

# Urban Forest Management Plan

**DRAFT**



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**1: VISION AND MISSION.....5**  
VISION STATEMENT .....5  
MISSION STATEMENT .....5

**2: INTRODUCTION.....7**  
ENVIRONMENTAL AND HISTORICAL CONTEXT .....7  
CLIMATE AND SOIL CONDITIONS .....7

**3: PURPOSE OF THE PLAN .....9**  
WHY WE NEED A PLAN .....9  
BENEFITS PROVIDED BY TREES.....9  
ENVIRONMENTAL BENEFITS .....9  
TEMPERATURE CONTROL .....10  
SOUND CONTROL .....10  
SOCIAL BENEFITS .....10

**4: SCOPE OF THE PLAN.....12**  
SCOPE OF THE PLAN ..... ERROR! BOOKMARK NOT DEFINED.

**5: STRATEGIC PLAN .....13**  
PLANNING HORIZON.....13

# 1: VISION AND MISSION

## Vision Statement

By the year 2025, Long Beach’s urban forest will be a healthy and diverse forest of multi aged and city appropriate trees. The urban forest will be recognized as a vital, functioning part of the City’s infrastructure and will be included in the vision for all future development. Members of the entire Long Beach community will experience a healthier wellbeing from the urban forest through reduced energy costs, reduced pollution and softened city noise. The urban forest canopy cover will be extensive and reduce the heat island effect within the City. Long Beach residents will view the urban forest as an important part of the City’s character and as an indicator of the City’s health and livability. Management of the urban forest is successful because the City of Long Beach has formed meaningful partnerships with businesses, local organizations and residents to ensure the forest is protected and maintained. Due to careful management and sustained care, the urban forest greatly enhances the environmental, economic and social wellbeing of the city.

## Mission Statement

The City of Long Beach has recognized that **the environmental, economic, social and public health benefits** provided by the urban forest along its streets and in its parks are critical to maintaining a healthy city. Moreover, the City recognizes that this valuable resource must be enhanced and expanded. The intent of the Urban Forest Management Plan is to address the long-term management and maintenance of City trees.

The project team identified seven goals for Long Beach's urban forest. These goals are broad in nature, defining what the City needs to accomplish in order to nurture its urban forest and enhance the environmental benefits it provides in the existing state of the urban forest and the potentially expanded urban forest. Because these goals involve commitment of City staff and financial resources; and possible modification of existing programs, we look to the City Council and the City’s Commissions for support of this first step.

1. Protect, preserve and enhance Long Beach’s existing urban forest.

2. Expand Long Beach's urban forest in the public right of way, on institutional campuses, on City-owned property and in partnership with private property owners in the City.
3. Provide fair distribution of urban forest services in all parts of the City.
4. Develop a common vision and partnership with local organizations, businesses, and residents to coordinate and address the long-term expansion, stewardship and maintenance of Long Beach's urban forest.
5. Enhance education and outreach related to the urban forest and tree care.
6. Enhance the social, economic, environmental, and public health benefits to the entire community through a sustainable urban forest.
7. Commit adequate and stable, long-term funding levels to maintain and enhance urban forest activities and programs.

## 2: INTRODUCTION

### Environmental and Historical Context

In pre-development times, the area that would become Long Beach consisted mainly of grassland coastal plains with very few trees. What trees there were grew close to the spring-fed creeks and seasonal river flows that meandered across the land. The main historic tree species were riparian varieties, namely willows, sycamores and cottonwoods, with perhaps a few oaks on the hills. The first human inhabitants of the area kept their villages close to these forested waterways and made use of the bendable branches of young willow trees to construct their dome-shaped homes. A spring-fed grove of cottonwoods that was the focal point of the important Native American village of Puvunga later transformed into a Spanish/Mexican ranch settlement called “Rancho Los Alamitos” or the Ranch of the Little Cottonwoods. During the ranch period, significant trees would be used as survey points to delineate the boundaries between ranchos. When the ranchos came under American ownership, ornamental trees began to be imported to be planted in the ranch house gardens. Two important species that saw widespread use and planting during this time were Pepper trees originating from Peru and Eucalyptus from Australia.

By the 1880’s many new towns were being laid out on the old ranchos in Southern California. The Rancho Los Cerritos created the American Colony of 20 acre farm lots with a seaside townsite known as Willmore City. In the tradition of Philadelphia, Willmore City used the names of trees as the names of most of its north-south avenues. The names Magnolia, Chestnut, Cedar, Pine, Locust, Elm, Linden, Lime and Olive all survive to the current day. Pine Avenue became the city’s main commercial street and extended into the ocean as a pier. Elsewhere in the American Colony, where orchards were a popular pursuit, fruit tree names were used for streets, such as Orange, Walnut and Cherry. After Willmore City was renamed Long Beach in 1884, more residents came to call it home and more trees were planted. Long Beach’s exposed position on the coast and natural lack of trees meant that many new trees were needed to provide shade and act as wind-breaks and overall beautification. An ample water supply from an artesian springs and wells aided rapid growth and by 1900, photographs show many mature trees in the downtown area.

In the 1920’s many of the remaining stands of willow trees were removed to make way for progress and further urban growth.

### Climate and Soil Conditions

Climate: Long Beach has a Mediterranean climate with semi-arid climate characteristics. Because of its proximity to the Pacific Ocean the city experiences moderate temperatures throughout the year. Long Beach can experience heavy rainfall in winter storms, but receives very little precipitation overall annually.

Soil conditions: There is a high degree of variation with regard to soils in the City, particularly because of the LA River floodplains. Some areas have clay and a high water table, while others are silty loam.



## 3: PURPOSE OF THE PLAN

### Why we need a plan

The future of the City's urban forest is at risk without a comprehensive urban forest management plan. Long Beach's urban forest provides a multitude of economic, health-related and environmental benefits, making it an asset to the sustainable development of the city. In order to maintain and expand the urban forest, the Urban Forest Management Plan will provide the guidelines for the long-term management of Long Beach's trees. An urban forest management plan will help the city protect the value of its current urban forest and coordinate plans for future expansion of the urban forest to maximize the benefits it provides and minimize the costs to maintain it. Without a comprehensive plan, the city will end up paying for the adverse effects of an improperly managed urban forest, and the Long Beach community will experience a reduced quality of life. A well designed urban forest management plan will help Long Beach protect the investment it has made in its urban forest and provide a framework for improving the urban forest to greatly increase its value to the city as well as increase the quality of life of Long Beach residents.

### Benefits Provided by Trees

The urban forest is an asset to the City's current and future health and longevity. It provides a variety of benefits which can greatly improve the quality of life of urban dwellers and provide an increasing value to the economy of a city.

### Environmental Benefits

#### Wildlife

The presence of wildlife can add positive value to any urban environment. Trees provide habitat for a number of mammals, birds and insects, thus increasing biodiversity in the urban setting and providing opportunity for study. In riparian habitats, trees absorb pollutants from the water and cool the water, creating a positive effect for aquatic life. Urban street trees provide shelter for squirrels and chipmunks as well as a variety of birds.

#### Water Quality and Erosion Control

The urban forest can greatly improve the water quality for any metropolitan area. All precipitation can be intercepted and absorbed by trees and plants before it becomes urban runoff. The leaves of a tree absorb 30% of rainwater and allow it to evaporate back into the air. The roots of trees and other plants provide soil stabilization and water infiltration. This prevents excess sedimentation that could pollute waterways and reduces the potential for storm water runoff and flooding. The urban forest provides protection for people, animals, and buildings by improving water quality, reducing runoff and flooding and stabilizing the soil.

### **Temperature Control**

In warmer seasons, trees provide shade and intercept solar energy, which reduces the need for air conditioning. In the winter, trees absorb impact from storms and insulate buildings. The strategic placement of trees and other vegetation can be used to block wind or divert it to areas that need cooling. The heat-island effect caused by pavement and buildings in an urban area can be significantly moderated by the shade of large tree canopies. Also, the heat-island effect increases temperatures over asphalt where tailpipe emissions occur, dramatically accelerating the creation of harmful ozone. Street trees can greatly reduce the creation of Ozone by lowering the temperature along transportation corridors with shaded canopies.

### **Air Quality**

Urban cities contain a great deal of vehicle transportation and high concentrations of exhaust emissions. Some species of trees are able to absorb greenhouse gases such as nitrogen oxides, carbon monoxide, carbon dioxide, and ozone. Trees can also absorb chlorine, fluorine halogens and ammonia. Trees sequester these global warming pollutants, thus helping to mitigate the effects of global warming on our environment. Along with absorbing emissions, trees produce oxygen and other natural gases as a result of photosynthesis, providing cleaner air to residents in close proximity to trees. Improved air quality directly benefits public health and reduces common health impacts in urban cities, such as asthma. Trees and other vegetation can also act as cleaning agents, filtering dust and other particulate matter from the air.

### **Sound Control**

Trees, shrubs, and turf have sound absorbing qualities. This reduces the amount of urban noise caused by highway traffic or industrial production. More trees provide more channels for natural sounds like rustling leaves and calls of songbirds to be heard and enjoyed. These sounds can also help to drown out city noise. Softening city noises provides a more calming environment and improves the psychological well-being of urban dwellers.

## **Social Benefits**

### **Psychological Benefits**

The urban forest is a vital contributor to the aesthetics of an urban environment. Trees and other vegetation have been known to invoke a feeling of serenity in people and have been reported to improve the health of hospital patients and productivity of school children. Trees carry a significance and symbolism for longevity and wisdom. Family and friends may plant a tree in honor and memory of a deceased loved one.(not sure this is very effective sentence, revise>) Neighborhoods may resist the removal of a large historic or symbolic tree when cities need to develop. An urban forest can create a sense of a unique character to a city and provide its residents with a feeling of having a special place in a hectic urban environment. Trees can soften the grey wasteland of city corridors, parking lots and expanses of blank cemented walls. Adding trees and other vegetation to these city

corridors improves the moods of residents who spend most of their days in these areas of the city.

### **Public Safety Benefits**

Street trees act a barrier between traffic and pedestrians, creating safer walking environments. Urban street trees also act as a frame for the road, guiding the movement of motorists. This framework reduces the “optical width” of the street, which discourages speeding. When people reduce their driving speed, fewer accidents ensue. Strong research suggests that road rage is reduced in green urban areas compared to non-treed suburban environments. Motorists tend to perceive trips through treed environments as shorter than trips of the same distance on treeless roadways. This impression contributes to a more calm experience of driving, which in turn decreases the likelihood of road rage. Studies from the University of Washington’s Center for Urban Horticulture even showed a result of lower crime rates in tree-present urban communities.

### **Economic Values**

Since trees improve the aesthetics of the urban setting, the resale values of properties with trees, both residential and commercial, will be much higher. Recent studies from the University of Washington’s Center for Urban Horticulture indicate that consumers are willing to pay 12% more for goods purchased in well-landscaped districts. Consumers surveyed also rated tree-lined sidewalks 80% higher for amenities and comfort, increasing the likelihood of interaction between consumers and merchants along district walkways.

The storm water retention properties of trees decrease the need for expensive drainage infrastructures. A 2002 San Antonio urban forest ecosystem analysis showed that their urban forest canopy cover of 20% provided a savings of \$1.35 billion in construction costs for flood control systems and sewers. The city of Seattle determined a cost/benefit analysis of increasing the tree canopy cover from 18% to 36% and found that the additional canopy cover would more than double the stormwater retention capacity of the urban forest at an annual value of over \$41million per year. This increase in canopy cover would also remove thousands of pounds of harmful air pollutants at an annual value of \$9.8 million. By filtering pollutants out of the air, trees in the urban environment can directly improve respiratory health and the health of asthma patients, thus lowering health care costs.

Trees protect asphalt from weather damage and temperature fluctuation, which leads to longer pavement life and reduced roadway maintenance costs to the city. Tree canopies can also greatly reduce energy costs, by reducing the heat-island effect, giving residents and businesses leeway to spend their energy savings elsewhere within the city.

The costs of planting trees are minute compared to the multitude of direct economic benefits they provide (not including aesthetic or natural benefits). The average cost of planting a tree, along with its first 3 years of maintenance is between \$250-600. A single tree, once established returns over \$90,000 of benefits in its lifetime, proving the importance of trees to the economic vitality of the city.

## 4: SCOPE OF THE PLAN

The creation of an Urban Forest Management Plan was essential to ensuring the protection, coordinated management and enhancement of the urban forest. Furthermore, recognizing that the City cannot manage its urban forest by itself, making it pertinent to have a comprehensive plan to coordinate the effective management of the urban forest by all participating entities in the City of Long Beach.

The Urban Forest Management Plan addresses the long-term management and maintenance of City trees including street trees in the public right of way and on City-owned property, such as parks. The plan also addresses maintenance of residential and privately owned trees through partnerships with private property owners and businesses in the City.

## 5: STRATEGIC PLAN

### Planning Horizon

The long-term goals of the Urban Forest Management Plan to protect and expand the urban forest are to be met by 2035. In order to achieve the overall goals of increasing the canopy cover in the city through the expansion of the urban forest, inventories of approved street trees for the city will be revisited and altered based on usage, appropriate placement, survivability and need every five years. To measure the success of the long-term enhancement of the urban forest, the City of Long Beach will first establish current inventories of its street trees and set clear projected targets for the expansion of the urban forest to be met by 2035. The UFMP will create a framework for effective management and encourage the engagement of community members, organizations, and multiple City Departments to maintain the health and prosperity of the urban forest. Short-term actions that can be implemented within the next five years to achieve overall goals of the UFMP include; improving the maintenance of street trees, increasing tree plantings, and increasing community outreach about the value of trees and how to select, plant and care for trees.

Appendix A City of Long Beach Urban Forest: Phase 1 - Goals and Policy

Appendix B Tree Maintenance Policy

Appendix C Public Right of Way Approved Tree List