Therefore, it is very likely that more than "roughly 3,500 housing units" will be needed elsewhere in the area to accommodate the job growth in the city, thus increasing adverse environmental impacts in the area. It is also possible that the land use policies, which are skewed in favor of non-residential development, will exacerbate the job/housing imbalance.
119	The EIR correctly states that "From 2007-2014, the City has a RHNA of 5,783 units, of which 2,207 are designated for lower-income households." With the 10% inclusionary housing provision, the city's only significant affordable housing strategy, it will have to build 22,070 units before 2014 to provide its share.
119	Prior to the Draft EIR, the city only built 65% of its then-applicable RHNA. This was during a time of steady home building. Is there any reason to suspect that it will do better this time, especially in hard economic times?
119	The EIR refers to the draft General Plan Table 5.2-1. This table says that by 2010 the city will have built half of its RHNA targets. Did that actually happen?
287-294	Some of the policies are unnecessarily vague. For example: Policy 5.3.1-P13: "The city should do more than "support." It should set minimum FAR and height standards for development within a quarter-mile of transit hubs and stations and along transit corridors.



Page	Comment
	<p>Policy 5.3.2-P2: The city should do more than “encourage.” It should require some minimum level.</p> <p>Policy 5.3.3-P6: The city should do more than “encourage.” It should require zoning regulations that meet the policy intent.</p> <p>Policy 5.3.4-P2: The city should do more than “encourage.” It should require zoning regulations that meet the policy intent.</p> <p>Policy 5.8.4-P9: To what does this apply? Policy 5.8.4-P8 already requires these features for new development.</p> <p>Policy 5.3.4-P11: The city should do more than “foster.” It should require pedestrian-friendly uses at the ground floor in some areas.</p> <p>There are numerous other examples, although many of them may not be so obvious. This vagueness undermines the probability that the city will achieve even its own modest jobs/housing balance objectives.</p>
296	<p>Policy 5.3.4-P16: Table 4.1-3 prohibits some auto-oriented uses in several mixed use districts. The policy and the table should be consistent.</p>
303	<p>Policy 5.8.1-P6: The deferred adoption of LOS standards, together with the deferred adoption of the CAP, provides little assurance that the air quality objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.</p>
304	<p>Policy 5.1.1-P10: The deferred adoption of the CAP, together with the deferred adoption of the LOS standards, provides little assurance that the GHG objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.</p>
478	<p>Polity 5.5.1-P6: Introducing an explicit compatibility test, given opposition to increased densities, will assure that no such development actually takes place.</p>
478-486	<p>Discussion of local food systems (community gardens, farmers markets, etc.) is missing. Food systems are normally part of a local sustainability plan.</p>
478-486	<p>Many of the policies are noticeably weak, leading to the conclusion that they may never be implemented. For example, Policy 5.3.3-P6 encourages neighborhood retail uses; the city, given its zoning powers, should have a more proactive policy to ensure that such uses take place.</p>
478-486	<p>Many of the policies are redundant and confusing. For example, Policy 5.8.5-P3 encourages bicycle facilities. First, it is extremely unlikely that the city means to apply this to “all new development.” Second, this policy covers the same topic, but not as well, as Policy 5.8.4-P8, which requires such facilities. A long list of policies does not necessarily make for good planning</p>

Page	Comment
489	Relying on a Climate Action Plan, which may or may not be adopted according to schedule in 2015, is, contrary to the discussion in the EIR, deferred mitigation. Sufficient knowledge currently exists for devising measures to mitigate the impacts of climate change at a citywide level.
504	The EIR states that “It is anticipated that the lower level of job growth would result in 38,000 less daily VMT compared to the proposed Draft 2010-2035 General Plan.” This does not appear realistic, assuming that the average commute is only 3 miles each way?
506	The EIR states that “[E]missions on a per unit basis would . . . continue to exceed state goals.” This is a continued acknowledgement that the mitigation measures fall short of meeting legislatively adopted goals.
506	The EIR states that “A Climate Action Plan would continue to be necessary to reduce 2020 emissions to comply with State goals.” In addition to being deferred mitigation, (1) it is very unlikely that the CAP can meet state goals with the proposed jobs/housing balance, and (2) even with a transportation sector fueled by non-fossil fuels there will still be a need to significantly reduce VMT, according to the EIR analysis, in order to achieve a 40% reduction of GHG by 2035.
509-510	The EIR presents insufficient reasons for not even including the “Additional Jobs/Housing Alternatives” in the subsequent comparison of alternatives. The reader is, therefore, deprived of a useful way of comparing possible alternatives, such as in Table 5.2 Comparison of Impacts of Alternative.
509-510	The “Additional Jobs/Housing Alternatives” is a “red herring,” designed to be rejected. A more reasonable way of constructing this alternative would be to produce more housing than the “Balanced General Plan Growth Jobs/Housing Alternative” but fewer than the proposed “Additional Jobs/Housing Alternatives.” This would provide more housing, improve transportation and air quality, and more effectively address climate change. Providing services are important, but they should not be used as an excuse for denying people a place to live. In any case, the financial impacts should be within the city’s capabilities to manage.
General	<p>A. The Prerequisite Goals and Policies, while admirable on their face, constitute a <i>de facto</i> impediment for improving the jobs/housing balance and, therefore, undermine the housing, air quality, energy, and climate change objectives.</p> <p>B. The EIR is remarkable in its omission of any discussion of a probable professional sports stadium.</p> <p>C. An alternative that provides for a more equal jobs/housing balance should have been considered. It is difficult to believe</p>



**Page**

**Comment**

that a city with the characteristics of Santa Clara cannot manage its finances in order to build adequate housing.

- D. The combination of vague policies to protect existing residential development, vague policies that may or may not result in any concrete action, prerequisites for phasing development, and relying on a Climate Action Plan that may or may not be adopted in some form constitutes a system that makes it unlikely that even the very modest jobs/housing goals will be achieved.



STATE OF CALIFORNIA  
OFFICE OF THE ATTORNEY GENERAL

EDMUND G. BROWN JR.  
ATTORNEY GENERAL

January 13, 2009

Janice Stern  
Principal Planner  
Community Development Department  
P.O. Box 520  
Pleasanton, CA 94566

RE: City of Pleasanton's General Plan Update Draft Environmental Impact Report

Dear Ms. Stern:

My office hereby submits these comments on the Draft Environmental Impact Report ("DEIR") for the City of Pleasanton's Proposed General Plan 2005-2025 ("General Plan Update" or "Project").<sup>1</sup>

We commend the City for its participation in the Alameda County Climate Protection Project and its decision to sign the U.S. Conference of Mayors Climate Protection Agreement.<sup>2</sup> Unfortunately, the General Plan Update, as currently written, does not contain an effective strategy to reduce greenhouse gas emissions, nor does the DEIR accurately analyze or effectively mitigate the greenhouse gas emissions stemming from the Project.

In enacting Senate Bill 375 this fall, the Legislature declared that "without improved land use and transportation policy, California will not be able to achieve the goals of AB 32."<sup>3</sup> The California Air Resources Board ("CARB") likewise has called local governments "essential partners" in implementing AB 32 and urged them reduce their emissions 15% from current levels by 2020.<sup>4</sup> This means that the General Plan Update must contain elements that reduce fossil fuel consumption.

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<sup>1</sup> The Attorney General submits these comments pursuant to his independent power and duty to protect the natural resources of the State. (See Cal. Const., art. V., § 13; Cal. Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Board of Medical Examiners* (1974) 11 Cal.3d 1, 14-15.) While this letter sets forth some areas of particular concern, it is not intended to be an exhaustive discussion of the DEIR's compliance with CEQA.

<sup>2</sup> General Plan Update ("GP") at 9-13; U.S. Conference of Mayors Climate Protection Agreement List of Mayors available at <http://www.usmayors.org/climateprotection/list.asp>

<sup>3</sup> Sen. Bill No. 375 (2007-2008 Reg. Sess.) § (1)(c) ("SB 375").

<sup>4</sup> California Air Resources Board, Climate Change Proposed Scoping Plan (October 2008) 26-27 ("Proposed Scoping Plan"). CARB approved the Proposed Scoping Plan on December 11, 2008.



## Background - Climate Change and Land Use Planning

California recognizes that disruptive climate change is an urgent problem requiring strong and immediate action. To this end, the state enacted AB 32, requiring the state to reduce its greenhouse gas emissions to 1990 levels by 2020. CARB, which is charged with implementing AB 32, has determined that the 2020 state target emissions level is 427 million metric tons of carbon dioxide equivalent (“MMTCO<sub>2</sub>E”) and that reaching that target will require a reduction of approximately 30% from California’s projected 2020 emissions of 596 MMTCO<sub>2</sub>E under a business-as-usual scenario (15% from current levels).<sup>5</sup>

Transportation is the largest contributor to California’s greenhouse gas emissions.<sup>6</sup> CARB estimates that transportation is currently responsible for 38% of the greenhouse gas emissions in the state.<sup>7</sup> And in the Bay Area, emissions from transportation account for 50% of the total area emissions.<sup>8</sup> Meeting California’s goals under AB 32 thus demands reduction of emissions from the transportation sector, including vehicle miles traveled (“VMT”).<sup>9</sup> As the Legislature recognized in adopting SB 375:

Greenhouse gas emissions from automobiles and light trucks can be substantially reduced by new vehicle technology and by the increased use of low carbon fuel. However, even taking these measures into account, it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation.<sup>10</sup> (emphasis added.)

## Pleasanton’s General Plan Update

Pleasanton’s General Plan Update will replace the current general plan, which was adopted in 1996. Following adoption of the 1996 plan, the City adopted by initiative, Measure GG, which reaffirmed and readopted the Housing Cap provision contained in the Land Use Element of the general plan. Measure GG also added a provision to the Housing Cap requiring a vote of the people for all future amendments. The City’s General Plan Update includes the Housing Cap as Policy 24 of its Land Use Element. The provision states:

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<sup>5</sup> *Id.* at 12.

<sup>6</sup> *Id.* at 11.

<sup>7</sup> *Id.* at 11 Figure 1; see also *Id.* Appendix C at C-55.

<sup>8</sup> Bay Area Air Quality Management District, Source Inventory of Bay Area Greenhouse Gas Emissions (November 2006) at 7, Figure 2, Table E.

<sup>9</sup> Caroline Rodier, et al., A Review of the International Modeling Literature: Transit, Land Use, and Auto Pricing Strategies to Reduce Vehicle Miles Traveled and Greenhouse Gas Emissions (August 1, 2008) at 2; see also, CEC, The Role of Land Use in Meeting California’s Energy and Climate Change Goals, Final Staff Report (August 2007) at 4; Proposed Scoping Plan Appendix C at C-79.

<sup>10</sup> SB 375 § (1)(c); see also California Energy Commission, The Role of Land Use in Meeting California’s Energy and Climate Change Goals, Final Staff Report (August 2007) at 1.

Policy 24: Maintain a maximum housing buildout of 29,000 units within the Planning Area.

Program 24.1: Monitor and zone future residential developments so as not to exceed the maximum housing buildout.

Program 24.2: The foregoing Policy 24 and Program 24.1 and this Program 24.2: shall be amended only by a vote of the people.<sup>11</sup>

The Housing Cap plays a pivotal role in shaping the General Plan Update and in the City's evaluation of the Project's environmental impacts.

According to the City, the General Plan Update can plan for only 2,007 residential units before it reaches the limit of 29,000 units set by the Housing Cap.<sup>12</sup> At buildout, all residential units in the City will support a projected population of 78,200.<sup>13</sup> Though there is ample space in the City for additional residential development, the City suggests that the Housing Cap limits the City's ability to utilize that space.

By relying on the Housing Cap as justification for preventing more residential units, the City ignores its obligation to provide for sufficient housing for the region's growing population. "[N]o California locality is immune from the legal and practical necessity to expand housing due to increasing population pressures."<sup>14</sup> State housing law requires that general plan housing elements identify adequate sites to meet the city's "share of the regional housing need."<sup>15</sup> Although the General Plan Update does not include the City's housing element,<sup>16</sup> the information presented in the Update must be consistent with the housing element.<sup>17</sup>

As drafted, the General Plan Update does not allow for a sufficient number of housing units to satisfy the City's 2007-2014 regional housing needs allocation ("RHNA"). The Association of Bay Area Governments' ("ABAG") proposed final RHNA for Pleasanton through 2014 is 3,277 units, which is 1,270 more units than permitted by the Housing Cap.<sup>18</sup> Moreover, the City must satisfy this obligation by 2014 and the General Plan Update runs through 2025.

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<sup>11</sup> GP at 2-36.

<sup>12</sup> DEIR at 5-3, Table 5-2, fn. 1; see also, Pleasanton City Council Agenda Report (August 21, 2007) at 3.

<sup>13</sup> GP at 2-17.

<sup>14</sup> *Muzzy Ranch Co. v. Solano County Airport Land Use Com'n*, 41 Cal.4th 372, 383 (2007).

<sup>15</sup> Cal. Gov. Code, §§ 65583, 65583 (a)(1).

<sup>16</sup> The City's housing element was conditionally approved by the Department of Housing and Community Development (HCD) in 2003; however, the department notified the City on March 23, 2006, that the City had not met the conditions required for approval. (March 23, 2006 letter from Cathy E. Creswell to Nelson Fialho Re: Status of the City of Pleasanton's Housing Element.) HCD's letter traces the City's failure to complete Program 19.1 of the housing element, which requires rezoning to provide for more housing units. (*Id.* at 1.) The letter concludes that "the City's proposal to complete the requisite rezones/upzones during the first or second quarter of 2007 does not demonstrate the necessary (and timely) commitment to meet the adequate sites requirement of housing element law. Therefore, the City's housing element remains out of compliance." (*Id.* at 2.) The City's noncompliance with housing element law is the subject of an ongoing lawsuit. (*Urban Habitat Program et al., v. City of Pleasanton*, Alameda Sup.Ct. Case No. RG0629383, filed Feb. 16, 2007).

<sup>17</sup> Cal. Gov. Code, §65300.5.

<sup>18</sup> Proposed Final Regional Housing Needs Allocation (Revised March 20, 2008), available at <http://www.abag.ca.gov/planning/housingnccds/pdfs/proposedfinal.pdf>.

Accordingly, during the lifetime of the General Plan Update, a second RHNA with more housing units will be allocated to the City. If the Housing Cap is not changed, the City will not meet the current RHNA, much less any future allocations, and the City will be in violation of state housing law.

At the same time the General Plan Update restricts residential development, it allows 35,000,000 square feet of commercial, office, industrial and other employment-generating land development in the City.<sup>19</sup> At buildout, this business development would support approximately 105,000 jobs, up from 61,100 current jobs.<sup>20</sup> This means that the General Plan will dramatically worsen what already is an unacceptable jobs/housing imbalance in the City, thereby exporting air pollution, exacerbating already horrendous traffic jams, and promoting greenhouse gas emissions.

Pleasanton is already a "job rich" community, with more than 1.6 jobs for every working resident.<sup>21</sup> As the City notes, "even if every resident stayed in Pleasanton to work, there would be substantial in-commuting to fill the remaining jobs."<sup>22</sup> ABAG estimates that in 2005, the City's 4,100 businesses employed approximately 58,110 full and part-time employees.<sup>23</sup> Approximately 21% of these workers live in the City, another 29% live elsewhere in the Tri-Valley area and the remaining 50% commute from the greater outlying area.<sup>24</sup> The City has also acknowledged, "The location of people's place of work compared with their place of residence plays a crucial role in traffic patterns, commuting time, energy consumption, noise, and air pollution."<sup>25</sup> However, as asserted in the City's Economic Development Strategic Plan, "[T]he City's ability to achieve a jobs/housing balance is constrained by Pleasanton's voter-approved cap on the development of housing units within the City[.]"<sup>26</sup>

The General Plan Update suggests that the City's answer to the job/housing imbalance is to take a regional approach to housing. It states: "Pleasanton has adopted this area-wide approach to the jobs/housing issue and has taken significant steps to contribute its share of Tri-Valley housing while retaining its role as an employment center."<sup>27</sup> However, the General Plan Update includes a Subregional Planning Element that acknowledges the shortage of affordable housing in the entire Tri-Valley area.<sup>28</sup> The City notes that the housing shortfall originated from the rapid growth in employment in the 1980's and 1990's and the fiscal disincentive created by state legislation to local governments to plan for new housing.<sup>29</sup> Since that time, the Plan states, "the consequence of the imbalance between income and the affordability of housing is the

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<sup>19</sup> GP at 2-17.

<sup>20</sup> *Id.*

<sup>21</sup> City of Pleasanton Economic Development Strategic Plan (February 6, 2007) at 4; see also GP at 2-18 - 2-19.

<sup>22</sup> *Id.*

<sup>23</sup> DEIR at 3.3-3, citing ABAG, Projections 2007 (December 2006).

<sup>24</sup> GP at 2-7.

<sup>25</sup> *Id.*

<sup>26</sup> City of Pleasanton Economic Development Strategic Plan, *supra*, at 4.

<sup>27</sup> GP at 2-19.

<sup>28</sup> *Id.* at 14-7.

<sup>29</sup> *Id.*

increasing number of Tri-Valley workers who live in east Contra Costa County and in San Joaquin County resulting in long commutes to work via the congested freeway system.”<sup>30</sup>

Though the City recognizes the shortfall in current housing, particularly affordable housing, the General Plan Update does nothing to curtail the problem. It therefore will force ever more local employees to find housing in distant communities, create more sprawl, lead to more greenhouse gas emissions and other air pollution, and increase dependence on foreign oil. That is not acceptable.

## **Comments Regarding Pleasanton’s General Plan Update DEIR**

### **A. Climate Change Impacts**

The DEIR fails to sufficiently identify, analyze or mitigate the significant climate change impacts associated with its proposed buildout. In large part due to the job/housing imbalance authorized by the General Plan Update, the DEIR finds that the Project would result in a 46% increase in Vehicle Miles Traveled,<sup>31</sup> thereby significantly increasing carbon dioxide emissions that contribute to climate change. As discussed above, if California does not address growth in VMT, it will completely overwhelm the other advances the state is making to control transportation emissions. The planning policies outlined in the City’s General Plan Update do not adequately address growth in VMT and in fact, set the stage for the City to increase VMT at a rate 11% higher than the average increase projected for Alameda County.<sup>32</sup>

In addition, the DEIR states that the development sanctioned by the General Plan Update, “would contribute to long-term increases in greenhouse gases as a result of traffic increases (mobile sources) and residential and commercial/industrial operations associated with heating, energy use, and solid waste disposal (area sources).”<sup>33</sup> The City quantifies the increases, stating that the emissions from buildout represent approximately .7 percent of total Bay Area greenhouse gases emitted in 2002, which amounts to 595,000 tons CO<sub>2</sub>eq per year.<sup>34</sup> However, the DEIR makes an erroneous determination that the Project’s climate change effects are insignificant and therefore it does not include mitigation measures or examine alternatives that would reduce the impacts.

#### **1. Threshold of Significance**

Despite the massive 46% increase in VMT, the DEIR concludes that the climate change impacts of this project will be less than significant.<sup>35</sup> This finding is premised on a flawed threshold of significance and incorrect baseline conditions against which project impacts are evaluated. Under CEQA, the determination of significance must focus on changes to the existing

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<sup>30</sup> *Id.*

<sup>31</sup> DEIR at 3.10-8.

<sup>32</sup> *Id.* at 3.10-11, Table 3.10-1.

<sup>33</sup> *Id.* at 3.10-14.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

physical environment.<sup>36</sup> “Before the impacts of a project can be assessed and mitigation measures considered, an EIR must describe the existing physical conditions in the environment. It is only against this baseline that any significant environmental effects can be determined.”<sup>37</sup> An agency cannot evaluate the impacts of a proposed project on “some hypothetical, impacted future environment that might occur . . . under existing general plan and/or zoning designations.”<sup>38</sup> Instead, it must consider the existing physical environment and measure the impacts of its project against the current conditions.

Here, the City takes the wrong approach in its DEIR, because it measures the Project’s climate change impacts against a theoretical projection of future emissions under its 1996 general plan, not against the actual conditions existing today. In fact, the DEIR fails to estimate or quantify the City’s current greenhouse gas emissions. The City’s threshold discussion states: “If, within the Planning Area, the buildout of the proposed General Plan Update were to have the cumulative potential to decrease greenhouse gas emissions below otherwise expected future emissions, then the cumulative greenhouse gas emissions would be less than significant.”<sup>39</sup> The City asserts that without implementing greenhouse gas reduction measures identified in the proposed General Plan Update, the Project’s direct greenhouse gas emissions would total 607,000 tons of CO<sub>2</sub>eq per year.<sup>40</sup> The City goes on to say that indirect emissions associated with the project will also increase, but fails to quantify what the increase will be. The City finds that the total emissions from buildout of the proposed General Plan Update will be approximately 595,000 tons CO<sub>2</sub>eq per year, which is 12,000 tons CO<sub>2</sub>eq per year less than emissions projected under the existing policies.<sup>41</sup> This small decrease in projected emissions is enough, under the City’s flawed threshold of significance, for the City to find that climate change impacts for the proposed General Plan Update will be less than significant.<sup>42</sup>

There are several resources that the City can use to estimate its current and projected greenhouse gas emissions. CARB has issued protocols for estimating the emissions from local government operations, and its protocol for estimating community-wide emissions is forthcoming.<sup>43</sup> The Governor’s Office of Planning and Research (OPR) has issued a Technical Advisory, which contains a list of technical resources and modeling tools to estimate GHG emissions.<sup>44</sup> Other sources of helpful information are the white paper issued by the California

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<sup>36</sup> See, e.g., Pub. Res. Code, § 21060.5; 14 Cal. Code Regs. §§ 15002 (g), 15125 (e), 15126.2 (a), 15360.

<sup>37</sup> *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952.

<sup>38</sup> *St. Vincent’s School for Boys v. City of San Raphael* (2008) 161 Cal.App.4th 989, 1005 [quoting *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, 709]; see also *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 358.

<sup>39</sup> DEIR at 3.10-7.

<sup>40</sup> *Id.* at 3.10-14.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> The protocols are available at <http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm>.

<sup>44</sup> The Technical Advisory is available at

<http://www.fbm.com/index.cfm/fuseaction/publications.home/publications.cfm>.

Air Pollution Control Officers Association (CAPCOA), "CEQA and Climate Change"<sup>45</sup> and the Attorney General's website,<sup>46</sup> both of which provide information on currently available models for calculating emissions.

## 2. Mitigation

As proposed, the project will result in an increase in vehicle miles traveled of 46%, and development of millions of square feet of commercial, office and other non-residential buildings.<sup>47</sup> Although the City fails to properly calculate the increases in greenhouse gas emissions that will result from this growth and development, these emissions clearly will be significant. The City thus was required to adopt enforceable mitigation measures to lessen the project's greenhouse gas emissions, which it failed to do.<sup>48</sup>

As drafted, the DEIR provides four optional measures to minimize the General Plan Update's impacts on climate change.<sup>49</sup> The options discussed in the City's DEIR, however, are not "fully enforceable" and therefore, are not proper mitigation measures under CEQA.<sup>50</sup> For example, the City states that it will work with the International Council for Local Environmental Initiatives (ICLEI) to develop an action plan capable of reducing the City's greenhouse gas emissions.<sup>51</sup> However, the commitment is not concrete; it's not clear when it will begin working with ICLEI and even after the plan is developed, the City does not commit to enforcing the plan's provisions. Rather, the City says it will "*consider* implementing, monitoring, and reporting appropriate and achievable components of" the action plan.<sup>52</sup> Similarly, the City offers to "*encourage*" passive-solar construction.<sup>53</sup>

Such voluntary measures are not enforceable and are not adequate to mitigate the climate change impacts of the development that will take place under the General Plan Update over the next 17 years.

Instead, the City should formulate specific and binding mitigation measures and include them in the General Plan Update. One approach would be for the City to immediately engage ICLEI to develop a fully enforceable Climate Action Plan, as numerous other jurisdictions in

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<sup>45</sup> CAPCOA, CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (January 2008) ("CAPCOA white paper"), available at <http://www.capcoa.org/>.

<sup>46</sup> Attorney General's website, available at [http://ag.ca.gov/globalwarming/ceqa/modeling\\_tools.php](http://ag.ca.gov/globalwarming/ceqa/modeling_tools.php).

<sup>47</sup> DEIR at 3.10-8, 3.10-14.

<sup>48</sup> Cal. Pub. Res. Code, §§21002, 21002.1(b), *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564-65; see 14 Cal. Code Regs. §15126.4(a)(3) (mitigation measures not required for impacts that are insignificant).

<sup>49</sup> DEIR at 3.10-15 - 3.10-16.

<sup>50</sup> Cal. Pub. Res. Code, § 21081.6(b); 14 Cal. Code Regs. § 15091(d); see also *Federation of Hillside and Canyon Assocs. v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261 [general plan EIR defective where there was no substantial evidence that mitigation measures would "actually be implemented"].

<sup>51</sup> GP at 9-21; DEIR at 3.10-15.

<sup>52</sup> DEIR at 3.10-15.

<sup>53</sup> *Id.*

California have done. Such a plan should include an inventory of current greenhouse gas emissions, specific emissions targets that are consistent with AB 32, and enforceable greenhouse gas control measures. The resources discussed above (see pp. 6-7) provide examples of mitigation measures that can be employed as part of a Climate Action Plan. In addition, the plan should include monitoring and reporting requirements to ensure that mitigation measures are implemented and effective. Finally, the Climate Action Plan should allow for the City to review and update mitigation measures as needed. If done properly and in tandem with the General Plan Update and final environmental impact report, the Climate Action Plan could be the cornerstone of the City's climate change mitigation strategy.

## **B. Alternatives**

The DEIR examines only three alternatives to the proposed General Plan Update, none of which consider significantly reducing business development or significantly increasing residential development. CEQA requires a local agency to identify and study a reasonable range of alternatives that would attain most of the basic objectives of the project.<sup>54</sup> The fundamental purpose of alternatives analysis is to examine alternatives that can eliminate or reduce significant environmental impacts.<sup>55</sup> An EIR must meaningfully compare the alternatives as they contribute to global warming and an EIR should compare the alternatives' greenhouse gas emissions. Further, the differences in greenhouse gas emissions associated with the various alternatives should figure into the lead agency's identification of the "environmentally superior alternative."<sup>56</sup>

Here, the City does not provide a reasonable range of alternatives, and it fails to evaluate the climate change impacts associated with any of the alternatives considered in the DEIR. All three alternatives allow for significant growth in employment-generating development, while limiting residential development to the 29,000 units prescribed by the Housing Cap.<sup>57</sup> One of the alternatives is a no project alternative, which assumes the 1996 general plan remains City policy. The other two alternatives, "Dispersed Growth" and "Concentrated Residential/Mixed Use" allow for the same number of housing units, but locate those units in different parts of the City.<sup>58</sup> Both of these alternatives allow for slightly more retail, office, industrial, and research and development than the proposed General Plan Update.<sup>59</sup> The only mention in the alternatives section of the jobs/housing imbalance, which causes increased VMT, is as follows: "The Concentrated Residential/Mixed Use Alternative has slightly higher non-residential development potential than the proposed General Plan and could therefore result in higher employment growth. The growth in employment coupled with a cap on residential development, could result in a potentially significant impact because it could cause a substantial increase in traffic volumes as persons not living in the Planning Area come to work within the Planning Area."<sup>60</sup> The City

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<sup>54</sup> 14 Cal. Code Regs. §15126.6.

<sup>55</sup> *Id.* at §15126.6(b).

<sup>56</sup> See 14 Cal. Code Regs. § 15126.6 (e)(2).

<sup>57</sup> DEIR at 5-3, Table 5-1.

<sup>58</sup> *Id.* at 5-4

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 5-22.

does not discuss VMT or the climate change impacts associated with the other two alternatives. Even without that evaluation, the DEIR concludes that none of the alternatives will have a significant effect on climate change.<sup>61</sup> Ultimately, the City finds the proposed General Plan Update to be environmentally superior to the other alternatives.<sup>62</sup>

In drafting the final environmental impact report for the General Plan Update, the City must at the very least identify one alternative that reduces the Project's climate change impacts—an alternative that reduces rather than exacerbates the City's current jobs/housing imbalance. In addition, the City should compare the alternatives' greenhouse gas emissions and that comparison should inform its choice of the environmentally superior alternative.

Local leadership is vital to the state's effort to reduce global warming and build a sustainable California. Pleasanton's environmental review shirks its responsibility to fully analyze and address the greenhouse gas emissions stemming from its proposed development plans and is therefore legally inadequate.

#### Conclusion

Pleasanton's General Plan Update presents the City with a great opportunity. City leaders can chart a vision of growth for Pleasanton that is sustainable, improves energy efficiency, reduces vehicle miles traveled, freeway congestion, global warming pollution and fossil fuel consumption, all the while promoting a rich and elegant urban environment.

I urge the City to seize this opportunity.

Sincerely,

  
EDMUND G. BROWN JR.

cc: Jennifer Hosterman, Mayor of Pleasanton  
Jerry Thorn, Vice Mayor  
Cheryl Cook-Kallio, Councilmember  
Cindy McGovern, Councilmember  
Matt Sullivan, Councilmember

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<sup>61</sup>*Id.* at 5-8, Table 5-4.

<sup>62</sup>*Id.* at 5-25.

**LETTER I**  
**URBAN ECOLOGY**

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COMMENTS ON SANTA CLARA GENERAL PLAN EIR

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ES-7	The city could decide to build more housing on land currently designated for non-residential development and, thereby, reduce the jobs/housing imbalance (a significant impact) much more than it has chosen to do. Doing this would positively advance transportation, air quality, energy, climate change goals.
ES-12	Traffic and Circulation. Although vehicular traffic may increase under any alternative, the amount of the increase could be reduced by a jobs/housing balance more equal than that proposed under the plan and by more aggressive land use and transportation policies.
ES-12	Climate Change. The EIR states: "Achieving the substantial reductions [by 2035] will require policy decisions at the federal and state level and new and substantially advanced technologies that cannot be anticipated, and are outside the City's control, and therefore cannot be relied upon as feasible mitigation strategies." First, no analysis is presented for this statement. Second, even if this is true, it does not excuse the city from taking aggressive measures to address climate change. Third, many, if not most, policy issues involve decisions and technologies "outside of the City's control"; this uncertainty is not generally accepted as an excuse for inaction.
ES-12-14	The Summary of Project Alternatives is noticeably user-unfriendly. It is quite difficult for the reader to determine the benefits and disadvantages of the alternatives and, therefore, come to decisions on environmental preference.
ES-14	The reasoning behind the formulation of the "Environmentally Superior Alternative" is not documented – it is not clear that an alternative that included more housing would be impractical. A city that is largely built out and with such a high jobs/housing imbalance should be capable of financially managing additional residential development, even in these difficult times. Also, see discussion on page 510, which is inadequate in its rationale for rejection of an alternative that would provide more housing.
86	A minimum FAR of 0.10 is too low to support the definition of, and commonly accepted standards for, the neighborhood and community mixed use categories. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.
86	A minimum FAR of 0.15 is too low to support the definition of, and commonly accepted standards for, the regional mixed use category. This will cause an unnecessary reduction in the amount of land available for housing and will, therefore, affect the jobs/housing balance leading to additional adverse impacts.

## URBAN ECOLOGY



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88	The maximum FAR's for the neighborhood commercial and community commercial categories (which appear to be the same except for the FAR) are too low for the defined intent; a more compact urban form is more likely to result in community acceptance and will take up less land that could be used for residential uses.
103	The "Land Use Policies" in the table are simply a restatement of one of the plan strategies – they are too general to ensure any results. Policies like these make it unlikely that the plan objectives can be achieved and will, therefore, have negative environmental impacts.
104	Policy 5.3.2-P5 appears to be contrary to state law. It also is an example of a policy that can easily be used to limit new residential development.
103-104	Taken together, the policies appear to be designed to effectively prevent infill development. The vague policies on neighborhood compatibility offer almost unlimited discretion for not approving residential development while approving non-residential development.
103-104	The set of land use policies make it extremely unlikely that the city will meet its Regional Housing Needs Allocation. Therefore, it is very likely that more than "roughly 3,500 housing units" will be needed elsewhere in the area to accommodate the job growth in the city, thus increasing adverse environmental impacts in the area. It is also possible that the land use policies, which are skewed in favor of non-residential development, will exacerbate the job/housing imbalance.
119	The EIR correctly states that "From 2007-2014, the City has a RHNA of 5,783 units, of which 2,207 are designated for lower-income households." With the 10% inclusionary housing provision, the city's only significant affordable housing strategy, it will have to build 22,070 units before 2014 to provide its share.
119	Prior to the Draft EIR, the city only built 65% of its then-applicable RHNA. This was during a time of steady home building. Is there any reason to suspect that it will do better this time, especially in hard economic times?
119	The EIR refers to the draft General Plan Table 5.2-1. This table says that by 2010 the city will have built half of its RHNA targets. Did that actually happen?
287-294	Some of the policies are unnecessarily vague. For example: Policy 5.3.1-P13: "The city should do more than "support." It should set minimum FAR and height standards for development within a quarter-mile of transit hubs and stations and along transit corridors.

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	<p>Policy 5.3.2-P2: The city should do more than “encourage.” It should require some minimum level.</p> <p>Policy 5.3.3-P6: The city should do more than “encourage.” It should require zoning regulations that meet the policy intent.</p> <p>Policy 5.3.4-P2: The city should do more than “encourage.” It should require zoning regulations that meet the policy intent.</p> <p>Policy 5.8.4-P9: To what does this apply? Policy 5.8.4-P8 already requires these features for new development.</p> <p>Policy 5.3.4-P11: The city should do more than “foster.” It should require pedestrian-friendly uses at the ground floor in some areas.</p> <p>There are numerous other examples, although many of them may not be so obvious. This vagueness undermines the probability that the city will achieve even its own modest jobs/housing balance objectives.</p>
296	<p>Policy 5.3.4-P16: Table 4.1-3 prohibits some auto-oriented uses in several mixed use districts. The policy and the table should be consistent.</p>
303	<p>Policy 5.8.1-P6: The deferred adoption of LOS standards, together with the deferred adoption of the CAP, provides little assurance that the air quality objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.</p>
304	<p>Policy 5.1.1-P10: The deferred adoption of the CAP, together with the deferred adoption of the LOS standards, provides little assurance that the GHG objectives will, in fact, be achieved. Deferred mitigation is not allowed in an EIR.</p>
478	<p>Policy 5.5.1-P6: Introducing an explicit compatibility test, given opposition to increased densities, will assure that no such development actually takes place.</p>
478-486	<p>Discussion of local food systems (community gardens, farmers markets, etc.) is missing. Food systems are normally part of a local sustainability plan.</p>
478-486	<p>Many of the policies are noticeably weak, leading to the conclusion that they may never be implemented. For example, Policy 5.3.3-P6 encourages neighborhood retail uses; the city, given its zoning powers, should have a more proactive policy to ensure that such uses take place.</p>
478-486	<p>Many of the policies are redundant and confusing. For example, Policy 5.8.5-P3 encourages bicycle facilities. First, it is extremely unlikely that the city means to apply this to “all new development.” Second, this policy covers the same topic, but not as well, as Policy 5.8.4-P8, which requires such facilities. A long list of policies does not necessarily make for good planning</p>



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489	Relying on a Climate Action Plan, which may or may not be adopted according to schedule in 2015, is, contrary to the discussion in the EIR, deferred mitigation. Sufficient knowledge currently exists for devising measures to mitigate the impacts of climate change at a citywide level.
504	The EIR states that “It is anticipated that the lower level of job growth would result in 38,000 less daily VMT compared to the proposed Draft 2010-2035 General Plan.” This does not appear realistic, assuming that the average commute is only 3 miles each way?
506	The EIR states that “[E]missions on a per unit basis would . . . continue to exceed state goals.” This is a continued acknowledgement that the mitigation measures fall short of meeting legislatively adopted goals.
506	The EIR states that “A Climate Action Plan would continue to be necessary to reduce 2020 emissions to comply with State goals.” In addition to being deferred mitigation, (1) it is very unlikely that the CAP can meet state goals with the proposed jobs/housing balance, and (2) even with a transportation sector fueled by non-fossil fuels there will still be a need to significantly reduce VMT, according to the EIR analysis, in order to achieve a 40% reduction of GHG by 2035.
509-510	The EIR presents insufficient reasons for not even including the “Additional Jobs/Housing Alternatives” in the subsequent comparison of alternatives. The reader is, therefore, deprived of a useful way of comparing possible alternatives, such as in Table 5.2 Comparison of Impacts of Alternative.
509-510	The “Additional Jobs/Housing Alternatives” is a “red herring,” designed to be rejected. A more reasonable way of constructing this alternative would be to produce more housing than the “Balanced General Plan Growth Jobs/Housing Alternative” but fewer than the proposed “Additional Jobs/Housing Alternatives.” This would provide more housing, improve transportation and air quality, and more effectively address climate change. Providing services are important, but they should not be used as an excuse for denying people a place to live. In any case, the financial impacts should be within the city’s capabilities to manage.
General	<p>A. The Prerequisite Goals and Policies, while admirable on their face, constitute a <i>de facto</i> impediment for improving the jobs/housing balance and, therefore, undermine the housing, air quality, energy, and climate change objectives.</p> <p>B. The EIR is remarkable in its omission of any discussion of a probable professional sports stadium.</p> <p>C. An alternative that provides for a more equal jobs/housing balance should have been considered. It is difficult to believe</p>



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that a city with the characteristics of Santa Clara cannot manage its finances in order to build adequate housing.

- D. The combination of vague policies to protect existing residential development, vague policies that may or may not result in any concrete action, prerequisites for phasing development, and relying on a Climate Action Plan that may or may not be adopted in some form constitutes a system that makes it unlikely that even the very modest jobs/housing goals will be achieved.