

# Santa Barbara Urban Forest Management Plan

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## I. Introduction

The City of Santa Barbara has a long history of municipal tree planting and a diverse urban forest. Initially spearheaded in the early 1900s through the horticultural and civic leadership of prominent City residents, it is estimated that the City's urban forest is currently comprised of more than 320,000 trees. City-owned trees along public streets and in parks and other public places are estimated to represent 20 percent of the urban forest. The remaining 80 percent is found on private and other public property. There are more than 450 species of trees on City property.

Santa Barbara's existing tree protection and enhancement policies as well as its tree management programs provide a solid foundation for this urban forest management plan. At the same time, Santa Barbara's urban forest faces a number of challenges. In certain areas of the City, the urban forest is aging, mature trees conflict with infrastructure, and species diversity is in decline. In addition, resources for the planting and care of trees and community participation in tree management are limited. The purpose of this urban forest management plan is to identify long-term preservation and enhancement objectives, and address key management considerations including canopy cover, infrastructure constraints, and environmental, land use, aesthetic, and community considerations. An Urban Forest Management Plan allows the City to effectively allocate limited resources.

### **Santa Barbara's Urban Forest**

The extent and diversity of the City's current urban forest is primarily the result of efforts of early horticulturalists and City management of diverse tree resources for more than a century. Early horticulturalists, including Joseph Sexton, Dr. Francesco Franceschi, Dr. Boyd Doremus, Peter Reidel, and E. O. Orpet, brought plants and trees from all over the world to Santa Barbara. Beginning in the early 1900's these pioneers transformed Santa Barbara's downtown barren landscape into a diverse canopy. While some of the earliest recorded plantings are from Spanish Franciscan Padres who introduced the olive trees and California pepper trees, official plantings began in 1908. By 1914, an official street tree list and street designation had been compiled and adopted by the Parks Commission. Many trees throughout town, such as the Italian Stone Pines along Anapamu, are representatives of this original list.

The most recent edition of *Trees of Santa Barbara*, by Robert N. Muller and J. Robert Haller, published by the Santa Barbara Botanic Garden in 2005, documents Santa Barbara's long tradition of horticulture and the importance of trees in the region. The book documents over 400 species of trees that can be viewed in public places. Many of these trees are found on City streets, in City parks, and on the grounds of various public facilities. Some important times in Santa Barbara's horticultural history include:

- 1793 - Captain George Vancouver observed almonds, apples, apricots, cherries, lemons, limes, oranges, peaches, pears, and pomegranates near the Mission gardens.

- Spanish settlers introduced the California pepper, chinaberry, as well as palms for the tradition of Palm Sunday.
- 1867- Joseph Sexton established his first nursery. Ten years later, this grew to become one of the area's most extraordinary sites containing some of the world's rarest shrubs and plants. Sexton is also credited with popularizing the cork oak, dragon tree, Lombardy poplar as well as the invasive pampas grass.
- 1870's - Ellwood Cooper introduced over 50 species of Eucalyptus, a common tree seen throughout Santa Barbara today.
- 1880-1910 - Kinton Stevens, Francesco Franceschi, Dr. Boyd Doremus, and Peter Reidel made their individual mark on Santa Barbara, forever changing the landscape. Combined, they introduced several thousand plant and tree species and contributed immensely to the city's horticultural heritage
- 1920-1956 - E.O. Orpet, a highly respected horticulturist, made his contributions to Santa Barbara's street and park plantings including Olive trees along Olive Street, Southern magnolias along San Andres, and unique species in Orpet Park.
- 1956-Present - Many other Santa Barbara residents, horticultural enthusiasts, and arborists added to the flora of Santa Barbara, including: Finlay MacKenzie (Superintendent of Parks from 1938-1962), Bruce Van Dyke (horticulture teacher in Santa Barbara City College's Adult Education classes for over 40 years), and Dan Condon (city arborist from 1980-2002) to name a few. During this time, the City has also enhanced tree preservation policies, established a Street Tree Master Plan, and formulated daily operations consistent with industry standards.

The diverse horticulture found in Santa Barbara would not be possible without the winning combination of climate and soils that favor a variety of plant species. Southern California enjoys a Mediterranean climate, generally characterized by temperatures and annual precipitation that is moderated by the cool Pacific Ocean.

The nutrient rich soils along the coastal shelf are sedimentary in origin with a pH that supports plant species from all over the world. Santa Barbara averages 18 inches of rainfall annually with rain occurring primarily during the months of November through April. Temperatures are mild and average 76<sup>0</sup> F for the high and 43<sup>0</sup> F for lows.

Today's urban forest is a complex mix of naturalized forests, diverse city parks, and a variety of trees planted in landscapes, along streets and on private property.

### **Urban Forest Management Plan Development**

The development of the urban forest management plan (UFMP), included preparation of a baseline tree canopy assessment and policy options analysis; extensive public outreach through community meetings, City TV, web resources, and other public information methods; public discussion during meetings of the Parks and Recreation Commission, Street Tree Advisory Committee, and other Boards and Commissions; and final action by the City Council. The Parks and Recreation Department also worked closely with a Technical Advisory Committee (TAC) and staff from the Public Works, Fire and Community Development Departments. The TAC included members from the City's Parks

and Recreation Commission, Street Tree Advisory Committee, and Planning Commission, as well as representatives from Southern California Edison, Santa Barbara Botanic Garden and Santa Barbara Beautiful. The project was funded in part by a grant from the California Department of Forestry and Fire.

Over an 18 month period, a total of 22 meetings with the TAC, City staff, Boards and Commissions, as well as the public reviewed current urban forest program management, developed key issues, vision and mission statements as well as goals, plus reviewed and provided comments on objectives, actions and plan implementation. Additional public input was received community meetings, an online survey and comment cards

## II. Urban Forest Management

City management of the urban forest involves a number of City departments including Parks and Recreation, Public Works, Community Development and Fire. Planting and maintenance of City trees is primarily the responsibility of the Parks and Recreation Department. Other departments such as Fire, Community Development, and Public Works are involved as part of public safety, public capital improvement projects and land use planning and development. Public review and policymaking related to tree planting, maintenance, and preservation is provided by the Street Tree Advisory Committee, Parks and Recreation Commission, Single Family Design Board, Historic Landmarks Commission, Architectural Board of Review, Planning Commission, and the City Council.

### City Departments

#### Parks and Recreation Department

The mission of the Parks and Recreation Department's Forestry Program is to plant and maintain City public street, park, and facility trees for the benefit of residents, and to ensure a safe and healthy community forest.

The Forestry Program currently has eight staff directly involved in the care and maintenance of the City's urban forest, including the Urban Forest Superintendent (City Arborist), Street Tree Supervisor, and six field staff. The Urban Forest Superintendent develops, implements, and supervises the City-wide Urban Forestry Program including tree planting, pruning, removal, and pest management; enforces City tree ordinances; and, coordinates urban forestry related activities with other divisions, departments, and outside agencies or groups. The Street Tree Supervisor oversees Forestry Program field staff, inspects trees located throughout the City, and schedules the day-to-day operations including contracted maintenance services. Field staff is responsible for City tree maintenance including trimming, planting, and removal; as well as response to emergency situations involving trees as needed. The field staff includes a Small Tree Care Specialist who is responsible for planting and maintaining young Street trees.

#### *Tree Planting and Maintenance*

Street trees are the primary focus of the Forestry Program and its annual tree maintenance schedule. There are over 23,000 street trees and an additional 3,500 - 7,000 vacancies and stumps. Maintenance of trees and landscaping within the street right-of-way (ROW) is funded by the Utility Users Tax revenue. The Forestry Program also maintains over 9,000 public trees located within 68 parks and landscaped areas of public facilities. These trees do not include all trees within open space parks. Maintenance of park and public facility trees is funded by the General Fund.

#### *Tree Removal Permits*

The Forestry Program administers the tree removal permit application and review process in accordance with Santa Barbara Municipal Code Chapter 15.20 and Chapter

15.24. The review of each tree removal application includes site visits, discussion with the Street Tree Advisory Committee (STAC), and presentation to the Parks and Recreation Commission.

#### *Outreach and Education*

Outreach and education is primarily conducted through public meetings with the Parks and Recreation Commission, and the tree removal permitting process and tree planting projects. Recent outreach efforts include a comprehensive update of the Forestry Program web page, publication of a community guide for tree planting, and workshops for tree professionals. The Forestry page on the City's website provides information to the public regarding city-owned and regulated trees and the public benefits of a healthy urban forest. These efforts are supported by community street tree planting projects and annual Arbor Day celebrations and planting projects. The City also enjoys 32 years of designation as a Tree City USA.

#### *Performance Measures*

The Forestry Program has a number of annual performance measures that track tree pruning and planting, tree maintenance costs, service requests, community work days and other aspects of City urban forest maintenance activities. In the last five years, the City has pruned an average of 5,796 street trees, 1,375 park/facility trees, and planted 239 new street trees. City staff perform block pruning, provide citizen response based and emergency pruning, as well as care for larger park and street trees. Tree contractors are assigned blocks of street pruning or park specific tree pruning.

#### Community Development Department

The Community Development Department (CDD) oversees citywide community planning and land development. Urban forest policy is found in the City's General Plan, Climate Action Plan and various City ordinances. Implementation of City tree policies occurs through project design review and land development approvals, and fall under the purview of design/development review boards and commissions including the: Historic Landmarks Commission, Architectural Board of Review, Single Family Design Board, and the Planning Commission. Trees are integrated into the land development process through landscape plans. CDD issues permits authorizing landscaping alterations, which may include planting and/or removing trees. Trees planted as part of approved landscape plans are also subject to establishment and maintenance requirements. CDD has enforcement authority for unapproved alterations to approved landscape plans. In addition, Community Development Department staff can administratively approve limited tree removals as allowed in the adopted Design Board Guidelines. Under certain circumstances, the Urban Forest Superintendent may review tree removal and/or planting proposals as part of land development.

## Fire Department

The Fire Department is responsible for implementation of the City's Wildland Fire Plan. The purpose of the plan is to manage vegetation, including trees, in the City's high fire hazard areas for public safety and wildland fire management. With policy guidance from the Wildland Fire Plan, the Fire Department institutes defensible space requirements for property owners, provides roadside vegetation clearance within the foothill areas for truck access, leads exotic/pest plant removal projects, and provides water-wise and fire-wise plant and tree landscaping options. The Fire Department has the authority to require tree maintenance and/or removal within high fire hazard areas to achieve fire safety objectives. The Fire and Parks and Recreation Departments work together to evaluate and address trees and vegetation on City streets and City parks to meet the City's vegetation management requirements.

## Public Works Department

The Public Works Department Streets Section is responsible for the maintenance of City's streets and sidewalks, including the street sweeping program. The Engineering Division and Transportation Planning Section oversee street right-of way improvement projects. As a result, the Public Works Department's involvement in urban forest management is primarily focused on Street trees and the relationship of trees and maintenance of public infrastructure. Under the Streets Division, trees are trimmed to allow for street sweeping vehicle clearance and ensure parking sign visibility. Street and sidewalk improvement projects at times impact the root zone of trees. The Street Division works with the Urban Forest Superintendent to assess trees that may be impacted from these activities.

## **Public Review and Policy Decision Making**

### Street Tree Advisory Committee

The Street Tree Advisory Committee (STAC) provides advice to the Parks and Recreation Commission and Department staff regarding tree-related issues such as, planting and removing City trees, removal requests for street trees and trees located in residential front setbacks, and changes to the Street Tree Master Plan. The Committee is composed of five voting members who have interest and technical knowledge of trees and tree care issues.

### Parks and Recreation Commission

The Parks and Recreation Commission acts on all street tree and most residential setback tree removal applications, as well as changes to the Street Tree Master Plan. When appropriate, the Commission may seek the advice of the Historic Landmarks Commission on Specimen or Historic trees as well as Street Trees within the El Pueblo Viejo and Brinkerhoff Landmark Districts. The Parks and Recreation Commission can recommend trees to City Council for Specimen or Historic designation.

### Historic Landmarks Commission

The Historic Landmarks Commission (HLC) provides design review for new development and redevelopment projects within El Pueblo Viejo and Brinkerhoff Landmark Districts and reports to the Planning Commission. AHLC also reviews alterations to historic or potentially historic properties throughout the city as well as other Historic Districts (i.e. Riviera Campus). The land development design review involves the placement and preservation of trees within landscape plans. HLC reviews and acts on setback tree removal applications within El Pueblo Viejo and Brinkerhoff Landmark Districts. The HLC can recommend trees to City Council for Historic designation and reviews all historic and specimen trees subject to removal.

### Architectural Board of Review

The Architectural Board of Review (ABR) provides design review for new development and redevelopment projects that involve multi-residential, commercial or mixed-use development. Part of the design review involves the placement and preservation of trees as part of landscape plans and the development of commercial parking lots. ABR reviews and acts on parking lot tree removal applications.

### Single Family Design Board

The Single Family Design Board (SFDB) was established by ordinance on June 8, 2007 as a result of the Neighborhood Preservation Ordinance. The Board provides design review for projects zoned as single family residential units. They are charged with the responsibility to ensure homes are completed with high-quality designs that are compatible with the surrounding neighborhood, preserve the City's visual resources, promote long-term sustainability, and contribute to a desirable living environment. Part of the design review involves the preservation, placement and maintenance of trees as part of landscape plans.

### Planning Commission

The Planning Commission makes recommendations to the City Council on the City's General Plan and other plans that provide guidance in the physical development of the City, and reviews and approves land subdivisions and land development plans. The Planning Commission may consider details related to trees and vegetation associated with land development proposals.

### City Council

The City Council sets City policy through the Municipal Code, general plan policies, and by Council resolution. All tree-related decisions by the Parks and Recreation Commission, Planning Commission and design review decisions by ABR, HLC, and SFDB are appealed directly to City Council.



### **III. Foundation for the Urban Forest Management Plan**

In addition to a long community horticultural history, the City has placed a high value on the development and maintenance of its urban forest for more than a century. In recent years, the Parks and Recreation Department (Department) completed a number of building blocks that provide a solid foundation for urban forest plan development. They include a comprehensive 2007 inventory of City-owned trees on streets, within parks and City public facilities (such as City Hall and the Central Library, among others), a 2008/2009 i-Tree assessment of City street trees, and a 2012 citywide tree canopy assessment.

In an effort to better protect both public and private trees, the City Council amended the City's tree preservation ordinances and adopted a tree violation fine schedule in 2009. Moreover, recent efforts to expand community education and outreach include the development of a Community Tree Guide and workshops for private sector tree maintenance professionals. Lastly, the City has a dedicated Forestry Program that implements street and park tree maintenance and planting operations, oversees the tree removal permit process, and enforces many provisions of the City tree preservation ordinances.

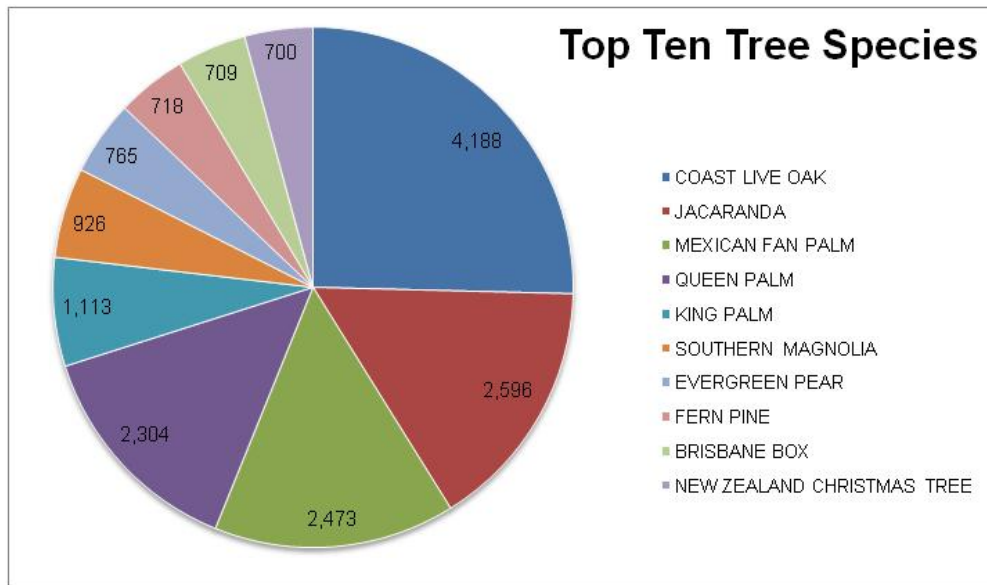
#### ***2007 City Tree Inventory***

The City's most recent inventory, conducted in 2007, provides a wide range of information including number and type of tree species, size in terms of diameter at breast height (dbh), height, location in terms of coordinates, and maintenance issues for the following: street trees, trees in developed parks and facilities, and for the majority of trees in undeveloped open space parks.

#### **Tree Distribution and Diversity**

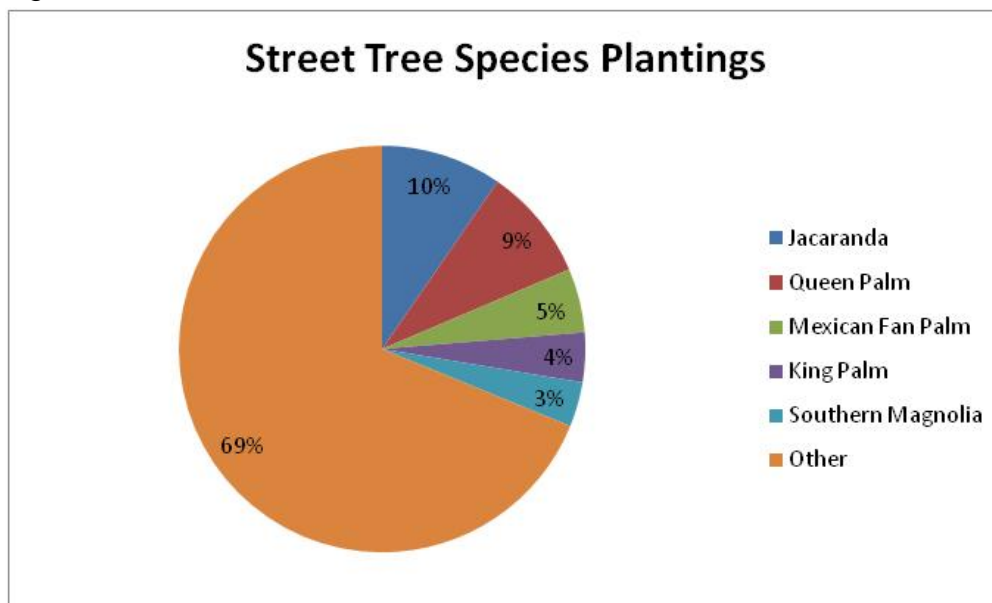
The current inventory contains over 40,000 tree sites containing 456 different varieties of trees, between 3,500 to 7,000 vacant sites and 354 stumps. Although Santa Barbara's urban forest is highly diverse, nearly half of those species occur five or less times, 96 of which occur only once. The Coast Live Oak, Jacaranda, Mexican Fan Palm, Queen Palm and King Palm are the most abundant tree species in Santa Barbara, and make up 30% of publicly owned trees. Frequency of occurrence ranges from a high of 9% for the Coast Live Oak to 2.6% for the King Palm. The remaining 70% of the public tree population occurs at a frequency of 2% or less. Figure 1 shows Santa Barbara's top ten most abundant publicly owned trees. The most abundant by far is the Coast Live Oak, totaling over 4,000. This tree is highly representative of Santa Barbara's historical landscape and is primarily found within the open space parks and forests of the foothills. The Jacaranda is the second most abundant species, and is also the most popular designated street tree. These two trees are co-designated City official trees.

Figure 1.



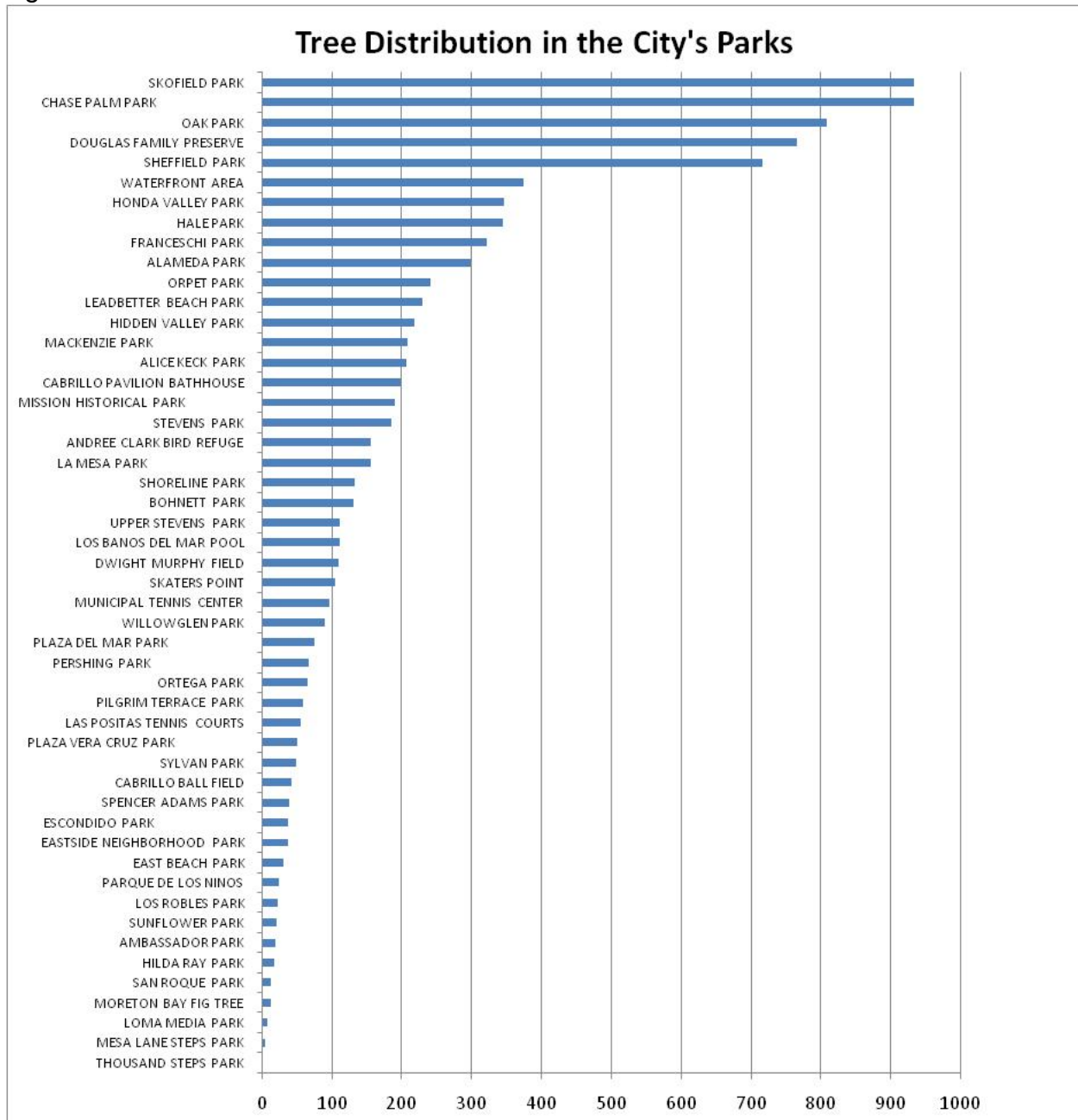
When looking at species mix alone, 143 species are unique to street trees, 106 are unique to park trees, and approximately 200 can be found in both parks and along streets. Figure 2 illustrates the top five most abundant street tree species. As noted above, the Jacaranda is the most commonly designated street tree and makes up 10% of the total population. The Queen palm is a close second at 9% of the population. Percent totals quickly drop to 5% and 4% for the remaining top five species. Sixty-nine percent (69%) of street trees number 3% of the population or less.

Figure 2



Santa Barbara’s tree inventory contains over 9,000 park and facility trees. Park tree distribution is shown in Figure 3. Five of Santa Barbara’s parks have over 700 trees and include: Skofield, Chase Palm Park, Oak Park, Douglas Family Preserve (DFP), and Sheffield Park. The top five most abundant species found within City parks are the Coast Live Oak, Mexican Fan Palm, Blue Gum Eucalyptus, California Sycamore, and Canary Island Date Palm.

Figure 3



## Tree Size Class

Size and age of the forest can be measured at the trees trunk by diameter at breast height (dbh). Santa Barbara's combined street and park tree has a size class that favors young and medium sized trees between the dbh range of 0-18 inches and 0-30 feet in height. Only 3% of trees reach a girth greater than 31 inches dbh. Similarly, only 5% of trees reach a height of greater than 60 feet. Figure 4 and 5 show size of trees by dbh and height ranges respectively.

Figure 4

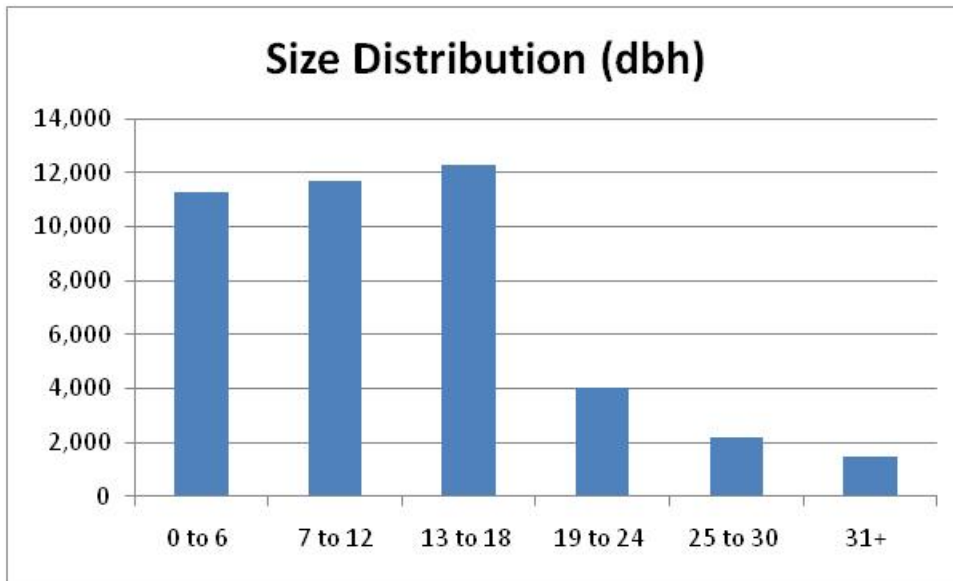
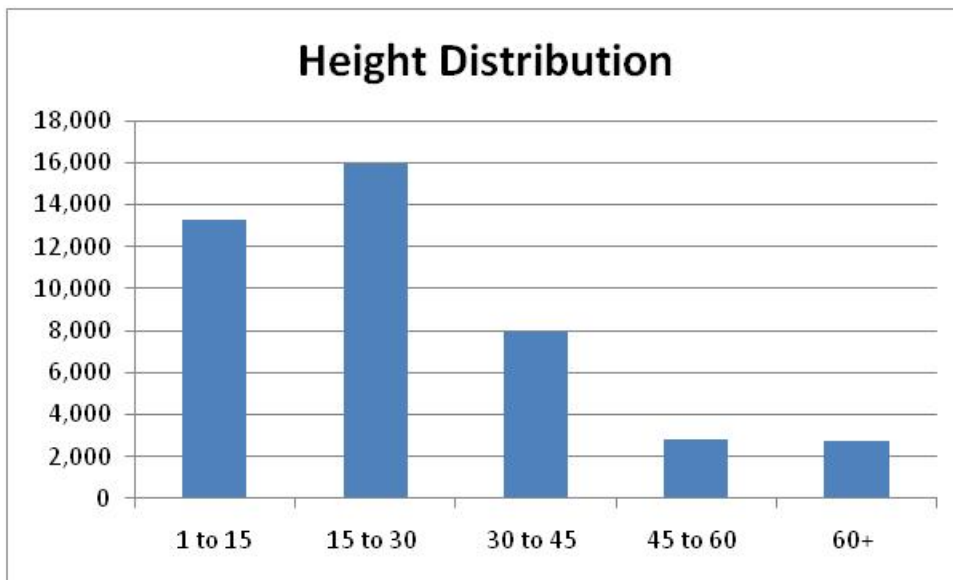


Figure 5



## Tree Condition

Santa Barbara's urban forest has a range of conditions. The vast majority of Santa Barbara's street trees are in good or excellent condition. A number of trees were identified in 2007 as having maintenance needs that placed them in a category of needing to be removed for a variety of reasons, including: disease, death, decline, and volunteer. While some of these trees may have been tended to, others are still awaiting removal and replacement. An estimated 150 trees are removed each year.

### ***2008/2009 i-Tree Assessment***

The i-Tree assessment focused on a 10% sample of the City's street tree population to quantify the dollar value of the environmental and social benefits trees provide, including: ecosystem benefits of energy conservation, stormwater reduction, carbon dioxide reduction, air quality improvement, and aesthetics. The value of Santa Barbara's urban forest resides in eight categories:

- Horticultural Heritage – Since the 1800's, conservators and horticulturists have adorned Santa Barbara's landscape with a variety of trees, shrubs, and other plants. The efforts of plants men like Joseph Sexton, Francesco Franceschi, A. Boyd Doremus, and E.O. Orpet are seen in our parks and neighborhoods and are enjoyed and appreciated daily. Maintaining this legacy is to preserve the cultural and historical record each tree has, as well as act as a conservatory for the display of exotic, rare and even endangered species.
- Energy Savings – Trees provide valuable shade over streets, buildings, and homes. It is estimated that shade trees can reduce housing energy consumption by 20-25% when compared to a house in an open area (US Forest Service).
- Air Quality – Leaves filter the air we breathe by removing dust and other particulates. They absorb carbon dioxide, ozone, carbon monoxide, and sulfur dioxide, and give off oxygen. The larger the tree leaf cover, the greater the potential to improve our air quality.
- Water Quality – Storm water runoff is the single largest source of water pollution in the City (SWMP, 2009). Trees offset the amount of storm water runoff in a multitude of ways. They capture rainwater and remove impurities, reduce volume into sewer systems, and reduce peak stream flows. Canopy cover helps reduce erosion by reducing the impact of raindrops on bare ground.
- Property Value Increase – Studies conducted by the U.S. Forest Service show trees increase real estate value up to 10% depending on type and size of tree. As trees mature, their dollar value increases.

- Parks and Open Space – Because Santa Barbara is primarily a residential community with high tourist activity; it has an extensive park system. Trees are a major component to this system, providing shade, reducing wind, and increasing the overall aesthetics.
- Quality of Life – A less tangible aspect of study is the increased quality of life due to a green environment. Numerous studies report trees attribute to overall increased health, increased work productivity, and reduced aggressive driving (US Forest Service). It is recognized in Santa Barbara's General Plan that it is essential to protect our community's natural resources: clean air, uncontaminated beaches, scenic views, and it's cultural and historical background; and to preserve the ecological balance of all life systems.
- Wildlife Habitat – Urban trees offer habitat to birds, insects, reptiles, mammals, and the vast system of microorganisms in the soil. Without stands of trees, animals like the Monarch butterfly would not survive their year-long migration. Willows on creek and river banks provide just the habitat needed for the endangered songbird, least Bell's vireo. Trees also provide habitat and shade in the creek corridors for fish and amphibian species.

A total of 4,991 trees were assessed as part of the project. Annual street tree benefits totaled nearly \$3.1 million and averaged \$93 per tree. In Fiscal Year 2012, the City spent approximately \$952K (\$28/tree) maintaining its public street trees leaving \$2.14 million in net annual benefits to the community. For every \$1 spent on tree care, street trees are providing \$2.14 in benefits.

<i>Annual Benefits for Santa Barbara's Street Trees (\$)</i>		
<b>Ecosystem Service</b>	<b>Total Annual Dollar Value</b>	<b>Value Per Tree</b>
Energy Conservation	\$227,040	6.84
CO2 reduction	\$33,857	1.02
Stormwater reduction	\$29,874	0.90
Air Quality Improvement	\$509,844	15.36
Aesthetics	\$2,293,304	69.09
<b>Total Annual Benefits</b>	<b>\$3,093,919</b>	<b>\$93.21</b>
<b>Annual Maintenance/Planting Budget (FY 12)</b>	<b>\$ 952,000</b>	
<b>Net Annual Benefit</b>	<b>\$2,141,919</b>	

Not all trees benefit the environment equally, and therefore do not provide the same financial value. For example, bottlebrush trees are a small tree that provide minimal shading and contribute \$23 per tree in annual benefits to Santa Barbara. Palm trees make up an estimated 22% of Santa Barbara's street tree population and average \$35 per tree in annual benefits. The tree with the highest financial value is the redflower gum, providing \$388 in benefits annually. The coast live oak, southern magnolia, camphor tree, Chinese elm, cajeput tree, canary island pine and Victorian box all provide annual benefits that exceed \$150 per tree. Understanding the environmental

benefits and financial value of each species is important for both private residents and for the City in its long-term planning for the urban forest.

Data was collected for the presence of overhead utility and sidewalk heave conflicts. Overhead utility conflicts were put into one of three categories: low voltage line present with no conflict, low voltage line present with a conflict, and high voltage line present. Trees having conflicts with low voltage lines numbered 538, while trees with high voltage lines overhead numbered 1,045. Four-hundred and seventy-six (476) trees had overhead low voltage lines, but were not conflicting, and the remaining 2,931 trees had no overhead lines. Overhead utility line conflicts are city-wide and not specific to any section of the City. Additionally, no species of tree was found to significantly increase the chance of creating conflicts with overhead utilities.

Sidewalk heave conflicts were measured as low (0-1 in.), medium (1-2 in.) and high (>2 in.). Of the 4,991 trees assessed for sidewalk heave conflicts, 783 were low, 239 were medium and 43 were high. Trees associated with having high conflicts were the Jacaranda (6), Fern pine (3), Southern magnolia (3), Sweetgum (5), Camphor tree (3), Black oak (3), Cajeput tree (6), Victorian box (2) and all other trees (12).

### **2012 Tree Canopy Cover Assessment**

In summer 2012, a tree canopy cover assessment was completed to establish the city's baseline canopy cover and approximate total tree population numbers. Tree canopy cover is the amount of area covered by the canopy of trees. Factors that influence percent canopy cover include land use, tree species, and tree size.

The assessment indicated an estimated citywide canopy cover of 25.4%. The area excludes unincorporated areas, the Santa Barbara Airport, and the area of the 101 Freeway that intersects within the City limits. As shown in the tables that follow, the assessment data was used to determine canopy cover for residential areas, parks and open space, and other major land uses.

<b>Location (2011 General Plan Zones)</b>	<b>Canopy Area (Acres)</b>	<b>Percent Canopy by Location</b>	<b>Percent Canopy of entire city</b>	<b>Estimated Tree Population</b>
Entire City	2,787	25.4%	100%	322,290
Residential Areas	2,094	27.8%	80.6%	259,719
Parks and Open Spaces*	322	23.3%	11.6%	36,727
Commercial/Civic	140	20.4%	4.9%	16,077
Public Schools	55	18.7%	2.0%	6,299
Office Areas	20	11.4%	0.7%	2,320
Industrial	10	6.9%	0.4%	1,148

\*Parks and Open Space areas in the 2011 General Plan include The Montecito Country Club, Sheffield Reservoir, Laurel Canyon Reservoir, and the Santa Barbara Municipal Golf Course.

## Neighborhood Canopy Cover

Table 4. Neighborhood Canopy Cover

Neighborhood*	Total Area (Acres)	Canopy Area (Acres)	% Area of Canopy Cover	Canopy Cover % Citywide
Alta Mesa	634	237	37.4%	9.0%
Bel Air	254	99	38.9%	3.7%
Campanil**	488	119	24.6%	4.5%
Cielito	1,294	407	31.4%	15.4%
Coast Village	36	6	17.2%	0.2%
Downtown	172	18	10.3%	0.7%
East Beach	321	46	14.4%	1.8%
East Mesa	376	65	17.3%	2.5%
East San Roque	284	60	21.1%	2.3%
Eastside	429	75	17.4%	2.8%
Eucalyptus Hill	672	225	33.7%	8.6%
Foothill	573	146	25.6%	5.6%
Hidden Valley**	295	84	28.4%	3.2%
Hitchcock**	218	31	14.2%	1.2%
Hope/La Cumbre**	339	67	19.8%	2.5%
Laguna	324	53	16.5%	2.0%
Las Positas Park	226	9	4.2%	0.4%
Lower East	162	13	7.7%	0.5%
Lower Riviera	306	94	30.6%	3.6%
Lower State	122	12	9.6%	0.4%
Lower West	127	29	23.0%	1.1%
Milpas	56	6	10.2%	0.2%
North State	273	35	12.7%	1.3%
Oak Park	416	91	22.0%	3.5%
Riviera	607	229	37.7%	8.7%
Samarkand	177	45	25.7%	1.7%
San Roque	273	84	30.9%	3.2%
Upper East	377	112	30.0%	4.3%
Veronica Springs**	41	10	23.9%	0.4%
Waterfront**	88	4	4.3%	0.1%
West Beach	183	36	19.6%	1.4%
West Downtown	178	32	18.0%	1.2%
West Mesa	350	86	24.6%	3.3%
Westside	529	124	23.4%	4.7%
<b>TOTAL</b>	<b>11,196</b>	<b>2787</b>		<b>100%</b>

\* Neighborhoods include all General Plan zones. The 101 Freeway and unincorporated areas were not included in these results.

\*\*The Hitchcock, Waterfront, Veronica Springs, Hope/La Cumbre, Hidden Valley, and Campanil neighborhoods contained areas that fell outside the city area where canopy was not mapped.



## **Park Canopy Cover**

Park canopy cover is shown below the type of park, including neighborhood, community, passive, open space and beach parks, sports facilities, and public open space. Neighborhood parks maintain the highest canopy cover per area at nearly 51%, while beach parks are lowest at 4%.

<b>Location</b>	<b>Total Area (Acres)</b>	<b>Canopy Area (Acres)</b>	<b>% Area of Canopy Cover</b>	<b>Canopy Cover % of Entire City</b>
<b>All Parks</b>	<b>1,383</b>	<b>322</b>	<b>23.3%</b>	<b>11.6%</b>
Neighborhood Parks	61	31	50.8%	1.1%
Community Parks	123	42	34.1%	1.5%
Passive Parks	72	18	25.1%	0.6%
Public Open Space*	498	110	22.1%	4.1%
Open Space Parks	551	114	20.8%	4.1%
Sports Facilities	35	5	13.8%	0.2%
Beach Parks	43	2	3.9%	0.1%

\*The Public Open Space areas are part of the 2011 General Plan's "Park and Open Space Designation". Parts of this layer are not in the defined areas of the individual Park layer in ArcMap. These areas include The Montecito Country Club, The Santa Barbara Zoo, Sheffield Reservoir, Laurel Canyon Reservoir, and the Santa Barbara Municipal Golf Course.

In addition to providing baseline information, canopy cover assessments can measure changes in tree canopy over time, as well as focus planting projects in areas deficient in tree canopy.

## **IV. Policy Context for Urban Forest Management**

Management of the City's urban forest is guided by a number of City regulations in the Santa Barbara Municipal Code, policies in the General Plan, Local Coastal Plan (LCP), Wildland Fire Plan, Climate Action Plan, and various design review board guidelines, building design guidelines, and other resources.

### ***Street Tree Master Plan***

Chapter 15.20, Santa Barbara's Tree Planting and Maintenance Ordinance, requires a comprehensive plan for planting and maintaining trees along streets and in public areas, and establishes general elements to be included in the plan. The Street Tree Master Plan (STMP) was adopted by City Council in 1977.

The Street Tree Designation section of the plan is used on a regular basis to both assess tree planting options and maintain the City's street tree diversity. The list matches tree species to street blocks, or segments. Street blocks are generally grouped into segments based on tree populations and street characteristics. Some segments span several blocks, while others are only a block long. To date, the Street Tree Designation list has 124 species of trees designated to 969 street segments. There are 134 street segments without tree designations.

Street tree designations are updated for a variety of reasons, including when the designated tree species is no longer available commercially, or when specific species present pest or health problems, cause infrastructure conflicts, and are no longer compatible with size of parkways, among other considerations. In some cases, a street or a section of a street may not have a designated species until the public right-of-way receives improvements, such as sidewalks. Street tree designation changes are reviewed and approved by the Parks and Recreation Commission during a publicly noticed meeting.

### ***Santa Barbara Municipal Code***

#### **Chapter 15.20, Tree Planting and Maintenance**

First adopted by the City Council in 1963, Chapter 15.20 addresses City-owned trees in parks and parkways (street trees) and other developed City parcels. Key aspects of Chapter 15.20 include the application of the American National Standards Institute (ANSI) standards for pruning trees, requirements for conformance to the Master Street Tree Plan in the placement and types of trees, the Parks and Recreation Director's authority and responsibilities related to trees, permitting requirements, and the process for review of requests for significant pruning and removal of City-owned trees. The most recent amendments were adopted by the City Council in December 2009.

## Chapter 15.24, Preservation of Trees

Adopted by the City Council in 1969, Chapter 15.24 regulates tree removal and the degree of pruning allowed for any privately-owned trees located in the regulated front setback of a residential or commercial property, regulated parking lots, trees identified on an approved landscape plan, and/or Historic and Specimen trees located anywhere on a private lot. Chapter 15.24 establishes considerations and findings for removal, the processes for review and appeal, and designates the proper review body for various privately-owned, City-regulated trees. Chapter 15.24 also cross-references all other City regulations related to trees and landscaping. The most recent updates were adopted by the City Council in December 2009. Although the ordinance regulates the removal and degree of pruning of trees, it does not regulate the planting of trees in any way.

### Resolution 09-096

The City Council adopted Resolution 09-096, on December 8, 2009 to establish a municipal code violation fine schedule specific to certain violations in Chapters 15.20, 15.24, including tree pruning and removal without a permit, and Chapter 22.11, maintenance to approved landscape plans. It authorizes the City Arborist or Community Development Director to issue corrective measures if deemed appropriate.

<b>Action without or in violation of permit</b>	<b>Trunk diameter from 4" to 12"</b>	<b>Trunk diameter over 12" and up to 24"</b>	<b>Trunk diameter over 24"</b>
Significant Alteration	Up to \$500	Up to \$1,000	Up to \$1,000
Removal	Up to \$1,000	Up to \$3,000	Up to \$5,000

The Resolution 09-096 also clarifies and establishes regulations related to tree size, location, and maintenance, applies the ANSI A-300 Standards and Best Management Practices to city-owned trees and to record in the city data base when city-owned trees are pruned by more than one quarter, defines and updates the roles and responsibilities of various boards and commissions in the regulation of public and private trees, establishes explicit protections for trees on commercial and multiple-family properties with approved plans, and clarifies enforcement mechanisms for the maintenance of approved landscape plans.

## Historic and Specimen Trees

Chapters 15.20 and 15.24 provide for the designation of historic and specimen trees by the City Council. Both Chapters protect the removal of these and define specimen and historic trees as:

*Specimen Tree* - Any tree which has been found by the Board of Park Commissioners to be of high value because of its type and/or age and which has been designated by resolution of the City Council as a "specimen tree". Designated Specimen trees include:

1. American Elm (*Ulmus americana*)- 1210 Carpinteria St., near property line (PL) (Resolution 89-115)
2. Two Australian Fan Palms (*Livistona australis*)- 131 E. Anapamu St., front setback (Resolution 89-116)
3. Indian Laurel Fig (*Ficus microcarpa* var. *nitida*)- 100 E. Constance Ave. (SE corner Constance at Anacapa St.)

*Historic Tree* - A tree which has been found by the Board of Park Commissioners, the Historic Landmarks Commission, or the City Council, to be a tree of notable historic interest and designated by resolution of the City Council as an "historic tree". Designated Historic Landmark Trees include:

1. Moreton Bay Fig Tree (*Ficus macrophylla*) - Corner of Chapala St. at Montecito St. (Resolution 70-7208)
2. Moreton Bay Fig Tree (*Ficus macrophylla*)- 320 West Pueblo Street (Resolution 11-075)
3. City Hall Pepper (*Schinus molle*)- De La Guerra Plaza entrance to City Hall
4. Cota Sycamores (*Platanus racemosa*)- near Mission SB-at Los Olivos St. & APS
5. Doremus Stone Pines (*Pinus pinea*)- 300-800 Blocks E. Anapamu St. – 70 original trees (Res. 97-131)
6. "Fernald Eucalyptus" (*Eucalyptus citriodora*)- 400 Blk. Santa Barbara St. (Smart & Final entrance) (Resolution 97-130)
7. Franceschi Flame Tree (*Brachychiton acerifolium* x *populneum*)- 11-15 W. Gutierrez St. – City Parking Lot 12 (Resolution 02-115)
8. "Tree of Light" (*Araucaria heterophylla*)- 100 W. Carrillo St. (NW corner of Chapala St. at Carrillo St - Ralphs Market) (Resolution 77-178)
9. Lemon Scented Eucalyptus (*Corymbia citriodora*)- 40 E Anapamu Street (Main Library)– 5 Trees (Resolution 12-072)

## Chapter 22.10 Vegetation Removal

Chapter 22.10 is a general vegetation and tree protective measure that regulates the amount of vegetation removed from areas of the city within the Hillside Design District in order to prevent damage, reservoir siltation, denuding, flood hazards, soil loss, and other dangers created by or increased by improper clearing activities; and to establish the administrative procedure for issuance of permits for vegetation removal. The code

provides protection to trees on portions of private property that are not subject to the regulations of Municipal Code Chapters 15.20 and 15.24.

Exceptions to the permitting process are described in Section 22.10.040 and include: harvesting fruit-bearing crops, the removal of vegetation approved by fire prevention agencies, utility companies, or by public agencies on publicly owned property or rights-of-way, when the average slope of the removal site and access to the removal site is less than twenty percent (20%), and contains limits to the quantity of removed native and non-native vegetation over one year and five year time periods.

#### Chapter 22.11 Maintenance of Approved Landscape Plan

Chapter 22.11 deems it unlawful for an owner of a lot subject to the provisions of this Chapter to not maintain the trees, plants, irrigation system, and other improvements shown on an approved landscape plan in accordance with the approved landscape plan and the provisions of this Chapter. In addition, it is unlawful for any person to alter or to authorize or allow the alteration of an approved landscape plan for a lot subject to the provisions of this Chapter without the permit required pursuant to Section 22.11.050. Permits are required for any alteration to the design, character, and plant coverage at maturity, or other improvements specified on an approved landscape plan.

The regulations in this Chapter pertain to any lot developed with a multiple-family residential, commercial, or industrial use; or any lot developed solely with a single-family residence or a duplex residential unit, where the conditions of approval for the development on the lot require the installation and maintenance of trees or landscaping in accordance with an approved landscape plan.

#### Chapter 22.22 Historic Structures

Section 814 of the Santa Barbara City Charter creates and establishes an Architectural Board of Review (ABR) for the City to promote the general public welfare of the City and to protect and preserve the natural and historical charm and beauty of the City and its aesthetic appeal and beauty. The purpose of Chapter 22.22 is to recognize, preserve, enhance, and perpetuate the use of structures, natural features such as trees, sites and areas within the City of Santa Barbara having historic, architectural, archaeological, cultural or aesthetic significance. Trees identified as historic or specimen trees under this Municipal Code and located anywhere on private property are subject to the regulations per 15.24, which include significant pruning and removal.

#### Chapter 22.68 Architectural Board of Review

Section 814 of the Santa Barbara City Charter creates and establishes an Architectural Board of Review (ABR) for the City to promote the general public welfare of the City and to protect and preserve the natural and historical charm and beauty of the City and its aesthetic appeal and beauty. The board is composed of seven members that review project design as it relates architecturally and city-wide.

Chapter 22.68, as it pertains to the urban forest, provides protection to trees on private properties that are not developed with or proposed to be developed with a single family residence, located in historic districts, or have historic or cultural value. The ABR considers landscaping as part of project compatibility and reviews any substantial alteration or deviation from the design, character, plant coverage at maturity, or other improvements specified on an approved landscape plan for any lot within the City of Santa Barbara that is developed with a multiple residential unit, a mixed use development, or a building that is occupied by a nonresidential use, whether or not the alteration or deviation to the landscape plan is proposed in connection with an alteration to a building or structure on the lot that is subject to design review by the Architectural Board of Review. Whether a proposed alteration or deviation is substantial is determined in accordance with the Architectural Board of Review guidelines.

#### Chapter 22.69 Single Family Design Board

The goal of the Single Family Design Board is to ensure that single family residential unit projects are compatible with the surrounding neighborhood in size and design. The Single Family Design Board is also charged with the task of protecting public visual resources and promoting the ecological sustainability of the City's built environment through the design review process. This Chapter, as it relates to the urban forest, places general protection on trees located on private property by use of landscape plans during development or redevelopment (see Findings 22.69.050 (A.2, C.2, D.2, and D.3)).

#### Chapter 22.76 View Dispute Resolution Process

Chapter 22.76 provides a conflict resolution process for homeowners and their neighbors to undertake in the event that a privately owned tree is blocking a view or access to sunlight. City-owned trees are not subject to the provisions in the chapter. The process includes initial discussion amongst the affected parties, mediation, arbitration, restoration and liability.

It is important to note that while the City provides a process for resolution, the City is not part of the process, other than to provide residents with lists of mediators, arbitrators and certified arborists, or to document that a claim has been made pursuant to this chapter. A Complainant can notify the Community Development Department of any request for mediation or arbitration pursuant to the provisions of this Chapter and can provide the City with the claim documentation materials including: evidence of prior view, evidence regarding unreasonable tree blockage, desired action, evidence of attempted resolution, and evidence of ownership. As noted above, notification and documentation is for the purposes of City record-keeping regarding the use of this Chapter only and does not obligate the City to assist or advise a property owner or participate in the dispute resolution process in any way.

#### Title 28 The Zoning Ordinance

The Zoning Ordinance establishes classifications and districts or zones and regulates the use of property within the city, defines terms used in the ordinance, includes a zoning map, provides for the adjustment, enforcement, and amendment thereof, and prescribes penalties for its violation. The City of Santa Barbara is divided into zone classifications that establish, regulate, restrict and segregate the uses of land, buildings and structures; regulate and restrict the height and bulk of buildings; regulate the area of setbacks, open yards, courts and other open spaces about buildings; and regulate the density of dwelling units. While the Zoning Ordinance defines regulated areas on both private and public property, Ch. 15.20 and 15.24 regulates the trees in those areas.

<b>Zone Classification</b>	<b>SBMC Ch.</b>	<b>Street Frontage</b>	<b>Front Setback</b>	<b>Interior/Rear Setback</b>	<b>Max Bldg. Height</b>
<b>A-1, One Family</b>	28.15	100'	35'	15'	30'
<b>A-2, One Family</b>	28.15	100'	30'	10'	30'
<b>E-1, One Family</b>	28.15	90'	30'	10'	30'
<b>E-2, One Family</b>	28.15	75'	25'	8'	30'
<b>E-3, One Family</b>	28.15	60'	20'	6'	30'
<b>R-1, One Family</b>	28.15	60'	15'- 20'	5'	30'
<b>R-2, Two-Family</b>	28.18	60'	15'- 20'	3'- 6'	30'
<b>R-3 &amp; R-4, Multi-Family</b>	28.21	60'	10'- 20'	3'- 10'	45'
<b>R-O, Restricted Office</b>	28.48	N/A	10'- 20'	0'- 10'	45'
<b>C-O, Medical Office</b>	28.51	N/A	10'- 20'	0'- 10'	45'
<b>C-P, Restricted Commercial</b>	28.54	N/A	10'	0'- 10'	45'
<b>C-L, Limited Commercial</b>	28.57	N/A	10'	0'- 10'	45'
<b>C-1, Limited Commercial</b>	28.63	N/A	10'	0'- 10'	45'
<b>C-2, Commercial</b>	28.66	N/A	0'- 20'	0'- 10'	60'
<b>C-M, Commercial Manufacturing</b>	28.69	N/A	0'- 20'	0'- 10'	60'
<b>OC, Ocean-Oriented Commercial</b>	28.71	N/A	0'	0'	45'
<b>M-1, Light Manufacturing</b>	28.72	N/A	0'	0'	60'
<b>OM-1 Ocean-Oriented Lt. Manuf.</b>	28.73	N/A	0'	0'	60'
<b>HRC-1, Hotel and Related Commerce</b>	28.22	N/A	10'-20'	N/A	45'
<b>HRC-2, Hotel and Related Commerce</b>	28.22	N/A	10'-20'	N/A	45'
<b>SD-1, Special District</b>	28.45	N/A	25'-40'	Overlay Zone	30'
<b>SD-2, Special District</b>	28.45	N/A	10'-20'	Overlay Zone	45'
<b>AUD, Alternate Unit Density</b>		N/A	0'-10'	Overlay Zone	45'

## Chapter 28.90 Automobile Parking Requirements

Chapter 28.90 provides the minimum requirements and standards for the provision of off-street parking for all buildings, structures and uses in the City of Santa Barbara in an effort to encourage the development of more attractive parking lots in commercial, industrial, and multiple-family use areas, to provide for attractive and durable screening between such parking lots and adjoining areas, and to lessen the effect of commercial and industrial uses upon adjoining residential uses.

This chapter enhances the urban forest by requiring landscape plans and standards are for all parking areas, parking lots, automobile service stations and automobile service stations/mini-markets except for one- or two-family dwellings. Section 28.90.050 focuses on requirements for Landscaping and Lighting.

## Chapter 28.11 Protection and Enhancement of Solar Access

Chapter 28.11 was developed to establish height limitations in the residential zones to protect solar access particularly during development or redevelopment. This ordinance, as it relates to the urban forest, does not establish height limitations on trees or consider tree shading. The intent is to accommodate for solar energy systems.

## **Santa Barbara General Plan**

The City's General Plan provides broad policy direction for the urban forest. Proposed land use, growth management, and biological resources policies and implementation actions included in the 2011 General Plan update, *Plan Santa Barbara*, address ongoing protection and enhancement of the City's urban forest.

### Land Use Element

The Land-Use Element of the General Plan contains goals and possible implementation actions that seek to enhance community and neighborhood character and are described below. In general, these goals recognize trees as an important visual element and seek to preserve them during development or redevelopment, as well as include them during long-range neighborhood planning development for reduced carbon footprint.

### Open Space, Parks and Recreation Element

The Open Space, Parks and Recreation Element seeks to enhance the character of Santa Barbara through conservation and by providing significant open and natural landforms throughout the City. Implementation of goals defined in the original document (1972) included preservation of creek channels and hillsides in their natural state, reforestation in mountains where possible, protection of mature trees on private property and adoption of an effective tree preservation ordinance.



## Environmental Resources Element

This Element include policies to: climate change, energy conservation, air quality, biological resources, hydrology, water quality and flooding, aesthetics and visual resources.

Specific goals that preserve and enhance the urban forest are found under Biological Resource Policies include ER11 and 12.1. ER 11 addresses the protection of native and Mediterranean drought-tolerant species in urban areas and in landscaping for their benefits as energy and water savers and providers of habitat and shade. ER 12.1 addresses protection, maintenance and expansion of the City's remaining diverse native plant and wildlife habitats, including ocean, wetland, coastal, creek, foothill, and urban-adapted habitats.

### **Local Coastal Plan**

The Local Coastal Plan (LCP) is the Land Use Plan and Map for the City's Coastal Zone. The City's LCP implements the provisions of the California Coastal Act by indicating the kinds, location, and intensity of land uses; and providing resource protection and development policies and implementation actions.

### **Climate Action Plan**

The Santa Barbara Climate Action Plan addresses climate change issues for the City of Santa Barbara community through the year 2030, in accordance with directives of the Santa Barbara General Plan and the California Global Warming Solutions Act (AB 32). The purpose of the plan is to: (1) reduce the rate of carbon emissions generated within the Santa Barbara community; and (2) plan for adaptation of Santa Barbara to climate changes.

The plan identifies future strategies for reducing carbon emissions in the areas of energy efficiency and green building, renewable energy, travel and land use, vegetation, waste reduction, and water conservation. Several strategies relate to trees and vegetation in the urban forest. These include:

### Carbon Reduction

39. Tree planting – Increase carbon sequestration through the planting of additional trees, with a goal of 1,000 new trees by 2030.

40. Street trees – Issues to be addressed include canopy cover, land uses, infrastructure constraints, environmental resources, and aesthetics.

41. Tree & landscaping protection – Protect native & other urban trees and landscaped places and promote use of native or Mediterranean, drought-tolerant species in landscaping to save energy and water, incorporate habitat, and

provide shade. (update ordinance; new development siting guidelines; enforcement program).

42. Urban heat island effect – Establish standards to decrease impermeable surfaces; incentives for green roofs and cool roofs

43. Regional open space preservation – Coordinate with County, school district, other cities on regional open space protection.

#### Adaptation to Climate Change Effects – Bio Resources

97. Wildlife, coastal & native plant habitat protection

98. Open space connectivity and trails

99. Creek setbacks, protection, restoration

#### **Wildland Fire Plan (2004)**

Santa Barbara's Wildland Fire Plan was created to protect lives, property, and natural resources threatened by wildland fire. The Plan defines the City's existing high fire hazard area into four zones and applies appropriate vegetation management distances to each zone, known as defensible space requirements.

Defensible space requirements are established for properties in high fire areas to include brush clearance, fire resistant landscaping, plant spacing and maintenance. Use of these guidelines impede the progress of fire, reduce its intensity and provide a safe buffer to protect structures. The plan includes a plant list that has desirable qualities for fire resistant landscaping as well as those that do not.

The Wildland Fire Plan also identifies areas within the high fire hazard area that are outside the Fire Department Defensible Space Requirements, but that have existing hazards and risks that increase the potential for loss of wildlife habitat, property loss and safe fire protection. These units are identified as Vegetation Management Units. Vegetation management is proposed within each of these units. The Fire Department works with private property owners and neighborhoods to implement vegetation management plans.

#### **Design Guidelines**

Several design guidelines and plans are listed due to their relevance to trees in the urban forest, particularly during re-development or new development. The City's design review boards including Single Family Design Board (SFDB) Architectural Board of Review (ABR) and Historic Landmarks Commission (HLC) have design guidelines for development and redevelopment. Other guidelines consist of voluntary actions like those in the Passive Solar Building Design Guidelines.

## Single Family Design Board Guidelines (SFDB) Architectural Board of Review Guidelines (ABR) and Historic Landmarks Commission Guidelines (HLC)-

Guidelines for Single Family Design Board, Historic Landmarks Commission and Architectural Board of Review contain many of the same goals and policies for protection and enhancement of trees and landscaping on private property. Many of the projects subject to the review by one of these Boards is required to have a landscape plan. The guidelines are intended to clarify the goals and policies of the respective boards for the public and those who enter into a permit application review process.

## Solar Energy System Design Guidelines and Solar Recognition Program

These voluntary guidelines provide guidance to property owners, architects, contractors and others who may be interested in using solar energy in their buildings. The guidelines include general principles as well as specific techniques for designing solar energy systems that can take advantage of solar energy.

These guidelines, as they pertain to trees in the urban forest, suggest choosing plant and tree types and locations that will not grow to shade areas on the property or on neighboring properties where solar energy systems are installed. While these guidelines consider the type and placement of trees, they do not regulate trees planted prior to or after the installation of neither solar energy systems, nor do they regulate trees on adjacent property owners that may grow to shade the solar systems.

## Passive Solar Building Design Guidelines and Recognition Program

The Passive Solar Building Design Guidelines are voluntary actions that can provide energy savings and create a more comfortable environment. Techniques include Passive Cooling Techniques that minimize direct sun exposure and heat absorption. For example trees can be strategically placed to shade homes and provide cooling in the summer, sun in the winter and decrease wind.

## Landscape Plan Guidelines

When landscape plans are required for a project before the Architectural Board of Review (ABR), Historic Landmarks Commission (HLC) or Single Family Design Board (SFDB), they must be submitted prior to the Preliminary Design Approval hearing. When developing these plans the following considerations should be made: number of tree removals, invasive plants being used, right plant-right place, water conservation, permeability, sustainability and any specific guidelines particular to the project. A Landscape Design Guidelines Consistency worksheet is available to help the public develop their plan with the City's policies in mind.

## Stormwater Management Program

The State's Minimum Design Standards for storm water management and water quality protection are addressed in the City's Storm Water Management Program (SWMP). The SWMP addresses a number of required design standards, one of which is natural area conservation grading limitations: Although largely developed out as an urban area, the City of Santa Barbara is noted for the extensive incorporation of trees and landscaping within urban development. Site design criteria include suggest: cluster development, minimize grading and clearing of native vegetation, maximize trees and vegetation, promote the use of native and drought-tolerant vegetation, incorporate landscaping in parking lot design, and preserve riparian areas and wetlands.

#### Pedestrian Master Plan (2006)

The City of Santa Barbara's goal is to increase walking by residents and visitors alike. Pedestrian activity translates directly into health, economic, environmental, and cultural benefits that touch every person in the City. Santa Barbara is already a world-renowned city for its livable and walk able Downtown. The objective of this plan is to address remaining obstacles to increased walking, such as deficient facilities, concerns about safety, attractiveness and appeal, and a lack of connectivity. The Pedestrian Master Plan, as guided by the goals and policies in the Circulation Element, sets forth specific obtainable strategies that will result in tangible improvements over the next 30 years. The Plan identifies the desirability and psychological comforts of trees, accommodates for street trees, and provides design guidance for minimum clearances below street trees.

#### Urban Design Guidelines

Several sections of this document incorporate the use of vegetation and canopy trees to enhance landscaping near and around pedestrian facilities and amenities, courtyards, plazas, and placitas. Use of trees is generally required to provide shade, weather protection and greenery in the urban environment.

#### Upper State Street Design Guidelines (2009)

These guidelines require trees to be used in streetscape plantings and to frame views rather than block them. They recommend protecting skyline and canopy trees bordering State Street, as well as integrate parking lot lighting with trees.

#### Harbor Master Plan Design Guidelines (1998)

The Harbor Master Plan suggests the use of large canopy trees in parking areas and shade trees for pedestrian areas.

#### Other City Guidelines

Other reas of the city with designated guidelines for development, including trees, include the Haley Milpas Design Guidelines, Highway 101 Coastal Parkway Design

Guidelines, State Street Landscaping Design Guidelines, Waterfront Aesthetic Criteria for New Development, Lower Riviera Special Design District Guidelines, and El Pueblo Viejo (EPV) Design Guidelines.

## V. Santa Barbara Urban Forest Key Issues

The identification of key issues for the long-term management of Santa Barbara's urban forest provides the foundation for the urban forest objectives and implementation actions. The key issues presented below were developed with input from community members (through meetings and a survey), City design/development review boards and commissions, the Street Tree Advisory Committee and Parks and Recreation Commission, the Urban Forest Technical Advisory Committee, and City staff in the Parks and Recreation, Community Development, Public Works and Fire departments. The issues are organized under three main topics: tree resource management, City policy and organization, and community involvement.

### Tree Resource Management

As the City has developed with paved streets, sidewalks, and other public infrastructure, street parkway planting spaces have decreased and tree root systems are increasingly impacted by compaction and construction disturbance. There are management challenges with mature City trees that grow into high voltage power lines, root systems that disrupt sidewalks, and trees that are planted in spaces that are either too small or too large. In addition, public resources to plant and maintain trees have not kept pace with tree maintenance needs to ensure a healthy urban forest. The public's opinion of trees is diverse and can create conflict due to tree size, leaf drop, views, shade and/or solar access. The Wildland Fire Plan and high voltage line street clearance requirements can result in radical pruning with aesthetic and tree value impacts.

Existing financial resources allocated for tree planting and maintenance are insufficient to adequately care for existing trees and/or expand urban forest resources. As a result, annual pruning operations are primarily focused on grid pruning and there is limited attention for specialized pruning, and systematic removal and replacement of poor performing trees, or trees at the end of their life. The loss of tree resources and the lack of planning for new trees are more significant for City park areas.

*Specific Tree Resource Management Issues include:*

- Low diversity/Overuse of similar species in existing population
- Need to develop a proactive approach to systematic removal and replacement of poor performing trees, or trees at the end of their life
  - Community members identified quick replacement of dead and dying trees as a key issue
- Need to develop a plan to systematically address/minimize infrastructure conflict
  - Public safety related to infrastructure conflicts and sunken tree wells was one of the top five community issues
- Tree planting and landscaping challenges when buildings are constructed at property line and/or building heights limit tree sizes and/or ability to plant trees
  - Redevelopment/Urban infill changes street scapes and tree options.
- 8,000 vacant planting sites

- Maintenance focus on grid pruning and citizen response pruning
  - Proactive Pruning/Maintenance second most important issue
- Conflict between trees/solar access/views likely to increase
- Need for proactive vs. reactive pest management
- Unknown consequences of climate change on tree population health, longevity and maintenance requirements
- Value of trees not frequently considered, trees not treated as a capital resource
- Park tree maintenance limited to safety\
  - Significant number of park trees occur only once with no plan to offset loss of unique species
  - Opportunity to restore/enhance riparian canopy, eliminate invasive species and increase native habitat in open space parks and parks with creeks
  - Trees as bird habitat an important resource
- Poor or no maintenance and inappropriate planting and pruning of private trees
  - Loss of tree resources through removals
  - Lack of knowledge of landowner responsibility for maintenance of private infrastructure and regulated trees
- City liability for private trees that damage public infrastructure
- Fire prevention and safety
  - High Fire Hazard Area Defensible Space requirements limit tree planting opportunities and require certain tree maintenance

### **City Organization and Policy**

Santa Barbara's organizational challenges relate to inter-departmental coordination, staff training, and financial resources. In addition to Parks and Recreation, the Public Works, Fire and Community Development Departments are involved in the management of tree resources. Consistent interdepartmental coordination and communication is critical for effective tree resource management. At times poor coordination and lack of staff knowledge of tree protection policies and practices has resulted in delayed project decision-making, loss of trees, lost opportunities for planting new trees, and other issues.

From a policy and planning perspective, the City has a strong foundation for tree protection and enhancement. While some documents, such as the Street Tree Master Plan need to be updated, recent updates to the municipal code and landscape plan guidelines reaffirm Santa Barbara's commitment to preservation of urban forest resources. In addition, planning guidance in the General Plan, Local Coastal Plan, and Climate Action Plan, as well as City Council support for urban forest management issues and well-established advisory boards, provide a solid framework to address urban forest issues. At the same time, as Santa Barbara continues to develop and the public urban forest matures, land development, infrastructure improvements, and community safety considerations, such as including solar design, pedestrian access, views, and fire protection, among others, may require new policy guidance.

*Specific City Policy Issues include:*

- Street Tree Master Plan outdated, provides limited guidance
- No overall Park Tree Master Plan
  - Fire prevention and species selection in parks and open spaces
  - Defensible space considerations
- Landscape design guidelines require the planting and maintenance of some trees on private property, yet enforcement of those plans is limited
- Tree preservation ordinances do not address native trees, native habitat areas, or wildlife corridors
- Pedestrian Master Plan does not adequately address need for space to plant trees
- Design Review Boards require landscaping within parkways without regard to maintenance needs
- Risk Reduction Plans need to reduce wind/falling limb hazards and identify potential high hazard trees or areas
- Purpose and function of Historic and Specimen designations not well defined
  - Review of definition and designation process with consideration of replacement species and location

*Specific City Organization Issues include:*

- Limited funding resources to maintain existing street trees
- Limited funding resources to plant, establish and maintain new street trees
  - Involvement in tree planting and maintenance was one of three ways in which residents can contribute to the health of the urban forest.
- Lack of funding and mechanisms for community education/outreach and tree planting programs
- Limited funds for park tree maintenance and new park tree planting
  - Loss of park species diversity
- Budget implications for identification and resolution of infrastructure conflicts
- No comprehensive enforcement program that is proactive, education based
- Competing priorities among different departments can create conflict and adversely affect trees
- Inconsistent interdepartmental communication and coordination can result in missed opportunities to plant/maintain and protect trees
- Lack of staff knowledge on tree preservation and maintenance requirements results in missed opportunities, delayed project decision-making, loss of trees, lost opportunities for planting new trees and other issues.

## **Community Involvement**

Community involvement in the urban forest is primarily focused on street tree maintenance. Residential homeowners often have an expectation that the City will provide prompt response based pruning. This practice, which is increasingly difficult with reduced staff, also reduces tree maintenance efficiency. In addition, many



landowners are not familiar with City tree preservation rules and maintenance requirements which can lead to illegal removals and improper pruning practices. This is compounded by limited staff resources that have a greater focus on enforcement rather than proactive community education. Recent updates to community information materials, including City web page information, preparation of a Community Tree Guide, and workshops for tree care professionals, provide some of the tools to increase community knowledge and involvement.

Specific Community Involvement Issues include:

- Limited community involvement in street tree selection, planting and maintenance
  - Involvement in tree planting and maintenance was identified as a way in which residents can contribute to the health of the urban forest.
- Limited public knowledge of tree preservation policies
  - Tree Survey respondents familiarity with Tree Preservation Policies: 44% Unfamiliar, 47% Somewhat familiar, 9% Very familiar
- Public perception of street trees is diverse
- Lack of knowledge of City preservation rules and landowner responsibility for maintenance of private infrastructure and regulated trees
- Limited resident participation in street tree maintenance
- Community involvement primarily focused on street tree maintenance through tree permitting.
- Need for incentive programs to promote tree planting on private property
- Residential homeowners often have an expectation that the City will provide prompt response based pruning

## **VI. Urban Forest Management Plan Vision and Mission**

### **Urban Forest Plan Vision**

*Santa Barbara's urban forest is healthy and diverse, and contributes to the community's economic, environmental, and aesthetic vitality. It is valued and cared for by the City and its citizens, and reflects our horticultural heritage.*

### **Urban Forest Plan Mission**

*Preserve, protect and enhance our trees, promote the benefits of trees, and foster a healthy and diverse urban forest.*

## VII. Urban Forest Plan Goals, Objectives, Implementation Actions

### Goals

1. Elevate the importance of the urban forest.
2. Continue Santa Barbara's horticultural legacy.
3. Promote a vibrant and healthy community.
4. Foster awareness and appreciation of trees.

### Objectives

The fifteen Objectives and corresponding Implementation Actions of the Urban Forest Plan are organized under: 1) Tree Resource Management, 2) City Organization and Policy, and 3) Community Involvement. Each Objective includes a discussion to provide context as well as support the need for each objective and the associated actions. Implementation of any action will include policy, program and budget coordination as well as an assessment of long-term funding and data gathering needs, development of tools and programs, and staffing levels. Where necessary, additional considerations are included below that are specific to each objective and/or associated actions.

### Tree Resource Management

#### **Objective 1: Maintain City trees to promote safety, health and longevity.**

*Healthy trees contribute to Santa Barbara's environmental health and quality of life. Trees maintained on a regular, frequent cycle are healthier, live longer, reduce conflicts with urban infrastructure, and promote safety. The City's 7-year trimming cycle limits the City's ability to adequately maintain all of its 23,000 street trees. Maintenance plans are year-to-year, and funding constraints limit proactive and systematic removal and replacement of trees that are performing poorly or reaching the end of their life. Further, a plan does not exist to address trees located under high voltage power lines that are pruned for safety reasons by Southern California Edison. Addressing these issues will prolong the life of trees, provide clear direction for tree replacement and increase the aesthetic quality of trees located under or near utilities. In addition, ongoing comprehensive analysis of the urban forest is essential for implementation of resource management tools and cost/benefit analyses. An optimal trimming cycle, level of service goals and financial needs, will be developed prior to implementation.*

#### **Implementation Actions**

1. Increase frequency of the street tree trimming/maintenance cycle to promote safety, aesthetics, and tree health.
2. Develop multi-year plan to address tree maintenance, planting and removal citywide.

3. Develop a young tree training program to reduce the potential for mature trees to conflict with high voltage lines and other utilities and infrastructure.
4. Broaden and formalize partnerships with Southern California Edison (SCE), Caltrans and other utility companies through MOU's or other means to implement tree trimming plans that minimize conflict/maximize safety while promoting tree canopy, health and longevity.
5. Conduct periodic tree assessments to monitor tree performance.
6. Continue to maintain the City tree database to achieve urban forest objectives and monitor tree management.
7. Continue to work with the Fire Department to develop and implement proactive maintenance plans for street trees located in high fire zones.

## **Objective 2: Enhance street parkway growing conditions where feasible.**

*Many tree problems in urban areas can be traced to physical changes, such as introduced hardscapes, poor soils, small planting spaces and street and sidewalk construction, that result in reduced supply of nutrient rich soil, water and oxygen. Consequences can include hardscape/root conflict, poor canopy growth and degraded tree health. The implementation actions seek to enhance the health, longevity and aesthetics of street trees by providing better growing conditions. Baseline data on parkway conditions will provide information on where enhancement efforts could be pursued and the level of effort required.*

### Implementation Actions

1. Revise City infrastructure construction specifications to maximize tree health and longevity and minimize infrastructure damage.
2. Identify existing parkways that could be enlarged to accommodate greater canopy and/or larger canopy trees.
3. Promote streetscape redevelopment to maximize parkway planting area.
4. Develop formal parkway and tree planting guidelines and specifications to maximize tree health.
5. Provide extra protection for newly planted trees such as curb adjustments and protective barriers where necessary.
6. Where feasible, include irrigation during parkway and sidewalk redevelopment.
7. Work with adjacent land owners and neighborhoods to provide supplemental water and weed management.
8. Improve parkway soil conditions to promote young tree root development and minimize infrastructure damage.
9. Where feasible, install permeable pavers to increase storm water infiltration and provide water to tree roots.

### **Objective 3: Optimize tree canopy.**

*As canopy increases, the benefits that trees provide increases, such as shade and energy conservation, wildlife habitat, neighborhood character and beauty, and reduced storm water runoff, among others. Optimizing tree canopy includes identifying appropriate planting spaces for large trees, planting groups of trees to achieve contiguous canopy, planting larger trees where possible, and planting new trees and replacing lost trees in areas with lower canopy coverage. Key considerations include staffing costs for tree planting and maintenance and implementation of outreach programs to involve residents and property owners.*

#### Implementation Actions

1. Identify planting locations along City streets, in City parks and on other public property that can support greater canopy and/or large canopy tree species.
2. Determine the extent of available planting space and opportunities to increase available planting space along City streets, in City parks and on other public property.
3. Increase the use of large-canopy trees where practical.
4. Expand the young tree care program to increase plantings and associated care and maintenance.
5. Expand street tree planting and replacement program with priority on neighborhoods with the fewest trees and in areas where residents are willing to provide supplemental early tree care.

### **Objective 4: Optimize age and enhance species diversity.**

*Age and species structure are important elements of urban forest health. While species diversity reduces the likelihood of tree loss from disease or pests, varied tree age reduces the possibility that all the trees in the forest will begin to die at the same time. A healthy mixture of young, medium, and older trees also provides a more complex habitat for wildlife and can support a greater number of species. Long known for its horticultural heritage, Santa Barbara's tree diversity is at risk. Although the current City tree inventory contains approximately 456 different varieties of trees, half of those occur at a frequency of five or fewer times; ninety-six (96) species occur only once, many of which are no longer available commercially. Determining an appropriate mix of tree age and species diversity that accounts for tree availability, planting locations, maintenance requirements, and other issues is a key consideration.*

#### Implementation Actions

1. Maintain existing species diversity and investigate methods for increasing desirable species that are rare.
2. Assess and develop age and species criteria for City parks and other City property.
3. As part of the Street Tree Master Plan (STMP) update, define appropriate age and

species diversity distribution and locate areas where new or replacement trees should be planted.

- Determine potential life spans in Santa Barbara for designated trees and potential designated trees.
  - Increase planting species that have longer average life spans and decrease use of those with shorter average life spans.
  - Determine potential growth size of designated and potentially designated trees in Santa Barbara.
  - Formalize the criteria and methodology for change to street tree designations.
4. To the extent feasible, work with local and regional nurseries and other public agencies to grow/propagate unique and desirable tree species not commercially available.
  5. Maintain and protect historic and culturally significant trees city-wide.

**Objective 5: Maximize the economic, environmental, and aesthetic benefits of the urban forest.**

*Trees provide ecological benefits such as reduced energy consumption, improved air quality, increased carbon sequestration, wildlife habitat, reduced storm water runoff and enhanced views. Developing resources to measure (whenever possible) and communicate these benefits is critical for City board and commission members during land development review, for home and business owners during re-landscaping and solar panel installation, and for effective decision-making by city managers.*

Implementation Actions

1. Locate new tree plantings in areas that will maximize energy conservation, increase carbon sequestration, and provide shade.
2. Encourage the use of parking lot and streetscape designs that provide greater amounts of pavement shading.
3. Develop an economic/environmental tree resource calculator/performance checklist to evaluate the tree resource as it relates to other capital resources during land development.
4. Develop long-term street tree plans for major commercial corridors and public areas such as Upper State Street, De La Vina Street, Carrillo Street, Milpas Street, Chapala Street and Cliff Drive. Integrate plans in land development projects and public infrastructure improvements.
5. Require street tree plantings and maintenance as part of permitting for all land development and/or redevelopment, when new trees are planted.
6. Develop tree resource management guidelines that balance tree resource value with solar access and solar energy system design.
7. Work with private landowners to minimize the potential for private trees to conflict with public infrastructure.
8. Develop guidance for tree selection and planting along Highway 101 that would improve air quality for nearby sensitive land uses.

**Objective 6: Provide urban forest benefits that enhance visitor experiences in City parks and facilities.**

*Santa Barbara's parks provide relief to an urban landscape for both people and the environment. City parks offer a diverse experience that includes: sports, bird and wildlife viewing, botanical discoveries, children's play, picnicking, walking and other exercise, place of gathering, and more. Maintaining these areas for safety and their respective designed use is important. The City's Urban Forestry Program maintains over 9,000 trees located within 68 parks and landscaped areas of public facilities, as well as all the trees in open space parks. Overall, park trees are on an eight to ten-year pruning cycle and lost trees are not replaced. A more frequent cycle will prolong tree health and life. Planned replacements are needed to maintain aesthetic value and heritage as well as enhance native habitats. Establishing an optimal pruning cycle plus identifying funding and staffing resource needs to achieve a higher level of service, will be required prior to implementation.*

Implementation Actions

1. Protect and enhance trees in historically significant parks such as Alameda Park, Alice Keck Park Memorial Gardens, Orpet Park and Franceschi Park through increased tree maintenance and tree planting programs.
2. Increase park tree maintenance for prolonged health and longevity.
3. Develop a tree replacement program that enhances aesthetics and promotes recreation.
4. Maintain the history, design, cultural integrity, and functional use of developed parks, particularly during replanting and/or redesigning elements of developed parks.
5. Continue to work with the Fire Department to develop and implement proactive maintenance plans for parks located in high fire zones.
6. Maintain stands of large trees in open spaces and community and developed parks.
7. Increase canopy cover to enhance habitat for wildlife and for public benefit, where appropriate.

**Objective 7: Enhance and preserve trees within native habitats including riparian areas, oak woodlands and protected open spaces.**

*Native habitats provide shelter, food and movement for native wildlife and host drought-tolerant trees and vegetation. City open space parks and riparian areas provide optimal locations to promote and enhance native trees. Actions within this Objective are consistent with General Plan goals found in Sections 11 and 12 of the Environmental Resources Element which recognize the importance of native trees and habitats found in native oak stands and riparian woodlands.*

## Implementation Actions

1. Minimize compaction of soil under drip lines of trees by routing trails and pathways around trees.
2. As part of the Park Tree Master Plan, address riparian and oak woodland management to preserve and protect mature trees, native tree saplings and native understory vegetation.
3. Use large native trees in riparian zones and areas that connect to native landscaping and open spaces, where feasible.
4. To the extent feasible, control invasive, non-native vegetation that threatens trees in riparian areas and open space parks.
5. Develop riparian canopy restoration program in parks with creek habitats.

## **City Organization and Policy**

### **Objective 8: Enhance City investment in the health and management of the urban forest.**

*Public resources to plant and maintain trees have not kept pace with tree maintenance needs to ensure a healthy urban forest and cannot support expanding programs. Increased funding will be an important first step as the City seeks to increase its level of tree service city-wide. Further, dedicated funding is not allocated for community outreach and public education, yet nearly 80% of the urban forest lies on private property. Long-term urban forest health will require programs that integrate the community. Establishing funding for programs and resources will drive the development of urban forest education. As always, the City will continue to seek funds from grants and other sources to further Plan Objectives.*

## Implementation Actions

1. Increase annual maintenance funding for the management and care of City trees.
2. Establish an annual capital improvement program to plant and maintain new trees.
3. Establish funding for community outreach programs and public education resources.
4. Develop public-private partnerships to address tree resource needs not addressed in budget appropriations.
5. Identify and obtain external sources of funding to support the goals and strategies of the Management Plan.
6. Evaluate the feasibility of the Street Tree/Parkway Management Assessment District.



**Objective 9: Improve interdepartmental communication and coordination related to tree preservation and enhancement.**

*Consistent interdepartmental coordination and communication is critical for effective tree resource management. Several City departments are involved in tree care, including: Parks and Recreation, Public Works, Fire, and Community Development. At times, poor coordination and lack of staff knowledge of tree protection policies and practices has resulted in delayed project decision-making, loss of trees, lost opportunities for planting new trees and other issues. Part of long-term planning will be the ability to synchronize projects with other departments. For example parkway enhancements will be coordinated with street- or sidewalk-related projects.*

Implementation Actions

1. Establish formal urban forest team comprised of staff from Parks and Recreation, Public Works, and Community Development and Fire to address tree management and coordinate tree review for land development projects.
2. Implement a staff and board/commission tree training program to review Tree Preservation and Tree Maintenance Policies, plus objectives and actions outlined in the Urban Forest Management Plan.
3. Collaborate with the Public Works Department to enhance street tree grow space during construction projects that involve sidewalks, curbs, gutters and other street-related work.

**Objective 10: Elevate urban forest objectives in City policies and land development considerations.**

*The City's street tree program is guided by the Street Tree Master Plan, adopted in 1977. Since that time, streets and parkways and trees that were once small and in a spacious planting space, are now large and confined with a variety of infrastructure constraints. An updated Street Tree Master Plan would address current urban forest key issues. In addition, the City does not currently have a plan that addresses long-term management of park trees. As the community develops and the public urban forest continues to mature, trees need to be incorporated into the discussion during beginning stages of review for land development, infrastructure improvements, and for community safety considerations. Updating relevant documents in combination with the development resource tools will increase urban forest health and optimize canopy, plus decrease missed opportunities.*

Implementation Actions

1. Update the Street Tree Master Plan to address long range tree management objectives.
2. Develop a Park Tree Master Plan that includes maintenance objectives, and planting and replacement strategies.
3. Continue to implement and update, as needed, urban forest objectives in the City's

General Plan, Climate Action Plan, Local Coastal Plan, Pedestrian Master Plan, and Wildland Fire Plan.

4. Integrate tree resource management objectives in the future update to the Open Space, Parks and Recreation Element of the General Plan.

**Objective 11: Ensure that tree preservation and land development ordinances support urban forest management goals.**

*Many City policy documents affirm the City's commitment and provide guidance for tree preservation. Additional guidance/clarification for long-term planning specific to historic species is becoming an issue as these trees near the end of their life and are lost due to disease, extreme weather, and other conditions.*

Implementation Actions

1. Review and update, if necessary, the City ordinances pertaining to trees and landscapes to ensure they are consistent with urban forest management plan objectives.
2. Develop Parkway Vegetation Planting and Care Guidelines/Checklist to better articulate and document plantings during land development review.
3. Review and revise, as needed, the definition of and criteria for designation of historic and specimen trees.
4. Clarify guidance for maintenance, longevity and replacement of designated Specimen and Historic trees.
5. Establish tree mitigation bank when impacts to trees cannot be avoided.

**Objective 12: Improve interagency coordination and partnerships.**

*Developing strong partnerships with local agencies, businesses and private property owners will increase the success of urban forest objectives and generate additional resources. While the City currently works with several agencies on tree-related issues, these communications have primarily been on a case-by-case basis. The actions below seek to strengthen partnerships through formalized processes with a clear understanding of long-term goals where they already exist and develop new partnerships where none exist.*

Actions

1. Broaden and formalize partnerships with Southern California Edison (SCE), Caltrans and other utility companies through MOU's or other means to implement tree trimming and planting plans that minimize conflict/maximize safety while promoting tree canopy, health and longevity.
2. Develop partnerships with organizations, businesses and the public school system to encourage tree health and plantings on private property.

## Community Involvement

### **Objective 13: Enhance public awareness and appreciation of the urban forest as a community resource.**

*In order for residents to become actively engaged in enhancing and caring for the urban forest, they must first be made aware of the value and benefits it provides. With an estimated 80% of the urban forest on private property, the urban forest's overall health is dependent on community support. Until now, outreach and education has been aligned with specific City projects including tree removals and policy changes, or as part of private tree removal permitting processes. It is anticipated that expanding urban forest education at a programmatic level will increase awareness of tree preservation policies and improve tree care practices city-wide.*

#### Implementation Actions

1. Develop a comprehensive tree education program to provide city residents with information about tree preservation policies, the benefits trees provide, and the importance of tree canopy.
2. Strengthen city-wide approaches to communicating about trees through web, print and media and social media. Continue to provide resources about urban forestry to the public through newsletters, permitting, websites, and other resources.
3. Hold annual public workshop to educate public on policies, maintenance and care of trees.
4. Develop partnerships with organizations, businesses, private schools, the public school system and other public property to encourage tree health and plantings on non-City property.
5. Institute a program to acknowledge and publicize contributions to urban forestry by residents, businesses, institutions, and neighborhood group organizations.
6. Develop a tree education program to foster appreciation and awareness of the contribution of city-owned street trees and park trees to the City's history and heritage.

### **Objective 14: Expand public participation in urban forest preservation and enhancement.**

*Santa Barbara's tree planting history is strongly tied to active citizen stewardship. Currently community involvement is limited to street tree maintenance. City programs are needed to balance the wants and needs of residents with the City's liability and responsibility to tree care and management of City-owned trees.*

#### Implementation Actions

1. Develop Adopt-a-Block or Adopt-a-Tree programs to encourage healthy long-lived street trees.

2. Develop a technical assistance program to support the planting and care of trees on private property.
3. Develop community service opportunities with schools and other institutions for urban forest stewardship projects.
4. Increase community involvement in street tree designations, maintenance, plantings and care.
5. Engage the community to identify opportunities and barriers for tree planting and preservation on public property.
6. Develop volunteer maintenance programs to increase public participation opportunities.

**Objective 15: Expand public/private partnerships.**

*Partnerships will bring newfound resources and broader support for urban forest objectives. Strengthening partnerships with active civic groups, local colleges and businesses will expand the message of urban forest health and associated community benefits.*

Implementation Actions

1. Develop partnerships with non-profit organizations, businesses, neighborhood associations, private schools and the public school system to encourage tree health and plantings on private property.
2. Seek opportunities to collaborate with universities and colleges and the public school system on urban forestry science and current research.
3. Encourage private landowners to apply the tree resource calculator when selecting trees to increase economic, environmental and aesthetic benefits and enhance property values.

## **VIII. Urban Forest Management Plan Implementation**

Implementation of this 30+ year plan will require policy, program and budget coordination, data gathering, development of tools and programs, and establishment of long-term funding mechanisms. Because not all actions can be implemented immediately, a five year work plan will outline priority actions, identify roles and responsibilities, analyze resource implications and funding needs, and establish realistic timelines for execution and completion. Priority actions identified by the public, boards and commissions and staff address a variety of community needs and desires including tree maintenance, tree planting and community outreach, as well as organizational improvements including project coordination and staff training. The work plan will also remain flexible to account for new opportunities and respond to available funding through City Council annual budget approval.

As shown in the following matrix, in some cases, implementation actions are already underway and represent key aspects of the City's Urban Forestry Program, while others would be new or expanded. The matrix also illustrates actions that do not require additional resources, as well as those that have short-term funding needs and others that require long-term program enhancements.

### **Tree Resource Management**

Tree resource management implementation actions would increase tree planting and maintenance, formalize partnerships with utility companies to address tree/infrastructure conflicts, and optimize tree species and age to promote safety, aesthetics and tree health. Additional actions include the development of and/or revisions to tree resource documents to help evaluate and provide guidance for urban forestry decisions for staff, boards and commissions, as well as the public. Key actions include:

- Increase tree trimming cycles city-wide through increased contract work
- Development of multi-year maintenance plans
- Increase tree planting city-wide by identifying planting locations and areas where larger canopy trees can be planted
- Develop a tree training program for trees located under utility lines
- Formalize partnerships with Southern California Edison, Caltrans and other utility companies to address tree/infrastructure and utility conflicts
- Revise City infrastructure construction specifications and development of formalized parkway tree planting guidelines
- Partner with neighborhoods for supplemental street tree maintenance
- Work with local and regional nurseries and other public agencies to grow/propagate unique and desirable tree species not commercially available
- Protect trees in historically significant parks through increased planting and maintenance
- Promote native canopy in parks where native woodlands and vegetation currently exist or where restoration is needed.

## City Organization and Policy

To address funding needs the Plan provides the following primary actions:

- Increase annual maintenance funding for the management and care of City trees
- Establish an annual capital improvement program to plant and maintain new trees
- Establish funding for community outreach programs and public education resources

On an organizational and staffing level the first five year actions would include:

- Establish an urban forestry team comprised of several departments to evaluate and address tree management and coordinate land development projects; and
- Implement staff, board and commission trainings to review Tree Preservation and Tree Maintenance policies as well as work plan actions.

Actions that address policy objectives include:

- Update the Street Tree Master Plan;
- Develop a Park Tree Master Plan;
- Develop parkway vegetation planting and care guidelines/checklist to better articulate and document plantings during land development review; and
- Update City ordinances and Plans to provide consistency and reflect the UFMP objectives.

## Community Involvement

The first five-year implementation plan would expand community outreach and education through a variety of internal resources (such as web, printed materials, media, and permitting processes) as well as develop new programs. New programs and partnerships will also be developed to increase community involvement in tree care and foster appreciation of the urban forest. Key tasks include:

- Adopt-a-block program to supplement street tree care through neighborhood involvement
- Public workshops to provide technical assistance on care and maintenance plus educate public on City tree policies
- Recognition program for urban forestry contributions made by the public

Partnerships may take a variety of forms depending on the type and/or role of an organization. For example, the City may look to partner with the Association of Realtors as a venue to disseminate tree preservation and parkway tree care information to homebuyers while school district partnerships provide opportunities to educate the youth on the benefits of trees and provide tree planting on private property. Other

programs will provide volunteer planting and tree care opportunities and engage the community in street tree designations.

### **Plan Monitoring and Reporting**

The Urban Forest Management Plan is intended to be a living document with the ability to be updated and revised periodically to:

- Reflect changes in the urban forest resource structure and function;
- Incorporate changes in industry standards;
- Consider community response; and
- Amend and/or develop new recommended actions.

Continual monitoring, analysis, and reporting will help keep staff and urban forest partners involved and focused on accomplishing the objectives. To monitor progress of the Plans' recommended actions, a progress report would be prepared every two years. Annual performance measure (P3) reporting will continue to reflect progress in planting and maintenance, permitting, ordinance violations, and contractor trainings. Measuring accomplishments of the Plan will require ongoing analysis. A state of the urban forest report can be prepared and presented to the public every 10 years. Analysis may include an updated street tree inventory, i-Tree Benefits analyses, or urban tree canopy assessment.

## UFMP Implementation Matrix

Objectives and Actions	New	Existing	Expanding
<b>Tree Resource Management</b>			
<b>Obj. 1: Maintain City trees to promote safety, health and longevity</b>			
Increase frequency of the street tree trimming /maintenance cycle to promote safety, aesthetics, and tree health.			✓
Develop multi-year plan to address tree maintenance, planting and removal citywide.	✓		
Develop a young tree training program to reduce the potential for mature trees to conflict with high voltage lines and other utilities and infrastructure.			✓
Broaden and formalize partnerships with Southern California Edison (SCE), Caltrans and other utility companies through MOU's or other means to implement tree trimming plans that minimize conflict/maximize safety while promoting tree canopy, health and longevity.	✓		
Conduct periodic tree assessments to monitor tree performance.		✓	
Continue to maintain the city tree database to achieve urban forest objectives and monitor tree management.		✓	
Continue to work with the Fire Department to develop and implement proactive maintenance plans for street trees located in high fire zones		✓	
<b>Obj. 2: Enhance street parkway growing conditions where feasible</b>			
Revise City infrastructure construction specifications to maximize tree health and longevity and minimize infrastructure damage.	✓		
Identify existing parkways that could be enlarged to accommodate greater canopy and/or larger canopy trees.	✓		
Promote streetscape redevelopment to maximize parkway planting area.			✓
Develop formal parkway and tree planting guidelines and specifications to maximize tree health.			✓
Provide extra protection for newly planted trees such as curb adjustments and protective barriers where necessary.	✓		
Where feasible, include irrigation during parkway and sidewalk redevelopment.	✓		
Work with adjacent land owners and neighborhoods to provide supplemental water and weed management.	✓		
Improve parkway soil conditions to promote young tree root development and minimize infrastructure damage.	✓		
Where feasible, install permeable pavers to increase storm water infiltration and provide water to tree roots.	✓		
<b>Obj. 3: Optimize tree canopy</b>			
Identify planting locations along City streets in City parks and on other public property that can support greater canopy and/or large canopy tree species.	✓		
Determine the extent of available planting space and opportunities to increase available planting space along City streets, in City parks and on other public property.			✓
Increase the use of large canopy trees where practical.			✓
Expand young tree care program to increase plantings and associated care and maintenance.			✓
Expand street tree planting and replacement program placing priority on neighborhoods with the fewest trees and in neighborhoods willing to provide supplemental early tree care.	✓		
<b>Obj. 4: Optimize age and enhance species diversity</b>			
Maintain existing species diversity and investigate methods for increasing desirable species that are rare.			✓
Assess and develop age and species criteria for City parks and other City property.	✓		
As part of the Street Tree Master Plan (STMP) update, define appropriate age and species diversity distribution and locate areas where new or replacement trees should be planted.	✓		
To the extent feasible, work with local and regional nurseries and other public agencies to grow/propagate unique and desirable tree species not commercially available.	✓		
Maintain and protect historic and culturally significant trees city-wide.		✓	

Resource Implications:

Yellow- Part of program practice, no increase in funding

Green- Short-term project, short-term increase in funding

Blue- Longer-term project or program, requires additional funding



## UFMP Implementation Matrix

Objectives and Actions	New	Existing	Expanding
<b>Obj. 5: Maximize the economic, environmental and aesthetic benefits of the urban forest.</b>			
Locate new tree plantings in areas that will maximize energy conservation in building and shading of pavement.	✓		
Encourage the use of parking lot and streetscape designs that provide greater amounts of pavement shading.			✓
Develop an economic/environmental tree resource calculator/performance checklist to evaluate the tree resource as it relates to other capital resources during land development.	✓		
Require street tree plantings and maintenance as part of permitting for all land development and/or redevelopment, when new trees are planted.	✓		
Develop long-term street tree plans for major commercial corridors and public areas such as Upper State St, De La Vina Street, Carrillo Street, and Milpas Street. Integrate plans in land development projects and public infrastructure improvements.	✓		
Develop tree resource management guidelines that balance tree resource value with solar access and solar energy system design.	✓		
Work with private landowners to minimize the potential for private trees to conflict with public infrastructure.	✓		
Develop guidance for tree selection and planting along Highway 101 that would improve air quality for nearby sensitive land uses.	✓		
<b>Obj. 6: Provide urban forest benefits that enhance visitor experiences in City parks and facilities.</b>			
Protect and enhance trees in historically significant parks such as Alameda Park, Alice Keck Park Memorial Gardens, Orpet Park and Franceschi Park through increased tree maintenance and tree planting programs.			✓
Increase park tree maintenance for prolonged health and longevity.			✓
Develop a tree replacement program that enhances aesthetics and promotes recreation.	✓		
Maintain the history, design, cultural integrity, and functional use of developed parks, particularly during replanting and/or redesigning elements of developed parks.			✓
Continue to work with the Fire Department to develop and implement proactive maintenance plans for parks located in high fire zones		✓	
Maintain stands of large trees in open spaces and community and developed parks.		✓	
Increase canopy cover to enhance habitat for wildlife and for public benefit, where appropriate.			✓
<b>Obj. 7: Enhance and preserve trees within native habitats including riparian area, oak woodlands and protected open spaces.</b>			
Minimize compaction of soil under drip lines of trees by routing trails and pathways around trees.	✓		
As part of the Park Tree Master Plan, address riparian and oak woodland management to preserve and protect mature trees, native tree saplings and native understory vegetation.	✓		
Use large native trees in riparian zones and areas that connect to native landscaping and open spaces, where feasible.			✓
To the extent feasible, control invasive, non-native vegetation that threatens trees in riparian areas and open space parks.			✓
Develop riparian canopy restoration program in parks with creek habitats.	✓		

Resource Implications:

Yellow- Part of program practice, no increase in funding

Green- Short-term project, short-term increase in funding

Blue- Longer-term project or program, requires additional funding

## UFMP Implementation Matrix

Objectives and Actions	New	Existing	Expanding
<b>City Organization and Policy</b>			
<b>Obj. 8: Enhance City investment in the health and management of the urban forest.</b>			
Increase annual maintenance funding for the management and care of City trees.	✓		
Establish an annual capital improvement program to plant and maintain new trees.	✓		
Establish funding for community outreach programs and public education resources.	✓		
Develop public-private partnerships to address tree resource needs not addressed in budget appropriations.	✓		
Identify and obtain external sources of funding to support the goals and strategies of the Management Plan.	✓		
Evaluate the feasibility of the Street Tree/Parkway Management Assessment District.	✓		
<b>Obj. 9: Improve interdepartmental communication and coordination related to tree preservation and enhancement.</b>			
Establish formal urban forest team comprised of staff from Parks and Recreation, Public Works, Community Development and Fire to address tree management and coordinate tree review for land development projects.	✓		
Implement annual staff and board/commission tree training program to review Tree Preservation and Tree Maintenance Policies, plus objectives and actions outlined in the Urban Forest Management Plan.	✓		
Collaborate with the Public Works Department to enhance street tree grow space during construction projects that involve sidewalks, curbs,			✓
<b>Obj. 10: Elevate urban forest objectives in City policies and land development considerations.</b>			
Update the Street Tree Master Plan to address long range tree management objectives.	✓		
Develop a Park Tree Master Plan that includes maintenance objectives, and planting and replacement strategies.	✓		
Continue to implement and update, as needed, urban forest objectives in the City's General Plan, Climate Action Plan, Local Coastal Plan, Pedestrian Master Plan, and Wildland Fire Plan.			✓
Integrate tree resource management objectives in the future update to the Parks, Recreation and Open Space Element of the General Plan.			✓
<b>Obj. 11: Ensure tree preservation and land development ordinances support urban forest management goals.</b>			
Review and update, if necessary, the City ordinances pertaining to trees and landscapes to ensure they are consistent with urban forest management plan objectives.			✓
Develop Parkway Vegetation Planting and Care Guidelines/Checklist to better articulate and document plantings during land development review.	✓		
Review and revise, as needed, the definition of and criteria for designation of historic and specimen trees.	✓		
Clarify guidance for maintenance, longevity and replacement of designated Specimen and Historic trees.	✓		
Establish tree mitigation bank when impacts to trees cannot be avoided	✓		
<b>Obj. 12: Improve interagency coordination and partnerships</b>			
Broaden and formalize partnerships with Southern California Edison (SCE), Caltrans and other utility companies through MOU's or other means to implement tree trimming and planting plans that minimize conflict/maximize safety while promoting tree canopy, health and longevity.	✓		
Develop partnerships with organizations, businesses and the public school system to encourage tree health and plantings on private	✓		

Resource Implications:

Yellow- Part of program practice, no increase in funding

Green- Short-term project, short-term increase in funding

Blue- Longer-term project or program, requires additional funding

## UFMP Implementation Matrix

Objectives and Actions	New	Existing	Expanding
<b>Community Involvement</b>			
<b>Obj. 13: Enhance public awareness and appreciation of the urban forest as a community resource.</b>			
Develop a comprehensive tree education program to provide city residents with information about tree preservation policies, the benefits trees provide, and the importance of tree canopy.	✓		
Strengthen citywide approaches to communicating about trees through web, print and media and social media plus continue to provide resources about urban forestry to the public through newsletters, permitting, websites, and other resources.			✓
Hold annual public workshop to educate public on policies, maintenance and care of trees.	✓		
Develop partnerships with organizations, businesses, private schools the public school system and other public property to encourage tree health and plantings on private property	✓		
Institute a program to acknowledge and publicize contributions to urban forestry by residents, businesses, institutions, and neighborhood group organizations.			✓
Develop a tree education program to foster appreciation and awareness of the contribution of city owned street trees and park trees to the City's history and heritage.	✓		
<b>Obj. 14: Expand public participation in urban forest preservation and enhancement.</b>			
Develop Adopt-a-block or Adopt-a-Tree program to encourage healthy long-lived street trees.	✓		
Develop a technical assistance program to support the planting and care of trees on private property.	✓		
Develop community service opportunities with schools and other institutions for urban forest stewardship projects.			✓
Increase community involvement in street tree designations, maintenance, plantings and care.	✓		
Develop volunteer maintenance programs to increase public participation opportunities.	✓		
<b>Obj. 15: Expand public/private partnerships.</b>			
Develop partnerships with non-profit organizations, businesses, neighborhood associations, private schools and the public school system to encourage tree health and plantings on private property.	✓		
Seek opportunities to collaborate with universities and colleges and the public school system on urban forestry science and current research.			✓
Encourage private landowners to apply the tree resource calculator when selecting trees to increase economic, environmental and aesthetic benefits and enhance property values.	✓		

Resource Implications:

Yellow- Part of program practice, no increase in funding

Green- Short-term project, short-term increase in funding

Blue- Longer-term project or program, requires additional funding

## **Glossary**

### **CANOPY**

The branches and foliage of a tree above ground or water.

### **CANOPY COVER**

The percent of the city that is covered by trees.

### **CARBON SEQUESTRATION**

Removal of carbon from the air by living trees and plants to be stored in their cells through the process of photosynthesis.

### **COMPACTION**

The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Tree roots cannot grow in compacted soil.

### **DIAMETER AT BASE HEIGHT (DBH)**

Measurement standard for trees taken at a four and a half feet (4-1/2') height from finish grade.

### **DECLINING TREE**

Declining trees are defined as having a permanent and progressive reduction in health, vigor and/or structural stability that can eventually lead to its death or structural failure. Declining trees may typically be over mature, suffering from old wounds or other impacts that have interrupted the living system resulting in impeded growth and followed by the depletion of energy reserves that are normally stored in the root mass resulting in the reduction of health, condition and stability.

### **FRONT SETBACK**

An area between the front lot line and a line parallel to the front lot line bounded by the interior lot lines of the lot that are roughly perpendicular to the front lot line, the depth of such area being the distance required by the zoning ordinance. The front setback is to be provided and maintained as an open space on a lot or parcel of land, unoccupied and unobstructed from the ground upward, except as otherwise provided in title 28.

### **GEOGRAPHIC INFORMATION SYSTEM (GIS)**

A Geographic Information System is a system designed to capture, store, manipulate, analyze, manage and present all types of geographically referenced data. A

computerized system organizing data sets through the geographical referencing of all data included in its infrastructure.

## GOAL

The result or achievement toward which effort is directed. Goals can be short term, long term and adaptable.

## GROWSPACE

The ground level space that a tree is allotted to grow.

## HABITAT

A place where a plant, animal or other organism naturally or normally lives or grows.

## HISTORIC TREE

A tree which has been found by the Board of Park Commissioners, the Historic Landmarks Commission, or the City Council to be a tree of notable historic interest and has been designated by resolution of the City Council as an "historic tree". (SBMC 15.24)

## INFRASTRUCTURE

The basic physical organization of a city's capital assets (e.g. sewer, utility, street, sidewalk, transportation systems) needed for operational function within a city.

## MAINTENANCE

Pruning, spraying, bracing, root pruning, staking, fertilizing, watering, treating for disease or injury, and other work performed to promote the health, beauty, or adaptability of trees and shrubs, but shall not include the watering of such trees in residential zones. (SBMC 15.20)

## NATIVE PLANT

A plant that lives or grows naturally in a particular region without direct or indirect human intervention. Plants indigenous to a region, naturally occurring and not introduced by humans.

## PARKWAY

Either (i) the area between the curb and sidewalk within a fully improved street right-of-way, or (ii) that area extending six feet from the curb towards the nearest right-of-way

line in an area with no sidewalk, or (iii) any area within a street right-of-way in which an official or parkway tree is located. (SBMC 15.20)

#### PARKWAY TREE

A tree planted or caused to be planted by the City within a street right-of-way. (SBMC 15.20)

#### PERMEABLE PAVERS

A range of sustainable materials and techniques for permeable pavements with a base and subbase that allow the movement of stormwater through the surface. In addition to reducing runoff, this effectively traps suspended solids and filters pollutants from the water.

#### RIPARIAN

Areas adjacent to rivers, streams and watersheds with a differing density, diversity and productivity of plant and animal species relative to nearby uplands.

#### SPECIMEN TREE

A tree which has been found by the Board of Park Commissioners to be of high value because of its type and/or age and which has been so designated by resolution of the City Council as a "specimen tree". (SBMC 15.24)

#### STREET

A public or private way constructed for the primary purpose of vehicular travel. An alley or a driveway is not a street. The term "street" describes the entire legal right-of-way or easement (public or private), including, but not limited to, the traffic lanes, bike lanes, curbs, gutters, sidewalk whether paved or unpaved, parkways, and any other grounds found within the legal street right-of-way. The name given to the right-of-way (avenue, court, road, etc.) is not determinative of whether the right-of-way is a street. (SBMC Title 28)

#### STREETSCAPE

A term used to describe the natural and built appearance of the street that usually includes street trees, ornamentals, landscape and site amenities.

#### STREET TREES

Trees planted on public property along City streets and alleys. Trees located within any street median, City park or any other property owned and operated by the City shall not be considered street trees. (SBMC 15.20)

## TREE

A usually tall, woody plant, distinguished from a shrub by having comparatively greater height and, characteristically, a single trunk rather than several stems. (SBMC 15.20)

## TOPPING

The indiscriminate cutting of tree branches to stubs or lateral branches that are not large enough to assume the terminal role.

## TRIMMING

The same as pruning.

## TRIMMING CYCLE

Frequency by which trees are maintained and depends on the size, location and type of tree. Santa Barbara's street tree trimming cycle averages 7 years and park trees average 8 to 10 years.

## UNDERSTORY

The underlying layer of vegetation including trees, plants and shrubs between the forest canopy and ground cover.

## URBAN FORESTRY

The management, establishment and protection of trees and forests within cities, suburbs and towns.

## VISION

Thinking and planning for the future with imagination and wisdom. (Merriam-Webster online)

## WILDLIFE CORRIDOR

A pathway or habitat linkage that connects discreet areas of natural open space otherwise separated or fragmented by urbanization. Such a corridor allows animals to move between remaining habitats and provides escape routes from fire, predators and human disturbances.

## References

### Publications

Muller, Robert N. and J. Robert Haller. *Trees of Santa Barbara*. Santa Barbara Botanic Garden, 2005.

Santa Barbara Historical Society. *Noticias, 2001*.

### Online Resources

International Society of Arboriculture. <http://www.isa-arbor.com/>

Merriam-Webster online dictionary. <http://www.merriam-webster.com/dictionary>

### City Resources

*City of Santa Barbara i-Tree Assessment*, Parks and Recreation Department, 2009.

*Santa Barbara's Community Guide to Tree Planting*, Parks and Recreation Department, 2011.

*City of Santa Barbara Tree Canopy Cover Assessment*, Parks and Recreation Department, 2012.

Local Coastal Plan (1981, Amended 2004)  
<http://www.santabarbaraca.gov/civicax/filebank/blobdload.aspx?BlobID=16925>Santa

Wildland Fire Plan (2004):  
<http://www.santabarbaraca.gov/gov/depts/fire/>

Storm Water Management Program (2009)  
<http://www.santabarbaraca.gov/gov/depts/parksrec/creeks/quality/storm.asp>Barbara

Santa Barbara General Plan (2011)  
<http://www.santabarbaraca.gov/services/planning/plan.asp>

Climate Action Plan (2012)  
<http://www.santabarbaraca.gov/civicax/filebank/blobdload.aspx?BlobID=17709>

Design Guidelines (Residential and Specific Areas)  
<http://www.santabarbaraca.gov/services/planning/design/default.asp>

Santa Barbara Municipal Code:  
<http://www.santabarbaraca.gov/gov/cityhall/municode.asp>