



# City of Sunnyvale

## Notice and Agenda - Revised City Council

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Friday, February 16, 2018

8:30 AM

Council Chambers and West Conference  
Room, City Hall, 456 W. Olive Ave.,  
Sunnyvale, CA 94086

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### Special Meeting: Study/Budget Issues Workshop

#### **CALL TO ORDER**

*Call to Order in the Council Chambers (Open to the Public)*

#### **SALUTE TO THE FLAG**

#### **ROLL CALL**

#### **ORAL COMMUNICATIONS**

*This category is limited to 25 minutes with a maximum of up to three minutes per speaker. If you wish to address the Council, please complete a speaker card and give it to the City Clerk. This is the time for the public to address the City Council on all the agenda items listed below. No other items may be discussed at this special meeting. If there are many speakers, the Mayor may either shorten the time for individual speakers or extend the time for oral communications. NOTE: The Public Hearing for the proposed 2018 Study and Budget Issues was held on January 23, 2018.*

#### **INTRODUCTION BY THE CITY MANAGER**

#### **FISCAL OUTLOOK PRESENTATION**

#### **OVERVIEW OF THE STUDY/BUDGET ISSUES PROCESS**

#### **REVIEW, DISCUSSION AND PRIORITY SETTING: STUDY/BUDGET ISSUES**

[18-0004](#)

City Manager's Memorandum to Council  
Study Issues Full Packet

#### **CLOSING REMARKS**

**AVAILABILITY OF RANKING/NEXT STEPS****ADJOURNMENT****NOTICE TO THE PUBLIC**


*Any agenda related writings or documents distributed to members of the City of Sunnyvale City Council regarding any open session item on this agenda will be made available for public inspection in the Office of the City Clerk located at 603 All America Way, Sunnyvale, California during normal business hours and in the Council Chamber on the day of the Council Meeting, pursuant to Government Code §54957.5. Please contact the Office of the City Clerk at (408) 730-7483 for specific questions regarding the agenda.*

*Pursuant to the Americans with Disabilities Act, if you need special assistance in this meeting, please contact the Office of the City Clerk at (408) 730-7483. Notification of 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. (28 CFR 35.160 (b) (1))*



Sunnyvale

## Memorandum

**Date:** 2/2/2018  
**To:** Honorable Mayor and Members of the City Council  
**From:** Kent Steffens, City Manager   
**Subject:** Council Study/Budget Issues Workshop

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### Overview

The purpose of the workshop is to identify study issue priorities for the 2018 calendar year and budget issue priorities for the coming fiscal year.

### Fiscal Overview

Staff will be presenting Council an overview of the City's fiscal outlook and current conditions to inform the Study/Budget Issues prioritization process. Following Council's determination of study issue priorities, the city manager will advise Council of staff's capacity for completing ranked issues. Any Budget Issues recommended for inclusion – or any prioritized study issues that require funds to initiate a study- will be presented for Council consideration during the FY 2018-2019 budget process.

### Context for Decision Making

To help guide today's decision-making, the following is the list of Policy Priorities established by Council and still underway:

- Civic Center Campus and Main Library
- Ability of Infrastructure to Support Development and Traffic
- Open Space Acquisition Planning: Future of Golf Courses
- Downtown Sunnyvale
- Improved Processes and Services through the Use of Technology
- Accelerating Climate Action

Last month, during Council's Strategic Session, staff provided an update on the many projects and initiatives underway that directly support each of the above-mentioned policy priorities. Moving forward into the 2018 work plan, as Council reviews the proposed study issues, special attention should be given to their strong alignment with operational and policy priorities as well as the fiscal impact against other service tradeoffs.

### Study Issues

The study issues process lays the foundation upon which Council examines and establishes areas of potential policy consideration each year. The process allows the Council to consider and compare at one time all policy topics of interest or concern, as identified throughout the calendar year by members of the public, boards and commissions, City Council members or City staff. In this manner, the process provides a structured approach for addressing the large number of issues that are raised



## Memorandum

each year, allowing Council to rank the issues and set priorities within the limits of time and resources. Council may also drop a study issue from further consideration, or defer the examination of a study issue to a future calendar year.

Included in the packet are 36 proposed study issues for 2018, of which staff supports studying 14. It is important to note that “support” indicates that the study issue is a valid policy area, timely, and aligned with City interests. Given the current workload and resource constraints, while staff may “support” a study issue, it does not imply that there are sufficient resources to take on 14 new study issues. The Staff Recommendation section of each study issue paper is drafted at the point in time when the issue was sponsored. The section indicates whether staff feels the policy issue should be considered by Council as a priority, deferred to the next year, dropped from further consideration, or whether staff has no recommendation on the matter.

Of the ten 2017 study issues ranked by Council and recommended by the City Manager to be “above the line,” only one was completed, six remain in progress, and three issues that were identified as Priority C (per March 28, 2017 RTC 17-0165) were not absorbed in the 2017 workplan. Those three are included in this packet for consideration and ranking again for 2018.

### Study Issues Ranking Process

During the Study Issues Workshop, Council will be asked to review potential study issues by department following the steps suggested below:

1. Council questions or clarification on any study issue submitted.
2. Before ranking, issues may be combined, dropped or deferred from ranking consideration by majority vote of Council.
3. Council discussion and deliberation.

Council is encouraged to drop rather than defer proposed study issues when a strong interest does not exist. During the City Council’s deliberations of study issues, Council is encouraged to consider its priorities within the context of approved Strategic Policy Priorities, capacity needed to advance operational priorities, and strategic areas of study (via study issues) that best meet the needs of the city.

When drafting study issue papers throughout the year, the scope of the study is based on the details provided during the formal action to sponsor the study. Sometimes the scope as presented may not fully capture the intention of the sponsoring body. Any proposed changes to the scope of any issue paper should be made during a publicly noticed meeting, such as the Study/Budget Issues Workshop and will need to be approved by the Council. If a significant departure from the original scope is made, City staff may request the opportunity to amend its response and/or fiscal impacts.

### Study Issues with a Fiscal Impact





Sunnyvale

## Memorandum

One of the roles of the City administration is to evaluate and present the potential fiscal impacts of a study, including costs to study the item and costs to implement study results. When developing study issue papers, staff evaluates the level of complexity that will be required to complete a thorough, professional examination of the study issue and any effect this examination may have on existing workload and service level responsibilities.

The Fiscal Impact section of each paper also identifies if additional dollars (above current budgeting) will be necessary and how they are proposed to be used. Any non-budgeted costs to complete a study will require appropriation and consideration within our limited funds. As previously noted, any prioritized study that requires funds to initiate a study will be presented for Council's consideration within the FY 2018-2019 Recommended Projects and the Update to Operating Budgets.

### Study Issues Proposed for Initiation in 2018

On March 27, staff will present a Report to Council identifying the study issues that can be initiated in 2018, consistent with Council's priority order and within departmental resource constraints. Once approved by Council, the study issue presentation dates will be added to the Tentative Council Meeting Agenda Calendar.



**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Office of the City Manager**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
OCM 17-01	Storing Outdoor Dining Furniture Overnight on Sidewalks on Murphy Avenue	Moderate	\$0	Minimal	N/A	1
OCM 18-01	TBD - Airplane Noise - Proposed 1/23	Moderate	\$50,000	Unknown	Too late to rank	Defer

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
See Study Issue Paper for detail.





**2018 Study Issues Workshop**  
**Status Report: Continuing and Completed Study Issues**

**Office of the City Manager**

**Continuing from Prior Year Study Issues**

<b>Number</b>	<b>Study Issue and Status</b>
OCM 16-02	<b>Consider Adoption of a Wage Theft Ordinance</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority A – Governance and Fiscal Sustainability)  <i>Staff working on study issue and expects to present findings to City Council in early 2018.</i>

**Completed Study Issues**

<b>Number</b>	<b>Study Issue</b>	<b>Date Completed</b>
OCM 17-02	<b>Evaluate Proposing a Charter Amendment to Revise Section 604 regarding Filling Vacant Council Seats by Special Election</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority A – Governance and Fiscal Sustainability)	9/26/2017





# City of Sunnyvale

## Agenda Item

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17-0908

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

OCM 17-01

**TITLE** Storing Outdoor Dining Furniture Overnight on Sidewalks on Murphy Avenue

#### **BACKGROUND**

**Lead Department:** Office of the City Manager

**Support Departments:** Office of the City Attorney  
Community Development  
Public Safety  
Public Works

**Sponsor(s):** Councilmembers: Larsson, Griffith, Martin-Milius

**History:** 1 year ago: Ranked, Below the Line  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

##### **What precipitated this study?**

This study was proposed by Vice Mayor Larsson, supported by Councilmembers Griffith and Martin-Milius, on behalf of the Sunnyvale Downtown Association (SDA). The request is to allow outdoor dining furniture to be left outdoors on a regular basis and potentially assigning the sidewalk cleaning responsibilities to the merchants that utilize the sidewalk for outdoor dining. The concern identified by the merchants is the late hour that the furniture needs to be removed and stored indoors. Many merchants have limited staff at closing and feel that the task is difficult for the last staff person onsite. Also, some merchants have limited indoor space and find it difficult to store furniture on a nightly basis.

##### **What are the key elements of the study?**

City Council adopted updated South Murphy Avenue Sidewalk Use Regulations in 2010 to preserve and enhance the 100 block of South Murphy Avenue. The regulations include furnishings on the public right-of-way/sidewalks to offer the businesses the opportunity to utilize the sidewalks for outdoor dining. The merchants are required to apply for an Outdoor Dining Permit through the Planning Division. Per regulations, these permits require the nightly removal of outdoor furniture.

The City's Public Works staff maintains the sidewalks by deep cleaning portions of the sidewalk each week. In order to complete these tasks, all furniture must be removed and stored indoors in order for the power washer to thoroughly clean sidewalks.

This study would examine three options for the entire street, not for specific merchants.

- The first option would review the current program to evaluate how the program is functioning

for both the merchants and City staff.

- The second option would examine potential impacts or implementation needs of allowing merchants to leave outdoor dining furniture on the sidewalk on a permanent basis with the merchants responsible for sidewalk cleaning.
- The third option would explore a compromise option - requiring indoor storage on the evening before the scheduled cleaning and a penalty for non-compliance.

Safety concerns associated with non-fixed furniture left outdoors overnight would be assessed in all options.

Council action to adopt revisions would result in updated regulations, which would be applicable to the Murphy Avenue extension portion within the CityLine Sunnyvale project area.

**Estimated years to complete study:** 1 year

### **FISCAL IMPACT**

#### **Cost to Conduct Study**

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

#### **Cost to Implement Study Results**

Minimal or no cost expected to implement.

### **EXPECTED PARTICIPATION IN THE PROCESS**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: No

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Staff supports this study as several merchants have asked for this item to be reviewed by the City. Merchants have expressed a willingness to work with staff on finding an adequate solution.

Prepared by: Connie Verceles, Economic Development Manager, Office of the City Manager

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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18-0109

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

OCM 18-01

**TITLE** Explore Proactive Solutions to Address Aviation Noise

#### **BACKGROUND**

Lead Department: Office of the City Manager  
Support Departments: Office of the City Attorney  
Sponsor(s): Councilmembers: Goldman, Melton  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

Over the past couple of years, there has been an increase in complaints by Sunnyvale residents regarding aviation noise from various area airports. Specifically, the issue of south flow diversion has been a central discussion point. South flow weather conditions exist typically during winter months, inclement weather and southerly winds reverse the flight pattern. Under south flow conditions, aircrafts depart from the south and arrive from the north, thereby placing Sunnyvale directly under the flight path. Additionally, increased activity resulting from the San Carlos Airport Bayside Visual Approach (BVA) has also contributed to aviation noise issues over our city.

What are the key elements of the study?

Aviation noise is an issue of concern shared by various cities currently affected by increased flights and shift of air flight patterns from area airports. This study would develop a strategy and identify multiple options on how to effectively address aviation noise over Sunnyvale. Elements to consider for action may include examining effective noise mitigation strategies and solutions undertaken by regional cities, to ensure Sunnyvale is positioned to advocate and respond to current and future noise issues. The study may also include developing an effective communication plan to keep Sunnyvale residents engaged and informed. Finally, the study may also explore increasing advocacy resources and options, such as hiring an aviation consultant to advise the City on current and future aviation noise matters, measuring current noise levels, engage an aviation legal counsel, and/or lobbyist that could help effect change on a federal level.

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$50,000  
Funding Source: Will seek budget supplement

Costs associated with this study issue include an estimated \$50,000 to hire an aviation consultant for one year to provide analysis and develop an advocacy strategy and implementation plan. Costs associated with implementing individual strategies would be estimated as part of the study to provide Council with options for additional actions for the City to take.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: No

**STAFF RECOMMENDATION**

Defer. This policy issue merits discussion at a future Study Issues Workshop.

The City has been working to address resident concerns regarding aviation noise, including ongoing correspondence requesting support from our legislative representatives; hiring an aviation consultant to review and advise the City on the San Carlos Airport BVA pilot program; continuous and ongoing correspondence with FAA officials; as well as through direct participation on the Ad Hoc Advisory Committee on South Flow Arrivals. A history of City actions on aviation noise can be found on our website at, <https://sunnyvale.ca.gov/news/topics/noise/default.htm>. The City of Sunnyvale is abreast on current aviation noise issues and is actively engaged at the local, regional, State and Federal levels. A study issue is not essential to continue with ongoing advocacy and engagement efforts. The City will be better positioned in the future to develop strategies after knowing the outcome of current efforts with the Ad Hoc Advisory Committee on South Flow Arrivals.

Prepared by: Lupita Alamos, Senior Management Analyst, Office of the City Manager

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Community Development**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
CDD 13-02	Consideration of Usable Open Space in Required Front Yards	Moderate	\$0	Minimal	PC Drop	1
CDD 16-14	Exploring Options for Establishment of a Plaque Program for Heritage Resources	Minor	\$0	Unknown	HPC 1 of 2	3
CDD 17-03	Rent Stabilization for Mobile Home Parks	Major	Phase I: \$80K Phase II: >\$100K	Unknown	HHSC Defer	Drop
CDD 17-08	Evaluation of the Residential Single-Story Combining District Process	Moderate	\$30,000	Unknown	PC 4 of 12	4
CDD 18-01	Explore Policies to Preserve Space for Light Industrial Uses	Minor	\$0	Unknown	PC 3 of 12	Drop
CDD 18-02	Update and Review of the Heritage Resource Inventory	Moderate	\$25,000	Unknown	HPC 1 of 2	2
CDD 18-03	Study the Variation in Building Forms to Increase Open Space	Moderate	\$30,000	Minimal	PC 2 of 12	Drop
CDD 18-04	Create Development Guidelines for Future Accommodation of Autonomous Vehicle Use	Moderate	\$0	Minimal	PC Defer	Defer
CDD 18-05	Increase Opportunities for more Accessory Dwelling Units	Moderate	\$0	Minimal	PC Drop HHSC Drop	Drop
CDD 18-06	Establishing a "Sponge City"	Major	\$300,000	Unknown	PC 7 of 12 PRC Drop SC Drop	Drop
CDD 18-07 (DPS 17-01)	Regulation of Marijuana Cultivation in the City of Sunnyvale for Research and Development	Moderate	\$0	Unknown	PC Defer	Defer
CDD 18-08	Consider Requiring the Use of Story Poles, Modeling Technologies, and other Visual Aids for Proposed Development Projects	Minor	\$0	Unknown	Too late to rank	Drop
CDD 18-09	Require Installation of Solar Energy Systems on New Buildings	Moderate	\$0	Minimal	Too late to rank	Defer

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
 See Study Issue Paper for detail.





## 2018 Study Issues Workshop Status Report: Continuing and Completed Study Issues

### Community Development

#### Continuing Study Issues

Number	Study Issue and Status
CDD 14-09	<b>Comprehensive Update of the Precise Plan for El Camino Real</b> 2017 Final Status: Continuing  <i>City Council selected a preferred land use alternative in August 2017 for further study in the development of the El Camino Real Corridor Specific Plan (ECR Plan). A Notice of Preparation of a Draft Environmental Impact Report (EIR) was issued in October to begin the environmental review process. Staff is continuing to engage the advisory committee and the community to guide the preparation of the various components of the ECR Plan. The project is anticipated to be completed by late 2018.</i>
CDD 14-10	<b>Update to the Murphy Avenue Design Guidelines</b> 2017 Final Status: Continuing  <i>Work is continuing on the draft design guidelines with the assistance of a project consultant. It is anticipated that the Study Issue will conclude in Spring of 2018 with hearings at the Heritage Preservation Commission and the City Council.</i>
CDD 17-09	<b>2017 Housing Strategy</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority B – Strategic and Long-Term Service Impact)  <i>Council approved the work plan and scope of work on December 12, 2017. Next, staff will procure consultant services, then begin analysis, research, and public outreach. Staff is also tracking state and federal legislation that will affect housing options. This completion of this Study Issue is expected for late 2018 or early 2019.</i>
CDD 11-02	<b>Downtown Development Policies for Parking</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority B – Strategic and Long-Term Service Impact)  <i>Preliminary work has begun on this Study Issue. Next steps include procuring consultant services, then data collection, analysis of existing and future conditions, and public outreach. It is anticipated that this Study Issue will conclude in late 2018.</i>

#### Completed Study Issues

Number	Study Issue	Date Completed
CDD 14-04	<b>Individual Lockable Storage Requirements for Multi-Family Housing</b>	4/11/2017





# City of Sunnyvale

## Agenda Item

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17-0910

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 13-02

**TITLE** Consideration of Usable Open Space in Required Front Yards

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Planning Commission  
History: 1 year ago: Ranked, Below the Line  
2 years ago: Deferred

#### **SCOPE OF THE STUDY**

What precipitated this study?

Developers of small townhouse developments have requested and the Planning Commission has approved, through a Special Development Permit, the ability to count a portion of the required front yard area towards the minimum usable open space requirement. This practice is now relatively common; when the zoning regulations for usable open space were adopted townhouse developments that allowed access from the public street were not typical. Design guidelines adopted since then have put more emphasis on activating the streetscape with entries and private areas. The portions that have been credited toward required open space are the privately fenced yards in front of the townhouse units.

What are the key elements of the study?

Usable open space is required for multi-family residential projects in the City. Pursuant to Sunnyvale Municipal Code Section 19.37.100, landscaped areas in the required front yard cannot be counted towards usable open space. This study would review open space regulations and evaluate whether there are instances or criteria that would permit required front yard areas to be counted towards required usable open space and not be deemed a deviation from the Sunnyvale Municipal Code (SMC).

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study  
Level of staff effort required (opportunity cost): Moderate  
Funding Required for Non-Budgeted Costs: \$0

Cost to Implement Study Results  
Minimal or no cost expected to implement.

**EXPECTED PARTICIPATION IN THE PROCESS**

Council-Approved Work Plan: No  
Council Study Session: No  
Reviewed by Boards/Commissions: Planning Commission

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

The study issue would develop clear criteria for allowing front yards to partially meet the open space requirements for residential projects (primarily townhouse projects). By providing specific zoning standards or guidelines that define the conditions and situations where the front yard can be counted toward required open space, it would streamline the review process. Staff had anticipated being able to complete this policy change as part of the zoning code retooling; however, the schedule for the retooling effort has fallen behind due to other workload items and staff availability. The retooling effort will recommence when sufficient staff time is available.

Prepared by: Trudi Ryan, Director, Community Development  
Reviewed by: Teri Silva, Interim Assistant City Manager  
Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-0911

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 16-14

**TITLE** Exploring Options for Establishment of a Plaque Program for Heritage Resources

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Heritage Preservation Commission  
History: 1 year ago: Ranked, Below the Line  
2 years ago: Ranked, Below the Line

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Heritage Preservation Commission duties are defined in the City Charter to advise the City Council in all matters pertaining to heritage resources, landmark sites and landmark districts and to implement the heritage preservation regulations of the Sunnyvale Municipal Code. While these duties typically focus on preserving heritage resources, the Heritage Preservation Commission also sees value in educating the community on history and heritage resources.

The City has approximately 62 structures listed on the Heritage Resources Inventory, as well as a few neighborhoods and several trees; however, many community members may not know of most of those resources or their historical impact on the City of Sunnyvale. Creation of a plaque program could educate the community on specific heritage resources in the City as well as events and people famous to Sunnyvale.

What are the key elements of the study?

Within the overall category of historic resources, the City recognizes three levels of significance, ranked in descending order from most significant as follows:

- (1) Local landmark resource/local landmark district;
- (2) Designated heritage resource/designated heritage resource district; and
- (3) Heritage resource/heritage resource district.

Between the mid-1980s and mid-1990s the City installed plaques on 11 Heritage Landmark properties. This study would examine a new program associated with the remaining two tiers of heritage resources.

Exploration of establishing a plaque program may include:

- Survey of cities with plaque programs and the specifics of each program;

- Discussions with other City staff members on the effectiveness and receptiveness of such a program;
- Evaluation of costs associated with buying plaques and how those costs would be covered;
- Details and criteria for what resources would be eligible to receive a plaque and details on how the program would be established and maintained; and
- Standards for the plaque program with the objective to improve community education and awareness of Sunnyvale's historic resources.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost) Minor

Funding Required for Non-Budgeted Costs \$0

Funding Source N/A

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating costs.

### **EXPECTED PARTICIPATION IN THE PROCESS**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Heritage Preservation Commission

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Staff considers the concept worthy of study, and it would be beneficial to increase community awareness of the City's heritage resources. However, the cost for a plaque program would need to be balanced with other funding priorities. Staff is aware of cities that require the owners of heritage resources to cover the costs of the plaques; therefore, a plaque program could potentially be created with minimal cost to the City.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed By: Teri Silva, Interim Assistant City Manager

Approved By: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-0919

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 17-03

#### **TITLE** Rent Stabilization for Mobile Home Parks

#### **BACKGROUND**

Lead Department: Community Development

Support Departments: Office of the City Manager

Office of the City Attorney

Sponsor(s): Councilmembers: Davis, Griffith, Martin-Milius

History: 1 year ago: Deferred

2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

In 2016, several residents of Plaza del Rey Mobile Home Park requested that the City impose rent stabilization on their Park due to the 7.5% rent increase imposed by the new park owners in early 2016 and concerns about future rent increases. Mobile home parks are unique in that typically the home is owned by the resident and rent is paid to a park owner for the use of the space. The rent varies due to a number of factors, including: the amenities available at the park (e.g., pools, spas, parks, recreation rooms, etc.); whether utilities are included in the rent; the level of maintenance and management services; and property taxes on the land.

What are the key elements of the study?

Key elements include:

Phase I. Conduct initial research on the types of mobile home park rent stabilization programs that exist and identify alternative approaches being used. Also assess the benefits, costs, and possible unanticipated effects of implementing rent stabilization, such as possible impacts on mobile home sale prices, impacts on the mobile home parks and/or possible pricing impacts on other types of housing in the City.

Hold community outreach meetings and study sessions with the Housing and Human Services Commission and with the City Council to collect feedback on approaches. Council direction will be sought on whether or not to proceed with rent stabilization for mobile home park residents. Staff presentations will include a discussion of various approaches, such as a Council adopted ordinance, or a voter adopted ordinance or Charter Amendment (through a ballot measure) in order to establish rent stabilization for mobile home park residents. The Council could also consider initially adopting an ordinance and then placing a ballot measure for voter approval on the ballot. If directed to proceed, the remaining scope of the study could be as outlined below, or as otherwise directed by Council at

the conclusion of Phase I.

Phase II. If Council decides to proceed with further evaluating rent stabilization for mobile home residents, prepare preliminary budget for administration of rent stabilization program; also identify costs that other communities have experienced due to litigation. Council could decide to adopt an ordinance (see Phase II A below) or place an ordinance or amend the charter on the ballot for voter approval (see Phase II B below).

Phase II A. If Council is interested in adopting an ordinance, preliminary language would be developed. After outreach with stakeholders (i.e., park residents, park owners, Sunnyvale voters, and other interested parties) regarding draft language and implementation plan staff will prepare a draft ordinance and schedule public hearings for formal consideration of a rent stabilization ordinance.

Phase II B. If Council is interested in placing an ordinance or charter amendment on the ballot, staff recommends developing a draft ballot measure and hiring a public opinion research firm to conduct initial polling of likely Sunnyvale registered voters to determine level of support for a proposed mobile home park rent stabilization measure. If polling results indicate enough support for possible passage, staff would bring forward for Council consideration a draft administrative plan, including cost and proposed funding structure, to implement the program if measure passes.

Continue public outreach among stakeholders regarding draft language and implementation plan. Conduct follow-up polling with likely Sunnyvale voters on ballot measure with updated language (as modified through public input) as well as any fees that would be imposed on mobile home park residents and/or park owners to fund program.

Return to Council with findings from second iteration of polling as well as a summary of the community engagement results to determine whether the measure should be placed on a ballot for voter consideration

*Note:* In 2017 a similar study issue (CDD 17-06) was proposed to analyze rent stabilization options for other types of rental housing in the City; Council dropped that item as a potential study issue.

Also in 2017 the City Council approved and ranked CDD 17-09 (2017 Housing Strategy), which was offered as an alternative to the following study issues: CDD 17-03 (Rent Stabilization for Mobile Home Parks), CDD 17-05 (Consider Certain Requirements for the Sunnyvale Municipal Code Chapter 19.72: Mobile Home Park Conversions), and CDD 17-06 (Explore Introduction of a Rent Stabilization Ordinance). The 2017 Housing Strategy study issue was ranked number 1 for the Community Development Department (CDD).

Estimated years to complete study: 1 year for Phase I, if the study is ranked as a top policy action. Future phases would depend on interim actions of the City Council.

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost):

Major

Funding Required for Non-Budgeted Costs:

Phase I: \$80,000

Phase II: > \$100,000

Funding Source:

Will seek budget supplement

Phase I will require funding for outreach, postage and other noticing expenses, contract staff and/or consultants, etc. A significant public outreach process is anticipated to include outreach to about 4,000 households residing in mobile home parks and to the mobile home park owners, managers, and industry associations. Contract staff or consultants would assist with the outreach process, preparing meeting materials and facilitating meetings, or have specialized skills in rent stabilization programs, and/or market analysis. Staff assistance may also be needed for Communications, City Attorney, City Clerk, and City Manager staff due to high volume of inquiries, media contacts, multiple stakeholder contacts, need for specialized legal counsel, etc.

Depending on Council direction, Phase II would likely require more than \$100,000 for additional consultant assistance for preparation of an ordinance and administrative programs (Phase II A), and for a public opinion research firm to conduct two-phase polling study (Phase II B). Consultant assistance would also be needed with the preparation of regulations and administrative programs.

#### Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

#### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: Housing and Human Services Commission

#### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

At the 2017 Study Issues Workshop, Council ranked another Study Issue, 2017 Housing Strategy (CDD 17-09), which incorporated Phase 1 of this study issue as described above, as the highest priority study for CDD. Work on CDD 17-09 is currently underway, with Council approval of the work plan anticipated to occur before the 2018 Study Issues Workshop. Because CDD 17-09 incorporates most of the initial analysis required under CDD 17-03, and will include recommendations for further study and/or implementation related to mobile home park rent stabilization, staff recommends dropping CDD 17-03 to avoid duplication of effort.

Prepared By: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-0913

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 17-08

**TITLE** Evaluation of the Residential Single-Story Combining District Process

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Planning Commission  
History: 1 year ago: Ranked, Below the Line  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

From 2000 (when the Residential Single-Story Combining District (SSCD) regulations were adopted) to 2015, three single-family neighborhoods had applied and had been re-zoned to create an SSCD; however, from 2015 to 2017, 13 applications have been filed requesting re-zoning to the SSCD. Additionally, the latest applications presented to the Planning Commission have included opposition from a few neighbors within the neighborhood subject to the re-zoning. Due to the number of SSCD rezoning applications in recent years and after hearing comments made by the public at a study session, the Planning Commission has forwarded this study to examine the process and to better define what factors should be considered as part of determining "in the public interest." The Planning Commission is also interested in the application submittals and general process for these applications. There have also been requests to analyze the effect of single-story rezonings on the citywide housing stock and property values.

In 2017, in reviewing recent SSCD applications, City Council has discussed whether changes to the current 20 property minimum are warranted. In addition, there have been questions about how properties could be added or removed from a SSCD.

What are the key elements of the study?

The SSCD was created in 2000 to allow for the preservation and maintenance of single-family neighborhoods that are predominately single-story. In 2005, the City Council reviewed the standards for creating a SSCD, and reduced the required 67% participation of affected property owners to 55%, and removed the 7-year sunset provision.

Recently several applications have been filed for re-zoning single-family neighborhoods to incorporate the SSCD into the zoning designation. Some of the more recent applications have included affected residents and neighbors opposed to the re-zoning request. There are numerous

community members supportive and opposed to the second story limitations of the SSCD.

This study would look at the application requirements and the process for considering the SSCD as well as the overall effect of the rezoning (beyond excluding second stories). Issues that would be considered include ensuring the completeness and accuracy of information owners receive prior to considering participation in an application, the effects of rezoning on property values, how to add or remove properties from existing SSCDs, and the findings necessary to adopt the SSCD.

Some of the issues are operational concerns that staff can implement without a study issue. One such operation includes an independent verification by the City of interest in the SSCD. Other issues raised through the applications considered to date include the following:

- Summary and information on the existing SSCD neighborhoods;
- Defining acceptable neighborhood boundaries;
- Consideration of potential modification of the minimum property requirement (20 homes) to file an application for a SSCD;
- Clarify requirements to add properties to or remove properties from a SSCD.
- Consider limitations on neighborhoods based on lot size or subject to certain development standards;
- Determining the appropriate fees;
- Impacts on property values SSCD;
- Review of other cities' practices; and
- If a sunset date would be appropriate for SSCD and/or the requirement of renewal of the district over time.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$30,000

Funding Source: Will seek budget supplement

Non-budgeted cost would include a consultant to determine the effect of a SSCD on property values. If this element was not included in the study, no additional budget would be required.

Cost to Implement Study Results

Unknown.

### **EXPECTED PARTICIPATION IN THE PROCESS**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Due to the influx of applications, staff believes that this study may be appropriate to undertake. The



SSCD was rarely used prior to 2015 and the practices and processes developed when it was created may need to be re-evaluated under these new circumstances.

Regarding the property value study, staff does not support inclusion of a study on the impact of SSCD on property values. It may be helpful to note if and what effect zoning regulations have on the value of property; however, during the 2000 process, there was literature suggesting that single story zoning could either increase or decrease the value of property, and that there were many and complex factors that affected value as well. The housing market is affected by several factors, and trying to pinpoint the effect a single zoning limitation has on values would likely not produce meaningful results.

To address recent concerns, it is important to note that staff has adjusted the administrative process and outreach materials (e.g., request that property owners confirm their interest or opposition to the rezoning request after the outreach meeting and prior to scheduling the Planning Commission and City Council public hearings).

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-0789

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-01

**TITLE** Explore Policies to Preserve Space for Light Industrial Uses

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers Griffith, Hendricks, Klein, Smith  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The City recently completed the Peery Park Specific Plan and Lawrence Station Area Plan, which allow for the transformation of these existing industrial/office areas through intensification in nonresidential floor area and/or changes in use. These two areas and the Moffett Park Specific Plan area (adopted in 2004) are identified as Transform areas. In 2014 the City rezoned an industrially zoned area at Central Expressway and Wolfe Rd. to allow for a new office campus. The City continues to receive requests for higher intensity office/R&D development throughout the City. There is growing concern with the City's recent actions to increase development intensity in the existing industrial areas, along with continued interest by property owners to redevelop their properties into larger office buildings or campuses, that there may not be enough industrially zoned land for incubator space, smaller businesses and service-oriented space, such as auto repair shops.

What are the key elements of the study?

This study would explore policies to preserve industrially zoned land and/or buildings conducive to light industrial uses, such as businesses engaged in the manufacturing, processing assembly or distribution of products, preparation of food products, wholesale or warehousing, or smaller research and development facilities and start-up companies. The study would also evaluate policies to preserve land and space for heavier service commercial uses, such as auto body repair shops, commercial printers, furniture construction, engravers, etc.

The City's General Plan Chapter 3: Land Use and Transportation ([LUTE <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23980>](https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23980)) establishes the fundamental framework of how various land uses, developments and transportation facilities will function together. This Chapter contains goals, policies and actions (see excerpts in Attachment 1) to help guide decision-making in land use and transportation, and indicate where change would be encouraged to occur and to what degree it can be expected. The LUTE (updated in April 2017)

directs the transformation of existing industrial land in the Peery Park and Lawrence Station area, as well as a quarter mile portion within the Tasman Light Rail Station of the area known as “The Woods”. This study could examine the LUTE to include policies and guidance to preserve areas for light industrial and service commercial uses.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Minor

Amount of funding above current budget required: \$0

Funding Source: N/A

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The concern about losing critical lighter industrial and service commercial uses due to the rapid redevelopment of the industrial areas of the city was considered during the recent update of the LUTE, and this chapter of the General Plan contains several goals, policies and action statements to ensure that the City allows for a variety of industrial and commercial businesses at various scales, especially when considering rezoning existing industrial or commercial land.

In addition, the LUTE identifies future change areas including Moffett Park (1156 acres), Peery Park (450 acres), Lawrence Station (629 acres), El Camino Real and an industrial area immediately adjacent to the Tasman Light Rail Station (50 acres), which are envisioned to experience major improvements and change in character. The attached map displays changing conditions expected to occur through 2035 (Attachment 2). The LUTE identifies the rest of the City’s industrially zoned areas to experience minor improvements but remain consistent with the existing character. These areas include the Industrial and Service Zoning District (M-S) and the General Industrial Zoning District, (M-3), which total approximately 781 acres and are limited to 35 percent floor area ratio (FAR) (unless a Use Permit is approved for higher FAR), as well as the Service Commercial Zoning District (C-4), located on Evelyn Avenue between Mary Avenue and Pastoria Avenue that totals approximately 24 acres. The C-4 service commercial zoning district is reserved for the construction, use and occupancy of service rather than retail facilities such as repair shops, crafts shops or custom fabricators, contractors’ offices, and materials suppliers.

In addition to the LUTE goals and policies, [Council Policy 1.1.13, Review Criteria for Projects Greater Than 35% Floor Area Ratio \(FAR\)](https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23109) <<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23109>> provides City decision-makers a set of criteria to evaluate projects exceeding the

allowed FAR (35%) in the M-S and M-3 Zoning Districts through the Use Permit process. The review criteria consist of four major categories: Community Character; Environmental -Traffic and Air Quality; Site Design and Architecture; and, an optional category of economic and fiscal factors.

The City Council has the ultimate approval authority for Use Permits for higher FAR and for rezoning of properties and can rely on existing policy to control development in the industrial zones. If the City Council finds that there is not sufficient preservation of the light industrial and service uses or that the current zoning standards may provide property owners false expectation of higher FAR, the City Council may want to consider studying amendments to Council Policy 1.1.13 or the zoning standards for the M-3 and, M-S and C-4 Zoning Districts that limit the FAR that can be achieved.

Prepared by: Trudi Ryan, Director, Community Development  
Reviewed by: Teri Silva, Interim Assistant City Manager  
Approved by: Kent Steffens, Interim City Manager

#### **ATTACHMENTS**

1. Relevant LUTE Goals, Policies and Actions
2. Changing Conditions Map



**Excerpts from General Plan [Chapter 3: Land Use and Transportation](#)**

*Relevant goals, policies and action items to the proposed Study Issue CDD 18-01*

**Goal I:** Supportive Economic Development Environment Facilitate an economic development environment that supports a wide variety of businesses and promotes a strong economy within existing environmental, social, fiscal, and land use constraints.

Policy 74: Provide existing businesses with opportunities to grow in Sunnyvale and provide opportunities to expand into new technologies.

*Action 1:* Monitor the effect of City policies on business development and consider the effects on the overall health of business in the community.

*Action 2:* Participate in partnerships with local industry/businesses in order to facilitate communication and address mutual concerns.

*Action 3:* Work with start-up companies to address their unique land use and transportation needs during product development and placement of their new technologies.

**Goal J:** A Balanced Economic Base Develop a balanced economic base that can resist downturns of any one industry and provides revenue for City services.

Policy 82: Attract and retain a diversity of commercial enterprises and industrial uses to sustain and bolster the local economy and provide a range of job opportunities.

*Action 1:* Promote a variety of commercial, retail, and industrial uses, including neighborhood shopping, general business, office, clean technology, and industrial/research and development.

*Action 2:* Ensure that rezoning of industrial or commercial areas and sites will not significantly hurt the community's economic base.

Policy 85: Maintain an adequate supply of land zoned for office, industrial, and retail development to meet projected needs.

**Goal K:** Protected, Maintained, and Enhanced Commercial Areas, Shopping Centers, and Business Districts Achieve attractive commercial centers and business districts and buildings that are maintained and allow a full spectrum of businesses that operate unencumbered.

Policy 96: Maintain areas of Class B and C buildings to support all types of businesses and provide a complete community.





# CHANGING CONDITIONS 2010-2035

## CHARACTER OF CHANGE

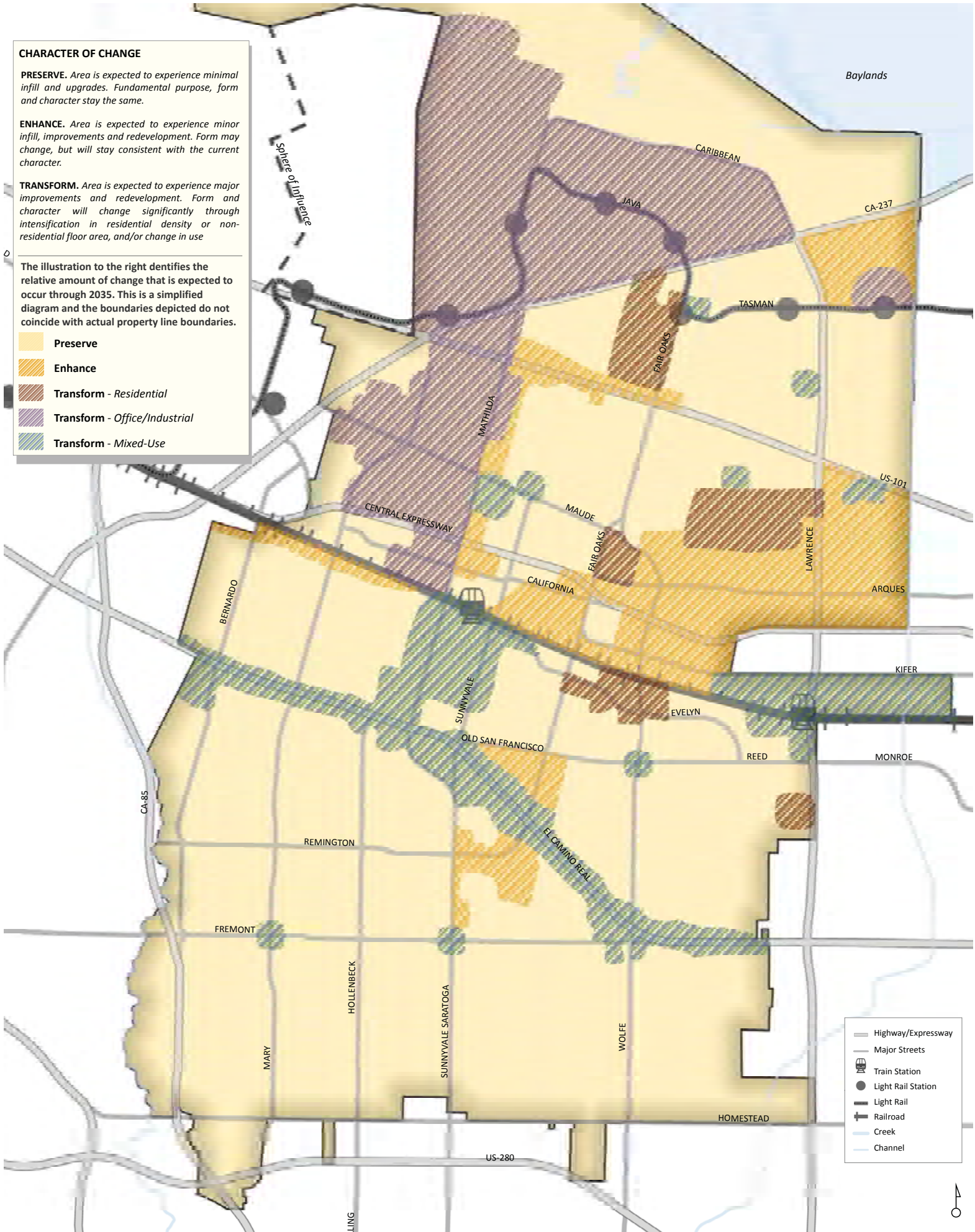
**PRESERVE.** Area is expected to experience minimal infill and upgrades. Fundamental purpose, form and character stay the same.

**ENHANCE.** Area is expected to experience minor infill, improvements and redevelopment. Form may change, but will stay consistent with the current character.

**TRANSFORM.** Area is expected to experience major improvements and redevelopment. Form and character will change significantly through intensification in residential density or non-residential floor area, and/or change in use

The illustration to the right identifies the relative amount of change that is expected to occur through 2035. This is a simplified diagram and the boundaries depicted do not coincide with actual property line boundaries.

- Preserve
- Enhance
- Transform - Residential
- Transform - Office/Industrial
- Transform - Mixed-Use







# City of Sunnyvale

## Agenda Item

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17-1026

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-02

**TITLE** Update and Review of the Heritage Resource Inventory

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Heritage Preservation Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Heritage Preservation Commission identified a need to reexamine the City's current Heritage Resource Inventory (Inventory) and explore whether additional properties, including non-residential development, should qualify based on adopted criteria for nomination. Specifically, the Fremont High School was identified for possible nomination.

The Inventory was created in 1979 and has been updated periodically. The most recent comprehensive study in 2007 included a citywide survey for consideration of new neighborhood districts and individual heritage resources. Two neighborhoods and five properties were identified and further evaluated in 2009; however, none of these properties and neighborhoods were ultimately added to the Inventory. Over the years, through requests by individual property owners, several properties have been approved for removal from the list, once further study determined that they did not meet or were determined to no longer meet the City's standards for heritage designation. The Fremont Union High School District has previously expressed opposition to pursuing historic designation of their property.

What are the key elements of the study?

Similar to previous Inventory updates, the study would identify potential properties for nomination both by visually surveying the city, and by conducting research to identify locations where prominent members of Sunnyvale's history lived or where significant local historic events may have taken place. Outreach meetings would be conducted with affected and/or interested property owners and business owners. The study would also examine the current list and the appropriateness of the specific designations.

Estimated years to complete study: 1 year

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$25,000

Funding Source: Will seek budget supplement

A consultant would conduct a survey of residential and non-residential development and help evaluate individual properties for nomination to the City's Heritage Resource inventory.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Heritage Preservation Commission

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

The last citywide survey was conducted 10 years ago. An updated comprehensive study would be needed to further examine the condition of properties within the existing Inventory as well as identify new residential and non-residential properties that could be nominated. With the continual increase of redevelopment and evolving architectural design within the City, a survey of the existing building inventory would help determine whether adequate preservation measures are in place. This is supported by the General Plan Community Character Chapter and its goal and policies to enhance, preserve and protect Sunnyvale's heritage.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1022

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-03

**TITLE** Study the Variation in Building Forms to Increase Open Space

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Planning Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The City of Sunnyvale development standards reflect the community's concept of appropriate building types, forms, and intensity. One item that has historically been a concern of the community is regulating the height of buildings. The City allows taller buildings in specific plan areas (Moffett Park, Downtown, Peery Park, Lawrence Station) along with greater density (units per acres) and intensity (floor area ratio) of development. Projects in these areas often achieve greater than the minimum open space. Most higher density residential areas, industrial areas (zoned M-S and M-3) and Highway Commercial (C-2) in Sunnyvale are currently limited to five stories. The study would look at allowing greater heights for the same density to promote more open space. For example, a five-story building that occupies 40 percent of the site with the remaining site as 20 percent landscaping and 40 percent circulation and parking could be designed as a ten-story building that occupies 20 percent of the site, with twice as much open space (40 percent). The percentage of open space could be further increased if parking were built below the building.

What are the key elements of the study?

This study would review the City's development standards and design guidelines and determine whether modifications are desirable to allow for more variation in height, building forms, and architecture and to encourage more open space while achieving the appropriate character for the City. This study could:

- Work with the development community to determine whether different building construction types would be feasible to accomplish the goals of providing more open space;
- Consider allowing greater building height to achieve more open area (including the possibility of paseos) on the development site;
- Examine the City's policies, development standards and design guidelines for multifamily and nonresidential developments, and the type of physical environment they achieve;
- Determine whether certain development standards could be modified to allow more flexibility

- without increasing the development capacity on a property to allow for more variation in building forms (e.g., increasing height limits without increasing allowable floor area); and
- Determine the visual impact of potential modifications to the development standards and design guidelines to adjacent neighborhoods.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$30,000

The non-budgeted costs would be to hire an urban design firm to provide examples of similar efforts, and to help write any necessary guidelines.

Cost to Implement Study Results

Minimal or no cost expected to implement.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at the 2018 Study Issues Workshop.

The City's Zoning Code development standards and design guidelines aim to set the community standards for the desired level of quality and character for the physical environment. Development standards (zoning) establish a framework in which projects can be designed, providing limits on height, floor area, lot coverage and requiring minimum setbacks, landscaping and usable open space areas. Design guidelines further shape a project by providing techniques that encourage variation in height and forms, create functional site configurations and improve the aesthetic quality of proposed development projects.

Although there is also a desire for more usable open space in the community there is also concern in the community about the appropriate locations for taller buildings. The community has expressed limited tolerance for taller buildings, except in the specific plan areas, and even those areas have needed adjustment for better transitions from lower density neighborhoods.

If the City Council is interested in pursuing changes to height limits, in exchange for more open space, a key element of the study would be community input to determine the level of acceptance for taller buildings when balanced with open space around a building and usable open space in the building design.

Prepared by: Trudi Ryan, Director, Community Development Department

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1023

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-04

**TITLE** Create Development Guidelines for Future Accommodation of Autonomous Vehicle Use

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Public Works  
Sponsor(s): Planning Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

There are several technology changes in vehicle use expected in coming years, including the use of autonomous vehicles (driverless cars) as one of the future primary modes of transportation. Although full adaptation of autonomous vehicles may take decades, there is growing speculation that infrastructure supporting our current methods of travel could quickly become obsolete, and that there is a need to start planning for the infrastructure to support autonomous vehicle use.

What are the key elements of the study?

The purpose of this study is to identify how the use of autonomous vehicles could impact land use planning today and develop guidelines that could allow for the flexibility of infrastructure (e.g., roads, street parking, onsite parking, vehicular loading areas, parking structures, etc.) to accommodate the future use of autonomous vehicles. The study could:

- Identify the potential impacts of autonomous vehicles and ride-sharing to land use planning;
- Consider the differing impacts of self-driving cars owned and used by a single person and shared autonomous vehicles not owned by an individual, but shared by many;
- Evaluate existing policies, design guidelines and development standards related to site access, transportation, parking and loading;
- Create standards or site planning guidelines that could allow for more area in front of buildings for drop off and pick up by autonomous vehicles;
- Create new policies and guidelines for the reuse or adaptation of parking structures for other uses (i.e., converting parking structures to a hotel, office, or housing); and
- Examine how the right-of-way could be converted and reclaimed as public open space (e.g., outdoor dining or parklets) or devoted to other modes of travel (e.g., wider sidewalks, enhanced bike lanes, etc.).



Estimated years to complete study: 1-2 years

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Cost to Implement Study Results

Minimal or no cost expected to implement.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: Planning Commission

**STAFF RECOMMENDATION**

Defer. This policy issue merits discussion at a future Study Issues workshop.

It may be challenging to comprehensively assess the potential impacts of autonomous vehicles on land use planning as the technology is still evolving and the full adaptation to their use may take decades. There is much speculation that the use of autonomous vehicles offers opportunities for greater safety, mobility and open space as less land would be needed for single-occupancy vehicle use. Staff recommends deferring this study until more is understood about the technology and how best to support it.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-1025

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-05

**TITLE** Increase Opportunities for more Accessory Dwelling Units

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Planning Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

During the Planning Commission review of the Accessory Dwelling Unit (ADU) Development Standards study at its meeting on September 11, 2017, Commissioners expressed an interest to undertake another study to consider additional options to encourage the construction of ADUs.

What are the key elements of the study?

This study would build on the previous year's study and could include:

- Creating density bonuses or green building incentives for projects that include construction of an ADU;
- Examining ways to assist unpermitted ADUs into achieving compliance and obtaining permits;
- Considering a lower minimum required lot area for ADUs; and
- Evaluating potential modifications to other development standards and permitting processes that could encourage the construction of an ADU.

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Cost to Implement Study Results

Minimal or no cost expected to implement.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Housing and Human Services Commission and Planning Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The pending Housing Strategy study issue (CDD 17-09) will include consideration of a wide range of possible housing policy changes and/or new or improved housing programs, and provides an opportunity to prioritize the various options that merit further consideration and/or implementation. Staff recommends the Housing Strategy as the best approach to consider a range of housing initiatives, rather than individual studies such as this.

Further, the recently completed ADU study and related Sunnyvale Municipal Code (SMC) amendments approved by City Council significantly increased opportunities for homeowners to create an ADU, which could provide new housing opportunities for family members and/or local workers. The SMC changes more than tripled the number of properties on which ADUs can be built within the R-0 and R-1 zones alone (from a prior total of nearly 3,000 to a new total of nearly 13,500 lots), not including single family lots within R-2 and DSP zones, which are also eligible for ADU development (number not changed). This most recent increase in ADU capacity was in addition to the SMC amendments approved in late 2016, which allowed homeowners to create ADUs from existing built space (part of the home or an existing accessory structure) on any single-family lot within the City, regardless of lot size, consistent with new state laws. The Planning Commission suggestion for this study issue preceded the City Council action to further reduce the minimum lot size in the R-0 zoning district.

Encouraging compliance for unpermitted ADUs would not increase the supply of housing; however, it could help provide a more accurate report of available housing in the City and would likely provide enhanced safety in the community. The City's Neighborhood Preservation Division already responds to complaints or concerns regarding unpermitted and/or unsafe dwellings. The standard approach is to try to help the property owner to achieve compliance with applicable health and safety codes, building codes, etc. if at all feasible and minimize displacement of occupants to the extent possible. Staff assist this effort by providing the property owner with guidance on obtaining any permits necessary to complete any code compliance retrofits that may be required. An expanded pro-active "amnesty" program, as suggested in this study issue, is a budget consideration.

Green building incentives for the construction of ADUs can be considered as part of the pending Green Building Program update.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1065

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-06

#### **TITLE** Establishing a “Sponge City”

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Environmental Services  
Public Works  
Sponsor(s): Planning Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Planning Commission reviews development projects on private properties that must include stormwater runoff features as required by state and local laws. In addition to the localized impacts of development on water runoff, the Commission addressed the larger impact of urbanization on the issue.

Reducing stormwater runoff in the built environment to prevent flooding and manage heat is one way to address the changing climate and work towards creating a more sustainable environment. Cities such as Berlin have established requirements for developments to incorporate stormwater management construction techniques such as green roofs and bio swales on both private property and the streetscape to greatly reduce flooding and move towards zero storm water runoff. Designing cities to reduce and reuse water runoff has been compared to creating an environment that absorbs water and releases the water similar to the way a sponge works; hence the use of the term “Sponge City”.

What are the key elements of the study?

This study would explore the feasibility of establishing elements of a “Sponge City” that would, in the long term, move the City towards zero water runoff within the City. This study would identify construction techniques that could be required for private developments and capital improvements and infrastructure to completely capture and retain rainwater within the City with the goal of zero discharge into the San Francisco Bay. This study would be a multi-departmental effort and could include:

- Evaluating General Plan goals and policies regarding stormwater management and possibly

adopting new goals, policies and action statements;

- Exploring “sponge” construction methods, such as green roofs, that could be required for new developments and City facilities to capture and retain stormwater on site;
- Examining the potential benefits of “sponge” construction methods in areas of the City prone to flooding;
- Developing a transition plan to incorporate stormwater management strategies into City parks and install pervious pavement for roads and sidewalks;
- An assessment of the impacts of such changes in construction methods; and
- Estimating the impacts of reduced flooding as well as impacts to the climate in impacted parts of the City.

Estimated years to complete study: 2 years

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost):

Major

Funding Required for Non-Budgeted Costs:

\$300,000

Funding Source:

Will seek budget supplement

Conducting this study could require the use of multiple consultants to determine the feasibility of establishing elements of a “Sponge City” and methods of incorporating those elements into City and private infrastructure. The concept of a “Sponge City” is new, and conducting this study will be complex, and therefore a high cost. The funding requirement is an estimate based on limited information because staff has not found examples of this type of effort being completed.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: Yes

Council Study Session: Yes

Reviewed by Boards/Commissions: Sustainability Commission, Planning Commission and Parks and Recreation Commission

### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The City currently administers several requirements on new construction and redevelopment projects that limit impervious pavements and aims to reduce stormwater runoff and prevent pollutant discharge from private properties into the City’s storm drain system. Also, the City’s Zoning Code limits the amount of impervious area on private property. And the City’s green building program encourages developments to incorporate design techniques that address climate change, keep rainwater onsite and manage heat.

Additionally, the Municipal Regional Permit (MRP) issued to the San Francisco Bay region by the California Regional Water Quality Control Board includes region-wide stormwater treatment

requirements for private and public new development and redevelopment projects that aim to limit stormwater runoff through low impact development design techniques. These techniques have been developed with the basic principle to design the built environment to remain a functioning part of an ecosystem rather than exist apart from it; LID (low impact development) goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source. These techniques include onsite rainwater harvesting, green infrastructure, use of pervious paving, swales and bio-retention basins.

The recent update of the MRP (2015) also requires cities to develop Green Infrastructure (GI) Plans to incorporate and implement green infrastructure more expansively in capital improvement projects, such as sidewalk parkstrips, street medians and parks, and to treat stormwater runoff from adjacent roadways and other paved areas. The framework for the City's GI Plan was approved by the City Council on June 20, 2017 (RTC 17-0398), and the final GI Plan is scheduled to come to Council for consideration in April 2019.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

17-1071

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-07 (formerly DPS 17-01)

**TITLE** Regulation of Marijuana Cultivation in the City of Sunnyvale for Research and Development

#### **BACKGROUND**

Lead Department: Community Development  
Support Department(s): Office of the City Manager  
Office of the City Attorney  
Public Safety  
Sponsor(s): Councilmembers: Griffith, Martin-Milius  
History: 1 year ago: Ranked, Priority C  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The study issue arose out of discussion during the April 12, 2016 Council Meeting regarding maintaining the prohibition of all medical marijuana activities within the City. Members of the public requested consideration for exceptions to the prohibition for (a) personal cultivation and (b) research and development (R&D). The final categorization in 2017 for this Study Issue was Priority C, meaning the study would only be absorbed in the current year (2017) if capacity presented itself; if not, it would carry forward for City Council consideration in the next Study Issue cycle. Following passage of the Adult Use of Marijuana Act in November 2016, which legalized personal cultivation of up to 6 marijuana plants per residence, the Sunnyvale Municipal Code (SMC) was amended in 2017 to bring the City's local ordinance into compliance with state law. However, the City maintains discretion to prohibit or regulate other types of marijuana businesses, including cultivation for research and development purposes.

What are the key elements of the study?

The study will examine possible revisions to the current SMC regulations in Title 9 (Public Peace, Safety or Welfare) and Title 19 (Zoning). Currently, the SMC prohibits all commercial marijuana cultivation and business activity. This Study Issue would explore a limited exception to that prohibition to allow commercial cultivation of marijuana for research and development purposes. Such an exception would require changes to the zoning code to provide standards and regulations for a new land use permit allowing cultivation of marijuana for research and development only.

A state license for marijuana cultivation will be required beginning in 2018 for any business wishing to cultivate marijuana. However, the state will only issue licenses to the extent consistent with local law. The City's current prohibition on commercial marijuana activity therefore precludes issuance of a state license. However, if the City creates an exception in the SMC to allow commercial R&D

cultivation, that use would also be subject to and aligned with the State Licensing requirements.

The City has developed land use regulations and permits for unique uses in the past and could do so for commercial R&D marijuana cultivation. To do so, the City Council will need to make policy decisions on many issues, including but not limited to (1) defining the scope of “research and development,” (2) potential limits on cultivation (for example, allowable zones, number of businesses, and/or number of plants per business), and (3) the appropriate permit process.

Planned Completion Year: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Amount of funding above current budget required: \$0

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs.

Potential costs may include operating costs related to staff response for permitting and enforcement, and public safety impacts and costs.

### **EXPECTED PARTICIPATION IN THE PROCESS**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

### **STAFF RECOMMENDATION**

Position: Defer

Staff recommends deferring this study. Deferral has the potential to: 1) allow for the inevitable difficulties related to California State licensing of marijuana to be resolved, therefore providing Sunnyvale a base from which to develop its local approach; 2) allows Sunnyvale to learn from other cities and their experiences, again before developing its local approach; and, 3) allows for a better understanding of the research and development market-place for marijuana, so that a local approach can be adopted that best meets that market need, while at the same time, safe guards community interests.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-1154

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-08

**TITLE** Consider Requiring the Use of Story Poles, Modeling Technologies, and other Visual Aids for Proposed Development Projects

#### **BACKGROUND**

Lead Department: Community Development  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers: Griffith, Klein  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The City Council sponsored this Study Issue in November 2017 after receiving a request by a member of the public who felt it is too difficult to visualize what impact development projects would have on their surrounding neighborhoods without the use of 3-D modeling and/or the use of story poles. The request stemmed from two recent development projects: the Butcher's Corner residential project and the Civic Center Modernization project.

What are the key elements of the study?

This study would review different types of visual aids to determine if they would be a valuable illustrative aid for development projects. There are several types of visual aids that are used to help illustrate what a development project may look like within a surrounding neighborhood, such as:

- 3-D Computer Modeling (perspective illustrations/renderings or "walk-through" models)
- Photographs from a drone
- Story Poles
- Physical Models

The study may include:

- Consideration of each potential visual aid to determine its benefits and challenges;
- Determine if one type of visual aid illustrates future development better than others;
- Research on what other cities in the area require;
- An understanding of estimated costs of different options in order to determine what type of projects would be good options for the visual aid.
- Which type of visual aids are effective for projects on level sites; and
- Potential modifications to submittal requirements for development projects.

Estimated years to complete study: 1 year

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Minor

Amount of funding above current budget required: \$0

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

There is certainly benefit from visual aids when considering development projects. The City requires a variety of visual aids depending on the size, location and community concerns. In recent years, the submittal requirements have included requirements for computer modeled projects views from nearby neighborhoods, drone footage for large development projects looking toward neighborhoods, as well as perspective renderings from each street frontage. Some applicants also provide 3-D modeling in their presentations. The need for 3-D modeling can be made case-by-case based on the type of project, intensification of the proposed change, and sensitivity of the nearby area.

Story poles can be valuable visualization tools for sloped properties, and are required in some cities that have a lot of hillside development because they allow people on adjacent properties to understand how a new development will affect their views. They are primarily used to simulate 2-3 story structures, and are typically not certified by an engineer and usually do not require a building permit. While story poles do provide some visual aid, they do not show articulation or building variation, and can be misleading. In addition, it may be very dangerous to put story poles up for buildings that exceed three stories as they may not be able to withstand heavy winds or other weather situations. Story poles can also deteriorate quickly and can contribute a blighted look to a neighborhood. Thus, story poles would not be effective options for larger, taller buildings.

Standardization of visual aids such as 3-D modeling and story poles in the development review process would be unnecessary for most projects, especially single-family residential applications. These concepts are best determined on a case-by-case basis by staff considering the project type, intensity and surrounding uses. The City will add a note to the development application submittal requirements to alert applicants that additional visual aids may be required.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1199

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

CDD 18-09

**TITLE** Require Installation of Solar Energy Systems on New Buildings

#### **BACKGROUND**

Lead Department:	Community Development
Support Departments:	Environmental Services
	Office of the City Manager
	Office of the City Attorney
Sponsor(s):	Councilmembers: Goldman, Melton
History:	1 year ago: N/A
	2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

This Study Issue was sponsored by the City Council on December 12, 2017. The topic was suggested by two members of the public during oral communications.

What are the key elements of the study?

Solar energy systems are frequently installed on new and existing residential and commercial structures/properties, and the California Building Codes require that new buildings be “solar ready” (every new building must have dedicated roof space for installation of solar panels). Several jurisdictions in California have gone further and added local requirements to require installation of new solar energy systems on new structures. Each of these jurisdiction’s requirements vary greatly on what must be installed, and to which development types (residential vs. commercial) the requirements apply.

In the last several years, the City has approved several new industrial development projects with requirements for installation of solar energy systems; however, these were approved on a project-by-project basis. Staff also regularly approves permits for solar energy systems on new and existing single-family residential structures when property owners voluntarily request these permits. The City also allows a maximum shading of 10% of the sum of all the rooftops of buildings adjacent to new development projects (over two stories) to assure that the neighboring property still has sufficient access to sunlight, to install viable solar energy systems on the rooftops of those structures.

The study on whether the City should require solar energy systems on new structures may include:

- Evaluation of the different types of solar energy systems;
- Review of what other jurisdictions require or incentivize;

- Consideration of cost impacts to the property owners of different types of new development (e.g., single-family homeowners, commercial and office developers);
- Evaluation of which buildings have a requirement for actual installation of solar panels;
- Safety implications and requirements for installation of solar energy systems on new structures; and
- Other benefits and/or impacts of requiring solar energy systems to be installed on new buildings.

Estimated years to complete study: 1-2 years

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Cost to Implement Study Results

Minimal or no cost expected to implement.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Sustainability Commission and Planning Commission

### **STAFF RECOMMENDATION**

Defer. This policy issue merits discussion at a future Study Issues Workshop.

The State is currently considering requiring solar energy systems on new developments under Senate Bill 71; therefore, it may be beneficial to defer this study issue until the bill is adopted, or vetoed. This state bill will provide more information to consider when studying the issue relative to Sunnyvale. Rather than developing a requirement similar to that of a nearby community (and the regulations vary greatly amongst the jurisdictions) the state model may provide a uniform baseline from which to start the analysis.

Alternatively, this topic could be considered during the upcoming Green Building program updates instead of through a separate Study Issue. The Green Building program has been updated approximately every three years typically after the building code updates. Several of the Climate Action Plan workplan items essentially preprogrammed the current update. Completion of the update is anticipated for end of 2018. If the City Council is interested in having the solar panel issue studied with the Green Building program update the staff recommendation would be to drop the study issue.

Prepared by: Trudi Ryan, Director, Community Development

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, City Manager

**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Environmental Services**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
ESD 17-01	Eliminate the Use of Chemical Pesticides on City Owned or Leased Property	Major	\$100,000	Unknown	PRC 1 of 3 SC 2 of 5	3
ESD 18-01	Encouraging Heat Pump Water and Space Heating	Major	\$50,000	Unknown	PC 4 of 12 SC 1 of 5	1
ESD 18-02	Planning for Post-2021 Solid Waste & Recycling Collection Franchise	Moderate	\$50,000	Unknown	N/A	2

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
 See Study Issue Paper for detail.





## 2018 Study Issues Workshop Status Report: Continuing and Completed Study Issues

### Environmental Services

#### Continuing Study Issues

Number	Study Issue and Status
ESD 17-01	<b>Eliminate the Use of Chemical Pesticides on City Owned or Leased Property</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority C – New Service or New Service Practice)  <i>This Study Issue will be considered by City Council at the 2018 Study Issue workshop. Per the March 28, 2017 Report to Council (RTC 17-0165), Study Issues in this category were not likely to be absorbed in the current year, and would only be absorbed if the capacity presents itself. If not, these Study Issues would carry forward for City Council consideration in the next Study</i>
ESD 13-05C	<b>Eco-district Feasibility and Incentives</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority B – Strategic and Long-Term Service Impact)  <i>This study issue is being completed in the context of and in tandem with implementation of CAP 2.0. Staff expects to report to the City Council in spring 2018.</i>

#### Completed Study Issues

Number	Study Issue	Date Completed
	N/A	







# City of Sunnyvale

## Agenda Item

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17-1094

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

ESD 17-01

**TITLE** Eliminate the Use of Chemical Pesticides on City Owned or Leased Property

#### **BACKGROUND**

Lead Department: Environmental Services  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Public Works  
Library and Community Services  
Sponsor(s): Sustainability Commission  
History: 1 year ago: Ranked Priority C  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Sustainability Commission raised concerns that using chemicals to control weeds and pests may contaminate water and soil leading to negative long-term impacts to human health, and non-targeted species (e.g., bees, aquatic life, birds, pets, and beneficial insects). Other cities in the region are investigating elimination of pesticides in city parks (Reference [Menlo Park action in Fall 2015](http://www.menlopark.org/documentcenter/view/7894) [<http://www.menlopark.org/documentcenter/view/7894>](http://www.menlopark.org/documentcenter/view/7894)).

What are the key elements of the study?

The purpose of this study is to evaluate the effectiveness of the City's current Integrated Pest Management Policy, levels of pesticide use on City property, assess community support for eliminating pesticide use on City property, and identify the potential impact on City operations. Additionally, the study will also consider opportunities for educating residents about chemical pesticide alternatives.

Key study elements include:

- Identify current costs to the City for purchasing and applying pesticides (i.e., insecticides, herbicides, fungicides, & rodenticides) that are covered in the Integrated Pest Management Plan (IPM). Separately identify costs of "Pesticides of Concern" and other chemical pesticides (for example glyphosate) used that are not on the 'concern' list. Identify expected net costs of further reducing and eliminating all pesticide use on City property (increased cost of mechanical weed removal, physical barriers, etc. as prescribed in the IPM plan minus savings from not purchasing pesticides).
- Identify benefits to community and environment. These will not be monetized since it is

beyond the scope of this study to assess the value of environmental benefits.

- Identify cost of a pilot study in selected parks or City properties to measure costs/savings in a real application.
- Study cost of implementing a public outreach program to encourage pesticide elimination at homes, schools and businesses and provide information on alternative control means.
- Through a survey of residents and businesses, identify level of awareness and concern by the public on this topic and the desire for the City to devote attention to further pesticide reduction and eventual elimination.
- Benchmark and monitor progress of other cities in the region who have undertaken similar actions.
- Review the City's IPM Plan (effective June 1, 2010) and consider cost/benefit to add:
  1. Public notification prior to the application of pesticides in public areas;
  2. Reporting measures to allow the public to be informed on the quantities of each chemical pesticide used by the City (or associated contractors) on an annual basis; and
  3. Annual targets for reduction of pesticide use down to zero.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$100,000

Funding Source: Will seek budget supplement

The Study will be completed with existing staff time and additional consultant services. DPW is responsible for landscape management including the application of pesticides and herbicides on City property. ESD, with support from DPW, will take the lead in evaluating the public outreach aspects of the study and complete a survey of residents and businesses. The consultant with management from ESD and support from DPW staff will survey and monitor what other cities in the area have undertaken for similar projects, complete a cost analysis for current practices and possible changes, identify options for a pilot project and costs associated with it. The cost does not anticipate a time-in-motion study to estimate potential cost impacts of chemical alternatives such as mechanical weed removal. The determination of the net cost impact of chemical alternatives, as identified in the study scope, would be estimated based on research of cost impacts experienced by the benchmarked communities. Additional funding beyond the \$100,000 would be needed to conduct time-in-motion studies and such costs will be included in the development of the potential pilot project to measure costs/savings in a real application as identified in this Study Issue.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Sustainability, Parks and Recreation

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

The City's current IPM policy has been in place since 2010. City maintenance staff receives annual training on the IPM policy and contractors are required to also comply with the policy when working on City property. In accordance with the IPM policy, pesticides are used only after other controls have been considered and applied. Additionally, the City provides education on IPM at environmental outreach events and participates in regional educational campaigns and hosts sustainable landscaping classes in partnership with the Bay Area Water Supply and Conservation Associate in spring and fall. While staff believes that the City's IPM Policy has been effective and overall use of pesticides of concern is minimal, staff supports the study and an evaluation of program.

Prepared by: Melody Tovar, Interim Director, Environmental Services

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-1027

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

ESD 18-01

**TITLE** Encouraging Heat Pump Water and Space Heating

#### **BACKGROUND**

Lead Department:	Environmental Services
Support Departments:	Community Development
Sponsor(s):	Sustainability Commission
History:	1 year ago: N/A
	2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

Accelerating Climate Action is a Council Policy Priority. The current Climate Action Plan does not address fuel switching in buildings. Considering that 100% greenhouse gas free electricity is now available through Silicon Valley Clean Energy, transportation will be the largest contributor to Sunnyvale greenhouse gas emissions and the use of natural gas in buildings will be the second largest.

Fuel switching to carbon-free electricity for the largest uses of energy in most buildings - space and water heating - will lead to a significant reduction in greenhouse gas emissions. An update to the Climate Action Plan and amendments to City ordinances could be used to encourage property owners to switch from natural gas to electricity in their buildings. Heat pumps for water heating and space heating are highly efficient and increasingly cost effective as discussed by Pierre Delforge of the Natural Resources Defense Council (NRDC) in the first Sustainability Speaker Series event held on May 31, 2017.

The California Energy Commission (CEC) is developing a Solar Photovoltaic Model Ordinance (for new residential construction) to help California cities interested in climate leadership and in promoting use of clean energy. This model ordinance is intended to encourage cities to adopt a local "reach" building energy code, helping pave the way toward zero-net energy (ZNE) homes. As part of the comments to the CEC on the Solar Photovoltaic Model Ordinance, the NRDC and others encouraged the CEC to expand it to include a "Renewable Water Heating" option as well. If adopted, the Renewable Water Heating portion would make it easier for Sunnyvale to create a reach ordinance requiring heat pump or solar water heating.

What are the key elements of the study?

- Identify costs and savings to the City, developers, residents and businesses of purchasing and

installing Heat Pump water heaters and HVAC space heating systems in: a) New construction (Residential and Commercial) and b) retrofit/replacement.

- Consider savings in permitting and construction for all-electric developments without gas connections (new construction).
- Consider both initial costs (which may be higher than gas options until adoption rates and volume increase) and expected savings over time especially if paired with rooftop solar PV (new construction and retrofit).
- Identify benefits to the community and environment. Significant reduction in greenhouse gas emissions from buildings is expected as new and existing buildings move to electric heat pumps for water and space heating. If new developments go a step further and install 'all electric' appliances and systems, there is additional benefit of improved safety (no gas leaks or fumes or explosion risk), lower costs without a gas pipeline connection, and even greater reduction in greenhouse gas emissions from not burning fossil fuels. There may be some downside for those who do not prefer to switch to electric/induction cooktops.
- Identify cost of a pilot study (perhaps in partnership with Silicon Valley Clean Energy (SVCE)) to offer rebates and/or reduced permitting fees to residents and businesses that choose heat pump technology for retrofits or small-scale new construction.
- Study cost of implementing a public outreach program (again in possible partnership with SVCE) to encourage planning ahead for water and space heating replacements and consider the benefits of heat pump technology.
- Benchmark and monitor progress of other cities in the region that have undertaken similar actions.
- In conjunction with CAP 2.0, evaluate GHG reduction estimates for water and space heating conversion to electric heat pumps and whether a work item should be added to the next Climate Action Plan.
- Evaluate options for City ordinances or policies to encourage or require heat pump water and/or space heating in new construction. Note that 'incentives' encouraging adoption would not require a 'reach code' whereas 'requirements' would require code amendments.
- Conduct literature review of heat pump technology performance.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$50,000

Funding Source: Will seek grant or partnership funding

As part of the City's application for the Bloomberg Mayors Challenge, the City submitted a proposal that included a potential budget of \$1 to \$5 million to accelerate the adoption of heat pump technology. That effort would address many of the components of this proposed study. If the City is not selected for the Bloomberg Mayors Challenge, potential costs to the City to conduct the study would primarily be staff costs to conduct research and develop a viable incentive program, and to evaluate potential code amendments or reach codes. Costs shown would be to add temporary staffing to lead the study.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, and identify cost-sharing opportunities such as partnering with SVCE on a potential education and incentive program.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: Sustainability, Planning

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

The CAP 2.0 Initiative is scheduled to be completed at the end of 2018 and produce a framework with key actions. Based on a review of other community CAPs that have been recently revised, fuel switching in buildings is very likely to be identified as a key action area for Sunnyvale. Some of the information sought by this study issue may be provided by the CAP 2.0 effort; the full scope of this study issue seeks more detailed outcomes than what is envisioned for the near-term CAP 2.0 product.

Prepared by: Melody Tovar, Interim Director, Environmental Services

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager







# City of Sunnyvale

REVISED  
1/16/18

## Agenda Item

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17-1207

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

ESD 18-02

**TITLE** Planning for Post-2021 Solid Waste & Recycling Collection Franchise

#### **BACKGROUND**

Lead Department: Environmental Services  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Finance Department  
Sponsor(s): Councilmembers: Griffith, Melton  
History: New

#### **SCOPE OF THE STUDY**

What precipitated this study?

This Study Issue was sponsored by the City Council at the November 28, 2017 Council Meeting during the Non-Agenda Items section. The Council expressed a desire to better understand the implications of Article XVI of the City Charter on awarding a franchise for collection services beyond the current franchise term. Solid waste and recycling collection services are currently being provided to residents and businesses by Bay Counties Waste Services (BCWS), that has been granted an exclusive franchise by the City Council, as allowed by Article XVI of the City Charter and Sunnyvale Municipal Code Chapter 8.16. Section 1604 of the City Charter provides that the term of a franchise shall not exceed thirty years. The term of the current solid waste collection franchise began on July 1, 1991 and will expire on June 30, 2021, a period of thirty years. Charter Section 1601 empowers the Council to "grant by ordinance a franchise," the City Charter does not require a competitive process for the award of a new franchise and the Council could award a new franchise to the current franchisee.

Given the public and environmental health significance of the work performed under this franchise, it is important to plan for the continuation of these services in advance of expiration of the current franchise.

What are the key elements of the study?

The study would present Council with a discussion of the costs, implications and mechanics of the various options for addressing the expiration of the current franchise agreement.

Options would include:

- 1) Seeking voter approval of an amendment to the City Charter to remove or change the existing 30-year limit on franchises.
- 2) Implementing a competitive process to select a franchisee for collection services beyond

2021. The time required for such a process, including potential transition to a new franchisee is approximately 36 months.

- 3) Negotiating a new franchise agreement with the incumbent franchisee, including a work plan option that preserves the City's opportunity to implement a competitive process for the award of a new franchise if needed.

Estimated years to complete study: less than 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$50,000

Funding Source: Will seek budget modification

Funding would pay for a study and recommendations to be prepared by a consulting firm with knowledge of solid waste franchising issues and experience conducting competitive and negotiation-based processes for franchise transitions. Funding for a budget modification would come from the Solid Waste Management Enterprise Fund reserves.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs of implementing each option for securing a future franchise. Costs would vary depending on the policy options(s) selected by Council. Actual service costs and revenue would be determined with the result of implementing the option(s) selected by Council, that is, conducting a competitive or direct negotiation process.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: None

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Given the public and environmental health ramifications of the services provided by the collection franchisee, it is important that the City have a clear plan for addressing the expiration of the franchise on June 30, 2021.

Prepared by: Melody Tovar, Interim Director, Environmental Services

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, City Manager

**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Finance**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
FIN 18-01	Evaluate the Possibility of Subsidizing Water Rates for Qualified Low-Income Senior Residents from the General Fund	Moderate	\$0	Unknown	N/A	1

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
See Study Issue Paper for detail.





**2018 Study Issues Workshop**  
**Status Report: Continuing and Completed Study Issues**

**Finance**

**Continuing from Prior Year Study Issues**

<b>Number</b>	<b>Study Issue and Status</b>
FIN 17-01	<b>Evaluation of New Revenue Strategies to Fund New and Increasing Service Demands and/or Unfunded Capital Investments</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority A – Governance and Fiscal Sustainability)  <i>Council held a study session on potential new revenue strategies. Staff is returning to Council on November 28, 2017 to request an appropriation to conduct polling on various revenue sources, targeting the November 2018 Ballot if polling indicates support in the community. Staff has also engaged a consultant to review the study issue and will report out with the recommended budget on any additional potential revenue sources or adjustments to fees.</i>

**Completed Study Issues**

<b>Number</b>	<b>Study Issue</b>	<b>Date Completed</b>
	N/A	





# City of Sunnyvale

## Agenda Item

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17-0771

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

FIN 18-01

**TITLE** Evaluate the Possibility of Subsidizing Water Rates for Qualified Low-Income Senior Residents from the General Fund

#### **BACKGROUND**

Lead: Finance  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers Smith, Goldman  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

During the public hearing for the Proposed Utility Rate Increases for FY 2017/18, concerns were expressed regarding the affordability of water rates, particularly for low income seniors. Council directed staff to evaluate the feasibility of using General Fund resources to subsidize water costs for qualified low-income senior residents.

What are the key elements of the study?

The proposed study issue would evaluate the possibility of subsidizing water rates for low-income senior residents from the General Fund. Proposition 218 requires that the rates charged to customers in a public utility reflect the cost of providing the service. In 2011, staff presented a Study Issue to Council (RTC 11-172, Attachment 1) that evaluated low-income utility rates for all utilities (water, wastewater, and solid waste). In that study, staff identified that a General Fund subsidy would be required to provide discounted utility rates and that program development and administration, including verification of income eligibility, would require one full time staff person. The 2011 Study Issue resulted in the establishment of a donation program for low-income utility customers administered in collaboration with Sunnyvale Community Services. The program has been successful in assisting very low income residents or those in need due to a short-term crisis (e.g. job loss). To date, the program has provided just over \$18,000 in assistance to low income utility customers.

In 2015 the Governor signed California Assembly Bill 401 (AB 401), which directed the State Water Resources Control Board (Board) to prepare a plan, in collaboration with the State Board of Equalization, that covers the funding and implementing a Low-Income Water Rate Assistance Program no later than January 1, 2018. The Board developed multiple program scenarios that would meet the requirements of AB 401, sought public input on those scenarios and has completed the preparation of the Plan. The Board is required to report on the feasibility, financial stability, and

desired structure of a Program to the Legislature in February 2018. Staff will monitor the progress on this legislation and its impact on Sunnyvale water customers.

Estimated years to complete study: 1 year

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Amount of funding above current budget required: \$0

Funding Source: N/A

This study would require a thorough review to identify the actual demand for assistance and determine the legal and operational constraints to implementing a low-income utility rate discount program for seniors. If a statewide program is implemented, staff would need to evaluate the impacts of that program to determine if other assistance programs would be appropriate or necessary.

### **Cost to Implement Study Results**

Implementation would require development of operating procedures for a low-income assistance program; set up and testing of the discounted rate structure in the billing system; and community outreach to utility customers. Ongoing administrative costs would include program administration, including qualifying applicants and addressing customer inquiries regarding the program. It is unknown how large of a subsidy from the General Fund would be required once the program is implemented.

### **EXPECTED PARTICIPATION IN THE PROCESS**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: NA

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Evaluating ways to supplement the City's current donation based program could protect vulnerable low-income seniors from the rising cost of City utilities. New State legislation should also be reviewed for new requirements or opportunities. Staff recommends that as the City bills for utilities on a combined utility bill, all utilities be covered by the study.

Prepared by: Timothy J. Kirby, Director, Finance

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager

### **ATTACHMENTS**

1. RTC 11-172 Study Issue: Utility Bill Assistance for Low Income, Fixed Income, Senior, and Disabled Utility Customers



**Council Meeting: August 23, 2011****SUBJECT: Study Issue: Utility Bill Assistance for Low Income, Fixed Income, Senior, and Disabled Utility Customers****BACKGROUND**

During the public hearing for adoption of the FY 2010/2011 utility rates, the impact of utility costs on the City's senior, fixed income, low income, and disabled communities was raised. Council directed staff to complete a study issue examining the feasibility of offering discount rates or assistance programs for qualified Sunnyvale utility customers to help alleviate the impact of the City's utility rate increases. The study was to include estimates of the potential cost for such a program, an analysis of Proposition 218 issues, and proposals for funding and implementation if the City were to adopt this program.

The City process for billing and collecting utility revenue is governed by the Sunnyvale Municipal Code. The section of the code which specifies how the City is to handle collection of delinquent revenues provides opportunities for staff to work with customers who are experiencing hardship, primarily by allowing staff to make payment extensions or arrangements. However no discounts or special rates are provided to any customers.

Currently the City's Utility Billing Office sends a bill once every two months for residential water, wastewater, and solid waste services already provided. The bills are due upon presentation, and become past due if not paid 25 days from the bill date. The City of Sunnyvale Municipal Code requires that a 5% penalty be assessed when a payment is not received by the due date. If payment is not received 30 days from the bill date (allowing 5 days for the initial mailing of the bill), the late penalty is assessed and a reminder notice is mailed. If payment is not received after 45 days, a final notice is hand-delivered to advise customers that the water is scheduled for shut-off. A \$40.00 Delinquency Processing Fee is assessed to the account at that time. If payment is still not received, the account is placed into shut-off status and the water service is interrupted. Finally, once payment of the delinquent balance is received, a \$40.00 fee (\$85.00 after 4pm) is collected to restore water service.

Upon request, at any time prior to shut off, payment extensions and/or payment arrangements are available to qualified customers who cannot pay their bill. Customers who cannot meet the requirements or are not eligible for an extension or payment arrangement (due to a history of broken payment

arrangements or no ability to pay) are referred to Sunnyvale Community Services (SCS) for assistance in paying their utility bill. SCS works with customers to help them recover from financial difficulty and also provides one-time assistance with paying utility bills. Utility Billing staff works cooperatively with SCS to help customers reduce their utility costs and make payment.

### **EXISTING POLICY**

Community Vision Goal XIV: Caring Community, sets as a citywide goal the ability to “provide support for those in the community who are not fully able to support themselves, so that all residents may provide for themselves.”

Sunnyvale Municipal Code sections 12.24 and 12.50 govern the City’s billing and collection procedures.

Sunnyvale Municipal Code sections 12.16.020 (Wastewater), 12.24.010 (Water), and 8.16.120 (Solid Waste) authorize the City Council to establish by resolution fees and charges based on cost influencing factors.

Policy 7.11.1a.5 of the Fiscal Sub-Element states “The user fees established for each utility will be reviewed annually and set at a level that will support the total costs of the utility, including direct and indirect costs and contributions to reserves set by Council policy.”

Sunnyvale Administrative Policy Chapter 1, Article 22 – Non-Discrimination in Programs and Services states “It is the policy of the City of Sunnyvale to comply with all applicable laws prohibiting discrimination with respect to the provision of City programs and services.

### **DISCUSSION**

Each year, as part of the yearly process of reviewing the financial condition of the utility enterprise funds, staff recommends that the City Council adopt annual changes in utility rates. For several years the City of Sunnyvale’s utility rates have been rising faster than inflation. In fact, the average monthly bill for water, wastewater and solid waste services has increased cumulatively by 27% over the past five years. In real dollars, the average utility customer is paying \$24 more per month now than they did five years ago. These increases have been necessary to cover rising costs of wholesale water, increased infrastructure replacement needs in both the water and wastewater utilities, and reduced sales resulting from the economic downturn.

The water, wastewater, and solid waste services the City provides are core public health and safety services. The provision, and therefore the affordability of these services, is critical for all residents of Sunnyvale. In fact, the cessation of service to one property or customer can affect the health and safety of neighboring properties and customers. This is the primary reason the City does

not interrupt either garbage or sewer services. Given general public health concerns, it is reasonable from a policy perspective to consider a program to assist those in need with the costs of these services.

Additionally, staff has received numerous requests from the City's senior community for discounts. However, City Administrative policy does not allow for discrimination in the provision of city services, and given that many senior residents may not necessarily have any financial hardship, staff limited its program evaluation to discounts based on financial need only.

It is common for investor-owned utilities (for example, San Jose Water Company) to offer low income or senior discounts for utility services to these customer groups. However municipal utilities are regulated differently. Municipal water, sewer, and solid waste utilities operate in an increasingly stringent regulatory environment for rate setting. The most significant change over the past several years was the result of the Bighorn-Desert View Water Agency v. Verjil California Supreme Court case which concluded that water, sewer, and solid waste utility charges were property-related fees subject to the requirements of Proposition 218.

For the purposes of this discussion, the most relevant impact of the Bighorn ruling is that rates may not exceed the cost of providing service and that rate proceeds may be used only to provide the relevant services. This means that municipal utilities may not provide rates that subsidize one class of customers at the expense of another. Staff researched programs that other municipal utilities were providing and was able to only locate electric utility subsidies, and no public water, wastewater, or solid waste utility subsidies that were not funded by donations.

Given the restrictions on municipal utilities, staff considered several different options for providing funding. These included grants, donations, voter approved taxes, and transfers from the General Fund.

Grants might include human services grants like Community Development Block Grants (CDBG) or grants from non-profit foundations. These are typically prioritized for more critical needs (e.g. housing or homelessness) and have been diminishing as a result of the economic downturn without any reduction in demand for the funds. In addition, federal regulation prohibits CDBG funds from providing beneficiaries with ongoing subsidies (i.e. anything longer than 3 months of assistance), so this approach would only allow very short term assistance. SCS already receives the maximum amount of CDBG funds the City can provide. Obtaining voter approval to add a tax to utilities to provide subsidies to other customers would be challenging to pass in the current economic environment, especially since 2/3 approval is required for a specific use. Given the financial condition of the General Fund, a transfer would only

be possible at the expense of other programs. Therefore, of these options, staff is recommending a program to accept donations earmarked to create a fund for utility customers in need.

The proposed donation program would provide a subsidy for qualified utility billing customers. The subsidy would be funded by customer donations paid through the regular utility bill and would be administered by Sunnyvale Community Services. The City would collect and remit funds to SCS. Should Council direct staff to proceed with this program, staff would work to set up the infrastructure to accept donations and work with SCS to establish program guidelines. SCS supports this approach and has provided feedback to staff. Initial discussions with SCS indicate that they could easily administer monies granted to them by the City for the purpose of paying City provided utility costs for customers in need. Qualified customers may be eligible for either one time emergency assistance or the payment of one full utility bill per year subject to funding availability. This would effectively provide a subsidy for the annual cost of utilities and is more feasible and cost effective than providing an ongoing subsidy.

The proposed program would be rolled out as soon as possible but no later than the beginning of FY 2012/2013. The program would be presented to new customers upon activation of a utility account and a utility insert prepared to inform existing customers of the program.

On July 27<sup>th</sup>, 2011 the Housing and Human Services Commission reviewed this issue. The Commission asked that the program be structured so that other qualified agencies in addition to SCS be able to participate, and also expressed that it would be beneficial for all program costs, including outreach and administration to be supported by the program donations. Overall the Commission was supportive of the program moving forward.

### **FISCAL IMPACT**

Implementation of this program would have a minor fiscal impact. The City's Utility Billing Program maintains a very high collection rate of over 99% of utility receivables. This is due to City's practice of interrupting water service for non-payment. Therefore providing assistance will not significantly improve revenue collection. There will be minor costs for setting up and administering the program. Staff estimates that approximately 20 hours of staff time will be required for start up and about two hours per quarter for administering the program. Additionally, approximately \$1,700 a year will be required for preparing, printing and inserting a utility billing insert. These costs can be incorporated into the FY 2012/2013 budget for the Utility Billing Program through the regular budget process and then actual expenditures accounted for separately so they can be analyzed for cost recovery.

### **PUBLIC CONTACT**

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's Web site.

### **ALTERNATIVES**

1. Direct staff to design and implement a donation program to provide funding for a utility bill assistance program for low income utility customers.
2. Direct staff to develop alternative funding sources, such as a General Fund transfer or a voter approved tax, to provide funding for a utility bill assistance program for low income utility customers.
3. Take no action on this Study Issue leaving the current practices and procedures in place.

### **RECOMMENDATION**

Staff recommends Alternative 1, direct staff to design and implement a donation program to provide funding for a utility bill assistance program for low income utility customers.

Reviewed by:

Grace K. Leung, Director of Finance  
Prepared by: Timothy J. Kirby, Revenue Systems Supervisor

Approved by:

Gary M. Luebbers  
City Manager



**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Information Technology**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
ITD 18-01	Examine the Effectiveness and Need for Greater Services in Terms of Wi-Fi Access at City Public Locations	Moderate	\$50,000	Unknown	N/A	1

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
See Study Issue Paper for detail.







# City of Sunnyvale

## Agenda Item

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18-0051

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

ITD 18-01

**TITLE** Examine the Effectiveness and Need for Greater Services in Terms of Wi-Fi Access at City Public Locations

#### **BACKGROUND**

Lead Department: Information Technology  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Public Works  
Sponsor(s): Councilmembers Griffith, Klein  
History: 1 year ago: N/A 2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

Councilmembers Griffith and Klein sponsored this study issue to examine the effectiveness and need for greater services in terms of Wi-Fi access at City public locations. The City currently offers Wi-Fi access to the public within City Hall campus buildings, at the Community Center buildings and at the main Library.

What are the key elements of the study?

This study will determine the best approach and associated costs for establishing a publicly accessible Wi-Fi network, including determination of how broad coverage should be - ranging from some portion of City facilities to all publicly assessable areas of City facilities.

This Study Issue will address the following questions:

- What are the implementation and ongoing costs for Wi-Fi?
- What would be considered as prime City locations, as opposed to Citywide?
- What is the cost-benefit of various implementation options (from some portion of City facilities to all publicly assessable areas of City facilities)?
- Who will implement (City alone or public/private partnership)?
- How will proposed solution accommodate adequate bandwidth for all users?
- Privacy and legal concerns

Estimated years to complete study: 1 year

**FISCAL IMPACT**

## Cost to Conduct Study

Level of staff effort required (opportunity cost):	Moderate
Funding Required for Non-Budgeted Costs:	\$50,000
Funding Source:	Will seek budget supplement

There will need to be guidance provided by a consulting firm to answer the above questions and to conduct a feasibility study. The consulting firm will work closely with staff to better understand our current infrastructure and planned improvements in order to provide comprehensive recommendations, a detailed implementation plan and estimated implementation and ongoing costs.

## Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: Yes

Council Study Session: Yes

Reviewed by Boards/Commissions: No

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

As more transactions occur online, reliable Internet access is increasingly important. Providing public Wi-Fi at City public locations would enable users who may not otherwise have reliable access to go online for education, job searches, online City services, or to report concerns.

Additionally, the City is working on initiatives to become more of a "Smart City". While there are many elements that work together to make a city "Smart", Wi-Fi access is a prominent infrastructure component that enables "Smart" devices and sensors within the Internet of Things (IOT) to remain connected and to provide data collection. These devices along with data analytics are used for public safety, efficiency of service delivery and monitoring for risk prevention or risk avoidance.

Prepared by: Kathleen Boutté Foster, CIO/Director, Information Technology

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, City Manager



**2018 Study Issues Workshop**  
**Status Report: Continuing and Completed Study Issues**  
**Library and Community Services**

**Continuing Study Issues**

<b>Number</b>	<b>Study Issue and Status</b>
LCS 17-02	<p><b>Potential Membership in the Global Network of Age-Friendly Cities and Communities (GNAFCC)</b></p> <p>2017 Final Workshop Status: Ranked by Council (City Manager Priority B – Strategic and Long-Term Service Impact)</p> <p><i>A completed application was submitted to the World Health Organization in June, 2017; however, official WHO designation remains outstanding . In an effort to advance the process, a project schedule for Year 1 Planning efforts has been developed and is attached. The focus of Year 1 efforts will be: 1) increasing community awareness of the City’s Age-Friendly efforts; 2) working with community stakeholders to complete a baseline assessment of current conditions; and 3) the development of a 3-year action plan for Council review and adoption.</i></p>

**Completed Study Issues**

<b>Number</b>	<b>Study Issue</b>	<b>Date Completed</b>
	N/A	



Tasks	Target Completion Date
<b>Marketing</b> <b>Goal: Introduce Age Friendly Process to community</b> <b>Goal: Announce Community Engagement Effort/Surveys and Focus Group</b> <ul style="list-style-type: none"> <li>• Meet with Communications regarding webpage on Age Friendly Initiative</li> <li>• Activity Guide (Spring Issue- AD placement deadline)</li> <li>• Develop Outreach/Marketing Flyer announcing Age Friendly and Survey</li> <li>• Community Connect (information article submission)</li> <li>• Update Sunnyvale (article submission deadline)</li> <li>• Finalize/launch City Webpage (Current Topics Section)</li> <li>• Email Blast (LCS Mailing Lists)</li> <li>• Social Media</li> <li>• Outreach/Flyer Distribution</li> </ul>	December 21, 2017 January 23, 2018 January 31, 2018 January 31, 2018 February 9, 2017 February 25, 2018 February 26, 2018 February 26, 2018 February 28, 2018
<b>Community Outreach</b> <b>Goal: Engage community for feedback on the City's age friendliness as it relates to the 8 Domains through focus group meetings by June, 30, 2018.</b> <ul style="list-style-type: none"> <li>• Focus Groups- Residents (2-3 Meetings)               <ul style="list-style-type: none"> <li>◦ Mobile Home Parks; Retirement Communities; Sr Housing; Service Clubs</li> </ul> </li> <li>• Focus Groups- Professionals (serving Older Adults in community) – 2-3 Meetings               <ul style="list-style-type: none"> <li>◦ Community Based Organizations (private, public, and nonprofit)</li> </ul> </li> <li>• Focus Group- City Staff (Multi Dept.) – 1-2 Meetings</li> </ul>	June 29, 2018
<b>Survey/Baseline Assessment</b> <b>Goal: Engage community for feedback to establish 3-year Community Wide Action Plan.</b> <ul style="list-style-type: none"> <li>• Finalize Survey for Sunnyvale</li> <li>• Identify Survey Distribution Points               <ul style="list-style-type: none"> <li>◦ Mobile Home Parks; Retirement Communities; HOAs; Senior Housing; Service Clubs; Community Partners (hospitals/day programs, etc.)</li> </ul> </li> <li>• Survey Duplication/Print Shop</li> <li>• Self-Addressed Stamp Envelopes/Print Shop</li> <li>• Online Survey – Open Gov./Peak Democracy- City Communications- Live/Launch</li> <li>• Distribute Paper Surveys</li> <li>• Close/Collect Surveys</li> <li>• Tabulation and Finalize Survey Results</li> </ul>	January 26, 2018 January 30, 2018  February 2, 2018 February 2, 2018 February 28, 2018 March 1- April 30, 2018 May 21, 2018 June 8, 2018
<b>3 Year Community Wide Action Plan</b> <b>Goal: Develop Community Wide Action Plan for City review and submission;</b> <ul style="list-style-type: none"> <li>• City Task Force               <ul style="list-style-type: none"> <li>◦ Review Baseline Assessments with City Task Force</li> <li>◦ Establish list of Age Friendly projects/programs</li> <li>◦ Establish measurement Indicators to monitor Progress</li> <li>◦ Identify Community Resources for plan implementation</li> </ul> </li> <li>• Provide Status Update to City Commission and Council</li> <li>• Finalize and present plan to City for review/feedback and adoption</li> <li>• Submit Final Plan to WHO/Global Network of Age Friendly Cities and Communities</li> </ul>	September 30, 2018





**2018 Study Issues Workshop**  
**Status Report: Continuing and Completed Study Issues**

**Public Safety**

**Continuing Study Issues**

<b>Number</b>	<b>Study Issue and Status</b>
DPS 17-01*	<b>Regulation of Marijuana Cultivation in the City of Sunnyvale for Research and Development (CDD for Land Use &amp; DPS for Regulation) Criteria</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority C – New Service or New Service Practice)  <i>This Study Issue will be considered by City Council at the 2018 Study Issue workshop. Per the March 28, 2017 Report to Council (RTC 17-0165), Study Issues in this category were not likely to be absorbed in the current year, and would only be absorbed if the capacity presents itself. If not, these Study Issues would carry forward for City Council consideration in the next Study Issue cycle.</i>  <i>*DPS 17-01 has been renumbered to CDD 18-07 Regulation of Marijuana Cultivation in the City of Sunnyvale for Research and Development</i>

**Completed Study Issues**

<b>Number</b>	<b>Study Issue</b>	<b>Date Completed</b>
	N/A	





**2018 Study/Budget Issues Workshop**  
**Summary Worksheet: Study Issues Proposed for Council Consideration**

Version: 2018-02-02

**Public Works**

#	Title	Required Staff Effort	Cost of Study	Cost to Implement*	B/C Rank	Dept Rank
DPW 16-10	Consider Sunnyvale Municipal Code Amendments to Clarify, Strengthen and Enforce Tree Preservation and Tree Planting Requirements within Right of Way and Public and Private Property	Major	\$100,000	Unknown	PC 6 of 12 SC 3 of 5	Drop
DPW 17-05	Orchard Heritage Park and Heritage Park Museum - Analysis and Options for the Long-Term Operations and Maintenance of Orchard Heritage Park and Review of the Sunnyvale Historical Society and Museum Association Proposed Expansion of the Sunnyvale Heritage Park Museum Site	Major	\$350,000	Unknown	PRC Defer	Defer
DPW 17-07	Develop Mobile Version of Sunnyvale Bicycle Map	Moderate	\$25,000	Unknown	BPAC Drop	4
DPW 17-12	Evaluate the Development of a Class I Bicycle and Pedestrian Trail along Evelyn Avenue adjacent to the Caltrain Railroad Tracks, Between Sunnyvale and Mountain View	Major	\$100,000	Unknown	BPAC Drop	Drop
DPW 17-13	Investigate the Purchase of the Court House Property Located at 605 W. El Camino Real	Moderate	\$25,000	Unknown	N/A	Drop
DPW 18-01	Evaluate the Effectiveness of Shared Lane Markings (Sharrows) for Roadways with Speeds Above 25 Miles per Hour	Major	\$90,000	Unknown	BPAC 1 of 10	Drop
DPW 18-02	Close Murphy Avenue Between Evelyn Avenue and Washington Avenue to Vehicular Traffic	Major	\$200,000	Unknown	BPAC Defer	Drop
DPW 18-03	Update Bicycle Master Plan Every Seven Years	Moderate	\$50,000	\$350,000 every 7 years	BPAC Defer	Drop
DPW 18-04	Develop an Ordinance to Keep Bicycle Parking Clear and Accessible	Moderate	\$0	Unknown	BPAC Drop	Drop
DPW 18-05	Street Maintenance Roadway Re-Allocation	Major	\$100,000	Unknown	BPAC 5 of 10	Drop
DPW 18-06	Alternatives to On-street Parking to Maximize the Street Space for All Modes of Transportation	Major	\$200,000	Unknown	BPAC 3 of 10 PC Defer	Drop
DPW 18-07	Feasibility of Acquiring Control of Caltrans Traffic Signals on El Camino Real	Major	\$250,000	Unknown	N/A	1
DPW 18-08	Develop a Dockless Bicycle Share Pilot Program	Moderate	\$0	Unknown	BPAC 2 of 10	2
DPW 18-09	Lower Speed Limits on City Streets Including El Camino Real to 30 Miles Per Hour or Less	Moderate	\$75,000	Unknown	SC 4 of 5	Drop
DPW 18-10	Sidewalk Standards Based on Adjacent Property Density or Use	Moderate	\$0	Minimal	BPAC 4 of 10 PC 1 of 12	Drop
DPW 18-11	Analysis of Sunnyvale Golf Program and Property Options	Major	TBD	TBD	Too late to rank	3

\*Indicates whether there will be a 1-time capital cost and/or ongoing annuals costs upon implementation.  
See Study Issue Paper for detail.





## 2018 Study Issues Workshop Status Report: Continuing and Completed Study Issues

### Public Works

#### Continuing Study Issues

Number	Study Issue and Status
DPW 14-13	<b>Scoping of Grade Separations for Caltrain Crossings at Mary Avenue and Sunnyvale Avenue</b> 2017 Final Status: Continuing  In January 2017 Council awarded a contract for the Caltrain Grade Separation Feasibility Study to BKF Engineers. To date the Consultant has assessed and shortlisted preliminary alternatives, undertaken stakeholder and public engagement, and initial findings were presented to Council. Work is ongoing to further develop shortlisted options and finalize the study in 2018.
DPW 16-01	<b>Develop a Vision Zero Plan-Total Elimination of Traffic Fatalities</b> 2017 Final Status: Continuing  The Vision Zero project is proceeding as scheduled. Collision, speed and volume data have been used to analyze the City's transportation network. In addition, community feedback was obtained through various public meetings and a workshop as well as an online survey for consideration in developing a list of priority locations for potential counter-measures. Results of the project will be presented to City Council in Summer 2018.
DPW 17-12	<b>Evaluate the Development of a Class I Bicycle and Pedestrian Trail along Evelyn Avenue adjacent to the Caltrain Railroad Tracks, Between Sunnyvale and Mountain View</b> 2017 Final Workshop Status: Ranked by Council (City Manager Priority C – New Service or New Service Practice)  <i>This Study Issue will be considered by City Council at the 2018 Study Issue workshop. Per the March 28, 2017 Report to Council (RTC 17-0165), Study Issues in this category were not likely to be absorbed in the current year, and would only be absorbed if the capacity presents itself. If not, these Study Issues would carry forward for City Council consideration in the next Study Issue cycle.</i>

#### Completed Study Issues

Number	Study Issue	Date Completed
	N/A	





# City of Sunnyvale

## Agenda Item

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17-0914

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 16-10

**TITLE** Consider Sunnyvale Municipal Code Amendments to Clarify, Strengthen and Enforce Tree Preservation and Tree Planting Requirements within Right of Way and Public and Private Property

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Community Development  
Sponsor(s): Councilmembers: Meyering, Whittum  
History: 1 year ago: Ranked, Below the Line  
2 years ago: Deferred

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Sunnyvale Urban Forest Advocates (SUFA) submitted a request for a Study Issue to further strengthen and support the need to maintain trees in Sunnyvale. As SUFA stated in their submittal to Council, they “would like to have the health, social, economic and energy of trees better understood and more greatly appreciated” and the Study Issue would “be initiated to review, update, revise and expand (so as to strengthen) the ordinances pertaining to trees”.

What are the key elements of the study?

The intent of the study is to identify Sunnyvale Municipal Code (SMC) changes to clarify, strengthen and enforce tree preservation and planting requirements within public and private property. The study issue is intended to implement and support actions from the City’s Urban Forest Management Plan (UFMP, Attachment 1), which was adopted by the City Council on September 16, 2014. The urban forest is comprised of three main groups of trees:

1. Trees located on City-owned property, including parks;
2. Trees located adjacent to private property in the public right-of-way (ROW); and
3. Trees located on private property (outside of the ROW).

The study would involve review of existing ordinances and policies related to trees, and may include revisions to strengthen the following SMC Chapters: 13.16 City Trees; 19.37 Landscaping, Irrigation and Useable Open Space; 19.94 Tree Preservation.

Estimated years to complete study: 2 years

**FISCAL IMPACT****Cost to Conduct Study**

Level of staff effort required (opportunity cost):	Major
Funding Required for Non-Budgeted Costs:	\$100,000
Funding Source:	Will seek budget supplement

Major modifications to the SMC usually require a significant effort, and the cost associated with this will be for consultant services to identify sections that need to be modified, draft appropriate language, coordinate with appropriate City departments and the Office of the City Attorney, and conduct community outreach to ensure that affected or interested parties participate in the process.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission, Sustainability Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The City has an UFMP to help sustain, protect, and enhance the urban forest. As part of the Report to Council for approval of the UFMP, staff stated that they would develop an operational implementation and monitoring plan to ensure that its major goals are achieved. This included consideration of revisions to the existing ordinances and policies that address trees in Sunnyvale, including the relevant SMC chapters, to ensure they are current and reflective of City policies, practices and the rest of the municipal code. And in 2015, the tree replacement requirements, enabled in SMC Chapter 19.94 Tree Preservation, were updated to require significantly larger replacement trees as a condition of approval for most tree removal permits. Staff continues to actively monitor the UFMP and implement recommendations.

In addition to the UFMP, the Climate Action Plan also recognizes the important role trees play in mitigating climate change. Reduction Measure OS-3 focuses on increasing the number of shade trees planted in the community and protecting the existing tree stock.

Prepared by: Craig Mobeck, Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager

**ATTACHMENT**

1. Sunnyvale's Urban Forest Management Plan (UFMP)

## City of Sunnyvale Urban Forest Management Plan - 2014

### Prepared for:

Street Tree Services  
Department of Public Works  
City of Sunnyvale, CA

### Prepared by:

Elizabeth Bernhardt and Tedmund J. Swiecki  
Phytosphere Research

### Contributing author:

Leonard Dunn  
Urban Landscape Manager, Department of  
Public Works  
City of Sunnyvale, CA

### Date:

October 28, 2013

### Council adoption:

September 16, 2014



Funding provided by Proposition 40 through the California Department of Forestry and Fire Protection Urban and Community Forestry Program

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Funding for developing this plan was provided by a grant from the California Department of Forestry and Fire Protection (CAL FIRE) Urban Forestry Program through funding provided by the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002 (Proposition 40). Matching funding was provided by the City of Sunnyvale.

James Scheid, Urban Forester, San Francisco Bay Area, was the CAL FIRE contact for this contract and provided helpful comments on drafts of this plan.

## Executive Summary

The overall goal of the plan is to help sustain, protect, and enhance the urban forest in the City of Sunnyvale in order to maximize the many benefits that it provides to city residents. The urban forest is comprised of three main groups of trees including trees located on city-owned property including parks, trees located on private property in the public right-of-way (ROW) and trees located on private property outside of the ROW. On a typical street (although there may be exceptions in particular neighborhoods), the private property extends to the center line of the street. The ROW is an easement that extends 31 feet back from the center line of the street. Common improvements within the ROW include street surfacing, street lighting, sewer laterals, curbs, sidewalks and street trees. Although trees planted on private property within the ROW are the property of the property owner, the City regulates their maintenance, removal and planting and provides limited maintenance services for public benefit per Sunnyvale Municipal Code (SVMC) 13.16-City Trees. This plan addresses all major segments of Sunnyvale's urban forest, but is largely focused on the City's Street Tree Program, which manages the street trees located in the public right-of-way. The major sections of the plan are described below.

**1. Introduction - benefits of the urban forest.** This section discusses the benefits that trees provide in an urban environment. Important benefits for Sunnyvale include:

- Trees save energy by shading buildings and paved surfaces.
- Trees improve air quality by filtering airborne pollutants and lowering temperatures.
- Trees increase property values.
- Trees reduce storm water runoff by holding water on their stems and branches.

**2. Strategic plan for Sunnyvale's urban forest.** This section discusses issues and trends that are affecting Sunnyvale's urban forest and presents goals for managing and enhancing Sunnyvale's tree resources. Objectives and actions for managing and enhancing Sunnyvale's tree resources are provided for each goal. Major goals of the plan include:

- Increase tree canopy cover to maximize ecosystem benefits provided by the urban forest.
- Choose and locate new trees in all vacant planting spaces to maximize tree-related benefits and minimize maintenance costs
- Develop an urban forest canopy that is stable over the long term.
- Maintain city trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.
- Facilitate collaboration among City departments related to issues and projects involving trees.
- Foster community support for maintaining and improving Sunnyvale's urban forest.
- Encourage proper tree management on private property.

An implementation plan should be developed in the future to show how the actions listed in the strategic plan will be carried out. In addition, a monitoring plan should be developed that will enable the City to track its progress toward the plan's goals. The implementation plan should include priority rankings for specific actions and a timetable for implementation. It should also

## Sunnyvale Urban Forest Management Plan 2014– Sunnyvale CA

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indicate sources of funding and identify personnel responsible for administering and carrying out actions.

**3. The current status of Sunnyvale's urban forest.** This section describes the extent and condition of the urban forest. It includes estimates of overall tree canopy cover and the number of trees in the city. Results of an analysis of the street tree inventory maintained by Street Tree Services are presented, including the net annual benefits provided by these trees. Major findings include:

- The Street Tree Inventory contains 41,637 inventoried tree planting spaces of which 37,100 are planted leaving 11% vacant.
- Almost all of Sunnyvale's urban forest consists of trees planted within the past 50 to 60 years.
- Tree canopy covers approximately 18% of the land area of Sunnyvale.
- City managed street trees are an important component of tree canopy in both residential and commercial areas.
- The city-managed population of trees are primarily medium or large statured. About two-thirds of the city managed street trees have reached their mature size.
- As the population of city managed street trees continues to age, more trees will need to be replaced as they reach the end of their useful lives.
- The annual net benefit of city maintained street trees as calculated by iTree software (developed by the US Forest Service and others) is \$1,079,336 in 2008 (in which year?)

**4. The current management of Sunnyvale's urban forest.** This section discusses the existing policies, issues, and programs that affect Sunnyvale's urban forest. Major findings include:

- Privately managed trees account for about 80% of the tree canopy citywide, but only 50% of trees located between fronts of houses/buildings and streets.
- Street Tree Services is responsible for 88% of city-managed trees. The Parks program manages the other 12% or 5,000 trees in parks and other open spaces.
- Street Tree Services and Concrete Maintenance have had well-organized management programs with clear objectives
- Due to budget reductions, street trees regular preventative maintenance pruning intervals were increased from 4 to 12 years over time and eventually ceased altogether in FY 2011-12
- Beginning FY 2011-12 the Public Works Dept. was reorganized. Parks Division was moved from Community Services into Public Works. The Street Tree Services assigned to the Parks while the Concrete Maintenance was assigned to Public Works Operations (Street Maintenance)
- FY 2012-13 Council approved funding for supplemental contracted street tree maintenance with primary emphasis on routine structural pruning with the goal to

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restore at least a seven year average pruning cycle for all trees in the street tree inventory.

- Although street tree planting outpaced tree removal (FY 2008-09 data), plantable vacant sites are likely to remain empty for more than a decade at current planting and removal rates.
- Over 20,000 trees are planted in parkway strips less than 5.5 ft. wide. Innovative techniques are being used to manage damage by tree roots to sidewalks, gutters, and curbs, and maintain Sunnyvale's investment in street trees.
- The Street Trees program is managed by certified arborists. This safeguards the City's investment in street trees and maintains affected trees in a safe condition.

**5. Community.** This section discusses the value of trees to the community. Major findings include.

- The urban forest is considered by city government to be an important contributor to the attractiveness and livability of Sunnyvale.
- There is strong interest on the part of some Sunnyvale residents in forming a citizens group to advocate and care for the urban forest.
- The City will need to maintain and develop an ongoing program of outreach and education residents to ensure the community has the information they need to make good tree care decisions,

### **6. Resource Information.**

- Status of Sunnyvale's Urban Forest.
- Status of current tree management.
- Community information.
- Resources data.
- Planning documents, policies and city code related to trees

### **7. Planning documents, policies and city code related to trees.**

A manual that includes the city's technical specifications and standards for urban forest management is being developed separately as a supplement to the plan.

## **Vision**

Sunnyvale’s urban forest is an attractive, safe and environmentally sustainable mix of species that are predominantly drought tolerant. All available planting spots along streets are filled with trees that are adapted to their sites and provide as many benefits as possible to residents. Trees are recognized by the City and its citizens as an essential environmental, economic, and community asset. Therefore, the City and its residents use current best management practices to maintain their trees, avoid removing healthy trees, and work to accommodate existing trees. Sunnyvale has an active community nonprofit group that supports the urban forest and works cooperatively with the city tree program and other community nonprofit groups in the region.

## **1. Introduction**

### **1.1. Purpose of this plan**

Many different City planning and management actions, especially those that occur during redevelopment, have a large impact on the character and condition of the urban forest. Urban forest planning and management actions taken over the past decades, as well as those made in the next decades, will shape the future of Sunnyvale's urban forest for the next half-century or more.

A thriving and well-maintained urban forest provides a wide variety of benefits to the community. To help ensure that Sunnyvale's urban forest will continue to prosper, the City has developed this long-term plan to account for the needs of trees in the urban environment. Tree growth and tree decline are typically slow processes. To develop and maintain desired urban forest conditions, necessary management actions need to be executed in a timely manner. This urban forest plan provides an overall strategy that will help the City maximize the benefits the urban forest will provide in the years to come.

### **1.2. Scope of the plan**

This plan applies to all trees in the City of Sunnyvale and has a planning horizon of 20 years. The plan emphasizes street trees managed by the city.

### **1.3. Relationship of plan to other planning documents**

Sunnyvale consolidated its General Plan in 2011 and is in the process of updating the land use and transportation section. This Urban Forest Management Plan will be adopted to support and further the goals of the General Plan.

### **1.4. Benefits provided by the urban forest**

The Sunnyvale General Plan recognizes the importance of the urban forest to the attractiveness of Sunnyvale. A positive effect on property values is one of the most important economic benefits of the urban forest. However, trees provide many other important benefits in the urban

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environment. These benefits make trees a key element of urban infrastructure. Major benefits of the urban forest are summarized below.

### **Trees provide important urban services**

- Tree canopies intercept rainfall, moderating storm water runoff and reducing the amount of pollutants that wash off buildings and paved surfaces into surface water and storm drains (Xiao et al, 1998, Xiao and McPherson 2003, Geiger 2003).
- Trees planted along roadways can have a “traffic calming” effect, which reduces driving speeds by visually narrowing the road (Otak, Inc. 2002).
- Trees planted between vehicle lanes and sidewalks provide a physical barrier to improve pedestrian safety.
- Tree shade over pavement slows down pavement deterioration by lowering the street surface temperature and reducing volatilization of the oil binder (McPherson et al 1999, McPherson and Muchnick 2005).

### **Trees help save energy**

- Trees in residential yards that shade western and eastern facing windows, roofs, and walls can reduce energy needed for cooling by as much as 34% (Simpson and McPherson 1996).
- Trees help reduce the urban heat island effect, a phenomenon that makes urban areas significantly hotter than surrounding undeveloped land (<http://www.epa.gov/heatisland/>).
- Trees and other vegetation reduce summer temperatures through direct shading of surfaces and transpiration (the evaporative loss of water from plant leaves). By helping to reduce the urban heat island effect and maintain cooler summer temperatures, trees reduce energy needed for cooling.
- Trees serve as windbreaks, which helps save energy by reducing the amount of outside air that infiltrates into heated or cooled building interiors (Heisler 1986).
- Trees shading cars in parking lots keep internal temperatures down avoiding the need for the initial use of air conditioning, thus saving fuel.

### **Trees improve air quality**

- Trees improve ambient air quality by directly removing gaseous air pollutants and particulates from the air (Scott et al, 1998).
- Although the majority of human-caused smog precursors come from moving vehicles, parked cars emit volatile hydrocarbons into the atmosphere that react to form smog. Cars parked in shade are much cooler and release fewer volatile hydrocarbons. Cooler air temperatures from tree shade also result in lower nitrogen oxide emissions when parked vehicles are started (Scott et al, 1999).

- As trees reduce the urban heat island effect, they also reduce the formation of photochemical smog because the chemical reactions that form smog are favored by higher temperatures (<http://eetd.lbl.gov/HeatIsland/AirQuality/>).

### **Trees provide direct economic benefits**

- Many studies show that trees increase residential property values. People pay more for homes with attractive trees, that are in neighborhoods with attractive trees, or that are near open space areas with trees (Anderson and Cordell 1988, Wolf 1998b).
- A study by researchers in the State of Washington found that consumers perceive business districts with trees to be higher quality than those without trees. Consumers were willing to pay up to 10% more for goods bought in tree-lined business districts (Wolf 2003a,b).

### **Trees provide social and health benefits**

- A growing body of research has shown that the presence of trees in neighborhoods and views of trees and nature contribute to both physical and mental health of urban residents.
- Children in particular show positive effects to health, cognitive development, physical activity level, and stress levels when their living, learning, and play environments include trees and other elements of nature (Charles and Senauer 2010).
- Trees are associated with lower crime rates, and improved mental health, stronger ties between neighbors, and greater feelings of safety and well-being of city residents (Kuo 2003).
- Researchers have shown that office workers who can see natural elements such as trees from their desks have 23% less time off sick and report greater job satisfaction than those who do not have views of nature (Wolf 1998).
- Hospital patients with views of trees recover significantly faster than those who do not see any natural features (Ulrich 1985).

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- Xiao, Q.; McPherson; E.G. 2003. Rainfall interception by Santa Monica's municipal urban forest. *Urban Ecosystems* 6:291-302.

### General sources of information on tree-related benefits

Urban Ecosystems and Social Dynamics Program (formerly Center for Urban Forest Research), Pacific Southwest Research Station, USDA Forest Service website - <http://www.fs.fed.us/psw/programs/uesd/uep/>

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Center for Urban Horticulture, College of Forest Resources, University of Washington website -  
<http://www.cfr.washington.edu/research.envmind/>

Human-Environment Research Laboratory; University of Illinois at Urbana Champaign website -  
<http://www.herl.uiuc.edu/>

## 2. Strategic Plan

This section summarizes important issues and trends that are affecting Sunnyvale's urban forest. Based on these issues, local concerns/ priorities, and general urban forest management principles, goals were developed to help guide the overall management of Sunnyvale's urban forest. Objectives associated with each goal and actions for attaining these objectives provide the framework for the sustainable management of Sunnyvale's tree resources.

Issues and related goals have been organized into three general topic areas:

**Contribution of trees to the community** includes overall tree canopy cover and its distribution.

**Tree and forest health** addresses the long-term health and sustainability of both individual trees and the forest as a whole.

**Management of the urban forest** addresses issues related to the care and maintenance of the urban forest by city employees and the public.

These main topic areas, as well as the goals and objectives listed under them, are highly interrelated. Objectives listed under one goal may in fact support several other goals as well.

Two additional elements are needed to implement the Sunnyvale Urban Forest Strategic Plan:

An **implementation plan** should be developed to show how the actions listed in the strategic plan will be carried out. The implementation plan should include priority rankings for specific actions and a timetable for plan implementation, including phasing that would occur. It should also indicate funding needs and sources, and identify personnel responsible for administering and carrying out actions.

In addition, a **monitoring plan** should be developed that will enable the City to track its progress toward each of the plan's goals. The purpose of the monitoring plan is to indicate how the City will collect and analyze the data needed to track its progress toward specific goals. The plan should indicate what types of data will be collected, when and how it will be gathered, and who will compile and analyze the data. Monitoring data should allow the City to understand what factors are aiding or impeding its progress towards each goal. With this information, the City will be able to adapt its management of the urban forest by making appropriate adjustments as needed.

The development of the monitoring and implementation plans was not included in the scope of developing this plan. However, these are critical components of a successful urban forest management plan and should be developed operationally after plan adoption.

### 2.1. Contribution of trees to the community

#### Issues and trends

- *Almost all of Sunnyvale's urban forest consists of trees planted in developed areas within the past 50 to 60 years. Almost nothing remains of the oak forests and other native vegetation that once covered the area that is now the City of Sunnyvale.*

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- *Tree canopy in Sunnyvale covers about 18% of the City's land area, based on 2007 aerial images.*
- *Trees along streets account for about a third of Sunnyvale's tree canopy. Street trees make up a slightly larger percentage of the total canopy cover in commercial land uses (42% of all tree canopy in commercial zoning) than in residential areas (35% of all residential tree canopy).*
- *Increasing overall city canopy to 20.5% would require planting an additional 15,000 trees in residential areas and 14,000 trees in commercial areas.*
- *About half of all trees along streets are managed by the city street tree program. This includes almost all of the street trees in residential areas but only a portion of the street trees in commercial areas.*
- *City-maintained street trees provide a net annual benefit of \$1,079,336, or about \$29.25 per tree per year (calculated using iTree software, developed by the US Forest Service and others).*
- *Approximately 11% of inventoried planting spaces along streets are vacant.*
- *Mean summer temperatures will tend to rise due to the urban heat island effect (localized heating of urban areas associated with pavement and other heat absorbing surfaces) and overall global climate change. Increased tree canopy cover can help moderate this temperature rise.*
- *Sunnyvale residents are concerned about the environment but many do not understand the importance of urban trees and how they contribute to environmental quality and sustainability.*

Goal 1. Increase tree canopy cover to maximize ecosystem benefits provided by the urban forest

### **Objective 1.1 Achieve full planting of inventoried street tree planting spaces.**

#### **Actions**

- Identify streets with limited or unplantable Right-of-way (ROW) street tree sites and develop a plan of action for ROW modification or off-ROW street tree planting.
- Designate unplantable ROW sites as unsuitable for planting rather than vacant in the street tree inventory.
- Phase replanting of plantable vacant sites to achieve complete planting within 10 years.
- Identify other possible sources of funding, sponsorships, and/or volunteer resources to accomplish replanting.

**Objective 1.2 Promote conservation of existing public and private trees****Actions**

- Conduct education and outreach efforts to inform residents about the value of mature trees and City regulations related to trees.
- Conduct education and outreach to commercial landowners and landscape managers to provide information about proper tree care practices and city regulations related to maintenance of trees and landscaping.
- Consider local licensing of tree care contractors (city-issued tree care business licenses) working within Sunnyvale to ensure that tree care activities and tree removals follow city regulations.
- Revise Chapter 13.16 of the Municipal Code, City Trees, to strengthen protection of City street trees and provide a means of claiming compensation for damage to City street trees.
- Revise Chapter 19.94 of the Municipal Code, Tree Preservation, to specify greater protection for roots of protected trees, improve the definition of protected trees and provide objective standards for issuing tree removal permits.

**Objective 1.3 Encourage additional tree planting by city residents on private property.****Actions**

Provide information on tree species selection, choosing nursery stock, planting practices and young tree care to residents via city website and other means.

- Encourage development of local volunteer/nonprofit to promote tree planting and assist residents with tree planting and tree care.

Goal 2. Choose and locate new trees to maximize tree-related benefits and minimize maintenance costs.

**Objective 2.1 Match species to sites to the greatest degree possible.****Actions**

- Provide guidelines on tree selection and placement to residents to promote planting the right tree in the right place and avoid tree/site combinations that will result in shortened tree life or excessive maintenance costs (e.g., redwoods on saline soils, big trees planted in small places, tall trees under electric distribution lines, etc.)
- Continue to select suitable species and place trees appropriately to minimize conflicts with infrastructure along streets (e.g., signs, traffic signals, streetlights).
- Develop a Street Tree Master plan that matches trees to site conditions and provides several alternative trees for each block (e.g., irrigated vs. non- or low-irrigation sites,

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alternative species with similar physical characteristics, allow for some smaller accent trees for small planting spaces).

### **Objective 2.2 Increase the use of large-canopy trees where practical to maximize tree benefits relative to costs.**

#### **Actions**

- Include large-statured trees in planting plans for parks, streets, and other public lands where practical.
- Where space permits the use of large-statured trees, consider greater use of locally native oak species derived from local seed sources to help reestablish elements of Sunnyvale's former oak woodlands.

### **Objective 2.3 Locate new tree plantings to maximize energy conservation in buildings and shading of pavement.**

#### **Actions**

- Provide homeowners with information on where to plant trees to maximize energy conservation.
- Where ROW space does not allow for large canopy trees, use higher densities of smaller trees to achieve pavement shading.
- Use the planning and design review processes to develop streetscape designs that provide greater amounts of pavement shading.
- Conduct periodic monitoring of canopy cover in parking lots subject to the City's parking lot shading standards to determine whether the as-built designs and subsequent maintenance are adequate to achieve target levels of shading. Develop measures to correct deficiencies and increase parking lot shade levels.

## Goal 3. Foster community support for maintaining and improving Sunnyvale's urban forest

### **Objective 3.1 Provide ongoing education and outreach to promote awareness of the importance of the Community Forest.**

#### **Actions**

- Increase the amount of urban forest information available on the City of Sunnyvale website.

Identify ways to impart information on Sunnyvale's urban forest to residents.

- Expand relationships with local schools to provide educational opportunities related to trees and the urban forest.
- Encourage public participation in tree planting and tree stewardship activities.

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- Use available city information resources to inform residents about urban forest issues and opportunities.
- Maintain and publicize Sunnyvale’s Tree City USA status.

### **Objective 3.2 Support the development of a local urban forestry non-profit / volunteer organization.**

#### **Actions**

- Partner with an existing or new non-profit urban forestry group to help launch a non-profit urban forestry organization in Sunnyvale.
- This organization will pursue grant funding for tree planting, tree care, and public education, and help to organize community volunteer efforts in support of the urban forest.
- Utilize the organization as a resource for various city boards and commissions, e.g., Planning, Sustainability, for issues related to the urban forest.

## **2.2. Tree and forest health**

### **Issues and trends**

- *The population of street trees maintained by the City is extremely diverse. Over 190 species occur in the street right-of-way. Only three species occur at frequencies greater than 5% of the city maintained street tree population. A high level of diversity within the urban forest helps reduce the risk of serious pest and disease epidemics.*
- *California Municipal Forest Health Threat Assessment published in July 2012 evaluated Sunnyvale’s municipal forest health with an overall grade of B+. Tree species and size diversity is good with only two tree species exceeding 10% of the total inventory. Age diversity is good averaging one third of street trees at maturity to senescent. Species diversity rates Sunnyvale’s pest threat relatively low.*
- *Street Tree Services has changed the mix of tree species planted in response to problems that have developed over time: 75 species or varieties of trees present in the city ROW are being reduced in numbers and 22 varieties or species are being used in increasing amounts.*
- *Approximately 48 percent of Sunnyvale native soils have properties that can constrain tree growth. Excessive salinity, which can reduce tree growth and cause leaf damage, occurs primarily north of US 101. Soils in various parts of the city are affected by slow drainage and high water tables, which may lead to shallow roots and increased hardscape damage.*
- *Water conservation will continue to be a local and regional issue that can affect the urban forest. Reclaimed water has a high salt content and its use for irrigation may worsen already existing salinity problems in soils, resulting in more tree health problems.*

**Goal 4. Develop an urban forest canopy that is stable over the long term****Objective 4.1 Continue to maintain a high level of species and genetic diversity within large plantings and within the urban forest as a whole.****Actions**

- Establish upper limits for the percentage of the tree population that a single variety or species should comprise within planning areas or citywide. Use these percentages to aid in species selection for new and replacement tree plantings to reduce the risk that a large percentage of the urban forest canopy could be lost or degraded by damage due to new diseases, pests, or problems that affect only a single species or variety.
- Where possible, substitute trees of different species or varieties for overused species/varieties when planting new or replacement trees.
- Ensure that adequate species diversity is included in commercial landscapes and other private plantings during the planning process.

**Objective 4.2 Maximize the effective age diversity of plantings to avoid even-aged stand problems.****Actions**

- In new plantings where even-aged plantings cannot be avoided, use a mix of species with different useful life spans. For example, oaks may live for well over 100-150 years whereas flowering pears may have a maximum useful life closer to 30-50 years.
- When planting replacement trees, avoid using trees that will reach the end of their useful life at the same time as existing trees in the planting.

**Objective 4.3 Increase the percentage of drought- and salt tolerant trees in Sunnyvale's urban forest.****Actions**

- Monitor compliance with existing policies that emphasize the use of drought tolerant trees in new plantings and consider additional policies and practices to increase the use of drought tolerant trees.
- Reduce or eliminate the use of trees with high water use requirements in harsh street tree and parking lot sites.
- Increase the overall percentage of low water use trees in City street tree plantings and in parks and private development by using more drought-tolerant species in new and replacement plantings when feasible (e.g., species from Mediterranean climate regions, other drought-adapted species).

Increase use of salt-tolerant species in areas that may have salt-affected soils. Consider expanded use of soil testing to identify salinity-affected sites.



## 2.3. Management of the urban forest

### Issues and trends

- *The City of Sunnyvale manages a significant portion of all trees along streets, but private landowners manage most trees in the city.*
- *About two-thirds of the city managed street trees have reached their mature size. As this population of street trees continues to age, more trees will need to be replaced as they reach the end of their useful lives.*
- *The city street tree and concrete maintenance programs have been funded through the city's general fund, which has experienced several rounds of reductions in recent years. Beginning in 2009, lower city general fund revenues have led to significant reductions in the staffing levels of the street tree and concrete maintenance programs.*
- *Cuts in the street tree program budget have reduced the re-inspection and pruning interval for city street trees. This has led to a change to reactive rather than proactive management of street trees.*
- *Longer inspection and maintenance intervals for city street trees may increase the incidence of failures among these trees.*
- *In 2013 Sunnyvale funded contract tree care services so that a minimum of 5,000 street trees receive preventative maintenance pruning annually. Each tree will be pruned every seven years on average depending upon the species. Including street trees pruned by city staff the total number of street trees pruned each year should be over 7,000 per year.*
- *Concrete maintenance will be an ongoing need due to the presence of narrow parkway strips and shallow rooting depths in soils in many areas of Sunnyvale. Street Tree Services has developed a successful program for mitigating root damage to sidewalks using methods that minimize the need to damage or remove trees.*
- *Urban Landscape Manager and City Arborist continue to be utilized in the planning and design phases of development to integrate urban tree requirements in to the city's infrastructure design to maximize urban tree performance and minimized infrastructure conflicts and damage.*
- *The street tree inventory needs to be kept current to continue to be useful as a management tool.*

Goal 5. Maintain street trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs

### **Objective 5.1 Develop a stable funding source for street tree maintenance.**

#### **Actions**

- Investigate other potential sources of funding that can be dedicated to street tree care activities.

**Objective 5.2 Use best management practices for tree planting and care on city properties to maintain the City owned trees in a safe and healthy condition as cost-effectively as possible**

**Actions**

- Monitor tree health on public lands (parks, streets, open space areas, and public buildings) to identify developing pest and disease problems and implement corrective actions.
- Continue to update the list of tree species potentially suitable for landscape uses in Sunnyvale to reflect new pest problems that may render a tree unsuitable for continued planting.
- Plant good-quality, preferably locally-grown, disease-free nursery stock to help assure long-term tree survival. Implement the use of updated tree nursery stock standards to ensure the use of good quality stock.
- Continue existing pre-and post-planting inspections conducted by City staff. Conduct additional training of building inspectors to improve compliance with city planting standards for street trees planted by developers.
- Continue early training of new trees to establish proper long-term structure and avoid future maintenance problems.
- Continue use of current ANSI pruning standards and International Society of Arboriculture BMP (best management practices) for pruning conducted by City staff and tree care contractors.
- Continue to provide adequate training and continuing education opportunities to ensure that Street Tree Services staff has up-to-date knowledge about trees, and tree care practices.
- Develop and implement standards for assessing and improving soil conditions prior to planting to improve long-term tree health and survival.

Assess and remediate site conditions prior to replanting trees that have died. Record sites that are unsuitable for tree planting in the street tree inventory.

**Objective 5.3 Integrated management of street trees and sidewalk/curb concrete maintenance.**

**Actions**

- Provide best management practices and processes within the Department of Public Works to ensure the integration of street tree services and sidewalk/curb concrete and street maintenance
- Provide adequate training and continuing education opportunities to ensure that staff has up-to-date knowledge about trees, root growth, and methods used to minimize root/hardscape conflicts.

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- Consider developing a "call before you dig" program that would notify Street Tree Services before activities that could damage roots are scheduled to occur within a given radius of a City street tree. Authorize Street Tree Services to provide procedures to minimize any adverse impacts to City street tree roots in these situations.

### **Objective 5.4 Development of a program for identifying and correcting tree-related hazards on public properties.**

#### **Actions**

- Explore development of a program for systematically locating and evaluating potentially hazardous trees on public lands and public rights-of-way.
- Maintain or shorten current preventative maintenance pruning interval of every seven years for each tree on average depending upon species to maintain safe tree structure and minimize failure potential of trees along streets and high-use public areas.
- Continue to respond to all requests from residents and property owners to assess a tree's condition within 10 days or less depending upon the conditions.
- Continue to abate all potentially hazardous conditions in trees within 90 days or less depending upon the conditions.

### **Objective 5.5 Develop and maintain inventories for all city-managed trees to facilitate tree management.**

#### **Actions**

- Maintain and update the existing street tree inventory so that it will reflect current conditions.
- Explore possibilities for compiling and linking geospatial coordinates for individual trees to the existing inventory data, which would allow tree data to be displayed as a city GIS layer.
- Develop and maintain a current, complete inventory of trees maintained by Parks with records for individual trees with data related to management needs. The inventory should include spatial information on tree location to permit use in the city GIS.

Goal 6. Manage City's urban forest resources to facilitate collaboration among City departments related to issues and projects involving trees.

### **Objective 6.1 Continue to have a highly qualified professional arborist as the head of Street Tree Services.**

#### **Actions**

- Maintain the Urban Landscape Manager position within Street Tree Services and designate that position as the "City Arborist".

**Objective 6.2 Continue use of Street Tree Services as the City's internal arboricultural consultant for all City departments****Actions**

- Develop best management practices and processes to ensure the Street Trees Services program is included in all areas involving the urban forest including community development.
- Provide information to other city departments and divisions to raise awareness of trees and tree management to meet goals of the urban forest plan.

**Objective 6.3 Integrate urban forest management as a component of the City's framework for Sustainability****Actions**

- Work with Sunnyvale's Environmental Sustainability Coordinator, the Sustainability Commission, the Horizon 2035 Advisory Committee, and the Dept. of Community Development to integrate urban forestry into the framework for Sustainability.

**Goal 7. Encourage proper tree management on private property.****Objective 7.1 Develop an ongoing program to educate the public about tree selection, placement and care.****Actions**

- Provide locally-appropriate technical tree care information to residents through a variety of media to emphasize good tree selection and placement, optimal planting techniques, proper pruning of young and mature trees.
- Make city-approved BMP guidelines for tree planting and maintenance available to permit applicants and the public to encourage better tree selection, planting and care.
- Encourage participation of local groups in public tree planting and tree care projects.
- Continue enforcement of landscape maintenance requirements in commercial properties. Continue existing pre-and post-planting inspections conducted by City staff, and implement new inspections or monitoring programs where necessary.

**Appendix****3. Status of Sunnyvale's Urban Forest****3.1. Historical context****Key Findings**

- Almost nothing remains of the oak forests that once covered the area that became the City of Sunnyvale.

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- The vast majority of Sunnyvale's urban forest consists of trees planted in developed areas, mostly within the past 50 to 60 years.
- Almost all new construction in Sunnyvale involves redevelopment. Existing mature urban trees are commonly removed when parcels are redeveloped.
- Sunnyvale's first tree protection ordinance was enacted in 1991.
- Sunnyvale has been a Tree City USA every year since 1989.
- Sunnyvale's city services were restructured in 2011 and the Street Tree Services program was separated from the Concrete/sidewalk program although both remained in the Department of Public Works. Street Tree Services was integrated into the Parks Division which had been relocated to Public Works, and remained under the purview of the Urban Landscape Manager. Concrete/sidewalk Services remained in the Field Operations Division but was shifted to the Street Maintenance program.
- Real estate development activity has increased dramatically since 2012 with some loss urban forestry planning coordination within city departments and divisions.

### 3.1.1. Replacement of the native forest

Due to its development pattern, almost nothing remains of the oak forests and other native vegetation that once covered the area that is now the City of Sunnyvale. Accounts of early explorers and settlers indicate that much of Sunnyvale was once covered by dense oak forests. One of Sunnyvale's earlier names, Encinal, is a reference to the coast live oak, which was called the Encina by the Spanish. Both coast live oak and valley oak historically occurred in this portion of the Santa Clara Valley.

Clearing for fuel wood and grazing land began during the Spanish period and intensified after the Gold Rush when wheat farming became important. Starting in about the 1870s, orchards producing fruit and nut crops and some row crops became the dominant land uses in Sunnyvale and much of the Santa Clara Valley. This resulted in the removal of almost all remnants of the original forest, although some oaks persisted in and around fields and home sites. Most of the scattered oaks that remained in agricultural areas by the mid-20th century were removed as the lands were subsequently converted to residential and commercial development. As a result, the vast majority of Sunnyvale's urban forest consists of trees planted in developed areas, mostly within the past 50 to 60 years.

### 3.1.2. Development of the urban forest

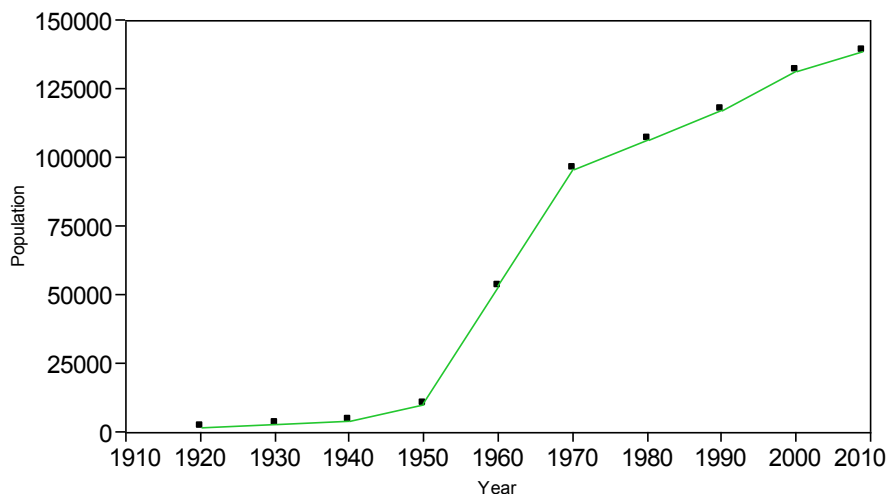
In the post-war period, facing the shutdown of a major employer (Hendy Iron Works) the City of Sunnyvale intensified efforts to attract industrial development. Sunnyvale adopted a council-manager City government structure and a development plan in 1949. Spurred by large defense industry employers that moved to the area (Westinghouse Electric Company at the Hendy site and Lockheed near Moffett Field) and other industrial development, Sunnyvale underwent a phase of rapid development and population growth between 1950 and 1970 (*figure 3-1*). Most of the agricultural lands within the current city boundary were converted to urban uses during this period.

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In 1948, Sunnyvale's urban area occupied about 1 square mile and was surrounded by orchards and agricultural fields. By 1981, less than 6 percent of the city's current area (21.9 square miles) was classified as vacant or agricultural. Virtually all remaining fragments of agricultural land were developed by about 2000. Other than some vacant lands within industrial areas, virtually all new construction within Sunnyvale now involves redevelopment. Land use and canopy cover changes associated with development and redevelopment are illustrated with aerial images from 1948, 1991, and 2007 (*figures 3-2 and 3-3*).

When parcels are redeveloped, existing site trees are reviewed for potential preservation. New tree planting is typically required as a component of redevelopment. Even with these policies, redevelopment of built parcels can lead to loss of existing urban trees and may lead to fewer potential planting sites if the footprint of the built area increases.

Sunnyvale's first tree protection ordinance was enacted in 1991. If trees covered under the ordinance were removed, the applicant was required to either provide on-site compensation (e.g., plant more trees and/or larger specimens) or to pay in-lieu fees to fund tree planting in public rights-of-way. Standards for parking lot shading took effect in 2002. The standards apply to new construction, including redevelopment, and require tree planting sufficient to develop 50% shading of parking lots after 15 years.



**Figure 3-1.** Population of Sunnyvale, 1920-2009. Data from California Dept. of Finance, Demographics Research Unit. (<http://www.dof.ca.gov/research/demographic/reports/>)

**Figures 3-2 and 3-3, following pages:** Aerial images of Sunnyvale showing changes in land use and tree canopy from 1948 to 2007. Figure 3-2 shows an area west of downtown Sunnyvale. The intersection of El Camino Real and Mathilda is near the bottom right hand side of the image. The city limit is shown as a red line at left; yellow lines outline school properties. Figure 3-3 shows a closer view of the vicinity of the intersection of Mathilda and Central Expressway. Heritage Park (Murphy home site) is visible near lower right. Rounded patches visible in orchards in the 1948 images are root rot centers most likely due to the fungus *Armillaria mellea*, which indicates the former presence of oaks in these areas. Redevelopment occurring between 1991 and 2007 is visible on some commercial properties in both sets of images. Images: Google Earth.



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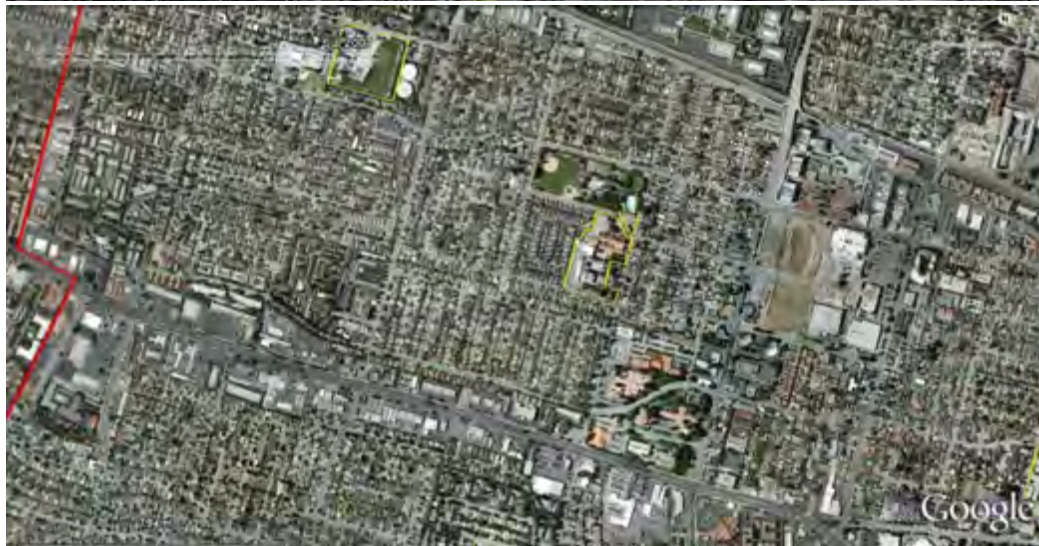
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1948



1991



2007

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**Figure 3-2.** Aerial images showing changes in land use and tree canopy from 1948 to 2007 west of downtown Sunnyvale near intersection El Camino Real and Mathilda.







2007

**Figure 3-3.** Aerial images showing changes in land use and tree canopy from 1948 to 2007 at intersection of Mathilda and Central Expressway.

**Street tree program**

Sunnyvale's city street tree program was originally operated under the Parks and Recreation Department. In 1987, responsibility for maintaining public trees along streets and medians was shifted to the Public Works Department. This was done to minimize damage to street trees when curbs, gutters, or sidewalks were repaired. In July 2010, responsibility for street median trees was shifted back to the Parks Department.

Until June 2011, Sunnyvale's street tree program was unusual in that responsibility for maintaining sidewalks and curbs and gutters is included in the responsibilities of the Urban Landscape Manager. The program consists of two interrelated programs: Concrete Maintenance and Street Tree Services. These programs were in the Tree and Landscape division of Public Works and were funded through the General Fund. The combination of the street tree services and right-of-way concrete maintenance programs began in 1989. These programs are described in more detail beginning on page 39.

Most of Sunnyvale's city street trees were planted by developers when subdivisions were built. Street tree planting has been required as a condition of project approval since well before 1987. Since 1989, the City's policy relative to street trees has been to replace trees as necessary and add new trees on demand. In addition, trees planted within the ROW by residents are added to the city street tree inventory if they are acceptable to Street Tree Services.

In 1989, the City Council initiated a program to increase trees in the inventory. Funding to plant trees at vacant sites was set aside as a capital project. After these funds were expended, the program was discontinued. The City did not pursue grant opportunities to fund additional street tree planting. At the time, the City Manager did not favor expanded street tree planting because of the associated increase in ongoing operating costs for tree maintenance.

The City's street trees were inventoried and entered into a computerized database in 1986 by Golden Coast. The Davey Resource Group, a division of The Davey Tree Expert Company, subsequently acquired this inventory system. In 1994, Street Tree Services began using the online internet-based version of Davey's TreeKeeper software to manage its tree inventory and associated maintenance scheduling and reporting. The inventory database is maintained on computer servers belonging to Davey Tree. The Urban Landscape Manager administers access to the inventory.

**Tree City USA.** The City of Sunnyvale has been awarded Tree City USA<sup>®</sup> status every year since 1989. The Arbor Day Foundation, in cooperation with the USDA Forest Service and the National Association of State Foresters, sponsors the Tree City USA<sup>®</sup> program. To qualify as a Tree City USA<sup>®</sup> community, a town or city must meet four standards established by The Arbor Day Foundation and the National Association of State Foresters. These standards were established to ensure that every qualifying community would have a viable tree management plan and program. These standards are:

1. A tree board or department
2. A tree care ordinance

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3. A community forestry program with an annual budget of at least \$2 per capita
4. An Arbor Day observance and proclamation

### 3.2. Environmental context

#### Key Findings

- Sunnyvale has a mild Mediterranean climate with low annual rainfall.
- Because of limited water availability, trees in Sunnyvale's urban forest must be drought tolerant or receive supplemental irrigation.
- About half of the land area of Sunnyvale has native soils that could be limiting for tree growth. These soils occur primarily in the northern half of the City.
- Soil limitations include shallow water tables, salinity, and heavy (clayey) soil types subject to slow drainage and soil compaction.
- Increased use of salt-tolerant species should be considered in both salt-affected areas and in areas that use reclaimed water.
- Soil modification may be needed in sites such as ROW plantings, commercial landscapes, and redeveloped areas to correct soil problems that will interfere with tree growth or encourage the development of shallow roots.

#### 3.2.1. Climate

Sunnyvale has a moderate Mediterranean climate. Most of the city is in the *Sunset Western Garden Book* climate zone 15 (Coast Range cool winter areas). Portions of the city from about US 101 to the San Francisco Bay are mapped to the somewhat milder zone 17 due to the moderating effects of the bay and more frequent fog. Average winter lows are a mild 40°F in December and January, although a record low of 16°F was recorded in 2003. High temperatures in the summer usually average around 80°F, although record high temperatures over 100°F have been recorded. The moderate climate makes Sunnyvale favorable for growing a wide variety of temperate zone trees species as well as subtropical species that can tolerate occasional temperatures near or below freezing.

#### Rainfall and water demand

Average annual rainfall in Sunnyvale is about 15 inches. Reference evapotranspiration (ET, a measure of water demand) averaged 42.4 inches between 2004 and 2009 (California Irrigation Management Information System website <http://www.cimis.water.ca.gov> data retrieved using the map report option in the Spatial CIMIS menu).

Under average Sunnyvale ET conditions, a tree with moderate water requirements (e.g., *Magnolia*), would require about 23 inches of water per year. In an average year, rainfall would supply less than a quarter of this need (5.2 inches) because most rain falls when water demand by

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plants is low. The remainder of the tree's water needs would have to be met by water available in the summer and fall, such as irrigation or a shallow water table accessible to the tree's roots.

Trees with low or very low water requirements, such as coast live oak, generally do not require supplemental irrigation to thrive in Sunnyvale. In contrast, trees with water requirements that are classified as moderate (e.g., magnolia, sweetgum) or high (e.g., coast redwood) depend strongly on supplemental irrigation. Trees that do not receive adequate amounts of water may grow very slowly, develop thin canopies, have early leaf drop or scorched leaves, or may die back to varying degrees. Even a temporary lack of irrigation during mid to late summer can cause severe dieback or death of trees such as coast redwood. As discussed below, such problems are more severe in soils with limited rooting depth or low total soil water-holding capacity.

### **Reclaimed water for irrigation**

To reduce demand on potable water sources, the city's water treatment plant provides recycled tertiary-treated water for non-potable uses such as irrigation. To date, this water has only been used for landscaping purposes in the northern third of the City of Sunnyvale, north of US 101. Parks, golf courses, industrial parks, and play fields obtain water at a discounted rate where available. Increased use of reclaimed water for landscape irrigation is planned for new developments.

Reclaimed water has a higher salt content than is found in municipal potable water. As irrigation water evaporates from soil, salts present in it are left in the soil. Over time, these salts can accumulate to levels that inhibit plant growth. When water with high salt levels is used for irrigation, water has to be applied in amounts well in excess of plant water needs to leach out these excess salts from the soil.

Excess salinity in soil and irrigation water makes water unavailable to plants and exacerbates effects associated with inadequate irrigation. Salinity initially causes trees to grow more slowly. As salts accumulate in plant tissues, trees may show browning of leaf edges and shoot dieback. Salt-stressed plants can also show greater susceptibility to some diseases, including root rots. Although salt-tolerant plant species can grow in the presence of excess salts, most landscape trees are relatively intolerant of high salinity. In addition, various tree species may also show sensitivity to specific salt ions present in water or soil (e.g., chloride, boron). Toxicity related to specific ions may occur even if total salinity levels are not excessive.

### **3.2.2. Soils**

The native soils in the City of Sunnyvale are formed from deep, permeable, unconsolidated alluvium that originated mainly from sandstone and shale rocks. Three soil groups are represented within the city, which vary in properties somewhat as described below. The Soil Survey map (Gardner and others 1958) and a table of general soil properties of each soil type are presented in the Appendix (Section 6.1. Soil types, Pg. 88). Soil types with properties that may adversely affect tree growth are shown in Figure 3-4. Approximately 5,892 acres (48% of the land area of Sunnyvale) have soil types that could have adverse effects on tree growth.

Urban soils are often significantly altered due to grading, trenching, compaction, contamination by chemicals, and import of fill soil. The soil maps serve as a general guide to soil conditions

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that may affect tree growth, but soil properties at a given site may differ from that of the mapped soil type due to historical construction and land uses.

### **Basin soils**

Soils closest to the bay were developed within or at the edges of the basin that became the San Francisco Bay. They include soils in the Alviso, Bayshore, Castro, and Sunnyvale soil series. These soils extend from the bay to the vicinity of the original downtown area. These soils are generally fine- or heavy-textured (clayey) and naturally tend to have slow surface and/or subsurface drainage. These areas also historically had high subsurface water tables. The heavy soil texture and poor drainage can inhibit root growth, leading to shallow root penetration and slow tree growth. Soil compaction makes these limitations more severe.

In addition, salt levels in some of these soils may be high enough to reduce growth or cause salt damage symptoms in salt-sensitive tree species. High levels of sodium found in some of these soils can also exacerbate slow drainage. Sodium can cause soil aggregates to disperse, which results in smaller pore spaces in the soil. Portions of Sunnyvale experienced significant amounts of land subsidence due to the pumping of groundwater for agriculture in the early 20th century. This subsidence may have allowed bay water to extend further inland and increased salt intrusion into soils closer to the bay shore. The soil types with the most potential for drainage and salinity problems in this group are noted below, along with their approximate acreage in Sunnyvale.

- Alviso clay (An) - 707 acres
- Castro clay (Cd) and Castro silty clay (Ce) -1,942 acres
- Sunnyvale clay (Sx) - 2,266 acres

Tree species used in these soils may need to be tolerant of salinity, poor drainage, and shallow rooting depth. In addition, planting sites should be prepared to minimize compaction and improve drainage. Depending on soil chemistry, incorporation of calcium (as gypsum = calcium sulfate) and organic matter may improve soil structure and rooting conditions.

### **Recent alluvial fan and floodplain soils**

Soil series in this group include the Campbell, Sorrento, and Zamora series. These were among the most productive soils for agricultural production before the area was urbanized. Soils are generally very deep and favorable for tree root growth, with at least moderate permeability rates and good water holding capacity.

The only soil in this group with potential limitations for tree growth is Campbell silty clay (Cb), which covers about 460 acres in Sunnyvale. This is a deep soil with slow permeability. Permeability is further reduced if the soil is compacted, which occurs readily under wet conditions. However, orchard crops were successfully grown on these soils in the past, so good tree growth on this soil is possible with proper species selection, good water management, and minimal soil compaction.

**Older alluvial fan soils**

Soil series in this group include the Pleasanton and San Ysidro series. They are found in the southern portion of the city, primarily south of Fremont Avenue. The Pleasanton soils are deep loams with mostly moderate permeability. They do not have any significant limitations for tree growth unless the surface soil or subsoil is compacted, which can reduce permeability.

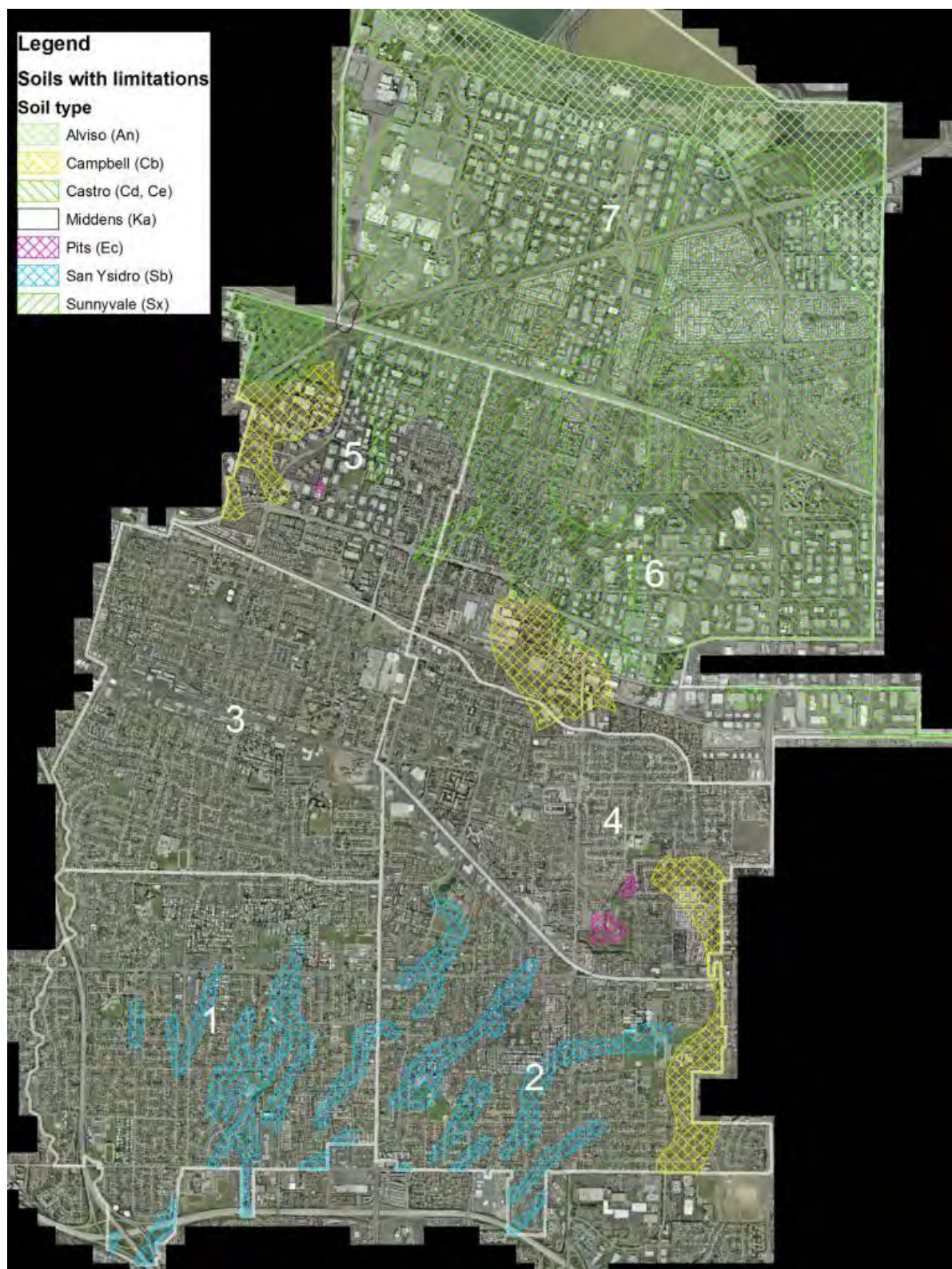
The San Ysidro soil occurs in finger-like streaks in the Pleasanton soils. About 517 acres of these soils are found in Sunnyvale. San Ysidro loam (Sb) is underlain by a highly impermeable clay layer at a depth of about 20 to 36 inches. This reduces rooting depth and makes the soils more subject to ponding during the rainy season or under heavy irrigation. Diseases favored by wet soils, such as Phytophthora root rots, may be more common on these soils.

**Other soil units**

In addition to the mapped soils, the soil survey includes a few areas that were historically excavated for gravel or other building materials. These are shown as pits (soil symbol Ec) in figures 3-4 and A1). The soil survey also notes that soil properties in one small area (Kitchen middens – Ka) were altered due to the former presence of a Native American settlement in the area. That area is now occupied by the Highway 101-State Route 237 interchange.



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**Figure 3-4.** Distribution of soil types that have potential limitations for tree growth. Numbered zones outlined in white are management zones for city street trees. Background imagery provided by City of Sunnyvale.



### 3.3. Tree resources

#### Key Findings

- Overall tree canopy cover in the land area of Sunnyvale was estimated to be 18.4%.
- Trees in residential areas accounted for 62% of Sunnyvale's tree canopy.
- Trees in commercial areas accounted for 28% of Sunnyvale's tree canopy.
- Street trees account for about a third of the city's canopy cover, including 42% of all commercial tree canopy and 35% of all residential tree canopy.
- There are an estimated 231,000 trees in Sunnyvale, including about 70,000 along street rights-of-way.
- Increasing overall city canopy to 20.5% would require planting an additional 15,000 trees in residential areas and 14,000 trees in commercial areas.
- About half of the trees located along street rights-of-way are managed by Street Tree Services.
- Trees managed by Street Tree Services provide a large fraction of the canopy cover in both residential and commercial areas.
- Parks Division manages about 5,800 trees in parks and around city facilities.
- Private landowners are responsible for the care of most of the trees in Sunnyvale's urban forest.

#### 3.3.1. City-wide canopy cover

Most of the benefits provided by the urban forest are directly related to levels of tree canopy cover. Canopy cover refers to the percentage of ground area that has tree cover directly overhead, and is most commonly assessed from overhead aerial imagery. Canopy cover is affected by both the number of trees per unit area (tree density) and the canopy spread of individual trees.

Tree canopy cover within the city can be increased by adding additional trees, but due to the small size of newly planted trees, tree canopy growth has a larger influence on canopy cover. A few mature trees with large canopies can have more canopy cover than a much larger number of young trees. Consequently, increasing tree canopy cover is typically a slow process. In contrast, decreases in tree canopy can occur much more quickly. A large mature tree can be removed in a single day, eliminating tree canopy that required decades to develop.

To assess tree canopy cover in Sunnyvale, we used a random dot grid to quantify tree cover within various land uses from 2007 aerial photography available from Google Earth. A robust estimate of canopy cover can be obtained by determining what percentage of the spatially random sample dots superimposed over the aerial image (*figure 3-5*) intercept tree canopy. Additional information on tree distribution was obtained by categorizing the land use associated with each sample dot. We used GIS layers and photo interpretation to assign sample points to the

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following categories:

Residential (including single and multiple-unit zonings),  
commercial/industrial,  
city parks,  
schools,  
other city-owned properties.

Within these categories, we also noted whether a sample point was located within a public street ROW. Detailed information on the methods used is presented in Appendix 6.2 (page 85).

From this analysis, the overall canopy cover in the land area of Sunnyvale was estimated to be  $18.4 \pm 2.1\%$ . Other cities with canopy covers recently estimated at 18% include Seattle, Los Angeles (<http://www.sej.org/publications/tipsheet/some-cities-push-for-increased-tree-canopy>) and Rocklin, CA. In an analysis of canopy cover in 21 California cities and towns based on 1988-1992 aerial photos (Rowntree and Kerkman 1997), only five of the cities had tree canopy cover greater than 18%. These included Atherton, with the highest percent canopy of any city surveyed (1992 canopy cover 48%) and Menlo Park (1992 canopy cover 24%).

Canopy cover levels by land use category are summarized in Figure 3-6. Parks showed the highest percent canopy cover overall. If municipal golf courses are removed from the parks sample, the park canopy cover drops to 23%. Residential areas had higher levels of canopy cover overall than commercial/industrial areas. The aggregate of other land uses (schools, other city-owned land) had the lowest total canopy cover. Across the entire city, canopy cover associated with trees in the street ROW was 6.4%.

Another way to look at canopy cover is to consider how much of the total city canopy cover comes from different segments of the urban forest. These are shown below:

- Residential land uses — 62% of total city canopy cover
- Commercial/industrial land uses — 28% of total city canopy cover
- Parks, schools, and other city-owned land— 10% of total city canopy cover

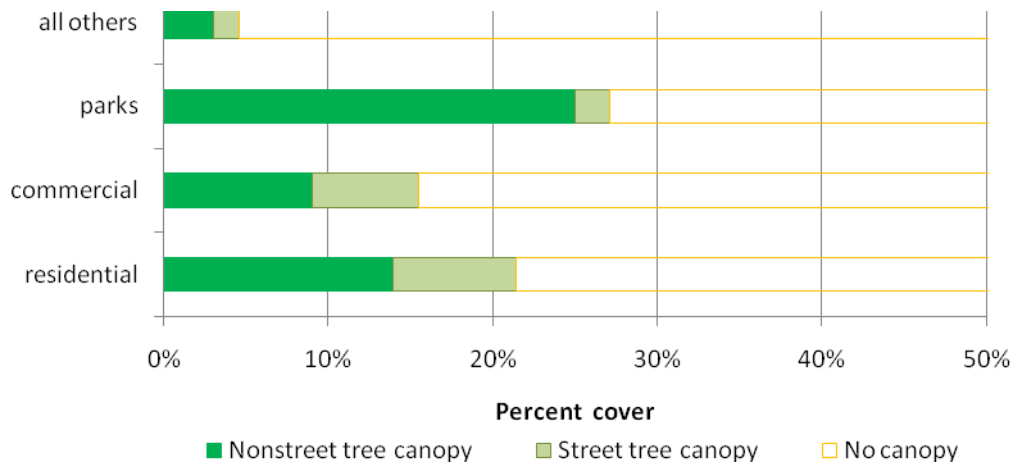
According to this analysis, although residential areas cover 43% of the City, trees in residential areas accounted for 62% of Sunnyvale's tree canopy.

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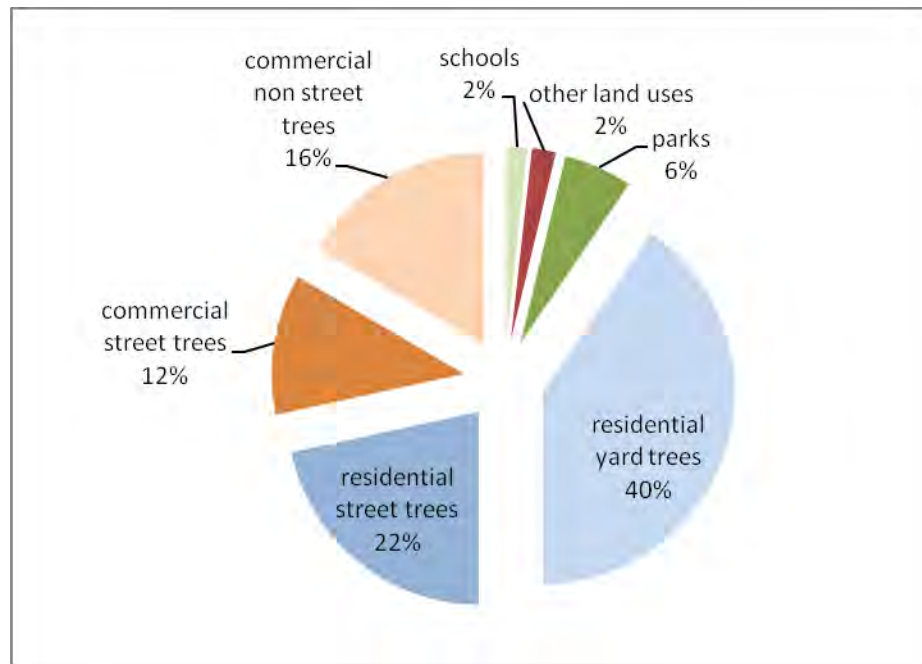
**Figure 3-5.** Aerial imagery of Sunnyvale (photo date July 2007) used for determining tree canopy cover. Top image shows the distribution of random points across a section of the city with polygon boundaries that indicate specific land uses (blue line = a city park, yellow line = school, green line = other city owned property). Latitude/longitude grids were used to help keep track of position during the counting process. Determination of whether sample points intercepted tree canopy were made under greater magnification, as shown in bottom image. Lower image shows a close-up with two sample points, one on a street tree (upper right) and the other on non-canopy beyond the ROW (lower left) within a residential area. The apex of each triangle was used as the actual sampling point. Imagery: Google Earth.

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**Figure 3-6.** Tree canopy cover within land use categories by tree location (for this chart, street tree= trees within apparent city right-of-way).

Trees along streets accounted for more than a third of Sunnyvale's tree canopy (*figure 3-7*). Street trees made up a larger percentage of the total canopy cover in commercial land uses (42% of all commercial tree canopy cover) than in residential areas (35% of all residential tree canopy cover). Our sample indicated that the total amount of canopy cover over paved portions of city streets (curb to curb) was about 10%. In other words, only about 10% of the street pavement in Sunnyvale is directly under tree canopy.



**Figure 3-7.** Distribution of City of Sunnyvale canopy cover.



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As noted above, the City enacted standards for parking lot shading with a target of 50% shading of parking lots after 15 years for new construction. Although we did not quantify actual levels of tree canopy cover in parking lots, we visually assessed parking lot canopy cover in a large sample of parking lots throughout the city using available 2010 aerial imagery. Very few existing parking lots approach the 50% shading standard. It was clear that most parking lots have so few trees that they are not likely to approach the 50% standard at any point. A substantial number of parking lots had no trees at all.

### References

Rowntree, R.; Kerkman E. 1997. Urban forest canopy cover in California: analysis of 21 cities and towns. Unpublished technical report. USDA Forest Service, Pacific Southwest Research Station. Albany, CA.

### Tree population estimates

We used estimates of average tree canopy area and the actual area covered by tree cover to estimate total numbers of trees. The portion of the city included in the evaluation covers about 19.25 square miles. Within this area, tree canopy covers more than 3.5 square miles and includes an estimated 231,000 trees. This is equivalent to:

- 1 tree per about 2,300 square feet;
- about 19 trees per acre; or
- about 1.66 trees per resident (based on 2009 population estimates).

Some other tree population estimates based on canopy cover:

- residential zoning areas: 142,455 trees
- commercial zoning areas: 60,392 trees
- trees along street ROW: 70,148

From the estimated tree numbers and the total length of streets within Sunnyvale, we estimate that the density of trees along the street ROW is about 378 trees per street mile. This compares to 353 trees per street mile in Rocklin, CA, measured in 2006.

### Number of privately maintained street trees

The tree inventory maintained by Street Tree Services showed 36,898 city street trees as of January 2010. Subtracting public trees managed by Street Trees Services and boulevard median trees managed by Parks starting in July 2010 from the estimated 70,148 trees along the street ROW leaves an estimated 34,000 trees along streets that are under the care of private residential and commercial property owners. In many locations, particularly where streets have been widened over time, trees planted close to the street (and rated as in the ROW in our aerial photo interpretation) are not in the official public ROW. This situation is more common in commercial areas than in residential areas. Many of the trees within landscaped strips adjacent to the street or on the far side of monolithic sidewalks in commercial areas are private trees rather than inventoried street trees (*figure 3-8*).



**Figure 3-8.** Trees along the apparent street right of way may be either public trees managed by Street Tree Services or privately owned and managed trees. The sweetgum trees along the street on the left side of this image are private trees on a commercial parcel. The trees in the median are managed by the City.

### **Potential canopy cover goals for Sunnyvale**

Based on canopy cover measurements, we know that Sunnyvale can support at least 18.4% tree canopy cover. This level of canopy cover would increase over time through tree growth if no trees were removed. However, because trees are removed on an ongoing basis, canopy cover levels will drop if tree canopy is removed at a greater rate than can be offset by the growth of the remaining trees. In addition, replacing large-canopied trees with trees that are smaller at maturity can lead to long-term reductions in tree canopy cover.

A newly planted tree can take many years to reach the canopy size of a mature tree. For example, a single tree with a canopy diameter of 68 ft. (e.g., the large trees on the left side of *figure 3-9*) provides more canopy cover than 46 trees with a 10 ft. canopy diameter or 11 trees with a 20 ft. canopy diameter. To maintain stable canopy cover levels over time, replacement trees need to be in place and growing before mature trees are removed. This means that it will be necessary to

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plant many more trees than are removed over a period of years, especially if many existing large trees are reaching the end of their useful life.

For planning purposes, Sunnyvale should determine how much more tree canopy cover could be supported within the city. There is no set formula or methodology for calculating the maximum achievable canopy cover for an urban area, and factors that constrain tree cover vary between cities. In Sunnyvale, the area occupied by buildings, streets, and impervious hardscape is the primary factor that limits the space available for both tree canopies and tree roots.

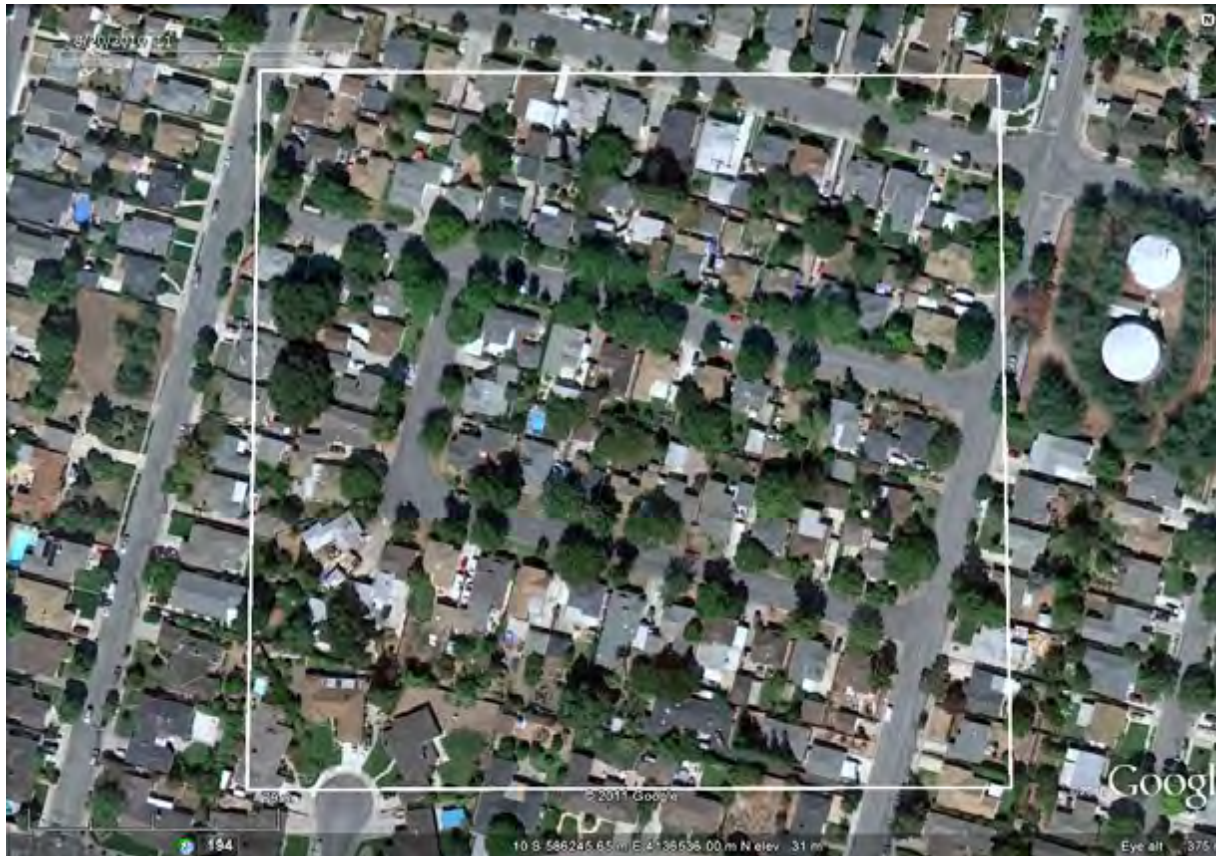
Much of Sunnyvale is dominated by relatively small residential lots with limited space for large trees. To see how much canopy cover might be supported within Sunnyvale's residential areas we examined current aerial imagery to find areas with high levels of canopy cover. After scanning the entire city, we selected ten residential areas that included patches of high canopy cover. We superimposed a 14-acre square (780 ft. on a side) sampling frame over each of these relatively high canopy cover areas and assessed canopy cover within the frames. Invariably, these sampling frames included areas with more modest canopy cover in addition to the high canopy cover patches that we had noted.

Among these ten residential samples, 26% canopy cover was the maximum tree cover seen within the 14 acre square (e.g., *figure 3-9*). The average canopy cover of these ten areas was 23.6%. These results suggest that it should be feasible to increase residential canopy cover in Sunnyvale to at least 24%, which is about 112% of the existing residential canopy cover of 21.4%.

Assuming that existing tree canopy is maintained, about 15,000 additional trees would need to be planted to increase average canopy cover in residential areas to 24% (assuming the new trees would average 22.5 feet canopy diameter, the current average tree canopy spread in residential areas). This is equivalent to one tree for every 15,000 square feet of residential property. Increasing residential tree canopy cover to 24% would increase citywide canopy cover to 19.4% (Table 3-1).



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**Figure 3-9.** Residential area within Sunnyvale showing relatively high canopy cover. Canopy cover within the 14 acres delimited by the white box was about 25%. Image: Google Earth; image date 20 August 2010.

**Table 3-1.** Scenarios for increasing canopy cover in Sunnyvale through additional tree planting. All scenarios assume that existing tree canopy is maintained at constant levels though replacement planting and growth of existing trees.

Scenario	Residential canopy cover	Commercial canopy cover	Estimated additional number of trees needed	Estimated citywide canopy cover
current conditions	21.5%	15.5%		18.4%
increase residential canopy cover	24%	15.5%	15,000 <sup>1</sup> in residential areas	19.4%
increase commercial canopy cover	21.5%	20%	14,000 <sup>2</sup> in commercial areas	19.4%
increase residential and commercial canopy cover	24%	20%	29,000 (= 15,000 residential + 14,000 commercial)	20.5%



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<sup>1</sup> Assumes trees have a canopy diameter of 22.5 feet, the estimated average size of residential trees in Sunnyvale.

<sup>2</sup> Assumes trees have a canopy diameter of 24 feet, the estimated average size of commercial trees in Sunnyvale.

Commercial and industrial areas occupy about 28.5% of Sunnyvale's land area. Canopy cover within these land uses is relatively low (15.5%, Table 3-1) because much of the land area is covered by large buildings and extensive parking lots. Many parking lots had little or no tree canopy (*figure 3-10*), whereas others had much higher levels of canopy cover. The results show that parking lot canopy cover can be increased substantially by using good tree selection and adequate planting designs (*figure 3-10*).

Increasing canopy cover in commercial areas would require both replanting vacant planting spaces in parking lots and retrofitting parking lots to create areas for planting additional trees. Because limited rooting space constrains tree growth in parking lots, designs that provide greater rooting volume should be used in both new construction and retrofitting. Planting parking lot trees in long strips or swales rather than in small pavement cutouts allow trees to grow larger and provide greater canopy cover. The use of pervious pavement near trees, possibly in combination with structural soils, would also improve conditions for root growth, allowing trees to grow larger.

By modifying parking lots to accommodate more and larger trees, it should be possible to increase canopy cover in commercial and industrial zonings to 20%. This would require planting about 14,000 additional trees, or about one new tree per 11,000 square ft. of commercial property. Increasing canopy cover in commercial areas to 20% in combination with an increase in residential canopy cover to 24% would increase citywide canopy cover to about 20.5% (Table 3-1), or about 111% of the current estimated canopy cover. Most of the approximately 29,000 additional trees would be planted on private lands, although replanting the several thousand vacant City street tree planting sites (see section 3.3.2) would help contribute to reaching this goal.

Increasing tree canopy cover in schools, city parks, and other city-owned facilities would also help increase citywide tree canopy cover. However, because these properties make up a relatively small proportion of the city's area, increasing canopy on these lands would have a lower impact on citywide canopy cover. In addition, large open areas including playing fields and water treatment facilities near the bay are not candidates for tree planting.

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**Figure 3-10.** Tree cover in north Sunnyvale commercial areas with large parking lots. Canopy cover within the white square in top photo was approximately 29%. Canopy cover within the square in the bottom photo is less than 1%. The two sites shown are less than a mile apart.

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White square in each photo represents 14 acres. Images: Google Earth, image date 20 Aug 2010.

### 3.3.2 City maintained street trees

#### Key Findings

- The Street Tree Inventory contains 41,357 inventoried tree planting spaces along streets and in medians; about 11% of these spaces were vacant in January 2013.
- City street trees are predominantly broadleaf (hardwood) species (91%). Conifers (8%) and palms (1%) account for the balance of city street trees.
- Street trees are extremely diverse with over 190 different species represented.
- The three most common city street trees are Southern magnolia (13% of total inventory), American sweetgum (10%), and Chinese pistache (8%).
- Street Tree Services has discontinued planting some species, e.g., American sweetgum, due to various problems associated with them, and has increased the use of other species.
- City street trees are primarily species that are medium- to large- statured at maturity, and a large percentage has reached mature size.
- Large-statured street trees are especially important contributors to city canopy cover and overall tree-related benefits, but these trees need to be maintained properly to maximize their useful life.
- Because many of the current large canopied street trees were planted during Sunnyvale's postwar development era, an increasing number of these trees will be reaching the end of their useful life in the coming decades. Maintaining tree canopy cover will require an active replanting program.
- Sunnyvale derives a net financial benefit from the funds it invests in maintaining its street trees. These tree resources and the benefits they provide will be at risk if the City fails to provide for their maintenance.
- Damage to roots of City Street trees has been minimized by the joint administration of Street Tree Services and Concrete Maintenance. Recent administrative separation of these programs will require new mechanisms to prevent costly damage to tree resources. A "call before you dig" program should be instituted that would apply to excavation or hardscape removal near street trees. This should apply to work performed by the city, businesses, or private landowners.

#### City-maintained street trees

The Street Tree Inventory maintained by Street Tree Services lists 41,357 tree planting spaces in the public right-of-way (ROW) along streets and in medians. As of January 2013, the inventory listed 36,898 city street trees in these spaces. Street Tree Services had complete responsibility for

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maintaining city street trees until a recent (July 2010) realignment that shifted the responsibility for boulevard median trees to the Parks Division. Median trees that were too tall to prune from the ground were still pruned by Street Tree Services under this arrangement. These 1,164 median trees are included in the overall analyses of city-maintained street trees below. A tabulation of all species in the inventory is presented in Appendix 6.3.

### **Vacant planting sites**

Eleven percent of the planting spaces (approximately 4,430 spaces) in the Street Tree Inventory were listed as vacant in January 2013, but not all of these listed sites are plantable. Notes for some of these records indicate that trees could not be planted due to conflicts with signs, lights, or other infrastructure. Some other sites were already overtopped by nearby trees. In some cases, adjacent property owners refused to have trees planted in vacant sites.

About 650 of the vacant sites listed in the inventory were in planting sites that were no more than 2.5 ft. wide. These highly constrained planting sites can only support small trees and would not be a high priority for replanting due to maintenance issues. In some instances where the parkway planting site is very small, the adjacent homeowner has agreed to have the city street tree planted in their front yard instead of in the narrow parkway strip. These front lawn trees are dedicated street trees.

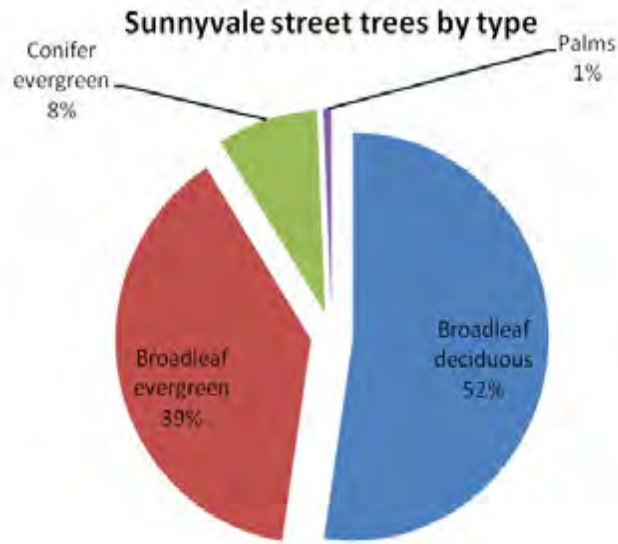
Fifty-four percent of vacant sites are listed as open planting sites, which are sites on the yard or landscape side of a monolithic sidewalk. Most of these sites can support medium or large trees and typically would be high-priority sites for replanting. Street Tree Services improves planting sites whenever legally possible.

### **Species diversity**

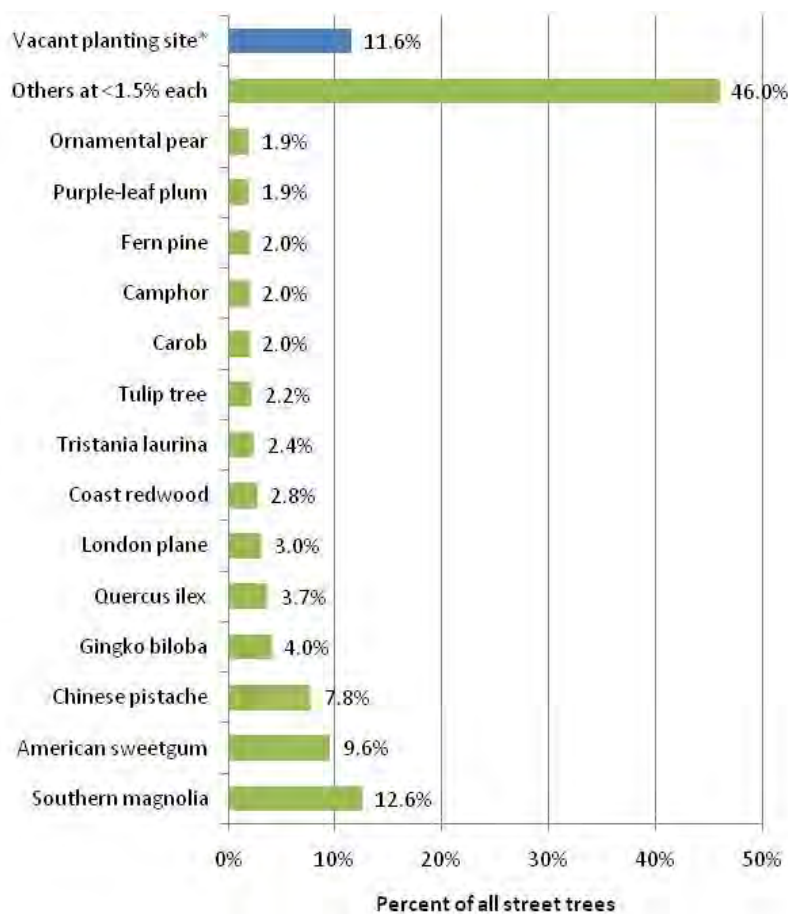
Slightly more than half of the city-managed street trees are deciduous broadleaf (i.e., hardwood) trees. Most of the remaining trees are evergreen broadleaf trees (*figure 3-11*). The species composition of the street tree population is remarkably diverse. Sunnyvale's street tree inventory includes over 190 tree species. Only Southern Magnolia, American sweetgum, and Chinese pistache are present at more than 5% of the overall street tree population (*figure 3-12*). Maintaining a diverse tree population can reduce risks associated with introduced pests and diseases.



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**Figure 3-11.** Sunnyvale street trees by type (source: Street Tree Inventory Jan 2010 and i-Tree).



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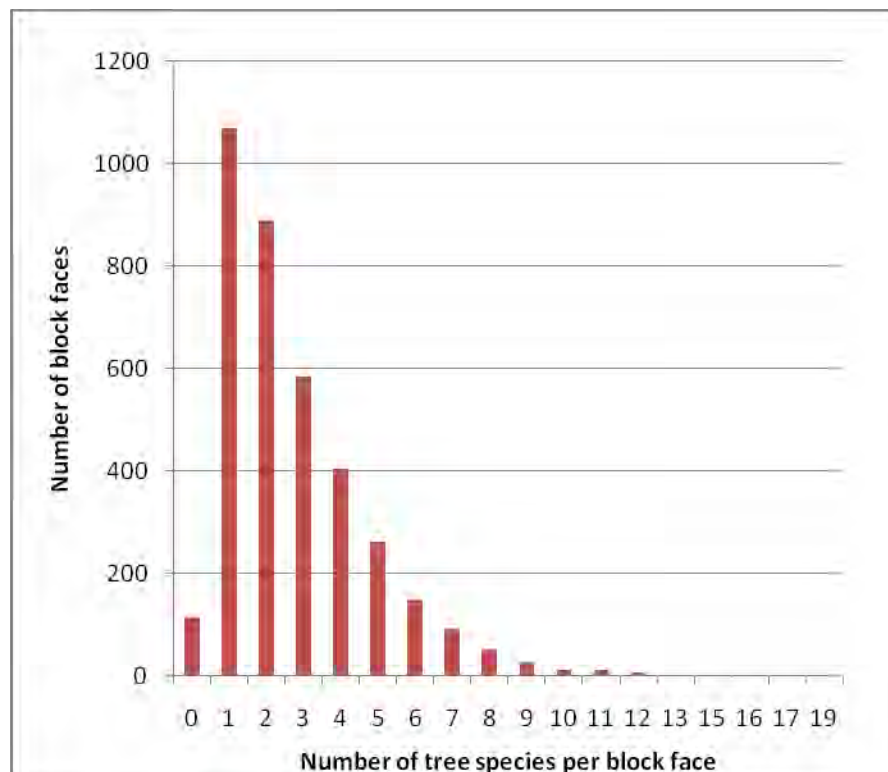
**Figure 3-12.** Species mix of the city-managed street trees (source: City of Sunnyvale street tree inventory, Jan 2010).

\*Vacant planting sites based on 41,357 inventoried planting sites.

Although the street tree population is diverse on a citywide basis, plantings along individual blocks typically utilize a relatively small number of species to provide a uniform appearance. We queried the tree inventory to develop a list of the most common street trees along 3,688 individual block face street segments (Appendix 6.6, Street tree species composition by block face, page 97).

The mean number of trees per block face was 10.3 and half of the block faces had seven or fewer City street trees. Most blocks (53%) have no more than two street tree species, although about 10% had more than five species represented (*figure 3-13*). The maximum number of species per block face was 19. The number of species per block face generally tends to increase with the number of trees on the block face (regression line  $R^2=0.37$ ,  $p<0.0001$ ). For example, the block face with 19 species had 55 trees. However, several of the block faces with the largest numbers of trees have low diversity. On the block face with the greatest number of trees (Caribbean Dr., from Mathilda to Borregas), 176 of the 179 trees were blue gum eucalyptus. These eucalyptus trees line the bay side of the street, near the wastewater treatment facility.

Even on blocks with relatively high numbers of species present, one or two species were usually dominant, making up more than 60% of the block face trees. Southern Magnolia was the dominant species on 13.8% of block faces, followed by American sweetgum (9.9% of block faces), and Chinese pistache (9.3% of block faces). As shown in Figure 3-13, 115 block faces (3%) showed only vacant planting spaces in the inventory.



**Figure 3-13.** Number of city street tree species present along individual block faces (street segment between two intersections) based on data in the City of Sunnyvale street tree inventory (Jan 2010).

### Changes in species selection

In any urban forest, some tree species may develop specific problems over time. Trees may perform poorly or have short life due to incompatibility with local growing conditions, pest or disease problems, a propensity to fail. Some species may also be more likely to damage sidewalks, especially when planted in narrow strips. Experience is the best indicator of how trees perform under local conditions; trees that are successful in some cities may perform poorly in others due to different soils, climate, or other conditions.

Due to various problems that have developed over time, Street Tree Services has stopped using some species that were planted along streets in the past (Appendix 6.5). Analysis of inventory data indicates that about 75 species or varieties of trees that are present in the city ROW are being reduced in numbers. These trees are either being phased out entirely or are gradually being eliminated from some planting situations in which they cause problems. At the same time, Street Tree Service is increasing its use of 22 species or varieties (Appendix 6.4). Some of these represent improved varieties of species currently in use, such as disease-resistant varieties. Others represent species that have performed well in limited plantings and are being used to replace more problematic species.

### American Sweetgum - *Liquidambar styraciflua*

American sweetgum, or Liquidambar, is one of the more prominent trees that is no longer planted in Sunnyvale. Sweetgum is one of the most common street trees in Sunnyvale and many other California cities. It has been widely planted due to its relatively fast growth and tolerance of varied soil conditions. However, this species commonly produces roots at or near the soil surface that can cause hardscape damage. Furthermore, sweetgum produces its seed in a hard, spiny seed ball that can pose a nuisance, especially in streetscapes. Great numbers of these seed balls drop in late winter and can pose a tripping hazard if they are not regularly removed during the drop period. In addition, many of the older sweetgum trees lack a central leader. These trees are more prone to branch failure and need more frequent pruning to reduce the likelihood of failure.

In response to citizen complaints, the City council began allowing removal of sweetgums from the city ROW in 2005. Property owners can obtain a permit to remove sweetgum trees and replant with replacement trees. The City initially provided some funding to remove and replace these trees, but its funding was suspended for economic reasons until 2013. Limited public funding was reinstated in May 2013. Criteria are in place to minimize the rate of canopy loss associated with replacement of this common tree. No more than 10% of the sweetgums on a block may be removed and two adjacent sweetgums cannot be removed at the same time. As an alternative to removal, the City allows citizens to spray trees with ethephon (Florel®) to suppress production of seed balls.

About 100 sweetgum street trees have been removed by property owners under the permit program. Prior to FY 2009-10, property owners could pay to have Street Tree Services to do the

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work, which includes tree removal, stump grinding, and planting of a replacement tree (\$1200). The work was typically done by City crews because it is logistically difficult to line up the multiple contractors needed to do the entire job. This service was discontinued as the result of staff reductions related to reduced City revenues. As of October 2013 public funded sweetgum removals are being performed by contractor.

Street Tree Services is reducing its sweetgum inventory. New plantings of this species are limited to seedless varieties. The variety ‘Rotundiloba’ is seedless and variety ‘Cherokee’ reportedly sets few or no seeds. Also deciduous oak species Shumard, Scarlet and Red oak have performed well as sweetgum replacements.

### **Tuliptree scale**

Tuliptree (*Liriodendron tulipifera*) constituted about 2% of the City street trees in December 2010 (Appendix 6.3). An important pest of this tree is tuliptree scale (*Toumeyella liriodendri*), a large soft scale insect. This insect pest is widespread in the eastern US, and has been spreading throughout the San Francisco Bay Area since the late 1990s. These scales infest the twigs of tuliptrees and some other species. They feed on tree sap, and in the process produce large amounts of honeydew, a sticky liquid that drops from the insects and coats surfaces under the trees. Feeding by the scale can also cause major and minor limbs to die back, which increases pruning needs.

In April 2011, staff identified nearly 200 sites that were affected by tulip tree scale. The City hired a professional tree care company to apply a soil treatment to control the scale. In 2012 and 2013 additional Tuliptrees were treated to control tuliptree scale. The treatments were started to protect the trees from long-term structural damage. Due in large part to this pest problem, tuliptree is on the list of street tree species that are being reduced in numbers (Appendix 6.5).

### **Southern Magnolia – *Magnolia grandiflora***

Southern Magnolia is the most numerous single tree species in the Sunnyvale street tree inventory. As of October 2013 there are 4,612 magnolias on Sunnyvale streets representing 11% of the street tree inventory. Southern magnolia is a native of the southern US and thus is adapted to abundant summer water. Also in its native environment is very shallow rooted with extensive surface roots. Southern magnolia is not adapted to Sunnyvale’s Mediterranean climate and thus requires summer irrigation to perform well. The aggressive surface roots cause significant infrastructure damage. Southern magnolia is being reduced in number with alternative evergreen trees species.

### **Size of city maintained street trees**

The municipal street tree population is composed primarily of medium- to large-statured trees. Estimated canopy size at maturity for the current city street tree population is:

32% large trees (generally more than 40 ft tall at maturity)

53% medium trees (generally 20-40 ft tall at maturity)

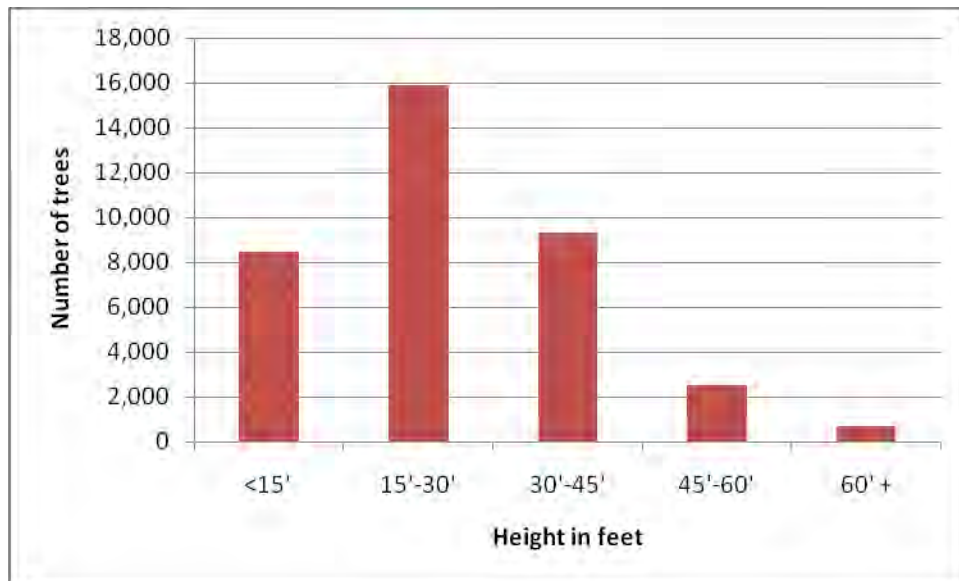
15% small trees (generally less than 20 ft tall at maturity).

Tree canopy size is important because many of the benefits provided by trees are proportional to canopy size. Trees with large canopies provide substantially greater benefits than small trees.



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Based on January 2010 inventory data, about 34% of all city street trees are over 30 feet tall (*figure 3-14*). These include trees of 128 different species or varieties. However, nine species account for the majority (65%) of trees over 30 ft tall (Table 3-2).



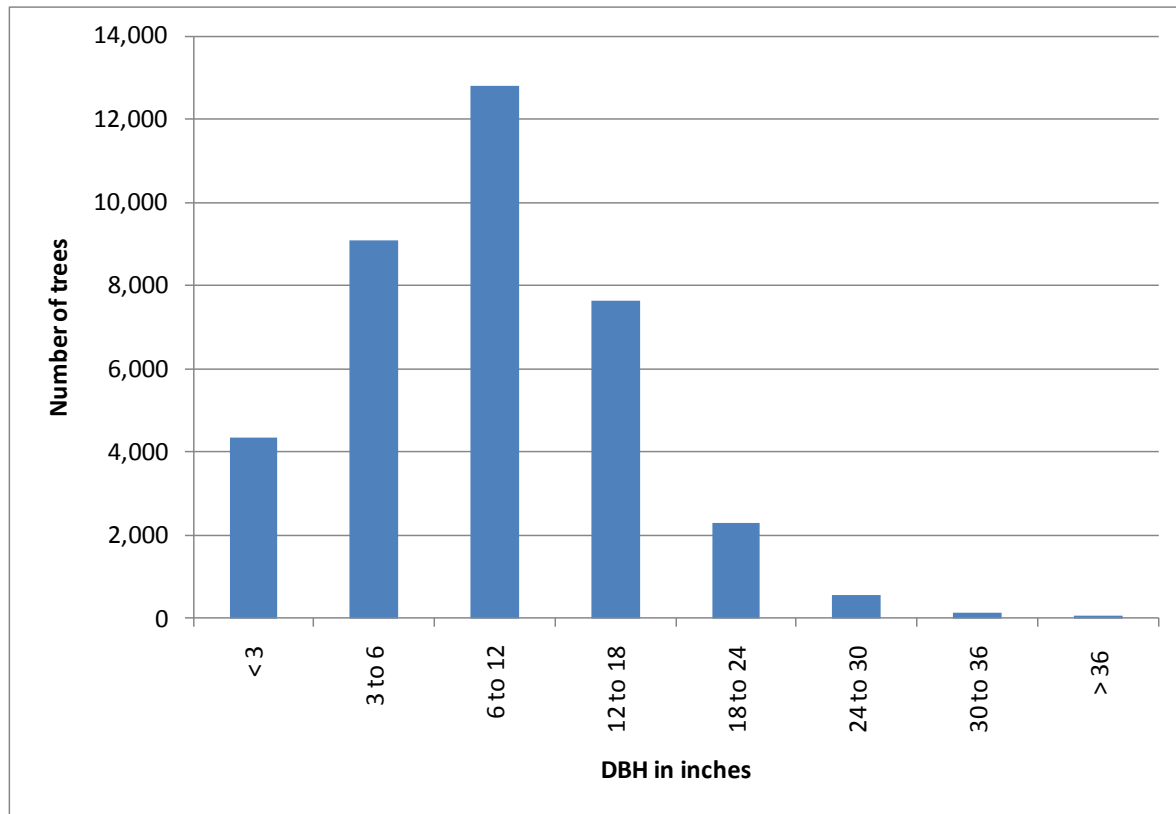
**Figure 3-14.** Height distribution of Sunnyvale street trees (source Street Tree Inventory Jan 2010).

**Table 3-2.** Tallest trees in the municipal street tree inventory (Jan 2010) by species.

Species	Number over 30 ft. tall	Percent of tall (>30 ft) trees
American sweetgum	2713	22%
Southern magnolia	1372	11%
Chinese pistache	683	5%
Coast redwood	663	5%
Holly oak	661	5%
Tulip tree	565	5%
London plane	510	4%
Maidenhair tree	507	4%
Shamel ash	417	3%
<b>Total</b>	<b>8091</b>	<b>65%</b>

Tree diameter (measured at 4.5 ft, known as diameter at breast height or DBH) data from the inventory correlates well with the tree height data. About 29% of the trees in the inventory have a DBH of 12 inches or more (*figure 3-15*). Nine species account for 62% of these larger trees (Table 3-3). The top nine species by trunk diameter includes all of the species shown in Table 3-2 except London plane. Carob ranks in the top nine for trunk diameter, but is not in the top nine for height.

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**Figure 3-15.** Diameter (DBH) distribution of Sunnyvale street trees (source Street Tree Inventory, Jan 2010).

**Table 3-3.** Largest diameter trees in the municipal street tree inventory (Jan 2010) by species.

Level	Number with DBH of 12 inches or more	Percent of large diameter ( $\geq 12''$ ) trees
Sweetgum	1598	15%
Southern magnolia	1559	15%
Holly oak	733	7%
Chinese pistache	638	6%
Carob	522	5%
Coast redwood	484	4%
Tulip tree	373	4%
Shamel ash	372	3%
Maidenhair tree	335	3%
<b>Total</b>	<b>6614</b>	<b>62%</b>

To estimate the percentage of street trees that are near their mature size, we cross-tabulated inventory height and DBH data against tree size classes at maturity. This analysis indicates that

at least one third (about 12,500 trees) of existing city street trees are currently below their mature size. This suggests that a wide majority of existing city street trees are close to their potential mature size. The preponderance of relatively large-statured, mature trees in the street tree population accounts for the large contribution that street trees make to the City's overall canopy cover. A challenge for the future will be maintaining street tree canopy cover as increasing numbers of these mature trees reach the end of their useful life.

**Damage to city street trees**

Given both the overall values provided by City Street trees and the City's investment in these resources, it is important to prevent avoidable damage to these trees. Damage can result in the premature loss of trees, with associated loss of benefits. Additional costs are incurred when damaged trees need to be prematurely removed and replaced.

Soil excavation that damages tree roots is one of the most common causes of avoidable damage in urban tree populations. Damage to roots of City street trees has been minimized by the joint administration of Street Tree Services and Concrete Maintenance. Sidewalk and curb repairs near trees, if conducted without proper care, have the potential to severely affect tree health and create hazardous situations that may lead to tree failure. A recent reorganization (May 2011) of Public Works has administratively separated Street Tree Services and Concrete Maintenance programs. Without close coordination of these programs, costly damage to City street tree resources could become more common.

In addition, no mechanism currently exists to identify other public and private construction activities near street trees that have the potential to affect tree root systems. One possibility would be to institute a "call before you dig" program similar to, and perhaps coordinated with, the Underground Service Alert (USA) program. Under such a program, Street Tree Services would receive notification when excavation, trenching, pavement removal, or other activities are scheduled to occur within a given radius of a City street tree. Street Tree Services would assess the situation and specify procedures to prevent negative impacts to tree roots. City inspectors would enforce specified tree root protection measures.

**3.3.3. Park trees****Key Findings**

- The Parks Division manages about 5,800 trees in parks and around public facilities in Sunnyvale.
- As of July 2010, responsibility for the 1,164 trees in street medians was transferred to Parks.
- Most park and facility trees are medium-statured to large-statured at maturity.
- Overall park and facility species diversity is high, but coast redwood is present at high levels (28%) indicating that it is overused in parks and facilities plantings.
- Expanded use of native species including locally native should be considered where appropriate.

Sunnyvale has 21 city parks that offer a variety of recreational activities. The parks are categorized as mini, neighborhood or community parks depending upon their size and have many amenities including tennis courts and basketball courts, sports fields, playgrounds, picnic areas and landscaping including trees. The Neighborhood Parks and Open Space program in the Parks Division maintains parks, public grounds, regional open space and the open space at various school sites through joint-use agreements with school districts. In addition, the Median

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Boulevards program in Public Works was absorbed by this program in 2010. These trees are included in the above section on street trees.

According to the tree inventory maintained by the Parks Division, there were 5,824 trees planted in parks and around other facilities as of the 1999/2000 inventory. The Street Tree inventory lists 1,164 trees on street medians.

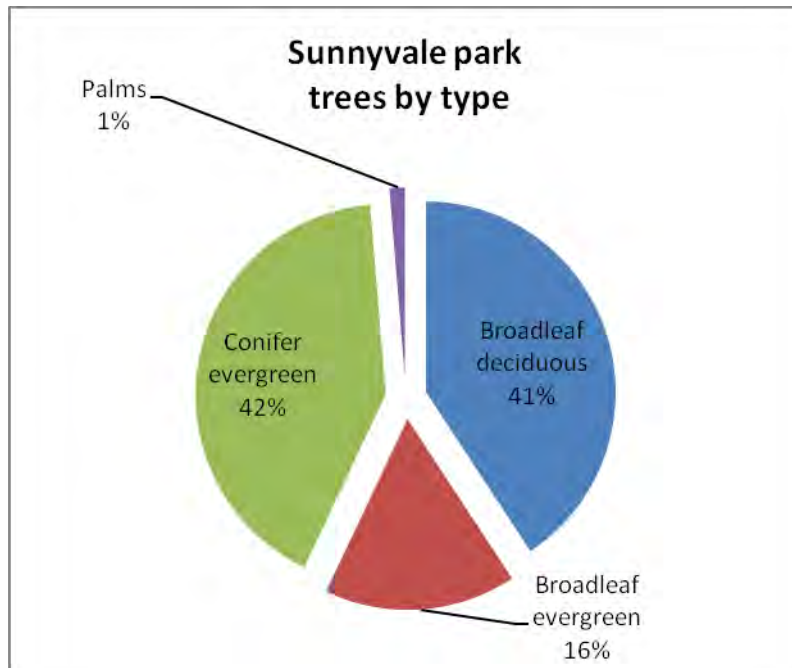
Most park and facilities trees are evergreen conifers and broadleaf trees (*figure 3-16*). There is a higher percentage of conifers among parks and facilities trees than among street trees (*figure 3-11*). This is in large part due to extensive plantings of coast redwood, as noted below. The most widely planted broadleaf tree in parks and facilities is Chinese pistache (7.8% of all trees), which is also one of the most common street trees.

Approximately 135 different tree species are planted in City parks and other facilities (Table 3-8). Plantings at most parks and facilities are diverse, but some locations have only a few tree species. In many locations, most of the trees are of only two or three species. Although overall species diversity is relatively high, coast redwood (*Sequoia sempervirens*) accounts for 28% of all trees in the inventory. This is a high percentage for a single species, which suggests that coast redwood has been overused to some degree.

Sunnyvale is not within the natural range of coast redwood. Coast redwood is relatively sensitive to salinity and requires moderate to high levels of irrigation to remain in good condition in Sunnyvale's climate. Although coast redwoods grow quickly in a variety of sites when young, they can outgrow their rooting space and become chronically water stressed. This accounts for the poor condition of redwoods seen in some areas (e.g., smaller planting beds near City Hall).

In contrast to coast redwood, coast live oak and valley oak are trees that are native to Sunnyvale and are better adapted to local weather and soil conditions. However, these native oaks make up less than 2% of all trees in the inventory.

We used the tree size classifications from i-Tree's software package to determine the potential size distribution of these trees at maturity. This analysis shows that most trees in parks and city facilities are large-(55%) or medium-statured (32%) at maturity. Only about 9% of the trees in parks are small-statured trees, but small trees are more common (about 13% of all trees) around city facilities and schools maintained by the Parks Division. Judging from aerial photos, many of the trees in these sites are at or near their mature size, but the Park Division tree inventory did not include current tree size data.



**Figure 3-16.** Sunnyvale park and facility trees by type.

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**Table 3-8.** Summary of trees in the Parks Division 1999/2000 tree inventory.

<b>Site</b>	<b>Number of species</b>	<b>Number of trees</b>	<b>Acres</b>
Bishop School	3	28	3.2
Braly	10	114	5.6
Braly School	4	14	4.0
Butcher's corner	4	33	.7
Cannery	2	23	0.7
Cherry Chase School	4	60	5.2
Civic Center campus	22	531	13.4
Columbia Park/School	13	186	14.7
Community Center	25	428	33.1
Cumberland School	6	72	4.9
Cupertino Middle School	5	250	12.9
De Anza	21	220	9.4
De Anza School	5	12	5.8
Ellis School	8	51	3.6
Encinal	11	120	4.2
Fair Oaks	28	198	15.3
Fairwood Park	3	67	1.9
Fairwood School	7	129	4.6
Greenwood Manor	3	11	0.4
Hollenbeck School	8	88	5.0
Lakewood Park	21	213	10.7
Lakewood School	7	34	4.6
Las Palmas	27	489	24.3
Murphy	22	192	5.4
Nimitz School	8	84	
Orchard Gardens	5	27	2.6
Ortega	26	365	18
Panama	11	69	4.9
Ponderosa	21	224	9.1
Ponderosa School	3	24	4.0
Raynor	27	285	14.7
San Antonio	8	110	5.8
San Miguel School	4	71	3.0
Serra	34	507	11.5
Serra School	7	26	5.8
Sunnyvale Middle School	10	122	15.1
Vargas School	3	51	3.5
Washington	31	244	11.9
West Valley School	1	24	4.6

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**3.3.4. Heritage trees**

Trees may be designated as heritage landmarks following the provisions of Chapter 19.96. Heritage Preservation, in the Sunnyvale municipal code (see section starting on page 79). As of January 2009, trees at 14 addresses were listed in the Heritage Resources Inventory (Table 3-9). Trees at one additional address were listed in the Local Landmark inventory (Table 3-9).

**Table 3-9.** Trees protected by the Heritage Preservation Chapter of Sunnyvale Municipal code as of January 2009.

<b>Species</b>	<b>Street</b>	<b>Address</b>
Coast Live Oak	Bernardo Avenue	1650 S. Bernardo
Coast Live Oak	Calgary Drive	1748 Calgary Drive
Palm Trees	California Avenue	130 E. California (Site of Murphy Homestead)
Dawn Redwood	Dartshire Way	814 Dartshire
American Chestnut	Hendy Avenue	501 E. Hendy
Sycamores	Hollenbeck Avenue	880-882 Hollenbeck (Bocks Ranch)
Valley Oak	Ives Terrace	
Coast Redwood	Manzanita Avenue	755 Manzanita
Coast Redwood	Pastoria Avenue	467 S. Pastoria
Coast Live Oaks	Picasso Terrace	674 Picasso
California Live Oak	Remington Drive	550 E. Remington (Community Center)
Coast Live Oak	Sheraton Drive	696 Sheraton Drive
Monkey Puzzle	Sunnyvale Avenue	545 S. Sunnyvale
Variety Tree Grove	Town Center Lane	2502 Town Center Lane (Town Center Trees)
Coast Live Oak	Tiffany Court	679 Tiffany Court
<b>Removed from the inventory</b>		
Valley oak	W. El Camino Real	1111 W. El Camino Real
Casa Delmas Magnolia	Heatherstone Avenue	960 Heatherstone
California Black Walnut	Murphy Avenue	529 S. Murphy
<b>City of Sunnyvale local landmarks adopted in 1979</b>		
Vargas Redwood Trees <sup>1</sup>	Carson Drive	1004 Carson Drive

<sup>1</sup>These Coast Redwoods were planted in 1900 by Manuel Vargas, "Mr. Sunnyvale." The saplings were gathered during a family outing to Pescadero, and planted at the entrance to the Vargas family home.

Source: <http://sunnyvale.ca.gov/NR/rdonlyres/CD341FEE-80EF-42BE-8009-F1370455CB9D/0/HeritageResourcesandLandmarkAlterationFINAL.pdf>

Dated 1/09 for Heritage trees and 7/07 for Landmark trees.



## **4. Status of Current Tree Management**

### **Key Findings**

- Privately managed trees account for about 80% of the tree canopy citywide, but only 50% of trees along streets.
- Street Tree Services cares for 88% of city-managed trees.
- Starting in the 1980s, Street Tree Services has had a well-organized management program with clear objectives and quality measures.
- Until 2010, most pruning of city street trees was done on a planned program basis.
- Due to budget reductions, as of FY 2010-11 Street Tree Services staffing levels have been reduced to the level that it is no longer possible to follow a scheduled pruning cycle.
- As of July 2010, the Urban Landscape Manager implemented a priority pruning plan. Trees are prioritized on an immediate need/hazard basis and pruning is scheduled weekly by priority.
- Although street tree planting outpaced tree removal (FY 2008-09 data), plantable vacant street tree sites are likely to remain empty for more than a decade at current planting and removal rates. Parks planted more trees than they removed in FY 2009-10.
- As of January 2013 Sunnyvale has contracted with West Coast Arborists to prune city street trees on a block grid basis. Minimum contract pruning is 5,000 trees per year. Between city staff and contract staff approximately 7,000 street trees are pruned each year.
- As of July 2013 tree removals and new tree planting are done by contract.
- Management of trees by the Parks Division relies primarily on frequent visual inspections by city staff.
- Parks uses contractors or contracts with Street Tree Services for pruning on larger trees (above 14 ft. or beyond pole saw range) and for removal of trees above 20 ft. in height.
- The tree inventory maintained by Parks is a summary of species by location and cannot be used for scheduling or tracking maintenance.

### **4.1. Urban forest management responsibilities**

In Sunnyvale, as in most cities, private landowners manage most of the trees in the urban forest. We estimate that privately managed trees account for about 80% of the tree canopy citywide.

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Residential property owners, including apartment complex owners, manage about two thirds of these private trees. Commercial and industrial property owners manage the remaining trees.

The City of Sunnyvale is responsible for most of the city's remaining canopy cover (about 20% of total). Most of these trees occur in highly visible, high-use areas. CalTrans manages trees along state highways that pass through the City of Sunnyvale, which make up a small fraction of the trees managed by public agencies. Street Tree Services manages trees within the ROW along City streets, which account for about 88% of the trees under municipal management. The Parks Division manages the remaining municipal trees, as shown in Table 3-7. If the City fails to manage its portion of the urban forest effectively, it cannot provide the leadership and direction needed to promote care of the urban forest on private properties.

Table 4-1 below summarizes which entities had responsibility for maintaining the various components of Sunnyvale's urban forest as of July 2010. Further reorganization of the units responsible for municipal tree care occurred in May 2011 (Table 4-1a). Although almost all maintenance of private trees is the responsibility of landowners, some activities are regulated by the City through the Community Development Department.

**Table 4-1.** Entities responsible for tree care-related activities on public and private lands in Sunnyvale as of July 2010. Regulatory / oversight relationships are shown in *italics*.

Activities	Trees on public lands			Trees on private lands	
	ROW*	Parks	Other facilities	Residential	Commercial
<b>Planting</b>					
new sites - <i>planting requirements</i>	STS, Parks*	Parks	Parks	owner/developer <i>Community Dev.</i>	owner/developer <i>Community Dev.</i>
replacement plantings - <i>replacement requirements</i>	STS, Parks*	Parks	Parks	owner	owner <i>Community Dev.</i>
<b>Pruning</b>					
scheduled	STS, Parks*	Parks	Parks	owner	owner
storm/emergency	STS	Parks	Parks	owner	owner
utility clearance (electrical transmission and distribution lines)	PG&E	PG&E	PG&E	PG&E	PG&E
street safety clearance (visibility and physical clearance)	STS, Parks*	Parks	Streets	STS (non-inventoried street trees)	STS (non-inventoried street trees)
<b>Tree removal</b>					
Hazard & dead/dying trees - <i>Permits - protected trees</i>	STS, Parks*	Parks	Parks	owner <i>Community Dev.</i>	owner <i>Community Dev.</i>
Clearance (for flood control, traffic visibility, fire safety, etc.) - <i>Permits - protected trees</i>	STS, Parks*	Parks	Parks	owner <i>Community Dev.</i>	owner <i>Community Dev.</i>
Other reasons - <i>Permits - protected trees</i>	STS, Parks*	Parks	Parks	owner <i>Community Dev.</i>	owner <i>Community Dev.</i>
<b>Root system work</b>					
Sidewalk/curb repair and replacement	CM			--	--
Excavation for utilities - <i>Permits</i>	contractors <i>CE</i>			contractors	contractors
Construction	contractors			owner/developer	owner/developer

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- Permits	STS			Community Dev.	Community Dev.
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STS=Street Tree Services; CM= Concrete Maintenance; CE = City Engineer

\* As of July 2010, management of street trees on medians was transferred to Parks. STS performs emergency work for median trees and contractors provide all planned work that can't be done from the ground. As of July 2011 STS was moved into the Parks Division and CM was moved to PW Street Operations.

**Table 4-1a.** Recent reorganization affecting city departments that care for trees.

Unit	Department	
	July 2010	May 2011
Street Tree Services	Public works	Parks Division , now within Public Works
Concrete Maintenance	Public works	Street Operations, within Public Works Operations Division

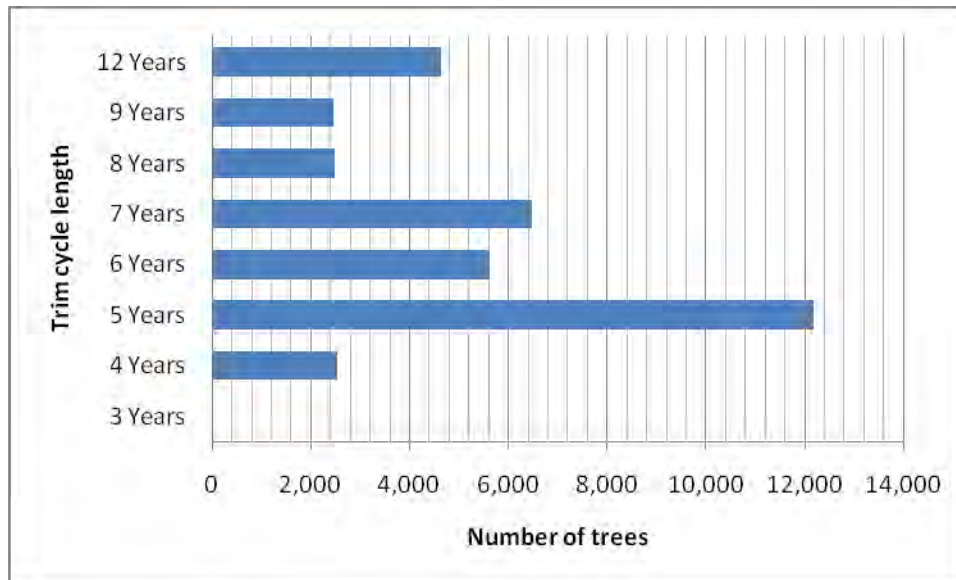
## 4.2. Street tree management by Street Tree Services

Starting in the 1980s, Street Tree Services has had a well-organized management program with clear objectives and quality measures (Appendix 6.7 page **Error! Bookmark not defined.**). Recent budget and staffing cuts have reduced the ability of the Urban Landscape Manager to meet these objectives and quality measures.

### 4.2.1. Pruning

Until 2010, most pruning of city street trees was done on a planned program basis. Each tree in the inventory was assigned to a pruning cycle. In the early 1980s through 2002, each tree was checked on a four year interval. Beginning with the 2003-2004 fiscal year, the pruning cycle was expanded to a 5.5-year cycle to reduce costs. With further budget reductions and staff hiring freezes, the pruning cycle was expanded for some trees and the average trim cycle length was about 7 years, with a median trim cycle length of about 6 years. Figure 4-1 shows the distribution of trees by trim cycle before the 2010-11 budget cutbacks.

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**Figure 4-1.** Trim cycle lengths shown in the Street Tree Inventory. Only 25 trees were assigned to the 3 year pruning cycle, so the bar is too short to show in the graph.

Operating under this system, Street Tree Services performed scheduled structural pruning on 5,152 trees in larger size classes in FY 2008-09 (Table 4-2). An additional 1,259 young trees had structural pruning. Altogether, about 17% of the street trees received scheduled maintenance in FY 2008-09. Emergency pruning was conducted on 409 trees, or approximately 1% of the street trees, due to broken branches. In addition, 52 non-inventoried trees were pruned for safety reasons identified by traffic engineering, such as line-of-site improvements at intersections or street light clearance.

Due to budget reductions, as of FY 2010-11 staffing levels were reduced to a level that it was no longer possible to follow a scheduled pruning cycle. As of July 2010, the Urban Landscape Manager implemented a priority pruning plan. Trees are prioritized according to immediate need/hazard and pruning is scheduled by priority. The primary tree species that warranted priority pruning in 2010 were Chinese Pistache, Liquidambar, and Carob.

City residents made service requests for specific street trees for a wide variety of tree care related issues, but most requests for pruning were denied. Street Tree Services received 2,036 requests for service in FY 2008-09, and pruned 148 trees in response to these requests. Prior to staff reductions that occurred in FY 2003-04, Street Tree Services performed more pruning related to service requests than it does at present.

**Table 4-2.** Pruning by Street Tree Services of trees in the ROW for fiscal year ended June 2009.

Unit	Units completed	Per unit cost	Total
tree pruned - service request	148	162.34	\$24,026
tree pruned - limb down on duty hrs.	353	76.96	\$27,167
tree pruned - limb down off duty hrs.	56	279.81	\$15,669
tree structure pruning <15 ft. tall	893	28.71	\$25,638

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tree structure pruning 15-30 ft. tall	1984	72.06	\$142,967
tree structure pruning 30-60 ft. tall	2193	153.86	\$337,415
tree structure pruning >60 ft. tall	82	268.06	\$21,981
non-inventoried tree safety clearance pruned	52	120.09	\$6,245
equipment maintenance [costs associated with pruning]			\$65,536
<b>Total - pruning activities</b>	<b>5761</b>	<b>115.72</b>	<b>\$666,644</b>

Street Tree Services follows International Society of Arboriculture Best Management Practices for pruning, which is based on the ANSI A-300 Pruning Standards. Most service requests for pruning fall outside of these standards. Most trees that are pruned as a result of service requests are trees that have an elevated likelihood of limb failure if not pruned before the next scheduled pruning.

In addition to pruning of mature trees, Street Tree Services has a program to prune young trees within the first three years from planting to develop their permanent structure conforming to ISA structural integrity standards. This structural training (Table 4-3) is important for developing good primary structure in young trees that reduces future pruning cost by avoiding weak or problematic branch structure.

#### 4.2.2. Tree removal and planting

In FY 2008-09, 363 city street trees were removed. Street Tree Services most commonly removes street trees because an imminent hazard has been identified. Specific reasons for removal include:

- Catastrophic limb failure has occurred and the remaining portion of the tree poses a hazard
- Significant decay in trunk/roots
- Dead or seriously declining tree
- Declining performance of tree beneath power lines – City cooperates with PG&E for removal
- Sweetgum removal - by property owner expense + limited annual city funding

Branches and waste wood from removals and pruning operations is ground to chips if possible. Some chips may be used on site, but most waste material, including wood too large to be chipped with mobile chippers, is taken to the Sunnyvale Materials and Recovery Transfer (SMaRT) Station® for composting. Street Tree Services currently pays about \$1,300 per year for disposal of waste wood at this facility.

Street tree planting outpaced tree removal by 166 trees, with 529 trees planted in FY 2008-09 (Table 4-3). As of January 2010, the street tree inventory had at least plantable 2,200 empty sites, assuming that about half of the inventory's empty sites were priority planting sites (i.e., no serious limitations). If planting continued to outpace removal by 166 trees per year, it would take over 13 years to fill these priority planting sites.

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Newly planted trees typically require several years of irrigation until they become established. Where other sources of water are not available, new trees up to 2008-09 irrigated from a water truck for three years. Although the cost of the water is insignificant, irrigation via water truck delivery is relatively intensive in terms of labor and equipment costs. Street Tree Services has historically checked to see if adjacent property owners would provide irrigation. Beginning in FY 2009-10, Street Tree Services began a more formal campaign to have the adjacent property owners water newly planted trees. Starting in FY 2010-11, a written agreement to provide irrigation will be made between the owner and the City for all new street tree planting. For FY 2010-11, Tree Services has a small amount of funds set aside to water trees in locations where the adjacent property owner is unwilling to provide irrigation or does not have responsibility over the land where the tree is planted. As of 2012-13 funding for supplement street tree watering was eliminated. If the city cannot get a commitment from the adjacent property owner to irrigate newly planted trees then trees are not planted. Citizen volunteers under the oversight of a non-profit urban forestry organization could be utilized to monitor and water trees in such situations.

### Inspection of new plantings

Trees planted by city staff are inspected prior to planting. Circling roots are removed or pruned prior to planting. Trees with severe root deformations are rejected and not planted. At the time of structural training pruning, trees are inspected for growth and performance.

For city street trees planted by developers, Street Tree Services is supposed to be notified so that nursery stock can be inspected before it is planted. Street Tree Services also ensures that proper planting procedures are followed. However, at the height of the most recent construction boom, Street Tree Services has not able to inspect all developer plantings. In many cases, Street Tree Services was not notified about impending plantings. The Urban Landscape Manager believes that educating other City building inspectors about Street Tree Services' requirements would help boost compliance and improve timeliness of notification.

### Tree nursery

Street Tree Services maintains a small nursery facility that is used to hold trees obtained from commercial nurseries until they can be planted. Most trees are ordered in advance of fall/winter planting. Orders for nursery stock are scaled to match demand to the degree possible so that material does not need to be held in the nursery beyond the planting season. A drip irrigation system on a battery/solar controller is used to keep trees watered.

**Table 4-3.** Activities of Street Tree Services related to planting and removal of trees in the ROW for fiscal year ended June 2009.

Units	units completed	per unit cost	total
tree removed down to stump	363	305.86	\$111,027
contract stump ground	470	172.17	\$80,920
contract tree planting	459	168.93	\$77,539
tree planting by staff	70	105.4	\$7,378

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private tree removal permit application reviewed	442	60.49	\$26,737
project plan reviewed	16	302.84	\$4,845
tree watering	6497	6.54	\$42,490
young tree structural training	1259	15.53	\$19,552
maintain tree nursery	89.57	62.18	\$5,569
equip maintenance related to tree replacement	538	30.52	\$16,420
<b>Total - planting and removal activities</b>			<b>\$392,477</b>

#### 4.2.3. Other program activities

One of the program goals of Street Tree Services is to provide a high level of customer service to city residents and other City divisions. By responding to residents' service requests, Street Tree Services provides important community outreach as well as making use of information provided by residents to more quickly locate and address maintenance issues. Street Tree Services also assists the Risk and Insurance Division in evaluating claims against the City. As shown in Table 4-3, Street Tree Services also assists Community Development by reviewing project plans.

Street Tree Services also reviewed 442 private tree removal permit applications (Table 4-4). The Planning Division has the authority to issue permits for removals of private trees that are protected under the City's Tree Preservation ordinance. Street Tree Services advises the Planning Division relative to private tree removal requests, but does not approve or deny permit requests. The Planning Division approves about 90% of the submitted requests for tree removal. The number of tree removals that occur on private properties outside of the permit process is unknown.

**Table 4-4.** Other Street Tree Services program activities for fiscal year ended June 2009.

Units	units completed	per unit cost	total
respond and investigate a service request	2036	25.3	\$51,511
structural integrity survey	3	10.24	\$31
investigate claims from Risk and Insurance	24	47.74	\$1,146
<b>Total-other program activities</b>			<b>\$52,688</b>

#### Tree inventory maintenance

Street Tree Services uses the online internet-based version of Davey's TreeKeeper software to manage its tree inventory. The inventory database is maintained on computer servers belonging to Davey Tree. The Urban Landscape Manager administers access to the inventory. The fields in the inventory are shown in Table 4-4a.



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When the street tree program operated with a scheduled pruning cycles, the inventory could be used to schedule tree work. Due to budget cutbacks scheduled pruning was essentially eliminated until funding was restored in 2013 for contract tree care (primarily pruning) services. However, the inventory database is used to record what maintenance has been done on trees and provides information about the street tree population. The current contractor, West Coast Arborists, has their own tree inventory database, Arbor Access. All of Sunnyvale's the tree data in TreeKeeper was imported into Arbor Access. As of 2013 both systems are being used as staff become familiar with Arbor Access.

**Table 4-4a.** Fields in the Street Tree Inventory accessed Jan 2010.

Field name	Information	Notes
ID	A unique number for each planting site	Current range: 1 -41,358
Unique id	Same as ID	
Address	Street address of tree	
Suffix	X or x- indicates fictitious address	Used for trees on streets with no address
Street	Street name of tree address	
On_Str	Street on which tree is physically located	
From_Str	Cross street 1	
To_Str	Cross street 2	
Side	Location of tree relative to address parcel	Front, side, or median
Site	Planting site number if multiple trees at same address	
Spp	Species	“vacant” if empty planting space
DBH	DBH (inches) by size range	
HT	Height (ft) by size range	
Trunks	Number of trunks	Not current
MT	Maintenance	Various notes about maintenance
Tr_cycle	Trim cycle the tree is assigned to	
STK	Stake present yes or no	
Grow	Growing space available	Open for monolithic sidewalks, otherwise width (ft) of parkway strip
Curb	Distance to curb for trees outside of the right-of-way	
Staff	Mostly blank, apparently not used	
Inspect	Y/N, apparently not used	
Area	Tree management zone	1-7 (shown in figure 3-4)
Inv_Date	Date tree was added to the inventory	



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Inv_time	Not used	
Inspect_DT	Date of last inspection	
Inspect_TM	Time of last inspection in 24 hour time	
Notes	Notes about the tree	
Active		All records have “1”

Like any active database, the street tree inventory needs to be updated and maintained. In our analyses, we discovered a small number of data errors, including misassigned species and erroneous tree size data. The Urban Landscape Manager reported in January 2010 that updating of the inventory is backlogged due to a lack of staff resources. He was exploring the possibility of having community volunteers assist in maintaining the inventory.

The current tree inventory is based on street addresses and does not include actual geographic coordinates needed to display tree locations in a GIS. Georeferencing of the tree inventory would need to be performed to make the database GIS compatible. This would be a significant undertaking, but could be performed by trained volunteers largely by utilizing available aerial imagery and software (e.g., Google Earth). West Coast Arborist has volunteered to update the street tree inventory database with updated tree data as well as georeferencing into Arbor Access as their crews perform block/grid pruning activities.

#### 4.2.4. Budget

Currently, Street Tree Services is funded from the city general fund. As such, its budget is subject to fluctuation along with other general fund programs during times of decreased revenues. The budget and staffing levels of Street Tree Services have undergone several rounds of reductions over the past decade, decreasing its capabilities. However, maintenance needs of the city street trees do not decrease even if budgets decrease. Deferring tree maintenance, such as young tree training, can result in much higher future costs. Timely maintenance can prevent trees from becoming hazardous or developing structure problems and is more cost efficient than trying to correct these problems. With the restoration of funding from additional city revenues, the street tree program has a \$475,000 funding increase as of FY 2012/13. This new funding is directed to contract tree work primarily block or grid structural pruning and additional services including tree removals and planting.

### 4.3. Concrete maintenance

#### Key Findings

- Concrete Maintenance has had a well-organized program with clear objectives and quality measures through FY 2010-11.

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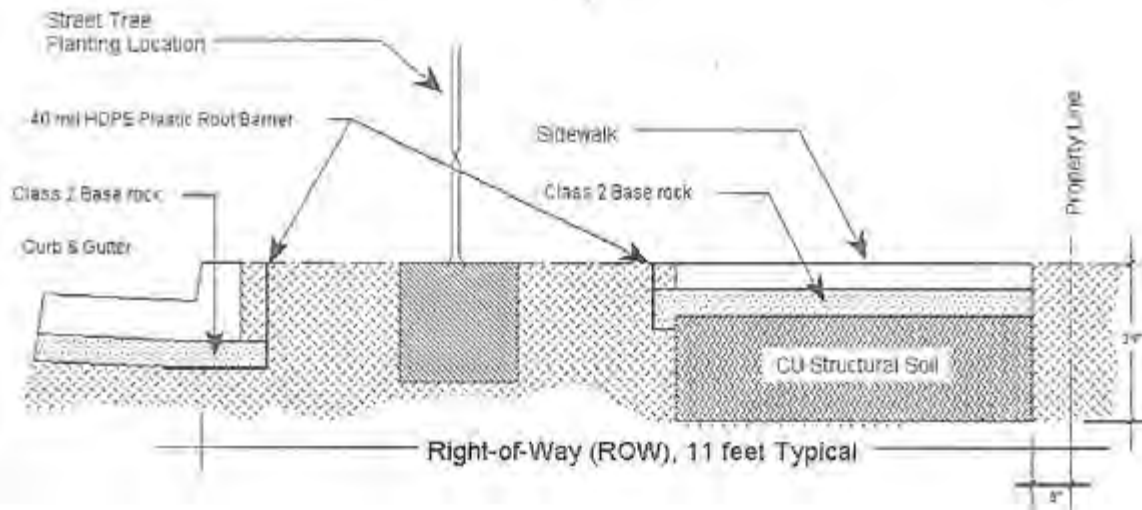
- Concrete repair around existing city trees through FY 2010-11 performed by personnel with knowledge of tree physiology and structure. This safeguards the City's investment in street trees.
- Beginning FY 2011-12 Concrete Maintenance program was transferred to Street Maintenance Operations manager. Street Tree Services and City Arborist become advisory to Public Works Project Administration.
- City Arborist called upon to advise PW inspectors regarding tree root mitigation associated with right-of-way concrete maintenance/replacement.
- Parkway planting strips were discontinued in new development in 1963, approximately 20,000 street trees occur in parkway strips 5.5 ft. or less in width. Post 1963 all sidewalks were installed monolithic to the curb [sidewalk is at the curb]
- In 2013 parkway strips were reestablished in industrial zones and in ITR [industrial to Residential] zones
- Concrete repair will be an ongoing need for hardscape near trees in narrow parkway strips.

### 4.3.1. Current status

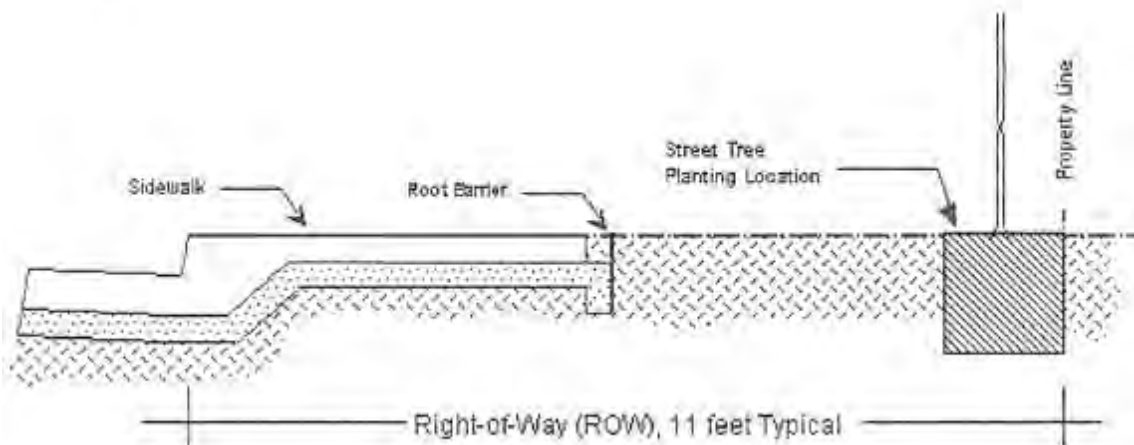
Sunnyvale has 375 miles of public streets. Based on our aerial photo analysis, approximately 20% of Sunnyvale's land area is covered by streets and highways. Almost all (98%) city streets have curbs, and 80% have sidewalks. Typical residential streets have a public right of way that extends 11 feet from the curb face. Some of the older streets have been widened over time, and as a result, the ROW became narrower as the paved portion of the street increased in width.

The standard width for a sidewalk in most of Sunnyvale is 4.5 ft. Among streets with sidewalks, 65% are designed with parkway strips (sidewalk is separated from curb and gutter, figure 4-4) and 35% are monolithic (sidewalk, curb and gutter are in one solid slab, figure 4-5). Monolithic sidewalk construction was the standard in new development between 1965 and 2013. Industrial zones off-road ROW has a 4 ft. parkway strip with a 6 ft. sidewalk.

Parkway strips allow for planting between the sidewalk and the curb. Among tree planting sites in the Street Tree Inventory, 57% are in parkway strips. Since the sidewalk is usually 0.5 ft. inside the edge of the right of way, and the curb is about 0.5 ft. wide, the standard parkway strip is 5.5 ft. wide (i.e., 11 ft. [ROW]-4.5 ft. [sidewalk] -0.5 ft. [curb]-0.5 ft. [sidewalk setback]=5.5 ft. parkway width).



**Figure 4-4.** Tree planting diagram for parkway sidewalk construction.



**Figure 4-5.** Tree planting diagram for monolithic sidewalk construction.

The center of a tree planted in the center of a 5.5 ft. wide parkway is about 2.75 ft. from both the edge of the curb and sidewalk. Most parkway planting strips in Sunnyvale are narrower than 5.5 ft. (figure 4-6). Approximately 20,000 street trees occur in parkway strips 5.5 ft. or less in width. Although many of these trees are small, others are large statured, and the parkway configuration does not provide enough room for root expansion. As a result, lifting of sidewalks and curbs is common around mature trees in the narrower parkway strips.

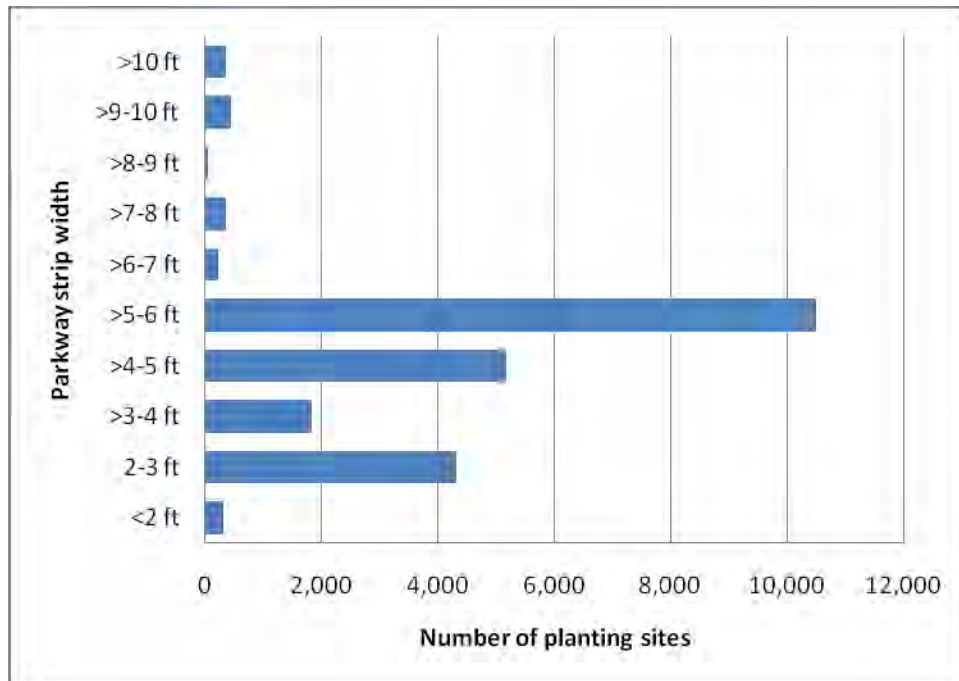


Figure 4-6. Number of planting sites by width of parkway strip. Fifty seven percent of all planting sites are parkway strip situations (source Tree inventory Jan 2010).

The Urban Landscape Manager functioned as the Concrete Maintenance Manager from 1989 to June 2011 and was responsible for concrete maintenance in the city ROW. This arrangement ensured that the needs and limitations of trees were considered when concrete repairs were conducted. Until FY 2011-12, Concrete Maintenance has had a well-organized program with clear objectives and quality measures (Appendix 6.8 page 100). Reorganization of the Public Works department in 2011 has reduced the ability of the Urban Landscape Manager to meet these objectives to insure healthy street trees in public ROW.

Concrete Maintenance and Street Tree Services worked hard to develop and implement solutions that retain as many street trees as possible while maintaining sidewalks that are pedestrian friendly and ADA compliant. Sidewalk defects are found through citizen reporting and staff reporting.

Street Tree Services is testing several innovative methods to repair sidewalks. The current technical specifications for repairing sidewalks and retaining trees are included in the Technical Practices and Standards Manual. Methods being used include:

- lag bolting steel plates to roots or around roots, and then either repouring the sidewalk or replacing the sidewalk with pavers. The root cannot expand in diameter beyond the surface of the steel.
- curving sidewalks and curbs around root flares
- Removing offending roots if it can be done without compromising the physical support structure of the tree. Roots are pruned to a maximum depth of 10 inches. Roots deeper than 10 inches generally do not fracture concrete.

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- Testing alternate sidewalk construction techniques. Rubber sidewalks were installed in 10 test locations in 2008 (Appendix page <need this info from LD in a word document>).

Concrete Maintenance puts temporary asphalt ramps on sidewalks with displacements of more than 1 inch. Sidewalks with less than 1 inch of horizontal displacement are ground.

An estimated 95% of the concrete repair budget is for concrete maintenance related to tree root damage. In addition to mitigating tree root problems associated with mature trees, until 2011 the Concrete Maintenance program also installed appropriate mitigations for newly planted trees to prevent future problems. Since 2011 the Street Tree Services program installs root mitigation by staff or by contract. Concrete repair is not limited to repair adjacent to inventoried street trees. The City repairs concrete sidewalks, curbs, and gutters damaged by tree roots irrespective of tree ownership. Budgets for Concrete Maintenance are shown in Figures 4-2 and 4-7.

The Street Tree Inventory data fields do not have a direct relationship with concrete maintenance activities. Concrete Maintenance activities are tracked using spreadsheets.

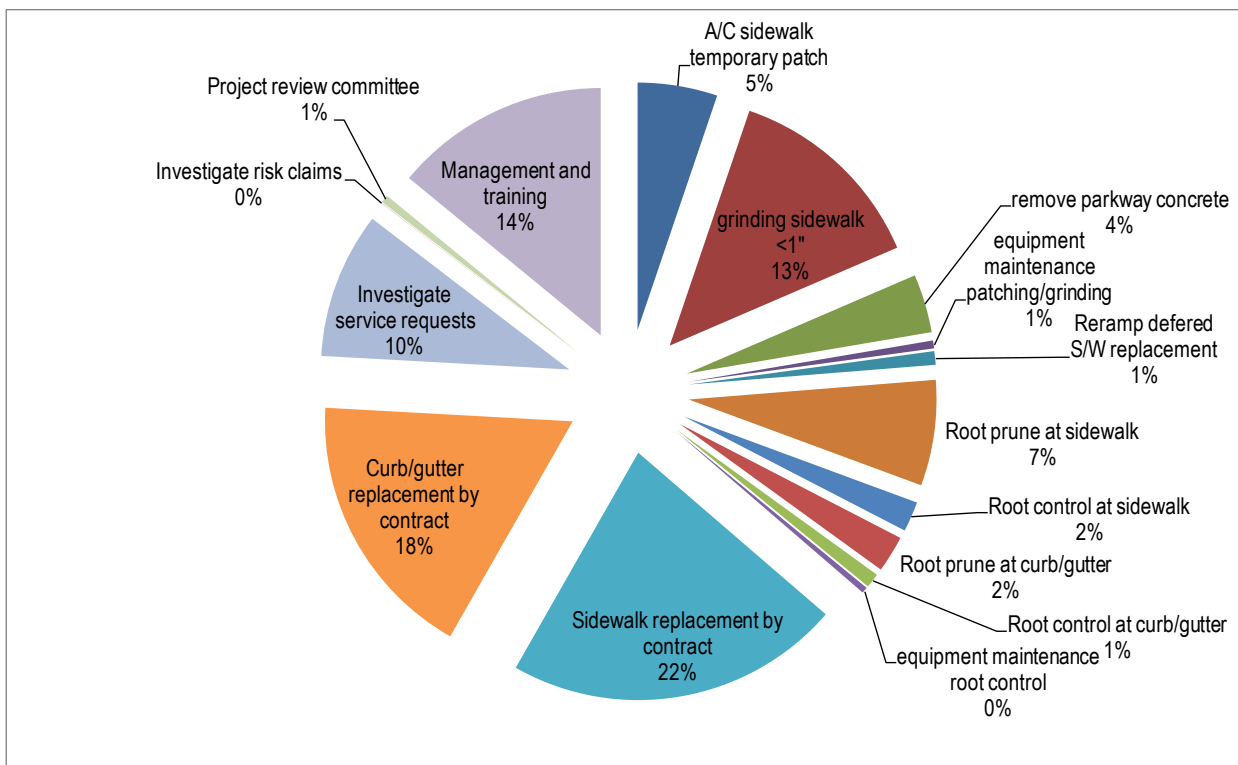


Figure 4-7. Concrete maintenance budget 2008-2009 fiscal year.

### 4.4. Park tree management

#### 4.4.1. Program structure

Parks employees performed all tree planting and pruned trees from the ground with pole pruners up to a height of 14 feet. Parks staff also removed trees up to 20 feet tall. Emergency tree work

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needing to be done within 72 hours was done by the Street Tree Services (Public Works) and billed to the Parks program. Street Trees Services also handled work on taller trees on boulevard medians. Based on January 2010 street tree inventory data, about 73% of all boulevard median trees are more than 15 ft. tall. Contractors pruned trees above 14 feet and removed trees taller than 20 feet. Contractors were required to have ISA certified arborists. Specifications included in the request for proposals for tree work required that contractors follow ANSI/ISA pruning standards and practices.

### **4.4.2. Tree pruning**

In FY 2009-10, approximately 1,380 of the 1,492 tree-related services performed on trees managed by parks were related to pruning. All sites managed by Parks are inspected daily for all hazards, including tree-related hazards. All hazards are logged and abated within 24 hours.

### **4.4.3. Tree removal and planting**

In FY 2009-10, 80 trees were planted and 32 trees were removed by Parks. Removed trees are replaced at the overall site where the removal occurred, but trees are not necessarily replanted in the same spot. Replacement species are selected on a case-by-case basis from the Parks Standard Plant List.

### **4.4.4. Tree inventory**

Unlike the street tree inventory database, which includes a separate record for each tree, the inventory of park and facility trees is a summary table. The inventory is maintained as a word processing document that lists the number of trees per location by species. The current inventory dates to 1999-2000 and there is no set interval for updating the inventory. Descriptive data for individual trees is not available in the inventory, so it cannot be used to schedule maintenance activities or store other management data.

### **4.4.5. Budget**

In FY 2011/12 the budget for supplies and tree work performed by city park staff was approximately \$125,000. The budget for pruning and removals by contractors was approximately \$50,000.

## **4.5. Existing ordinances, policies, and plans related to the urban forest**

### **Key Findings**

- The City of Sunnyvale's General Plan includes limited references to the city's urban forest and its importance.
- Several sections of city code regulate certain basic activities associated with the urban forest and nominally protect certain classes of trees. Some of these sections would be more effective if revised and updated.
- The city's updated General Plan should more clearly recognize the importance of the urban forest as a major part of the City's the biological infrastructure. Maintenance of

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the urban forest is necessary to ensure that critical ecosystem services (e.g., urban floodwater runoff mitigation) continue to be provided.

- Section 19.38.070 (Landscaping, irrigation, and usable open space) should be revised to reference specifications for adequate soil testing and preparation prior to planting. Mechanisms for monitoring and enforcing maintenance and parking lot shading standards should be more clearly stated and implemented.
- The tree preservation ordinance (Chapter 19.94) should be revised to specify greater protection for roots of protected trees, improve the definition of protected trees relative to multi-trunked trees, and provide more objective standards for issuing tree removal permits.
- Current protection for city street trees in City code, chapter 13.16, is weak, as there is no mechanism for achieving compensation if a city street tree is damaged. Ordinance 13.16 should be strengthened to protect city-maintained trees in the public right-of way.

The City of Sunnyvale has a number of existing policies and ordinances that pertain to the urban forest. Key provisions from these are briefly summarized below. We have also noted potential limitations or other issues that may influence the effectiveness of these policies and regulations. Tree-related provisions in these documents are included in the Appendix. Note that Sunnyvale is in the process of streamlining and reorganizing its General Plan. In the re-organization process sub-elements are being eliminated, therefore citations for some of the text cited below will change.

### **4.5.1. City of Sunnyvale Consolidated General Plan (2011)**

The General Plan was consolidated in 2011 and is supportive of the urban forest although much of the language specific to the urban forest was removed. Those goals from the Community Vision section relating to trees are contained in section 7.

### **4.5.2. Sunnyvale Municipal Code**

#### **Chapter 13.16. City Trees**

This is primarily the city's street tree ordinance. Its intent includes "Ensure the preservation of the city's urban forest" and calls for planting a minimum one tree per lot when new development occurs. It also calls for the planting of city street trees (in the public ROW) where feasible. The city superintendent of trees and landscaping is designated as the enforcing authority for regulating ROW tree planting, maintenance, and removal.

The code includes a number of standard provisions regulating tree management in the ROW. Intentionally damaging trees in ROW is designated as unlawful, but no sanctions are specified for violations. Therefore, city street trees have less protection than protected trees on private property: the Tree Preservation ordinance, Chapter 19.94, does not apply to street trees. We recommend that fines be established for damaging city street trees and that city



street trees be granted a level of protection at least equal to that provided to protected trees as defined in Chapter 19.94.

The code requires a permit to plant, remove, prune, or fertilize a ROW tree. It also establishes an official tree list to guide planting in the city ROW and forbids planting by residents in the ROW of trees not on the list. In practice, it has generally not been possible to enforce these provisions completely. Unapproved plantings are common, and these "unofficial city trees" account for much of the diversity of tree species found in the public ROW (see Species diversity page 46).

As an alternative, the city could develop a list of recommended and acceptable street tree species. This list would include information on suitable planting situations and specific limitations of listed species. Such a list would be advisory and would be subject to update as new species or varieties become available, or as new problems develop among trees on the list. The City should also develop a list of prohibited trees that should not be planted due to known problems (e.g., short life, pest/disease problems, invasive spread, etc.). These lists could provide guidance for planting without unduly restricting options for species selection.

The code also requires immediate removal of damaged trees that could be hazardous and calls for replacement of removed trees. This code section also defines public nuisances in the ROW as landscape plants or other materials that may pose safety hazards or have the potential to harm city street trees. City costs to abate these nuisances can be charged to adjacent property owner.

### **Chapter 19.37. Landscaping, irrigation, and usable open space.**

### **Chapter 19.38. Required Facilities**

These sections of code call for use of water conserving plants, hydrozoning, and landscaping in new development. It includes a number of detailed planting specifications, including an outdated tree staking specification that does not match current recommendations (see <http://www.ufe.org/standards&specs.html#plant>). The planting specifications lack any reference to soil preparation prior to landscaping. Highly compacted and contaminated soils are one of the most important contributors to poor plant growth in urban landscapes.

This code also specifies that required landscaping must be maintained and replaced as needed. It is not clear how the maintenance requirement is monitored or enforced.

The code includes parking lot landscaping requirements that call for 50% parking lot shading after 15 years for surfaced areas that did not exist prior to 2002. No monitoring or means of enforcement are specified for the parking lot shading requirement. The original proposed Planning Policy called for a field review at 2, 5, 10, and 15 years to check for compliance, but funding for staff needed was never approved.

In order to increase canopy cover citywide, more canopy cover will be needed in parking lots. To increase the number of existing parking lots that fall under the 50% parking lot shading standard, the city would need to expand the scope of discretionary permits that trigger this requirement. The city could also explore the use of incentives to offset costs associated with retrofitting parking lots to increase tree canopy cover.



## **Chapter 19.94. Tree Preservation**

This chapter is the city's tree preservation ordinance, which was enacted in 1991 and subsequently reviewed in 2005 and amended in 2006. The chapter applies to trees above a minimum trunk size on private property and within the city and city-owned golf courses and parks. It does not include trees in the public ROW, which are regulated under Chapter 13.16.

The code defines a tree as having a minimum circumference of 13 inches at 4.5 ft. above ground (=4.1 inches DBH). Trees of "significant size", i.e., "protected trees" have a circumference of at least 38 inches (=12 inch DBH). Multi-stemmed trees are not protected unless at least one stem is 12 inches DBH or the aggregate circumference is at least 113 inches. This corresponds to an effective aggregate diameter of 36 inches DBH. A tree with three 11.5 inch DBH trunks would not be protected under this standard, even though its canopy size and biomass would likely be greater than a single 12 inch DBH stem.

One way to deal with this disparity would be to use aggregate trunk cross-sectional area rather than aggregate circumference as the basis for defining protected trees. The 12 inch DBH trunk diameter of a protected tree has a cross-sectional area of 113 square inches. In the example above, a tree with three 11.5 inch DBH stems would have an aggregate cross-sectional area of 312 square inches and would therefore be protected. A tree with two stems 8.5 inches DBH each (aggregate cross sectional area= 113.5 square inches) would be the smallest protected two-stemmed tree using this criterion.

The code specifies that it is unlawful to damage or kill a protected tree, but protected trees can be removed if the owner obtains a permit from the Department of Community Development. Tree removal permits can be obtained for a wide variety of reasons, some of which are quite vague and/or subjective. Replacement trees may be required as a condition of a removal permit at the discretion of the Director of Community Development. Tree removal permit applications did not require a fee until FY 2009-10, when a fee of \$233 was instituted. Tree removals conducted by PG&E for line clearance purposes are exempt from this fee.

The ordinance also includes standards designed to protect retained trees during development. As written, these standards are not likely to provide adequate protection for all trees. This section also includes an erroneous statement indicating "the root system generally extends to the outermost edges of the branches". In fact, tree root systems typically extend out from the trunk a distance that is twice to three times that of the canopy. The inclusion of this statement in the code may result in the approval of plans that do not protect enough tree roots to ensure the health of retained trees.

Enforcement of this chapter is the responsibility of the Director of Community Development or their designee. The director has the option to issue a stop work order for a lack of compliance with approved plans or permits. The director (or designee) may also impose fines and "reasonable expenses and landscaping" in response to violations following an administrative hearing. Violators are also subject to civil monetary penalties, which require the prosecution of a civil action by the city attorney. To date, civil action has been taken in one case, involving unauthorized removal of a row of trees. The settlement in the case was \$112,000.

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Review of tree removal applications has commonly been assigned to the least senior members of planning staff. This has led to a lack of continuity and uniformity in the application of the ordinance.

### **Chapter 19.96. Heritage Preservation**

Sunnyvale's original Heritage Resources Inventory was adopted in 1979, recognizing properties that have architectural or historic significance. Trees may be designated as heritage resources following the provisions in this chapter (see appendix O1). Roughly eight of the 13 criteria used to nominate heritage resources (§19.96.050) could apply to trees. These criteria are related to historical significance, rarity, visual impact, and relationship to other heritage resources. A 'Heritage' tree is therefore quite different from a "protected" tree, which is designated by size as described above (Chapter 19.94 Tree Preservation page 75).

Only a few trees in Sunnyvale have been designated as Heritage trees. In January 2009, trees at 14 addresses were listed in the Heritage Resources Inventory. Most of these were individual trees, but some small groups of trees are listed as landmarks (Table 3-8). Trees at one additional address were listed in the Local Landmark inventory. To obtain permission to remove trees that are designated as heritage resources, an applicant must obtain both a Resource Alteration Permit approved by the Heritage Preservation Commission and a tree removal permit.

### **California Solar Shade Control Act**

The California Solar Shade Control Act (Public Resources Code section 25980-25986) regulates potential shading of solar collectors by trees located on another property.

This code, originally adopted in 1979, was revised in 2009, as a result of the first and only prosecution that occurred under the 1979 act, which involved a property in Sunnyvale (*California v. Bissett*, No. BB727255, Cal. Sup. Ct. Santa Clara County March 28, 2008). The 2009 revision clarified and greatly restricted the scope of the original Act to reduce negative impacts to trees. The revised 2009 Act does not apply to:

- (a) Trees or shrubs planted before the solar collector was installed
- (b) Trees planted, grown, or harvested on timberland or on land devoted to the production of commercial agricultural crops
- (c) the replacement of a tree or shrub that had been growing prior to the installation of a solar collector and that, subsequent to the installation of the solar collector, dies, or is removed for the protection of public health, safety, or the environment.
- (d) Trees or shrubs that are subject to a city or county ordinance (such as a tree protection ordinance).

In addition, solar collectors that are designed and intended to offset more than the building's electricity demand (i.e., providing a profit to the solar collector owner) are not covered in the act. In addition, violations of the Act are classified as private nuisances (as defined in Section 3481 of the Civil Code), rather than public nuisances.

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The 2009 Act also indicates that local (city or county) ordinances specifying requirements for tree preservation or solar shade control have precedence within the jurisdiction. As in the original Act, a city or county can pass an ordinance to exempt the jurisdiction from the Act. The City of Sunnyvale has not exempted itself. Given that the 2009 revision has eliminated the previous shortcomings of the Act, we do not recommend that the City take action to exempt itself.

## 5. Community

### Key Findings

- The urban forest is considered an important contributor to the attractiveness and livability of Sunnyvale.
- There is strong interest on the part of some Sunnyvale residents in forming a citizens group to advocate and care for the urban forest.
- Citizens of Sunnyvale tend to be well educated and relatively affluent, compared to residents of many other California communities.
- A large majority of the population has lived in Sunnyvale less than 10 years.
- Forty-seven percent of homes in Sunnyvale are occupied by renters.
- The City will need to maintain an ongoing program of outreach and education to ensure that residents and landowners have the information they need to make good tree care decisions. These efforts need to resonate with Sunnyvale's diverse population.
- An active urban forest volunteer group in Sunnyvale could assist with public education and outreach and provide direct assistance with planting, establishment and of City trees.

### 5.1. Values

As indicated by the general plan, the city council views the City of Sunnyvale as a special place. Maintaining Sunnyvale as an attractive and safe community is a general priority of elected officials, city staff, and residents. As indicated in the general plan, the council, boards, commissions and staff consider the urban forest to be an important component of making Sunnyvale a livable and attractive city.

### 5.2. Demographics

Citizens of Sunnyvale tend to be well educated and relatively affluent, compared to people in other California communities. For example, based on data from the 2000 census (source:

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Statjump.com), Sunnyvale ranked eighth in percent of residents with graduate or professional degrees among California cities over 50,000 population. In 2000, 6% of Sunnyvale residents had household income more than \$200,000 per year, 19th on the list of California cities over 50,000 populations. [Data accessed Jan 12, 2011, <http://www.statjump.com/lists/college-graduates-dp2c27tc.html> and <http://www.statjump.com/lists/household-income-dp3c111tc.html>]. The population is relatively mobile. A large majority of the population has lived in Sunnyvale less than 10 years. A high percentage of residents are renters. Sunnyvale also has a large percentage of residents from non-English speaking ethnic backgrounds.

The following information about Sunnyvale's population is from the 2008 American Community Survey report (source: City of Sunnyvale website accessed Jan 2010).

### 5.2.1. Social characteristics

Selected highlights from the 2008 American Community Survey reports include:

- 55.1% of the population was born in the United States, and of those 67.1% were born in California
- Of the foreign-born population, 37.9% are naturalized citizens, and 62.1% are not U.S. citizens
- Sunnyvale residents have a high level of educational attainment with 90.4% of the population 25 years and over achieving high school graduation or higher and 55.1% holding a bachelor's degree or higher
- Only 9.6% of the population 25 years and over have no high school diploma, compared with 14.4% in Santa Clara County and 19.8% in California
- 48.3% of the population 5 years and over speak English only at home, while 51.7% speak a language other than English
- Of the non-English speaking population, 20.8% report speaking English less than 'very well.'

### 5.2.2. Economics

- 60.1% of the community reported management, professional and related occupations, while 21.3% reported sales and office occupations and 7.8% reported service occupations
- Per capita income is \$45,455, compared to \$40,752 in Santa Clara County and \$29,388 in California
- Median family income is \$107,441, compared to \$104,022 in Santa Clara County and \$70,029 in California
- 4.3% of all people in Sunnyvale live below poverty level, compared to 7.4% in Santa Clara County and 13.3% in California

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- 4.4% of people under 18 years of age and 4.6% of people 65 years and older live below poverty level

### 5.2.3. Housing

- Very few homes are unoccupied in Sunnyvale
- 81.7% of community members came to Sunnyvale after the year 1990; 64% of community members came to Sunnyvale after 2000
- 52.3% of all homes are owner-occupied, with an average household size of 2.68
- 47.7% of all homes are renter-occupied, with an average household size of 2.39
- The number of rented homes is 8.1% greater than the Santa Clara County average and 4.7% greater than the California average
- Median value for owner-occupied units is \$726,000, compared to \$729,000 for Santa Clara County and \$467,000 for California
- 40.9% of the total housing units are 1-unit, detached, compared to 55.3% in Santa Clara County and 58.3% in California

### 5.3. Nonprofit volunteer urban forest support group

In association with the development of the UFMP, the Urban Landscape Manager organized a focus group consisting of citizens who have expressed an interest in trees in various forums. A number of these group members and other community members have expressed interest in forming a non-profit group to support urban forestry in the community.

The Urban Landscape Manager has approached tree groups in neighboring communities for help in getting a group started in Sunnyvale.

The process of establishing and running a 501(c)3 non-profit organization can be somewhat involved. Partnering with an existing tree group from a neighboring community provides a means to accelerate the process and helps the new group avoid having to "reinvent the wheel". Our City Forest is an established nonprofit community urban forest group based in San Jose that has indicated a willingness to act as the umbrella group for Sunnyvale's new group. Our City Forest (OCF) has a variety of established programs related to tree planting, tree care, and community education and outreach. OCF has a paid Executive Director, a position that provides necessary overall program direction and continuity that is critical for a largely volunteer organization.

OCF is also a member of California ReLeaf, a statewide urban forestry organization. California ReLeaf promotes alliances among community-based tree groups, individuals, industry, and government agencies. Whether it organizes under OCF or as a separate entity, the Sunnyvale group would be able to join the California ReLeaf network and take advantages of the services they provide.

#### **5.4. Tree management on private properties**

Large, well-maintained trees are found in many residential neighborhoods and commercial properties. Improper pruning practices such as topping are relatively uncommon in Sunnyvale, compared to many other California communities. Many residents and commercial property owners appear to appreciate the contribution that trees make to property values, community image, and overall quality of life.

However, given Sunnyvale's diverse population, it is not surprising that Sunnyvale residents hold diverse views about trees. Street Tree Services annually receives and denies many requests for city street tree removals from residents that do not understand or appreciate the importance of urban trees. Attendees at the March 2010 focus meeting reported that removal of healthy trees by residents is not uncommon. Although many tree removals on private properties are nominally subject to city's tree preservation ordinance (Chapter 19.94), many residents may be unaware of this ordinance or simply choose to ignore it. Likewise, some tree service firms perform such removals without checking to see whether they comply with the tree preservation ordinance.

Other than through the tree preservation ordinance and city code related to landscaping requirements (section 4.5 above), the City of Sunnyvale has no direct influence on tree planting or tree care on private lands. The continued existence of much of Sunnyvale's urban forest depends on good tree planting and tree care decisions by its residents. Although Sunnyvale's residents are well educated, many may know little about tree care. In addition, many Sunnyvale residents have lived in the community for a relatively short time, and may not own the house they live in. To provide the information that residents and landowners will need to make good tree care decisions, the City will need to maintain an ongoing program of outreach and education, either on its own or in cooperation with a local non-profit organization.

In addition, the City may wish to explore ways to encourage proper tree planting and care by individuals and businesses. Other communities have used various types of incentive programs, such as providing free or reduced-cost trees. On commercial properties, the City may want to consider how to provide incentives for increasing parking lot shading. Polling commercial landowners may provide information on the types of incentives that would be most effective.

Some regulatory approaches may also be considered. For example, the City could explore the possibility of developing a local licensing requirement for businesses or individuals that provide certain tree care services (primarily pruning and removal) for hire within the City of Sunnyvale. Such a license would be required whether the business was based in Sunnyvale or not. To obtain a license, the tree care contractor would need to meet specific requirements. For example:

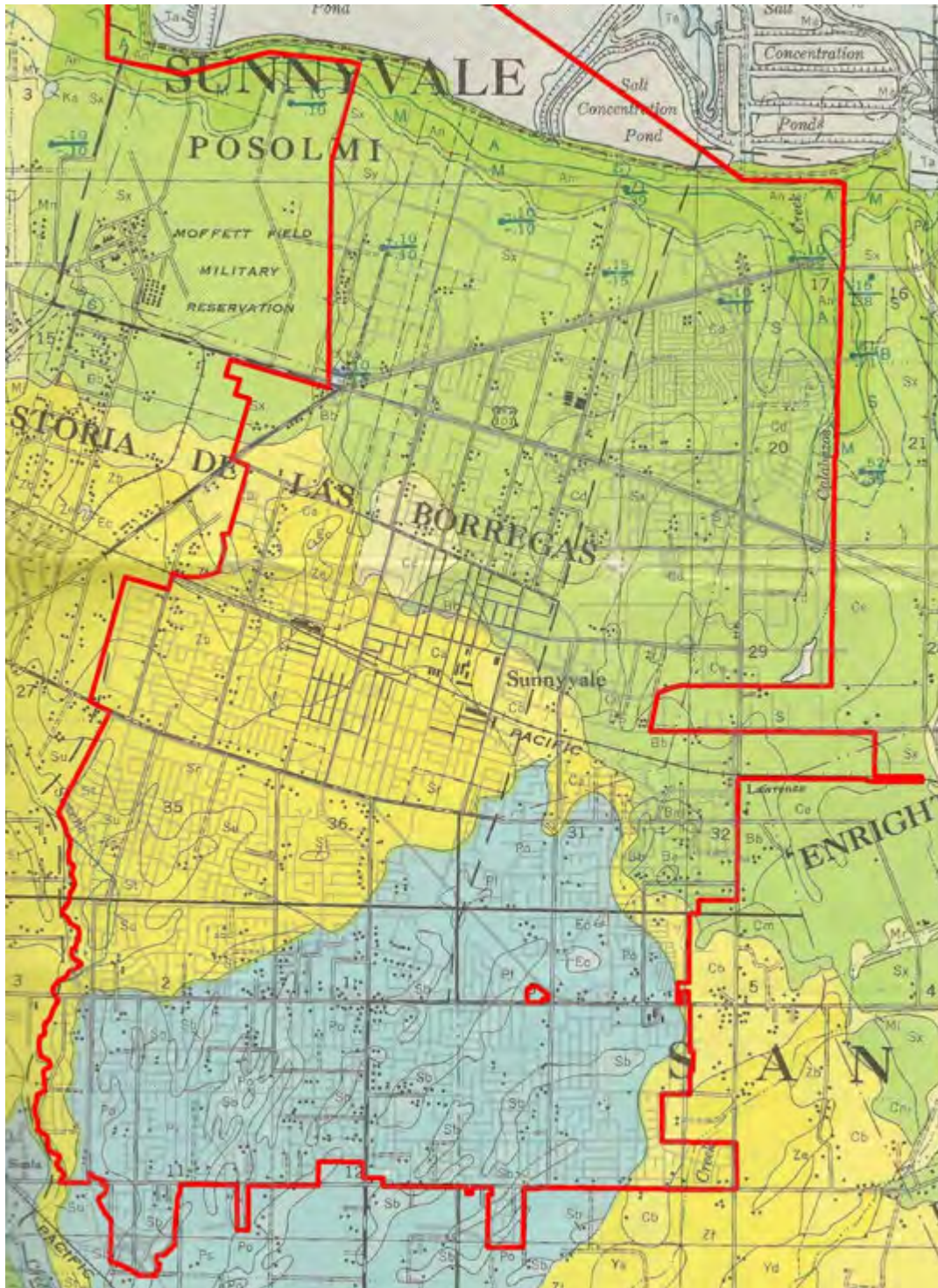
- Have adequate professional certification (e.g., International Society of Arboriculture);
- provide evidence of adequate liability insurance coverage;
- agree to comply with all City of Sunnyvale ordinances and standards related to tree care work.

Code Enforcement staff would have the ability to cite violators and issue stop work orders. Because poor quality tree work can pose a risk to public safety, reduce property values, and result in the loss of tree-related benefits, it is in the City's interest to reduce or eliminate the activity of unqualified contractors that conduct poor pruning or illegal tree removals.



## 6. Resource Data

### 6.1. Soil types



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Figure A1. Soil map of Sunnyvale from Gardner and others (1958) with current city limit (red line) and current streets (gray lines) superimposed. Soil type codes are listed in Table A1.

Table A1. Soils of Sunnyvale, based on Gardner and others (1958). Soil codes are the same shown in Figure A1. General soil groups are indicated by color shading (green=basin soils, yellow=recent alluvial fans and floodplains, blue=older alluvial fans. Soils and corresponding properties shown in **bold** may constrain tree growth and performance.

Soil code	Soil series	Depth of soil readily penetrated by roots	Permeability of surface soil <sup>1</sup>	Permeability of subsoil	Water holding capacity <sup>2</sup>	Occurrence of salinity <sup>2</sup>
<b>An</b>	<b>Alviso clay 0-1% slopes</b>	<b>20-36"</b>	<b>Very slow</b>	<b>Very slow</b>	High	<b>General</b>
Bb	Bayshore clay loam 1-3% slopes	>60 inches	Rapid	Moderate	Moderate	None
Ba	Bayshore clay loam 3-5% slopes	>60 inches	Rapid	Moderate	Moderate	None
Ca	Campbell clay loam, 0-1% slopes	>60 inches	Moderate	Moderate	High	Rare
<b>Cb</b>	<b>Campbell silty clay, 0-1% slopes</b>	<b>&gt;60 inches</b>	<b>Slow</b>	<b>Slow</b>	High	None
Cd	Castro clay 0-1% slopes	20-36"	Slow	Slow	Moderate	<b>Occasional</b>
Ce	Castro silty clay 1-3% slopes	20-36"	Slow	Slow	Moderate	<b>Occasional</b>
Ec	Pits	Excavated areas				
Ka	Kitchen middens	Former Native American settlement				
Po	Pleasanton gravelly loam, 1-3% slopes	>60 inches	Moderate	Moderate	Moderate	None
Ps	Pleasanton loam, 1-3% slopes	>60 inches	Moderate	Moderate	Moderate	None
Pf	Pleasanton clay loam, 1-3% slopes	>60 inches	Moderate	Slow	Moderate	None
<b>Sb</b>	<b>San Ysidro</b>	<b>variable 20</b>	Moderate	<b>Very slow</b>	<b>Low</b>	None



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Soil code	Soil series	Depth of soil readily penetrated by roots	Permeability of surface soil <sup>1</sup>	Permeability of subsoil	Water holding capacity <sup>2</sup>	Occurrence of salinity <sup>2</sup>
	<b>loam, 1-2% slopes</b>	<b>to 36 inches</b>				
Sr	Sorrento clay loam, 1-3% slopes	>60 inches	Moderate	Moderate	High	None
St	Sorrento gravelly loam, 1-3% slopes	>60 inches	Moderate	Moderate	Moderate	None
Su	Sorrento loam, 1-3% slopes	>60 inches	Moderate	Moderate	High	None
Sx	<b>Sunnyvale clay 0-1% slopes</b>	<b>36"-60"</b>	<b>Slow</b>	<b>Slow</b>	<b>High</b>	<b>Occasional</b>
Sy	Sunnyvale clay loam 0-1% slopes	36"-60"	Moderate	Moderate	Moderate	None
Zb	Zamora clay loam, 1-3% slopes	>60 inches	Moderate	Moderate	High	None
Ze	Zamora gravelly clay loam, 1-3% slopes	>60 inches	Moderate	Moderate	High	None
Zf	Zamora silty clay loam, 1-3% slopes	>60 inches	Moderate	Slow	High	None

<sup>1</sup>Permeability refers to the rate at which water can pass downward through the soil after wetting.

Permeability is a general indication of the ease of root penetration. Soils with slow permeability will absorb less than 3 inches of surface water per day. Soils with rapid permeability can absorb more than 20 inches of surface water per day.

<sup>2</sup>Water holding capacity refers to the total amount of water available to plants to the depth readily penetrated by roots when the soil is at normal field moisture capacity (the point at which water stops draining from the soil). The amount is expressed as the height of a column of water on the soil surface. Soils with low soil water holding capacity hold less than 4 inches of water at field capacity. Soils with high soil water holding capacity hold more than 9 inches of water at field capacity.

<sup>3</sup>Salinity refers to soluble salts, either neutral or alkaline in reaction, that occur in soils in sufficient quantities to have a toxic or retarding effect on the growth of cultivated plants. The term "alkali" is used in the 1958 Soil Survey.

**References**

Gardner, R.A.; Harradine, F.F.; Hargreaves, H.J.; Retzer, J.L.; Bartholomew, O.F.; Glassey, T. W. June 1958. Soil survey, Santa Clara Area, California. Series 1941, No. 17. U.S.D.A. and California Agricultural Experiment Station.

## 6.2. Canopy cover assessment

Phytosphere Research used a random dot grid and 2007 aerial photography in Google Earth to estimate tree canopy cover in the land area of Sunnyvale.

We generated 2,500 random coordinates that were distributed across a rectangular area that included the City's land area. The random coordinates were created using a random uniform distribution function in JMP<sup>®</sup> 7.0.1 (SAS Institute) software. These random coordinates were imported into an ESRI ArcMap<sup>®</sup> layer file. The city boundary GIS layer (provided by the City of Sunnyvale) was used to select only those points within the city limits. The points were overlaid on an aerial image of the city. Points that were located in ponds near the bay were removed from the random sample set. The resulting sample included 2210 random points distributed over approximately 19.25 square miles.

We used the zoning GIS layers supplied by the city to assign a land use designation to each point. Points were grouped into the following classes:

- residential (including single and multiple-unit zonings),
- commercial/industrial,
- city parks,
- schools,
- other city-owned properties.

The sample provided a sufficient number of points to provide good canopy cover estimates citywide and in major land uses, but the number of points falling in uncommon land uses was low. To provide a more accurate estimate of canopy cover in city parks, we created a denser set of random coordinates and selected those that fell within city parks. This provided a sample of 472 random dots that we used to estimate canopy cover in parks.

We created separate files for the points in each land use category and exported the points to Google Earth kml files. Layers for the city limits and polygons for parks, schools, and city properties were also exported to Google Earth kml files. To assess canopy cover, we used the most recent available (October 2007) Google Earth imagery (Figure 3-5). We recorded whether each dot was on tree canopy. We also noted within each land use whether points were within the paved portions (curb to curb) of public streets or if they fell on trees growing within the apparent street right of way (ROW). Sidewalk placement and width were used to help estimate the width of the ROW at a given sample point.

We also used the random dots to select a sample for estimating average tree canopy area, which was needed to estimate tree numbers from canopy cover data (number of trees= total canopy area/ average tree canopy area). For the tree nearest to each random sample point, we measured the canopy diameter to the nearest 0.1 m using the Google Earth distance measuring tool. Areas were calculated from diameters assuming a circular canopy shape. We used an initial sample of 100 random coordinates each from residential and commercial land uses. To increase the number of street trees represented in the sample, we added an additional 100 random points that were located on streets.

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**6.3. Tree inventory tabulation**

Species listed in the City Street Tree inventory as of December 2010.

Species	Number	Percent
<i>Acacia baileyana</i>	2	0.01%
<i>Acacia melanoxylon</i>	39	0.09%
<i>Acacia spp.</i>	1	0.00%
<i>Acer japonicum</i>	1	0.00%
<i>Acer macrophyllum</i>	1	0.00%
<i>Acer negundo</i>	5	0.01%
<i>Acer palmatum</i>	39	0.09%
<i>Acer platanoides</i>	6	0.02%
<i>Acer pseudoplatanus</i> 'Atropurpureum'	6	0.02%
<i>Acer rubrum</i>	267	0.65%
<i>Acer saccharinum</i>	49	0.12%
<i>Acer spp.</i>	2	0.01%
<i>Acer x freemanii</i>	2	0.01%
<i>Aesculus carnea</i>	8	0.02%
<i>Aesculus hippocastanum</i>	3	0.01%
<i>Ailanthus altissima</i>	2	0.01%
<i>Albizia julibrissin</i>	32	0.08%
<i>Alnus cordata</i>	22	0.05%
<i>Alnus oregona</i>	4	0.01%
<i>Alnus rhombifolia</i>	61	0.15%
<i>Araucaria araucana</i>	1	0.00%
<i>Araucaria spp.</i>	2	0.01%
<i>Arbutus unedo</i>	2	0.01%
<i>Arecastrum romanzoffianum</i>	12	0.03%
<i>Betula nigra</i>	102	0.25%
<i>Betula pendula</i>	230	0.56%
<i>Betula platyphylla japonica</i>	3	0.01%
<i>Butia capitata</i>	1	0.00%
<i>Callistemon citrinus</i>	162	0.39%
<i>Callistemon viminalis</i>	32	0.08%
<i>Calocedrus decurrens</i>	15	0.04%
<i>Carpinus betulus fastigiata</i>	184	0.45%
<i>Casimiroa edulis</i>	1	0.00%
<i>Castanea sativa</i>	2	0.01%
<i>Casuarina cunninghamiana</i>	112	0.27%
<i>Casuarina equisetifolia</i>	124	0.30%
<i>Casuarina stricta</i>	4	0.01%
<i>Catalpa speciosa</i>	2	0.01%
<i>Cedrus atlantica</i>	15	0.04%
<i>Cedrus deodara</i>	230	0.56%
<i>Celtis australis</i>	408	0.99%

Species	Number	Percent
<i>Celtis sinensis</i>	617	1.49%
<i>Celtis spp.</i>	1	0.00%
<i>Ceratonia siliqua</i>	744	1.80%
<i>Cercis occidentalis</i>	16	0.04%
<i>Chamaerops humilis</i>	11	0.03%
<i>Chitalpa X tashkentensis</i>	35	0.09%
<i>Chorisia speciosa</i>	3	0.01%
<i>Cinnamomum camphora</i>	744	1.80%
<i>Citrus limon</i>	11	0.03%
<i>Citrus sinensis</i>	7	0.02%
<i>Citrus X paradisi</i>	1	0.00%
<i>Cordyline australis</i>	35	0.09%
<i>Cornus spp.</i>	1	0.00%
<i>Crataegus laevigata</i>	39	0.09%
<i>Cupaniopsis anacardioides</i>	2	0.01%
<i>Cupressocyparis leylandii</i>	2	0.01%
<i>Cupressus macrocarpa</i>	20	0.05%
<i>Cupressus sempervirens</i>	431	1.04%
<i>Diospyros kaki</i>	3	0.01%
<i>Dodonaea viscosa</i>	4	0.01%
<i>Eriobotrya deflexa</i>	31	0.08%
<i>Eriobotrya japonica</i>	24	0.06%
<i>Erythea armata</i>	2	0.01%
<i>Erythrina caffra</i>	3	0.01%
<i>Eucalyptus cinerea</i>	4	0.01%
<i>Eucalyptus cladocalyx</i>	17	0.04%
<i>Eucalyptus ficifolia</i>	2	0.01%
<i>Eucalyptus globulus</i>	407	0.98%
<i>Eucalyptus lansdowneana</i>	18	0.04%
<i>Eucalyptus leucoxylon</i>	1	0.00%
<i>Eucalyptus nicholii</i>	5	0.01%
<i>Eucalyptus parvifolia</i>	64	0.16%
<i>Eucalyptus polyanthemos</i>	55	0.13%
<i>Eucalyptus robusta</i>	1	0.00%
<i>Eucalyptus sideroxylon</i>	52	0.13%
<i>Eucalyptus spp.</i>	6	0.02%
<i>Eucalyptus viminalis</i>	11	0.03%
<i>Eugenia paniculata</i>	3	0.01%
<i>Fagus sylvatica "Atropunicea"</i>	13	0.03%
<i>Feijoa sellowiana</i>	1	0.00%
<i>Ficus carica</i>	4	0.01%

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Species	Number	Percent
<i>Fortunella margarita</i>	1	0.00%
<i>Fraxinus american</i>	139	0.34%
<i>Fraxinus oxycarpa</i>	497	1.20%
<i>Fraxinus pennsylvanica</i>	49	0.12%
<i>Fraxinus uhdei</i>	518	1.25%
<i>Fraxinus v. 'Rio Grande'</i>	525	1.27%
<i>Fraxinus velutina</i>	300	0.73%
<i>Geijera parviflora</i>	515	1.25%
<i>Ginkgo biloba</i>	1478	3.57%
<i>Gleditsia triacanthos</i>	36	0.09%
<i>Grevillea robusta</i>	11	0.03%
<i>Heteromeles arbutifolia</i>	6	0.02%
<i>Hibiscus rosa-sinensis</i>	2	0.01%
<i>Ilex altaclarensis Wilsonii</i>	7	0.02%
<i>Jacaranda mimosifolia</i>	13	0.03%
<i>Juglans hindsii</i>	17	0.04%
<i>Juglans regia</i>	18	0.04%
<i>Juglans spp.</i>	1	0.00%
<i>Juniperus californica</i>	9	0.02%
<i>Juniperus chinensis</i>	2	0.01%
<i>Juniperus chinensis Torulosa</i>	76	0.18%
<i>Juniperus scopulorum</i>	1	0.00%
<i>Juniperus spp.</i>	1	0.00%
<i>Koelreuteria bipinnata</i>	2	0.01%
<i>Koelreuteria paniculata</i>	3	0.01%
<i>Lagerstroemia indica</i>	120	0.29%
<i>Lagerstroemia x fauria</i>	614	1.49%
<i>Lagerstromia x fauria(lavend</i>	123	0.30%
<i>Lagerstromia x fauria(red)</i>	572	1.38%
<i>Lagunaria patersonii</i>	2	0.01%
<i>Laurus nobilis</i>	227	0.55%
<i>Leptospermum spp.</i>	2	0.01%
<i>Ligustrum lucidum</i>	401	0.97%
<i>Liquidambar 'ROTUNDILOBA'</i>	4	0.01%
<i>Liquidambar styraciflua</i>	3525	8.52%
<i>Liriodendron tulipifera</i>	800	1.93%
<i>Lyonothamnus floribundus asp</i>	2	0.01%
<i>Magnolia grandiflora</i>	4633	11.20%
<i>Magnolia x. soulangiana</i>	12	0.03%
<i>Malus spp.</i>	5	0.01%
<i>Malus syvestris</i>	19	0.05%
<i>Maytenus boaria</i>	119	0.29%
<i>Melaleuca linariifolia</i>	195	0.47%
<i>Melaleuca nesophila</i>	10	0.02%
<i>Melaleuca quinquenervia</i>	2	0.01%

Species	Number	Percent
<i>Metasequoia glyptostroboides</i>	1	0.00%
<i>Morus alba</i>	15	0.04%
<i>Myoporum laetum</i>	8	0.02%
<i>Nerium oleander</i>	67	0.16%
<i>Olea europaea</i>	154	0.37%
<i>Other</i>	15	0.04%
<i>Paulownia tomentosa</i>	4	0.01%
<i>Persea americana</i>	16	0.04%
<i>Phoenix canariensis</i>	25	0.06%
<i>Photinia fraseri</i>	522	1.26%
<i>Picea engelmannii</i>	2	0.01%
<i>Picea pungens</i>	8	0.02%
<i>Pinus canariensis</i>	550	1.33%
<i>Pinus coulteri</i>	1	0.00%
<i>Pinus edulis</i>	5	0.01%
<i>Pinus halepensis</i>	50	0.12%
<i>Pinus pinea</i>	76	0.18%
<i>Pinus radiata</i>	195	0.47%
<i>Pinus spp.</i>	1	0.00%
<i>Pinus thunbergiana</i>	83	0.20%
<i>Pistacia chinensis</i>	2868	6.94%
<i>Pittosporum crassifolium</i>	1	0.00%
<i>Pittosporum eugenioides</i>	17	0.04%
<i>Pittosporum undulatum</i>	7	0.02%
<i>Platanus acerifolia</i>	1124	2.72%
<i>Platanus racemosa</i>	3	0.01%
<i>Podocarpus gracilior</i>	726	1.76%
<i>Podocarpus macrophyllus</i>	8	0.02%
<i>Populus canadensis</i>	3	0.01%
<i>Populus nigra 'Italica'</i>	17	0.04%
<i>Prunus amygdalus</i>	41	0.10%
<i>Prunus armeniaca</i>	25	0.06%
<i>Prunus blireiana</i>	130	0.31%
<i>Prunus caroliniana</i>	16	0.04%
<i>Prunus cerasifera</i>	717	1.73%
<i>Prunus domestica</i>	36	0.09%
<i>Prunus lyonii</i>	21	0.05%
<i>Prunus persica</i>	43	0.10%
<i>Prunus serrulata</i>	106	0.26%
<i>Pseudotsuga menziesii</i>	5	0.01%
<i>Punica granatum</i>	1	0.00%
<i>Pyrus calleryana</i>	701	1.70%
<i>Pyrus kawakamii</i>	142	0.34%
<i>Quercus agrifolia</i>	236	0.57%
<i>Quercus coccinea</i>	210	0.51%
<i>Quercus franetto</i>	8	0.02%
<i>Quercus ilex</i>	1363	3.30%
<i>Quercus kelloggii</i>	17	0.04%

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<b>Species</b>	<b>Number</b>	<b>Percent</b>
<i>Quercus lobata</i>	142	0.34%
<i>Quercus palustris</i>	4	0.01%
<i>Quercus shumardi</i>	483	1.17%
<i>Quercus spp.</i>	7	0.02%
<i>Quercus suber</i>	539	1.30%
<i>Quercus virginiana</i>	380	0.92%
<i>Quercus wislizeni</i>	54	0.13%
<i>Quillaja saponaria</i>	3	0.01%
<i>Rhamnus alaternus</i>	4	0.01%
<i>Rhus lancea</i>	347	0.84%
<i>Robinia pseudoacacia</i>	134	0.32%
<i>Sapium sebiferum</i>	185	0.45%
<i>Schinus molle</i>	75	0.18%
<i>Schinus terebinthifolius</i>	29	0.07%
<i>Sequoia sempervirens</i>	1024	2.48%
<i>Sequoiadendron giganteum</i>	5	0.01%
<i>Solanum rantonnetii</i>	5	0.01%
<i>Sophora japonica</i>	2	0.01%
<i>Stump</i>	141	0.34%
<i>Thuja occidentalis</i>	19	0.05%
<i>Tillia cordata</i>	19	0.05%
<i>Tipuana tipu</i>	2	0.01%
<i>Trachycarpus fortunei</i>	25	0.06%
<i>Tristania conferta</i>	14	0.03%
<i>Tristania laurina</i>	899	2.17%
<i>Ulmus americana</i>	1	0.00%
<i>Ulmus campestris</i>	1	0.00%
<i>Ulmus parvifolia</i>	296	0.72%
<i>Ulmus pumila</i>	10	0.02%
<i>Vacant site (Large)</i>	441	1.07%
<i>Vacant site (Medium)</i>	2775	6.71%
<i>Vacant site (Small)</i>	1091	2.64%
<i>Viburnum japonicum</i>	4	0.01%
<i>Washingtonia filifera</i>	14	0.03%
<i>Washingtonia robusta</i>	56	0.14%
<i>Xylosma congestum</i>	5	0.01%
<i>Yucca gloriosa</i>	71	0.17%
<i>Zelkova serrata</i>	400	0.97%

#### 6.4. List of trees whose numbers are being increased

Street Tree Services was planting the following species in increasing numbers in certain planting situations along streets as of December 2010. These species have been targeted for increased planting because local experience suggests that they will perform well in specific situations (see discussion in section 3.3.2).

##### **Species**

*Acer rubrum*  
*Betula nigra*  
*Carpinus betulus fastigiata*  
*Cedrus atlantica*  
*Cedrus deodara*  
*Chitalpa X tashkentensis*  
*Cinnamomum camphora*  
*Eucalyptus sideroxylon*  
*Fraxinus american*  
*Fraxinus v. 'Rio Grande'*  
*Ginkgo biloba*  
*Lagerstroemia x fauria*  
*Lagerstromia x fauria(lavend*  
*Lagerstromia x fauria(red)*  
*Laurus nobilis*  
*Persea americana*  
*Photinia fraseri*  
*Pinus canariensis*  
*Platanus acerifolia*  
*Podocarpus gracilior*  
*Podocarpus macrophyllus*  
*Prunus cerasifera*  
*Pyrus calleryana*  
*Quercus franetto*  
*Quercus ilex*  
*Quercus lobata*  
*Quercus shumardi*  
*Quercus suber*  
*Quercus virginiana*  
*Sapium sebiferum*  
*Tristania laurina*

**6.5. List of trees whose numbers are being decreased**

Street Tree Services was decreasing the use of the following species along streets or in certain planting situations as of December 2010. These species have been targeted for reduced planting or have been discontinued because of problems that have developed in specific situations (see discussion in section 3.3.2).

<i>Acacia baileyana</i>	<i>Juniperus scopulorum</i>	<i>Quercus ilex</i>
<i>Acacia melanoxydon</i>	<i>Lagerstroemia indica</i>	<i>Quercus virginiana</i>
<i>Acer macrophyllum</i>	<i>Laurus nobilis</i>	<i>Quercus wislizenii</i>
<i>Acer negundo</i>	<i>Ligustrum lucidum</i>	<i>Rhus lancea</i>
<i>Acer palmatum</i>	<i>Liquidambar styraciflua</i>	<i>Sapium sebiferum</i>
<i>Callistemon citrinus</i>	<i>Liriodendron tulipifera</i>	<i>Schinus molle</i>
<i>Casuarina cunninghamiana</i>	<i>Lyonothamnus floribundus asp</i>	<i>Schinus terebinthifolius</i>
<i>Casuarina stricta</i>	<i>Magnolia grandiflora</i>	<i>Sequoia sempervirens</i>
<i>Cedrus deodara</i>	<i>Malus spp.</i>	<i>Thuja occidentalis</i>
<i>Celtis australis</i>	<i>Malus syvestris</i>	<i>Tristania conferta</i>
<i>Celtis sinensis</i>	<i>Melaleuca linariifolia</i>	<i>Ulmus campestris</i>
<i>Ceratonia siliqua</i>	<i>Melaleuca quinquenervia</i>	<i>Ulmus parvifolia</i>
<i>Cinnamomum camphora</i>	<i>Metasequoia glyptostroboides</i>	<i>Washingtonia filifera</i>
<i>Cordyline australis</i>	<i>Olea europaea</i>	<i>Washingtonia robusta</i>
<i>Cornus spp.</i>	<i>Persea americana</i>	<i>Zelkova serrata</i>
<i>Cupaniopsis anacardioides</i>	<i>Phoenix canariensis</i>	
<i>Eriobotrya deflexa</i>	<i>Picea engelmannii</i>	
<i>Eriobotrya japonica</i>	<i>Picea pungens</i>	
<i>Erythrina caffra</i>	<i>Pinus canariensis</i>	
<i>Eucalyptus globulus</i>	<i>Pinus coulteri</i>	
<i>Eucalyptus lansdowneana</i>	<i>Pinus halepensis</i>	
<i>Eucalyptus polyanthemus</i>	<i>Pinus pinea</i>	
<i>Eucalyptus spp.</i>	<i>Pinus thunbergiana</i>	
<i>Eugenia paniculata</i>	<i>Pistacia chinensis</i>	
<i>Ficus carica</i>	<i>Podocarpus gracilior</i>	
<i>Fraxinus american</i>	<i>Populus canadensis</i>	
<i>Fraxinus oxycarpa</i>	<i>Prunus amygdalus</i>	
<i>Fraxinus pennsylvanica</i>	<i>Prunus armeniaca</i>	
<i>Fraxinus uhdei</i>	<i>Prunus caroliniana</i>	
<i>Fraxinus velutina</i>	<i>Prunus cerasifera</i>	
<i>Geijera parviflora</i>	<i>Prunus lyonii</i>	
<i>Ginkgo biloba</i>	<i>Prunus serrulata</i>	
<i>Jacaranda mimosifolia</i>	<i>Pseudotsuga menziesii</i>	
<i>Juglans hindsii</i>	<i>Pyrus calleryana</i>	
<i>Juglans regia</i>	<i>Pyrus kawakamii</i>	
<i>Juniperus californica</i>	<i>Quercus coccinea</i>	



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### 6.6. Street tree species composition by block face

As an adjunct to this report, Phytosphere Research used a copy of the street tree inventory database (downloaded 1/17/10) to develop a new database related to tree species distribution for street trees by block face. A block face is defined here as a length of street between two successive intersections that includes trees on both sides of the street. Designation of block faces was based on the "on street", "from street" and "to street" fields in the tree inventory. We used JMP® 9.0.0 (SAS Institute) software to cross tabulate the data and summarize tree occurrence on each block face. In addition to totaling the three most common trees on each block face, a formula was used to determine whether one to three trees were dominant on the block, based on their occurrence relative to the total number of species present. The data were converted to a Microsoft Excel worksheet with the fields listed below. The worksheet contains 3,688 block face records. The spreadsheet was provided to the Urban Landscape Manager in electronic format. (Filename "Copy of Sunnyvale block face trees 3-9-10.xls" transmitted via e-mail 3/9/10).

Field	Description
Address number	Address of one tree on block face
Street	Street of Address number field
Address-Street	Address Number field concatenated to Street field
OnStr	Street the trees located on- this is the block face
block-on/from/to of block face trees	Block face plus cross streets that delimit the block face
Total sites	Number of inventoried planting sites on block face
Num live trees	Number of live inventoried trees on block face
Num(SPP)	Number of species on block face
SPP1	Most common tree on block face
N of spp1	Number of trees of species 1
Percent for spp1	Percent of trees on block face represented by species 1
SPP2	Second most common tree on block face
N of spp2	Number of trees of species 2
Percent for spp2	Percent of trees on block face represented by species 2
SPP3	Third most common species on block face
N of spp3	Number of trees of species 3
Percent for spp3	Percent of trees on block face represented by species 3
Top 2 trees % of all trees	Percent of all trees on block made up by the top 2 most common trees
Top 3 trees % of all trees	Percent of all trees on block made up by the top 3 most common trees
Main species1	Primary dominant species on block based on the following formula: SPP1 if (Percent for spp1 > 60%) or (Top 2 trees % of all trees) > 66% or (Top 3 trees % of all trees) > 75%. Otherwise listed as "none"
Main species2	Secondary dominant species on block based on following formula: SPP2 if (Top 2 trees % of all trees) > 66% and (Percent for spp1) ≤ 60% and (Percent for spp2) > 33%. Otherwise listed as "none".
Main species3	Tertiary dominant species on block based on following formula: SPP3 if (Main species2) is not "none" and (Top 3 trees % of all trees) > 75% and (Percent for spp3) ≥ 25%. Otherwise listed as "none".

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### 7. Planning documents, policies, and city code related to trees

#### City of Sunnyvale Consolidated General Plan (2011)

General plan goals pertaining to the urban forest:

#### Chapter 2 Community Vision

##### City-wide Vision Goals

II. Attractive Community: To maintain and enhance the appearance of Sunnyvale, and to distinguish it from surrounding communities, through the promotion of high quality architecture, the preservation of historic districts and structures, the maintenance of a healthy urban forest, and the provision of abundant and attractive open space.

III. Environmental Sustainability: To promote environmental sustainability and remediation in the planning and development of the City, in the design and operation of public and private buildings, in the transportation system, in the use of potable water and in the recycling of water.

##### Goal LT-2 An Attractive Community

Preserve and enhance an attractive community, with a positive image and a sense of place that consists of distinctive neighborhoods, pockets of interest and human-scale development.

##### Policy LT-8.4

Maintain existing park and open space tree inventory through the replacement of trees with an equal or greater number of trees when trees are removed due to disease, park development or other reasons.

##### Policy LT-8.5

Maintain Parks and open space tree inventory on a system wide basis rather than a site-by-site basis with an understanding that there is no single optimum number of trees for a particular site.

##### Policy LT-8.6

Maintain a working fruit orchard throughout the largest portion of Orchard Heritage Park for as long as practical.

##### Policy CC-2.1

Maintain and provide attractive landscaping in the public right-of-way to identify the different types of roadways and districts, make motorists more comfortable and improve the enjoyment of residential neighborhoods.

##### Policy CC-5.4

Seek out, catalog and evaluate heritage resources which may be significant.

#### Sunnyvale Municipal Code

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### Chapter 13.16. City Trees

#### 13.16.010. Intent.

The intent of this chapter is to:

- (a) Ensure the preservation of the city's urban forest;
- (b) Regulate the maintenance, removal and planting of trees, shrubbery and plantings within the public rights-of-way.
- (c) Regulate the installation and maintenance of any structure, fencing, trees, shrubbery, planting or growth interfering with the safety and welfare of persons utilizing the public rights-of-way.
- (d) Encourage the protection of trees to provide shade, beauty, wind protection, air filtration, mitigation of noise, soil protection, habitat for birds and small animals, screening between buildings, camouflage of blighted areas and enhancement of property values.
- (e) Encourage and maintain the healthy growth of trees to make the city more attractive to visitors and potential new residents. (Ord. 2374-91 § 2 (part)).

#### 13.16.020. New city trees.

Whenever new development occurs, a minimum of one tree per lot shall be installed. In existing developments, if it is determined to be feasible, city trees shall be installed. The number of trees and types of trees to be installed, their location and the method of installation shall be in accordance with standards approved by the city council. (Ord. 2374-91 § 2 (part)).

#### 13.16.030. Definitions.

- (1) "City tree" means any woody plant which is growing within the public right-of-way along a city street and has a trunk four inches or more in diameter at four and one-half feet above normal ground level.
- (2) "Official city tree" means a species of tree designated by the superintendent and on the official tree list.
- (3) "Official tree list" means a list of species of trees designated as official city trees by the superintendent.
- (4) "Owner of the property" means the record owner or contract purchaser of any parcel of land fronting on any city street.
- (5) "Parkway strip" means the public area between the curbing and the sidewalk.
- (6) "Superintendent" means the superintendent of trees and landscaping, or any person designated by the superintendent to perform the duties set forth in this chapter.
- (7) "Tree easement" means the public area either between the curb and sidewalk (parkway strip), or between a monolithically constructed sidewalk and the property line along a city street right-of-way.

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(8) “Unofficial city tree” means a tree planted or growing within the public right-of-way which is not on the official tree list, or has not been approved by the superintendent. (Ord. 2374-91 § 2 (part)).

### 13.16.040. Official tree list.

(a) The superintendent shall maintain and periodically review the official tree list, and may add to, delete from or otherwise modify the list. The official tree list shall be on file for public inspection at the office of the department of public works.

(b) No tree shall be planted in the public right-of-way or overhang any city street unless the tree is on the official tree list, unless a written permit from the superintendent has been obtained to plant a tree not on the list. (Ord. 2374-91 § 2 (part)).

### 13.16.050. Enforcing authority.

The superintendent or designated representative shall have the authority to regulate the maintenance, planting and removal of trees on streets and property within the public rights-of-way, and on other property under the ownership and control of the city (with the exception of parks and golf courses), to ensure safety or preserve aesthetics. (Ord. 2374-91 § 2 (part)).

### 13.16.060. Permits required.

(a) Planting. It is unlawful for any person to plant or set out any tree within the public right-of-way without first procuring a permit from the superintendent.

(b) Maintenance and Removal. It is unlawful for any person to trim, prune, spray, fertilize, remove, cut above ground, or otherwise disturb any city tree without first procuring a permit from the superintendent. The permit shall be issued when the superintendent determines that the required work is necessary and that the proposed method is in accordance with generally accepted arboricultural specifications and standards of practice.

(c) Construction. It is unlawful for any person to make any excavation, place any fill, compact the soil, or construct any structure, walkway, driveway, pavement or public utility within fifteen feet of any city tree without first obtaining a permit for such work from the superintendent and conducting such work in accordance with such permit. As a condition of issuing such permit, the superintendent shall require that the work be done in accordance with such generally accepted arboricultural specifications and standards of practice necessary to protect the vitality of the tree.

#### (d) Permits.

(1) Applications for permits must be made at least forty-eight hours in advance of the time the work is to be started.

(2) The application shall contain, but shall not be limited to, the following:

(A) The number of trees to be planted or set out, the location, grade, size, quality, species, cultivar or variety of each tree, the method of planting, and such other information as the superintendent may require;

(B) The number and kinds of trees to be sprayed, fertilized, trimmed/pruned, removed, relocated or otherwise preserved, the kind of treatment to be administered, the composition of the

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spray or fertilizer material to be applied, and such other information as the superintendent may require;

(C) The written agreement of each applicant for a permit that the applicant will comply with the requirements, regulations and standards of this chapter;

(D) The time schedule for the proposed work; and

(E) Such other information as the superintendent deems necessary. (Ord. 2374-91 § 2 (part)).

### 13.16.070. Unofficial city trees.

(a) Planting. It is unlawful for any person to plant an unofficial city tree within the public right-of-way along a city street.

(b) Maintenance or Removal Permit. Unofficial city trees may be maintained or removed by property owners at their expense only upon obtaining a permit. (Ord. 2374-91 § 2 (part)).

### 13.16.080. Removal of damaged trees.

(a) Official or unofficial city trees shall be removed immediately by the city in the event such a tree is damaged or destroyed from any cause which in the opinion of the superintendent results in such a tree becoming an immediate threat to the safety of life or property.

(b) City trees shall be ordered removed when the superintendent finds such action necessary to prevent a hazard to public safety or to prevent the spread of disease or insects to public trees and places.

(1) The property owner who is notified of such order shall have the right within five days from the service of the order to file a written appeal with the director of public works.

(2) The director may revoke or modify the order if the director finds that the removal of the tree is not necessary to prevent a hazard to public safety or to prevent the spread of disease or insects to public trees and places.

(3) The total cost of the removal of city trees shall be borne by the city. An official city tree shall be planted, when practical, as a replacement in a location approved by the superintendent. The cost of the official city tree replacement shall be borne by the city.

(c) Unofficial city trees ordered removed shall be allowed to remain if each of the following conditions is complied with:

(1) The property owner obtains a permit to prune the tree above and below ground; the property owner provides the city a signed written statement satisfactory to the city indemnifying and holding harmless the city from any liability or loss from the continued maintenance of the tree.

(2) The total cost of removing the unofficial city trees, when it becomes necessary in the future, shall be paid by the property owner or successor in title, which obligation shall be evidenced by a written document satisfactory to the city and recorded in the office of the county recorder.

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(d) The superintendent shall initiate a tree replacement program in those areas of the city in which city trees are required to be removed. (Ord. 2374-91 § 2 (part)).

### 13.16.090. Abuse or mutilation.

Unless specifically authorized by the superintendent, it is unlawful for any person to:

- (a) Intentionally damage, break, cut, carve, mutilate, kill, injure or destroy any city tree;
- (b) Transplant or remove any city tree;
- (c) Attach any rope, wire, nails, advertising posters, sign or other contrivance to any city tree;
- (d) Allow to come in contact with the roots, leaves, bark or any part of any city tree any gaseous liquid or solid substance harmful to such tree; or
- (e) Cause or permit any wire charged with electricity to come in contact with any city tree. (Ord. 2374-91 § 2 (part)).

### 13.16.100. Public nuisance.

The following are hereby declared public nuisances:

- (a) Any diseased, infested, dead or dying tree, shrub or other plant on private property so near to any city tree as to constitute a danger to such tree, or to any street or portion thereof.
- (b) Any tree, shrub or groundcover on any private property or within the tree easement of a type of species apt to destroy, impair or otherwise interfere with any approved city tree, street improvement, sidewalk, curb, gutter, sewer or other public improvement, including any main or service;
- (c) Any vines, climbing plants, trees or shrubs growing into or over any city trees or any public hydrant, pole or electrolier;
- (d) The existence of any tree on private property within the city limits that is infested, infected or in danger of becoming infested or infected with objectionable insects, scales, fungus or growth injurious to trees;
- (e) The existence of any branches or foliage on private property which interferes with the visibility on, or free use of, or access to, any portion of any street improved for vehicular, bicycle or pedestrian travel;
- (f) Any hedges or thorny plants of any kind on any tree easement or part thereof;
- (g) Any shrubs or plants more than twenty-four inches in height in the tree easement, or portion thereof, measured above top of curb grade;
- (h) Any tree, shrub or other plant on private property which dangerously obstructs the view in the triangular area described in Chapter 19.44, commonly known as the “visibility triangle.”
- (i) The construction or maintenance of any type of wall or fence around or within any tree easement or portion thereof;
- (j) The placing or maintenance within any tree easement, or portion thereof, of any solid landscaping, decorative materials or plants, including but not limited to large rocks, driftwood or

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planters made of tile or concrete pipe sections, which protrude more than twenty-four inches above the level of curb and sidewalk and which are continuous with the length of the tree easement, or otherwise tend to block the free movement of pedestrians across the width of the parkway strip;

(k) The placing or maintenance of any type of ground cover or plant materials within three feet of the base of any tree planted in a tree easement;

(l) Any concrete, asphalt, tar paper or plastic membranes or other types of impervious materials placed in the tree easement in such close proximity to a city tree as to impede the movement of soil, air and water which are necessary to sustain tree growth and development. (Ord. 2721-03 § 7, 2003; Ord. 2374-91 § 2 (part)).

### 13.16.110. Abatement of public nuisance.

When any public nuisance as defined herein exists, it shall be subject to abatement as provided for in Chapter 9.26. (Ord. 2374-91 § 2 (part)).

### 13.16.120. Abatement costs debt to city.

The amount of the cost of abatement of a public nuisance, and any of the charges required to be paid by a property owner or any other person in this chapter, shall be deemed a debt due and owing to the city. The debt shall be collectible in the same manner as any other civil debt owing to the city. Such civil action shall not be a bar to any criminal action provided for by law. (Ord. 2374-91 § 2 (part)).

## **Chapter 19.37 Landscaping, irrigation, and usable open space.**

### [19.37.010. Purpose.](#)

The purpose of this chapter is to ensure that adequate landscaped areas and useable open space are provided where applicable for all zoning districts; to promote the conservation and efficient use of water and to prevent the waste of this valuable resource; and to promote water conservation as one component of sustainable building practices. This chapter shall be construed to assure consistency with the requirements of the Water Conservation in Landscaping Act of the California Government Code, or any successor statute, and any applicable implementing regulations, as they exist at the time of enactment or as later amended. In addition to compliance with the provisions in this chapter, projects shall comply with stormwater management requirements set forth in Chapter 12.60. (Ord. 2918-10 § 3).

### [19.37.020. Applicability.](#)

All provisions of this chapter shall apply to the following landscaping projects:

(a) Individual Single-Family or Duplex Residential Projects. New landscaping installations equal to or greater than one thousand square feet in connection with construction of a new dwelling unit.



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(b) All Other Projects. New landscaping installations or landscaping rehabilitation projects equal to or greater than one thousand square feet.

(c) Exemptions. Landscaping and irrigation requirements shall not apply to:

(1) Projects that fall below the square footage thresholds stated in subsections (a) and (b);

(2) Individual single-family or duplex residential projects that are not in connection with construction of a new dwelling unit;

(3) Registered local, state or federal historical sites where landscaping establishes a historical landscaping style, as determined by the Heritage Preservation Commission, planning commission, or by any applicable public board or commission responsible for architectural review or historic preservation;

(4) Ecological restoration or mined-land reclamation projects that do not require a permanent irrigation system; or

(5) Community gardens, plant collections (as part of botanical gardens and arboreta open to the public), non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation), agricultural uses, commercial nurseries and sod farms. (Ord. 2918-10 § 3).

### 19.37.030. Definitions.

The following terms and definitions pertain to the water efficiency sections of this chapter:

(a) “Applied water” means the portion of water supplied by the irrigation system to the landscaped area.

(b) “Automatic irrigation controller” means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

(c) “Certified professional” means a licensed landscape architect, a licensed landscape contractor, a licensed professional engineer, certified irrigation designer, or any other person authorized by the state to design a landscape or irrigation system, or a certified landscape irrigation auditor.

(d) “Conversion factor (0.62)” means the number that converts acre-inches per acre per year to gallons per square foot per year.



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(e) “Drip irrigation” means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

(f) “Estimated total water use” (ETWU) means the total water used for the landscaped area as described in Section 19.37.050.

(g) “ET adjustment factor” (ETAF) means a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscaped area. ETAF for a special landscaped area shall not exceed 1.0.

(h) “Evapotranspiration rate” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

(i) “Hardscape” means any durable material (pervious and non-pervious) in a landscaped area, such as decks, patios or pedestrian walkways, and other non-irrigated elements which may include art work, benches, and bicycle parking.

(j) “Hydrozone” means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

(k) “Irrigation audit” means an in depth evaluation of the performance of an irrigation system. An irrigation audit includes, but is not limited to: inspection, system tune up, system test with distribution uniformity or emission uniformity, correction of any overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

(l) “Irrigation efficiency” (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. Required irrigation efficiency is described in Section 19.37.110.

(m) “Low water use plant” means a plant species whose water needs are compatible with local climate and soil conditions. Species classified as “very low water use” and “low water use” by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

(n) “Maximum applied water allowance” (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 19.37.050.

(o) “Mulch” means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

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(p) “Native plant” means a plant indigenous to a specific area of consideration. For the purposes of these guidelines, the term shall refer to plants indigenous to the coastal ranges of central and northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community(ies) of the project’s vicinity.

(q) “No water using plant” means a plant species with water needs that are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established.

(r) “Plant factor” or “plant water use factor” is a factor, when multiplied by ETo (reference evapotranspiration), estimates the amount of water needed by plants. For purpose of calculation of the ETWU, use values from WUCOLS, or equivalent reference subject to approval by the director of community development.

(s) “Precipitation rate” means the rate of application of water measured in inches per hour.

(t) “Recreational area” means areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.

(u) “Reference evapotranspiration” or “ETo” means a standard measurement of environmental parameters which affect the water use of plants. For purposes of calculation of the MAWA and ETWU, as described in Section 19.37.050, use current reference evapotranspiration data, such as from the California Irrigation Management Information System (CIMIS), or other equivalent data, or soil moisture sensor data.

(v) “Runoff” means water which is not absorbed by the soil or landscaping to which it is applied and flows from the landscaped area.

(w) “Soil moisture sensing device” or “soil moisture sensor” means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

(x) “Special landscaped area” (SLA) means an area of the landscaping dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water, and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

(y) “Turf” means a ground cover surface of mowed grass.

(z) “Water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied).

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(aa) “WUCOLS” means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000. (Ord. 2918-10 § 3).

### 19.37.040. Minimum landscaped area and useable open space.

(a) Minimum Landscaped Area. Table 19.37.040 describes the minimum landscaped area and useable open space required by zoning district. In addition to the minimum landscaped area, areas not used for buildings, parking lot areas, driveways or pedestrian walkways shall be landscaped unless the review authority determines that landscaping is not necessary to achieve the purposes of this chapter. For requirements specific to single family uses, see subsection (f).

(b) Landscaped Buffer Required. A landscaped buffer is required for any property with a nonresidential use in a residential zoning district that abuts a residential use. It is also required for properties of any use in a nonresidential zoning district which abuts a residential zoning district. See Section 19.37.080 for buffer landscaping design requirements.

(c) Landscaped Frontage Strip Required. A fifteen-foot wide landscaped frontage strip is required for all properties except those noted below in subsection (f). The frontage strip is measured from the inside edge of the public sidewalk, or if no sidewalk exists, from the curb. See Section 19.37.090 for frontage strip landscaping design requirements.

(d) Useable Open Space Required. Useable open space is required for all duplex and multifamily residential properties as described in Table 19.37.040. Useable open space areas that meet the definition of landscaping may contribute towards the minimum landscaped area of the site. See Section 19.37.100 for useable open space design requirements.

(e) Specific Plan, Precise Plan and Other Specialized Plan Areas. Minimum landscaped area and useable open space for properties within a specialized plan’s prescribed area are described in their individual plans.

(f) Allowances and Limitations for Single-Family Uses and Single-Family Zoning Districts.

(1) Allowances for Single-Family Zoning Districts. Yards are not required to be landscaped in single-family zoning districts; however other provisions in Title 19 may apply.

(2) Limitation on Paved Areas in the R-0 and R-1 Zoning Districts. Not more than fifty percent of the required front yard of any lot within an R-0 or R-1 zoning district shall be paved with asphalt, concrete cement, or any other impervious surface, except as may be required to meet off-street parking and access requirements of Chapter 19.46.

(3) Landscaped Frontage Strip for Single-Family Uses. A landscaped frontage strip is not required in any zoning district for single-family residential uses which have a frontage on a public street.



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Table 19.37.040

## Minimum Landscaped Area and Useable Open Space by Zoning District

Zoning District	Useable Open Space	Other Landscaped Area	Parking Lot Landscaped Area	Total Landscaped Area
R-0	N/A	N/A	N/A	N/A
R-1	N/A	N/A	N/A	N/A
R-1.5	N/A	N/A	N/A	N/A
R-1.7/PD	N/A	N/A	N/A	N/A
R-2	500 sq. ft./unit <sup>1</sup>	850 sq. ft./ unit	20% of the parking lot area	Total minimum landscaped area is the combination of the minimum parking lot landscaped area and other landscaped area. In no case shall this total be less than 20% of the lot area.
R-3	400 sq. ft./unit	425 sq. ft./unit		
R-4	380 sq. ft./unit	375 sq. ft./unit		
R-5	380 sq. ft./unit	375 sq. ft./ unit		
C-1	N/A	12.5% of floor area		
C-2	N/A	12.5% of floor area		
C-3	N/A	12.5% of floor area		
C-4	N/A	12.5% of floor area		
O	N/A	10% of lot area		
P-F	N/A	10% of lot area		
M-S	N/A	10% of floor area		
M-3	N/A	10% of floor area		

<sup>1</sup> One thousand square feet of useable open space is required for a property with an accessory living unit.

(Ord. 2918-10 § 3).

#### 19.37.050. Water efficiency design requirements.

Water Efficiency in Design. Landscaped areas shall be designed to achieve water efficiency. Landscaping design and plant selection may be based on one of two options. Regardless of which option is selected, all other criteria described in this chapter shall apply. The options include:

(a) Option 1—Turf Limitation and Minimum Area with Water Conserving Plants. Turf area shall not be more than twenty-five percent of the landscaped area, and native, low water use or no water use plants shall be installed in at least eighty percent of all non-turf landscaped areas.

(b) Option 2—Water Budget Calculations. If the turf limitation option is not selected, a water budget calculation shall be prepared and shall adhere to the following requirements:

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(1) The plant factor shall be obtained from WUCOLS or an equivalent reference subject to approval by the director of community development. For areas that mix plants with different water uses, the plant factor calculation is based on the proportion of the respective plant factors, or based on the plant factor of the higher water using plant. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

(2) All water features shall be included in the high water use hydrozone.

(3) All special landscaped areas (SLA) shall be identified and their water use included in the water budget calculations.

(4) The reference evapotranspiration adjustment factor (ETAF) for SLAs shall not exceed 1.0. The ETAF for all other landscaped areas shall not exceed 0.7.

(5) Maximum applied water allowance (MAWA) shall be calculated using the following equation:

$$MAWA = (ET_o) (0.62) [(0.7 \times LA) + (0.3 \times SLA)]$$

Where:

MAWA = Maximum applied water allowance (gallons per year)

ET<sub>o</sub> = Reference evapotranspiration (inches per year)

0.62 = Conversion factor (to gallons)

0.7 = Reference evapotranspiration adjustment factor (ETAF)

LA = Planted landscaped area including SLA and not including hardscapes (square feet)

0.3 = Additional water allowance for SLA

SLA = Special landscaped area (square feet)

(6) Estimated total water use (ETWU) will be calculated using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA.

$$ETWU = (ET_o)(0.62) \left( \frac{PF \times HA}{IE} + SLA \right)$$

Where:

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ETWU = Estimated total water use per year (gallons)

ETo = Reference evapotranspiration (inches)

PF = Plant factor from WUCOLS

HA = Hydrozone area [high, medium, and low water use areas] (square feet)

SLA = Special landscaped area (square feet)

0.62 = Conversion factor

IE = Irrigation efficiency (minimum 0.70)

(Ord. 2918-10 § 3).

### 19.37.060. General planting, soil management and water feature design requirements.

(a) Plant Material. In addition to the requirements below, plant selection and installation shall be done in accordance with accepted horticultural industry practices.

(1) Variety. Landscaping shall include trees, shrubs, vines, flowers, ground covers or a combination thereof.

(2) Size at Time of Planting. Plant materials shall be sized and spaced to achieve immediate effect, in accordance with horticultural industry practices and at the discretion of the director of community development. Trees shall be of minimum fifteen gallon size. Twenty-four or thirty-six inch box trees may be required at the discretion of the director of community development.

(3) Number of Trees. There shall be one tree per one thousand square feet of required landscaped area in addition to required street trees and parking lot trees.

(4) Turf. All turf areas shall be planted with tall fescue or similar turf requiring less water. Turf shall not be planted on slopes greater than ten percent where the toe of the slope is adjacent to an impermeable hardscape.

(b) Grouping of Plants. Plants with similar water needs shall be grouped (also described as a hydrozone). Areas that mix plants with different water uses may be allowed if a water budget is performed.

(c) Soil Management.

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(1) Mulch. A minimum two-inch layer of mulch shall be applied on all non-turf soil areas.

(2) Soil Amendments. Soil amendments, such as compost, shall be incorporated according to the soil conditions at the project site and based on what is appropriate for selected plans.

(3) Grading. If the project includes grading, the grading shall be designed to minimize soil erosion, runoff and water waste. The grading shall avoid soil compaction in planted landscaped areas.

(d) Water Features. Recirculating water systems shall be used for water features. Where available, recycled water shall be used for water features. (Ord. 2918-10 § 3).

### [19.37.070. Parking lot landscaping design requirements.](#)

(a) Parking Lot Shading. Trees shall be planted and maintained throughout the lot to ensure that at least fifty percent of the parking area will be shaded within fifteen years after the establishment of the lot.

(1) Solar Energy Systems as Shading. Up to twenty-five percent of the fifty percent parking lot shading requirement (twelve and one-half percent of the total parking lot area) may be met with installation of solar energy systems rather than trees.

(2) Calculation of Shading. Shading shall be calculated by using the diameter of the tree crown at fifteen years or the dimensions of any roofed area supporting the solar energy system within the parking lot area.

(3) Surfaces Subject to Shading Calculation. All surfacing on which a vehicle can drive is subject to shade calculation, including all parking stalls, vehicular drives within the property regardless of length, drive-through lanes, and all maneuvering areas regardless of depth. The following surface areas are exempt from shading requirements: truck loading areas in front of overhead doors, truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking, surfaced areas not to be used for vehicle parking, driving or maneuvering, provided they are made inaccessible to vehicles by a barrier such as bollards or fencing, display, sales, service, or vehicular storage areas for automobile dealerships (required parking for auto dealerships is still subject to shading requirements), or surfaced areas existing prior to January 1, 2002.

(b) Ground Cover and Shrubs on Parking Islands. Parking islands shall contain living ground cover or shrubs with the trees, unless it can be shown that ground cover is incompatible with the tree. Where living ground cover is unsuitable, the director of community development may allow porous, nonliving ground cover such as pebbles or tanbark.



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(c) Drainage Design. Landscaping islands and parking islands shall be designed to integrate parking lot and site drainage in order to reduce storm water runoff velocities and minimize non-point source pollution. When six-inch concrete curbs are installed, they shall have drainage “weep holes.”

(d) Wheel Stops. Concrete wheel stops shall be installed when landscaped areas are not adequately protected. (Ord. 2918-10 § 3).

### 19.37.080. Buffer landscaping design requirements.

The following is a list of design requirements for buffer landscaping.

(a) Width. The buffer shall maintain a width of at least ten feet.

(b) Landscaping. The buffer shall include a planted screen of approved trees and shrubs which shall be placed along the length of the buffer at intervals not to exceed twenty feet, provided, however, that the director of community development may grant exceptions through a miscellaneous plan permit when warranted by conditions on the property.

(c) Wall Design. The buffer shall include a decorative masonry wall six feet in height measured from the highest adjoining grade. When the adjacent nonresidential building is two stories or more in height, the decorative masonry wall shall be eight feet measured from the highest adjoining grade. Where a residential use is permitted in a nonresidential zoning district, the wall shall be required on the residential property, unless a wall already exists.

(d) Specific Plan, Precise Plan and other specialized plan areas. Properties within a specialized plan’s prescribed area may be subject to additional buffer landscaping design requirements, as described in their individual plans. (Ord. 2918-10 § 3).

### 19.37.090. Frontage strip landscaping design requirements.

(a) Width. The frontage strip shall be fifteen feet wide along the entire street frontage measured from the inside edge of the public sidewalk, or if no sidewalk exists, from the curb.

(b) Landscaping Allowances. Frontage strip landscaping may be crossed by walkways and access drives.

(c) Specific Plan, Precise Plan and Other Specialized Plan Areas. Properties within a specialized plan’s prescribed area may vary from these frontage strip design requirements, as described in their individual plans. (Ord. 2918-10 § 3).

### 19.37.100. Useable open space design requirements.

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(a) Function. Useable open space must be designed to be accessible to, and useable for outdoor living, recreation or utility use.

(b) Location. Useable open space may not be located in any required front yard area.

(c) Minimum Useable Open Space Dimensions and Area. Each useable open space area shall have at least a twelve foot dimension in any direction and a minimum area of two hundred square feet except for:

(1) Private balconies must have a minimum of seven feet in any direction and a minimum area of eighty square feet.

(2) Roofs, decks or porches must have a minimum of ten feet in any direction and a total of one hundred twenty square feet.

(d) Private Useable Open Space Required. In the R-4 and R-5 zoning districts, a minimum of eighty square feet per unit shall be designed as private useable open space.

(e) Specific Plan, Precise Plan and Other Specialized Plan Areas. Properties within a specialized plan's prescribed area may vary from these useable open space design requirements, as described in their individual plans. (Ord. 2918-10 § 3).

### 19.37.110. Irrigation system design requirements.

(a) Irrigation System Required. All landscaped areas shall have a permanent irrigation system, except for single-family detached and duplex dwellings.

(b) Irrigation Efficiency. Irrigation systems shall be designed and maintained to meet or exceed an average landscaping irrigation efficiency of seventy percent.

(c) Water Waste Prohibited. Water waste resulting from an inefficient irrigation system leading to runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas such as walkways, roadways or structures is prohibited.

(d) Hydrozone Irrigation. Systems shall be designed to meet the individual needs of each plant group. Valves and control circuits shall be separated based on the required rate and quantity of water used.

(1) Valves. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions and plant materials with similar water use. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

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(2) Sprinkler Heads. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone. Sprinkler heads must have matched precipitation rates within each circuit.

(e) Low Volume Irrigation. Bubbler or drip-type irrigation, or other low-flow, non-spray technology shall be provided for:

(1) Trees and shrubs.

(2) Mulched areas.

(3) Areas with slope greater than ten percent, unless it can be demonstrated that no runoff or erosion will occur if other types of irrigation is used.

(4) Areas that are less than eight feet wide in any direction.

(f) Overhead Sprinkler Irrigation. Overhead irrigation systems may be used for clustered shrub plantings. Areas within two feet of a non-permeable surface may not be irrigated using overhead sprinkler irrigation unless it can be demonstrated that no runoff would occur, or the adjacent non-permeable surface is designed and constructed to drain entirely to landscaping.

(g) Irrigation Controllers and Sensors. All irrigation controllers must utilize either evapotranspiration or soil moisture sensor data and be capable of dual or multiple programming. Irrigation systems shall also incorporate sensors (rain, freeze, wind, etc.) that suspend or alter irrigation operation during unfavorable weather conditions.

(h) Screening of Devices. Irrigation controllers and backflow devices shall be screened from public view.

(i) Scheduling. Irrigation must be scheduled between eight p.m. and ten a.m. (Ord. 2918-10 § 3).

### [19.37.120. Landscaping and irrigation approval.](#)

(a) Permit Required. Except as otherwise provided in this chapter, no person shall install or modify any landscaped area described in Section 19.37.020 without first obtaining a miscellaneous plan permit for each such action, in accordance with the procedure described in Chapter 19.82.

(b) Landscaping and Irrigation Plans Required. Landscaping and irrigation plans shall be required for any modification or installation of new landscaping that falls within the thresholds stated in this chapter. The plans shall meet the information requirements determined by the director of community development to comply with the provisions of this chapter.

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(1) Preparation by Certified Professional. Landscaping and irrigation plans shall be prepared by, and bear the signature of, a certified professional, except for new landscaping installations or landscaping rehabilitation projects with less than two thousand five hundred square feet of landscaped area. (Ord. 2918-10 § 3).

### 19.37.130. Landscaping irrigation audit and maintenance.

(a) Irrigation Audit Required. Prior to approval of occupancy by a building official, a landscaping irrigation audit shall be conducted and an irrigation audit report shall be submitted for projects with landscaping and irrigation plans approved after June 10, 2010.

(1) Audit by Certified Professional. The landscaping irrigation audit shall be conducted and the report shall be prepared by a certified professional, except for new landscaping installations or landscaping rehabilitation projects with less than two thousand five hundred square feet of landscaped area.

(2) Audit Report Content. The irrigation audit report shall include, but not be limited to: inspection, system tune-up, system test with distribution uniformity, correction of any overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

(b) Submittal of Landscaping Maintenance Schedule. Prior to the final inspection by the building official, a regular maintenance schedule shall be submitted to the director of community development for review and approval. The maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscaped areas; and removing obstructions to irrigation spray heads or other emission devices. Landscaping shall be maintained in accordance with the approved maintenance schedule.

(c) General Maintenance. Landscaping shall be maintained in compliance with the approved landscaping plan, and shall be maintained in a neat, clean and healthful condition. Removed landscaping shall be replaced with specimen plants to match the approved landscaping plan. (Ord. 2918-10 § 3).

## **Chapter 19.94. TREE PRESERVATION**

### 19.94.010. Findings.

The city council finds that:

(a) The city of Sunnyvale has a great diversity of trees that are of economic value to the city and make it a desirable place for residents, business owners and visitors;

(b) The appearance of Sunnyvale contributes to the economic prosperity of the city;

(c) Trees contribute to the scenic beauty of Sunnyvale;

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(d) Trees help to naturally control flooding and erosion, moderate noise pollution, climate, dust and other airborne pollutants, remove carbon dioxide from the atmosphere and produce oxygen, and shelter and feed birds and other wildlife;

(e) The development and redevelopment of the city often necessitates the removal of trees, thereby contributing to their depletion; and

(f) It is necessary to protect and manage these valuable assets and their habitat to protect the health, safety and welfare of the citizens of Sunnyvale. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.010).

### 19.94.020. Purpose.

The purpose of this chapter is to regulate the protection, installation, removal and long term management of significantly sized trees on private property within the city and city owned golf courses and parks; encourage the proper protection and maintenance of significantly sized trees which are located on such property; establish a review and permit procedure to assure the correct planting, maintenance, protection and removal of significant trees on such property; and establish penalties for violation of its provisions. This chapter is not intended to regulate trees on public rights-of-way, which are regulated pursuant to Chapter 13.16. The provisions of this chapter identify and prescribe specific procedures and requirements for the filing, processing and consideration of the removal and preservation of trees. These provisions shall be used in conjunction with the general requirements and procedures identified in Chapter 19.98 including requirements and procedures for applications, fees, notification, appeals, conditions of approval, modifications, expiration, extensions, revocation and infractions, as applicable. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.020).

### 19.94.030. Definitions.

For the purpose of this chapter the following definitions apply:

(1) “Damage” means any intentional action or gross negligence which causes injury, death or disfigurement of a tree. Actions include, but are not limited to, cutting, girdling, poisoning, overwatering, unauthorized relocation or transportation of a tree or trenching, excavating, altering the grade or paving within the dripline of a tree.

(2) “Dripline” means the outermost line of the tree’s canopy projected straight down to the ground surface. As depicted in a plan view, the dripline appears as an irregularly shaped circle.

(3) “Protected tree” means a tree of significant size.

(4) “Significant size” means a tree thirty-eight inches or greater in circumference measured four and one-half feet above ground for single-trunk trees. For multi-trunk trees “significant size” means a tree which has at least one trunk with a circumference thirty-eight inches or greater measured four and one-half feet above ground level, or in which the measurements of the circumferences of each of the multi-trunks, when measured four and one-half feet above the ground level, added together equal an overall circumference one hundred thirteen inches or greater.

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(5) “Tree” means any woody plant which has a trunk thirteen inches or more in circumference at four and one-half feet above ground level.

(6) “Tree removal” means the physical removal of a tree or causing the death of a tree through damaging, poisoning, or other direct or indirect action, including excessive trimming, pruning, or mutilation that sacrifices the health, destroys, or diminishes the aesthetic quality, or diminishes the life expectancy of the tree. (Ord. 2808-06 § 2: Ord. 2623-99 § 1 (part): prior zoning code § 19.81.030 (part)).

\* Editor’s Note: The definitions in Section 19.94.030 also appear in Ch. 19.12.

### 19.94.040. Actions prohibited.

(a) It is unlawful to damage or kill any protected tree.

(b) It is unlawful to remove any protected tree from private property in any zoning district or from any city owned golf course or park, without a protected tree removal permit. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.040).

### 19.94.050. Permits required.

(a) In order to remove any protected tree from private property in any zoning district, or from any city owned golf course or park, it is necessary to obtain a protected tree removal permit from the department of community development. Any tree which has been designated as a heritage landmark, pursuant to the provisions of Chapter 19.96, shall not be removed without obtaining a tree removal permit in addition to a landmark alteration permit in accord with Chapter 19.96.

(b) Tree removal permits shall be filed at least ten working days prior to the proposed date of tree removal.

(c) Removal of orchard trees as part of farming operations or upon order of the county agricultural inspector are exempt from the provisions of this chapter. (Ord. 2808-06 § 3: Ord. 2623-99 § 1 (part): prior zoning code §§ 19.81.050, 19.81.080 (a)).

### 19.94.060. Standards and criteria.

One or more of the following standards must be met before a protected tree removal permit may be approved:

(a) The tree is diseased or damaged;

(b) The tree represents a potential hazard to people, structures or other trees;

(c) The tree is in basically sound condition, but restricts the owner’s ability to enjoy the reasonable use or economic potential of the property, or unreasonably restricts an adjoining property owner’s use or economic potential of the adjoining property. In the event this is the sole basis for the application, the following criteria shall be used to evaluate the application under this subsection:

(1) The necessity of the requested removal to allow construction of improvements such as additions to existing buildings or incidental site amenities or to otherwise allow economic or reasonable enjoyment of property;

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(2) The topography of the land and the effect of the requested action on water retention and diversion or increased flow of surface water;

(3) The approximate age of the tree relative to its average life span;

(4) The potential effect of removal on soil erosion and stability where the tree is located;

(5) Current and future visual screening potential;

(6) The property has become over landscaped with trees so that they are too numerous, crowded, and unreasonably restricts the property owner's ability to use their land. In this event, selective removal can be approved in conjunction with acceptable arborist's practices;

(7) The tree has outgrown its useful landscape value due to its inappropriate species, size and location, relative to the existing structures on the property;

(8) Any other information the director of community development finds pertinent to the application. (Ord. 2808-06 § 4: Ord. 2623-99 § 1 (part): prior zoning code § 19.81.060).

19.94.070. Display of permit.

All permits issued for tree removal shall be so displayed as to be clearly visible from a public right-of-way. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.070).

19.94.080. Replacement trees.

(a) At the discretion of the director of community development, replacement trees may be required as a condition of issuance of a protected tree removal permit, or as a condition of any discretionary permit for development or redevelopment. The need for replacement trees shall be evaluated based on the following criteria:

(1) The number, species, size and location of existing trees on the site; and

(2) Good forestry practices such as, but not limited to, the number of healthy trees a given parcel of land will support.

(b) At the discretion of the director of community development, other mitigation measures may be required, where either it is not feasible to plant any replacement trees on the site, or where the replacement trees to be planted are deemed inadequate by the director to sufficiently mitigate the effects of the removal of the tree(s). Mitigation measures could include, but would not be limited to, paying for the planting of additional trees in parks or other public areas of the city. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.090).

19.94.090. Requirements for replanting programs.

The following items shall be included in replanting programs when protected trees must be removed:

(a) Minimum distances between trees and between trees and buildings shall be provided such that the health of the replacement trees shall be ensured;

(b) Replanting shall occur within a specified time period;



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(c) Mixed species shall be used in large replantings whenever possible to reduce the likelihood of disease and infestations;

(d) Tree care procedures shall be included in all replanting plans and shall include, but not be limited to, the following items: mulching; straightening; new staking or restaking; fertilizing; and any other procedures deemed necessary by the city;

(e) Minimum size for the replacement of a protected tree shall be a California Association of Nurserymen's standard twenty-four inch box size tree. The director of community development shall have the authority to require larger or smaller replacement trees upon review of specific cases. Smaller trees may be approved if the applicant can document the long term advantages of using the smaller tree size. (Ord. 2623-99 § 1 (part); prior zoning code § 19.81.100).

### 19.94.100. Relocation of trees.

At the discretion of the director of community development, the tree(s) to be removed may be required to be relocated on or off the subject site. The need for relocation shall be evaluated based on the criteria found in Section 19.94.080 plus the ease with which the removed tree can be replanted. (Ord. 2623-99 § 1 (part); prior zoning code § 19.81.110).

### 19.94.110. Requirements concerning protected trees during site development or modification.

When site development or modification is occurring and a discretionary permit and a public hearing are required, the developer or owner shall meet the following requirements:

(a) Tree Survey. A tree survey conducted by an arborist who has been certified by the International Society of Arboriculture shall be submitted as part of the required application materials for all use, design or special development permits on developing or redeveloping property. The survey shall show the location, size, and species (both common and Latin names required) of all trees (protected and unprotected) on the site, and shall include a calculation of the value of each tree. A written letter shall be included when a protected tree(s) is proposed to be removed explaining why the tree(s) cannot be relocated or the design of the structures altered to maintain the trees.

#### (b) Plan Modifications.

(1) The approving body shall have the ability to require the reasonable alteration of a proposed building in order to retain protected trees.

(2) The approving body shall have the ability to require relocation (on or off site) of protected trees which the applicant proposes to remove.

(c) Replanting Plans. When protected trees must be removed, replanting plans shall be submitted as part of the landscaping plan for the proposed project. The replanting plan shall be subject to the requirements of Section 19.94.090, but actual number and sizes of replacement trees shall be reviewed on a case by case basis.

(d) Tree Protection Plan. The developer shall submit a tree protection plan which shall demonstrate how tree protection shall be provided during and after construction and shall include, where appropriate, a description of any of the protective measures set forth in Section 19.94.120.



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(e) Tree Bonds. The approving body shall have the authority to require a developer to post a bond with the City for the value of any tree required to remain as a condition of permit approval during development activities on a site.

(1) The bond may be for a maximum period of five years.

(2) The value of the tree shall be determined by the director of community development.

(3) The bond will be released back to the developer if the tree remains in good health through the end of the bond period.

(4) In the event the tree dies or begins to decline in poor health, the bond will be used by the City to replace the aesthetic value of the tree that was lost.

(f) Soil Mitigation. The approving body shall have the authority to require underground soil or planting measures, such as structural soils, in any location deemed appropriate for future or existing tree growth. (Ord. 2808-06 § 5; Ord. 2623-99 § 1 (part): prior zoning code § 19.81.120). 19.94.120. Tree protection during construction.

Protected trees designated for preservation shall be protected during construction of a project by use of the following methods:

(a) Protective fencing shall be installed no closer to the trunk than the dripline, and far enough from the trunk to protect the integrity of the tree. The fence shall be a minimum of four feet in height and shall be set securely in place. The fence shall be of a sturdy but open material (i.e., chain link) to allow visibility to the trunk for inspections and safety.

(b) The existing grade level around a tree shall normally be maintained out to the dripline of the tree. Alternate grade levels, as described in the tree protection plan, may be approved by the director of community development.

(c) Drain wells shall be installed whenever impervious surfaces will be placed over the root system of a tree (the root system generally extends to the outermost edges of the branches).

(d) Pruning that is necessary to accommodate a project feature, such as a building, road or walkway shall be reviewed and approved by the department of community development and the department of public works.

(e) New landscaping installed within the dripline of an existing tree shall be designed to reproduce a similar environment to that which existed prior to construction. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.130).

19.94.130. Project review committee.

All tree surveys, replanting plans and tree protection plans submitted with discretionary permit applications made pursuant to Title 19, shall be reviewed at a project review committee meeting at which the applicant shall be present. Discretionary permits shall not be issued until such time as the tree survey, replanting plan and tree protection plans are deemed complete and have been approved by the director of community development. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.140).

19.94.140. On-site inspections.

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Appropriate city staff shall be authorized to conduct on-site inspections during construction to ensure that tree preservation procedures are being followed and replanting plans implemented. Failure to abide by an approved plan or permit may result in a stop work order to be issued by the director of community development. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.150).

19.94.150. Emergency waivers and exemptions.

The provisions of this chapter are waived if compliance would hamper the rescue of life or property from immediate danger or the repair of utilities in the event of emergencies such as wind storms, ice storms or other natural disasters. (Ord. 2623-99 § 1 (part): prior zoning code § 19.81.160).

19.94.160. Penalties for violation.

(a) Any person, property owner, firm or corporation who intentionally or negligently violates any of the provisions of this chapter or any permit issued pursuant to it, or who fails to comply with any condition of any discretionary permit which relates to protected tree preservation, shall be liable for a civil penalty assessed and recovered in a civil action brought by the city attorney.

(1) In the event that the violation results in any substantial injury or damage to a protected tree, the civil penalty shall be not less than five thousand dollars nor more than twenty-five thousand dollars. In the event that the violation results in the destruction or improper removal of a protected tree, the civil penalty shall be not less than ten thousand dollars nor more than fifty thousand dollars. The appropriate penalty shall apply separately to each tree affected by the improper action.

(2) In any civil action brought to seek such civil penalties, and/or to obtain injunctive relief for violation of any provision of this chapter, in which the city prevails, the court shall determine and impose reasonable expenses, including attorneys' fees incurred by the city in the investigation and prosecution of the action.

(b) The director of community development or his designee shall have the authority to require an administrative hearing for any violations of the provisions of this chapter, including but not limited to, illegal tree removal.

(1) The administrative hearing shall be set for a date that is not less than fifteen calendar days and not more than thirty calendar days from the date the "Notice of Violation" is served in accordance with Section 1.08.100.

(2) The hearing officer may impose such fines, reasonable expenses and landscaping deemed necessary to replace the aesthetic value of the tree based on generally accepted arborist's practices.

(3) The hearing officer may consider any relevant evidence and the decision must be supported by the weight of the evidence. Strict rules of evidence shall not apply.

(4) The hearing officer shall issue a written decision within fifteen days of the hearing date. The hearing officer may continue the hearing and request additional information from city staff or the recipient of the "Notice of Violation" before issuing a written decision.

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(5) If the hearing officer imposes a fine for a violation of this chapter and the fine has not been satisfied within ninety days or has not been appealed, then the obligation shall become a lien against the real property on which the obligation occurred.

(6) The failure of any recipient of a “Notice of Violation” to appear at the administrative hearing shall constitute a waiver of any objections to the imposition of a fine or other appropriate remedy imposed by the hearing officer and constitutes a failure to exhaust administrative remedies.

(7) The decision of the hearing officer may be appealed to the planning commission within fifteen days of the date of service of the written decision. The decision of the planning commission shall be final.

(c) The remedies provided for in this section are in addition to and do not supersede or limit any and all other remedies, civil or criminal. (Ord. 2808-06 § 6: Ord. 2623-99 § 1 (part): prior zoning code § 19.81.190).

### **Chapter 19.96. Heritage Preservation**

#### 19.96.010. Findings and purpose.

(a) The city council finds that the character and history of the city are reflected in its cultural, historical, and architectural heritage, that these historical and cultural foundations should be preserved as living parts of community life and development to build an understanding of the city’s past so that future generations may have a genuine opportunity to appreciate, enjoy, and understand the rich heritage of the city, that with ever increasing pressures of modernization and urbanization, city landmarks, neighborhoods, and other areas of historical and cultural interest are threatened with demolition, and that pursuant to the provisions of the National Historic Preservation Act of 1966, as amended, the city of Sunnyvale joins with private concerns, the state of California, and the United States Congress to develop preservation programs and activities to give maximum encouragement to agencies and individuals undertaking preservation of the city’s unique architectural, historical, aesthetic, and cultural heritage. The provisions of this chapter identify and prescribe specific procedures and requirements for the filing, processing and consideration by the heritage preservation commission. These provisions shall be used in conjunction with the general requirements and procedures identified in Chapter 19.98 including requirements and procedures for applications, fees, notification, appeals, conditions of approval, modifications, expiration, extensions, revocation and infractions.

(b) The purpose of this chapter is to promote the public health, safety, and general welfare, and

(1) To safeguard the city’s unique cultural heritage as embodied and reflected in the city’s architectural history and patterns of cultural development;

(2) To encourage and facilitate public knowledge, understanding, and appreciation of the city’s historic past and unique sense of place and to encourage public participation in identifying heritage resources;

(3) To promote the enjoyment, celebration, and use of heritage resources appropriate for the educational, cultural, recreational as well as material needs of people;

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(4) To preserve diverse architectural styles, patterns of development, and design preferences reflecting phases of the city’s history and to encourage complementary contemporary design and construction and inspire a more livable urban environment;

(5) To enhance property values and to increase economic and financial benefits to the city and its inhabitants through incentives for preservation;

(6) To protect and enhance the city’s attraction to tourists and visitors thereby stimulating business and industry;

(7) To identify as early as possible and resolve conflicts between the preservation of heritage resources and alternative land uses by integrating the preservation of heritage resources into the comprehensive planning, management and development processes for both public and private property;

(8) To conserve valuable material and energy resources by ongoing use and maintenance of the existing built environment;

(9) To stabilize neighborhoods through the preservation of heritage resources and establishment of heritage resource districts; and

(10) To develop and maintain appropriate settings and environments for heritage resources. (Ord. 2623-99 § 1 (part): prior zoning code § 19.80.005).

### 19.96.040. Definitions.

For the purpose of this chapter, the following definitions apply:

(a) “Alteration” means any exterior change or modification to an improvement or site which affects the exterior architectural features of property.

(b) “Designated heritage resource” means a heritage resource which has specific elements which are expressly found to meet one or more of the Criteria of the National Register of Historic Places as established by the Secretary of the Interior and incorporated by reference into this code and which has been designated and determined to be appropriate for preservation by the city council, and has been recognized by the state or the nation to be historically significant.

(c) “Designated heritage resource district” means a heritage resources district which has specific elements which are expressly found to meet one or more of the Criteria of the National Register of Historic Places as established by the Secretary of the Interior and incorporated by reference into this code and which has been designated and determined to be appropriate for preservation by the city council, and has been recognized by the state or the nation to be historically significant.

(d) “Exterior architectural feature” means the architectural elements embodying style, design, general arrangement and components of all of the outer surfaces of an improvement. This includes such visual characteristics as paint, color, surface texture, grading, surface paving, materials, accessory structures, trees and other natural features, and exterior objects such as signs, plaques, light fixtures, street furniture, walls, fences, steps, plantings and landscape accessories.

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(e) “Heritage housing combining district” means a heritage resource district consisting of residential properties which has been zoned as a heritage housing combining district for the purposes of preserving, protecting, enhancing and perpetuating the appearance of the district which contributes to the cultural or aesthetic heritage of the city.

(f) “Heritage resource” means improvements, buildings, portions of buildings, structures, signs, features, sites, scenic areas, views and vistas, places, areas, landscapes, trees, or other natural objects or objects of scientific, aesthetic, educational, political, social, cultural, architectural, or historical significance to the citizens of the city, the Santa Clara Valley region, the state, or the nation, which are designated and determined to be appropriate for preservation by the city council.

(g) “Heritage resource district” means any geographically definable area containing a concentration or continuity of heritage resources which are thematically related, or which contribute to each other and are unified by a special character, historical interest, aesthetic value, or which represents one or more architectural periods or styles typical to the city, and that has been designated and determined to be appropriate for preservation by the city council, pursuant to provisions of this chapter.

(h) “Improvement” means any building, structure, place, parking facility, fence, gate, wall, work of art, or other object constituting a physical betterment of real property, or any part of such betterment.

(i) “Local landmark” means a heritage resource which is significant in that the resource materially benefits the historical character of a neighborhood or area, or the resource in its location represents an established and familiar visual feature of the community or city, and has been designated and determined to be appropriate for preservation by the city council.

(j) “Local landmark district” means a heritage resources district which demonstrates a higher collective integrity of location, design, setting, materials, workmanship, feeling, and association which is essential to the sustained value of the separate individual resources and which has been designated and determined to be appropriate for preservation by the city council. A local landmark district possesses a significant concentration or continuity of heritage resources unified by past events, or aesthetically by plan or physical development; or the collective value of the local landmark district as a whole may be greater than the value of each individual heritage resource within it.

(k) “Local register of heritage resources” means a list of heritage resources officially designated or recognized by the city.

(l) “Preservation” means the identification, protection, conservation, enhancement, perpetuation or rehabilitation of any heritage resource that prevents the deterioration, alteration, destruction or removal of such resource. (Ord. 2780-05 § 1 (part); Ord. 2623-99 § 1 (part); prior zoning code § 19.80.050 (part)).

19.96.050. Criteria for evaluation and nomination of heritage resources.

Any improvement, building, portion of buildings, structures, signs, features, sites, scenic areas, views, vistas, places, areas, landscapes, trees, or other natural objects or objects of scientific,

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aesthetic, educational, political, social, cultural, architectural, or historical significance can be designated a heritage resource by the city council and any area within the city may be designated a heritage resource district by the city council pursuant to provisions of this chapter if it meets the Criteria of the National Register of Historic Places, or one or more of the following:

- (a) It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic engineering, architectural, or natural history;
- (b) It is identified with persons or events significant in local, state, or national history;
- (c) It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
- (d) It is representative of the work of a notable builder, designer, or architect;
- (e) It contributes to the significance of an historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically or by plan or physical development;
- (f) It has a unique location or singular physical characteristic or is a view or vista representing an established and familiar visual feature of a neighborhood, community, or the city of Sunnyvale;
- (g) It embodies elements of architectural design, detail, materials, or craftsmanship that represents a significant structural or architectural achievement or innovation;
- (h) It is similar to other distinctive properties, sites, areas, or objects based on a historic, cultural, or architectural motif;
- (i) It reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning;
- (j) It is one of the few remaining examples in the city, region, state, or nation possessing distinguishing characteristics of an architectural or historic type or specimen;
- (k) With respect to a local landmark, it is significant in that the resource materially benefits the historical character of a neighborhood or area, or the resource in its location represents an established and familiar visual feature of the community or city.
- (l) With respect to a local landmark district, a collective high integrity of the district is essential to the sustained value of the separate individual resources;
- (m) With respect to a designated landmark and designated landmark district, the heritage resource shall meet Criteria of the National Register of Historical Places, which are incorporated by reference into this chapter. (Ord. 2623-99 §1 (part): prior zoning code §19.80.060).

### **Recent code changes related to trees**

On April 4, 2006, the City Council adopted new regulations related to tree preservation. The changes affect three Title 19 sections including, Tree Preservation, Solar Access, and General

## Sunnyvale Urban Forest Management Plan 2014– Sunnyvale CA

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Procedures. The bullet below summarizes the change that has been made to the City's Zoning Code. These changes took effect on May 9, 2006

- Two New Required Findings:
  1. A property has sufficient landscaping or is over landscaped;
  2. Allow removal of overgrown, but healthy, trees.
- New Penalty Process for Illegal Tree Removals:
  1. New administrative procedure that creates an administrative penalty process rather than the existing civil process.
- Tree Removal Permit (TRP) Appeals:
  1. Clarifies that only applicants can appeal a TRP decision.
- New Conditions of Approval for Development of Property:
  1. Can require a bond for protecting trees during construction;
  2. Can require underground mitigation measures for new trees.
- Solar Access Clarification:
  1. Solar access rights clarified for protection of significant sized trees.
- Additional Ordinance Clarification Issues:
  1. Adds the definition of “tree removal” to code;
  2. Increases tree measurement location to 4½ feet above ground;
  3. TRP permit now valid for only one year;
  4. Requires Latin names to be used in tree surveys;
  5. Changes TRP timeline to at least 10 days.







# City of Sunnyvale

## Agenda Item

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17-0917

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 17-05

**TITLE** Orchard Heritage Park and Heritage Park Museum - Analysis and Options for the Long-Term Operations and Maintenance of Orchard Heritage Park and Review of the Sunnyvale Historical Society and Museum Association Proposed Expansion of the Sunnyvale Heritage Park Museum Site

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): City Manager  
History: 1 year ago: Ranked Below the Line  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

In 2015, Council approved Study Issue DPW 15-10, which analyzed the potential of relocating the Butcher House to Orchard Heritage Park. On April 5, 2016, staff presented Council with three alternatives which included locating the Butcher House within the orchard, locating the Butcher House to the lawn area across from the museum, or not relocating the Butcher House (RTC 16-0182 Attached). Council discussed the alternatives and members of the public spoke regarding the various options. Representatives of the museum also spoke and clarified that they would only proceed with moving the Butcher House if it was relocated to their preferred location in the orchard. A motion to relocate the Butcher House within the orchard (the location preferred by the Historical Society) failed on a 3-3 vote.

Since the Sunnyvale Historical Society and Museum Association (SHSMA) indicated they would not support moving the Butcher House to the lawn area across from the museum, Council requested staff to meet with them and see if any other options were available to relocate the Butcher House to Orchard Heritage Park without removing any apricot trees. Staff held a meeting with the SHSMA on May 3, 2016, and the SHSMA reiterated they did not support moving the Butcher House anywhere else except for in the orchard because it does not align with their vision of expanding the museum grounds to Michelangelo Drive. On July 26, 2016, the City Council rescinded its previous Council action and took action to not relocate the Butcher House.

On multiple occasions Council also expressed concern and interest regarding the long-term viability of the orchard, and the development of a plan for future operations and maintenance. It would be most appropriate to combine both these items into one study, as each decision would affect the other.

What are the key elements of the study?

#### Orchard Operations and Maintenance

The Council has expressed interest in analyzing options for the future operations and maintenance of the Orchard. The Orchard is currently maintained by volunteer work and no long-term operational plan has been developed.

#### Expansion of the Sunnyvale Heritage Park Museum Site

The SHSMA expressed interest in exploring the possibility of expanding the museum grounds at Orchard Heritage Park further east to Michelangelo Drive. The purpose of the expansion would be to accommodate additional items such as exhibits, historical structures, a windmill and ultimately creating one cohesive location including the orchard. The expansion will require the removal of trees in the orchard.

#### Study

If approved, this study would engage the community, stakeholders, and current operators and volunteers to:

1. Identify long-term options for operating and maintaining the orchard.
2. Review concepts to expand the current Museum facility, including the identification of boundary limits.

Staff would hire a consultant to develop multiple site plan concepts, identify utility needs, review CEQA, assess potential costs, and complete a community engagement process.

Estimated years to complete study: 2 years

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost)

Major

Funding Required for Non-Budgeted Costs

\$350,000

Funding Source

Will seek budget supplement

The cost is for consultant services that are necessary to complete the work effort. The consultant team will require many different levels of expertise including land use, engineering, environmental, economics, and community outreach. Staff would be responsible for managing the project, which includes developing a scope of work, hiring a consultant, managing the consultant, reviewing all work products, participating in all necessary public outreach as well as presentations to commissions and City Council. There has been significant public feedback with regards to the orchard and museum and staff anticipates that this effort will require a community engagement process beyond what is required for a typical Study Issue.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Parks and Recreation Commission

**STAFF RECOMMENDATION**

Defer. This policy issue merits discussion at a future Study Issues Workshop.

In 2016, there was a significant amount of discussion regarding the orchard and museum. However, at this time the immediate improvements that the Council prioritized are underway and overall the orchard and museum are both functioning as envisioned. The orchard continues to be well maintained and is an asset to the City. The museum is also a City asset, and staff is moving forward with relocating the City maintenance facility and constructing permanent improvements to further enhance the site. The development of an overall vision and a plan for future operations and maintenance may provide benefits to guide future decisions and staff recommends considering this policy issue at a future Study Issues Workshop.

Prepared By: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager

**ATTACHMENT(S)**

Report to Council 16-0182



# City of Sunnyvale

## Agenda Item

16-0182

Agenda Date: 4/5/2016

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### REPORT TO COUNCIL

#### SUBJECT

Discussion and Possible Action on the Relocation of the Butcher House and Update on the Design of the Orchard Heritage Park Improvement Project (Study Issue) and Find that the Action Is Exempt from CEQA Pursuant to CEQA Guidelines Section 15262 (Feasibility and Planning Studies)

#### REPORT IN BRIEF

This report provides an overview of the public input and conceptual design process for the 2015 Council Study Issue (Attachment 1 - DPW 15-10) to consider relocation of the Butcher House to Orchard Heritage Park and review the need for a retaining wall to address the drainage between the orchard and the museum grounds. In addition, the report provides an update on the Orchard Heritage Park Improvement Project. The study issue and project are considered as a single project since decisions on each item affect future opportunities at the park.

A community input process was undertaken to review the objectives of the improvement project and the possible locations for the Butcher House. The City Council provided direction that multiple concepts should be reviewed for the Butcher House, including concepts that did not require any tree removals from the orchard. Staff presented three different concepts to the community, and based on the feedback received, developed the following three alternatives:

- **Alternative 1 - Locating the Butcher House within the Orchard:** The Butcher House is located near the museum within the orchard at the location preferred by the Historical Society. This location will require the permanent loss of at least 14 trees, and temporary loss of at least 12 trees for installation of a construction access road.
- **Alternative 2 - Locating the Butcher House within Heritage Park:** The Butcher House is located in the lawn area in front of the museum near the parking lot at the location favored by the public. This alternative does not impact the orchard.
- **Alternative 3 - No Butcher House:** This alternative does not provide a site for the Butcher House.

All three alternatives are feasible and meet the goal of the Capital Project, therefore staff does not make a specific recommendation.

#### BACKGROUND

The Orchard Heritage Park Improvement Project was created in response to the Orchard Heritage Park Master Plan Revisions, approved by City Council in 2011. Currently, the view to the front of the Heritage Museum is blocked from the surrounding parking lots by a trash enclosure and a

maintenance building with associated storage. The goal of the improvement project is to make the front entry to the museum and surrounding areas more visible, attractive and accessible. This will be achieved by removing the cinder block wall separating the museum from the nearby parking lot, relocating the maintenance building and adjacent trash enclosure elsewhere on the Sunnyvale Community Center campus, and improving the area between the museum and the parking lot in accordance with the Orchard Heritage Park Master Plan.

After the Project had been approved by City Council, the Sunnyvale Historical Society requested to move the 1912 Butcher House to Orchard Heritage Park. In response to this, a 2015 Council Study Issue was approved to review potential locations for the house on the Orchard Heritage Park site and to identify impacted park features such as orchard trees. It is important to note the City's project does not include any funding for relocation of the Butcher House. This staff report assumes, per the approved Study Issue, that all costs associated with the relocation and necessary construction would be privately managed and funded.

In addition, the study issue included review of the existing drainage between the orchard and the museum grounds to determine what improvements (such as retaining walls), if any, should be constructed to address potential flooding and drainage issues.

The Parks and Recreation Commission considered this item at a noticed public hearing on February 10, 2016. Under the Public Contact section of this report, a summary of the Commission's action is included.

#### EXISTING POLICY

##### **General Plan, Chapter 3, Land Use and Transportation - Open Space, Goal LT-8**

**Adequate and Balanced Open Space:** Provide and maintain adequate and balanced open space and recreation facilities for the benefit of maintaining a healthy community based on community needs and the ability of the City to finance, construct, maintain and operate these facilities now and in the future.

##### *From the Orchard Heritage Park Master Plan Action Statements:*

2. Maintain a working fruit orchard throughout the largest portion of Orchard Heritage Park for as long a time period as practical within the resources made available by the City. Provide public access to the greatest extent possible while meeting the goal of maintaining a working fruit orchard.
5. Assist the Sunnyvale Historical Society per written agreements, and to the greatest extent practical, in developing a Heritage Museum facility at Orchard Heritage Park consistent with City Council direction.

#### ENVIRONMENTAL REVIEW

The actions being considered are exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15262 as the actions relate to the authorization of a feasibility and planning study for possible future actions that the City Council has not approved, adopted or funded.

If a conceptual design for the Orchard Heritage Park Improvements Project is approved, the full scope of the project and any potential impacts will need to be determined by the project architect. It is anticipated that the demolition and disposal of the various structures, construction of replacement

structures, and construction of new landscaping and associated improvements will be categorically exempt from CEQA pursuant to CEQA Guidelines Section 15302(b) (replacement or reconstruction of existing facilities). The CEQA determination will be brought to the City Council for approval concurrent with the award of the construction contract for the project.

The relocation of the Butcher House and associated alterations to Orchard Heritage Park may have potential impacts on trees and historical resources that require further analysis under CEQA (CEQA Guidelines Sections 15300.2(c), (f), and 15304). Should City Council direct staff to move forward with the proposal to relocate the Butcher House to Orchard Heritage Park, the Historical Society will bear the costs of appropriate CEQA review. Compliance with CEQA is required before the relocation can be approved.

### DISCUSSION

As part of the Study Issue the City Council gave specific direction that the relocation of the Butcher House should consider multiple options, including an option that did not require any tree removals from the orchards. Staff engaged the community to review different concepts, and ultimately developed three alternatives for consideration. This Report to Council describes the community and alternatives development process.

#### Community Meetings

The architect and City staff hosted two public meetings at the community center campus to gather input on the locations of the new trash enclosure, maintenance building, and Butcher House as well as design features for the new park space (Attachment 2 - Summary of Meeting Notes). The first public meeting was held on Thursday September 17, 2015 at the Sunnyvale Community Center and was attended by at least 52 people. The goal of the meeting was to receive input regarding placement of the new structures (maintenance building, trash enclosure, and Butcher House) and to hear ideas about desired design elements for the new space. This was also an opportunity for the public to ask questions and receive information about the projects. Numerous community members commented that no orchard trees should be removed to accommodate project improvements such as the new maintenance building, trash enclosure or Butcher House. A number of community members stated that the Butcher House should be saved for future generations while others questioned the value of the house or requested that other City parks be considered as potential sites for the house.

Input collected at the first meeting was used to prepare three conceptual designs that were then presented at the second public meeting, held at the Sunnyvale Senior Center on Thursday October 29, 2015 and attended by at least 63 people. Each of the conceptual plans presented indicated a different location or position for the Butcher House as well as various design features requested during the first public meeting. The options presented at the meeting included one option of relocating the Butcher House to the orchard area and two options for relocating the Butcher House within the grounds of the Orchard Heritage Museum. In summary the concepts presented were:

- Concept A - This concept depicted the Butcher House in the existing lawn near the multi-purpose building. The maintenance building and trash enclosure were replaced by a new open turf area with pathways and shade structures on either side.
- Concept B - This concept placed the Butcher House in the orchard in the general area requested by the Historical Society, within the orchard area. Improvements to the current maintenance area include an extended walkway and entry plaza as well as shade trees.

- Concept C - In this concept, the Butcher House was placed diagonally in the existing lawn area in a manner that preserved some of the open turf. Other improvements included a focal feature in the path in front of the museum and an expanded entry plaza near the parking lot.

Each concept was reviewed and at the end of the meeting, attendees were asked to submit a ranking of their order of preference for the three conceptual plans presented. The rankings are included as Attachment 3 and they show that the attendees are more in favor of placing the Butcher House in a location that does not remove any trees from the orchard.

#### Alternative Plans

From the data and information received from the public, the three concept plans presented at the public input meeting were refined by the consultant into the following three alternatives, included as Attachments 4 - 6. The three alternatives are intended to provide the full range of options. They include an option of the Butcher House within the Orchard, an option of the Butcher House within Heritage Park, and an option that does not include the Butcher House. Staff is requesting City Council to select one of the alternatives as the basis for moving forward with the project.

#### Alternative 1 - Butcher House in the Orchard Adjacent to the Museum (Attachment 4)

Alternative 1 shows the Butcher House at the location requested by the Sunnyvale Historical Society. This was the least preferred concept based on the rankings received from the public input process. This concept plan shows the amount of orchard land necessary to install the house and related site improvements such as a porch and Americans with Disability Act (ADA) access ramps. This will require the permanent loss of at least 10 apricot trees from the orchard, 4 other non-orchard trees, and temporary loss of at least 12 apricot trees for installation of an access road to facilitate construction and restoration of the house.

Under this alternative a retaining wall will need to be constructed to accommodate the elevation differential between the proposed Butcher House location and the orchard.

#### Alternative 2 - Butcher House in Lawn Area (Attachment 5)

Alternative 2 is the preferred alternative of the public meeting attendees, and locates the Butcher House on a diagonal within the grassy area adjacent to the parking lot. This concept accomplishes the objectives of the park improvement project and does not involve the removal of any apricot trees from the orchard. However, Alternative 2 is not the requested location of the Historical Society. The Historical Society has concerns about the distance the Butcher House will be from the museum and would prefer to have the house next to the museum to facilitate docent tours of both the museum and house utilizing the same number of volunteer staff. Attachment 7 is a letter from the Historical Society to the City Council.

Should the Butcher House be relocated to this location, other site improvements would need to be included as part of the relocation project. These improvements as shown on the concept plan consist of a new walkway to the house and landscaping changes to accommodate the structure.

#### Alternative 3 - Improvement Project Only Without Butcher House (Attachment 6)

Alternative 3 does not provide a site for the Butcher House.

#### Trash Enclosure and Maintenance Building

The location for the trash/maintenance facility was determined based on a site review as well as input received during the first meeting and was the same in all three conceptual plans presented at the second meeting. The general criteria established based on public comments were that the facility not be located in the orchard, not near community center driveway entrances, not in highly utilized parking areas such as the senior center or theater, not in the Orchard Heritage Park footprint, and that it be in an inefficiently used space. The location presented meets these criteria and minimizes the number of parking spaces that will be lost to accommodate the facility. Landscape screening will also be assessed during design and may be added to mitigate any visual impact from the street.

#### Drainage Improvements

Drainage along the orchard edge between the museum and the amphitheater was preliminarily evaluated by the consultant. Solutions anticipated include re-grading and a possible installation of a valley gutter. At this time it is anticipated that a retaining wall at the existing interface along the orchard is not necessary.

#### FISCAL IMPACT

##### **Orchard Heritage Park Improvement Project**

City Council previously approved a budget of \$750,000 for the design and construction of the Orchard Heritage Park Improvements from the Park Dedication Fund. The project budget was developed and approved prior to any consideration of relocating the Butcher House to the site. City Council subsequently added \$50,000 for consideration of the Butcher House Study Issue. A design contract for \$123,363 was awarded to Callander Associates Landscape Architecture on August 11, 2015.

#### **Drainage Improvements**

The drainage issue was not identified until well after the original project budget was developed. For any of the concept plans selected, City Council action requested is to approve a future budget modification at the award of construction contract to accommodate the drainage solution (re-grading and valley gutter) and the implementation of the selected concept plan. The increase in costs above the existing budget is estimated at approximately \$25,000, but actual costs will be determined upon bid opening.

#### **Butcher House Relocation**

Per the Study issue, all costs associated with the Butcher House relocation . and construction of associated improvements will be privately managed and funded. The Historical Society has communicated to staff that they are willing to fund this work, but would prefer for the City to cover the costs of some related site work such as the construction of the access road, drainage improvements, landscaping and pathways surrounding the house; however there is no current City funding for those improvements.

#### PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's website.

The first of two public meetings for the project was conducted by Sunnyvale staff and Callander Associates, the architectural consultant, at the Sunnyvale Community Center on Thursday,



September 17, 2015. A second public meeting was held at the Sunnyvale Senior Center on Thursday, October 29, 2015. Notification of these meetings was provided through posting of informational fliers at Orchard Heritage Park and mail delivery to neighbors that live within 1,000 feet of the project. Those that attended any of the meetings and provided contact information received additional notification of scheduled meetings on this subject.

The Parks and Recreation Commission reviewed this item at their February 10, 2016 meeting (RTC 16-0024). The Park and Recreation Commission voted 2 yes, 1 no, and one 1 abstention to approve Alternative 2 - Direct staff to move forward with CEQA evaluation of the proposal to relocate the Butcher House to the lawn area and acknowledge that a future budget modification with the construction contract award will be required to provide funding for drainage improvements behind the existing multi-purpose building. The costs of the CEQA compliance to be borne by the Historical Society.

The vote was unusual in that there is one vacancy on the Commission and one commissioner abstained. In this case, the Commission had the authority to act because four members were present and a quorum of the board (three members) participated in the matter. Thus, based on the City's rule that motions are approved by a majority of votes cast, the motion carried.

Commissioners discussed the ramifications of the Historical Society's position to support only Alternative 1 and the possibility of working with the Historical Society to accept Alternative 2. Historical aspects of the house and costs associated with moving were also discussed. During the public comment period, comments were heard supporting each of the three Alternatives. The Director of the Sunnyvale Historical Society and Museum spoke in support of Alternative 1, which she indicated is the only Alternative in which the Historical Society would bear the cost of relocating the Butcher House. One other speaker supported Alternative 1. Twelve speakers were in opposition to removing any trees from the orchard and supported either Alternatives 2, 3 or 4. A number of people spoke requesting the orchard remain a working orchard that produces fruit (Attachment 8).

#### ALTERNATIVES

1. Alternative Plan 1- Direct staff to move forward with the CEQA evaluation of the proposal to relocate the Butcher House to the location preferred by the Historical Society. The costs of CEQA compliance to be borne by the Historical Society.
2. Alternative Plan 2 - Direct staff to move forward with the CEQA evaluation of the proposal to relocate the Butcher House to the lawn area and acknowledge that a future budget modification with the construction contract award will be required to provide funding for drainage improvements (re-grading and valley gutter) behind the existing multi-purpose building. The costs of CEQA compliance to be borne by the Historical Society.
3. Alternative Plan 3- Do not relocate the Butcher House and acknowledge that a future budget modification with the construction contract award will be required to provide funding for drainage improvements (re-grading and valley gutter) behind the existing multi-purpose building.
4. Direct staff to proceed with a different alternative.

If the house is included in the preferred alternative, the Historical Society will be requested to confirm their commitment to proceed with the relocation of the Butcher House within two weeks after City Council's action. This will require a commitment to fund the CEQA evaluation and to privately fund and manage all relocation costs. If a commitment is received, staff will proceed with the City project, include appropriate CEQA analysis for relocation (\$25,000-\$60,000 - funded by the Historical

Society), and maintain the future Butcher House area unimproved for the relocation project. If the Historical Society does not confirm their commitment to proceed with the Butcher House relocation, then Staff would move forward with Alternative Plan 3.

#### **STAFF RECOMMENDATION**

Staff makes no recommendation. All alternatives in the report achieve the goals for relocating the maintenance building and trash enclosure.

The City Council has already approved and funded a project for the project that relocates the maintenance building and trash enclosure. Recently, City staff was directed to develop site plan options for the City Council to consider with respect to relocating the Butcher house. Staff makes no recommendation because the construction/engineering issues for the Council directed, and funded, project to relocate the maintenance building and trash enclosures is accomplished in either of the scenarios presented in this report. This report provides the site plan options as City Council directed.

Prepared by: Nathan Scribner, Senior Civil Engineer

Reviewed by: Manuel Pineda, Director, Public Works

Reviewed by: Cynthia Bojorquez, Director, Library and Community Services

Reviewed by: Kent Steffens, Assistant City Manager

Approved by: Deanna J. Santana, City Manager

#### **ATTACHMENTS**

1. Study Issue
2. Summary of Meeting Notes
3. Community Rankings of Concept Plans
4. Alternative 1 - Butcher House at Historical Society Preferred Location
5. Alternative 2 - Butcher House in Grass Area
6. Alternative 3 - No Butcher House
7. Letter from the Sunnyvale Historical Society and Museum Association
8. Excerpt of Draft PRC Minutes of February 10, 2016





# City of Sunnyvale

## Agenda Item

15-0118

Agenda Date: 1/30/2015

### 2015 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 15-10

**TITLE** Relocation of the Butcher House to Heritage Garden Park and Review of the Need for a Retaining Wall

#### **BACKGROUND**

**Lead Department:** Public Works  
Support Department(s): N/A

#### **Sponsor(s):**

Councilmembers: Martin-Milius, Griffith

#### **History:**

1 year ago: N/A

2 years ago: N/A

#### **SCOPE OF THE STUDY**

**What are the key elements of the study?**

#### **Butcher House Relocation**

Staff previously reviewed the relocation of the Butcher House as a Budget Issue to determine all the costs associated with relocation. This Study Issue would only determine the appropriate location for the Butcher House within Heritage Garden Park and the conceptual elements that need to be included as part of the project that affects other park features. This would include tree removals/relocations, utilities, and access.

There are also two additional projects currently under consideration at Heritage Garden Park that affect the Butcher House relocation.

#### **Construction of a Retaining Wall**

The study would review the existing drainage (the Heritage Museum experienced flooding as part of the last major storm) and make a determination if drainage modifications are required. It would also analyze what type of improvements (such as retaining walls), if any, should be constructed to address any flooding and drainage issues.

#### **Project 830480 Orchard Heritage Park**

There is funded capital project to remove and construct a new maintenance building and dumpster enclosure within the park. The purpose of the project is to make the museum and surrounding area

more accessible, usable, and attractive. Staff is currently developing a design scope of work, which is scheduled for release in March.

### **Study Issue Approach**

The Study Issue contemplates additional modifications to the park. As such, it would be most effective to combine all projects into one single project. A piecemeal approach would not work, as each decision taken individually could affect future options and opportunities.

Staff will include the drainage concern as part of the current scope of work for project 830480. The drainage item contemplates specific engineering issues which staff believes should fit within the expertise of the designer that will be selected as part of the current project. However, the identification of a location of the Butcher house will require additional funding and time. This includes masterplan review, preliminary engineering concerns, and additional outreach. If relocation of the Butcher house proceeds as a selected Study Issue, staff will incorporate it within the same consultant contract, which will allow for a comprehensive plan for all the proposed improvements. It is important to highlight that this will delay the completion of the scope of work for project 830480 by approximately three months, and the additional work will add approximately another six months to the overall project.

### **What precipitated this study?**

Request by the Sunnyvale Historical Society and Museum Association

**Planned Completion Year:** 2015

### **FISCAL IMPACT**

#### **Cost to Conduct Study**

Level of staff effort required (opportunity cost): Moderate

Amount of funding above current budget required: \$50,000

Funding Source: Will seek budget supplement

Explanation of Cost:

The additional funds will be used to help masterplan and identify a possible location for the Butcher house. This will also include conceptual infrastructure needs and a discussion on possible impacts.

#### **Cost to Implement Study Results**

Butcher house - No cost to implement.

Retaining Wall/Drainage Issues - Will be determined as part of design

Explanation of Cost: The actual design, relocation, and construction of the Butcher house would be funded by private funds. This would also include any City fees for review and inspection.

**EXPECTED PARTICIPATION IN THE PROCESS**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Parks and Recreation Commission

**STAFF RECOMMENDATION**

**Position:** Support

**Explanation:** If Orchard Heritage Park is a feasible location for the Butcher house, it would be beneficial to include it as part of the current project. Because of space constraints, understanding and planning all possible improvements would simplify future construction of improvements within the park.

Prepared By: Manuel Pineda, Director, Public Works

Reviewed By: Robert A. Walker, Assistant City Manager

Approved By: Deanna J. Santana, City Manager





## Via E-Mail Only

September 22, 2015

### Meeting Summary

### Orchard Heritage Park Project

#### RE: Community Meeting #1

Date of Meeting: Thursday September 17, 2015, 7:00 pm – 8:30 pm, Sunnyvale Community Center

Attendees:

*City of Sunnyvale:*

Nate Scribner (NS), [nscribner@sunnyvale.ca.gov](mailto:nscribner@sunnyvale.ca.gov)

Jim Stark (JS), [jstark@sunnyvale.ca.gov](mailto:jstark@sunnyvale.ca.gov)

*Callander Associates:*

Dave Rubin (DR), [drubin@callanderassociates.com](mailto:drubin@callanderassociates.com)

Brian Fletcher (BF), [bfletcher@callanderassociates.com](mailto:bfletcher@callanderassociates.com)

*Community:*

See Sign In Sheets (attached)

The following information was discussed during the meeting and/or received via comment cards or email correspondence directed to [pubworks@sunnyvale.ca.org](mailto:pubworks@sunnyvale.ca.org).

*item*

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### Orchard Heritage Park Community Comments

- Gardening advocate asked that team consider including plumbing inside garden shed.
- Numerous community members commented that no orchard trees should be removed to accommodate project improvements (i.e. maintenance building or trash enclosure should not encroach into orchard).
- Consider including playground to appeal to younger families. Play equipment should not be modern looking.
- Consider providing large shade trees and benches around museum.

**SAN MATEO**  
311 Seventh Avenue  
San Mateo, CA 94401  
T 650.375.1313  
F 650.344.3290

**SAN JOSE**  
300 South First Street, Suite 232  
San Jose, CA 95113  
T 408.275.0565  
F 408.275.8047

**RANCHO CORDOVA**  
11180 Sun Center Drive, Suite 104  
Rancho Cordova, CA 95670  
T 916.631.1312  
F 916.635.9153

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**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #1**

Date of Meeting: Thursday September 17, 2015 7:00 pm – 8:30 pm

Page 2 of 4

- Community member requested that the design incorporate large specimen trees for immediate impact. Avoid small container planted trees.
- Design should provide a more welcoming entry to the museum and offer a direct route to access new improvements. Any solution must include shade (preferably a structure). Weddings are very hot. Consider including grapevines on arbor.
- Consider provisions to allow for rotating exhibit space at entry plaza.
- Shade over lunch areas more interesting for kids/schools
- Provide for more kid friendly amenities where possible.
- Consider a design that has benefits to broader community and not just the museum.
- When programming the space, consider limitations on loud music in entry area during events.
- Provide multi-generational appeal in design of space.
- Look at parking lots for opportunities to accommodate program as they're very underutilized. BF noted that expanding project limits also tends to expand project costs.
- Consider how to discourage homeless from using new park amenities.
- Location of future maintenance building should not encroach on existing features to the extent possible.
- It was noted that the parking lot will be used more, if good amenities are available.
- Consider placing maintenance building along entry drive from Manet side of the campus.
- A community member inquired whether the maintenance building be same size. BF responded that the building will have a very similar footprint.
- One community member suggested that the maintenance area be retained where it is, just hide it better.
- Consider maintenance and trash area at curve on Michelangelo side of campus.

**Butcher House Community Comments**

- It was clarified that the cost to move the Butcher House will be borne by Historical society.
- A number of community members stated that the Butcher house should be saved for future generations.
- Consider using the house as additional museum space.
- One community member inquired 'Why move and save Butcher

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #1**

Date of Meeting: Thursday September 17, 2015 7:00 pm – 8:30 pm

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House?’ Another made the statement that the Butcher House might not on the City’s heritage resource list. Where’s the City’s study saying to keep Butcher House? Consider adding Heritage Preservation Commission to the review process.

- Many participants noted that the Butcher House should only be placed within the confines of Orchard Heritage Park. No removal of orchard trees. If it’s valued by the community, it should not be tucked into the orchard.
- It was suggested that there’s value in showing what hard working class lived like. We should not just save and restore historic homes of the wealthy.
- A few community members expressed that the study issue is too narrowly defined. Another individual thought there should be a “no relocation” option.
- It was suggested that the design team be realistic about quantity of impacted orchard trees.
- It was suggested there may not be enough room to accommodate all programs.
- Butcher House is part of history. It belongs in Orchard Heritage Park.
- Orchard needs to be certain size to be economically viable. Removing trees pushes orchard closer towards not being viable.
- Locate Butcher House where maintenance building is currently located.
- Consider parking lot as location for the Butcher House.
- Can Butcher House go somewhere else in the City? Has that scenario been considered?
- A community member inquired how the Butcher house would be transported to each park location depicted on concepts. Would the act of transporting the house remove trees in certain locations where trees don’t otherwise seem impacted?
- One community member wanted to find out how to voice their concerns over placing the Butcher House at Orchard Heritage Park. BF responded that there will be future meetings including a Council meeting to provide input.
- Question was asked whether the maintenance area foot print can be reduced to save on space.
- Question was asked whether the City benefits from having Butcher House? Consider needs of broader community.
- Consider placing the house at Las Palmas Park for use as a recreation center.
- Butcher House redundant with museum. Have something to honor working class from that era instead.
- A few community members asked to see what the interior of the

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #1**

Date of Meeting: Thursday September 17, 2015 7:00 pm – 8:30 pm

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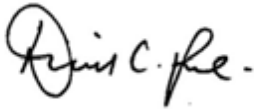
home looks like.

- Question was asked whether there's time pressure to resolve Butcher House issue.
- Restrooms at multi-purpose building are often vandalized and closed. Consider ways to solve that issue.
- Can maintenance area be broken up? Buildings broken up by use, smaller buildings spread around the site.

-END-

The information above is Callander Associates' understanding of items discussed and decisions reached at the meeting. Callander Associates is proceeding with the project based on this understanding. If you have any questions, additions, or corrections to this memo, please contact this office in writing within three days.

Submitted by:



Dave Rubin, Project Manager, Callander Associates

cc: All attendees

Attachments:

1. Sign-in sheets, dated September 17, four pages
2. Comment cards received at meeting (9/17/15)
3. Email correspondence received at [pubworks@sunnyvale.ca.gov](mailto:pubworks@sunnyvale.ca.gov) between 9/9/15 and 9/24/15



## Via E-Mail Only

November 12, 2015

### Meeting Summary

### Orchard Heritage Park Project

#### RE: Community Meeting #2

Date of Meeting: Thursday October 29th, 2015, 7:00 pm – 8:30 pm, Sunnyvale Community Center

#### Attendees:

##### *City of Sunnyvale:*

Nate Scribner (NS), [nscibner@sunnyvale.ca.gov](mailto:nscibner@sunnyvale.ca.gov)

Jim Stark (JS), [jstark@sunnyvale.ca.gov](mailto:jstark@sunnyvale.ca.gov)

##### *Callander Associates:*

Brian Fletcher (BF), [bfletcher@callanderassociates.com](mailto:bfletcher@callanderassociates.com)

Tristan Williamson (TW), [twilliamson@callanderassociates.com](mailto:twilliamson@callanderassociates.com)

##### *Community:*

See Sign In Sheets (attached)

The following information was discussed during the meeting and/or received via comment cards or email correspondence directed to [pubworks@sunnyvale.ca.org](mailto:pubworks@sunnyvale.ca.org).

*item*

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### Orchard Heritage Park Community Comments

- It was suggested that the maintenance building will be more of a landscape type of project, not a construction project. Examples such as a landscaped screening wall and exterior landscape of the building were given.
- It was inquired about the Butcher House being in a parking lot location.

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

Date of Meeting: Thursday October 29, 2015 7:00 pm – 8:30 pm

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- Community member suggested consulting with the Historical Society on the 3 presented concepts and getting their feedback.
- Community member inquired about the treatment of the driveway in Concept B. Can the orchard be restored?
- Community member inquired about providing access to farm equipment.
- Inquiry on the historical significance of the Butcher House.
- Community member inquired about the number of trees that are to be lost with each concept.
- Community inquired about the possibility of a different location for the Butcher House and whether or not it will be open to the public.
- Community member inquired about alternatives to liquidambar for the Interpretive Pathway, is there another SPP?
  
- Community member was concerned about ability to voice their preferences and opinions on the project (see comment card).
- Community member inquired about the location of restrooms in the proposed play area.
- Community member suggested alternate location of play area of the Driveway by the Barn.
- Between the three concepts, what is the number of outdoor spaces in each? This is important, especially for accommodating events.
- Community member voiced their goals for the security fence. Must be secure, visually appealing, thematic, and open.
- Community member inquired about the danger of farm equipment on site, especially toward children.
- Community member said that the Gazebo has many benefits and they can foresee ability but can they see an equivalent idea in the other concepts?
- Can the proposed play structure be included in Concept C?
- Community member noted that Concept C contains a visual connection between the two structures. Creates an engagement between different environments.
- Community member asked about the need for a retaining wall. Is it to prevent flooding on site?
- Community member questioned proposed location of Gazebo in Concept C. They asked it be to the left of the fountain.
- How are the two decisions being made related and how will they be made?
  
- It was noted that the next step would be a parks and recreation

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

Date of Meeting: Thursday October 29, 2015 7:00 pm – 8:30 pm

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meeting.

- Community member noted “big” need for proposed playground but inquired about the hours and the security measures, need for a fence?
- It was noted that the Museum Courtyard is currently used as an informal playground, if this is a continued use there is need for shade and a restroom.
- It was noted that residents and neighbors needs to be ensured and made aware of any drawings that show trash enclosures.
- A suggested alternative location for a trash enclosure would be across from the driveway at Michelangelo Drive.
- A community member inquired about the impacts on the trees from the fence around the Butcher House shown in Concept B.
- A community member asked if there are any restrictions on future site development of orchard land that are tied to the original development of the site.
- What is the budget of entrance and relocation project, how do the 3 concepts compare, and what is the existing budget?
- A community member asked how the 3 concepts stack up in regards to the Butcher House issue.
- It was noted that the 4<sup>th</sup> Concept’s improvements are free of the Butcher House.
- A community member requested an increased focus of “living heritage” at the site.
- It was noted that the home of the orchard workers is complicated by featuring the ranch home/Butcher House.
- A community member requested that the Butcher House remain at its existing site.
- It was noted by community that concepts A and C feature all desirable elements and are a “win/win” for the site.
- It was noted that in concept B, the Butcher House is hidden behind other existing elements.

**BF Comments**

- Community likes the idea of a playground.
- Community did not respond to concept B.
- Noted that there is no shade at the amphitheater.
- Noted that there are no restrooms for play area.
- Concept C was also well received.
- Concepts A and C could be accessible.
- Community would like to see a concept without the Butcher House.
- A and C are most viable options.

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

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- The Orchard house would complement and highlight how they lived.

**Comment Cards:**

***Are there are any amenities or features from the other two concepts that you would like to see in your preferred concept?***

- Would there be room for a gazebo in Concept A.
- Bathroom for play area?
- Gazebo, open entry to museum.
- Walkways to be able to look at farm equipment.
- Playground either here or elsewhere on community center site. No loss of apricot trees, would rather have nice playground and not Butcher House.
- Small gazebo or other back drop for a wedding (other events) pictures.
- Like the Gazebo in C, would also like the play structure but less priority, would also like plum trees near Butcher House, keep lawn in C.
- Playground idea OK in existing location, except that it seems small for the number of children in the area. Perhaps place playground in another part of the Community Center lawn areas.
- Please do not move Butcher House in Orchard Park, it's pretty open space.
- Using the old historic crates somehow, stacking in an aesthetically pleasing way as part of a display is a nice idea. Can this be included in Option 3? Option 3 is the unified layout with a center area. Please camouflage the maintenance and garbage structures.
- Play structure.
- A – like the idea of having the house with some yard visible.
- B – having the house in the back area gives event planners more privacy depending when parties are allowed to start – so will the public still be allowed throughout the rest of the park?
- Play area should be added to C, in the area next to the purple shrubs.
- Like the idea of living exhibit to show and playground. Also shadow walkway is what residents want there, open area for concept C.
- Gazebo and play area in Concept C.
- Playground and Gazebo.
- I would like to see the maintenance building and trash enclosure placed in a landscaped berm. There is a way to design the building and landscape so that these elements are actually pleasant and interesting.

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

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- Multiple community members stated preference to have a way to vote against Concept B rather than having to give it a rank at all.
- Multiple community members state that a play area is needed in concept A.
- Preference for Concept B based on the turf area being continuous, not divided up as in other concepts.
- Preference for an option showing to Butcher House rotated 90 degrees clockwise with the front being roughly 20' from the multipurpose building.

***Are there are any amenities and features in your preferred concept that you would like not to include?***

- Do not remove any trees.
- No play area in concept C.
- Option C is the best use of space, leaving half of the lawn area as open space.
- Not much interest in Butcher House.
- Keep Butcher House on Butcher property down near Wolfe
- Not sold on having a playground at this site. I'd rather see space for school groups, restrooms and lunch area.
- Play area to include present old equipment and restrooms
- Play area may be more of a problem, liability.
- Option B is not preferable: more expensive to move the Butcher House in this option; Butcher House appears "hidden away" behind other buildings.
- Play area not preferable because it does not include (accessible) bathroom facilities and would appear to be outside the fenced area and generally not in a visible area.
- Move proposed play area to near the Community Center, behind the Senior Center, as an alternative to the currently-proposed site.
- No Butcher House
- Vote against including a play area and/or freestanding bathrooms.
- Playground could be fine in proposed location if restrooms can be made available; if not, multiple community members stated preference for moving play area to a location in the Community Center.
- Support for the walkway, as it improves the sight line from the parking area to the museum, but multiple community members stated it is not preferable to create an obstacle to this sight line by locating the Butcher House as shown.



**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

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- Preference to locate the Butcher House close to the Museum building for a number of reasons: proximity of 2 separate buildings for use in weddings and other events; multiple community members expressed concern over the increased staffing of docents potentially required by locating the Butcher House far from the Museum building.
- Playground not compatible with concepts put forth.

***Do you have any other comments?***

- Keep the last remaining apricot orchard in the Santa Clara Valley completely intact.
- Apricots are an important part of City and County history. Very important to the preservation of community heritage that the orchard be preserved. Future generations should be able to see the orchard first-hand.
- Orchard maintenance becomes less cost-effective with removal or trees.
- This entire project appears to be an unnecessary expense for the City and its taxpayers.
- Effort is being driven by desire to move maintenance building; if this must happen, proposed location should not affect orchard or operations.
- Potential model for a period-correct park: Mission San Juan Bautista. Unadorned, emphasis on history.
- Potential improvements to maintenance building design:
- Keep current location, but new building could match orchard barn structure so that it adds on to the “current cloistered sanctuary feeling.” Maintenance building could be pulled back more into the parking area, opening up more space for amenities within the existing courtyard.
- Inquiry about organizing to prevent any development on the orchard land.
- Multiple community members recommend adding more parks in Sunnyvale.
- Feelings of sadness in seeing orchards disappear with buildings being put in their place.
- Preference to move the Butcher House to the old Murphy Park on N. Sunnyvale Ave.
- Multiple community members stated they do not want the trash enclosures to be located near the homes, where currently proposed, and one states they should not have to look at the back of trash enclosure and maintenance building from their home on Michelangelo Drive.

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

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- Suggested alternative location for trash enclosures: behind theatre or gym.
- Suggested alternative location for maintenance building: west of the Barn (where temporary tents are).
- Support for the Entry Plaza going straight into the museum entrance.
- Proposed open turf area should be moved to in front of the Butcher House, leaving the potential for a larger open turf area in case the Butcher House does not end up on this site.
- Additional benches needed to accommodate group visits to the museum/student field trips.
- The museum should be open more often, or else the potential play and garden areas should be open at all times so that it will be open to students at the community center classes and to the general public.
- A play area should be located close to the community center.
- Multiple community members expressed the desire to remove any intervention that would involve any change to the orchard's current state.
- Preference for the location of the Butcher House in Concept B due to: proximity to Museum buildings, orchard and walkway to Senior Center, effectively telling the "story" of Sunnyvale's history.
- The new entrance will be welcoming to all.
- The loss of "8 to 9" trees will not "destroy" the orchard, and is a sacrifice in order to preserve Sunnyvale history.
- Children's play area is not preferable as it does not tie into presenting history.
- Support for the wide entry through historic gates.
- Support for an exhibit with interpretive panels on the farm machinery.
- There is a need for a covered walkway between the Butcher House and the Museum (as noted by the Historical Society). Potential location: along the multi-use building.
- Suggest recreating the front porch the Butcher House historically had, which was "rounded out in front of the door, and extended to each side of the front of the house."
- Cutting down trees to make way for the Butcher House is unacceptable, as the apricot orchard is the last one left in the South Bay and is too small for proposed reduction.
- Replacement of trees is something that already happens in the orchard, and so the replacement of a swath of trees in the case of the driveway behind the museum building is acceptable. Potential

**Meeting Summary****Orchard Heritage Park Project****RE: Community Meeting #2**

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to relocate trees from the proposed Butcher House location (Option B) to areas where farm equipment is currently stored.

- Staff and council ought to go back and look at original proposal.
- Continue to preserve orchard and as much our heritage as possible.
- Preference to leave the Butcher House where it is.
- Preference not to alter the orchard at all, or to buy it and convert it to a park.
- Try to preserve as much open space in front of museum and Butcher House for events.
- The more open space, the better. Need to provide the public with greater amount of time of notice before the date of the community meeting.
- I really love the orchard
- I'm still unconvinced about the value of the Butcher House. If we don't have to keep it, I like the layout of B-less the Butcher House.
- Butcher House's historic value is questionable.
- Disagreement with the removal of trees from the orchard for environmental reasons (mitigating air pollution caused by increased traffic).
- Support for the Museum and orchard the way they are now, no support for the addition of another building that will not add value to the site.
- Agree with the gentleman who implied that the Historical Society somehow has more influence on whether or not the Butcher House is appropriate for this property. There really has been little or no discussion about whether this relocation is not usable. It's sort of "Fait accompli"
- Many people enter the Community Center through Michelangelo from the South(walking). Need to keep a cut through.
- It would be nice to include play area. Shaded trellis and trees also good.
- Great job by the consultant and staff for running a great meeting.
- Put less emphasis on weddings, more on play structures.
- Wherever you put the house, will it have a covered open area for receptions; as I see nothing on the plans on any drawings? Like the Los Altos museum has an outside area ready to have any event out there.
- Great idea to show the farming equipment in a more informative way
- C might make the most sense in both the visual and the information
- Add play yard in concept C. Beside the Butcher House.

**Meeting Summary**

**Orchard Heritage Park Project**

**RE: Community Meeting #2**

Date of Meeting: Thursday October 29, 2015 7:00 pm – 8:30 pm

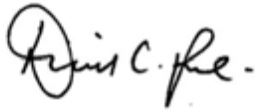
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- Great concepts! Pathway to senior center and community center is needed.
- Has any thought been considered to develop Butcher corner around the theme of the Butcher home?
- A gazebo is a distraction. I don't think this feature is needed.
- Excellent presentation. Listened well from meeting #1
- Did not like the option of not having a fourth option that did not relocate the Butcher House

-END-

The information above is Callander Associates' understanding of items discussed and decisions reached at the meeting. Callander Associates is proceeding with the project based on this understanding. If you have any questions, additions, or corrections to this memo, please contact this office in writing within three days.

Submitted by:

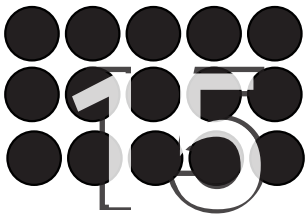
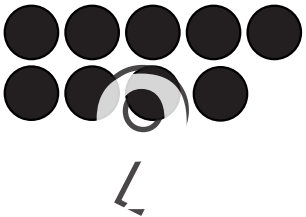

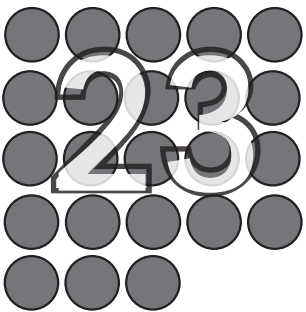

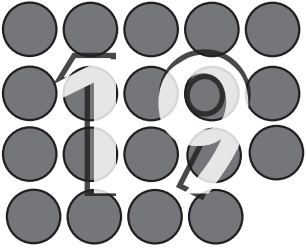
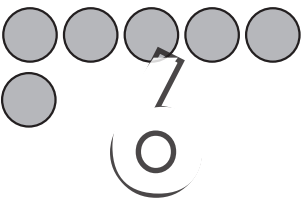
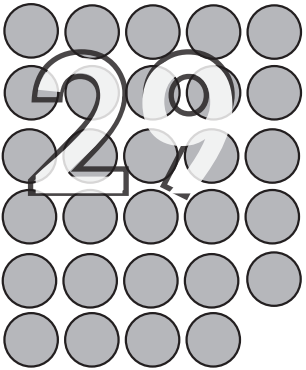
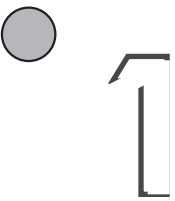
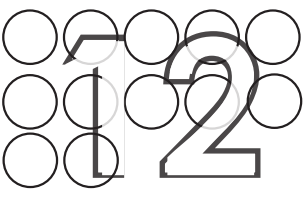
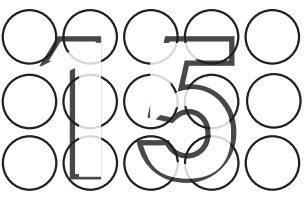
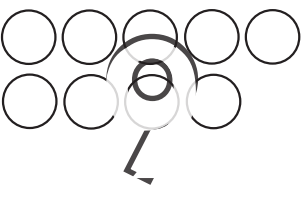



A handwritten signature in black ink, appearing to read "Dave Rubin".

Dave Rubin, Project Manager, Callander Associates

cc: All attendees

Attachments:

1. Sign-in sheets, dated October 29, four pages
2. Comment cards received at meeting (10/29/15)

	CONCEPT A	CONCEPT B	CONCEPT C
first place votes			
second place votes			
third place votes			
did not include in rank			
total			



	CONCEPT A House in Exist. Grass Area	CONCEPT B House adjacent to Museum	CONCEPT C House Diagonal in Grass
first place votes			
second place votes			
third place votes			
did not include in rank			
total			





























## Sunnyvale Historical Society and Museum Association

P.O. Box 2187 Sunnyvale, California 94087-0187  
www.heritageparkmuseum.org • 408.749.0220

December 15, 2015

Honorable Mayor, Vice Mayor, and Council Members,

The Sunnyvale Historical Society is excited to reach this milestone with the City of Sunnyvale. Our 8-year dream of opening up the visual entrance to the museum by removing the maintenance building, shed and dumpsters is almost here. We will no longer be called the “hidden” museum. Our second dream has always been to move a historic house to this site to serve as an addition/annex to the museum. As part of this project, The Sunnyvale Historical Society has requested to move the 1912 Butcher’s Family house, and therefore saving the first historic structure of its kind in Sunnyvale. In order to preserve this history, a retaining wall will also need to be built to protect our special collection from floodwaters draining from the orchard.

When we proposed the original museum project back in 2001, we planned on building a museum at Murphy Park, home of the original Murphy Bayview Ranch. Both Staff and Council requested us to build it at Heritage Park as OHPIE was already there, the Heritage Orchard was already there, Bianchi Barn was planned there, and most of all, it had lots of room for expansion as the years went on. Now we are 14 years later, four City Managers later, and eleven council members later and we find our growth is restricted to a fence line that was designed to contain an arboretum in 1971, not a Heritage Park. This entire site is Heritage Park, not a small fenced in portion, plus a publicly owned but privately run orchard. It is important that the house is sited as requested so visitors can easily be taken on a docent led tour of the museum and seamlessly continue through the house maintaining the same number of volunteer staff currently used. All tours will begin and end at the museum front door.

*The Historical Society has worked closely with the City to achieve a number of historical projects:*

- In 1994, we worked closely with the City of Sunnyvale to **save the City-owned Apricot Orchard property**, and preserve it as the last agricultural orchard in Sunnyvale. After much lobbying, the City finally designated the Sunnyvale Heritage Park Orchard as a City Park.
- In 2001, we worked to develop and build the **Orchard Heritage Park Interpretive Exhibit [OHPIE]** at Sunnyvale Heritage Park to celebrate and preserve the area’s agricultural history.
- In 2003, we worked to **preserve the Bianchi Barn**. This public/private project is where the Historical Society orchestrated the moving of the historic barn to the Heritage Park site and preserving it.
- In 2006, the Society raised all funds to build the **Sunnyvale Heritage Park Museum** to preserve Sunnyvale History (**after not being able to save the Murphy House in the 1960s**). The museum opened in 2008. It remains open to the public free of charge and is solely maintained by the Society.
- In 2012, we raised all funding to **rehab the old park building** on the site and continue to maintain it as well. This aging building became the storage facility for preserving our vast collection of historic treasures that are currently not on display at the museum.

As many know, we are rapidly losing all of our old farmhouses. The Butcher house happens to be a classic orchard ranch house and a historical treasure to be saved. It was built on the Butcher Orchard in 1912, the year the City of Sunnyvale was incorporated, and was a very expensive house for its time.

*Please support our efforts to save this historic house and move it next to the Sunnyvale Heritage Park Museum.*

Leslie Lawton, President

Laura Babcock, Director





**CONSENT CALENDAR**

- 1A**      [16-0152](#)      Approval of the Draft Minutes of December 9, 2015 Parks and Recreation Commission

Commissioner Alexander III moved and Vice Chair Kenton seconded the motion to approve the minutes of December 9, 2015. The motion carried by the following vote:

**Yes:** 3 -    Chair Pasqua  
                 Vice Chair Kenton  
                 Commissioner Alexander III

**No:** 0

**Abstain:** 1 -    Commissioner Pochowski

**PUBLIC HEARINGS/GENERAL BUSINESS**

- 2**      [16-0024](#)      Recommendation on the Relocation of the Butcher House and Update on the Design of the Orchard Heritage Park Improvement Project (Study Issue)

Assistant Director of Public Works and City Engineer Craig Mobeck provided the staff report. Commissioner's questions were answered including: 1) how the Butcher House will be used by the Historical Society; 2) the definition of CEQA; 3) the number of trees that would be removed in each of the Alternatives; and 4) who would pay for the retaining wall in each Alternative.

Chair Pasqua opened the item for public comment.

Charlie Olson spoke about the orchard's history and his support for Alternative 2.

Laura Babcock, Director of the Sunnyvale Heritage Park Museum, spoke in support of Alternative 1 which she indicates is the only Alternative that will allow the Historical Society to operate the Butcher House effectively as an annex to the museum. She explained that the Society has the ability to raise funds to move the house. She answered Commissioner's questions related to the museum operations.

Leslie Lawton, President of the Sunnyvale Historical Society, spoke in support of Alternative 1 to preserve the 1912 Butcher House as a Sunnyvale working farm house. She stated the Society doesn't have the docent staff to support the Butcher House in any other location than proposed in Alternative 1.

Zachary Kaufman spoke in support of Alternative 3. He stated he had supported Alternative 2 as a reasonable compromise and changed to Alternative 3 because the Historical Society is opposed to Alternative 2. He prefers to not move the Butcher House and supports preserving the history of agriculture in this valley.

Michael Geribaldi spoke in support of Alternative 3 and felt removing one tree was too many. He stated if the City determined the house to be historical then the developers would be required to build it into their design.

Mary Egan spoke in support of protecting the trees in the Heritage Orchard.

Karen Ireland spoke in support of protecting the trees in the Heritage Orchard. She stated that she doesn't understand why the museum needs more docents if Alternative 2 was selected over Alternative 1.

Vladimir Preysman lives near the Butcher House and stated he was not aware of it and doesn't see its significance. He spoke in support of saving the orchards because the orchard and the fruit are what his children remember from growing up in this valley.

Ken Cook spoke against moving the maintenance facilities along Michelangelo Drive because it will obstruct the view from the street and take away land from the current park area. He stated he has concerns about the Historical Society's ability to fund the project. He supports Alternative 4 and suggested to redesign the shed so that it is more aesthetically pleasing without moving it.

Irene Preysman spoke in opposition of removing any trees.

Martin Landzant spoke in support of Alternative 3. He stated the Historic Preservation Commission should be involved in this review process and that the museum has already received significant benefit from the City. He expressed concern that additional historic houses could be moved to the orchard.

Steve Scandalis spoke in support of preserving the orchard. He attended the community meetings which discussed finding the best location for the Butcher House. He stated the jewel of the park is the operating orchard and considers the museum to be secondary. He suggested the Butcher House could be preserved at another location if needed.

Nan Mehan spoke in support of Alternative 2 or 3 and is opposed to removing any

trees. She stated the cost to put the house in the back of the property (Alternative 1) is much more expensive than Alternative 2.

Janet Hamma spoke in support of Alternative 2. She stated she has toured the Butcher House and her assessment is that it is not especially large or distinctive and it needs a lot of work. She stated the last remaining orchard has more significance and value than the Butcher House. She suggested if we want to commemorate the Butchers, we could name a street or park for them.

Joe Shane spoke against moving the Butcher House and supports Alternative 2 if the house is moved. He is opposed to removing any trees.

There were no further comments and Chair Pasqua closed the Public Hearing.

Vice Chair Kenton inquired if the Historical Society would consider modifying the size of the Butcher House to make it fit without removing trees. Chair Pasqua asked about the footprint size of the museum and the Butcher House.

Commissioner Alexander III moved, and Commissioner Pochowski seconded, the motion to approve Alternative 2 - Direct staff to move forward with CEQA evaluation of the proposal to relocate the Butcher House to the lawn area and acknowledge that a future budget modification with the construction contract award will be required to provide funding for drainage improvements (re-grading and valley gutter) behind the existing multi-purpose building. The costs of CEQA compliance will be borne by the Historical Society.

Commissioners discussed the ramifications of the Historical Society's position to support only Alternative 1, and the possibility of Council working with the Historical Society to accept Alternative 2. They discussed whether the City is interested in saving the Butcher House and the possibility of naming it as a historical landmark. Vice Chair Kenton and Chair Pasqua disclosed that they visited and toured the museum prior to the Commission meeting. They discussed the cost of moving the house; how long it will take the Historical Society to raise the funds; and if it might cause delays to the builder at Butcher's Corner. Commissioners discussed the need for the retaining wall and related costs.

Commissioner Pochowski proposed a friendly amendment to advise Council that the Commission strongly feels Alternative 2 is the best location, and to direct staff to make Alternative 2 work for the Historical Society. If unable to come to an agreement then accept Alternative 1 due to the orchard and the historical significance of the structure. Commissioner Alexander III declined the friendly

amendment.

The motion carried by the following vote:

**Yes:** 2 - Commissioner Alexander III  
Commissioner Pochowski

**No:** 1 - Chair Pasqua

**Abstain:** 1 - Vice Chair Kenton

Commissioners provided the rationale for their vote. Commissioner Alexander III stated he didn't see public support to move the Butcher House. While he supports the Heritage Society, he believes there is a possibility of permanently losing more trees than estimated. Commissioner Pochowski supports preserving the orchard and the architecture. He stated his opinion that Alternative 2 is the proper location to move the Butcher House, and he stated that he hopes Council can work with the related parties to find a solution. Chair Pasqua stated he has faith that the Historical Society can raise the funds, and while he understands the concern for the trees, he supported Alternative 1 because he understands how the Butcher House is part of our history and we are slowly losing that history. Vice Chair Kenton abstained because he is uncertain of the best solution as he supports saving the trees and also can appreciate saving the house.

Chair Pasqua agreed to represent the Commission at the Council meeting on March 15.

A question regarding the outcome of the vote was raised and Chair Pasqua called a recess to allow staff to verify the result of the vote.

Following the recess, Chair Pasqua reconvened the meeting with all Commissioners present and the Commission considered agenda item 3. Following action on agenda item 3, staff confirmed the vote on agenda item 2 passed.

**3**      [15-1095](#)      Agreement Renewal with Sustainable Community Gardens for  
Property Located at 433 Charles Street

Superintendent of Parks and Golf Jim Stark presented the staff report. He answered Commissioner's questions related to the term of the agreement.

Chair Pasqua opened the public hearing.

Eric Fulda, the Community Garden Coordinator, thanked the City for the privilege to



# City of Sunnyvale

## Agenda Item

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17-0918

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 17-07

**TITLE** Develop Mobile Version of Sunnyvale Bicycle Map

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Information Technology  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: Ranked Below the Line  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Sunnyvale Bicycle Map is available on line in pdf version, as well as a paper copy document and is updated every 10 years; a mobile application will allow City to update the map more frequently. Usage of a mobile application is increasingly prevalent among Sunnyvale residents and visitors; since many cyclists carry smartphones having a mobile version of the map would therefore be useful.

What are the key elements of the study?

The study would evaluate the feasibility of developing and maintaining a mobile application of the Sunnyvale Bicycle Map. The study will also identify the essential features of a mobile application, develop a cost estimate, and determine the need for distribution of hard copies of the bike map in the presence of a mobile application.

Estimated years to complete study: 2 years

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost):	Moderate
Funding Required for Non-Budgeted Costs:	\$25,000
Funding Source:	Will seek budget supplement

The cost associated with this will be for consultant services to gather and evaluate the existing and future data of the City's bicycle network, perform research on existing mobile applications, GIS map layers and recommend necessary features to include in the mobile application, and determine costs for development and subsequent maintenance of the mobile application.

for development and subsequent maintenance of the mobile application.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

A mobile application could allow staff to keep the bike map updated more regularly, and could provide useful information like travel times, route navigation, and popular routes to the bicyclists. In addition, it could save the City the expense of printing and the use of consulting services to update the bike map.

Prepared By: Craig Mobeck, Interim Director, Public Works

Reviewed By: Teri Silva, Interim Assistant City Manager

Approved By: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-0453

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 17-12

**TITLE** Evaluate the Development of a Class I Bicycle and Pedestrian Trail along Evelyn Avenue adjacent to the Caltrain Railroad Tracks, Between Sunnyvale and Mountain View

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers: Klein, Melton, Larsson  
History: 1 year ago: Ranked, Priority C  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The study was proposed by Councilmember Klein and co-sponsored by Vice Mayor Larsson and Councilmember Melton during the annual public hearing on January 10, 2017. Councilmember Klein discussed this as an opportunity to create a pedestrian and bike friendly connection between Downtown Sunnyvale and Downtown Mountain View and connect two Caltrain Stations. The final categorization in 2017 for this Study Issue was Priority C, meaning the study would only be absorbed in the current year (2017) if capacity presented itself; if not, it would carry forward for City Council consideration in the next Study Issue cycle.

What are the key elements of the study?

The study will evaluate the proposed implementation of a Class I Bicycle Trail along Evelyn Avenue adjacent to the Caltrain Railroad tracks that will connect Downtown Sunnyvale with Downtown Mountain View. Removal of the existing Class II Bicycle Lanes on Evelyn Avenue and restriping of the roadway will be needed to accommodate the proposed Class I Bicycle Trail.

Estimated years to complete study: 2 years

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major  
Funding Required for Non-Budgeted Costs: \$100,000  
Funding Source: Will seek budget supplement

The cost associated with the study is for consultant services. The consultant, in coordination with the City of Mountain View and Caltrain, would examine the feasibility of the proposed Class I Bicycle Trail

and develop a concept or concepts for implementation. It would include an assessment of right-of-way, signal modification, access, constraints, and conceptual cost estimates. The consultant would also need to consider the Bernardo Undercrossing currently under preliminary design as well as the Caltrain grade separation concepts currently under analysis. Community outreach would also be required.

#### Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating.

#### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

#### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

This feasibility study can be included as part of updating the Bicycle Master Plan in 2018 if the required supplemental budget of \$100,000 is approved. If the Class I Bicycle Trail is found feasible, it will be included in the updated Sunnyvale Bicycle Master Plan. Once it is included in the Sunnyvale Bicycle Master Plan, it will be eligible for grant funding for detailed design studies and build out.

If feasible, the project could greatly increase the connectivity between Downtown Sunnyvale and Downtown Mountain View and improve access to the future Bernardo Undercrossing. However, coordination for this project would require that both cities prioritize and fund the project in order to achieve the desired build out. In conversation with city staff from Mountain View, we have learned this is not currently identified as a priority project in their Bike Plan. Their City Council would need to similarly identify this concept as a priority for further implementation during their own priority setting process, develop funding strategies for the build out of their portion of the project, and prioritize it amongst its near 200 other capital projects.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

REVISED  
1/16/18

## Agenda Item

17-0920

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 17-13

**TITLE** Investigate the Purchase of the Court House Property Located at 605 West El Camino Real

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers: Melton, Klein  
History: 1 year ago: Deferred  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Court House property is located within the Civic Center Campus and could provide future flexibility for the City in future Civic Center improvements. However, Councilmember Melton clarified that his interest in this study issue is not necessarily related to the Civic Center Modernization project, rather focused on the strategic opportunity to acquire land should the opportunity present itself. He further clarified that acquisition of this parcel was not part of the master planning process, nor did he intend to delay the Civic Center Modernization project with this request.

What are the key elements of the study?

The Study would analyze the process that's required for the sale of a state property, and determine what approach the City could take to pursue purchasing the Court House property. The City already owns a portion of the parking lot that serves the property. Consultant support would be needed to research the process used for the sale of state property, conduct appraisals, and determine what steps, if any, the City could take to pursue purchasing the property.

Estimated years to complete study: 1 year (or upon availability of the land)

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate  
Funding Required for Non-Budgeted Costs: \$25,000  
Funding Source: Will seek budget supplement

Consultant support would be needed to research the process used for the sale of state property, conduct appraisals, and determine what steps, if any, the City could take to pursue purchasing the property.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD AND COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: N/A

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a future Study Issues Workshop.

During the 2017 Study Issue Workshop, Council voted to defer, rather than drop this Study Issue so as to not prevent this item from returning in 2018 for consideration. Since the 2017 Study Issues Workshop, staff has clarified that there is no policy issue that would prevent the City from pursuing the purchase of this property should it become available for purchase. If that occurs, staff would return to Council for the appropriate authority to pursue the purchase.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

17-0883

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-01

**TITLE** Evaluate the Effectiveness of Shared Lane Markings (Sharrows) for Roadways with Speeds Above 25 Miles per Hour

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Bicycle and Pedestrian Advisory Committee (BPAC) considers use of shared lane markings on roadways with speed limits above 25 miles per hour (MPH) as not a bike friendly facility, and should not be substituted for an exclusive bicycle facility like bike lanes. The shared lane markings on roadways with speeds above 25 MPH results in bicyclists and motor vehicles travelling in the same traffic lane with a wide differential in speeds between vehicular traffic and bicyclists which, according to BPAC, creates an unsafe environment for bicyclists.

What are the key elements of the study?

The study would evaluate the effectiveness of the use of shared lane markings (sharrows) on roadways with speeds above 25 MPH. In addition, the study will also establish guidelines for installation of exclusive bike facilities like separated bike lanes, protected bike lanes, buffered bike lanes, and bike lanes on roadways with speed limits above 25 MPH.

Estimated years to complete study: 2 years

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major  
Funding Required for Non-Budgeted Costs: \$90,000  
Funding Source: Will seek budget supplement

The cost associated with this study will be for consultant services which include outreach and data collection from other jurisdictions. City staff will work with the consultant to review existing policies, design guidelines and standards. The study will also collect and review traffic and collision data to

determine the use of various bicycle treatments on City's roadways.

**Cost to Implement Study Results**

Unknown. Study would include an assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD AND COMMISSION PARTICIPATION**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The City already follows state and federal guidelines and standards for design and installation of bicycle facilities on its roadways, as published by the State of California (California Manual of Uniform Control Devices, California Highway Design Manual), the American Association of State Highway and Transportation Officials, and the National Association of City Transportation Officials. Additionally, the City will be updating its Bike Master Plan in the year 2018, which will include an evaluation of and recommendations for the installation of various bicycle treatments and facilities on City streets.

Prepared By: Craig Mobeck, Interim Director, Public Works

Reviewed By: Teri Silva, Interim Assistant City Manager

Approved By: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-0887

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-02

**TITLE** Close Murphy Avenue Between Evelyn Avenue and Washington Avenue to Vehicular Traffic

#### **BACKGROUND**

Lead Department: Public Works  
Support Department(s): Office of City Manager  
Office of City Attorney  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

This Bicycle and Pedestrian Advisory Commission (BPAC) proposed this study because of potential conflicts associated with pedestrians and the parking of vehicles on the 100 block of South Murphy Avenue. Vehicles park adjacent to dining tables placed on the sidewalk for outdoor eating, which could be a potential safety hazard for those seated at the dining tables. In addition, pedestrians often navigate around tables and street furnishings on the narrow sidewalks, and cross the street through parked vehicles and moving traffic to access the restaurants and shops on either side of the street.

Murphy Avenue is regularly closed on Saturday mornings for the Farmers' Market and about ten Wednesday evenings in the summer for the Music Series event on a temporary basis without any major disruption on traffic circulation and businesses along Murphy Avenue. Additionally, there are eight Saturdays each year Murphy Avenue is closed all day until 10 p.m. for the Jazz and Beyond Series. All events on the 100 block of Murphy Avenue are planned well in advance of the street closure, providing sufficient notice to the downtown businesses and residents who are familiar with the street closures during the summer months and Saturday events.

What are the key elements of the study?

City Council updated South Murphy Avenue Sidewalk Use Regulations in 2010 to preserve and enhance the 100 block of South Murphy Avenue. The regulations include furnishings on the public right-of-way/sidewalks to offer businesses the opportunity to utilize the sidewalks for outdoor dining.

This has allowed customers to enjoy outdoor dining; however, in some areas it has also meant that the sidewalks must accommodate the tables, pedestrian foot traffic, and access to and from parallel parking on the street. The study will examine the closing of the 100 block of South Murphy Avenue to vehicular traffic with access provided to pedestrians and bicyclists only.

The study would require a significant public engagement process with the Sunnyvale Downtown Association (SDA), Silicon Valley Chamber of Commerce, CityLine Sunnyvale representatives (owners of the former Town Center) and the merchants along this segment of Murphy Avenue. The study would evaluate how closing this street would impact traffic circulation and access to the 200 block of South Murphy Avenue.

Estimated years to complete study: 2 years

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost):

Major

Amount of funding above current budget required:

\$200,000

Funding Source:

Will seek budget supplement

The cost associated with this study is for consultant services to review the traffic circulation and parking within the downtown area, and will quantify the impact of permanently closing Murphy Avenue to vehicular traffic. The scope of work would also include analyzing drainage, existing utilities and developing multiple concepts and cost estimates for removing the street and constructing new improvements associated with a pedestrian corridor. The consultant will also be required to do an extensive outreach to the business community in the downtown.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

### **EXPECTED CITY COUNCIL, BOARD AND COMMISSION PARTICIPATION**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The CityLine Sunnyvale (formerly Town Center) project plans are pending submittal and/or review for modifications to the entitled project. The impact to the entire Downtown area from the closure of the 100 block of Murphy Avenue to vehicles would be unknown until final plans are approved and the project is completed. Under the CityLine project, Murphy Avenue will be extended to make the final connection between Washington Avenue and McKinley Avenue. Furthermore, the City is currently reviewing various Caltrain grade separation options at Sunnyvale Avenue. Closing the 100 block of Murphy Avenue could have a major impact on the final selection of those options. Lastly, preliminary discussions with the Sunnyvale Downtown Association indicates they would most likely be opposed to permanently close Murphy Avenue for vehicles.

Prepared By: Craig Mobeck, Interim Director, Public Works

Reviewed By: Teri Silva, Interim Assistant City Manager

Approved By: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-0954

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-03

**TITLE** Update Bicycle Master Plan Every Seven Years

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Bicycle and Pedestrian Advisory Commission (BPAC) recommends updating the Sunnyvale Bicycle Master Plan every seven years instead of ten because as alternative modes of transportation such as walking and bicycling gain more users, it becomes more important to frequently update these plans. Updating the Bicycle Master Plan every seven years would help make necessary adjustments to bicycle capital project list to ensure continuity and connectivity of bicycle infrastructures throughout the City. In addition, BPAC feels that more frequent updates will assist with achieving a higher Bicycle Friendly Community class designation by the League of American Bicyclists.

What are the key elements of the study?

This study would explore the feasibility and need of updating the City's Bicycle Master Plan every seven years instead of every ten years. The study will review the 2006 Bicycle Master Plan and the City's list of bicycle capital improvement projects to determine the need for more frequent updating of the Bicycle Master Plan.

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study  
Level of staff effort required (opportunity cost) Moderate  
Funding Required for Non-Budgeted Costs \$50,000  
Funding Source Will seek budget supplement

The costs associated with this will be for consultant services to gather and evaluate the existing neighboring jurisdictions' bike plans and policies to determine how often other bike master plans are updated vis-à-vis the need of the agency. The consultant will also review the City's capital projects

delivery schedule to determine the need to update the Bicycle Master Plan every seven years.

**Cost to Implement Study Results**

The City currently has \$350,000 budgeted every ten years to update the Bicycle Master Plan, or \$700,000 over the 20 years of the City's long term financial plan. Increasing the update frequency to seven years would result in \$1,050,000 every 21 years.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at the Study Issues Workshop.

The Bicycle Master Plan Update is a funded project for FY 2017/18, and will include evaluating the appropriate frequency for future updates.

Prepared By: Craig Mobeck, Interim Director, Public Works

Reviewed By: Teri Silva, Interim Assistant City Manager

Approved By: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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17-0956

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-04

**TITLE** Develop an Ordinance to Keep Bicycle Parking Clear and Accessible

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Community Development  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Bicycle and Pedestrian Advisory Commission (BPAC) has received comments from bicyclists that, on occasion, bicycle parking was blocked and therefore not accessible, particularly in commercial areas. Any requirements that apply to clear and accessible bicycle parking are based on condition of approvals tied to a land use and specific developments. BPAC feels that accessible bicycle parking requirements could be applied more consistently to all land use and development projects. The study would determine whether a new ordinance would help address this issue.

What are the key elements of the study?

The study will evaluate current policies for providing clear and accessible bicycle parking both on public and privately owned properties. The study will include a review of the Sunnyvale Municipal Code, the California Vehicle Code and condition of approvals of the private development projects within the City. The study will also evaluate similar ordinances in other municipalities. The study will determine if a new ordinance is needed to address the issues surrounding bicycle parking.

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Funding Source: N/A

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs.

**EXPECTED CITY COUNCIL, BOARD AND COMMISSION PARTICIPATION**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

This is an operational and enforcement issue, not a policy issue. Sunnyvale Municipal Code 13.08.020 prohibits right-of-way obstructions, which applies to bicycle parking. In addition, new developments require bicycle parking spaces as part of the conditions of approval. The concerns raised by this study issue can be addressed through enforcement of the existing ordinance, and with condition of approvals for private development to keep bicycle parking clear and accessible to eliminate obstructions.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1035

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-05

**TITLE** Street Maintenance Roadway Re-Allocation

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Bicycle and Pedestrian Advisory Commission (BPAC) believes many of the City's streets can be made safer for non-motorists with some adjustments to lane striping and the addition of bike lanes. Street maintenance and construction occurs on a routine basis and BPAC believes this provides an opportunity to include street space allocation improvements.

What are the key elements of the study?

This study would look at modifying current policies and procedures for street space re-allocation to include, if feasible, re-allocation of street space after roadway construction or pavement rehabilitation projects. New policy or modification of current policies to incorporate street space re-allocation during road work will be explored. Street space re-allocation can include striping changes and modifications to medians, curb, and gutter.

This study would evaluate the feasibility of further incorporating street space re-allocation improvements during street maintenance, such as pavement rehabilitation projects, or roadway construction. For example, the City does not typically pursue a street space re-allocation such as the addition of bike lanes during a paving project because, in most cases, streets that are paved are not wide enough to add bike lanes without widening or removal of parking. This study would determine how and when to evaluate potential street space allocation improvements that require parking removal so that reallocations such as additional bike lanes or lane striping can be completed during routine street maintenance, such as pavement rehabilitation projects, or as part of roadway construction projects. In addition to lane striping or the addition of bike lanes, street space re-allocation can include modifications to medians, curb, and gutter. The study would include examining the cost effects of implementing any changes to current City policies or procedures.

Estimated years to complete study: 1 year

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$100,000

Funding Source: Will seek budget supplement

The cost associated with this study would be for consultant services. Staff would also have to manage the consultant and work with them to modify or develop policies and procedures to incorporate the evaluation of if, when and how to re-allocate street space during street maintenance or roadway construction and rehabilitation projects.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

In 2008, the City adopted a policy on the Allocation of Street Space and subsequently amended the General Plan to include the policy. Staff already takes into consideration the elements of Allocation of Street Space policy on all street reconstruction and rehabilitation projects, and further explores opportunities to expand and enhance bike and pedestrian facilities where possible and in compliance with the City's Bicycle Plan and Pedestrian Safety and Opportunities studies. If street space re-allocation necessitates parking removal to implement, then it requires extensive public outreach and ultimately Council direction. If these processes were included with routine street maintenance projects it would significantly delay implementation.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1033

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-06

**TITLE** Alternatives to On-street Parking to Maximize the Street Space for All Modes of Transportation

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Community Development  
Sponsor(s): Bicycle and Pedestrian Advisory Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Bicycle and Pedestrian Advisory Commission (BPAC) proposed this study to evaluate street space requirements, and propose a street space allocation policy that will reduce demand for on-street parking and make more street space available for critical transportation needs, especially for alternate transportation modes such as bicycle lanes.

What are the key elements of the study?

BPAC would like to analyze the recurring situations that lead to the demand for on-street parking and develop innovative solutions to reduce the use of on-street parking. BPAC is hopeful that the suggested solutions could minimize the negative impacts of on-street parking on the roadway and improve safety and capacity. The street space could become available by removing or restricting on-street parking that could then be used for safe and efficient flow of both bicycles and vehicles.

The study would consider review options to limit on-street parking based on types of uses. For instance, the parking requirements and ability to control the use of on-street parking is different between office and industrial areas of the City as well as single-family residential neighborhoods. Non-residential and multi-family residential uses are expected to use on-site parking and each project must show that parking needs can be met with onsite parking areas. Single-family residential neighborhoods are different because there is an expectation that on-street parking is available for resident use. Methods of controlling off-site residential parking through land use controls is regulated by the Municipal Code, mainly the Zoning Code. It is outside City authority to limit the number of cars a resident can own.

There are a few areas where a study could result in improved use of on-street parking, such as:

- Maintain on-street parking for mobility impaired persons;
- Control on-street parking through traffic control measures such as limited parked times or no parking requirements; and
- Maintain on-street parking needs for service vehicles.

Estimated years to complete study: 2 years

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$200,000

Funding Source: Will seek budget supplement

The cost associated with this study will be for consultant services to review existing policies and codes, survey on-street parking throughout the City, and develop alternatives to on-street parking. The consultant will also be required to propose amendments to the Municipal Code and City policies. Considering the scope of the study, extensive community outreach will be required. Staff will manage the consultant, review and approve all proposals, and lead part of the community engagement process.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: Yes

Council Study Session: Yes

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission, Planning Commission

### **STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

As part of road reallocation and bike projects requiring removal of parking, staff already takes into consideration both on-street and off-street parking capacity while formulating options and recommendations that are reasonable. These options are presented to the public, commission(s) and ultimately to the City Council for approval.

Furthermore, the scope of the study would be very difficult to implement and manage. Ultimately each location would have to be reviewed on a case by case basis, similar to how it is done now. It would be extremely difficult to establish a baseline for the number of vehicles that should be regarded as sufficient to meet the needs of the public for residential or businesses. Defining the sufficient number of vehicles for a typical resident or business will be complex, and the City would have a limited ability to enforce this.

Prepared by: Craig Mobeck, Interim Director, Public Works  
Reviewed by: Teri Silva, Interim Assistant City Manager  
Approved by: Kent Steffens, Interim City Manager







# City of Sunnyvale

## Agenda Item

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17-1209

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-07

**TITLE** Feasibility of Acquiring Control of Caltrans Traffic Signals on El Camino Real

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): City Manager  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The recent National Citizen Survey (NCS) ranked traffic congestion as one of the top concerns for the residents of Sunnyvale. One of the areas of concern is El Camino Real, a major arterial that carries the second highest traffic volume in Sunnyvale, after Mathilda Avenue. The thirteen traffic signals along El Camino Real within the jurisdiction of Sunnyvale, except at Mathilda Avenue, are maintained and operated by Caltrans. There have been some delayed responses by Caltrans to the operational and maintenance needs of these traffic signals. By acquiring control for the operation and maintenance of these signals, the City could improve traffic flow at signalized intersections on El Camino Real by integrating the signals into the City's recently deployed Advanced Adapted Traffic Management System (AATMS). Since deployment of the City's AATMS, the traffic flow on Mathilda Avenue, Sunnyvale-Saratoga Avenue and Wolfe Road have improved. With a fully integrated system, the traffic flow on El Camino Real and the City arterial streets would improve.

In addition, the City would be able to deploy other advanced intelligent transportation technologies like travel time and delay monitoring systems, Closed Circuit Television (CCTV), and respond expeditiously to the community's traffic concerns on El Camino Real.

What are the key elements of the study?

The study will review the relinquishment requirements and assess the feasibility of taking over the maintenance and operations of all the traffic signals on El Camino Real within Sunnyvale that are currently under Caltrans jurisdiction. However, many of these signals will require upgrades before integration into the City's AATMS. Cost estimates will be part of the analysis and must include required equipment upgrades, interconnect communication system, annual traffic signal equipment maintenance and operation costs. The study would evaluate whether additional staff resources were needed, and consider the capabilities of the City's Traffic Management Center. The study will

determine existing deficiencies in the traffic signals, and will identify possible upgrades along with potential funding sources of all the project costs including additional traffic fees, operating budget and grants. The study will also evaluate similar projects by other jurisdictions and report any foreseeable issues that may arise from this effort. Close coordination with Caltrans will also be required as part of the study.

Estimated years to complete study: 2 years

### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$250,000

Funding Source: Will seek budget supplement

The cost associated with this study will be for consultant services, which include Caltrans policies review and coordination, a review of similar projects in other jurisdictions, needed traffic signal improvements and upgrades, maintenance and operating costs, and traffic signals interconnect and integration with the City's AATMS. City staff will work with the consultant to determine the feasibility of the project.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

### **EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: None

### **STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

Acquiring control of the operation and maintenance of the traffic signals on El Camino Real within Sunnyvale from Caltrans would allow the City to better manage traffic on El Camino Real, respond quickly to the traffic signal issues and ultimately improve traffic flow through this major corridor.

Prepared by: Wayne Tanda, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, City Manager



# City of Sunnyvale

## Agenda Item

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17-1032

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-08

**TITLE** Develop a Dockless Bicycle Share Pilot Program

#### **BACKGROUND**

Lead: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Interim City Manager  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

There are opportunities for the City to expand multi-modal transportation options for the community by incorporating a dockless bicycle share program. Dockless bikes do not require a permanent docking station to house the bikes; they can be picked up and dropped off anywhere, with their location tracked by a Global Positioning System (GPS) device attached to the bike. The City previously considered the deployment of a bike share program that required docking stations, but that program was not feasible for the City at that time.

Recently, several private bicycle share companies have expressed interest in starting dockless bike share operations in Sunnyvale. Before a permanent dockless bike share program is established, the City can participate in a pilot program to determine long-term viability and identify possible concerns. The result of the pilot program will lead either to a recommendation to incorporate a permanent dockless bicycle share program, recommend further study, or recommend dropping the program.

What are the key elements of the study?

For the pilot program, the City will invite vendors to provide bicycles to the public for daily or short-term rental. The City will provide locations at key areas where pedestrians are likely to make short and mid-range trips and may choose to use a bicycle. Vendors choosing to participate in the pilot program will do so at no cost to the City, and will be allowed to incorporate their pricing structure for the bicycle rentals. The program will be in place for a specified period (approximately six months) and no permanent infrastructure will be required during the pilot program.

Estimated years to complete study: 1 year

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Funding Source: N/A

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Pedestrian and Bicycle Advisory Commission

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

The City of Sunnyvale has been approached by vendors interested in providing a dockless bicycle share pilot program at no cost to the City for a limited period. In addition, several neighboring jurisdictions are considering or proceeding with similar bicycle share pilot programs. Before committing infrastructure, cost and staff time to a permanent dockless bicycle share program, the pilot program will enable the City to test the long-term viability of the program and identify possible concerns.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1029

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-09

**TITLE** Lower Speed Limits on City Streets Including El Camino Real to 30 Miles Per Hour or Less

#### **BACKGROUND:**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Sustainability Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The Sustainability Commission believes high speeds on City streets including El Camino Real are incompatible with safe pedestrian and bicycle travel, and to become a sustainable city, Sunnyvale should consider adopting a policy which discourages automobile transportation. The Sustainability Commission feels speed limits above 30 miles per hour (mph) discourages alternative transportation modes while continuing to encourage automobile transportation. The Sustainability Commission believes lowering the speed limits on City streets including El Camino Real will discourage automobile transportation.

What are the key elements of the study?

The study would examine the possibility and impact of lowering the speed limits to 30 mph on City streets including El Camino Real. The study will also determine the feasibility and level of effort required to work with Caltrans to lower the speed limit on El Camino Real.

Estimated years to complete study: 1 year

#### **FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate  
Funding Required for Non-Budgeted Costs: \$75,000  
Funding Source: Will seek budget supplement

The cost associated with this study will be for consultant services to review existing policies and standards, and provide recommendations for changing speed limits on all roadways. Staff would manage the consultant and review and approve appropriate recommendations provided in the study.

**Cost to Implement Study Results**

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Sustainability Commission

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

Speed limits cannot be arbitrarily lowered, and without proper certified traffic surveys they cannot be legally enforced. All speed limits on City streets are set based on an engineering and traffic survey, which conform to the procedures and standards established in the California Manual of Uniform Traffic Control Devices (CAMUTCD) and California Manual for Setting Speed Limits. The City Traffic Engineer must certify that the speed surveys are conducted as per the standards.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager



# City of Sunnyvale

## Agenda Item

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17-1024

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-10

#### **TITLE** Sidewalk Standards Based on Adjacent Property Density or Use

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Community Development  
Sponsor(s): Planning Commission  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The City establishes Citywide standards for sidewalk widths and configurations (e.g., sidewalk with a parkstrip or sidewalk with tree wells), which is typically based on the roadway classification of the street. In some areas, the City standard is regulated by a Specific Plan or other planning document (such as a Sense of Place Plan) where a specific character or configuration is warranted based on the community's vision or unique conditions in the area, including planned land uses.

The Planning Commission has expressed concern that the City's current public sidewalk standards may not be wide enough or designed in proportion to the uses or density on adjacent property to encourage a more pedestrian-friendly environment. For example, the larger the office building, the wider the sidewalk should be.

What are the key elements of the study?

This study would determine whether the City's sidewalk standards are adequate in accommodating uses and density on adjacent private property, and whether the required sidewalk width and configuration should be determined on a project by project basis. The study could include:

- Evaluation of existing sidewalk standards in the City;
- Review of ASHTO, the California Caltrans Design Manual, the VTA Pedestrian Guidelines or other related documents for consistency with City standards;
- Evaluation of the appropriateness of basing sidewalk standards on density or use of the adjacent property.

Estimated years to complete study: 1 year

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Moderate

Funding Required for Non-Budgeted Costs: \$0

Funding Source: N/A

Cost to Implement Study Results

Minimal or no cost expected to implement.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Bicycle and Pedestrian Advisory Commission and Planning Commission.

**STAFF RECOMMENDATION**

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The City recently updated sidewalk standards in 2013, which included increasing the minimum sidewalk width required throughout the City. If this study issue is sponsored, the Department of Public Works (DPW) would take the lead on this study with Community Development Department staff as support. The Department of Public Works (DPW) establishes the Citywide sidewalk standards and are familiar with using the standards and guidelines in American Association of State Highway and Transportation Officials (ASHTO), the Caltrans Design Manual, and VTA Pedestrian Guidelines. The sidewalk widths and configurations are based on street classifications and volumes experienced on the roadway. For example, on denser corridors such as Mathilda Avenue or El Camino Real, the current City sidewalk standard requires a wider sidewalk (i.e. 12 feet wide with tree wells) compared to a street within a residential neighborhood where the configuration may be a 6-foot wide sidewalk with a 4-foot wide parkstrip. In the Peery Park Specific Plan area, the sidewalks on Mathilda Avenue are planned for 14 feet wide with tree wells to accommodate the increased density allowed by the plan. The configuration of the sidewalk standard depends on several factors, including use and character; for example, tree wells instead of parkstrips are required in more urban settings where there may be more pedestrian traffic, requiring wider walkways and where drivers parked on the street can more easily access the sidewalk between trees.

Land use and transportation planning are closely related. The Citywide standards are based on roadway classification, which is influenced by the land uses and densities allowed adjacent to the roadway. Determining sidewalk width on a project by project basis could result in too many variations along the same stretch of a roadway.

Prepared by: Craig Mobeck, Interim Director, Public Works

Reviewed by: Teri Silva, Interim Assistant City Manager

Approved by: Kent Steffens, Interim City Manager





# City of Sunnyvale

## Agenda Item

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18-0124

Agenda Date: 2/16/2018

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### 2018 COUNCIL STUDY ISSUE

#### **NUMBER**

DPW 18-11

**TITLE** Analysis of Sunnyvale Golf Program and Property Options

#### **BACKGROUND**

Lead Department: Public Works  
Support Departments: Office of the City Manager  
Office of the City Attorney  
Sponsor(s): Councilmembers: Melton, Klein, Smith  
History: 1 year ago: N/A  
2 years ago: N/A

#### **SCOPE OF THE STUDY**

What precipitated this study?

The City operates two golf courses, the 18-hole Sunnyvale Golf Course and the 9-hole Sunken Gardens Golf Course, and one tennis center, Sunnyvale Municipal Tennis Center. The three facilities comprise the City's Golf and Tennis Operations Fund.

Golf and tennis operations have been operating as a stand-alone enterprise since FY 2012/13, following the dissolution of the Community Recreation Fund, with all activities intended to be self-supporting. Golf operations however, has struggled and requires the subsidy of the General Fund. The number of rounds played and associated revenue at the golf courses have continued to decline, reflecting a national trend. At the same time, expenditures have increased due to unavoidable expenses such as the cost of water. General Fund transfers to the Golf and Tennis Operations Fund were made or approved during the last and current fiscal year in the amount of \$850,000 in FY 2016/17 and an estimated transfer of \$1.4 million in FY 2017/18.

The City's 20-Year Financial Plan shows a transfer from the General Fund to the Golf and Tennis Operations Fund over the next six fiscal years that averages \$1,400,000. The plan assumes that a fiscal strategy will be in place by fiscal year 2024-25 that ends further General Fund transfers.

What are the key elements of the study?

This study will analyze Sunnyvale's two golf courses including the continued operation of the golf courses using the current approach of the City as the primary operator, or contracting out a portion or all of the operations to a private contractor. Also to be considered would be the use of one or both golf course properties for other public purposes (e.g., urban forest, urban agriculture, central park). A financial analysis will be conducted for all options identified during the study including costs associated with capital improvements, operations and maintenance, income, and the level of subsidy

from the General Fund. Potential sources of funding for the options will be identified. There will be opportunities for all segments of the community to participate including users of the existing golf facilities, neighbors, and the public. The study will provide salient information for the City Council to decide on the level of subsidy appropriate for the golf program. The sale of City owned land will not be part of the study, but leasing a portion of courses will be explored as a source of potential revenue.

Estimated years to complete study: 2 years

**FISCAL IMPACT**

Cost to Conduct Study

Level of staff effort required (opportunity cost): Major

Funding Required for Non-Budgeted Costs: \$500,000

Funding Source: Will seek budget supplement

The cost associated with this study will be for consultant services for the study described above.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs including capital, operation and maintenance and potential sources of funding.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: Yes

Council Study Session: Yes

Reviewed by Boards/Commissions: No

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2018 Study Issues Workshop.

A comprehensive analysis of the City's golf courses will provide valuable guidance to the City Council when making decisions on the future of golf operations and the best use of public lands in Sunnyvale.

Prepared by: Wayne Tanda, Interim Director, Public Works

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager





## 2018 Study Issues Workshop Boards and Commissions Rankings

Version: 24-Jan 2018

### Boards and Commissions with Study Issues to Rank

Board/Commission	Abbreviation	Meeting Date to Rank SIs	Count of SIs to Rank
Planning Commission	PC	December 11, 2017	12
Heritage Preservation Commission	HPC	December 06, 2017	2
Housing & Human Services Commission	HHSC	November 15, 2017	2
Parks & Recreation Commission	PRC	December 04, 2017	3
Bicycle and Pedestrian Advisory Commission	BPAC	December 21, 2017	10
Sustainability Commission	SC	December 18, 2017	5

### List of Study Issues with Rankings by B/Cs

\*Study Issues with an asterisk can not be dropped (2017 Deferred or Below the Line items)

Study Issue	Title	Sponsor	PC	HPC	HHSC	PRC	BPAC	SC
CDD 13-02	Consideration of Usable Open Space in Required Front Yards *	PC	Drop					
CDD 16-14	Exploring Options for Establishment of a Plaque Program for Heritage Resources *	HPC		1 of 2				
CDD 17-03	Rent Stabilization for Mobile Home Parks *	Council			Defer			
CDD 17-08	Evaluation of the Residential Single-Story Combining District Process *	PC	4 of 12					
CDD 18-01	Explore Policies to Preserve Space for Light Industrial Uses	Council	3 of 12					
CDD 18-02	Update and Review of the Heritage Resource Inventory	HPC		1 of 2				
CDD 18-03	Study the Variation in Building Forms to Increase Open Space	PC	2 of 12					
CDD 18-04	Create Development Guidelines for Future Accommodation of Autonomous Vehicle Use	PC	Defer					
CDD 18-05	Increase Opportunities for more Accessory Dwelling Units	PC	Drop		Drop			
CDD 18-06	Establishing a "Sponge City"	PC	7 of 12			Drop		Drop
CDD 18-07 (DPS 17-01)	Regulation of Marijuana Cultivation in the City of Sunnyvale for Research and Development *	Council	Defer					
DPW 16-10	Consider Sunnyvale Municipal Code Amendments to Clarify, Strengthen and Enforce Tree Preservation and Tree Planting Requirements within Right of Way and Public and Private Property *	Council	6 of 12					3 of 5

Study Issue	Title	Sponsor	PC	HPC	HHSC	PRC	BPAC	SC
DPW 17-05	Orchard Heritage Park and Heritage Park Museum - Analysis and Options for the Long-Term Operations and Maintenance of Orchard Heritage Park and Review of the Sunnyvale Historical Society and Museum Association Proposed Expansion of the Sunnyvale Heritage Park Museum Site *	City Manager				Defer		
DPW 17-07	Develop Mobile Version of Sunnyvale Bicycle Map *	BPAC					Drop	
DPW 17-12	Evaluate the Development of a Class I Bicycle and Pedestrian Trail along Evelyn Avenue adjacent to the Caltrain Railroad Tracks, Between Sunnyvale and Mountain View *	Council					Drop	
DPW 18-01	Evaluate the Effectiveness of Shared Lane Markings (Sharrows) for Roadways with Speeds Above 25 Miles per Hour	BPAC					1 of 10	
DPW 18-02	Close Murphy Avenue Between Evelyn Avenue and Washington Avenue to Vehicular Traffic	BPAC					Defer	
DPW 18-03	Update Bicycle Master Plan Every Seven Years	BPAC					Defer	
DPW 18-04	Develop an Ordinance to Keep Bicycle Parking Clear and Accessible	BPAC					Drop	
DPW 18-05	Street Maintenance Roadway Re-Allocation	BPAC					5 of 10	
DPW 18-06	Alternatives to On-street Parking to Maximize the Street Space for All Modes of Transportation	BPAC	Defer				3 of 10	
DPW 18-08	Develop a Dockless Bicycle Share Pilot Program	City Manager					2 of 10	
DPW 18-09	Lower Speed Limits on City Streets Including El Camino Real to 30 Miles Per Hour or Less	SC						4 of 5
DPW 18-10	Sidewalk Standards Based on Adjacent Property Density or Use	PC	1 of 12				4 of 10	
ESD 17-01	Eliminate the Use of Chemical Pesticides on City Owned or Leased Property *	SC				1 of 3		2 of 5
ESD 18-01	Encouraging Heat Pump Water and Space Heating	SC, PC	4 of 12					1 of 5
<b>Total to Rank per B/C</b>			<b>12</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>10</b>	<b>5</b>

**List of Study Issues Proposed by City Council After Rankings by B/C Were Scheduled**

<b>Study Issue</b>	<b>Title</b>	<b>Sponsor</b>
CDD 18-08	Consider Requiring the Use of Story Poles, Modeling Technologies, and other Visual Aids for Proposed Development Projects	Council
CDD 18-09	Require Installation of Solar Energy Systems on New Buildings	Council





# City of Sunnyvale

## Agenda Item

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18-0083

Agenda Date: 1/23/2018

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### REPORT TO COUNCIL

#### **SUBJECT**

Annual Public Hearing-Discussion of Potential Council Study Issues and Budget Issues for Calendar Year 2018

#### **BACKGROUND**

Council typically reviews all study and budget issues once a year at the Annual Public Hearing which provides the opportunity for members of the public to comment on proposed issues for study or budget consideration, and/or to suggest potential new issues. The public may provide further testimony regarding study and budget issues during the February 16, 2018 annual workshop on study and budget issues.

On February 16, 2018, Council will conduct a workshop devoted to a review of all proposed study and budget issues. At the workshop, Council will rank study issues for completion during 2018 and will identify budget issues to be forwarded to the City Manager for consideration in the FY 2018/19 budget. A study issue is a topic of concern that can result in a new City policy or a revision to an existing policy. A budget issue represents a new City service or a change in the level of an existing City service (including possible service reduction or elimination).

City Council will review operational priorities and adopted policy priorities during their Strategic Workshop on January 19, 2018. To help guide decision making, staff recommends that Council continue to focus on prioritizing study and budget issues that align with existing policy priorities. The following is the list of policy priorities established by Council during the 2017 Strategic Workshop:

1. Civic Center Campus and Main Library
2. Ability of Infrastructure to Support Development and Traffic
3. Open Space Acquisition Planning: Future of Golf Courses
4. Downtown Sunnyvale
5. Improved Processes and Services through the use of Technology
6. Accelerating Climate Action

If Council changes any of the priorities listed above at its January 19 meeting, the Council will be provided an updated list of policy priorities on January 23.

Staff appreciates that Council has limited and aligned issues to existing policy priority areas and considered limited staff resources to complete study issues. A Strategic Planning Workshop is scheduled for January 19, providing an opportunity for staff to share with Council the progress made since their action to focus City efforts on specific policy goals. The workshop will also provide the context for the review of newly proposed study/budget issues for 2018. Formal review and ranking of those proposed study/budget issues is scheduled for February 16, 2018.



### Study and Budget Issues Process

The study issues process provides a method for identifying, prioritizing and analyzing policy issues important to the community. It provides a structured approach for addressing the large number of issues that are raised each year, allowing Council to rank the issues and set priorities within the limits of time and resources.

The budget issues process provides a method for identifying and addressing proposals to add a new service, eliminate a service, or change the level of an existing service. Please note, that no budget issue papers are submitted for the public hearing.

### Major Steps in the Process Leading to the Public Hearing

- Study and budget issues are proposed year-round by Council, boards and commissions, the public, or the City Manager.
- Staff prepares study issue papers or budget issue papers for all qualifying issues. These issue papers describe the topic of concern and provide information Council will use to determine whether or not to further explore each issue. The study issue paper is also designed to capture the intent and interests that originated the issue. The purpose of the budget issue summary form is to briefly summarize the issue and provide an initial estimate of the fiscal impact.
- During October-December boards/commissions review and rank proposed budget and study issues under their purview; these rankings are forwarded to Council for consideration.

### **EXISTING POLICY**

Council Policy 7.3.26 *Study Issues Process*

Council Policy 7.1.7 *Budget Issues Process*

Council Fiscal Policy 7.1.1 A.1.2 which states, "A Fiscal Issues Workshop will be held each year prior to preparation of the City Manager's Recommended Budget to consider budget issues for the upcoming Resource Allocation Plan."

### **ENVIRONMENTAL REVIEW**

The action being considered does not constitute a "project" with the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378 (b) (5) in that it is a governmental organizational or administrative activity that will not result in direct or indirect changes in the environment.

### **DISCUSSION**

Staff has prepared write-ups of the study issues proposed to date. As noted above, no budget issues have been proposed to date. These study issue papers and other materials can be viewed on the City's Study Issues Website at <https://sunnyvale.ca.gov/government/governance/study/default.htm>, the Sunnyvale Public Library, or at the City Clerk's office. Copies will also be available to the public at the Study Issues/Budget Issues Public Hearing.

From the time since the last Study Issues/Budget Issues Workshop in 2017, staff returned to Council two completed studies. Additionally, staff has 10 Study Issues still underway and three identified as Priority C. Per the March 28, 2017 Report to Council (RTC 17-0165), Priority C Study Issues were not

likely to be absorbed in 2017, and would only be absorbed if the capacity presents itself. These Study Issues will carry forward for City Council consideration in the 2018 Study Issue Workshop. Staff has recommended supporting 13 studies on their merit from the proposed 2018 issues; however, staff is concerned about capacity to complete even some of them due to current policy priority related efforts underway.

The table below summarizes study issues proposed by Boards and Commissions (B/Cs). Based on B/Cs requests, staff prepared 19 study issues. After review, B/Cs dropped three study issues and deferred three study issues advancing 13 of the B/C sponsored study issues.

<b>Study Issues Proposed by Boards and Commissions (B/Cs)</b>	
Prepared by Staff	19
Dropped by B/C	3
Deferred by B/C	3
Total B/C Sponsored Studies going to Council	13

#### Study Issues/Budget Issues Public Hearing

This Public Hearing is a critical step in the City's policy-setting process. Several policy issues are submitted annually for possible study by City Council in the upcoming calendar year. The purpose of the hearing is to invite public comment on the relative importance of proposed issues, and for the public to suggest new issues for Council's consideration. Issues proposed by the public must be sponsored by at least two Councilmembers to be considered at the Study/Budget Issues Workshop. Staff has advised the board and commission chairs that this is also the appropriate time for them to testify on issues recommended by their board or commission.

Should new issues be added during the January Public Hearing, those issue papers will be developed and distributed to Council as soon as possible prior to the February 16 Workshop. The deadline for Council-initiated study or budget issue papers is January 26 (3 weeks prior to the Workshop per Council policy). However, to increase transparency, staff requests that new study/budget issues are proposed and co-sponsored at a public Council meeting, making January 23 the last date.

#### Study Issues/Budget Issues Workshop

On February 16, Council will conduct a workshop devoted to a review of all proposed study and budget issues. Council will prioritize or rank study issues that are not dropped or deferred. Budget issues receiving majority support from Council will be forwarded to the City Manager for consideration in the upcoming fiscal year's recommended budget.

Following the Council Workshop, and based on Council's priority rankings, the City Manager identifies the number of Council-ranked study issues that can be completed during the calendar year without disrupting service delivery or modifying service levels set by Council. Staff updates the Tentative Council Meeting Agenda Calendar for the coming year, identifying when the results of staff's study of specific policy issues will be brought back to Council for action. Lower-priority issues ranked by Council, but not placed on the Council calendar, are automatically reconsidered during the next year's study issue process.

All budget issues referred to the City Manager are returned for Council's consideration as a part of

the City Manager's Recommended Budget for the next fiscal year in the form of budget supplements. These supplements are considered by the City Manager in the context of all the other City projects and services, but are not automatically recommended by the City Manager for funding.

For many years this approach has provided both City Council and City staff with a valuable planning and management tool. It allows Council to set priorities for examining policy issues, provides preliminary review of budget issues, and allows staff to balance policy study with the delivery of day-to-day City services.

### **FISCAL IMPACT**

There is no fiscal impact associated with this report. Each issue paper provides information regarding fiscal impact where warranted, including an estimated cost of studying the issue and estimated implementation costs. Staff recommends any Council-prioritized study issues that require funding be resubmitted as a budget supplement to be considered within the context of all new requests for funding in the FY 2018/19 Recommended Budget. This is consistent with past practice.

### **PUBLIC CONTACT**

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's website.

The public hearing is open to the public and public testimony regarding study issues and budget issues will be heard by Council. Copies of study and budget issue papers may be viewed by accessing the City's Study Issues Website at

<https://sunnyvale.ca.gov/government/governance/study/default.htm>.

The February 16 workshop is open to the public and will be televised live and rebroadcast on KSUN, Channel 15. Consistent with past Council practice, public testimony will be provided at the beginning of the workshop.

### **STAFF RECOMMENDATION**

No action is needed at this time. Councilmembers may request new study issues and/or budget issues be developed for review at the Annual Study Issues/Budget Issues Workshop; a minimum of two Councilmembers is required to sponsor either.

Prepared by: Lupita Alamos, Senior Management Analyst

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

### **ATTACHMENTS**

1. Proposed 2018 Study Issue Papers (Hyperlink)