Draft Strategic Framework for the San José Community Forest Master Plan

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Strategic Framework for the San José Community Forest Master Plan

Executive Summary

Since the 1950s when San José began an explosive period of growth, the City has actively sought to balance the often competing demands of economic development and environmental preservation. Recognizing the many environmental, aesthetic, and economic benefits trees provide, the City has adopted tree-related ordinances, funded programs that sought to protect and grow its community forest, and sponsored the founding of Our City Forest, a non-profit community forest agency that is committed to cultivating a greener, healthier urban environment.

To a large extent, these efforts have been successful. The City's community forest has significantly expanded and matured over the last half century. The City's Arborist's Office and staff from many other departments in the City organization have shaped tree policies and have had extensive involvement with community members on a wide variety of tree-related issues. Since its inception in 1994, Our City Forest has planted 50,000 trees, increased awareness throughout the City's residential and business communities about trees, and directly involved the community in the planting and care of the community forest.

Unfortunately, funding shortages in recent years have all but eliminated the City's ability to maintain its trees. The increasing vulnerability of the City's community forest combined with mounting concern about climate change has prompted the City to refocus attention on its trees. This heightened concern helped to inform the City's decision to sign the Urban Environmental Accords in 2005. One of the 21 actions in the Accords that the City has committed to achieve is to plant 50 percent of its vacant street tree sites by 2015. In addition, the City adopted its *Green Vision* in 2007. One of the ten environmental initiatives in this bold vision commits the City to plant 100,000 net new trees by 2022. The City also conducted a review and evaluation of its tree-related programs and processes in 2007. A Vision statement for the Community Forest Program was developed as a result of extensive community outreach that was carried out during that evaluation. The San José Community Forest Vision is as follows:

> *San José's residents will live within and value a thriving community forest that will be effectively managed to improve the quality of life and sense of community and maximize its environmental, economic, and aesthetic benefits.*

The recommendations contained in the Tree Preservation Services report that resulted from that 2007 evaluation process led to the establishment of three

primary goals for the City's Community Forest Program, and form the basis for this Strategic Framework.

The three goals are as follows:

1. **GROW** Protect, Preserve, Restore and Expand San José's Community Forest.
2. **ENGAGE** Develop and Maintain Support for the Community Forest.
3. **EQUITY** Manage the Community Forest to Maximize Benefits for all Residents of the City.

To realize these goals, it is necessary for the City to formalize its commitment to its community forest through the adoption of a City Council Community Forest Policy. The draft policy content is included in this Strategic Framework.

The *Strategic Framework for the San José Community Forest Master Plan* establishes a roadmap to help the City meet its commitments and more fully develop a comprehensive Community Forest Program. It provides the context - the natural and political history of the City's forest as well as its current status – and it identifies a set of six action-oriented strategies to reach the over-arching goal of a growing and sustainable community forest:

1. **RESOURCES** Secure adequate human and financial resources to oversee all City tree services, implement policies and address the deferred and on-going maintenance funding needs for the community forest.
2. **PARTNERSHIPS** Effectively partner with the Our City Forest, other non-profits, businesses, other agencies and the community to maximize available resources.
3. **MEASURES** Establish performance measures for the Community Forest Program, including tree planting and canopy coverage goals that achieve a healthy and thriving community forest in all areas of the City.
4. **STREAMLINING** Update City tree ordinances and streamline the permitting processes to increase compliance with tree regulations.
5. **COMMUNITY** Inform residents about and engage them in growing and sustaining the community forest, and simplify public access to community forestry services and permitting.
6. **INPUT** Create an advisory mechanism to periodically review the success of and progress being made by the City's Community Forest Program.

The Strategic Framework for the Master Plan is just a first step. To realize its community forestry goals, the City will need to devote the resources necessary to develop all of the other elements of a comprehensive Community Forest Master Plan, and work with Our City Forest and other strategic partners and stakeholders to execute the work plans and timetables that will be identified and described in the Community Forest Master Plan once it has been developed.

Strategic Framework for the San José Community Forest Master Plan

Introduction

Most San José residents generally appreciate the beauty and intrinsic value of trees. The presence of the impossibly wide arm-span of a mature oak tree, or a rank of sycamores joining arms over a residential street, or a troupe of cherry trees bedecked in pink blossoms contribute greatly to the City's aesthetics and livability. Trees benefit our City by boosting property values, reducing air conditioning bills, softening the urban form, capturing greenhouse gases, filtering air pollutants, reducing erosion, sheltering wildlife, and shading houses, sidewalks, and streets. Sometimes, though, they can be considered a nuisance, such as the redwood tree planted too close to a house, or the stand of invasive privet trees on a parcel slated for development, or the Chinese Pistache stretching into the path of a rooftop solar system, or the sidewalk damage caused by the root system of a Liquidambar in a narrow park strip.

As San José evolved from fruit orchards to an urban/suburban environment, its tree policies evolved as well. The City adopted tree protection ordinances; sponsored the creation of Our City Forest, a non-profit organization dedicated to tree planting, education and tree care; and instituted a permitting process to facilitate the planting of new trees and manage the pruning and removal of existing trees. Although the pace of development has slowed, conflicts between the natural and built environment continue. The City's long-standing structural deficit and budget crisis over the past several years has also had implications for its trees, resulting in the elimination of the City's in-house tree maintenance staff and a reduction in funding for contractual preventive maintenance needed to prolong the life of existing trees.

The *Strategic Framework for the San José Community Forest Master Plan* seeks to pull together and enhance the City's prior and ongoing forestry efforts by outlining strategies the City should use, even in these times of budgetary limitations, to effectively monitor, manage, and grow San José's community forest. The Plan provides the context in which these strategies were formulated, including the natural and political history of the City's community forest, the physical environment in which these trees grow, and the initial steps the City is taking to advance its forestry goals. If directed by City Council and after completion of an inventory, the next step is to develop the remaining elements of a Community Forest Master Plan that will detail how the strategies outlined in this document, and any others that might be identified later, would be set in motion.

The City has chosen to use the term "Community Forest" rather than the more common "Urban Forest" in recognition of the diversity of our City, which ranges

from urban to semi-rural neighborhoods. It also reflects the City's philosophy of actively engaging the community in defining and growing our City.

The History of Santa Clara Valley's Community Forest

Trees have long been an integral feature of Santa Clara Valley's natural environment. (*For more information, see Appendix A: San José's Physical Environment*.) In the late 18th Century, when groups of Ohlone Native Americans inhabited the area and Spain had not yet colonized California, the Valley's landscape was far different from the one we see today.

Pre-1850

The valley floor was primarily grassland dominated by widely scattered specimens of the majestic and deciduous Valley Oak (*Quercus lobata*). Clumps of the native riparian habitat composed mainly of Western Sycamore (*Platanus racemosa*) were scattered along the streams, which were seasonal and ephemeral before dams were constructed. Occasional stands of the evergreen Coast Live Oak (*Quercus agrifolia*) and Blue Oak (*Quercus douglasii*) were situated on the hillsides.

Spanish settlement in this area began in 1777. Early colonists planted row crops, vineyards and orchards. San José came under Mexican rule in 1822. After the United States declared war on Mexico, the town of San José capitulated in 1846. Recognizing the horticultural potential of the Valley, the California mission fathers and rancheros established small orchards and vineyards. Over the years, other area residents followed their lead, and this trend was accelerated by the Gold Rush in 1849.

The Valley of Heart's Delight to Silicon Valley

The discovery of gold in California prompted a surge of immigration, with many eventually settling in the fertile range lands of Santa Clara Valley. The sudden demand for food to supply the hungry mining camps caused a rush to plant fruit trees in Santa Clara Valley. Because there was no way to transport these products out of state, the local in-state market was quickly saturated, creating a bust. Until the 1864 drought, stock-raising was the primary activity, followed by sheep raising, dairy, wheat and hay production industries. The creation of the transcontinental railroad in 1869 opened up out-of-state markets for California's fruit. This demand supported the planting of extensive orchards in Santa Clara Valley, which also supplied California's continually expanding population. By the end of the century, orchard products dominated agricultural production in Santa Clara Valley.

The orchards were mainly dominated by prunes and apricots, but there were also plantings of cherries, peaches, olives, and almonds. Fruit production peaked in 1920. By the 1930s, 83 percent of the Valley orchardists raised prunes, and the area became known as "The Valley of Heart's Delight." Blossom Valley earned its name from the myriad fruit trees that covered the landscape and splashed it with color every spring. The areas of the Valley that promoted optimal growth for orchards often now correspond to the neighborhoods that are rich in tree canopy.

San José's agricultural economy lasted well into the 20th Century, giving way to the high tech economy after World War II. By the 1960s, Santa Clara County's economic base was dependent on the electronic and defense industries. Between 1950 and 1975, the population increased from 95,000 to 500,000 and the land mass of the City increased from 17 square miles to over 120 square miles. During this period, residential subdivisions replaced orchards with amazing speed. The growing concentration of computer and semiconductor firms led to a new nickname for the area: Silicon Valley.

Viewing History through Neighborhood Trees

San José's history of development can be traced through the species and variety of its neighborhood trees. Like fashion, different species of trees went in and out of favor over the years due to aesthetics and a growing understanding of which trees were best suited for this climate. The first neighborhoods that developed around San José's downtown core had many stately elms (*Ulmus procera*). In the Mission era, The Alameda, the main road between San José and Santa Clara, was first planted with willows and then later with elms and London Plane Trees (*Platanus x acerifolia*).

In the downtown area, St. James Park has long been a readily identified square of green across from the Santa Clara County Courthouse. Its trees have existed since the 1870s, and their shade provided a respite to a rapidly expanding city. The type of street trees planted here has varied throughout the decades as newer selections supplanted formerly common plantings. As the rural farm environment surrounding San José was annexed and transitioned to suburban housing after World War II, the species diversity of the tree population changed dramatically. The expanding suburban neighborhoods were planted with Modesto Ash (*Fraxinus velutina* 'Modesto'), Chinese Elm (*Ulmus parvifolia*), thousands of Sweet Gum (*Liquidambar styraciflua*), London Plane Tree (*Platanus x acerifolia*) and Southern Magnolia (*Magnolia grandiflora*). Carob (*Ceratonia siliqua*) was briefly a popular choice in the 1960s-70s, and some neighborhoods had extensive plantings of the once magnificent Tulip Tree (*Liriodendron tulipifera*). Unfortunately, the latter have suffered from an infestation of the Tulip Tree Scale and have since been largely replaced with resistant species.

Other popular trees from the post-war era include Sawleaf Zelkova (*Zelkova serrata*) and Camphor (*Cinnamomum camphora*). During the 1970s, the Chinese Pistache (*Pistacia chinensis*) and the Raywood Ash (*Fraxinus angustifolia* 'Raywood') were widely planted. The Chinese Pistache is now the most prevalent street tree in San José. The 1980s saw the extensive use of the mildew-resistant hybrid Crape Myrtle (*Lagerstroemia x fauriei*) for planting sites that could only support a small tree. They have, however, taken spaces that larger shade trees might have occupied. The 1990s brought into vogue the Yarwood Sycamore (*Platanus x acerifolia* 'Yarwood'), which has proven to be very fast growing and disease-resistant. More recent plantings have increased the use of Autumn Purple Ash (*Fraxinus americana* 'Autumn Purple') and Autumn Blaze Maple (*Acer x Freemanii* 'Autumn Blaze').

San José's Community Forest Initiatives

In 1951, San José enacted its first tree ordinance to protect the existing trees and ensure that development of its many suburban neighborhoods would include new tree plantings. San José's General Plan 75 (1975) began to address the environmental impacts of development when it established urban service area boundaries to prevent sprawl and encourage in-fill development. San José became a "Tree City USA" in 1982. To be awarded this distinction, a city must have a tree protection ordinance, provide a minimum level of financial support to its community forest, and promote the observance of Arbor Day.

The next General Plan (Horizon 2000, adopted in 1984) specifically addressed trees with the establishment of the Heritage Tree List, which identified and protected significant trees in San José due to their age, size, rarity, or involvement in historical events. At the time however, the City did not fully appreciate the impact that its expanding infrastructure, such as sidewalks, roads, and structures, had on its community forest. The San José 2020 General Plan adopted in 1994 (and amended in 2008) expanded its focus on trees with the goal to "Preserve, protect, renew, and increase plantings of urban trees within the City." The City's first community forest policies included:

- Support of community forestry programs;
- Protection of trees in development and replacement of trees that are not preserved in new development;
- Tree maintenance and protection;
- Development of a tree master plan and street tree plans;
- Tree selection that preserves wildlife habitat.

The 2020 General Plan also included a Sustainable City Major Strategy, which states the City's desire to be economically and environmentally sustainable, and the role of the community forest in the implementation of this strategy.

In October 2006, the City's Building Strong Neighborhoods Committee directed staff to develop an outreach plan to San José residents, review City practices as they pertain to community forestry, investigate possible grant funding for tree pruning, and explore other options to assist San José's low-income residents. Staff initiated preliminary work based on this direction. The need to review City Community Forestry practices was heightened in January 2007 by the unpermitted removal of three significant trees on private property in the Willow Glen neighborhood. This situation sparked considerable public comment about San José's community forest and related programs and services.

Efforts to review and improve City tree services began in earnest in early 2007. In February 2008, the Tree Preservation Services report was presented to and accepted by the Transportation and Environment Committee. This report contained six strategies to enhance the health and sustainability of the City's community forest:

1. Develop an over-arching Citywide community forestry policy.
2. Develop and implement a Community Forest Master Plan.
3. Increase the organizational leadership capacity to oversee all City tree services and implement new community forest strategies.
4. Streamline the permitting processes and increase compliance with tree regulations.
5. Simplify public access to tree-related services.
6. Address the deferred maintenance and on-going funding needs for the community forest.

Additionally, the San José Municipal Code was changed to require a property owner to have a permit on-site to remove a tree on public or private property.

San José's Sustainability Initiatives

As more attention has focused on climate change, appreciation has grown for the many benefits a community forest offers, such as:

- energy and water conservation,
- carbon sequestration,
- wildlife habitat,
- stormwater, hydrologic, and water supply benefits,
- air quality improvements,
- reductions in urban heat island effects,
- health and well-being benefits,
- economic and aesthetic benefits.

San José signed the *Cool Communities Initiative* sponsored by the Center for Sustainable Energy in January 2001. Its primary tree-related focus was on planting shade trees, rather than small ornamental species, as an energy conservation strategy to help shade streets and buildings. These guidelines are used to this day as the basis for tree planting recommendations.

Recently, the City adopted two key environmental policies that address San José's community forest. In 2005, San José became a signatory to the Urban Environmental Accords, a roadmap to sustainability developed as part of the United Nations Environment Day Conference in San Francisco. One of the 21 Actions in the Accords is to plant 50% of the City's vacant street tree sites by 2015. It has been estimated that there are approximately 30,000 vacant street tree sites within the City, but there is currently no accurate count or location map. The actual number and locations of available street tree planting sites will be determined as part of the street tree inventory efforts described in more detail later in this document.

In October 2007, San José adopted its "Green Vision", a comprehensive plan to cut the City's carbon footprint by more than half in 15 years. One of the Green Vision's ten goals is to plant 100,000 *net* new trees on both public and private properties by 2022

Our City Forest

In the late 1980s, new research revealed the demise of community forests nationwide and the negative impacts on cities. After researching program models in other large U.S. cities, San José concluded that local governments that partnered with non-profit community forestry organizations were achieving the greatest success in terms of leveraging funds and engaging residents – essential components for growing and maintaining a healthy community forest. In late 1992, San José hired a contractor to develop a community forestry non-profit organization within three years. By May of 1994, the non-profit was legally incorporated under the name *Our City Forest* (OCF).

To date, OCF has raised over $5 million and, with that money, has mobilized more than 125,000 residents and volunteers; planted and cared for close to 50,000 15-gallon shade trees on public property sites including streets, schools and parks; and conducted extensive public outreach to raise awareness of tree issues and educate the public on the proper care and maintenance of trees throughout the City. Success in leveraging City funds to obtain State grants has enabled OCF to donate nearly 100% of these trees as well as its technical services. OCF's professional staff team includes three certified arborists as well as experienced environmental education specialists. A specially trained volunteer corps of 75 "Tree Amigos" expands the capacity of OCF to carry out

planting, education and tree care projects year-round. Additional services provided by OCF include its Planet Tree school workshops, arborist consultations, young tree pruning, a three-year tree establishment tracking system, public education & outreach, and community forestry research. Research projects funded through OCF include two studies in partnership with the U.S. Forest Service: *Tree Species for San José* (tree species suitable to plant in San José), and *San José Shade Canopy by Land Use Type (*which documented the tree canopy coverage found in the various land use zones, i.e. residential, commercial, industrial, etc.). *(For more information, see Appendix B: Our City Forest Fact Sheet.)*

Building a Community Forest Program in the City of San José

Based on information and community feedback gathered through a review and evaluation of the City's tree-related programs and processes in 2007, a Vision statement for the Community Forest Program was developed:

> *San José's residents will live within and value a thriving community forest that will be effectively managed to improve the quality of life and sense of community and maximize its environmental, economic, and aesthetic benefits.*

Three primary goals for the Community Forest Program have been established to move the City towards this vision:

Grow — **Protect, Preserve, Restore and Expand San José's Community Forest.**
A healthy community forest helps enhance the City's quality of life, protect public health, encourage economic vitality and promote environmental sustainability.

Engage — **Develop and Maintain Support for the Community Forest.**
The more informed and engaged the public and City staff are in growing and sustaining the community forest, the more the forest will flourish and be viewed as an asset by the entire community.

Equity — **Manage the Community Forest to Maximize Benefits for All Residents of the City**.
Resources should be allocated equitably and appropriately so that all residents of San José can realize the benefits of a thriving community forest to the greatest extent possible.

San José Community Forestry Policy

Adoption of a City Council policy is a necessary step to formalize the City's commitment to its community forest and achieve the goals of the Community Forest Program. This policy will provide clear guidance and shape the desired and optimal level of City engagement in tree-related services and activities.

Rationale for a Community Forest Policy

Scientific studies over the past twenty years have demonstrated the vast benefits that healthy community forests provide and how they address myriad environmental concerns, including air pollution, stormwater runoff and climate change. Despite the tremendous monetary value of these benefits, support for adequate community forest management has declined due to financial constraints. Lack of funding to this point has hindered the completion of a street tree inventory and full development of a Community Forest Master Plan, and has limited the available resources that can be allocated to effectively manage a Community Forest Program. As a result, San José is at risk of not realizing the vast environmental, economic and health benefits that a healthy, viable tree canopy can provide. A Community Forestry Policy is needed to ensure that all current and future tree-related services and activities are aligned with the vision and goals of the Community Forest Program, and to provide for the appropriate allocation of any available resources that can be dedicated to this effort.

Responsibilities

Because City oversight of the community forest is splintered among land use types and funding mechanisms, multiple City departments, agencies, non-profit organizations and others are currently responsible for its management.

Department of Transportation: Responsibility to manage San José's Community Forest plans and programs; oversee trees in the public right-of-way and roadside landscape areas under its jurisdiction.

Parks, Recreation, and Neighborhood Services: Responsibility to oversee community forests on City park lands and trail areas.

Planning, Building and Code Enforcement: Responsibility to oversee permitting and enforcement of protection ordinances for trees on private property.

San José Redevelopment Agency: Responsibility to design and fund, until establishment, tree planting projects in areas of the City under their jurisdiction in conformance to City policies, General Plan, and related ordinances to enhance the value, appearance and economies of those portions of the City.

Our City Forest: Responsibility for obtaining funds for supporting San José's community forestry goals which will enable the organization to provide services and programs in grant administration, community outreach and education, technical support, project management, volunteer recruitment training and support, tree planting and care, inventories, planning and polices.

Santa Clara County: Responsibility for trees on county-owned lands, such as County Parks, located within San José.

Public Institutions, such as San José State University, Santa Clara Valley Water District, School Districts: Responsibility for trees on their properties.

Business and commercial property owners: Responsibility for trees on property they own and/or maintain.

Development community: Responsibility to plant trees that conform to City policy, General Plan, and related ordinances.

City residents: Responsibility to plant and maintain trees in conformance with the City's guidelines and policies.

Draft Policy Statements

An inter-departmental team comprised of staff from the Department of Transportation (DOT); the Environmental Services Department (ESD); Planning, Building & Code Enforcement (PBCE); Parks, Recreation and Neighborhood Services (PRNS); and the San José Redevelopment Agency (SJRA), along with representation from OCF, has developed a proposed set of Citywide community forest policy statements that identify a number of crucial tree-related initiatives and guidelines. This proposed set of policy statements builds on existing policies, formally establishes the City's commitment to grow its community forest, and outlines some of the objectives it will undertake in pursuit of that goal. As part of this Strategic Framework, these proposed statements for a draft Community Forestry Policy are presented for review and consideration:

A. The City will create and maintain a diverse and robust community forest to the maximum extent possible and promote good governance policies for optimal tree care, best management practices and education about the community forest.
B. The City will ensure that San José's community forest is comprised of species well adapted to our Mediterranean climate, planting with species diversity in mind to prevent monocultures that are vulnerable to pest invasions and with consideration to appropriate placement and age to ensure its perpetuation.

C. The City will strive to provide the appropriate levels of dedicated staff and related funding to support the implementation and coordination of this policy and the achievement of its community forestry goals. This includes the support of activities such as, but not limited to, the development and implementation of appropriate master plans, proper tree maintenance, purchasing and planting trees, utilization of professional consultant services, product/service pilot tests, and community outreach and educational materials.
D. The City will maximize and leverage its partnerships with its non-profit community forest counterparts – primarily Our City Forest, but also organizations such as the California Urban Forest Council, Friends of the Guadalupe River Park and others as appropriate - to achieve its community forestry goals.
E. The City will collaborate with other government agencies – local, state and federal – to leverage resources.
F. The City will support the engagement of the public in the expansion and care of the community forest with educational programs, training, hands-on support and meaningful opportunities for involvement.
G. The City will work to inform the public about the proper placement of trees to maximize their energy conservation benefits, while preserving opportunities for the placement of solar energy systems for renewable electrical generation.
H. The City will manage the community forest to achieve various environmental goals such as carbon sequestration, water and energy conservation, wildlife habitat, stormwater retention, minimizing the effects of urban heat islands, and maximizing enhanced property values and energy conservation.
I. The City will actively manage its infrastructure to ensure that the placement and maintenance of street trees, streetlights, signs and other infrastructure assets are integrated.
J. The City will continue to exercise oversight of development plan review and construction inspection to protect desirable trees throughout the design and construction processes.

Upon direction of the Transportation and Environment Committee through its review of this Framework, staff will move forward with the formal policy formation process for eventual adoption by the City Council.

Strategies to Realize San José's Community Forest Goals

San José will need to employ a wide range of strategies to build a Community Forest Program and establish the structure necessary to realize the City's community forestry goals. The following six high-level strategies should guide

the City's efforts to grow and sustain its community forest.

1. RESOURCES

Secure adequate human and financial resources to oversee all City tree services, implement policies and address the deferred and on-going maintenance funding needs for the community forest.

In recent years, San José has been unable to commit adequate resources to manage its community forest. Additional funds and staff are needed to establish and manage a Community Forest Program and to provide some level of tree planting and maintenance. This will continue to be problematic in the current budgetary climate. A major step and key to long-term advancement of the program is to establish ongoing funding for a Community Forest Program Manager who can identify and secure additional resources and ensure effective partnerships between the City, outside agencies, and community organizations. Until such funding becomes available, the City will only be able to perform limited tree-related services as prescribed in the Municipal Code. Staff from the relevant departments will continue to streamline internal processes and implement ordinance changes and improvements to the tree-related permitting processes. Ultimately, the City needs to develop a funding mechanism that will provide professional and cost-effective preventive maintenance for existing trees and incentives to plant new trees to fill in the missing holes in the tree canopy.

2. PARTNERSHIPS

Effectively partner with the Our City Forest, other non-profits, businesses, other agencies and the community to maximize available resources.

San José's current budgetary situation makes it very difficult to allocate adequate City resources to optimally fund a Community Forest Program and its related projects. The City needs to identify opportunities to partner with other public agencies and organizations, the private sector and the community to leverage its available funding and secure additional resources. Our City Forest is the City's primary strategic partner in this regard, and continues with its plan to propagate trees in a cost-effective manner to help increase the availability of trees to achieve the City's planting goals. OCF's success in obtaining $5 million in non-City grants over the years to support San José's community forest is indicative of the contribution they have made to growing and sustaining the City's community forest. The City must look for ways to expand this successful partnership as well as seek out opportunities to work collaboratively with other agencies and organizations to further advance its community forest goals. Examples of other existing or potential partnerships include the California Department of Forestry and Fire Prevention, the California Urban Forest Council, the National Urban and

Community Forestry Advisory Council, the Santa Clara Valley Water District, the Santa Clara County Parks Department, the Western Chapter of the International Society of Arboriculture, the Society of Municipal Arborists, Friends of the Guadalupe River Park, American Forests, the Arbor Day Foundation, Bay-Friendly Landscaping & Gardening Coalition and the Center for Urban Forest Research.

3. MEASURES

Establish performance measures for the Community Forest Program, including tree planting and canopy coverage goals that achieve a healthy and thriving community forest in all areas of the City.

Measures of success are necessary in order to determine the extent to which the City is making progress towards its community forest goals. Work needs to be done to define and establish a set of relevant measures that capture information related to all of the goals and strategies presented in this framework. Two of the most important empirical measures include the number of tree plantings and the percentage of tree canopy coverage.

Knowing how many trees there are currently in the City's community forest is an essential baseline in order to determine a feasible tree planting plan that will address the City's Green Vision goal of planting 100,000 net new trees by 2022. Sustainable tracking and reporting mechanisms need to be developed in order to more accurately and completely account for private tree plantings and better automate the Citywide calculation process. In the interim, work has been initiated to coordinate with OCF and other City departments that are in some way involved with planting trees, including Development Services (Public Works and PBCE), PRNS, ESD, Airport and the Redevelopment Agency. Currently, the main reporting mechanism for the tree planting goal is the Green Vision Annual Report, which is typically prepared in the fall and presented to the Council during the third quarter of each fiscal year.

The number of trees is only one measure of a successful program. American Forests, a non-profit conservation organization, urges communities to adopt a "canopy goal" to measure the health of the community forest. A canopy goal is a measurement of the total percent of an area that is shaded by the collective canopies of the trees, and is calculated by using aerial or satellite photography and light analysis techniques to differentiate tree canopy from rooftops, lawns and other shrubs and plants. A tree canopy measure can be linked to environmental quality, as sufficient tree canopy can slow stormwater runoff, improve air and water quality, and absorb carbon in the air through a process called sequestration. It is also an indicator of the benefits provided to individual neighborhoods.

According to a report issued by the Center for Urban Forest Research in

December 2007 (*San Francisco Bay Area State of the Urban Forest Final Report*, US Forest Service), the current canopy coverage of Santa Clara County is 28.9%. This data is not specific enough to determine the coverage for the area within San José's city limits. Further analysis will be needed to determine the current canopy coverage specific to San José. Along with that, some work will need to be done to establish informed estimates of the total tree population, since the City's inventory efforts can focus primarily only on street trees. Once current canopy and an estimate of the total number of trees is determined, it will be possible to assess the type, size and number of trees that need to be planted in order to have a positive impact on the current canopy coverage. In fact, the best approach may be to set a number of location-specific canopy goals that will feed into an overall citywide goal. Once the current canopy coverage for various neighborhoods is determined, stratified canopy goals can then be derived to achieve specific targets in areas with more need. This information will be most helpful in developing a comprehensive tree planting plan to support the Green Vision goal of planting 100,000 net new trees.

San José's community forest is not uniformly distributed throughout the City, and staff needs to ensure that all neighborhoods are provided with adequate resources to the extent possible. The City should continue to support the efforts of Our City Forest, which provides program information in five languages and conducts outreach throughout the City, targeting those areas that are most in need of trees. It should also continue to seek funding sources to enable the planting of trees. As an example, the City received Community Development Block Grant (CDBG) funding for FY 2009-2010 which supports the planting of 500 trees, primarily in the Cassell neighborhood in East San Jose – an area with a relatively low percentage of tree canopy coverage.

4. STREAMLINING

Update City tree ordinances and streamline the permitting processes to increase compliance with tree regulations.

San José's Municipal Code includes two ordinances, Sections 13.28 and 13.32, related to street trees and trees on private property. They have been revised over the years to address specific issues such as illegal tree removal, but there are areas of ambiguity and inconsistency. A partial revision to Section 13.28 was done in FY 2008-2009 to establish billing procedures for emergency street tree work done by the City on the property owner's behalf. A major revision is currently underway to clarify ordinance language throughout, and to add billing procedure information for non-emergency street tree services provided by the City on the property owner's behalf. Staff is also currently looking at a revision to Section 13.32 to improve the permitting process for private property tree removal.

5. COMMUNITY

Inform residents about and engage them in growing and sustaining the community forest, and simplify public access to community forestry services and permitting.

San José residents have demonstrated considerable appreciation for trees. This appreciation has grown significantly as a result of the extensive educational and engagement efforts of Our City Forest and the ongoing community interaction and resources, such as the City's Tree Services website, provided by City staff. Sustaining and expanding these efforts is essential, since the key to a healthy community forest is the involvement of the community.

While some improvements have been made to web-based information resources, the permitting process needs to be streamlined, and access to City tree-related services needs to be centralized, updated, and made to be more user-friendly. Some of the ordinance changes referenced in Strategy 4 align with this strategy. Another thing that will support better access to resources and information is the development of the Community Forest Best Management Practices (BMPs). The City is currently engaged in developing BMPs to educate all those who are responsible for caring for the community forest and to ensure that they are using current professional arboricultural techniques. This effort is scheduled to be completed by the end of this fiscal year, and will result in widespread accessibility to critical information on the proper planting and care of trees, as well as resource and contact information for all tree-related services provided by the City and its strategic partners. One key component of this project is the development of a communication and awareness campaign to ensure that people know where and how to access this information. In addition, the City should continue to support Our City Forest's effort to provide residents with permitting assistance, species selection, site preparation, trees, and hands-on assistance with planting and tree care.

6. INPUT

Create an advisory mechanism to periodically review the success of and progress being made by the City's Community Forest Program.

The goal of community forestry is to create a more livable environment for the residents of the City of San José. It is essential that community members feel connected to the City's Community Forest Program in order for it to be successful. In an effort to maintain a close ongoing relationship with all of the City's community forest partners, the City should explore the feasibility of establishing a community forest advisory mechanism comprised of City staff and community volunteers. The group would be established to

assist, advise and provide input from the community to City staff and the City Council with respect to community forestry issues. An advisory group would provide a useful perspective on the effectiveness of the City's Community Forest Program, identify new strategies and opportunities to advance the City's community forestry goals, and flag potential problems before they become acute. The advisory group could also provide a means of seeking input from experts outside the City.

Some of the ways an advisory body could engage in and help to advance the goals of the City's community forestry goals could include:

- Identify any need for revision of the Municipal Code related to community forest issues;
- Research specific community forestry-related issues presented to the group by the City Council or City staff, and advise the City Council or City staff on potential courses of action;
- Make policy recommendations to City staff or City Council.;
- Help to educate the City residents and business owners on the importance of the community forests and its proper management;
- Hear public comment from Individuals and organizations related to Community Forestry issues to accomplish the duties defined above;
- Make budget and program recommendations to the City Council.

The size, make-up and specific mission of the advisory group will be determined during future phases of the Master Plan development process.

Creating an Inventory of the City's Street and Park Trees

To determine the types of trees San José should plant and where to plant them, the City needs some basic information. It needs to know how many and what variety of trees are currently growing on public property, the condition of those trees, and what opportunities exist to plant new trees.

This type of information can only be collected by conducting an inventory. This can be accomplished either by gathering data on every tree or, more simply, by collecting statistically valid data samples that can be extrapolated to represent the total forest. The latter is less expensive to complete, and provides a useful but incomplete picture of the forest. Ultimately, a complete inventory is necessary to capture the detailed information required to effectively manage a forest. That information includes the number of trees of a given species; the percentage of each species or family that make up the forest; the size, health, and condition of those trees; and the configuration of the site where they are located.

There are many reasons for engaging in the inventory effort. An inventory will allow San José to estimate the monetary value of the trees and their

environmental benefits such as their cooling effect or carbon sequestration. An inventory is required to effectively manage the existing and future forest by providing the data needed to develop a long range Community Forest Master Plan. The State of California Department of Forestry and Fire Protection (CalFire) recognizes the importance of an inventory, and requires that a complete street tree inventory be in place as a pre-requisite to any CalFire grant funding that the City could apply for to assist with the development of its Master Plan. Lastly, and perhaps most importantly, the inventory must be in place in order to support further work on assessing the feasibility of a user fee or other alternate funding mechanism for tree planting and maintenance services.

Over the years, the City has made a number of attempts to inventory a portion of the trees on public properties, but none of these efforts was done in a statistically valid way. This means that the resulting data cannot be reliably generalized to the entire forest. These efforts have, however, provided some insight into the condition of the City's forest. *(For a summary of some of this information, see Appendix C: Previous Street Tree Inventories.)*

San José's community forest includes all of the trees within the City limits, on both public and private property. At this time, however, staff is not proposing to conduct an inventory of trees on private property in San José, despite the fact that they likely comprise well over 50 percent of the City's community forest. The City intends only to inventory its public trees—those in its parks, streets, and public rights-of-way. The City is taking this approach because of the high price tag that would be associated with inventorying private property trees, and the potential privacy concerns it would raise. Additionally, there are the logistical difficulties in coordinating access to private property to collect data on private property trees which, in many cases, would be located in someone's backyard.

The inventory effort is progressing in several areas. A CalFire grant is primarily being used to fund 16 AmeriCorps trainees, obtained in conjunction with Our City Forest, to work on a portion of the City's street tree inventory. Some capital funding is being used to fund Phase II of a Public Works inventory project, in which one portion of the City's street tree inventory will be done contractually and another will be completed by OCF through an expansion of its grant agreement with the City for FY 2009-2010. DOT is also utilizing some vacancy savings to pay for inventory work being done by a team of four student interns. They are completing a statistically valid sample of randomized street segments. This sampling effort will yield important information that can potentially be extrapolated out in order to draw conclusions about the size and condition of the City's entire forest. All of these ongoing efforts combined should provide a complete inventory for approximately one third of the City's street trees and missing street tree sites by the end of FY 2009-2010.

If additional funding sources can be identified, it may be possible to have a complete inventory of the street trees done within 2-3 years.

The greatest challenge in conducting an inventory is keeping it current. This is a particularly noteworthy challenge for a tree inventory, since trees are living assets that constantly grow or decline, and their population will continue to evolve over time. The City will extend the useful life of its inventory by linking it to the City's street tree permit database in order to track the addition or deletion of trees as they are planted or removed. Additional strategies need to be developed to ensure the long-term accuracy and sustainability of any inventory data that is collected. Once the inventory is established, further work can be done to explore the feasibility of a user fee or other alternate funding source that can provide for the ongoing planting, care and maintenance of the City's street trees.

Conclusion

San José's previous efforts to protect and grow its forest have been fruitful. Since its founding in 1994, Our City Forest has planted nearly 50,000 trees. The City's tree policies have significantly reduced the number of healthy, large canopy trees that have been unnecessarily topped. Residents are generally more aware of their responsibilities regarding the care and maintenance of trees. Still, the City's community forest is at risk.

Changing weather patterns, dwindling water supplies, poor pruning, inappropriate tree selections made years ago, and limited City funding to maintain the City's trees all threaten the immediate and long-term health of San José's community forest. Ironically, in part because of the changes our climate is undergoing, the need for valuing an investment in the City's community forest is even more acute.

Protecting and nurturing the health and growth of San José's trees, expanding their number, and extending their reach into all of the City's neighborhoods will require a concerted effort by the City, its community forest partners and its residents.

This Strategic Framework provides the foundation for a comprehensive Community Forest Master Plan that will translate San José's community forestry goals into effective policies, measurable deliverables, and annual work plans – all necessary steps to ensure that the myriad benefits derived from trees are maintained and expanded for the benefit of the environment as well as future generations of San José residents.

Appendix A: San José's Physical Environment

From a simply scientific point of view, San José is well positioned to grow its forest given its favorable physical environment for nurturing trees.
The valley is mainly a broad level alluvial plain averaging about 200' above the sea level of the San Francisco Bay, nestled between the 2500' high Santa Cruz Mountains to the west and the 4000' ridges of Mt. Hamilton on the east. The topography of these surrounding mountain ranges are the result of the San Andreas and associated faults causing the hills and mountains to uplift as the Pacific and North American tectonic plates slide past each other.

Climate
The climate of San José is a result of the latitude, topography and the close, but not direct, proximity to the vast Pacific Ocean, whose huge mass of water tends to moderate both high and low temperatures compared to more inland areas. The modest heights of the Santa Cruz Mountains provide some buffering from the full blast of the winter storms coming off of the ocean. Much of the rain (exceeding 50 inches of precipitation per year) from these storms is deposited on the windward side of the coastal Santa Cruz Mountains, leaving Santa Clara Valley in a rain shadow averaging less than 15 inches of precipitation per year. Snow is virtually unknown on the valley floor, but the higher ridges of the surrounding mountains occasionally receive some winter snow. The relative scarcity of rainfall might create water supply problems if the projected reoccurrences of drought occur as suggested by climate change models. This will effect what species of trees will be able to survive such low rainfall patterns.

The monthly temperature ranges for San José provide a very moderate climate, with temperatures that are very conducive to tree growth. The average frost-free period typically extends from January 14th to December 22nd, meaning that there is normally a long growing season of 342 days between killing frosts. The precipitation pattern is typical of a Mediterranean climate, with the great majority of the rainfall occurring during the winter months.

Soils
Many of the soils of Santa Clara Valley are also conducive to tree growth. They are primarily rich clay loams that have sufficient natural fertility for good tree growth and are fairly water-retentive, which helps the trees survive the long dry summer season. When much of the valley was planted in orchards, most were concentrated in specific areas, such as Willow Glen, Berryessa, and Cambrian, where good soils and sufficient ground water supported the trees or water was readily available for irrigation. The areas that were not in orchards were more commonly kept as grassland and mainly used for raising cattle. The soils in Santa Clara Valley have a neutral to slightly alkaline pH range of 7.0 to 7.6, which again is conducive to growing most trees, except those that are native to very acidic environments. Future policy could match tree plantings to the available soil type and the performance of previous vegetation.

Appendix B: Our City Forest Fact Sheet

OUR CITY FOREST

MISSION

Our City Forest *provides free resources, training and support to residents, neighborhoods, businesses, schools and agencies throughout the San José area to help them appreciate, cultivate, maintain and take pride in a greener, healthier community.*

VISION & OBJECTIVES

"One Million People, One Million Trees" was launched in 1994, with support from the City of San José, to:

- Increase community involvement in urban forestry & related environmental activities
- Demonstrate & recommend best urban forestry practices
- Develop & train a dedicated & diverse corps of volunteers, known as Tree Amigos, to support residents
- Select, plant and steward trees using the highest industry standards
- Develop neighborhood, school, government, business and volunteer collaborative opportunities
- Increase public awareness of the benefits & needs of the urban forest & a healthy urban ecosystem
- Achieve high tree survival rates through community-based stewardship
- Leverage funding – public & private – to support urban forest programs & services throughout San José

PROGRAMS & SERVICES

- Green Streets - *free shade trees & technical assistance*
- Tree Amigos – *trained volunteer planting coaches*
- Cool Schools - *free shade trees & help for schools*
- Healthy Trees - *early tree care, pruning & education*
- Trees for All - *planting assistance for seniors & disabled*
- Tree Inventories - *including citywide tree inventory*
- Earth Days & Arbor Days - *includingTree City USA awards*
- Community Tree Nursery - *growing trees for the Green Vision*
- Green & Healthy Neighborhoods - *green living classes*
- Tree Patrol - *tracks trees for 3 years after planting*
- Green San José - *AmeriCorps service/job training program*
- Consulting Services – *consulting & certified arborists*

BY THE NUMBERS

- Nearly 50,000 15-gallon shade trees have been planted throughout San José neighborhoods since 1994
- 150,000+ residents have participated in over 3,000 Our City Forest planting, tree care & community education projects
- A 90% tree survival rate has been achieved – *as audited by the City of San José*
- $5 million in non-City funding has been obtained by Our City Forest to provide free trees and services to San José residents
- 10,000+ shade trees have been donated & planted at 200+ schools, 40+ City parks and numerous San José public facilities
- Issued two studies: *Shade Canopy by Land Use Type* & *Tree Species for San José,* in partnership with the U.S. Forest Service

AWARDS

- 2002 Planting America's Future Award
  National Tree Trust, Washington, D.C.
- 1996 President's Service Citationist Award
  Points of Light Foundation, Washington, D.C.
- 1995 Clean Air Award Finalist
  Santa Clara-San Benito American Lung Association
- 2007 Gold Leaf Award *(and 2003!)*
  International Society of Arboriculture – Western Chapter
- 1995 Girl Scouts World of Outdoors
  Girl Scouts of Santa Clara County
- 1997 Community Enhancement Award
  Peninsula Conservation Foundation (now Acterra)

Our City Forest is a 501(c)3 organization
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7/09

OUR CITY FOREST

Our City Forest is a tree planting nonprofit serving the San José area. As a "one-stop shop", Our City Forest provides everything a neighborhood, business, agency, school, park or homeowner needs to ensure a successful, safe and legal tree planting.

Our City Forest removes the bureaucratic hurdles while leaving in the fun stuff for residents who want to get involved.

To qualify for free shade trees & tree planting services, recipients of trees must agree to care for the trees for a minimum of 3 years. City residents have the unique opportunity to engage in the community-building experience of receiving healthy trees, learning proper planting techniques and receiving training to ensure that their trees will thrive. After all, what's the point in planting a tree unless it lives long enough to provide badly needed shade, clean air and beauty for our neighborhoods?

TREE PLANTING SERVICES

- Conducts site inspections & obtains necessary permits
- Oversees the purchase, delivery and installation of trees
- Obtains final approval and permits from appropriate agency for sites and tree species
- Selects and orders suitable trees from the nursery using California Nurseryman's specifications
- Organizes and coordinates neighborhood-based tree planting event logistics
- Plants trees per legal specifications
- Obtains infrastructure clearances from appropriate agency for sewer lines, gas lines and water mains
- Solicits and processes resident tree stewardship agreements to determine final planting sites
- Maintains detailed records of applicants and trees planted including addresses, species and planting dates
- Recruits & supervises service club & other volunteers in addition to neighborhood & school volunteers when needed
- Tracks all trees for 3 years and provides on-site support for tree stewards

EDUCATIONAL SERVICES

These additional services are provided for all community-based planting projects:

- Conducts community outreach efforts to encourage involvement in project planning and implementation
- Conducts education outreach to increase awareness of the value of trees & importance of tree stewardship
- Recruits, trains, and supports neighborhood volunteers to assist in planting and caring for trees
- Presents species & planting information at neighborhood meetings
- Prepares and distributes news bulletins announcing planting projects
- Prepares and distributes educational materials to neighborhoods
- Conducts tree planting demonstrations at all plantings
- Provides project supervision and trained volunteers at all plantings
- Provides tree care information to all residents receiving trees
- Provides tree care workshops & specialized training for city agencies, neighborhoods, businesses & residents

Appendix C: Previous Street Tree Inventories

The largest previous inventory, consisting of approximately 40,000 trees, was done by a community forestry contractor as part of their street tree pruning contracts with the Department of Transportation during the period starting in 1999 to 2004. Here is a table of tree species in the various neighborhoods in which they were pruning, listed in order of decreasing frequency:

Botanical Name	Common Name	Total	Family	% of Total
Pistacia chinensis	CHINESE PISTACHE	3,653	Anacardiaceae	9.4%
Liquidambar styraciflua	AMERICAN SWEETGUM	3,279	Hamamelidaceae	8.5%
Lagerstroemia indica	CRAPE MYRTLE	2,271	Lythraceae	5.9%
Platanus x *acerifolia*	LONDON PLANE	2,204	Platanaceae	5.7%
Zelkova serrata	SAWTOOTH ZELKOVA	1,917	Ulmaceae	5.0%
Quercus ilex	HOLLY OAK	1,609	Fagaceae	4.2%
Prunus cerasifera	PURPLE-LEAF PLUM	1,476	Rosaceae	3.8%
Magnolia grandiflora	SOUTHERN MAGNOLIA	1,361	Magnoliaceae	3.5%
Cinnamomum camphora	CAMPHOR TREE	1,322	Lauraceae	3.4%
Pyrus calleryana	ORNAMENTAL PEAR	1,190	Rosaceae	3.1%
Acer platanoides	NORWAY MAPLE	1,131	Aceraceae	2.9%
Gleditsia triacanthos	HONEY LOCUST	1,102	Fabaceae	2.8%
Fraxinus angustifolia 'Raywood'	RAYWOOD ASH	999	Oleaceae	2.6%
Washingtonia robusta	MEXICAN FAN PALM	827	Arecaceae	2.1%
Ginkgo biloba	MAIDENHAIR TREE	739	Ginkgoaceae	1.9%
Ceratonia siliqua	CAROB	525	Fabaceae	1.4%
Quercus agrifolia	COAST LIVE OAK	467	Fagaceae	1.2%
Celtis sinensis	CHINESE HACKBERRY	458	Ulmaceae	1.2%
Ligustrum lucidum	GLOSSY PRIVET	457	Oleaceae	1.2%
Betula pendula	EUROPEAN WHITE BIRCH	414	Betulaceae	1.1%
Pinus canariensis	CANARY ISLAND PINE	394	Pinaceae	1.0%

Triadica sebifera	CHINESE TALLOW TREE	381	Euphorbiaceae	1.0%
Other miscellaneous species				
10,498				
		Total: 38,674		
		Non Species:		
Vacant site	VACANT SITE	4777		
Stump	STUMP	206		
		Total: 4,983		
		Grand Total: 43,657		

Although this is not a statistical sample, it is interesting to compare the diversity of species compared to the "10-20-30" Rule, which urban foresters have used as a guideline for cities to promote a diverse tree population. Diversity is a hedge against a disproportionate population of just a few species, genera, or families that would be especially susceptible to insect or disease outbreaks. The Rule is to avoid a tree population made up of more than:

10% of any one Species
20% of any one Genera
30% of any one Family

Analysis of this data set shows that none of these percentages are exceeded in the sample. Once the current inventory project is complete, it will then be possible to analyze the data to see the true diversity of San José's community forest and incorporate recommendations for change in the master plan.

Tree Size:
The distribution of these street trees by the various categories of DBH (trunk Diameter at Breast Height recorded at approximately 4.5' above grade):

DBH Frequency

DBH	Total
---	4,780
0-6	11,538
7-12	13,162

13-18	7,853
19-24	4,326
25-30	1,645
31+	353
	Total: 43,657

As can be seen, about two thirds of the street trees in San José are 12 inches or smaller in trunk diameter, either because they are small growing species or they are young trees that have not yet achieved their full growth potential. Differentiation between these two variables however cannot be made because the information was not recorded to allow for such an analysis to be made.

The most comprehensive effort to determine the extent of the public forest was a 2007-2008 survey conducted by the Public Works Department's Geographical Information Systems (GIS) section. The project involved analyzing the high resolution aerial photographs taken of Santa Clara County in 2006 to determine the number and locations of the trees in the public right of way, parks and trail systems. There are inherent difficulties in trying to count the number of trees from aerial photographs since the trunks are often obscured by the canopy, especially in a dense planting and can be confused by utility poles or other objects. Phase I of this survey only counted the number of trees, marking the locations on a GIS layer. The other attributes, such as species, size and condition was not part of the scope of work.

Here are the numbers of trees obtained from Phase I of the project:

Streets:	226,287
Park lands (developed and undeveloped):	84,005
Trail areas:	898
Creeks:	30,475
Maintenance Assessment Districts:	8,624
Santa Clara Valley Water District:	6,233
TOTAL:	356,522