PRIMARY FRAMEWORK

URBAN FOREST MANAGEMENT PLAN

CITY OF
FREMONT,
CALIFORNIA

APRIL | 2023

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URBAN FOREST MANAGEMENT PLAN

April 2023

ACKNOWLEDGEMENTS

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– Plan Contributors –

Citizens of Fremont

City Council

Fremont Community Services Department

City of Fremont UFMP Project Team

City of Fremont Supporting Departments and Divisions

CAL FIRE Urban and Community Forestry

PlanIT Geo, Inc.

Urban Forest Innovations, Inc.

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All other photos unless noted are from the City of Fremont, CA

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CITY UFMP PROJECT TEAM

A special thanks to:

Suzanne Wolf, Community Services Director
Kim Beranek, Community Services Assistant Director
Roger Ravenstad, Parks Planning & Design Manager

COMMUNITY SERVICES DEPARTMENT

- **Juan Barajas,** Parks Superintendent, Park Maintenance Division
- **Ernie Moreira,** Urban Landscape Manager, Park Maintenance Division
- **Tara Bhuthimethee,** Senior Landscape Architect, Parks Planning & Design
- **Jennie Suen,** Associate Landscape Architect, Parks Planning & Design

COMMUNITY DEVELOPMENT DEPARTMENT

- **Rachel DiFranco,** Sustainability Manager, Sustainability Program
- **Rick Conner,** Associate Landscape Architect, Planning Division
- **Wayland Li,** Principal Planner, Planning Division
- **Joel Pullen,** Planning Manager, Planning Division
- **David Wage,** Code Enforcement Manager

PUBLIC WORKS DEPARTMENT

- **Mirabel Aguilar,** Senior Civil Engineer, Engineering Division
- **Ed Nakayama,** Senior Civil Engineer, Engineering Division

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Fremont's trees are recognized as integral to the quality of life for all city residents as well as for the city's urban character and natural environments. With a healthy, thriving, and sustainable urban forest, Fremont's trees will be thoughtfully managed in a way to maximize a range of public benefits, including a thriving ecosystem, a vibrant economy, and a livable community shared by all

STATEMENT FROM THE CITY'S COMMUNITY SERVICES DIRECTOR

Fremont's urban forest is a healthy, dynamic, diverse, and cohesive ecosystem that is valued and cared for by the City and through community stewardship. This vision reflects the community's deep-rooted desire to live in a green and vibrant community. It reinforces our responsibility to manage our urban forest in order to preserve and enhance this valuable community resource for the good of the environment, the economy, and the health and well-being of current residents and future generations.

Fremont is well positioned to fully realize this vision. The city is uniquely situated in a landscape of beauty – Mission Peak Regional Preserve, Don Edwards San Francisco Bay National Wildlife Refuge, and Central Park with our Lake Elizabeth. A mild climate and abundant natural resources contribute to a lush and verdant environment. The city of Fremont on the whole is a progressive, cutting-edge location in which to live, with a high level of environmental awareness.

Climate change is accelerating and so are its damaging effects. In order to meet the environmental benefits needed to offset the negative consequences of human industrial growth, all of us must do more. The best tool at our disposal and a major component in every Climate Action Plan is preserving, increasing, and maximizing the benefits of the urban forest and other green infrastructure.

The highest priority we have is partnering with the community to achieve urban forest goals. This vision will be achieved not just by City resources, but it relies on homeowners, neighborhoods, and businesses, all looking not just near term, but 10, 20, 50, and even 100 years into the future. We cannot achieve the necessary goals to combat climate change separately; only together can we move the needle in protecting our precious environment.

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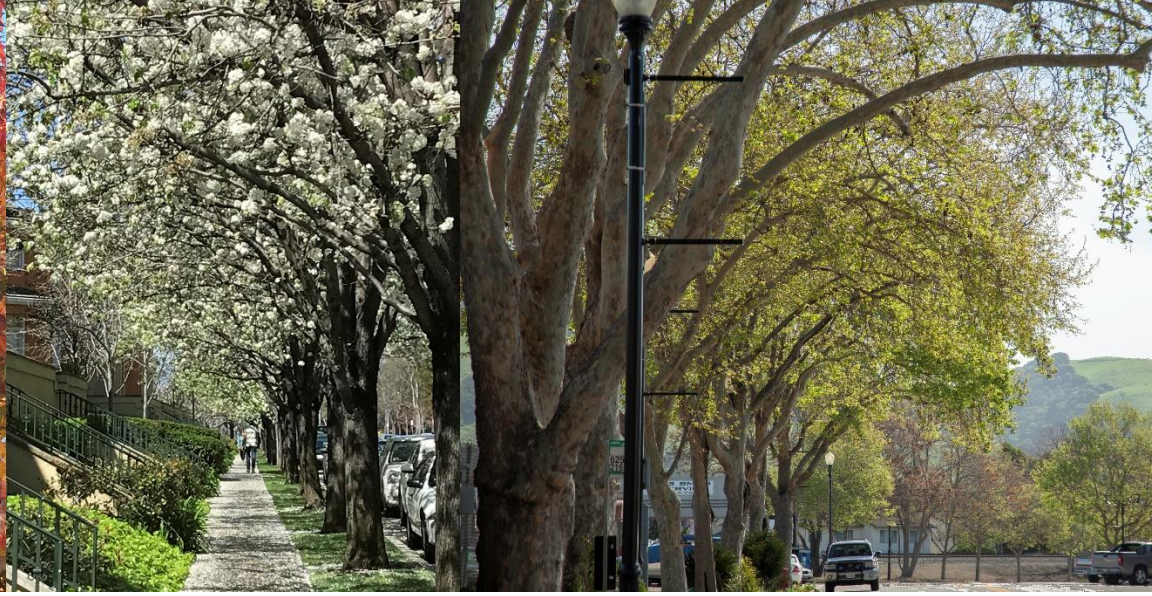


HEALTHY
TREES,
HEALTHY CITY

CITY OF Fremont

CAL FIRE SINCE 1886

APRIL 2023
URBAN FOREST MANAGEMENT PLAN

EXECUTIVE SUMMARY

Healthy Trees, Healthy City
Fremont's trees are recognized as integral to the quality of life for all city residents as well as for the city's urban character and natural environments.

With a healthy, thriving, and sustainable urban forest, Fremont's trees will be thoughtfully managed in a way to maximize a range of public benefits, including a thriving ecosystem, a vibrant economy, and a livable community shared by all.

Plan Mission
The City of Fremont, in partnership with the community and urban forestry consultants, completed this Urban Forest Management Plan in 2023. This plan is a guide to maintain, protect, and enhance Fremont's extensive tree canopy cover resource and the multitude of associated benefits. The Urban Forest Management Plan extends beyond maintenance and operational guidance to include a variety of long-term goals, strategies, and priorities to achieve optimal levels of urban forest management, sustainability, and equity in a comprehensive and systematic manner. Achieving the goals set forth in this plan requires a shared commitment and partnership between the City and its community to sustain a thriving urban forest providing benefits to Fremont's environment, economy, and well-being for future generations.

OVERVIEW

Fremont's urban forest is a thriving, constantly evolving blend of native and ornamental (or planted) trees located throughout the community that residents cherish, providing a unique sense of place rich with natural beauty defining Fremont's identity. These defining characteristics took shape over many decades of planning, growth, and management.

The city's land use pattern is defined by its agricultural past, early settlement patterns, location in the southeast portion of the Bay Area, topography, and more than a century of transportation investments ranging from railroads to freeways. Fremont was incorporated as a city in 1956. Its boundaries included five smaller towns (Centerville, Irvington, Mission San Jose, Niles, and Warm Springs) and thousands of acres of farmland, open hills, salt ponds, marshes, and other vacant land located between the smaller towns. These original towns were settled as early as 1797 leaving behind buildings, sites, and a past that has shaped Fremont into what it is today.

In the last 50+ years, much of the city envisioned by its founders has been built. The original historic towns have grown, and new community areas have filled in. Over the past six decades, Fremont has evolved from an agricultural community to a diverse city and large employment center with many land uses including housing, open space, industry, and commerce.

Central Park and a network of smaller neighborhood and community parks have become symbols of Fremont's commitment to open space and high quality life for its residents. Despite rapid change and development, Fremont has maintained a significant portion of its heritage by preserving its open spaces. Today (2023), Fremont is the fourth most populous city in the nine-county Bay Area, the 15th largest city in California, and one of the 100 largest cities in the United States with a population of approximately 235,000 people (2020). The city is largely defined by its open spaces, including the Fremont hills to the east, the Baylands to the west and open space to the northwest.

THE CITY AND ITS URBAN FOREST

In adhering to best management practice as framed by the Urban Forest Management Plan's guiding principles, the urban forest within the City stands a chance of being a sustainable and resilient resource. This will require an integrated ecosystem management approach. That system is based on the recognition that the urban forest is a resource that should be viewed as a tangible asset which confers broad benefits to all residents of the City of Fremont and complements the biodiversity values of the surrounding natural environment. Urban forests face unprecedented challenges in a warming environment with ever expanding development needs. In order to preserve the urban forest and the myriad benefits conferred, the residents of Fremont will need to be vigilant and remain committed to sound environmental standards which will ensure that generations to come will enjoy the same. If Fremont is to be a leader and environmental champion, the stewardship of its green infrastructure and the fundamental role played by trees in that ecology is paramount. This 40-year Urban Forest Management Plan is the first of its kind for Fremont and is an important piece of that larger mission of becoming an environmental champion. This Plan complements existing City planning efforts such as the General Plan and the update to the Climate Action Plan. Implementing actions in the Urban Forest Management Plan supports shared policies and priorities in these plans.

FREMONT'S GENERAL PLAN AND THE URBAN FOREST

A central theme of the City's General Plan 2030 is the concept of sustainability and sustainable development. The basic concept of sustainability is meeting the needs of current generations without compromising that ability of future generations to meet their own needs. One major goal of sustainable development is to reduce greenhouse gas emissions and to promote energy efficiency and alternative energy sources. Scientific consensus has emerged that carbon dioxide emissions are contributing to a warming climate. Some of the consequences include rising sea levels, increased intensity of hurricanes and storm events, increased acidity of ocean waters which has negative impacts on marine biodiversity, reduced agricultural productivity, and declining urban forests.

The General Plan emphasizes the importance of the City's role in confronting climate change. Actions to contend with increased greenhouse gas (GHG) emissions and effects of climate change start at the local level. In the General Plan, the City established goals and policies to reduce the carbon footprint from new development. These goals and policies promote transit-oriented and infill development, maintain a jobs/housing balance, protect and conserve open space, encourage development of linear parks that can be used for cycling and walking as an alternative to vehicle trips, and implement air and water quality standards. The urban forest is a vital component of strategies that will address guiding principles in the General Plan like *sustainability*, *enhanced parks and open space*, *a well-designed urban landscape*, and *community life*.

CLIMATE CHANGE AND THE URBAN FOREST

Fremont is planning for a future that addresses climate change, improves the quality of life, promotes equity, and bolsters resiliency across the community by updating the 2012 Climate Action Plan (CAP) referred to as CAP 2.0. The anticipated completion of CAP 2.0 is expected in 2023.

Within CAP 2.0, efforts to lower greenhouse gas (GHG) emissions resulting from activity in the energy, water, waste, and transportation sectors will be paired with efforts to sequester—or draw down—carbon dioxide and other GHGs from the atmosphere. By the year 2045, no new net greenhouse gases will be emitted. In addition, the City will explore efforts to enhance the community's resiliency to future climatic changes as well to adapt to changes that are already underway. As a component for consideration in the CAP 2.0, draft measures and targets relating to the urban forest and climate adaptation/mitigation were provided. The Urban Forest Management Plan is intended to inform climate priorities and strategies relating to Fremont's trees and the urban forest.

About Fremont's Urban Forest

Image Description 1. Gathering under the shade of Fremont's urban forest

The City's location in the Bay Area results in a beautiful landscape that blends mature native oak species that have been incorporated into the fabric of the community with the planted trees that are part of the development of the City over the past 50 years. Together, these elements combine to create the City of Fremont's urban forest. The numerous parks across the City are filled with large stands of trees that create unique wildlife habitat, shade creeks, and provide picturesque backdrops to many of the community's neighborhoods. Fremont is defined by its open spaces. The hills to the east form a dramatic landscape, while the extensive wetlands along the margin of San Francisco Bay form the community's western boundary. Much of this open space is accessible to the public through the East Bay Regional Park system and the Don Edwards National Wildlife Refuge. Fremont also boasts an extensive municipal park system, anchored by Central Park, and supplemented by numerous citywide and neighborhood parks. The planted trees are a unique mix of species that line streets, enhance parks, and shade shopping and businesses with canopy providing visual interest and seasonal beauty. Many cultivated varieties of oak, pistache, liquidambar, ash, planetree and sycamore, pine, and maple, amongst others, come together to create the dynamic and evolving urban forest that is appreciated today.

Fremont's urban forest— spanning over 14 percent of the City's land area— continues to be created, modified, and removed primarily by people. Sustaining it will require ongoing human intervention. The goal of this intervention is a sustainable urban forest— an urban forest that optimizes the benefits of trees while meeting established safety and economic goals. Achieving this requires robust management, diverse funding, adequate staffing, effective policies, and maintenance actions consistent with best practices. The urban forest offers many benefits, some of which are directly identifiable and quantifiable while other benefits are experiential. Public awareness of the role urban forests play in improving human health and well-being, in addition to being critical climate change mitigators, continues to increase. The following page provides maps of the distribution of Fremont's urban tree canopy cover and its public tree population.

A Closer Look at Fremont's Urban Forest: Canopy Cover and Public Trees

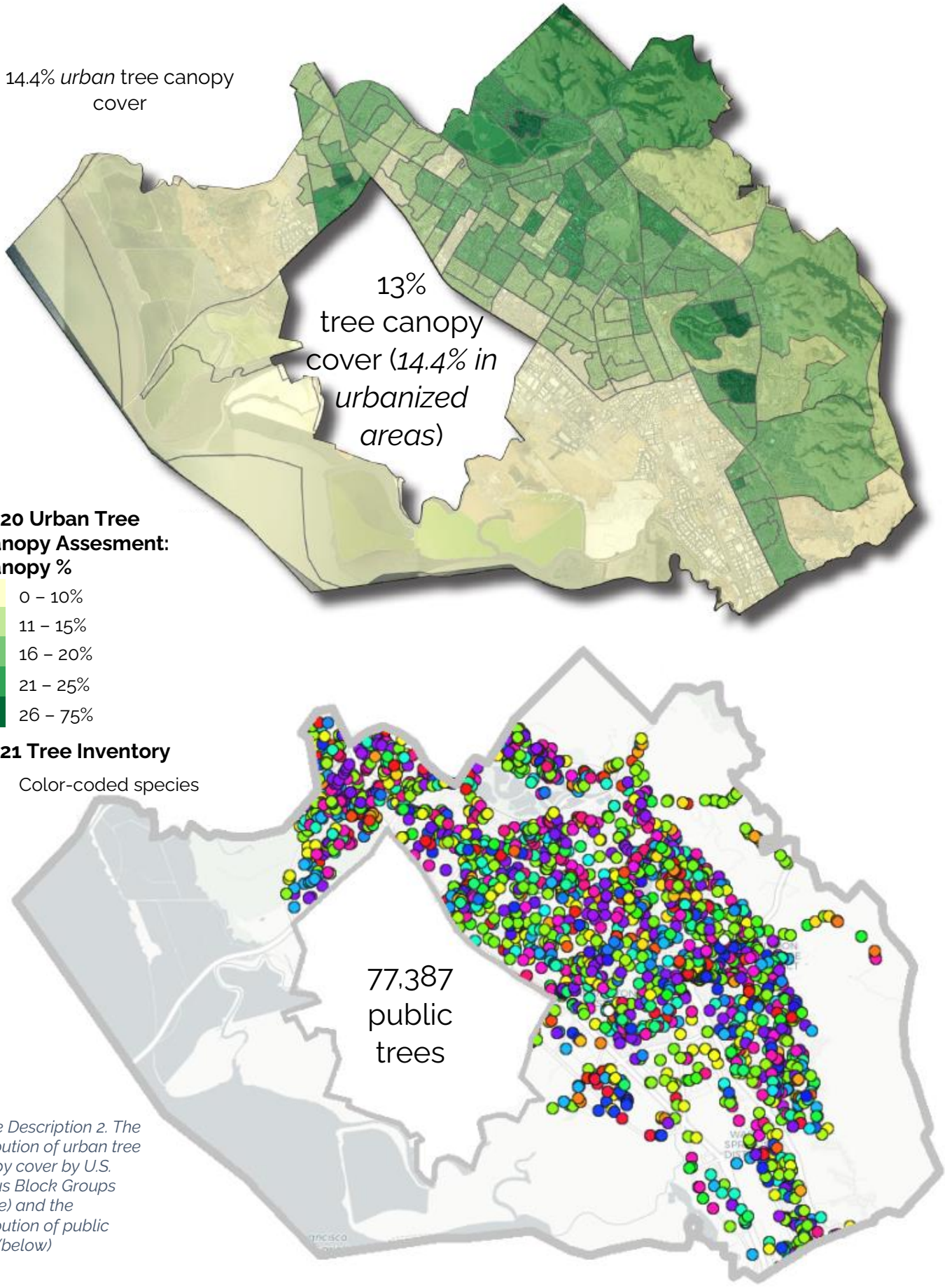


Image Description 2. The distribution of urban tree canopy cover by U.S. Census Block Groups (above) and the distribution of public trees (below)

Urban Forest Benefits and Services

The quality of life of the residents in any community depends on the urban forest. Trees make a vital and affordable contribution to the sense of community, pedestrian-friendly neighborhoods, energy savings, and air quality. Trees are one of the few infrastructure investments that grow in value over time. Tree canopy is a valuable component of Fremont's urban ecosystem. Trees in urban settings are important to improving urban life, as well as human physical and emotional well-being. Research suggests that human beings have an innate affiliation to natural settings, a concept described as biophilia (Kellert, et al. 1993). Studies link access to living trees, outdoor air, and natural light to increased employee and student productivity, faster hospital recoveries, less crime, and an overall reduction in stress and anxiety. Preserving, managing, and expanding the urban forest are components of Fremont's solution to social, environmental, and economic problems— it is integral to enhancing public health programs, increasing land values and local tax bases, providing job training and employment opportunities, reducing costs of City services, increasing public safety, improving air quality, offsetting carbon emissions, managing stormwater runoff, mitigating water shortages, and conserving energy.

An analysis of the total street and public tree population inventoried in 2020 (77,387 living trees) valued the ecosystem services and benefits at an estimated $6.9 million annually. Most notably, the 77,387 inventoried trees increase property values by over $5 million, prevent over 73 million gallons of stormwater runoff, and sequester 4,300 tons of carbon annually. The function and structure of the inventoried tree population results in a replacement value of over $492 million. Citywide, the urban tree canopy across public and private boundaries offers benefits and services estimated at $44 million.

Public trees: $6.9 million total annual ecosystem value
$89 in annual benefits per tree
$28 in annual benefits per capita
$492,057,325 estimated dollar value*
$1 : $7.44 annual cost-benefit ratio

*The "estimated dollar value" is calculated separately from i-Tree (itreetools.org) and is meant to represent an approximate depreciated dollar cost for the trees based solely on their location, species, trunk size, condition, and current replacement estimates factored by data recorded in the most recent inventory capture date. It is based on the inventory data from September 2021 and may fluctuate depending on multiple factors as evaluated by the City Urban Forester.

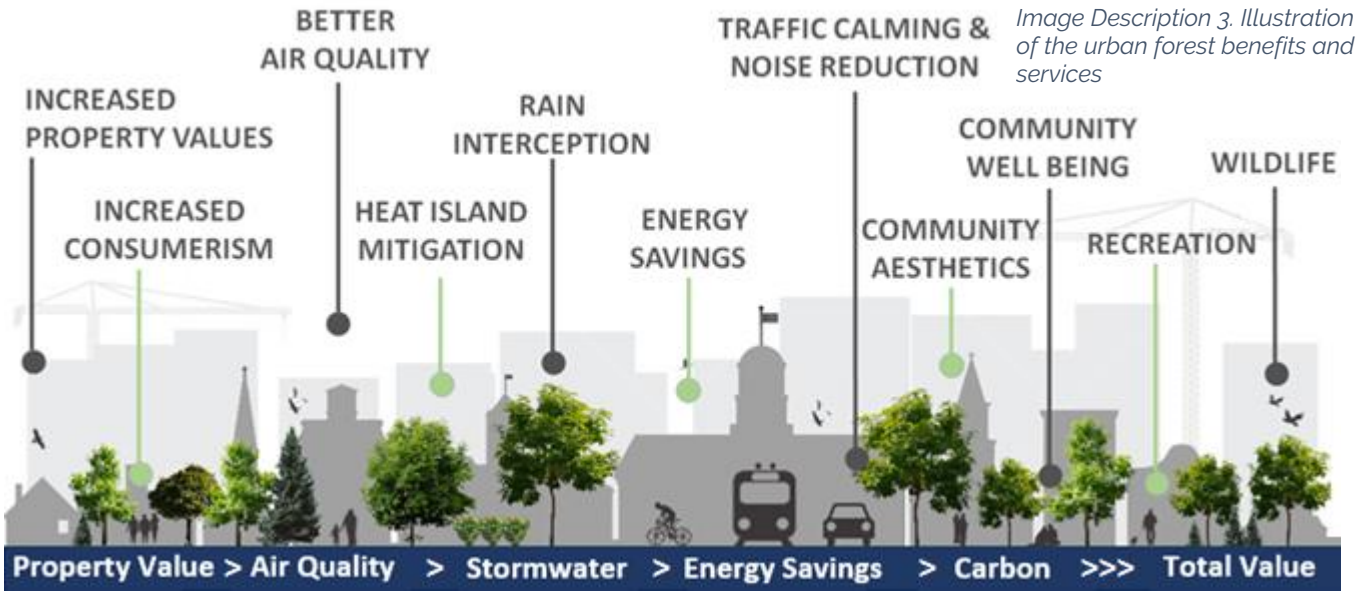


Image Description 3. Illustration of the urban forest benefits and services

Challenges Facing Fremont's Urban Forest

The City of Fremont has a unique urban form and character. Its size, layout, and development density influence the landscape to create a charming and livable city. Fremont's residents show pride in their city, and their neighborhoods are well cared for. The City's climate is ideal for a wide range of plants and street trees and many of the City's streets and landscapes exhibit a unique and rich planting character. Some of the City's historic neighborhoods and its newest developments have a rich urban forest that illustrates Fremont's potential to be an even greater tree-filled city guided by a strategic plan— a city that can be truly 'ahead of the curve'.

Urban trees can play a significant role in making cities resilient to weather and climate extremes, and in protecting human and ecosystem health and safety. By strategically addressing the challenges of changing climates, the City can approach other challenges facing urban trees such as tree pests and diseases, sustainability and water conservation, tree risk and storm events, competition for space, deferred maintenance, among other concerns discussed in the following section.

Sustainable Management – Addressing Deferred Street Tree Maintenance

The public street trees throughout Fremont are primarily the responsibility of the adjacent property owner to maintain. Contrast to this structure, many larger CA cities often acquire the responsibility to maintain trees in the public rights-of-way (i.e., street trees). In addition to private property owners maintaining street trees in Fremont, these landowners also have most of the tree canopy and opportunity for more tree plantings on their property. This ownership and distribution of tree canopy and available planting space necessitates consistent and effective education from the City's Urban Forestry Program to ensure best practices are administered so the urban forest is sustained.

One measure of sustainable management is the number of years it takes to prune all public trees, also referred to as the pruning cycle. Currently, the City does not maintain street trees, only trees in medians, backup lots, public parks and properties, and some special assessment districts. A pruning cycle of five to seven years is recommended for communities in the region. This would require the City and adjacent property owners to collectively prune between 8,600 to 12,000 street trees and 2,400 to 3,400 park trees annually— a total of 11,000 to 15,500 public trees per year depending on the pruning cycle.

Image Description 4. Crews conducting tree maintenance in Fremont

Routine maintenance, often referred to as grid pruning or programmed pruning, is the most cost effective near- and long-term pruning management strategy for city tree maintenance since every tree within a given grid, priority area, or zone is pruned each pruning cycle. When each tree is inspected and pruned on a regular cycle, both short- and long-term maintenance costs are reduced due to efficiencies in mobilization, scheduling, and service tracking; both preventative and reactive maintenance are performed in one operation and the need for future priority pruning is minimized. Conversely, street trees that are not pruned on a regular cycle, or their maintenance is deferred, results in the opposite effect— as the interval between pruning increases the tree health declines and the maintenance costs increase.

Since street tree maintenance is not the responsibility of the City, there is no programmed pruning cycle to minimize tree issues and to maximize tree health. The maintenance of street trees is primarily reactive, in that trees are addressed once they become an issue or hazard. Thus, the City street trees

are not proactively pruned, and evidence of deferred maintenance is apparent. Prolonged lack of regular tree care by adjacent property owners will likely reduce the overall health of the urban forest, reduce the associated benefits and services provided by trees, and increase public safety risks. The condition of the inventoried public tree population represents the effects of this deferment, with nearly half the public tree population rated as fair in condition. Compounding the tree health concern, the City has limited resources to address issues such as tree clearance and sidewalk upheaval. Although, the City continues to implement its 50/50 grant program for sidewalk repairs and street tree replacements. As trees continue to grow and sidewalks age, the need for additional cost-share funds should be explored in an effort to preserve or replace tree canopy. In FY 2020-21, General Fund transfers to the Capital Improvement Program for the 50/50 program were suspended due to COVID-19, but the amounts were increased by $2 million in the FY 2022-23 adopted budget.

Program Efficiencies and Structure

Sharing public tree maintenance and management responsibilities across departments can yield many benefits, such as utilizing limited resources efficiently. It is critical that workflows are clear and understood. As of February 2023, Fremont's Urban Forestry program is housed within the Community Services Department's Park Maintenance Division. Public trees along streetscapes are overseen by Urban Forestry, whereas public park trees are managed by Parks Maintenance, and private trees are maintained by adjacent property owners and regulated through the Urban Forestry permitting process.

Image Description 5. The sign at Fremont City Hall framed by the canopy of trees

Fremont's urban forest continues to grow and change, public awareness of the City's urban forest and its programs is increasing, and the beneficial impacts of trees to mitigate climate change are understood better than ever. In turn, it is anticipated the service demands will continue to rise. As service demand continues to increase so does the need to find methods to increase capacity and efficiency under strained fiscal support.

The City is committed to public health and safety, combatting climate change, and environmental justice. Some capacity and efficiencies for existing workloads can be improved through clarifications of roles, responsibilities, and workflows among City departments and divisions. Establishing a strong organizational structure with clear operating procedures are foundational in reducing future costs and addressing increased service demands. Currently, the Urban Forestry Program is maintaining its service demand, however this demand is increasing as the urban forest matures, parks grow, and addressing climate change becomes an immediate need.

The City's Parks and Recreation Master Plan was adopted in early 2022 and included a Maintenance Management Plan. Implementing the Maintenance Management recommendations of the Parks and Recreation Master Plan and the actionable items of the Urban Forest Management Plan will require additional dedicated resources. Urban forest programs are growing in demand. The City is managing this demand with current full-time, part-time, permanent, and temporary staff. However, program demand will continue to grow in concert with the growth of the urban forest. That planned growth must be addressed to maintain the City's urban forest, climate action, and public service needs.

Utilizing the findings from the planning process— consisting of staff interviews, research, data analyses, benchmarking, and community engagement— this Plan provides a recommendation and framework to address program efficiencies, structure, and necessary resources.

Tree Related Policies and Regulations

Several City codes, regulations, and plans address trees. Specifically, public trees are regulated through Chapter 12.30 "Maintenance of Street Trees and Sidewalks" and private trees are regulated through Chapter 18.215 "Tree Preservation" of Fremont's Municipal Code (FMC). Regulations to guide tree planting and maintenance are limited and do not sufficiently address the concerns of many City staff and the public. Though significant improvements have been made, there still exist room for improvement in the policies and regulations for Fremont's trees. The City may explore regulations for tree care in the future by gathering input from City staff, stakeholders, and the general public and bringing proposed amendments to Council for consideration. In doing so, the City would be equipped with clear goals for the overall urban forest maintenance and care, its programs, and the community, as well as the goals for development.

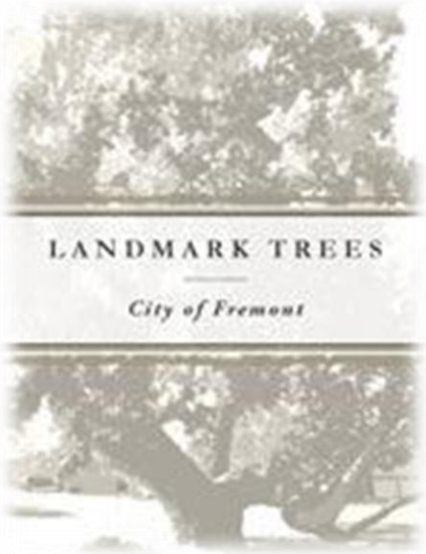


Image Description 6. Fremont's Landmark Trees Program protecting heritage trees through the Tree Preservation Ordinance

Best Management Practices (BMPs) for protecting trees and their critical root zones (CRZ) on construction sites should be consistently applied, monitored, and enforced when necessary. The City should continue to explore alternative solutions when it comes to conflicts between trees and sidewalks or other hardscapes. Flexible design would allow for more sidewalks to meander around trees, parcels to be developed around existing healthy trees, and additional right-of-way easements/frontages could be considered for the sake of tree preservation. Through the planning effort to develop this Plan, recommendations for alternative solutions to tree and hardscape conflicts were provided.

Limited Resources to Address Climate Change Impacts

Cities around the world, and specifically in the San Francisco Bay Area, face dramatically intensifying extreme weather and climate impacts including sea level rise, drought, long-term water shortages, flooding, and extreme heat. In addition, intense wildfires and longer seasons of fire danger are becoming more common. Urban trees can play a significant role in making Fremont resilient to weather and climate extremes, and in protecting human and ecosystem health and safety.

Strategic Tree Planting

In cities where a comprehensive long-term management plan is not in place, sporadic tree plantings may take place either through development projects, inconsistent availability of funding or grants, volunteer programs, or through a combination of these mechanisms. Having an Urban Forest Management Plan unifies efforts by different departments and divisions of the City, development projects, volunteer efforts, and community partners to ensure success at multiple levels of implementation, from creating policies and overarching goals to the correct planting of diverse species and the coordinated on-going maintenance of each individual tree.

Image Description 7. Tree planting event in Fremont (Source: Urban Forest Friends, 2021)

Fremont's Urban Forestry Program has funding for regular tree planting projects, has an Approved Street Tree list, coordinates plantings with departments and community partners, enforces ordinances to preserve and plant trees, and actively pursues urban forestry-related grants. The City is known for these vital programs, services, and activities but it recognized the need for a strategic plan that is supported by data to make informed, effective, and equitable decisions on growing its urban forest.

Understanding the need for a long-range plan with strategies for growing the urban forest, Fremont has successfully secured and implemented urban forestry funding from the CAL FIRE Urban and Community Forestry Program in recent years. These grant funds have been utilized for Citywide tree canopy cover assessments, public tree inventories, planting projects, community events, trainings, and the development of this Urban Forest Management Plan.

These projects are crucial efforts for building a more sustainable community and working toward carbon neutrality. Tree planting is one of the few tangible actions the City can directly take to address non-source specific pollution in Fremont. The public tree inventory and canopy assessment provide the necessary data to develop a management plan with the guidance to strategically plant trees that will result in long-lasting benefits and equitable tree canopy cover.

Planting trees in Fremont should be strategically planned to address environmental justice, equity, access, and levels of service for all neighborhoods. Tree plantings can address canopy cover inequities, intensive tree management can reduce risks and prolong the associated benefits of trees, and diverse outreach approaches and unique programs can enhance urban forest stewardship in the community.

Planting and maintaining an urban forest that exists in concert with other green infrastructure must include: management by trained individuals, the use of tree inventory data, an understanding of baseline conditions and forecasted environmental changes, collaboration among departments to mainstream urban forest management, and a community with a shared vision for the urban forest. To address these challenges, the Urban Forest Management Plan provides an overarching goal to increase tree canopy cover Citywide. These tree canopy goals and priority planting areas can be addressed and accomplished through the implementation of this Plan.

Addressing the Challenges

One major systemic challenge not unique to Urban Forestry is ensuring alignment throughout the agency. Without alignment, implementation could go astray or be unguided, possibly leading to long-term maintenance challenges. An Urban Forest strategic plan and program can help the City's budget stay aligned with the growing needs of trees in the city. The Plan will align the City's systems, programs, and trainings with industry standards and best practices; policies will allow for enforcement; scheduled maintenance of trees will support long-term tree growth and a thriving urban forest. It is critical that trees are supported so that the community is able to realize maximize the multiple benefits of the root systems, the tree canopies, and the trees' economic return on investments. Recognizing the challenges facing urban forests, the City of Fremont pursued and was awarded funding to assess, plan, and grow its urban forest sustainably and equitably.

Image Description 8. Landmark trees in Fremont

Another challenge that the Urban Forest Management Plan addresses is the current tree equity across the city. This Plan proposes an expansion of the urban forest which will result in a more equitable distribution of tree canopy that addresses the disadvantaged areas with limited resources. The City, its partners, and the community support a plan for the urban forest that sustains the resource and provides benefits to all who live, work, and recreate in the City.

To address these challenges, the Urban Forest Management Plan offers Fremont an opportunity to study, evaluate, and plan for improving urban forest management toward the goal of supporting human and ecosystem health and well-being. The urgency of protecting the urban forest has risen sharply as drought, pests, disease, climate impacts and budget cuts lead to rapidly rising tree mortality. To address and reverse tree die-off and the loss of ecosystem benefits, Fremont needs a robust system of professional management of public trees and improved support of resident engagement in the care and expansion of the urban forest, both public and private.

When making improvements to the urban forest, efforts should be prioritized to improve environmental justice, equity, access, and levels of service for underserved and vulnerable areas. These considerations may include additional tree plantings for more equitable distribution of urban forest cover and benefits, intensive tree management, diverse outreach approaches, and unique stewardship programs.

Fremont's Urban Forest Management Plan is a crucial planning effort to build a more sustainable resource and a healthy community, among other core urban forest management elements. This strategic plan for Fremont's urban forest aims to help guide how the City might think about strengthening City Code, policies, ordinances, standards, practices, and procedures; analyzes staffing structures and authority; identifies opportunities for sustained and diversified funding; provides guidance for routine and systematic inventories and assessments; identifies tree maintenance efficiencies and planting/canopy goals and priorities; addresses storm, disaster, and risk management needs; and strengthens community outreach, education, and engagement.

Achieving the goals set forth in this Plan requires dedicated programs, funding, and community support. With a shared commitment to Fremont's vision for the urban forest, the trees, its programs, and the community can experience a multitude of benefits while addressing the challenges that lie ahead, all while advancing towards optimal levels of service and community well-being.

PLANNING PROCESS

This Urban Forest Management Plan is the City's first of its kind. This Plan will set the stage for future actions and efforts that will ensure the long-term health, management, and success of the trees that comprise the urban forest. Fremont's Urban Forest Management Plan provides the framework for making incremental improvements with the current resources available that will lay the groundwork for the City to accomplish the ambitious goals over the life of this Plan.

PLANNING APPROACH

The purpose of the 40-year Urban Forest Management Plan is to answer the fundamental components of adaptive management: what do we have, what do we want, how do we get what we want, and how are we doing. Developing the Plan required input from City staff, stakeholders, residents, data sources, thoughtful analysis, a coordinated vision, and time.

A) What do we have?

The first step of the process is to complete a baseline assessment of the urban forest, the resources that manage it, and the people that influence and benefit from it. The elements completed in the planning process provide the foundation for setting goals and measuring progress.

B) What do we want?

The Plan is shaped by knowing what the urban forest needs, the resources required to manage it, and what the community wants. This was informed by public engagement through websites and social media, public polls and surveys, presentations, staff interviews, and development of the urban forest vision and supporting goals.

C) How to get what we want?

The goal, strategy, and action framework lay out the roadmap to achieve a shared vision that supports the needs of all members of the community. Recommended actions and the associated targets are strategic, measurable, attainable, realistic, and time-bound (SMART) and have been developed through extensive research, data analyses, stakeholder consultations, community engagement, benchmarking research, and gap analyses during the planning process.

D) How are we doing?

The City needs to continually monitor progress towards the vision and goals. The Urban Forest Management Plan includes guidance for implementing actions. The planning approach for this Plan provides the framework for continual monitoring and evaluation of efforts using the U.S. Forest Service's Urban Forest Audit System. Updates to this audit will inform any necessary changes to strategies in an adaptive management approach.

Public Participation

Prior to the development of Fremont's Urban Forest Management Plan, the City's Urban Forester in the Community Services Department along with supporting staff worked with City departments, partners, and the community to identify the needs of the urban forest. To inform the Plan, a series of meetings and interviews were conducted with City staff and traditional and non-conventional stakeholder engagement occurred throughout the planning process.

The public engagement sessions consisted of two online polls (224 and 1,660 responses, respectively), one statistically-valid survey mailed (12 percent response rate, 245 responses received) and available online (422 responses), virtual public meetings and meet and greets (62 attendees), news articles, social media posts, City website content, email listservs (13,674 contacts), and a dedicated project website hosted by the urban forestry consultants (FremontUrbanForest.com) — with an average of four unique viewers per day. From these sessions, it is estimated that at least 7 percent of the City's population was engaged in the planning effort.

Feedback received through these efforts was used to produce a draft Plan with a shared vision for the urban forest. The team then shared draft goals, strategies, and actions with City of Fremont's staff, key stakeholders, and the residents of Fremont to ensure initial input was accurately captured. In February 2023, the draft Plan was opened for public comment to weigh in on the final draft Plan.

Within the final Plan, action priorities were developed to provide technical guidance for City departments that are relevant, accessible, and tangible to the community.

Staff and Stakeholder Participation

When stakeholder engagement is done effectively, it improves communication channels between parties, creates and maintains support for the Plan, gathers information for the Urban Forestry Program, reduces the potential for conflict or other issues, and enhances the reputation of the program and ultimately, the Plan. Effective communication with stakeholders not only ensures they are aware of the objectives and finer points of a plan, it also serves to help the program understand those who will be affected by the Plan, how they will access and interpret information from the program, allows the program to anticipate how stakeholders will respond, and builds a support system within City departments to collectively implement the plan.

At the launch of the planning project, a team was assembled consisting of City staff from multiple departments that interact with trees in Fremont. This team included the members shown below.

Summary of City departments and programs assembled for the Project Team

Title	Department	Division (as of 2021)
City Urban Forester	Community Services	Parks Planning & Design
Landscape Architect, Parks Planning & Design Manager	Community Services	Parks Planning & Design
Urban Landscape Manager	Community Services	Parks Maintenance
Associate Landscape Architect	Community Services	Parks Planning & Design
Customer Support Specialist	Community Services	Parks Planning & Design
Senior Civil Engineer	Public Works	Engineering
Sustainability Manager	Community Development	Sustainability
Sustainability Assistant	Community Development	Sustainability
Associate Landscape Architect	Community Development	Planning
Principal Planner	Community Development	Planning

This team, referred to as the Project Team, consisted of 10 City staff members plus a City staff administrative assistant who participated in monthly project meetings and reviews of various project components. This collaboration led to the development of a plan with a vision that supports a multitude of City programs and services.

To identify shared priorities and concerns and to leverage resources and existing strengths, a series of interviews with City staff were held throughout the initial planning period. A total of 24 staff members participated in the interview process and represented the Community Services, Public Works, and Community Development departments as well as the City Attorney's Office. In total, eight City divisions were engaged in the planning effort. The interviews identified existing strengths, challenges, priorities, and measures of success as it relates to each member's interaction with trees in the City. This process enabled the development of strategies that are in alignment with existing workflows and operations as well as the strategies to improve efficiencies and achieve common goals.

KEY FINDINGS

The planning process uncovered various challenges and opportunities that have been addressed with the development of urban forestry goals, strategies, and recommendations in this Plan. Using the framework of A Model of Urban Forest Sustainability (Clark, 1997) the following key findings include:

STATE OF THE URBAN FOREST

- 77,387 public trees consisting of 60,332 street trees and 17,055 park or vacant lot trees.
- Approximately 17,300 (22 percent) of the 77,387 trees are maintained by the City. A total of 4,927 public trees are in unmaintained areas of the City and approximately 55,000 public street trees are maintained by adjacent property owners.
- 13 percent tree canopy cover Citywide and 14.4 percent in urbanized areas of the City.
- Tree Equity Score of 72 out of 100 based on the Tree Equity Score tool from American Forests.
- 510 unique public tree species, Chinese pistache is the most common (7 percent).
- Of the ten most common public trees, Chinese pistache, common crapemyrtle, southern magnolia, and Canary Island pine are healthier than the overall average for the population.
- The Citywide urban forest provides a total of over $44 million in benefits, value, or savings.
- It is estimated the Citywide urban forest's structural value is well over $836 million.
- Public trees provide nearly $6.9 million in benefits and services annually equating to an annual average of $89 per tree, and $28 per capita.
- The estimated dollar value of public trees is over $492 million.
- For every $1 spent on public trees, there is a $7.44 return on investment.

Types of Tree Populations in Fremont and Frequency

Summary of Fremont's tree populations and the actual and estimated tree counts

Tree Category	Count
City-Maintained Street Trees	8,600
Trees in Maintained Areas of Parks	8,673
Total City-Maintained Public Trees	17,273
Trees in Public Vacant Lots Unmaintained	4,927
Privately-Maintained Street Trees	55,218
All Public Street, Park, Median, Backup Lot, Facility Trees (City and Privately-Maintained)	77,387
Open Space and Natural Areas Trees (est.)	480,000
Total Public Trees (est.)	557,387
Private Property Trees (est.)	242,613
Total Urban Forest Population (est.)	800,000

THE URBAN FORESTRY PROGRAM

- The Urban Forestry Program is within the Community Services Department's Park Maintenance Division.
- Urban Forestry Program consists of 8 full-time employee equivalents (FTEs) in fiscal year (FY) 2022-2023. In addition to the Urban Forestry Program, Park Maintenance staff provide tree management services in public parks.
- Community Services' Park Maintenance and Parks Planning & Design Divisions, Public Works' Maintenance and Engineering Divisions, and Community Development's Planning Division and Sustainability Program all perform services that interact with the trees in Fremont.
- Most public trees are relatively young and in the 1-11-inch diameter class (58 percent).
- The majority (48 percent) of public trees are in fair condition and 44 percent are in good condition (2021).
- The most common maintenance need for public trees is crown cleaning (47 percent) that can be addressed through routine pruning practices.

Image Description 9. A tag is placed on a newly planted tree to provide the public with access to information about the urban forestry programs

- The FY 2022-2023 adopted operational budget for Urban Forestry and Parks Tree Maintenance is $1,687,193. With 77,387 public trees (inventoried), this equates to $22 per tree— a common industry metric used for making comparisons and improvements to urban forestry programs. In addition, the City secured over $1.7 million in grants in the last four years for urban forestry.
- There is one public tree for every three residents of Fremont (2021).
- Fremont's Urban Forest Audit Score based on U.S. Forest Service criteria is 70 percent (2021).
- Challenges and shared priorities include sustainable urban forest management, program efficiencies and resources, risk tree management, community outreach and engagement, and tree policies, regulation, and enforcement.
- The analysis of public and street trees identified 10,000 trees needing critical maintenance. These trees should be addressed in addition to addressing trees that pose a potential risk. As a case study, this Plan evaluated the annual costs for the preventative maintenance of 10,000 public trees within a 5- or 7-year recommended cycle. It should be noted that most public street trees are the responsibility of the adjacent property owner to maintain and maintenance education will be needed.
- The recommended long-term tree canopy cover goal is 24 percent by the year 2062, starting with 800 per year. Of those trees, at least 50 percent should be City-led.
- Incremental short-term canopy goals include 0.6 percent increase by 2032, 1.2 percent increase by 2042, 2.2 percent increase by 2052, and 5.5 percent increase by 2062.
- Future benefits and services forecasted for an urban forest that comprises 24 percent of the City amounts to $46 million annually (of which $1.7 million is provided by the 121,700 new trees).

COMMUNITY VIEWPOINTS AND PRIORITIES

View the Engagement to Inform the Plan section for additional information and background.

Image Description 10. Volunteers proudly stand by a tree they planted in Fremont

- An estimated 7 percent of Fremont's population was engaged in the planning effort through various sessions.
- The statistically-valid public survey held from September 20, 2021 to November 10, 2021 received a 12 percent response rate— resulting in a margin of error of +/- 6 percent.
- 66 percent of respondents view improvements to air quality and reduction of air pollution as an essential benefit provided by Fremont's trees.
- About 4 in 10 survey respondents felt the overall health and quality of the City's public trees declined in the last 10 years while a similar proportion felt the overall health and quality has stayed the same.
- About 4 in 10 residents felt the quality of the overall care and management of the public trees was in fair condition.
- A majority of residents (72 percent) had never heard of the City's 50/50 Street Tree Program. About one-quarter had heard of it or were familiar with it, but had not used it while fewer than five percent had used the program.
- About three-quarters of residents strongly support (40 percent) or somewhat support (31 percent) the City pruning the public trees that are the highest safety priority and recovering the cost of doing so from the adjacent property owner if the adjacent property owner does not remove the tree hazard within a set timeframe, as per Fremont's Municipal Code.
- 83 percent support creating a plan with Citywide and neighborhood-level canopy goals and planting targets.
- 86 percent support increasing the percent of the City's land area covered by tree canopy.
- 79 percent support implementing more robust tree protection policies for development projects to preserve the existing tree canopy coverage.
- 66 percent of respondents support using a portion of the City's share of the Gas Tax toward urban forest management. 14 percent support a Citywide park and tree maintenance beautification fee or tax, and only 9 percent do not support the expansion of the City's tree maintenance program.
- When asked to rate the importance of potential actions for the City to take to improve the urban forest, about 4 in 10 residents indicated that establishing tree canopy goals and planting targets to address priorities like climate change impacts, air quality, and an equitable distribution of urban forest benefits was essential while an additional 4 in 10 felt it was very important.
- About two-thirds of residents felt that consolidating tree related City programs into one City division for urban forest management, all tree maintenance, and community engagement was essential or very important.

Summary of Fremont's Urban Forestry Program Strengths

Many challenges lie ahead for Fremont's urban forest. The development and adoption of this Urban Forest Management Plan is a vital step in addressing climate change impacts, tree canopy equity, customer service, and urban forest sustainability. While the Plan addresses the gaps that exist in the City's programs and urban forest resource, the planning process uncovered a multitude of existing strengths relating to Fremont's urban forest, its programs, and community frameworks. The following provides a summary of successes and strengths that were leveraged in this Plan to address the challenges.

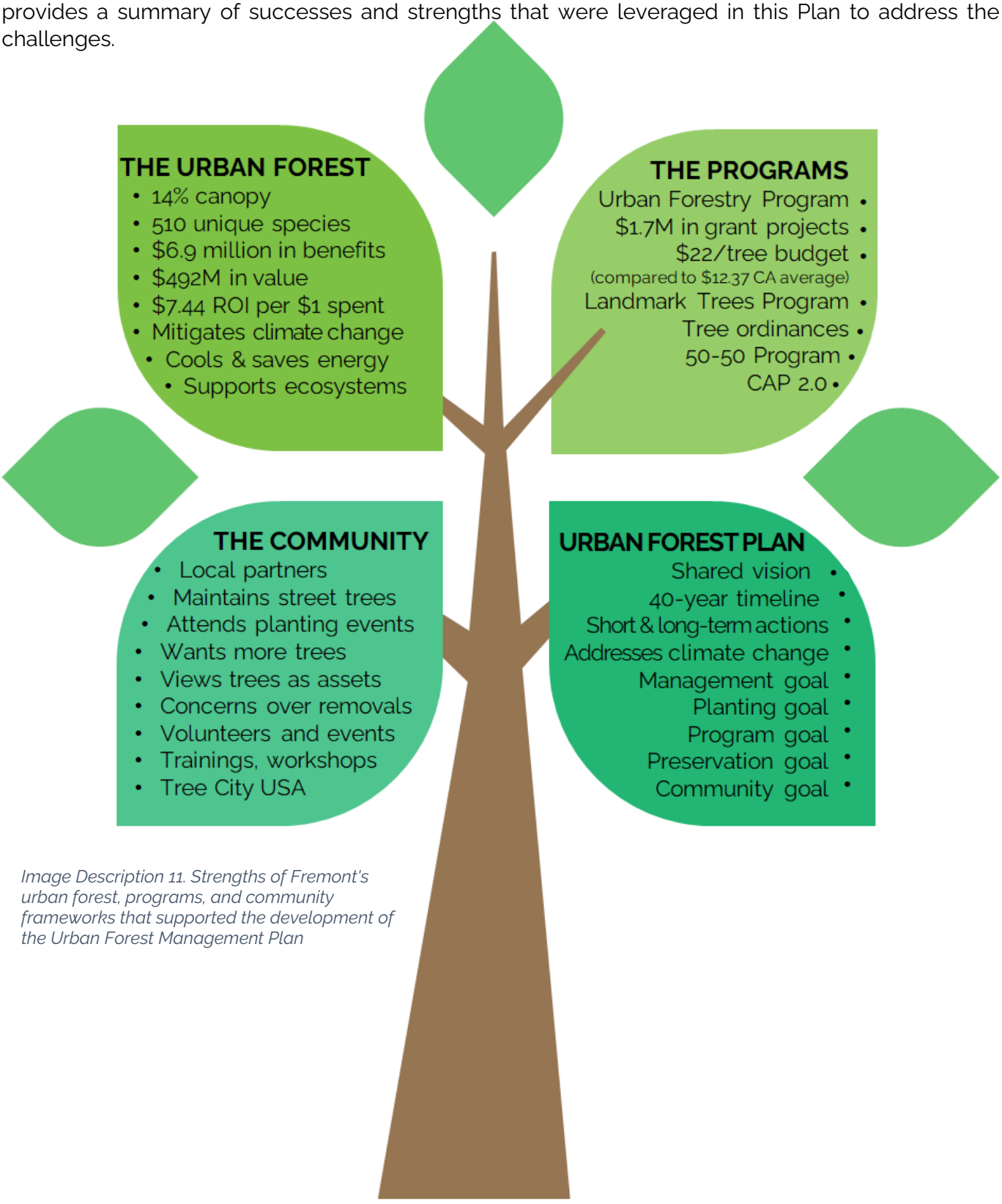


Image Description 11. Strengths of Fremont's urban forest, programs, and community frameworks that supported the development of the Urban Forest Management Plan

PLAN FRAMEWORK

The primary framework of this Plan supplements the General Plan's vision statement— "Fremont will serve as a national model of how an auto-oriented suburb can evolve into a sustainable, strategically urban, modern city"— and represents the diverse values and priorities unique to each community, resident, and property owner within the City. The Plan's framework begins with the vision statement that reflects the values of these stakeholders and identifies the optimal state of Fremont's urban forest over the 40-year planning horizon. To achieve the vision of a healthy, sustainable, and equitable urban forest, guiding principles are defined and supported by the Plan's goals, strategies, and recommended actions.

Fremont's Urban Forest Vision

Fremont's trees are recognized as integral to the quality of life for all City residents as well as for the City's urban character and natural environments. With a healthy, thriving, and sustainable urban forest, Fremont's trees will be thoughtfully managed in a way to maximize a range of public benefits, including a thriving ecosystem, a vibrant economy, and a livable community shared by all.

Guiding Principles

Green Asset Management Trees are vital components of the community to be thoughtfully managed.

Health and Sustainability The urban forest grows sustainably through Best Management Practices and shared commitments.

Program Efficiencies and Fair Policies Long-lasting improvements to the urban forest are achieved with improved levels of service and sound policies, protocols, and standards.

Preservation and Resiliency Continuous process of long-range planning and management enhances and protects the urban forest for future generations.

Community Engagement The growth and management of the urban forest is informed by education and engagement that is equitable, inclusive, diverse, and transparent.

Using the foundation of sound principles that support a vision which captures the values of all stakeholders, the City will conduct urban forest management activities and services that recognize

trees as not only aesthetic enhancements to communities but also as essential to human health and well-being. Management of the trees in Fremont will be in recognition of the urban forest serving as the backbone of the urban ecosystem and an essential part of the City's green infrastructure. Encouraging the health and growth of the urban forest will follow scientifically established best management practices with long-lasting impacts enabled through robust and fair urban forest policies that reduce its vulnerability to known risks and future threats including the experienced and anticipated effects of climate change. These guiding principles will ensure management is engaged in a continuous process of long-range planning for the growth and maintenance of the urban forest and supported by the community. The support and a shared commitment to urban forest sustainability will be attained through consistent and inclusive community education and engagement.

Technical Report and Primary Framework

To guide the City in implementing the Urban Forest Management Plan, the research phase of the planning process is summarized in a Technical Report that is structured like the Plan— urban forest analysis, resource management, and community framework, i.e., the framework from A Model of Urban Forest Sustainability (Clark, et al. 1997). This Technical Report provides the research and data analyses, details for implementing strategies such as canopy goals and programmed pruning, and the supporting studies conducted throughout the planning process.

In addition to the Technical Report, this Urban Forest Management Plan is supported by an Implementation and Monitoring Plan that details the process for evaluating, monitoring, reporting, and revising strategies and progress.

Lastly, this Plan is supported by a number of studies, reports, and resources relating to recommended tree lists, tree preservation and risk management reports, tree equity reports, guidance for establishing an Urban Forestry Working Group, tree maintenance and policy manuals, among others.

A CALL TO ACTION

The urban forest is an important green infrastructure asset for neighborhoods across Fremont. However, the capacity of urban forests to support healthy and resilient communities is constrained and challenged by stressors such as climate change impacts, urban development pressures, altered soils, invasive species, and resource shortages. Now more than ever there is a critical need to sustain large, healthy, genetically appropriate trees on public and private land through long-term planning and budgeting, inclusive decision-making, and strategic policy development that supports adaptive management. Thus, comprehensive urban forest support must extend well beyond tree planting initiatives.

Management of Fremont's urban forest should be a shared priority among its residents, community groups, institutions, and City departments. All of these groups have important roles to play. Successful management frameworks must recognize that the urban forest is part of a complex system that includes the built environment and is influenced by human activities and policies and practices that shape Fremont. Furthermore, decision-making must be made in the context of future uncertainty associated with climate change. With this understanding, along with the input from staff and residents of Fremont, the following long-term goals for the City's urban forest were developed.

PRIMARY GOALS FOR FREMONT'S URBAN FOREST

Managing the Urban Forest Asset

using industry standards and best practices and adequate resources for sustainable management.

Growing a Sustainable Urban Forest

by addressing tree equity and low canopy areas and growing an urban forest that is sustainable and resilient to pests, diseases, and the effects of climate change.

Strengthening the Urban Forestry Program

by improving program efficiencies, procedures, trainings, planning, coordination, and funding.

Image Description 12. Volunteers at a tree planting event in November 2021

Preserving the Urban Forest

with sound policies, the resources to monitor and enforce regulations, the management of tree pests and diseases, and integration with other City programs.

Community Partnerships

by strengthening partnerships and volunteer programs, supporting organizations and tree working groups that advocate for the urban forest, and consistent outreach and engagement through the lens of equity and environmental justice.

Action Priorities for Fremont's Urban Forest

To support each goal within the Plan, a series of strategies and recommended actions were developed. The roadmap for implementation is provided in the Urban Forest Management and Sustainability Goals section, in Appendix B, and as a separate, interactive worksheet. The following summarizes the overarching action priorities to achieve the Plan's goals:

- Garner support from the community and City Council to officially adopt the Plan.
- Complete a Citywide Tree Maintenance Plan and address the highest priorities.
- Strengthen or build community partnerships, engagement, education, and outreach opportunities.
- Identify funding for ongoing and future funding for Urban Forestry activities.
- Align urban forestry goals with the Climate Action Plan 2.0 goals.
- Provide guidance for the new City Urban Forester.
- Enable the new City Urban Forester to implement, adjust, and monitor Plan actions.
- Plant trees to support goals for climate change mitigation, tree equity, and sustainability.

Image Description 13. The community gathers under the shade of the urban forest during the Summer Concert Series at Central Park

URBAN FOREST MANAGEMENT PLAN

HEALTHY TREES HEALTHY CITY

EXECUTIVE SUMMARY

AN OVERVIEW OF FREMONT'S URBAN FOREST

AN OVERVIEW OF FREMONT'S URBAN FOREST

URBAN FOREST RESOURCE

Overview

The City of Fremont is approximately 90 square miles in size, of which over 35 square miles are urbanized, non-open space areas. Across the City, trees along streets, in parks, yards, and natural areas constitute a valuable urban and community forest. This resource is a critical element of the region's green infrastructure, contributing to environmental quality, public health, water supply, local economies, and aesthetics.

Methods for Urban Forest Analyses

A comprehensive resource analysis was completed to inform the Plan's vision, guiding principles, and goals. This included Citywide inventories and evaluations of public trees, a top-down look at urban tree canopy cover, analyses of urban forest threats and vulnerabilities, and an equity assessment on the extent of canopy cover. The datasets included a 2020 inventory of approximately 77,000 public trees and 22,000 potential street tree planting sites in public areas across the City, a high-resolution urban tree canopy (UTC) assessment completed in 2020, historical planting and maintenance records, and tree equity as defined by American Forests' Tree Equity Score Tool (TreeEquityScore.org).

Defining the Urban Forest

The urban forest is comprised of trees across all City landscapes including streetscapes, parks and open space, trail and waterway corridors, commercial and residential properties, among others. While the Plan primarily addresses public trees, all trees across ownership types and the care of these trees contribute to overall urban forest health, sustainability, and associated benefits. To present an analysis of the urban forest, tree populations in these landscapes are characterized into the type of setting and land ownership type (public or private) and the responsibility for maintenance (City, property owner, or other).

Public trees are comprised of trees along streetscapes, in medians, backup lots, alleys, parks, open space, and natural areas on City-owned land. While the City is primarily responsible for the maintenance of trees in medians, backup lots, alleys, parks, open space, and natural areas, the responsibility to maintain street trees is shared between the City and the adjacent property owner.

Additional information relating to analyses of Fremont's urban forest is available in the 2023 Technical Report developed as a supporting study to this Plan.

Image Description 14. Illustration of the types of trees and ownership

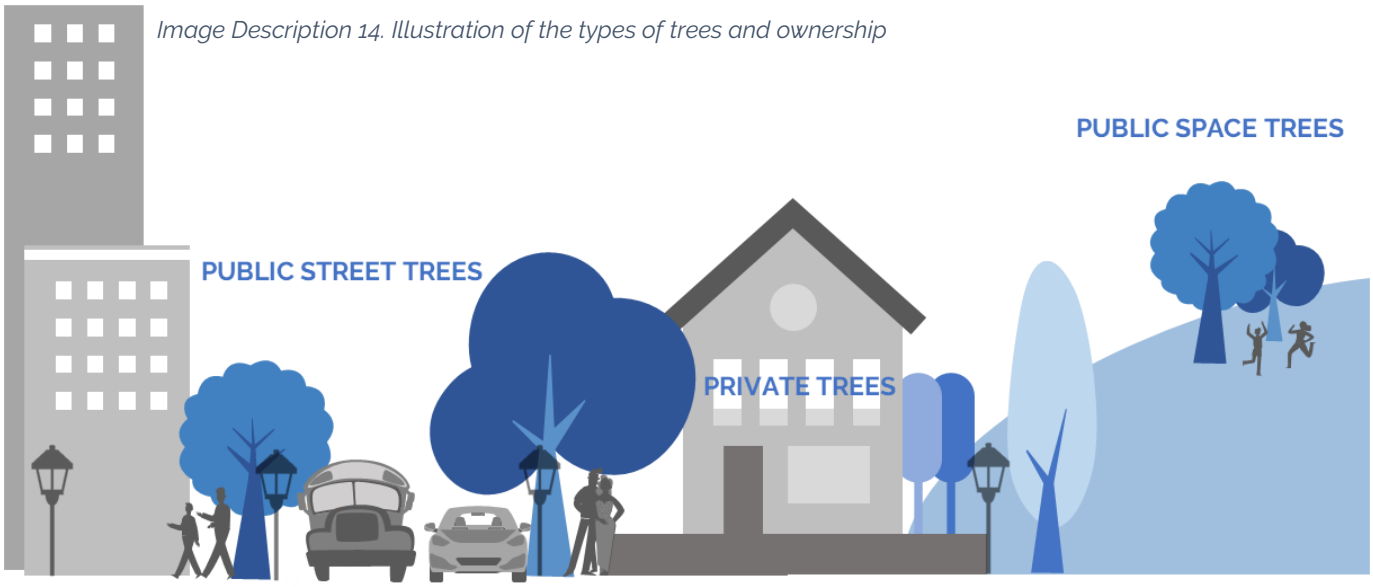
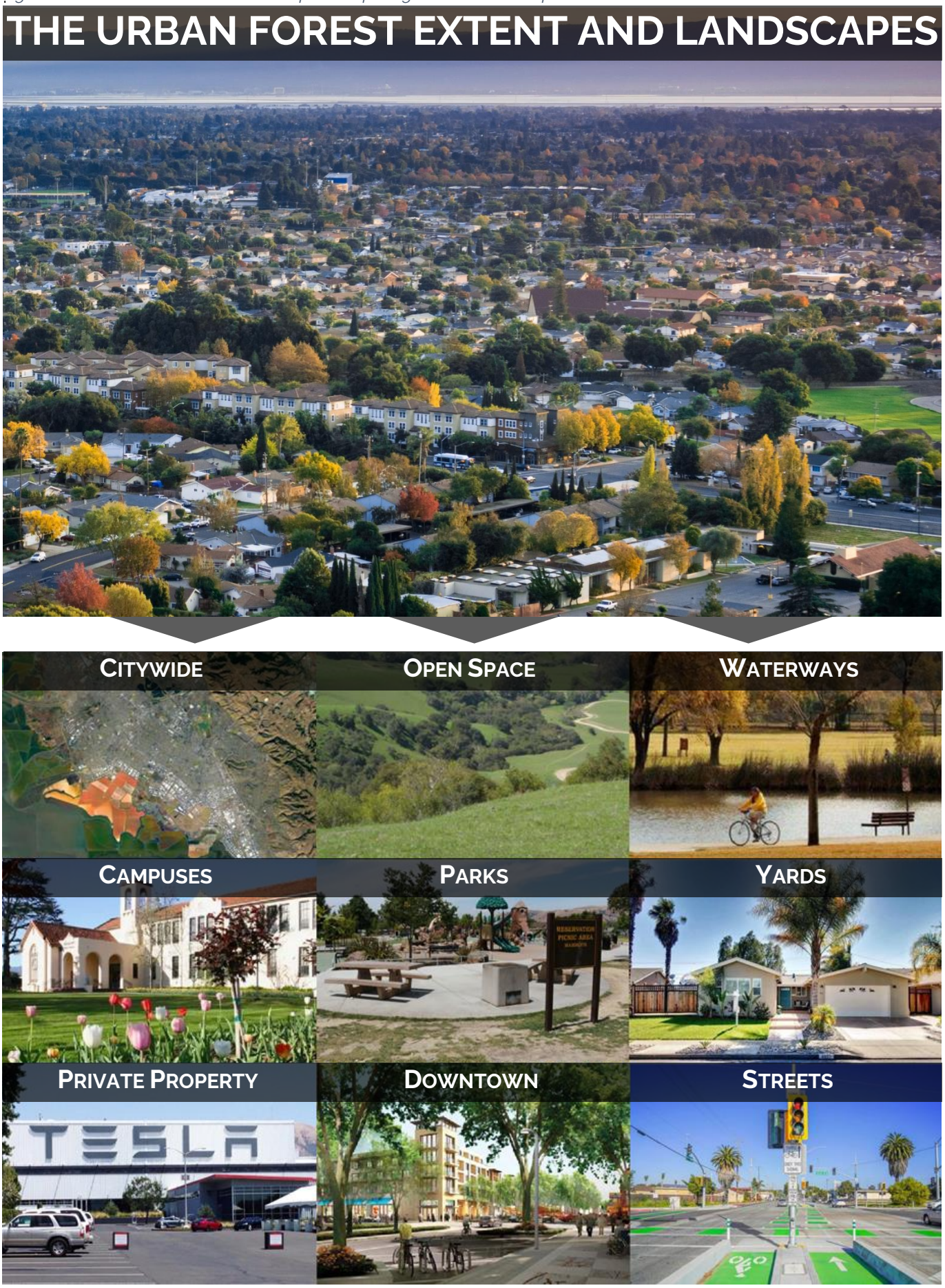


Figure 1. The extent and various landscapes comprising Fremont's urban forest



Urban Forest Status: Urban Tree Canopy

The Citywide urban forest is measured with high-resolution urban tree canopy (UTC) assessments using various imagery and GIS processes. The primary goal of this type of assessment is to identify a baseline and benchmark of the City's tree canopy and analyze the land cover class across a range of geographic boundaries. This analysis identifies areas for tree canopy preservation as well as the opportunities for new urban tree canopy cover.

Fremont's 2020 Canopy Assessment utilized 2018 high-resolution imagery to evaluate the extent and opportunities for tree canopy cover. Currently, 13 percent of the City's land area is covered by the canopy of trees across public and private boundaries. Another way to look at the extent of this resource— of the 41,040 total land acres[1] in Fremont, 5,346 acres are covered by tree canopy—equivalent to the area of over 4,000 NFL-sized football fields. In urban areas, the canopy cover is 14.4 percent.

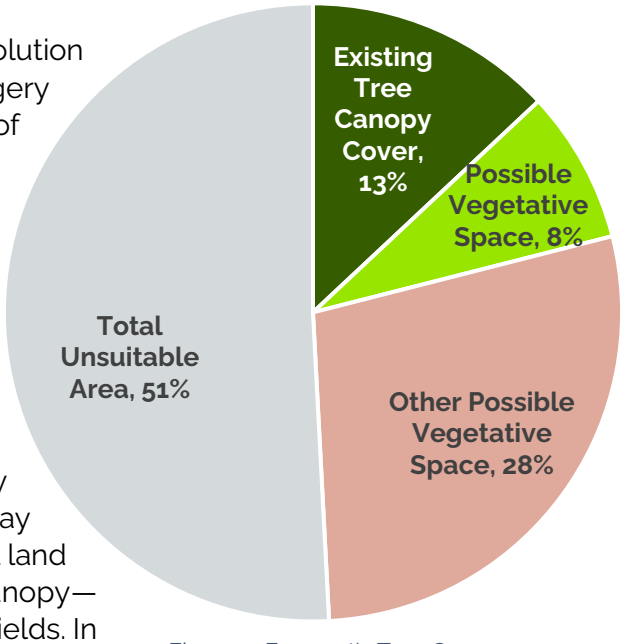


Figure 2. Fremont's Tree Canopy Assessment results

Tree Canopy Equity

Tree canopy cover is often not distributed equitably across city landscapes and ownership types. The American Forests organization created the Tree Equity Score (TES, www.treeequityscore.org) tool to measure tree equity across 150,000 U.S. neighborhoods and 486 municipalities in urban areas. Each community's TES indicates whether there are enough trees for everyone to experience the health, economic, and climate benefits that trees provide. The scores are based on how much tree canopy and surface temperature align with income, employment, race, age, and health factors. A 0- to-100-point system makes it easy to understand how a community is doing. With the knowledge the score provides, Fremont's community leaders, tree advocates, and residents alike can address climate change and public health through the lens of social equity, attract new resources, factor the scores into technical decisions, guide implementation of the 2022 Urban Forest Management Plan, and track progress toward achieving tree equity. A score of 100 represents tree equity. Based on a 2021 analysis, Fremont's tree equity score is 72 out of 100.

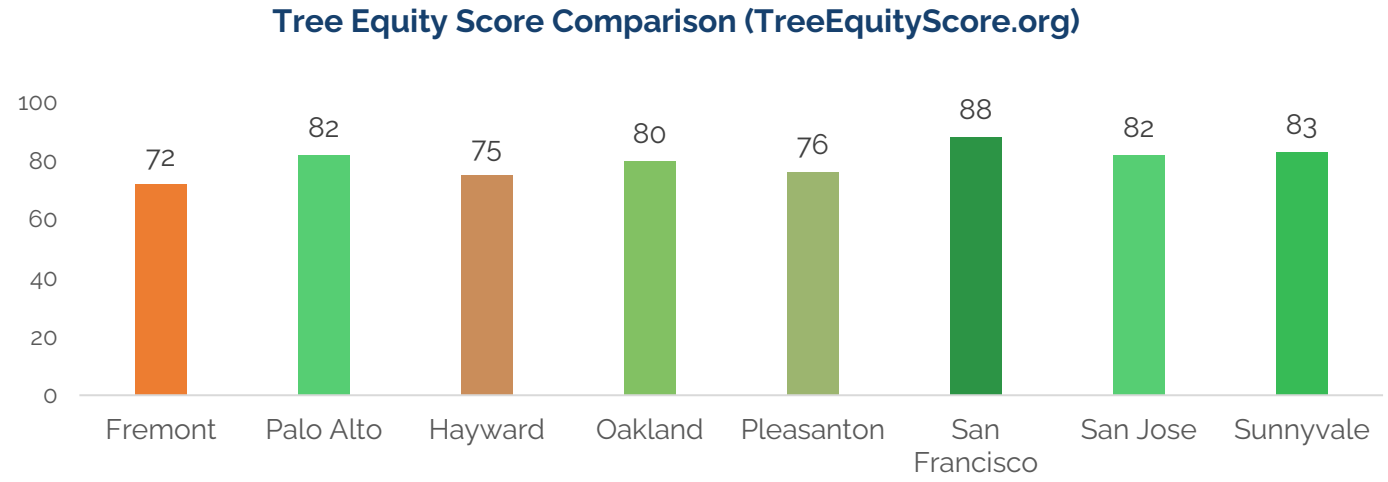


Figure 3. Comparison of tree equity scores

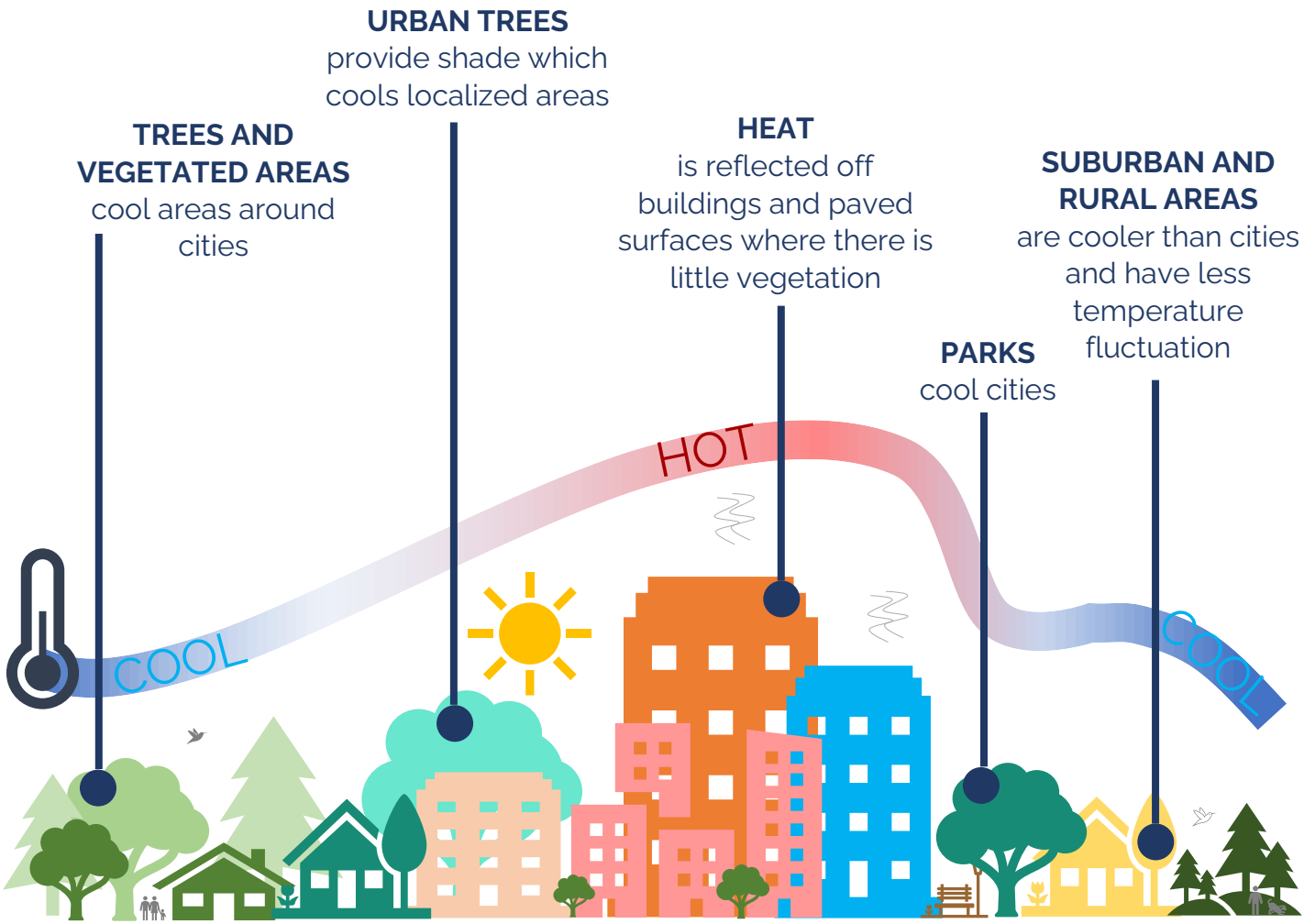
[1] Fremont has a total of 56,947 acres of which 41,040 acres comprise land area and 15,907 acres comprise water

The Effects of Climate Change on the Urban Forest

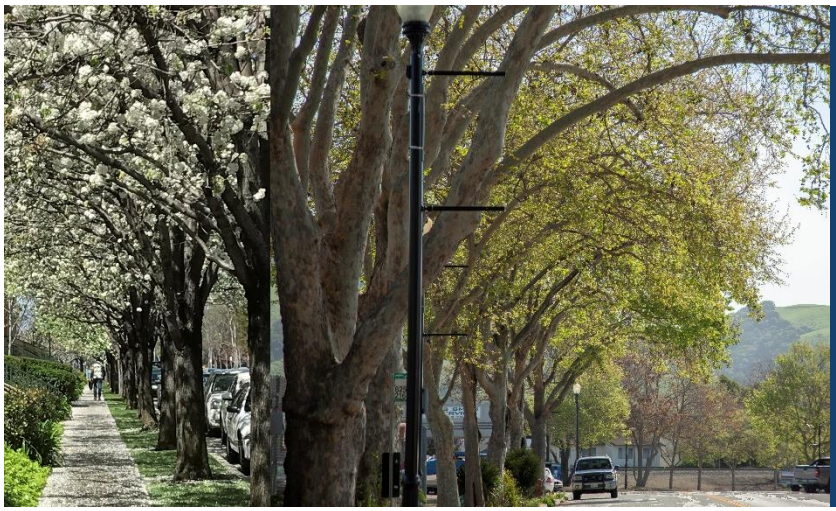
Climate change is having a direct effect on the City's urban forest. Increased temperatures and prolonged heat in Fremont and the Bay Area have a dramatic impact on not only the human population but also the ecology of the area— specifically, trees in urban areas. Urban trees already have an uphill struggle to reach their maximum size and function due to the competition for space, elements of an urban environment, vandalism, pests and diseases, among other factors and stressors. Abnormally high temperatures and prolonged heat can have a negative impact on established trees especially those not acclimated or unable to adjust to these changes. According to the USDA Plant Hardiness Zones, Fremont is in zone 10a with an average annual minimum winter temperature of 30 to 35 degrees Fahrenheit. Planting the right trees for the current and changing climate along with the adequate care they require will play a vital role in Fremont's sustainability and human health.

Changes in local climates is also impacting the wildfire seasons and intensity. A large portion of Fremont's land area is within the wildland urban interface or WUI and as such, vegetation management is essential to wildfire management on both public and private land. Changing climates also influence the abundance and introduction of tree pests and diseases. The urban forest in Fremont requires constant attention and climate-specific planting and management strategies to ensure the resource is safe, expanding, sustainable, and beneficial to the City's residents, environment, and economy.

Figure 4. The effects of vegetation and trees on urban heat islands in cities



Public Tree Status



77,387
PUBLIC TREES

78% (60,332) Street Trees
22% (17,055) Park/Vacant Lot Trees

17,273 City-Maintained
55,000 Private-Maintained

23,782
Potential Street Tree Planting Sites

Public Street Trees and Park Trees: Species Diversity

Tree species composition data are essential since the types of trees present throughout the City dictate the amount and type of benefits produced, tree maintenance activities required, and budget considerations. The 77,387 public trees inventoried in 2020 consist of 510 unique species. Chinese pistache comprise the highest percentage with 7 percent (5,699 trees), followed by common crapemyrtle at 6 percent (4,578 trees) and liquidambar (sweetgum) with 6 percent (4,281 trees).

Figure 5. Most common public tree species (top 3)

Chinese pistache

Crapemyrtle

Liquidambar

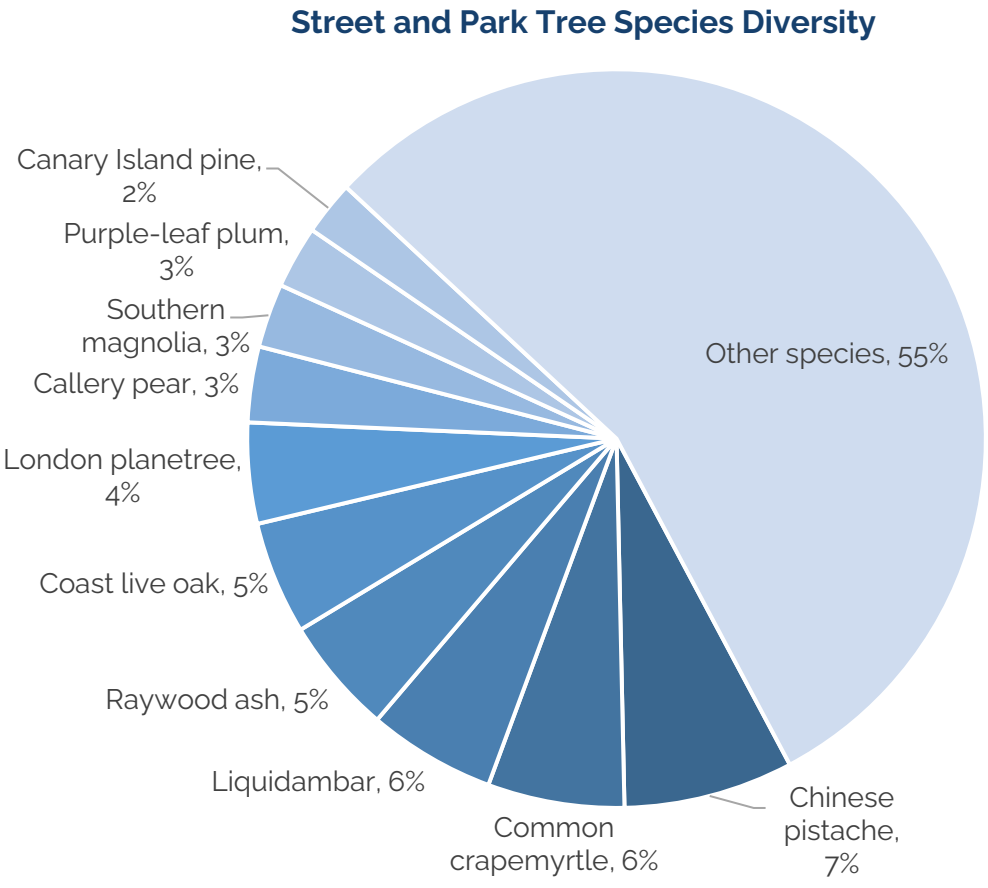
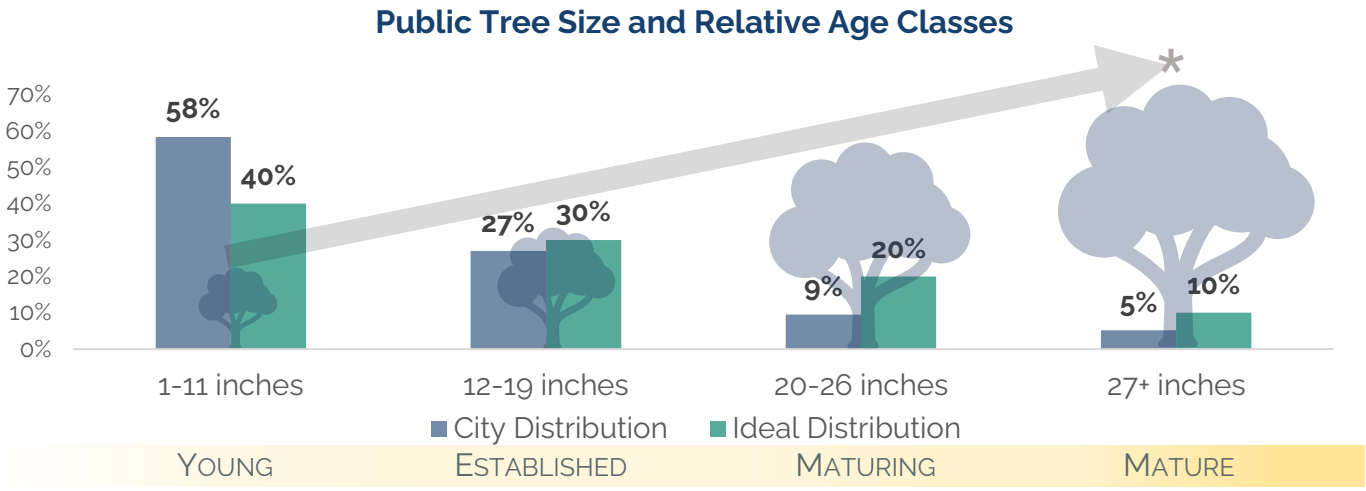


Figure 6. Most common public tree species

Public Street Trees and Park Trees: Size and Age Distribution

The distribution of tree ages influences the structure of the urban forest as well as the present and future costs. An unevenly aged urban forest offers continued flow of benefits and a more uniform workflow allowing managers to accurately allocate annual maintenance schedules and budgets.



* As with any urban forest, maintenance demand will increase with tree size

Figure 7. Comparison of the size distribution of Fremont's public trees to an ideal distribution

Overall, the age distribution of Fremont's public tree population is similar to the ideal age distribution. The ideal distribution is based on a study conducted on street trees to determine the appropriate proportions of tree sizes to ensure tree benefits are maximized while keeping maintenance and management costs at a manageable level (Richards, 1983 and 1993).

As the figure above (Figure 7) shows, 58 percent of the public tree population (44,811 trees) is composed of trees with a DBH (or "diameter at breast height," measured at 4.5 feet above grade) ranging from 1 to 11 inches. This indicates that the majority of trees are young or small-statured.

Development often shapes the tree diversity in a city and Fremont should work with developers to ensure that the species they are planting allow for larger species where possible. The recommended tree list developed as part of the project will support this future collaboration to plant the appropriate trees.

Image Description 15. Fremont's largest public tree, a California pepper tree measuring 120 inches in diameter

Public Tree Condition

Condition of Public Trees

Figure 8. Summary and examples of public tree condition classes

Figure 8 summarizes the trees that were assigned a condition rating and shows an example of the canopy health for each respective classification. The data show that nearly half of the trees inventoried are classified as being in "Fair" condition, comprising 48 percent or 36,844 trees, followed by those in "Good" condition comprising 44 percent (33,799 trees).

The condition of public trees is influenced by a number of factors such as the tree's age, the location, the history of maintenance and plant health care, and possible stressors that are caused by biotic and abiotic elements. In many cases where a tree's health is rated less than good, defects and observations recorded show mechanical damage (caused by mowers or weed trimmers), trunk decay or cavities, poor structure, dieback, or a combination of these.

Many of these defects causing declining tree health could possibly be prevented or remediated with a proactive pruning program, proper tree and site selection during planting, plant health care (e.g., pest and disease management, watering, mulching), tree protection from construction or mower damage, and/or young tree pruning.

The City should continue to educate the public and encourage the use of industry standards and best practices since the majority of public street trees are the responsibility of adjacent property owners to maintain.

Addressing Urban Forest Threats with Tree Canopy Cover and Equity Goals

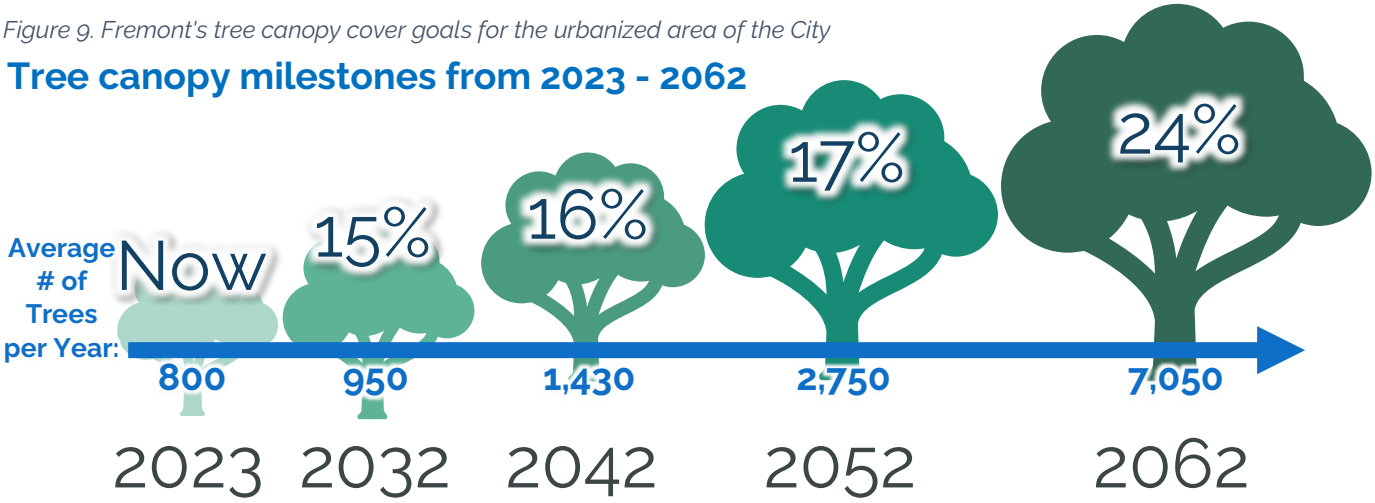
Recognizing the challenges facing Fremont's urban forest, the inequitable distribution of tree canopy cover, and the benefits of healthy trees, the City is committed to preserving and expanding the urban forest canopy cover. By establishing an ambitious but attainable Citywide urban tree canopy goal, Fremont can actively measure progress based on the 2020 assessment and adapt strategies as necessary. A goal for increasing tree canopy cover impacts goals for management, planting, preservation, programs, and community stewardship. Thus, based on extensive analyses and calculations, the following canopy goals are proposed in this Urban Forest Management Plan for Fremont.

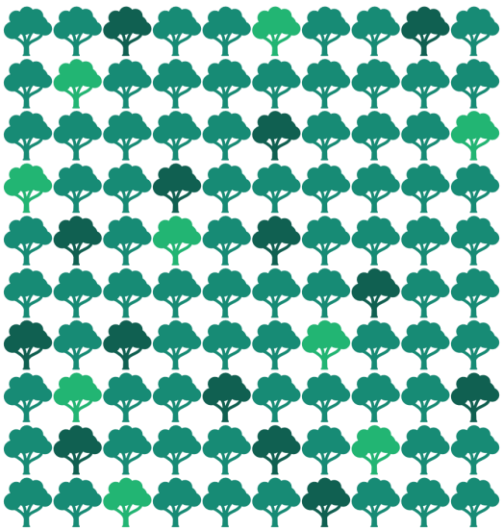
Tree Canopy Goals

For the City of Fremont, the development of canopy goals was driven by tree canopy cover data, socio-demographic data derived from the Tree Equity Score (American Forests, 2021), benchmarking research, analysis of existing and potential resources, City input, and community feedback.

Using this integrated approach, the City of Fremont's ambitious and achievable 40-year canopy goal is **24 percent tree canopy cover by 2062**. To achieve this, incremental canopy goals were established that provide the metrics to track progress. Therefore, incremental goals are illustrated in the graphic below:

Figure 9. Fremont's tree canopy cover goals for the urbanized area of the City





100 trees planted across the City that have large canopy cover at maturity equals 3 acres of new canopy cover. Approximately 2,200 acres of new canopy cover is needed to reach 24% by 2062.

Image Description 16. Illustration and description of how Fremont will achieve its tree canopy cover goal

Urban Forest Function, Benefits, and Services

Introduction

The urban forest plays an important role in supporting and improving the quality of life in communities. A tree's shade and beauty contribute to a community's quality of life and soften the often hard appearance of urban landscapes and streetscapes. When properly maintained, trees provide communities with abundant environmental, economic, and social benefits that far exceed the time and money invested in planting, pruning, protection, and removal.

The trees growing along the public streets constitute a valuable community resource. They provide numerous tangible and intangible benefits such as pollution control, energy reduction, stormwater management, property value increases, wildlife habitat, education opportunities, human health and well-being, and aesthetics.

Fremont's Trees: $7.44 return for every dollar spent

The following benefits and services were gathered and adapted from the Alliance for Community Trees, "Benefits of Trees and Urban Forests: A Research List" (ACTrees, 2011).

Reduce Stress and Improve the Quality of Life

Neighborhoods with generous canopies of trees are good for public health. Greater contact with natural environments correlates with lower levels of stress, improving performance. Students' concentration levels go up when they are able to look out onto a green landscape. Studies show that children with attention deficit disorder function better after activities in green settings. A green environment impacts worker productivity. Workers without views of nature from their desks claimed 23 percent more sick days than workers with views of nature. Residents of areas with the highest levels of greenery were three times as likely to be physically active and 40 percent less likely to be overweight than residents living in the least green settings.

Clean the Air and Breathe Easier

Shade trees reduce pollution and return oxygen to the atmosphere. In addition to carbon dioxide, trees' leaves or needles absorb pollutants, such as ozone, nitrogen dioxide, sulfur dioxide, and some particulate matter.

Save Energy and Lower Energy Costs for Buildings

As natural screens, trees can insulate homes and businesses from extreme temperatures, keep properties cool, and reduce air conditioning utility bills. A 20 percent canopy of deciduous trees over a house results in annual cooling savings of 8 to 18 percent and annual heating savings of 2 to 8 percent. By planting shade trees on sunny exposures, residents and businesses can save up to 50 percent on hot-day energy bills.

Positively Influence Climate to Ensure Sustainability

Trees absorb carbon dioxide and store carbon in wood, which helps to reduce greenhouse gases. Carbon emissions from vehicles, industries, and power plants are a primary contributor to increased air temperatures in metropolitan areas. Trees in the United States store 700 million tons of carbon valued at $14 billion with an annual carbon sequestration rate of 22.8 million tons per year valued at $460 million annually.

Reduce the Need for Street Maintenance

Shaded streets last longer and require far less pavement maintenance, reducing long-term costs. Canopies diminish pavement fatigue, cracking, rutting, and other damage. A study from University of California at Davis found that 20 percent shade cover on a street improves its pavement condition by 11 percent, which is a 60 percent savings for resurfacing over 30 years. Also, the selection of appropriate tree species guided by a management plan would reduce maintenance by reducing damage associated with tree roots (on curbs, gutters, driveways, and pavement).

Raise Property Values

Trees are sound investments, for businesses and residents alike, and their value increases as they grow. Sustainable landscapes can increase property values up to 37 percent. The value of trees appreciates over time because the benefits grow as they do. For businesses, trees have added value, including higher revenues. Shoppers seek out leafy promenades that frame storefronts. Research shows that shoppers spend more—between 9 and 12 percent more—on products in tree-lined business districts. A study by Donovan & Butry in 2008 shows trees increase value to the home where they reside but also contribute to increased property values of adjacent homes and properties. As an additional benefit, increased property values resulting from trees lead to quicker home sales (Wolf 2007).

Conserve Water and Soil

A tree's fibrous roots, extending into the soil, are premier pollution filtration and soil erosion prevention systems. Intensely urbanized areas are covered with a large number of impermeable surfaces. In contrast to an impervious hardscape, a healthy urban forest can reduce annual stormwater runoff up to 7 percent. Highly efficient trees also utilize or absorb toxic substances such as lead, zinc, copper, and biological contaminants. One study estimated that eliminating the need for additional local stormwater filtration systems would result in savings exceeding $2 billion.

Cooler Pavement Diminishes Urban Heat Islands

Broad canopy trees lower temperatures by shading buildings, asphalt, and concrete. They deflect radiation from the sun and release moisture into the air. The urban heat island effect is the resulting higher temperature of areas dominated by buildings, roads, and sidewalks. Cities are often 5 to 10 degrees (Fahrenheit) hotter than undeveloped areas, because hot pavement and buildings have replaced cool vegetated land. In addition, high temperatures increase the volatility of automobile oil and oil within the asphalt itself, releasing the fumes into the atmosphere. Shade trees can reduce asphalt temperatures by as much as 36 degrees (Fahrenheit), which diminishes the fumes and improves air quality.

Protect Wildlife and Restore Ecosystems

Planting and protecting trees can provide habitat for hundreds of birds and small animals. Urbanization and the destruction of valuable ecosystems have led to the decline of many of species. Adding trees, particularly native trees, provides valuable habitat for wildlife.

Build Safe Communities and Decrease Crime

Police and crime prevention experts agree that trees and landscaping cut the incidence of theft, vandalism, and violence by enhancing neighborhoods. Thriving trees on well-maintained streets indicate pride of ownership. Public housing residents with nearby trees and natural landscapes reported 25 percent fewer acts of domestic aggression and violence. Apartment buildings with high levels of greenery had 52 percent fewer crimes than those without any trees. Buildings with medium amounts of greenery had 42 percent fewer crimes. Many cities have implemented CPTED (Crime Prevention through Environmental Design) strategies and policies.

Calm Traffic and Make Neighborhoods Safer and Quieter

People drive more slowly and carefully through tree-lined streets because trees create the illusion of narrower streets. One study found a 46 percent decrease in crash rates across urban arterial and highway sites after landscape improvements were installed. The presence of trees in a suburban landscape reduced the cruising speed of drivers by an average of three miles per hour. Faster drivers and slower drivers both drove at decreased speeds in the presence of trees. Trees reduce noise pollution, buffering as much as half of urban noise. By absorbing sounds, a belt of trees 100 feet wide and 50 feet tall can reduce highway noise by 6 to 10 decibels. Buffers composed of trees and shrubs can reduce 50 percent of noise.

The trees in Fremont provide value in terms of increased property values, air quality improvements, reduction in stormwater volumes and an improvement in water quality, energy savings from the shade of their canopy and protection from cool winds, and their ability to sequester and store carbon. These values for public trees, originating from research conducted by the U.S. Forest Service, and implemented in i-Tree software, equate to nearly:

$6.9 million total annual value of benefits and services

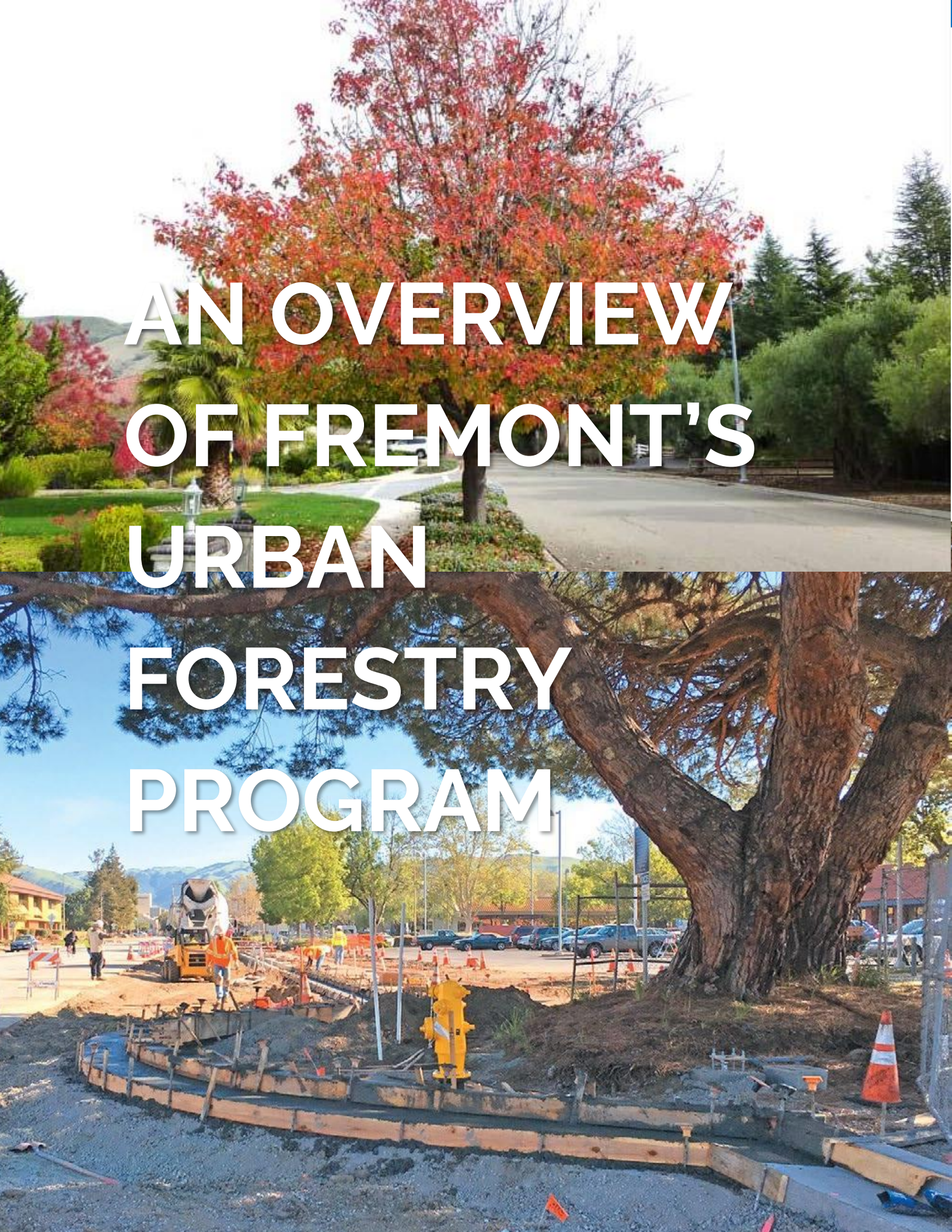
$89 in annual benefits per tree

$28 in annual benefits per capita

$488,377,524 estimated dollar value*

$1 : $7.44 annual cost-benefit ratio

* The "estimated dollar value" is calculated separately from i-Tree and is meant to represent an approximate depreciated dollar cost for the trees based solely on their location, species, trunk size, condition, and current replacement estimates factored by data recorded in the most recent inventory capture date. It may fluctuate depending on multiple factors as evaluated by the City Urban Forester.



AN OVERVIEW OF FREMONT'S URBAN FORESTRY PROGRAM

THE MANAGEMENT FRAMEWORK

Additional information regarding the programs that manage Fremont's urban forest is available in the 2023 Technical Report developed as a supporting study to this Plan.

OVERVIEW

According to the *Structure, function and value of urban forests in California communities* (McPherson, et al. 2017), California's urban forests on average have approximately five trees for every resident in a community. In Fremont, this translates to nearly 1.2 million trees across landscapes varying from streets and parks to natural areas and open space, as well as in private yards and parking lots, essentially all trees in the City. The City directly maintains approximately 17,000 trees along streetscapes, in medians, on parks and public properties, and in backup lots. It is estimated another 480,000 trees are in unmaintained areas of open space and natural areas that are in the City's purview. Of the 77,000 public tree population, approximately 55,000 street trees are the responsibility of the adjacent property owner. Based on these population summaries, an estimated 240,000 trees exist on private property or about 37 percent of the entire urban forest. Conservatively, this means the City manages or oversees regulations for approximately 63 percent of the urban forest. A large portion of the urban forest is on private property which emphasizes the need for continued outreach and education for a shared commitment to grow and manage a sustainable urban forest. The following sections primarily provide analyses and guidance for the City-managed urban forest population.

CITY PLANNING DOCUMENTS

This section describes the relationship of the Urban Forest Management Plan to other City documents that provide goals and policies relating to the urban forest or influence / impact trees in the City. The main documents that influence citywide environmental policy and programs are the City's General Plan, the Climate Action Plan (CAP) and CAP 2.0 in development, and the Parks and Recreation Master Plan completed in early 2022.

Fremont General Plan

California law requires that every city and county prepare and adopt a long-range comprehensive general plan to guide future development and to identify the community's environmental, social, and economic goals. Fremont's General Plan, adopted in 2011, is a long-range vision which establishes priorities and goals for the future as it relates to the state-mandated elements including land use, circulation, housing, conservation, open space, noise, and safety. It also includes Fremont-specific elements consisting of sustainability, community character, economic development, parks and recreation, public facilities, community plans, and implementation. Fremont residents, business people, and policy makers identified priorities such as embracing the City's urban evolution and retaining many of the treasured attributes while supporting a thriving urban downtown; vibrant commercial districts in Fremont's historic town centers; more alternatives to driving; more interesting architecture and streetscapes; and a City that is "green". Plan contributors stressed the importance of maintaining the world class parks and open space system and attractive neighborhoods. In essence, residents said, "Fremont is a great place to live; but it can be greater!" The Fremont General Plan is a roadmap to this "even greater" future and this Urban Forest Management Plan provides the framework for addressing sustainability and "greening" the City. The 2023 Technical Report to this Plan summarizes the General Plan's chapters, goals, and policies that support the urban forest and the opportunities for the Urban Forest Management Plan to support the General Plan.

Fremont Climate Action Plan and CAP 2.0

The City adopted its first Climate Action Plan (CAP) in 2012 with the goal of reducing municipal and community-wide greenhouse gas emissions 25 percent by 2020 measured from a 2005 baseline level. The City's new carbon neutrality goals under Resolution Number 2019-03 initiated an update to the CAP with the City Council adopting the goal to achieve carbon neutrality by 2045 and an interim greenhouse gas emissions reduction target of 55 percent by 2030, measured from a 2005 baseline. The resolution also sets the stage for establishing the framework for a post-carbon community.

The development of CAP 2.0 is currently in progress as of February 2023 and will identify strategies to lower greenhouse gas (GHG) emissions resulting from activity in the energy, water, waste, and transportation sectors. These strategies will be paired with efforts to sequester—or draw down—carbon dioxide and other GHGs from the atmosphere, so that by the year 2045, no new net greenhouse gases will be emitted. In addition, the City will explore efforts to enhance the community's resiliency to future climatic changes as well as to adapt to changes that are already underway.

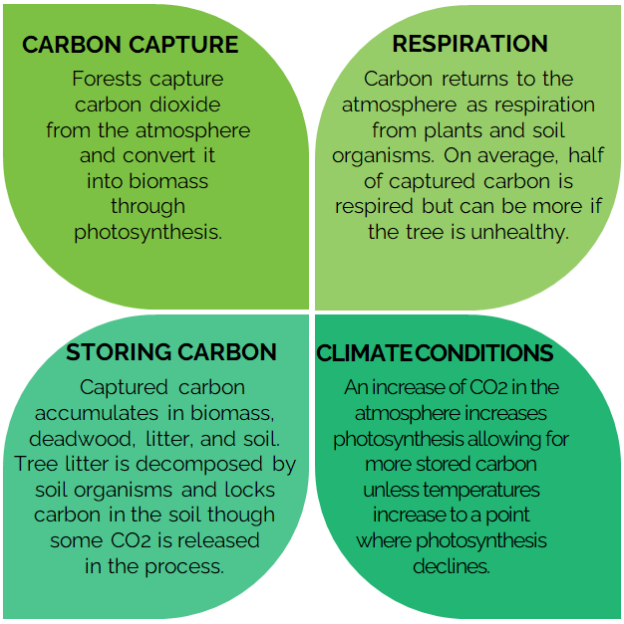


Image Description 17. Overview of the role trees can play in mitigating and adapting the effects of climate change

As the Urban Forest Management Plan and CAP 2.0 were under development, the planning teams convened periodically to align analyses and strategies. The urban forestry consultants provided the CAP 2.0 planning team with the draft tree canopy goals and the forecasted future carbon services associated with increased tree canopy cover in the City. These metrics were utilized by the CAP 2.0 planning team to establish baselines, targets, and measures for climate change adaptation. As of February 2023, CAP 2.0 is considering the measure to "Implement the City's Urban Forest Management Plan" and has drafted community actions relating to tree planting, protection, maintenance, and diversity and planting natives. Proposed municipal actions in the CAP 2.0 include canopy preservation and increasing public tree plantings. Within the Urban Forest Management Plan's strategies and actions, emphasis is placed on the importance of proper tree selection for new plantings, priority planting areas and canopy goals, tree preservation, improving workflows for efficiency, and maintenance programs that grow and care for a sustainable urban forest.

Fremont Parks and Recreation Master Plan

INVENT Fremont PARKS

Image Description 18. Fremont Parks and Recreation Master Plan's tagline for gathering public input (source: City of Fremont)

The City has adopted a new Parks and Recreation Master Plan (an update to the 1995 plan) which will guide park development and recreation services for the next 15-20 years. The purpose of the Master Plan is to learn about Fremont's growing population and what they would like to see offered by Parks and Recreation Services. The goal of the Master Plan is to provide clear guidance on how to meet the demands for future recreational, programming, environmental, and maintenance needs, as well as to establish priorities for facility improvements, future park and trail development, and land acquisitions.

Fremont's parks and open space are vital components to the Citywide urban forest. Throughout the development of the Parks and Recreation Master Plan and the Urban Forest Management Plan, planning processes, findings, and

strategies were discussed among the planning consultants and City departments to align and integrate efforts that address shared priorities and concerns. The results of these efforts are demonstrated in the Urban Forest Management Plan's goals and actions.

Public Tree Management Structure

Trees in Fremont fall under the City's purview based on several classifications; these include Street Trees, Private Trees, Protected Trees, Exempt Trees, and Landmarked Trees. The City recognizes the numerous benefits that trees provide and is committed to engaging in a process that informs future decisions for its urban forest.

Public trees, such as those found in street landscapes and in parks, are primarily overseen by the Community Services Department (CSD). The Department is made up of the Park Maintenance Division, Recreation Division, Parks Planning & Design Division, and the Environmental Services Division. Together, these divisions strive to enhance the quality of life for the residents of Fremont and its visitors.

The urban forestry management team ("urban forestry system") is part of the Park Maintenance Division (as of 2023) and consists of internal staff whose primary responsibilities and services include tree permitting, enforcement of tree ordinances, and other City services that involve substantial interaction with tree-related issues. The division reports to the City's Deputy Director and Director of Community Services. In addition to the Community Services Department, Public Works' Maintenance Services Division and the Engineering Division play a role in public tree management.

The City public rights-of-way are unique public resources held in trust by the City for the benefit of the public. These physically limited resources require proper management by the City to maximize the efficiency and minimize the costs to the taxpayers, to minimize the inconvenience to and negative effects on the public from nontraditional uses of the public rights-of-way, to promote orderly growth and development that is compatible with the surrounding neighborhood character, to ensure provision for adequate traffic circulation, utilities, and other public services in the City, and to preserve the public health, safety and general welfare. In addition to the park properties and the City public rights-of-way areas, the City maintains numerous other public facilities such as Police and Fire stations, community centers, Lighting and Landscaping Maintenance Districts, and other City-owned properties.

The Community Services Department offers educational and recreational programs and services to people of all ages, such as sports leagues, kids' camps, and after-school programs. The CSD also offers historic and cultural resources such as the Shinn House and Historical Park and Arboretum, the Vallejo Adobe within the California Nursery Historical Park, and the Galindo-Higuera Adobe at Rancho Higuera Historical Park. It also provides facilities, including three program centers in Central Park, six community centers, group picnic areas, and the Olive Hyde Art Gallery. Community Services also manages unique attractions, such as Lake Elizabeth, the Aqua Adventure Waterpark, Central Park Skate Park, and the Palms Pavilion Group Picnic Area. In addition, the Department hosts special events throughout the year, such as the Summer Movie and Concert Series, Patterson House events, Trick or Treat on Downtown Safety Street, and the Lunar New Year celebration. Also, the Department manages public parks, with over 1,200 acres throughout 64 parks, and the City's urban forest—covering over 14 percent of the City's land area and comprised of over 60,000 public street trees, 13,000 park or vacant lot trees, nearly 500,000 trees in open spaces and natural areas (estimated), and, to a degree, the thousands of trees on private property— primarily through public education, outreach, events, and customer service.

Urban Forestry System: Parks, Medians, and Urban Forestry (2023) – Community Services Department (CSD)

The Urban Forestry Program is responsible for public trees and urban forest management and is overseen by the Urban Forestry Manager. The Urban Forestry Program is also responsible for the administration of the Tree Beautification Program, the 50/50 Street Tree (cost-share) Program, tree permitting, customer service, Landmark Trees, among other services and programs. In total, the Urban Forestry Program has eight full-time equivalent (FTEs) employees as shown in the diagram below.

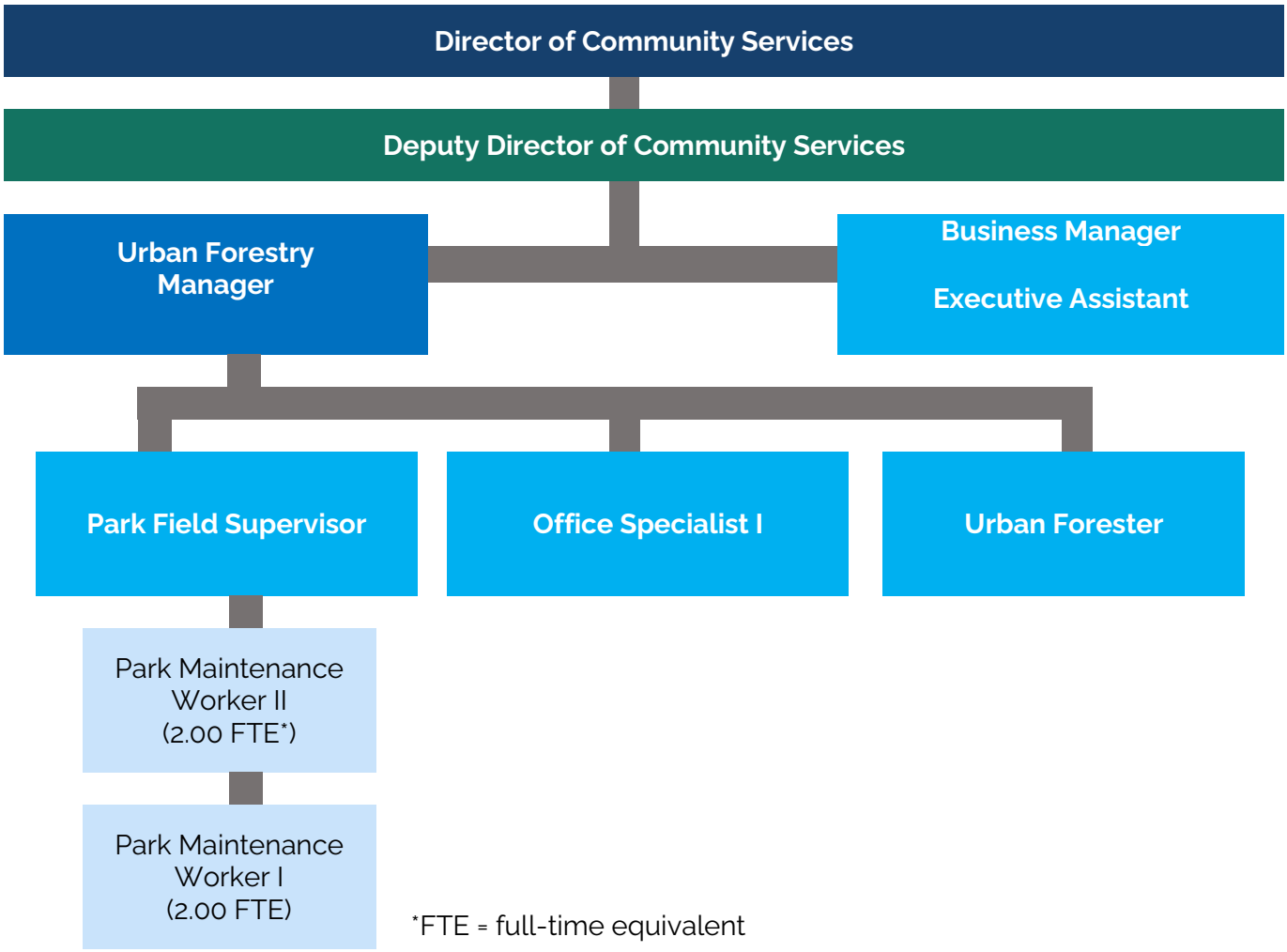


Figure 10. Organizational chart for the Community Services' Urban Forestry Program (2023)

Departments and Divisions Supporting the Urban Forestry Program and Public Tree Management

As stated in early sections, the City's Urban Forestry Program overseeing the management of public trees is supported by the Public Works Department's Maintenance Services Division and the Engineering Division. Public Works staff address downed trees and limbs in the public rights-of-way, conduct tree clearance pruning when tree limbs are obstructing signs and pedestrian thoroughfares, and construct Complete Streets projects as part of the Mobility Action Plan's goals for increasing pedestrian and bicycle travel modes. The design of these projects is overseen by the Engineering Division and the Parks Planning & Design Division of the Community Services Department where trees and landscaping are often incorporated into the design.

Current Funding Structure

To maintain and grow Fremont's urban forest, the Urban Forest Management Plan's goals must be adequately funded to support successful implementation. There are several factors that can be used to determine if the City is funding the Urban Forestry Program to meet established safety and economic goals, while maximizing the environmental services provided by trees. These factors include (1) maintaining trees in a safe condition, (2) adequate staffing to enforce ordinances and implement policies, and (3) managing new tree planting to expand Citywide canopy cover in support of the City goals (as part of this Plan and other plans such as CAP 2.0). Additionally, as the City's economic conditions change, funding should be thoughtfully allocated to prioritized urban forest management actions so the City can continue to progress towards a sustainable urban forest. Analysis of the City's Urban Forestry Program funding incorporated the use of methods that are based on (1) current program goals, (2) a comparison of funding levels with other municipalities' urban forest management programs, and (3) applicable sustainability principles.

Urban Forestry Program Funding

To develop a sustainable urban forest program sufficient funding is necessary. There is no set standard for what a City will need to invest in managing its tree population to support a sustainable urban forest program. The funding allocation will vary depending on the City's health, safety, and environmental goals.

City budgets to manage trees in the public space vary considerably for per-tree spending. A study from 2016 of 129 urban forestry programs in CA found the mean budget per tree to be $10.00 ($12.37 adjusted for inflation) with a median of $1.25 ($1.57 adjusted for inflation) per tree (Thompson, 2018). The benchmarking research as part of this Urban Forest Management Plan examined 62 cities within 150 miles of Fremont and found the average per capita budget to be $11.16 (2022). Another analysis using the 2014 census of urban forestry programs found budgets per tree to range from $18 to as high as the $45 per tree average for cities with a population of 100,000 to 250,000 people (Hauer, et al. 2014). Locally, per tree values of over $100 can be found in cities like Palo Alto ($119 per tree). For Fremont, with a budget of $1.7 million for FY 2022-2023, a human population of 228,000 (2021), and a public tree population of 77,387 (2020 inventory), the budget per tree is $21.80 and $7.40 per capita. Based on this analysis, Fremont's per tree budget is higher than the 2016 study when looking at the mean adjusted for inflation ($21.80 for Fremont compared to $12.37 for 129 CA cities).

These comparisons in per-tree spending require further examination to understand if it progresses a City's urban forest program goals and is sufficient to support tasks needed to manage a tree population (i.e., such as maintaining a 5- to 7-year pruning cycle and annually planting trees to increase canopy cover).

In analyzing the current funding levels of Fremont's Urban Forestry Program, this Plan reviewed the annual budgets for all tree-related work from fiscal year 2016 through fiscal year 2023, considered the amount of work completed in those years, and compared funding to other municipal tree budgets.

Fremont's Urban Forestry Programs

50/50 Street Tree Program

Understanding the importance of proper maintenance for the public street trees in the rights-of-way and the responsibilities of the adjacent private property, City Council approved the framework and funding for a cost-share program— Fremont's 50/50 Street Tree Program. City Council authorized $100,000 annually for the program to partner with Fremont property owners to help pay for some of the costs of street tree pruning, removal, and replacement. These funds are available to all property owners, including commercial property owners and homeowners' associations (HOAs).

To be eligible, the tree must be a street tree growing in the City Right-of-Way, which is often between the sidewalk and the road in front of a property on a public street. Property owners are then eligible to apply for a Street Tree Permit and once approved, a City-approved tree contractor must be hired. Through the program, 50 percent of the street tree pruning, removal, or replacement cost is covered by the City up to a maximum of $750 per tree and up to two trees per property. The property owner is required to complete the reimbursement application that includes the permit number, a copy of the contractor's invoice, proof of payment, and before/after photographs of the tree work.

Distribution of the funds is on a first come, first served basis and in recent years, there has been more demand for the program that exceeds the current funding available. This increase is likely due to more awareness from private property owners as well as the effects of prolonged deferred maintenance. In addition to the street tree program, the City has a cost-share program for sidewalk repair and replacement.

Tree Permits

In accordance with Fremont Municipal Code, only approved contractors may perform maintenance on, remove, and/or replace street trees. A permit must be obtained prior to any work being completed. These prerequisites are also mandatory for 50/50 Street Tree Program eligibility.

For many years the City maintained street trees on behalf of property owners. In 2010 due to budget and staffing cuts, the responsibility for maintaining street trees returned to property owners. While the financial responsibility has returned to the property owner it is still in the City's interest to ensure that trees are cared for properly and to regulate the removal and/or damage to trees.

The tree permit, available online, is the mechanism through which the City meets this interest, maintains a healthy community of trees, and upholds the Tree Preservation Ordinance (18.215). Trees in Fremont collectively constitute an urban forest where individual tree removals can negatively or positively affect the overall urban forest in the City.

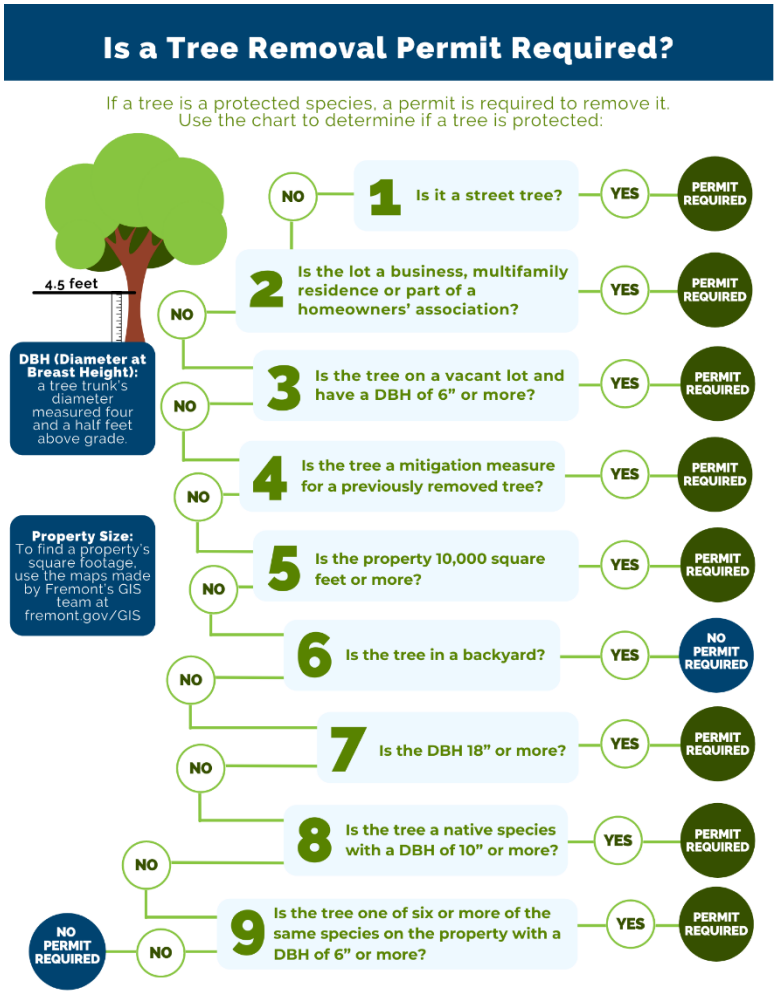


Image Description 19. Illustration of the workflows and criteria involved in tree permitting in Fremont. For details, visit the City's website or the Tree Maintenance & Policy Manuals developed to support this Plan

Generally, a tree permit is reviewed and a decision of approval or denial is made within two to four weeks by the City. The City implements a consistent approach to tree permit reviews. A tree removal permit may be issued if the tree poses a substantial risk to people or property, the tree is dead or nearing its total potential lifespan, the tree is diseased or causing extensive concrete or property damage that cannot be remedied, it is part of a group of trees that is overcrowded, or the tree is damaged beyond repair or restoration. Tree removal permits will not be issued if there is a reasonable alternative to removal or if the reason for removal relates to leaf, fruit, or seed litter.

Landmark Trees

Image Description 20. Ginkgo Landmark Tree

Fremont is home to many Landmark Trees that represent and distinguish the City's heritage. These trees throughout the City have been designated as Landmark Trees by City Council and can be found in the place of historical farms, ranches, nurseries, orchards, and wineries that were once owned by early pioneer families such as Shinn, Rock, Stanford, Chadbourne, Vallejo, and Patterson. The City of Fremont places great value in promoting and protecting its historical or Landmark Trees so that the link between its past and its future remains unbroken.

A total of 84 Landmark Trees are listed on the City's website and located throughout the City's neighborhoods such as Centerville, Central, Irvington, Mission San Jose, Niles, North Fremont, South Fremont, and Warm Springs.

In May of 1966, the City of Fremont, sponsored by the City Beautiful Committee, adopted a tree preservation ordinance to encourage and promote the preservation of trees. In August of 1970, the City Beautiful Committee received approval by the City Council to conduct a survey of specimen trees for the final selection of outstanding Landmark Trees. The survey indicated the findings of 124 Landmark Trees to be preserved under Resolution No. 3027, adopted on May 16, 1972. Several locations of the original 124 trees were inaccessible or hidden from public view. As a result, the list was reduced to sixty.

The first publication containing the sixty Landmark Trees was published in 1973. Almost 40 years later, in August 2010, the City's Landmark Trees were revisited. Several trees no longer existed due to natural senescence, urbanization, or other factors. Some of the original sixty still exist today and continue to shape Fremont's changed landscape. The original sets of trees along with new additions are included in an updated version of the Landmark Trees publication. On June 19, 2012, the City Council approved the removal of 42 missing or dead Landmark Trees from the list and added 23 new trees to the landmark list (Landmark Trees of the City of Fremont, 2012).

Image Description 21. Cork oak Landmark Tree

To qualify as a Landmark Tree, it must be at least 54 inches in diameter at breast height, exemplify the form of its species, be free of structural defects that pose a risk, have substantial aesthetic appeal, and be likely to survive more than five years from the date of its designation. Other considerations, if the tree does not meet these requirements, are its historical or cultural significance, exceptional visual impact, member of a native species, part of a group of trees, or any other factor that may be deemed significant to the community (Landmark Trees of the City of Fremont, 2012).

Existing Tree Code and Regulations

Tree ordinances are among the tools used by cities striving to attain a healthy, vigorous, and well-managed urban forest. By themselves, however, tree ordinances cannot assure that the trees in and around a community will be improved or even maintained. Tree ordinances provide the authorization and standards for management activities and enable enforcement. To maximize effectiveness, tree ordinances should be integrated into an overall management strategy. This section provides an overview of the existing ordinances in Fremont that address trees and the urban forest. If the City were to pursue changes to tree ordinances, it is recommended that extensive engagement be conducted among City staff, stakeholders, and the public to align amendments with shared priorities, concerns, and policies.

Street Trees

The ordinance that regulates street trees is located in section 12.30 "Maintenance of Street Trees and Sidewalks" of the Fremont Municipal Code. This ordinance addresses planting and removal of trees within public rights-of-way and contains provisions governing maintenance or removal of private trees which pose a hazard to the traveling public.

The trees regulated under this ordinance are defined along with the requirements to adhere to industry standards and best practices. The ordinance also includes the processes, criteria, fees, enforcement, and appeals as part of the tree permitting program. Currently, there is no fee for the street tree permit though a tree that is in question or disputed may require an arborist report at the property owner's expense.

In addition, Fremont's street tree ordinance protects public street trees by defining the fees and course of action for interference with City actions and damage to public trees. And lastly, Article II within the ordinance defines the adjacent property owner's responsibility to maintain public street trees (as well as sidewalks).

Private Property Trees

One factor to developing a sustainable urban forest is the extent to which the City can effectively influence the management of trees on private property as most of the urban forest exists on privately owned land. The City's methods by which it can influence tree management on private property are a combination of indirect actions, such as community education campaigns, and direct actions, such as City ordinances, policies, and permits. An attractive quality of a robust community education campaign is voluntary participation from private landowners to contribute to reaching environmental and sustainability goals by implementing City standards for tree management. While some private landowners will adopt and implement City tree management standards, it is not reasonable to expect all private landowners to do so, which is the impetus for City ordinances, policies, and permit procedures to further enforce tree management standards on private property.

The City should continue to utilize the private tree ordinance to preserve trees, incentivize developers to protect and plant trees, and mitigate necessary tree removals to align with the goals of this Plan. Changes to tree ordinances should balance the goals of the urban forest and development, and the City should have the resources in terms of funding and staffing to administer and enforce the regulations.

URBAN FORESTRY BEST PRACTICES

Urban forest management priorities should in part be determined by the current maintenance practices and how well they support program goals and the Plan's goals. Some maintenance practices are specific to local climate conditions and number of trees to manage. Others, such as maintaining an optimal pruning cycle are relatively consistent for all tree management programs. As such, the City's current pruning cycle can be used to identify the funding and staffing needs.

Standards and best practices are implemented in Fremont through references to these in ordinances and design guidelines, through City tree operations and services, and by administering an approved tree contractor list for public tree care. In addition, resources relating to standards and best practices are available on the City's website and occasional trainings are offered to the public.

Tree Inventory Best Practices

The City of Fremont has an inventory of public trees that was completed in 2020. To maintain efficient management, grow a sustainable and resilient urban forest, communicate the benefits of trees, and adapt Plan strategies, the public tree inventory should be maintained and updated as changes occur such as maintenance, removals, and plantings. It will be necessary for the City to reassess each public tree to update the condition, size, observations, and maintenance needs that will support and inform urban forest management in the future. In conducting future inventories of public trees, the City should adhere to the International Society of Arboriculture's Best Management Practices – Tree Inventories, Second Edition (2013) resource that details the standards, practices, and protocols.

Tree Maintenance Best Practices

The following provides an overview of tree maintenance best practices. It is not intended to be an extensive or comprehensive summary of best practices. All tree maintenance practices should follow the American National Standards Institute's (ANSI) A300 Standards (Parts 1-10).

Reasons for Tree Pruning

1. *Pruning for Safety*
   Involves removing branches that could fall and cause injury or property damage, trimming branches that interfere with lines of sight on streets or driveways, and removing branches that grow into utility lines. Safety pruning can be largely avoided by carefully choosing species that will not grow beyond the space available to them and have strength and form characteristics that are suited to the site.
2. *Pruning for Health*
   Involves removing diseased or insect-infested wood, thinning the crown to increase airflow and reduce some pest problems, and removing crossing and rubbing branches. Pruning can best be used to encourage trees to develop a strong structure and reduce the likelihood of damage during severe weather. Removing broken or damaged limbs encourages wound closure.
3. *Pruning for Form*
   Improves the structure of trees and removes branches that are more likely to fail. Branches that are poorly attached may be broken off by wind and weather. Branches removed by such natural forces often result in large, ragged wounds that rarely seal.
4. *Pruning for Aesthetics*
   Involves enhancing the natural form and character of trees or stimulating flower production. To reduce the need for pruning it is best to consider a tree's natural form. It is very difficult to impose an unnatural form on a tree without a commitment to constant care.

Common Types of Tree Pruning

1. *Crown Cleaning*
   Consists of the selective removal of dead, dying, diseased, and weak branches from a tree's crown. No more than 25 percent of the live crown should be removed in any one year, even for young trees.
2. *Crown Thinning*
   Primarily for hardwoods, thinning is the selective removal of branches to increase light penetration and air movement throughout the crown of a tree. The intent is to maintain or develop a tree's structure and form. To avoid unnecessary stress and prevent excessive production of epicormic sprouts, no more than one-quarter of the living crown should be removed at a time. If it is necessary to remove more, it should be done over successive years. Branches with strong U-shaped angles of attachment should be retained. Branches with narrow, V-shaped angles of attachment often form included bark and should be removed.
3. *Crown Raising*
   The practice of removing branches from the bottom of the crown of a tree to provide clearance for pedestrians, vehicles, buildings, lines of site, or to develop a clear stem for timber production. After pruning, the ratio of the living crown to total tree height should be at least two-thirds. On young trees temporary branches may be retained along the stem to encourage taper and protect trees from vandalism and sunscald.
4. Crown Reduction
   Most often used when a tree has grown too large for its permitted space. This method, sometimes called drop crotch pruning, is preferred to topping because it results in a more natural appearance, increases the time before pruning is needed again, and minimizes stress. Crown reduction pruning, a method of last resort, often results in large pruning wounds.

Figure 11. Examples of the types of tree pruning

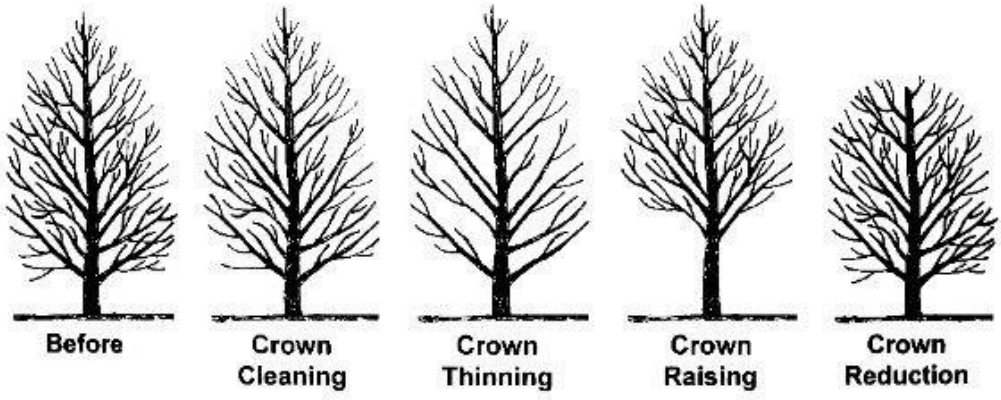


Image source: Arbor Day Foundation

Tree Pruning Cuts

Pruning cuts should be made so that only branch tissue is removed, and stem tissue is not damaged. To find the proper place to cut a branch, look for the branch collar that grows from the stem tissue at the underside of the base of the branch. On the upper surface, there is usually a branch bark ridge that runs parallel to the branch angle, along the stem of the tree. A proper pruning cut does not damage either the branch bark ridge or the branch collar. A proper cut begins just outside the branch bark ridge and angles down away from the stem of the tree, avoiding injury to the branch collar.

Figure 12. Types of pruning cuts and proper branch cutting technique

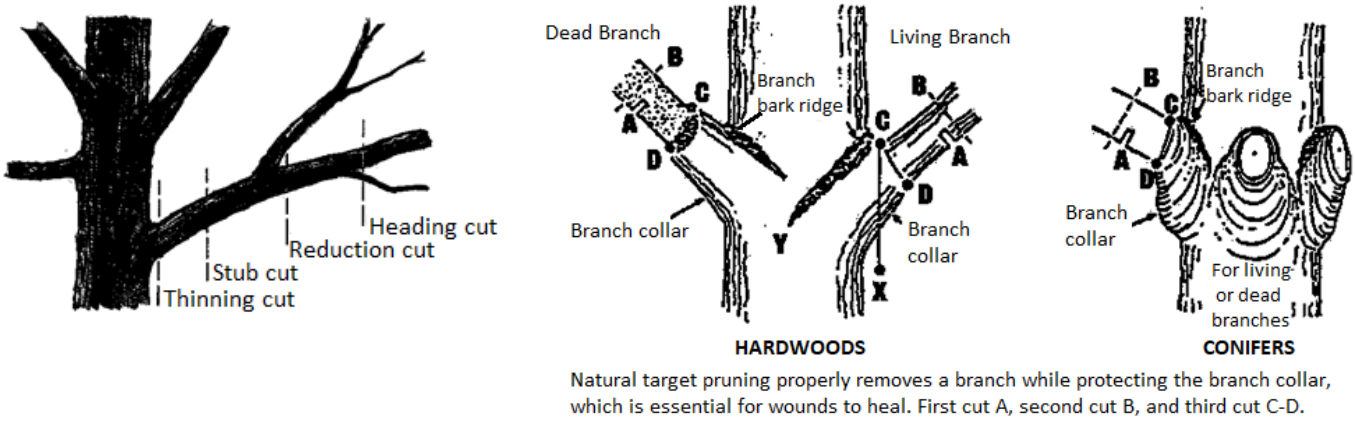


Image source: Pennsylvania State University Urban Forestry Extension

Image Description 22. Key considerations for pruning established trees. For additional details see the Tree Maintenance & Policy Manuals developed as part of this Plan

Utility Tree Maintenance Best Practices

Utility Tree Pruning Overview

The City should work with the utility companies to ensure proper pruning practices are followed and that open communication between the company, the City, and the public are maintained. The International Society of Arboriculture provides guidelines for maintaining trees near power lines (Best Management Practices – Utility Pruning of Trees, G. Kempter, 2004).

Maintaining power lines free of tree growth is based on a consistent, planned trimming cycle of the utility vegetation management company. This approach improves electric service to all the customers who get their power from that line. A sensible approach to trimming trees means having a thorough maintenance plan that improves the safety and reliability of electric service to residents. Residents and the City staff should not attempt to trim any vegetation growing near or on any overhead power lines.

Utility Tree Maintenance Techniques

1. *Directional Pruning*
   Removes entire branches and limbs to the main trunk of the tree and future growth is directed away from the power lines. Reduction cuts are used for removing these branches and limbs and should be pruned properly back to a lateral branch that is at least one-third the diameter of the branch being removed. This allows for good wound closure and protects apical dominance and reduces sprouts. Avoid topping or rounding over trees. This removes more foliage than directional pruning, increases the number of tree wounds, stresses the tree, causes unstable decay, and increases water sprouts.
2. *Right Tree Right Place*
   Selecting the right tree for the site can reduce potential safety hazards and improve the reliability of the electric service. Smaller trees near power lines do not need to be excessively pruned and do not lose their natural form.
3. *Recommended Trees*
   Trees potentially suitable for planting adjacent to power lines should be shorter and slow growing to prevent clearance issues.

Figure 13. Examples of trees directionally pruned for clearance from power lines

Photo source: Pennsylvania State University Urban Forestry Extension

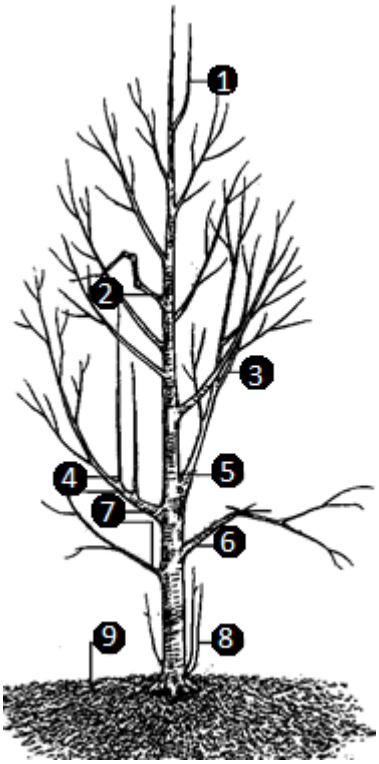
Young Tree Maintenance Best Practices

Proper pruning is essential in developing a tree with a strong structure and desirable form. Trees that receive the appropriate pruning measures while they are young will require less corrective pruning as they mature.

Young Tree Maintenance Techniques

1. *Consider the Natural Form and Desired Growth*
   Accentuate the natural branching habit of a tree and correct any structural problems over time, if needed, to not stress the tree.
2. *Pruning in 1-2 Years after Planting*
   Prune as little as possible after planting to ensure there are enough temporary branches to produce food for new growth of roots, trunk, and branches. Prune only dead, broken, malformed, or diseased branches. Remove codominant leaders to maintain one dominant trunk. Prune for clearance if absolutely necessary. Keep size of branch removed to less than one inch in diameter.
3. *Pruning 2-3 Years after Planting*
   Prune any dead, broken, malformed, or diseased branches. Remove any suckers from the base of the tree. Next, determine the permanent branch structure. Apply the following:
   - ❖ Remove, thin, or cut back any competing leaders.
   - ❖ Remove crossing or rubbing branches, keep the branch that maintains the natural form.
   - ❖ Thin excessively crowded branches but do not lions-tail.
   - ❖ Remove branches with narrow angles between the branch and trunk (consider species).
   - ❖ Remove branches to maintain well-spaced branches along the trunk. Ideal mature trees will have lateral branches that are 18-24 inches apart (depending on species).
   - ❖ Avoid pruning near time of bud break.
   - ❖ Prune flowering trees after flowering.

Figure 14. Example of branches to be pruned for newly planted trees to promote good structure



1. Prune competing leader
2. Prune malformed branches
3. Remove crossing branches
4. Remove water sprouts
5. Remove branches with poor angles
6. Prune broken or damaged branches
7. Prune temporary branches over time
8. Remove suckers
9. Apply 2-3" of mulch

Photo source: Pennsylvania State University Urban Forestry Extension

Tree Planting Best Practices

The following provides an overview of best practices that should be considered and followed before, during and after planting trees.

- Trees to be planted should be selected from an approved tree planting list developed to maintain and enhance species diversity that are suitable for the Fremont, CA Plant Hardiness Zone and changing climates.
- Planting material must conform to the latest version of the American Standard for Nursery Stock (American National Standards Institute [ANSI] Z60.1). Trees to be planted should be of standard quality or better, and should be true to name and type of their species variety.
- Trees should not be planted in lawns less than 2 feet in width or in planting pits less than 5 feet long by 5 feet wide.
- Trees should not be planted within 50 feet of any major intersection, or within 20 feet of a fire hydrant, a driveway, or a pole supporting a light.
- The burlap and twine from balled-and-burlap trees should be removed from the tree and the tree pit. Wire tree baskets may remain on the root ball, but the top one-third should be clipped and removed from the planting hole.
- Mulch should be placed around trees in a minimum 3-foot circle and 3-inch depth to protect trees from lawnmower damage and competition from turf; mulch must be kept away from tree trunks.
- Newly planted trees should be irrigated weekly during droughts in the growing season for three years.

Tree Irrigation Considerations and Best Practices

- Current limiting factor is budget for watering newly planted trees.
- A marketing campaign to remind and educate homeowners on how to water trees in times of drought, even if water to other landscaping such as turf or grass is cut off, would support a healthy urban forest.
- With dry and increasingly hot summers this is a critical requirement for new tree establishment.
- Establishing new trees requires 4-5 years of supplemental irrigation during the summer months.
- Fremont should continue to require development with frontage improvements to install permanent in-ground irrigation systems.

Public Education Regarding Ordinance, Permitting, Programs, and Best Practices

Frequent communications and messaging relating to urban forest management best practices and industry standards keeps the public informed and reminded of the importance of proper tree care. The details regarding private property tree ordinances, regulations, permitting processes, and programs can be shared on the City's website, included as call-out box reminders in the permitting process, added to utility mailings, among other mediums and platforms. It is important to consider the barriers that inhibit public access to information and materials. Strategies to remove barriers include language translations, accommodating vision and hearing impairments, among others. It is recommended the City pursue or strengthen these outreach approaches by utilizing data from this Plan and the Tree Maintenance and Policy Manuals developed as part of the project. If updates are made to tree ordinances, the City should implement a messaging campaign to share the changes.

Additional Best Practices for Urban Forest Management

Pest and Disease Management

A principle to controlling insect pests, invasive plant species, and tree diseases is an innovative strategy known as Integrated Pest Management (IPM), which integrates cultural (growing) practices, monitoring, threshold and life cycle analysis, and chemical application strategies to effectively manage urban forest pest populations in an ecologically-sound manner. Fremont's urban forest faces numerous existing and potential exotic tree pests and diseases (see examples to the right). Additional information including examples and control methods are found in the 2023 Technical Report supporting this Plan.

Image Description 23. Signs and symptoms of common tree diseases and pests including sudden oak death (above, source: USDA APHIS) and the CA oakworm caterpillar (bottom, source: University of CA)

Encourage Naturally Occurring Biological Control

Biological control uses living natural enemies, antagonists, or competitors (biological control agents) to control other living organisms. Examples of naturally occurring biological controls include lady beetles, lacewings, parasitic wasps, predatory mites, spiders, earwigs, insectivorous birds, and bats. By using plants that attract the living organism above, chemical use for preventing and treating tree pests and diseases is minimized.

Use Alternate Plant Species

With tree inventory data that describes the composition of tree species in the urban forest, concentrations of susceptible trees and problematic trees can be thoroughly identified and understood. The information can be utilized to update the palette of trees that are planted by the City to reduce the likelihood of tree pest and disease issues. Some well-known alternate tree species that are resistant to tree pests and diseases include the 'Frontier' elm or Asian elm species that are resistant to Dutch Elm Disease and powdery mildew resistant cultivars of crapemyrtle. In addition, the City should consider reducing or eliminating the planting of Chinese or European hackberry trees that are prone to honeydew producing hackberry woolly aphid and oak trees should not be planted where oak root fungus is known to exist or propagate.

Use Cultural Practices

Cultural practices discourage pest invasion. Some of these practices include good tool sanitation, removing debris and infested plant material from the site, proper watering and fertilizing, growing competitive plants, or using pest resistant tree species. Expanding on the examples, the City should avoid sprinkler irrigation around trees that are susceptible to anthracnose such as Chinese elms and sycamores and avoid irrigation around the trunks of native oaks in the dry season. Thinning out tree canopies can reduce foliar disease problems and pruning trees at certain times of the year can reduce pest problems. For example, to avoid bark beetle infestations, it is recommended to prune pines and elms in the winter. If a disease or insect is spotted in a tree, it can be removed and properly disposed of to potentially reduce the spread. Another example of a pest and disease best practice is to only fertilize trees when absolutely needed. The use of fertilizers can be reduced or eliminated if the appropriate trees for a given site are planted. Lastly, the habitat can be altered to make a site less suitable or compatible for pest development. Examples include planting trees at or above grade to reduce crown rot problems and frequent monitoring and management of trees near specimen coast live oaks where Sudden Oak Death is an issue.

Tree and Infrastructure (Sidewalk) Conflicts

The City should refine and utilize the decision checklist and protocols provided in the solutions toolkit developed as part of the project and include alternative solutions in design guidelines and standards. Alternative solutions may offer cost savings in some instances. Primarily, the responsibility to maintain the sidewalks is placed on the adjacent property owner. In most California cities that are not responsible for sidewalk maintenance but offer or would like to offer a cost-share program, funds are generated through a ballot-approved Sales and Use Tax. Sales tax rates for funding sidewalk programs average 0.2 percent. In addition to local funds, state or federal grants exist to support cost-share programs. And though grant funding may be available for sidewalk repair it is not a consistent long-term option. Other funding options or mechanisms include special citywide assessments, bonds, improvement districts, gas tax, or tax incremental financing.

The City should explore options such as the Sales and Use Tax or the Gas Tax to address sidewalk repair and replacement needs per the Americans with Disabilities Act (ADA) requirements. Examples of potential alternative solutions to tree and hardscape conflicts are provided in the graphic below.

Image Description 24. Examples of the potential alternative solutions for tree and hardscape conflicts

Urban Wood Utilization

Trees in the urban environment are part of a continuous cycle. A tree is planted, it grows for a period of time, and then inevitably it declines and must be removed. Historically, tree removal has been considered a negative side of urban forestry. The cost of removing a tree and then disposing of the resulting debris is seen as a burden to homeowners and municipalities alike and creates a gap in the urban tree cycle. Urban wood utilization is a term and practice describing the reuse of wood with the goal of diverting organic waste from landfills where materials decompose and release methane, a greenhouse gas contributing to climate change. Wood biomass from the urban forest is often disposed of rather than put to use in some new manner. To complete the cycle of urban trees there is a need and opportunity to make use of the resulting biomass to keep the carbon in the wood rather than released into the atmosphere. Good logs can be milled into lumber for furniture, flooring, or kitchenware and lower quality materials can be used as a biofuel to displace fossil fuel use or composted into quality soil amendments like mulch.

In 2016 California passed SB 1383 to reduce emissions from short-lived climate pollutants which calls for the reduction of organic waste among other requirements. With this bill, organic waste disposal must be reduced by 50 percent by 2020 and 75 percent by 2025. Urban wood utilization is one practice to address these requirements and goals, and is in alignment with Fremont's current Climate Action Plan and future update.

Currently, Fremont does not implement an urban wood utilization program and could explore the financial costs and return on investment to implement a program. In addition to the environmental benefits of carbon storage, urban wood utilization programs could contribute to the green economy

of Fremont and can provide employment opportunities throughout the entire process to remove, store, treat, and prepare urban wood for its second life.

To develop an urban wood utilization or urban wood use program, it is recommended the City start simple and allow the program to evolve. One of the first steps is to inventory the volume of biomass generated annually and identify other local partners that can add to the volume. From the inventory, the City can assess its operational, equipment, personnel, and administrative needs and begin to identify local and regional markets and partners that have a demand or need for the biomass. With this understanding, the program can then establish goals and begin implementation. Additional information and resources are available online and one local example to potentially model is the Sacramento Tree Foundation's Urban Wood Rescue Program (urbanwoodrescue.com). Another example is the urban wood recycling program created by West Coast Arborists, Inc. in partnership with CAL FIRE where urban forest biomass generated from City tree maintenance is recycled (streettreerevival.com).

Funding Best Practices

Funding Mechanisms

Urban forests are an essential component of a municipality's infrastructure. Well-managed urban forests boost community livability and build resilience through a myriad of ecosystem services. However, the budgets afforded to urban forestry programs do not always represent this "essential" status and forestry managers often need to work with budgets that are below their needs. According to a 2016 study of 129 CA cities, cities are spending less and less on tree establishment and care despite the increasing tax base (Thompson, 2018). Urban forestry budgets are also prone to large swings in need, as is currently being observed in midwestern and eastern cities with the emerald ash borer causing spikes in tree removal demand. It can also be difficult to finance singular, capital intensive projects, like a public tree inventory, that provide critical data for forest planning and management. The general fund has long been the core of program funding across the country, and it remains a stable and popular option (making up 72 percent of program funding in 2014, Hauer et al.).

The general fund is also beholden to other community needs and it is often stretched thin to meet all these demands. The best strategy for overcoming these budgetary challenges is to leverage a variety of sources, both public and private, to supplement allocations from the general fund. A diverse portfolio of funding streams allows urban forestry programs to weather resource restrictions and provide higher levels of service, like advancing from reactive to proactive maintenance cycles and implementing the Urban Forest Management Plan.

Table 1. Summary of financing options for exploration for Fremont's urban forest

Financing Options	Attributes	Process	Opportunities	Challenges
Feasible Options				
Tree Fund	Building permit fees received, tree removal mitigation fees, and stormwater fees could all contribute to a Tree Fund.	Enforcement of the Code generates monies from restitution.	Monitoring Code violations could potentially generate revenue for the Tree Fund.	City staffing levels are unable to monitor all Code violations.
Special Assessment Districts	Special assessment for landscaping, open space improvements, acquisition, and maintenance.	City agency / property owners initiate via petition, City agency administers; based on benefits calculated in engineer's report; >50% of property owners in proposed district must approve via (mail) ballot.	Citywide district possible for all street trees; individual districts more feasible in areas with many trees, high maintenance needs, and/or political support.	Typically funds more than just street trees.
Parcel Tax	Assessment levied independent of property value, can be equal amount per parcel or dependent on lot size.	2/3 of voters (not just property owners) must approve via election ballot.	Tax can be directly related to program costs; maintenance taxes deductible for property owners.	2/3 voter approval; potential competition from other services (e.g., schools); flat tax distributes cost inequitably.
General Obligation (GO) Bond	Low-interest loan for capital projects; repaid by levying tax revenue.	2/3 voter approval required.	Frequently used tool in municipal government.	Funding provided for set period; maintenance ineligible for funding.
Stormwater Utility	A fee to manage stormwater based on impervious area.	A fee from all developed parcels to support the stormwater program.	Trees reduce stormwater volumes. Planting trees could qualify property owners a credit.	An extensive analysis for the appropriate utility fee structure is required.

Financing Options	Attributes	Process	Opportunities	Challenges
Additional Options				
City Gas Tax	Funds are utilized by the City's SB1 Rebuilding Fremont program to enhance roadways over a 5-year period.	Sales tax is set as a percent of the gas price. Drivers are charged these taxes at the pump. The average for CA is 3.7% (November 2022).	According to state guidelines, funds can be utilized for tree trimming and watering in public rights-of-way.	City roadways and other public infrastructure also require repair, replacement, and maintenance.
Parking Benefit District (PBD)	Revenue from parking meters for a range of right-of-way improvements.	Enacted via local ordinance specifying boundaries, rates, use of funds; City administers with committee input.	No ballot approval required; visitors bear burden over residents.	Typically funds more than trees.
General Fund	City's primary funding pool for wide range of municipal services.	Annual budget via City's legislative process.	History of funding for tree planting, establishment, and maintenance of public lands.	Limited General Fund is allocated based on Council priorities.
Partnerships	Non-profits, corporate partners, grant funding; for tree planting and establishment.	Various, depends on City's processes.	Decrease costs, increase capacity, develop a tree steward organization and program.	Sustainable funding stream required.
Carbon Offsets	A cap-and-trade program in California creates a cap on greenhouse gas emissions trading options.	The City should be involved in designing project (i.e., tree planting) requirements and tracking.	In California, projects must plant at least 1,000 trees as offset projects to enable the sale of carbon credits.	Many trees (5,000+) must be planted to cover costs of an offset program. Creates two types of street trees, offset program trees require higher oversight. Does not support tree maintenance.
Pest Control Fee	A fee for forestry related services such as pest control and replanting.	A forestry fee specific to pest control added to the public service utility billing as a levy.	Opportunity to offset costs of managing and recovering from tree pests and diseases.	Increased fee may require voter approval. The City must analyze pest control costs to establish the appropriate fee amount.

AN OVERVIEW OF THE COMMUNITY FRAMEWORK IN FREMONT

COMMUNITY FRAMEWORK FOR ENGAGEMENT

Additional information regarding the community framework in Fremont and the engagement activities implemented to develop the UFMP is available in the 2023 Technical Report.

The urban forest is a resource that benefits and belongs to the City's residents. In order to care for it, the passion that is so frequently used to talk about trees can be harnessed to build stewardship around Fremont's trees. Approximately 37 percent of Fremont's tree canopy is located on either residential (18 percent), commercial (11 percent), or industrial (9 percent) land (see the Urban Tree Canopy Cover section). Thus, success in improving or maintaining tree canopy must include not only the municipal government, but also a populace that understands the value of trees and tree canopy to the community and the environment and how to plant and care for trees.

ENGAGEMENT TO INFORM THE PLAN

Throughout the development of the Urban Forest Management Plan, engagement opportunities and activities were held to gather feedback and input that would inform the vision, goals, and strategies. The engagement sessions launched with a project website (FremontUrbanForest.com) where information about the Plan and supporting studies were provided along with upcoming engagement events and other project information.

Two online polls were hosted on the project website in June and July 2021. The first poll gathered 224 responses and focused on identifying viewpoints and perceptions relating to the urban forest cover, health, benefits, and programs. The second poll's primary objectives were to gather input on developing the Plan's goals, strategies, and future programs. A total of 1,660 responses were received. The two polls were announced on the project website, City's website, through social media channels, and via the City's email listserv where 13,674 contacts were reached.

After the polls, a comprehensive survey was then prepared in order to gather a statistically-valid sample of responses. The findings from this survey were used to inform the goals, strategies, and recommendations in the Plan.

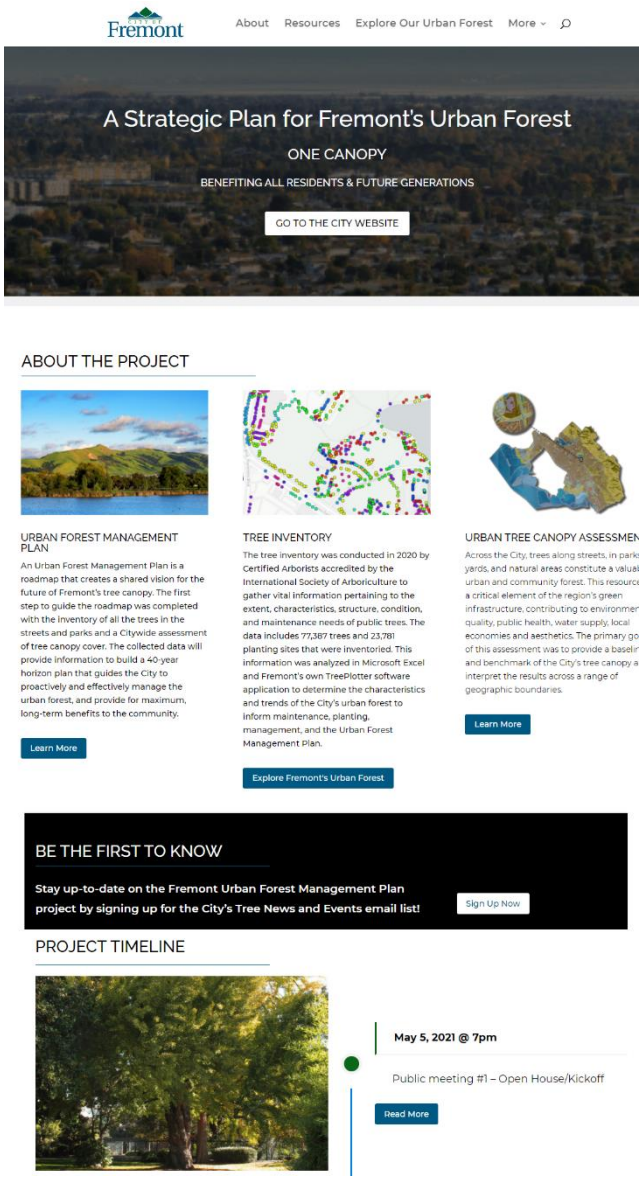


Image Description 25. The project website launched as a public engagement portal (FremontUrbanForest.com)

Statistically-Valid Public Survey

The City of Fremont and planning consultants sought to measure community perceptions related to the health and extent of Fremont's urban forest; the benefits and value of trees; and the overall management of and funding for the urban forest. To facilitate this engagement, the planning team contracted with National Research Center at Polco to conduct a scientific survey of Fremont residents.

Overview of Results from the Statistically-valid Public Survey

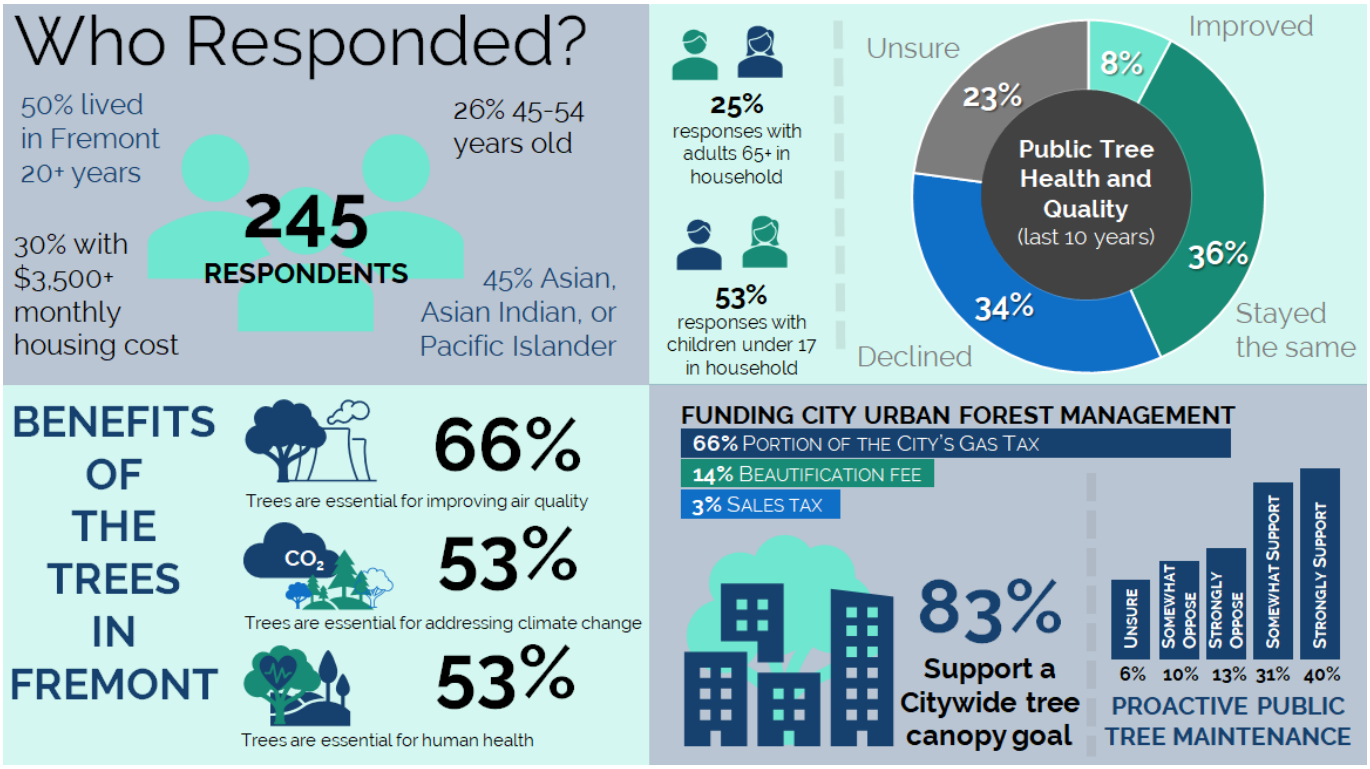


Figure 15. Infographic summarizing the results of the statistically valid public survey

The process involved gathering a random sample of households where 2,000 mailed surveys were sent in September of 2021. In addition, the survey was available on the City's website and the project website. Participation was encouraged through social media, public meetings, and through the networks of partners. In December 2021 the survey was closed and in total, a 12 percent response rate was received resulting in a six percent margin of error— a target that is often set for U.S. presidential campaign polls to acquire a statistically-valid consensus of public input and feedback.

As shown in the summary infographic above, of the 245 respondents, 50 percent have lived in the City for over 20 years, 26 percent are 45-54 years old, and 45 percent are Asian, Asian Indian, or Pacific Islander. The majority see trees as essential to improving air quality (66 percent), addressing the effects of climate change (53 percent), and improving human health and well-being (53 percent). In the last 10 years, the respondents feel the health and quality of public trees has either stayed the same (36 percent) or declined (34 percent). Of the respondents, 66 percent support using a portion of the City's Gas Tax to fund urban forest management and 83 percent support increasing tree canopy cover. Lastly, 40 percent strongly support the City conducting proactive maintenance of public street trees and recovering the cost from the adjacent property owner.

The complete results are available as a separate report. The feedback gathered from all engagement sessions was incorporated into the Plan's goals, strategies, and actions.

Live Meet and Greet

On August 5, 2021, an hour-long virtual meet and greet event was held for the residents of Fremont to meet the Urban Forest Management Plan Project Team and ask questions about the project or general urban forestry. The event, held as a Zoom Webinar, was a register-only event and received 114 registrations and a total of 68 attended the noon meeting.

Image Description 26. Example social media messaging shared to encourage participation

A brief presentation was provided to set the stage and warm up attendees to the Zoom platform for sharing their questions and comments. Questions and comments received throughout the event were either addressed using the features on Zoom or were answered live by the Project Team. Other questions required follow-ups and by the end of August, a response to all questions— answered and unanswered— were shared with the attendees and posted on the project website. In total, 140 questions were received and a summary of the types of questions are provided in the chart below.

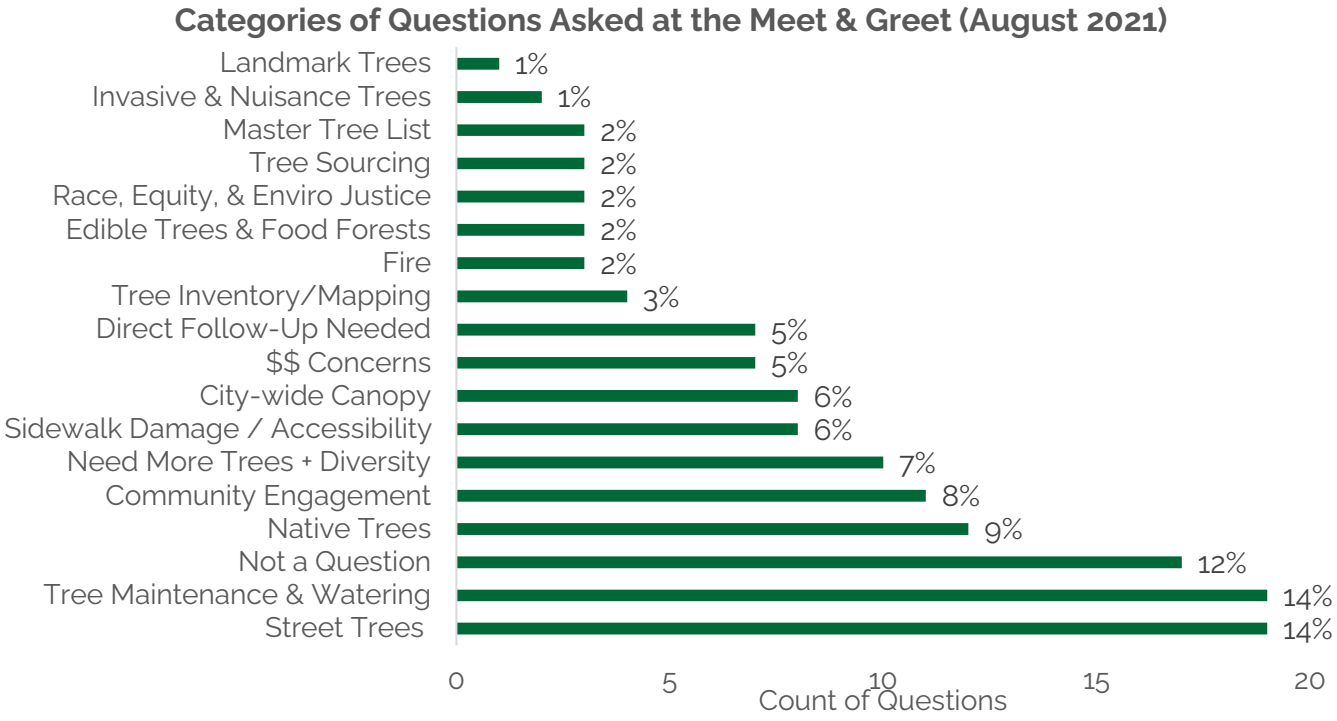


Figure 16. Summary of the types of questions asked at the live meet and greet (August 2021)

Public Meetings

The project website provided a platform for consistent engagement with the community but public meetings with focus groups were essential to the development of a plan with a shared vision for the urban forest. In April 2021, the Project Team met with Fremont's Recreation Commission to provide an overview of the project. The draft Plan was also released for public comment and a presentation to the public on the draft Plan was provided at a Recreation Commission and City Council meeting in 2023.

ENGAGEMENT TO IMPLEMENT THE PLAN

There are multiple ways to engage the public to improve the care and expansion of the local tree canopy. First, topics or messages must be defined, prioritized, and limited in number. More effective communication occurs through choosing a few strong messages and repeating them over and over. After messages are chosen, avenues of targeted communication to deliver those messages can be determined and implemented. Important topics and messages that should be considered for Fremont are as follows:

- **Current Canopy Extent and Value of Fremont's Trees.** The message should present the current canopy level and benefits the canopy provides. This is typically the first message to send out to the public, as all other messages should connect back to this one. This can also be a way to "roll out" the Urban Forest Management Plan to the public. Include information such as why Fremont needs tree canopy, what the current canopy level is, and the plans to improve the management of the trees that comprise the canopy. Educating local business owners on the impact that a shady commercial district can have on sales and educating property owners about the impact that trees have on property values are other useful methods for boosting the desire for increased canopy along main thoroughfares and neighborhood streets while also engaging the public. The important value of mature trees could be also highlighted, as people often do not realize that the large tree they have is a value to their property, the community, wildlife, and the environment.
- **How You Can Get Involved.** What are the next steps you want people to take? The City should decide the answer and insert this "ask" in every outreach piece or effort. The City could organize a tree giveaway (usually saplings) at Arbor Day for people to plant on private property. Or the City could create an Adopt-A-Tree program, whereby residents sign up to take care of a street tree, including providing regular water and mulch. Another option for getting the community involved is to expand the Landmark Tree Program where residents are encouraged to find and nominate the largest or otherwise significant trees in the City. Lastly, citizens can donate funds or volunteer at a tree planting event.
- **Tree Threats.** Public and private trees can die, decline, or become safety risks as a result of insect and disease infestation as well as inadequate maintenance. With education, the residents of Fremont can become aware of the common threats to the tree canopy and what they can do to help. The City should provide education on existing tree pest and disease concerns and what the City is doing about these threats on public land, and options for management on private land. Since the majority of the trees that comprise the City's urban tree canopy are on private property, it is vital for the City to educate the public on how to detect insect and disease threats, provide information about management and treatment options, and relay the importance of reforestation in the event trees are removed. Informing residents about tree removals and other significant tree work is essential for maintaining the City's relationship with the community. When an established public tree must be removed, the City should continue its current practice of notifying abutting or adjacent property owners of the need for removal or the City's course of action to expedite the removal if necessary.
- **General Tree Care Education for Property Owners.** There are several actions people take that are detrimental to trees at all stages of life, including improper mulching, poor pruning, and sustained and continued damage to the bases of trees with equipment such as weed trimmers and mowers. Easy tips and tidbits of information to share with residents for trees on their own properties can help improve tree maintenance and increase tree health and survival rates. Some examples include:
    - Demonstrate how to properly mulch a tree. Too often mulch is placed around tree

trunks in a "mulch volcano", which is extremely detrimental to the tree. A simple message of how to mulch properly can improve tree health and longevity.

- Provide guidance on how and when to prune trees. Incorrect pruning can lead to poor tree structure or wounds that may never heal. Include basic best practices for pest and disease identification, monitoring, and treatments to reduce the potential of pest proliferation.
- Explain tree planting and tree care techniques. This could be especially helpful for homeowners who are considering planting a tree in their yard but unsure where to start.
- Explore opportunities for partners to support urban agriculture, food forests, community orchards, and fruit gleaning on private property.
- Encourage recycling or composting leaves on-site.

USE MULTIPLE AVENUES OF COMMUNICATION

There are numerous avenues to convey urban forestry messages and accomplishments of the program to the residents, such as:

- **Social Media.** Social media sites such as Facebook, Instagram, and Nextdoor can create buzz and promote involvement in the current urban forestry activities occurring locally. To reach even more people, the City should consider coordinating with allied community gardens, non-profits, educational institutions, and businesses to get messages posted on their social media sites as well.
- **Website.** The City of Fremont's Urban Forestry webpage contains important information about the Urban Forestry Program, including details about tree planting, the tree inventory, tree regulations, among other things.
- **Presentations to City leadership and local business and neighborhood groups.** Identify key audiences, partners, and potential champions for the Urban Forestry Program. Making short presentations at regular or special meetings where people already are relieves individuals from having to go to yet another meeting in the evenings. Initial outreach could be based on letting the audience know about Fremont's urban forest and the work called for in this Plan. Be sure to have an "ask" at the end of the presentation. What do you want them to do next? This work often unearths new partners and funding sources that might otherwise go untapped.
- **Do a survey or poll.** Consider community feedback via a short online survey or poll to identify urban forestry issues people in Fremont are concerned or care about. The poll can also be used to gauge reactions to new urban forest management procedures and regulations, and their willingness to participate in volunteer work or to donate funds or other resources.
- **Cultivate partnerships for communication.** Partnerships can be initiated with organizations that can help promote, enhance, and preserve Fremont's urban forest. Organizations can include local businesses, local utilities, regional non-profits, homeowner associations, neighborhood associations, and schools and other educational institutions. Other audiences to engage can include youth groups, landscape architecture firms, faith-based groups, and nurseries and landscape contractors. Actions that can be taken by each partner should be defined before approaching them for support.
- **Encourage local campuses to become a Tree Campus USA.** If local campuses were to pursue this distinction and join the City's Tree City USA legacy, then more entities would be supporting Fremont's urban forest. One standard a campus would need to achieve annually is for students to participate in one or more Service Learning Projects. These projects are intended to provide an opportunity to engage the student population with trees. College students could help the City's Urban Forestry Program perform many tasks, such as tree planting, tree care, and public outreach.

- **Publish and promote an annual State of the Urban Forest Report.** An annual "State of the Urban Forest Report" can be produced using updated tree inventory data, tree planting statistics, i-Tree tools, and other program information. It should provide information on the number and condition of public trees, as well as maintenance, planting, and management accomplishments. It should also present a summary of the current year's annual work plan and identify emerging issues and budget or resource needs. The Implementation and Monitoring Plan is a separate report provided as part of the Urban Forest Management Plan. These plans provide the recommended metrics and approach for evaluating and reporting on the state of the urban forest.
- **Add signage to the landscape.** Signs placed in high traffic areas can spark interest in trees and the urban forest. Something as simple as species name or a notable fact about a tree can encourage people to learn more and to get more involved.
- **Create Story Maps.** The story about Fremont's urban forest, the programs that manage it, and the community that shapes and benefits from it can be told through maps that illuminate and contextualize the story. Maps are the visual representation of where events happen. As such, maps and stories complement each other, and story maps serve as an integrated presentation. Story maps use geography as a means of organizing and presenting information. They tell the story of a place, event, issue, trend, or pattern in a geographic context. They combine interactive maps with other rich content—text, photos, illustrations, video, and audio—within intuitive user experiences. Content may include the Urban Tree Canopy Assessment, the tree inventory and summary report, the Landmark Trees programs, other programs and events, and content from the Urban Forest Management Plan such as tree canopy goals, ecosystem benefits, and the urban forest vision, goals, strategies, and actions.

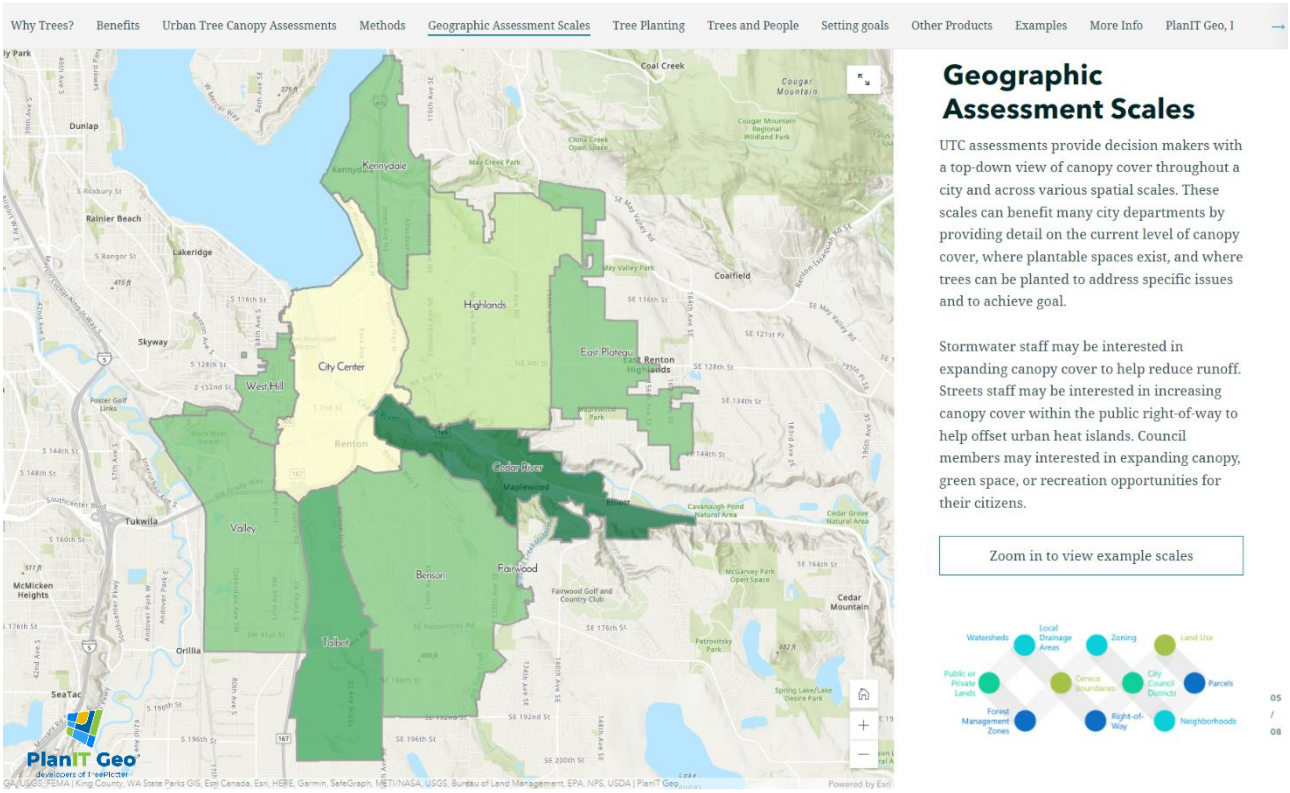


Figure 17. Story maps can visualize urban forest stories, maps, and data for the public

Create a Volunteer Corps

Consider implementing a "Young Tree Care" volunteer program to assist with new tree planting and new tree care such as watering, mulching, and pruning. This type of program is more involved than an "Adopt-A-Tree" program, as the young tree care volunteers are specially trained to care for young trees and to serve as advocates and educators within their networks. As such, this type of program involves initial and continuing training, frequent mentoring, and overall coordination of the process and volunteers. It also provides yet another engagement opportunity and encourages partnership opportunities with a variety of groups, such as neighborhood associations, master gardeners, scout troops, church affiliated groups, youth groups, high school community service programs, and others to accomplish new and young tree care tasks. Often times, local non-profit organizations oversee these types of programs.

Trees to include in a "Young Tree Care" program are generally less than six inches in diameter. These younger trees sometimes have branch structures that can lead to potential problems as the tree ages, such as codominant leaders, multiple limbs attaching at the same point on the trunk or crossing/interfering limbs. If these problems are not corrected, they may worsen as the tree grows, which increases risk and creates potential liability. With direction from City staff or trained professionals in a local non-profit, young tree care volunteers could be trained to carry out the young tree training program. Beyond pruning, young trees need watering and mulching to become established, and may require fertilization and other Plant Health Care (PHC) treatments until they reach maturity. This program can create "tree stewards" for Fremont and be modeled after similar and successful programs like those found in other municipalities such as the Sacramento Tree Foundation's Tree Stewards or in other states such as Portland's Neighborhood Tree Stewards.

The "tree stewards" or a volunteer corps could also be used to support the urban forest management program in other ways. Volunteers could develop and/or staff Arbor Day and Earth Day events, post and manage tree messages on social media, help update the inventory, and/or locate planting sites in neighborhoods.

Explore Partnerships

Establish partnerships to fund and accomplish the young tree training program and some mature tree care activities. For instance, the utility companies may support tree growth regulator applications for trees under their lines; businesses or developers may pay into a fund to "adopt" or maintain trees in parks, commercial areas, and newly built streets; and residents may help water mature street trees during times of drought.

The City should continue to maintain and strengthen partnerships with agencies and organizations that provide technical service and grant opportunities. For example, the CAL FIRE Urban and Community Forestry Program provides urban forestry grants. These partners among many other local, regional, and national partners can support Fremont in implementing the Urban Forest Management Plan.

Also, a local community organization devoted to trees and people in the City is an essential component and partner to ensure long-term success of the Plan. Organizations like the Urban Forest Friends can communicate the outcomes of the Plan, coordinate volunteer events, raise funding, increase awareness and provide education and training, among other services and programs that increase the City's capacity. In addition, these local community partners can assist the City in improving its tree equity and environmental justice by being the boots on the ground and listening to local residents. With any community partner involved in urban forestry, it is important the City establish a memorandum of understanding (MOU) or standard operating procedure (SOP) to ensure the partnership is mutually beneficial to both parties, the community, and the urban forest.

PUBLIC EDUCATION

Public education is one of the true keys to reaching the goals of an urban forestry program. Only by educating the public, City officials, developers, and contractors working within City limits will a community be able to achieve urban forest protection and planting goals. Ordinances and guidelines alone will not guarantee success since developers, contractors, and others often have competing priorities and agendas, and trees and ordinances may be viewed as a nuisance to them.

Cooperation from all concerned parties can be improved by requesting various community stakeholders, such as City Council members and neighborhood groups, to attend educational sessions to learn about the current state of Fremont's urban forest, plans for urban forest management and planting, and the importance of all of it to the future of the community.

To gain support for Fremont's Urban Forestry Program, various public outreach campaigns aimed at educating the residents of Fremont should be established. Where there is understanding and acceptance of the Urban Forestry Program as a whole, there will be increased support for the planting portion of the program. Based on examples of public relations efforts by urban foresters in other communities, the following types of activities are suggested for the City and its local community partners to undertake:

- Hold a seminar or public meeting to discuss the tree inventory project, its results, and its importance for the City.
- Develop monthly evening or weekend seminars related to tree care and landscaping; bring in guest experts from various disciplines in the green industry.
- Write a monthly "Tree Talk" article for local newspapers or social media.
- Develop a Tree Care door hanger brochure to go to each residence where new trees are planted; educating residents about proper tree care could help eliminate trunk damage and improper mulching and pruning of new trees.
- The City could start giving away one-gallon tree seedlings to any volunteers who get involved with City projects. This is a great reward and a way to spread the word about trees. Fremont could capitalize on the idea and attach the same Tree Care door hanger brochure or a different informational brochure to each of these trees.
- Co-host tree planting programs with the local garden club, local non-profits, or groups.

- Embrace story telling within the urban treescape. Connect the trees to the history of the area through complementary art, placards, or signage. Consider establishing tree walks that highlight some of Fremont's greatest tree specimens and provides tree identification training. Consider story maps. Utilize the public-facing features of the City's tree inventory management software as a platform for engagement and education.
- Encourage citizen scientist activities that involve the urban forest. For example, the Nature Conservancy's "Healthy Trees Healthy Cities" app can be used to monitor tree health and check trees for pests. Local professors and non-profit groups that work with citizen science may be able to help plan projects and recruit citizen scientists.
- Continue to be a Tree City USA city and expand public awareness with celebration through social media.
- Expand the annual Arbor Day celebration to help it become a community tradition. The Arbor Day celebration could be further developed as an all-day Saturday event, preferably held in a popular park/public space setting in the City. Expanding on short programs on planting and pruning trees and including children's programs about trees can help increase public interest in the City's tree programs. Additionally, the City could invite contractors to conduct demonstrations on tree planting, trimming, landscaping, and species selection. Organizers could also set up booths with tree information. Refer to the National Arbor Day Foundation (ArborDay.org) for publications that provide great Arbor Day ideas to assist in planning of this event.

Establish an Urban Forestry Working Group

Forming an Urban Forestry Working Group or Tree Working Group is one step Fremont can take to sustain an urban forestry program and increase community engagement. The powers and responsibilities of a working group can be established by the City. By forming and empowering a working group, Fremont can place the responsibility for important community decisions in the hands of volunteers with designated powers. The formation of the working group can be a crucial element in developing broad-based support for community trees and ensuring long-term success and growth of Fremont's Urban Forestry Program. The working group can also serve to monitor implementation of the Urban Forest Management Plan.

Proposed Responsibilities of the Urban Forestry Working Group

The Urban Forestry Working Group should reflect the values and standards of the community and should help champion an urban forestry effort. The recommended roles and responsibilities of Fremont's working group may include the following:

- Reduce involvement of a municipal council for tree-related matters.
- Administer tree removal appeals processes.
- Advise community leaders and staff on administering the urban forest.
- Stimulate and organize tree planting and maintenance.
- Participate in the Landmark Trees Program.
- Support urban forest projects such as inventories, management plans, and ordinances.
- Settle community disputes caused by tree removal, planting, or maintenance.

Environmental Justice

The equitable distribution of resources is a key driver of environmental justice. This Urban Forest Management Plan aims to grow the urban forest and address the fact that existing canopy resources and associated benefits are unequally distributed. Urban tree canopy expansion and maintenance requires a financial investment on the part of the City, primarily from tax dollars. As a result, tree canopy coverage tends to be larger and more established in wealthier neighborhoods, and tree canopies are often less than ideal in communities that are economically disadvantaged.

Along with funding, community support for the urban forest and this Plan are necessary to succeed. Communication should begin months before a tree planting starts and should build trust between the entity spearheading the tree plantings and the community the tree planting is taking place in. Connecting with trusted community leaders to introduce the idea of an expanded tree canopy, holding outreach events at an earlier stage in the plan, and taking local opinion into account when it comes to tree species selection can develop a partnership, rooted in trust, with the area's residents. A big part of keeping that trust is staying consistent through action. Following up with these communities to hear and address any concerns while consistently maintaining the new plantings will help ensure a fully developed urban forest. The framework of the Urban Forest Management Plan guarantees the presence of environmental justice principles in Fremont's Urban Forestry Program.

The tree planting initiatives and Citywide tree canopy cover goals to be finalized by the City will address community equity and environmental justice by identifying areas in most need of tree canopy cover, tree plantings, and urban forestry services. And, as the City expands its network of partners, different populations within a neighborhood will be better represented.

Support the City's Volunteer Efforts

To streamline community education and engagement across the City's programs and projects that influence the natural environment (i.e., Urban Forestry, sustainability, recycling, among others) and to achieve goals of the Urban Forest Management Plan, the City's volunteer efforts should be supported with partnerships, organizations, the potential Urban Forestry Working Group, and adjunct staff support. The management of volunteers, events, messaging, partnerships, and programs will build support for the Urban Forestry Program through volunteers and ensure all demographics and cultures have an equal opportunity to experience and discuss the City's urban forest.

Community Engagement Summary

Outreach and engagement with the community of Fremont begins with clear messaging and information gathered from the Urban Forest Management Plan. To make a greater impact and to fully recognize all communities in Fremont, it is recommended the City identify a local non-profit community organization with a mission that supports the urban forest. In addition to a community partner, a City Urban Forestry Working Group adds capacity and creates more advocates for the Urban Forestry Program. Lastly, a community of tree stewards that are trained in tree planting and post-planting care will increase Urban Forestry Program capacity and build support for long-lasting impacts.

URBAN FOREST MANAGEMENT AND SUSTAINABILITY GOALS

URBAN FOREST MANAGEMENT AND SUSTAINABILITY GOALS

Trees are an integral part of the community and the ecological systems in which they exist. They provide significant economic, social, and ecological benefits, such as carbon sequestration, reduction of urban heat islands, energy savings, reduction of stormwater runoff, improvement of water quality, enhancement of human health and wellness, and increase the value of properties. Planting and maintaining trees help Fremont become more sustainable and reduce the negative impacts on the ecosystem from urban development. Trees are as necessary as water, infrastructure, and energy to sustaining healthy communities. The health of the urban forest is directly linked to the health of the community.

Through research, staff interviews, data analyses, benchmarking research, community engagement, and urban forest auditing, the City identified five specific goals with each having several strategies to accomplish the goals. The strategies were further divided into actions. Lastly, the actions include specific and measurable targets to guide planning, implementation, and evaluations. An interactive worksheet detailing the goals, strategies, and actions was developed to support this Plan. The worksheet includes a total of 19 unique attributes that can be filtered and sorted to inform implementation strategies. For example, each action can be sorted by priority and level of funding required.

The Analysis of Fremont's Urban Forest, Management Framework, and Community Framework for Engagement sections provide the context, discussions, and recommendations that led to the development of the goal framework. An extensive review of the policies within Fremont's General Plan was completed to align City planning efforts. The Urban Forest Management Plan actions address a total of 20 unique policies within the General Plan, demonstrating effectiveness, efficiency, resourcefulness, and support this urban forestry plan offers to the City's principles and policies.

FREMONT'S URBAN FOREST VISION

Fremont's trees are recognized as integral to the quality of life for all City residents as well as for the City's urban character and natural environments. With a healthy, thriving, and sustainable urban forest, Fremont's trees will be thoughtfully managed in a way to maximize a range of public benefits, including a thriving ecosystem, a vibrant economy, and a livable community shared by all.

GUIDING PRINCIPLES

Green Asset Management: Trees are vital components of the community to be thoughtfully managed.

Health and Sustainability: The urban forest grows sustainably through Best Management Practices and shared commitments.

Program Efficiencies and Fair Policies: Long-lasting improvements to the urban forest are achieved with improved levels of service and sound policies, protocols, and standards.

Preservation and Resiliency: Continuous process of long-range planning and management enhances and protects the urban forest for future generations.

Community Engagement: The growth and management of the urban forest is informed by education and engagement that is equitable, inclusive, diverse, and transparent.

Primary Goals for Fremont's Urban Forest

Managing the Urban Forest Asset

using industry standards and best practices and adequate resources for sustainable management.

Growing a Sustainable Urban Forest

by addressing tree equity and low canopy areas and growing an urban forest that is sustainable and resilient to pests, diseases, and the effects of climate change.

Strengthening the Urban Forestry Program

by improving program efficiencies, procedures, trainings, planning, coordination, and funding.

Preserving the Urban Forest

with sound policies, the resources to monitor and enforce regulations, the management of tree pests and diseases, and integration with other City programs.

Community Partnerships

by strengthening partnerships and volunteer programs, supporting organizations and tree working groups that advocate for the urban forest, and consistent outreach and engagement through the lens of equity and environmental justice.

Note, the Implementation and Monitoring Plan was provided to the City as a separate document. In that document, the action implementation timetable is provided along with the guidance for monitoring. The monitoring guidance consists of the Evaluate, Monitor, Report, and Revise methodology to enable the City to apply an adaptive management approach.

The following pages provide the actions to support each strategy and respective goal. Additional information regarding the actions along with the supporting targets is available in Appendix B and as a separate worksheet for implementers of this Plan.

Strategies to Achieve Urban Forestry Goals

GOAL A: Managing the Urban Forest Asset

Strategy: A1 *Routine analyses of the urban forest support data-driven decisions to sustainably manage the community asset.*

Strategy: A2 *Industry best practices and standards are fully integrated into urban forestry workflows and supporting plans.*

Strategy: A3 *The urban forest is sustainably managed to maximize the associated benefits and services for all current and future residents of the City.*

GOAL B: Growing a Sustainable Urban Forest

Strategy: B1 *Canopy goals and tree planting targets are adopted and implemented to benefit all residents of Fremont.*

Strategy: B2 *The urban forest is planted and grown to be a sustainable and resilient resource benefiting all residents of Fremont.*

GOAL C: Strengthening the Urban Forestry Program

Strategy: C1 *The Urban Forestry Program structure enables effective and efficient management of the urban forest for optimal levels of sustainability and customer service.*

Strategy: C2 *Sound and fair regulations and procedures enable the accomplishment of shared goals.*

Strategy: C3 *The Urban Forestry Program has dedicated adequate funding for optimal levels of management and customer service.*

GOAL D: Preserving the Urban Forest

Strategy: D1 *Tree regulations, policies, programs, and procedures effectively preserve the urban forest.*

Strategy: D2 *The urban forest is effectively managed for resiliency.*

GOAL E: Community Partnerships

Strategy: E1 *Partnerships represent all communities of Fremont and common goals are reached.*

Strategy: E2 *The public is educated on, engaged in, and committed to the stewardship of Fremont's urban forest.*

Strategy: E3 *The Urban Forestry Program and its partners provide optimal customer service levels through the lens of tree equity and environmental justice.*

Acronyms (*as presented in the following actions*): UFMP = Urban Forest Management Plan (2023); TCA = Tree Canopy Assessment; ANSI = American National Standards Institute; ISA = International Society of Arboriculture; BMPs = Best Management Practices; SOPs = Standard Operating Procedures; CAP 2.0 = Climate Action Plan (2022 update); TRAQ = Tree Risk Assessment Qualification (ISA); CAL FIRE = California Department of Forestry and Fire Protection; U.S. = United States (of America); CA = California; CEU = Continuing Education Units; MOUs = Memorandum of Understanding; USA = United States of America; CALEnviroScreen = mapping tool developed by the California Environmental Protection Agency (CALEPA).

ACTIONS TO SUPPORT THE STRATEGIES

Short-Term (0-3 Years) - 2023 through 2025

A1a) Track tree plantings and maintenance of public trees by partners to the extent possible utilizing tree inventory software and/or city asset management program.

A1b) Align work plans with the short-term actions in this UFMP and prepare an annual activity calendar to achieve the mid- and long-term actions.

A2a) Adhere to industry standards and best practices for all City-led tree-related operations and services.

A3a) Provide notices, resources, and information regarding the need to properly maintain public trees for adjacent property owners where the inventory identifies a priority or need.

A3b) Update protocols and procedures for evaluating risk and condition of public trees and in cases where trees are involved in construction and development projects. Utilize ANSI A300 Tree Risk Standards for guidance.

B1a) Share internally and externally through messaging and materials the City's urban tree canopy goal of 24% tree canopy cover by 2062.

B2a) Promote the goal to plant 800 trees per year in areas that address tree equity and sustainability. Engage with the community for public park and street plantings to instill ownership and stewardship of the new trees.

B2b) Review and finalize the recommended tree list developed as part of the UFMP project and update the City's webpage for "Approved Street Trees".

C1a) Establish an Urban Forestry Working Group as required in the CAL FIRE Grant as the technical advisory committee with regular meetings to monitor progress of implementing the 2020 CAL FIRE Grant actions.

D1a) Evaluate tree-related ordinances, policies, and regulations to identify changes that would support the goals of the UFMP.

E2a) Develop a communications plan for public outreach, education, and engagement with strategies for clear and consistent design and messaging about the urban forest.

E3a) Target urban forestry outreach and education to under-represented communities, renters, and non-English speaking residents that aligns with the audiences' values, priorities, and other considerations.

Mid-Term (4-5 Years) - 2026 through 2027
A1d) Secure and implement an online platform for the public to view the public trees inventoried and to seek opportunities for residents to add trees planted and/or established on their properties.
A1e) Complete an urban forest audit using similar criteria as the 2021 audit completed for the UFMP to evaluate improvements in urban forest management and adapt strategies.
A1f) Complete an updated Tree Canopy Assessment (TCA) and review Plan every 5 years.
A1g) Analyze changes to the public tree population by evaluating the inventory in terms of tree structure, characteristics, trends, and ecosystem benefits to inform maintenance, management, and outreach approaches.
A2c) Update City resources with references and information relating to industry standards and best practices. Utilize ANSI A300, ANSI Z133.1-2012, and ISA BMPs for guidance.
A3e) Create a maintenance practice that is based on the public tree inventory and maintenance standards.
A3f) Conduct a sample or windshield survey to identify public trees that may pose a risk and utilize the ISA Level 2 Risk Assessment procedures for the trees in question.
B1b) Integrate the tree canopy goal and supporting metrics into relevant City and partner plans, regulations, and messaging, such as the Climate Action Plan update, and the General Plan.
B2e) Scale up public tree plantings based on the tree canopy goals and continue to address the areas of greatest need and sustainability.
B2f) Incorporate the recommended tree list into City resources and messaging.
B2g) Utilize the findings from the UFMP to provide information on the locations and types of trees to plant for the Capital Improvement Program, Climate Action Plan, stormwater management, and development projects.
C1e) Provide or support training to departments involved in the tree permitting processes, development plan reviews, tree inspections, building inspections, project design, and construction. Ensure the involvement of ISA Certified Arborists with these efforts.
C2a) Update or establish urban forestry protocols, specifications, and standards for capital projects, construction administration, maintenance, contracts, and performance monitoring.
D2c) Educate and train property owners and contractors to identify and manage tree pests and diseases, and other best practices such as watering.
E1b) Support in a technical capacity the strengthening of a local community organization(s) devoted to stewardship of the urban forest. Establish regular meetings and MOUs where applicable. Use the guidance provided in the UFMP to implement.
E1c) Utilize the Urban Forestry Working Group as needed under the Recreation Commission's guidance when additional community input is required under this management plan.
E2f) Finalize the draft Tree Maintenance Manuals for residents and tree care professionals that were developed as part of the UFMP and share with the appropriate audiences.
E3c) Prioritize areas of the City with the highest CalEnviroScreen Scores for new tree plantings.

Long-Term (Beyond 5 Years) - 2028+
A2d) Educate, train, and monitor adherence to industry standards, best practices, and specifications by partners, contractors, residents, and others interacting with public trees.
A3g) Establish and implement a proactive pruning community education program to include the recommended rotation of 5-7 years.
A3h) Update the public tree inventory with an ISA Level 2 Risk Assessment for trees greater than 8 inches in diameter or by using criteria recommended by an ISA Certified Arborist.
B1c) Evaluate and revise priority planting areas on public land subsequent to regularly updated TCA.
B2h) Communicate and collaborate with City programs, partners, and the public to understand, support, and implement local tree canopy goals and goals for sustainability.
C2b) Update tree-related classifications in the City Urban Forestry classifications to include industry credentials such as ISA Certified Arborist and Tree Risk Assessment Qualification (TRAQ).
D2d) Strengthen storm and disaster preparations, mitigations, and recovery strategies, protocols, and mechanisms. Prepare a new emergency action plan that is developed and overseen by the Urban Forestry manager.
D2e) Explore amendments to City tree-related ordinances and regulations that expand on tree planting, maintenance, and preservation requirements to support the goals of the UFMP and other City Plans such as the Climate Action Plan.
E1d) Plant a more diverse palette of trees that meets the City's tree diversity requirements and updated planting recommendations.
E2g) Engage residents in tree planting events and trainings with emphasis in neighborhoods that have lower tree canopy cover area than the Citywide tree canopy cover of 14%.
E2h) Gather input and feedback from the public as it relates to the UFMP implementation progress, the resulting outcomes, and potential changes needed.
E2i) Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or tree fund framework for costs associated with this program and utilize local community partners and any new tree-related boards or working groups.

Ongoing
A1c) Maintain the public tree inventory in tree inventory software as changes occur.
A2b) Provide urban forestry-related data, resources, regulations, and goals when the City is updating or creating plans and resources.
A3c) Continue to prioritize contracted tree maintenance and removals based on the inventory data, service requests, and observations.
A3d) Analyze the public tree inventory to identify priorities for maintenance and removals.
B2c) Select tree species, locations, and timing for planting that supports the goals for species and age diversity, sustainability, tree equity, and resiliency.
B2d) Update the recommended tree list based on the tree inventory, climate change projections, site suitability, drought tolerance, ecosystem services, tree canopy goals, among other factors.
C1b) Utilize a continuous improvement framework (Commitment, Strategy, Process, Performance) to improve operational workflows and coordination among departments impacting or influencing the urban forest.
C1c) Stay current with industry research, science, and technology through various platforms. An example includes management of current and potential exotic tree pest and disease threats.
C1d) Maintain relevant qualifications, certifications, and trainings for City staff to effectively manage the urban forest.
C3a) Continue to evaluate annual public tree inventory collection and data management equipment needs.
C3b) To support the goals of the UFMP, explore options for dedicated, sustained funding beyond the City's General Fund, such as the Gas Tax. Continue to seek and acquire funding and technical assistance from organizations such as the CAL FIRE, U.S. Forest Service, CA Natural Resources Agency, and others.
D1b) Provide information and resources regarding the Street Tree Ordinance and the Tree Preservation Ordinance to raise awareness and decrease violations.
D1c) Continue to review construction and development plans, designs, and projects to promote the preservation of healthy and beneficial trees throughout the City's urban forest.
D1d) Continue to manage the Landmark Trees Program and increase awareness through education.
D1e) Explore opportunities to expand the Landmark Trees Program that recognizes and protects the trees to continue sustaining Fremont's urban forest value and heritage.
D2a) Maintain the public tree inventory to effectively monitor for existing and potential tree pest and disease vulnerability.
D2b) Manage invasive species in public parks, rights-of-way, and on public properties as feasible with available funding.
E1a) Continue to build and strengthen partnerships with community groups, institutions, agencies, and organizations to raise awareness, support, and stewardship of the urban forest.
E2b) Aligned with the public communications plan, provide urban forestry information, resources, and updates on a regular basis.
E2c) Partner with local neighborhood organizations to diversify the volunteers and event attendees in an effort to build community-wide awareness, support, and stewardship of the urban forest.
E2d) Evaluate the 50/50 program to ensure that it is aligned with the needs of residents and make policy recommendations to align with the UFMP.
E2e) Continue to track and annually report urban forestry activities of all partners to maintain Arbor Day Tree City USA designation.
E3b) Continue to strengthen or build partnerships with community-based organizations that are inclusive of the diverse demographics of the City.

FREMONT, CA

CITY OF Fremont

URBAN FOREST MANAGEMENT PLAN

APRIL 2023

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APPENDICES AND LIST OF SUPPORTING STUDIES

UFMP TECHNICAL REPORT AND THE IMPLEMENTATION & MONITORING PLAN

A separate supporting document that provides extensive analyses, methodologies, results, and interpretations of the results of the planning process to develop the Plan along with the guidance for implementing and monitoring Plan progress.

TREE EQUITY REPORT

The initial analysis of tree canopy cover, tree equity, priority planting areas, and draft goals to develop the urban tree canopy goals in the Plan.

TREE PRESERVATION AND RISK REPORT

An analysis of the 2020 public tree inventory and 2021 risk assessment of City-maintained public trees to develop the tree maintenance, removal, planting guidance in the Plan.

SIDEWALK SOLUTIONS WORKBOOK

A decision checklist and solutions kit for consideration in dealing with tree and hardscape conflicts. Supports tree preservation and canopy goals along with City ADA requirements.

STATISTICALLY-VALID PUBLIC SURVEY REPORT

The results and analysis of the statistically-valid public survey are presented based on the output report generated by the survey administrators. Results and information gathered from this survey were utilized in developing the Plan's vision, goals, strategies, and actions.

URBAN FOREST AUDIT RESULTS

To inform the development of the Plan's goals and strategies, the U.S. Forest Service's Urban Forest Sustainability and Management Audit System was implemented. This evaluation or audit identifies the City's urban forest management strengths and opportunities and provides a framework for monitoring Plan implementation and success.

LIST OF CITIES FOR BENCHMARKING RESEARCH

Tables summarizing the cities, types of classifications, and key attributes utilized in completing the benchmarking research to inform Plan development.

RESIDENTS AND TREE CARE PROFESSIONALS MAINTENANCE & POLICY MANUALS

Guides for residents and tree care professionals in Fremont for tree care practices and regulations.

APPENDIX A. REFERENCES

Kellert, S.R., Wilson, E.O. 1993. The Biophilia Hypothesis. Island Press, Washington, DC. 484 pp. (UFMP Page V)

Clark, J.M., Matheny, N.P., Cross, G., Wake, V. 1997. A Model of Urban Forest Sustainability. Journal of Arboriculture 23(1). 14 pp. (UFMP Page XIII)

American Forests, 2020. Tree Equity Score Tool (www.treeequityscore.org). Accessed October 2021. (UFMP Page 1)

Richards, N. A. 1983. "Diversity and Stability in a Street Tree Population." *Urban Ecology* 7(2):159–171. (UFMP Page 6)

Richards, N.A. 1993. Reasonable guidelines for street tree diversity. Journal of Arboriculture 19:344–349. (UFMP Page 6)

Alliance for Community Trees, "Benefits of Trees and Urban Forests: A Research List" (www.actrees.org), August 2011. (UFMP Page 9)

Donovan, G.H., Butry, D.T., 2009. The value of shade: estimating the effect of urban trees on summertime electricity use. Energy Build. 41, 662–668. (UFMP Page 10)

Wolf, K.L. August 2007. City Trees and Property Values. Arborist News 16, 4: 34-36. (UFMP Page 10)

McPherson, G.E., 2017. The structure, function and value of urban forests in California communities. Urban Forestry & Urban Greening 28 (2017) 43-53. (UFMP Page 13)

Hauer R. J. and Peterson W. D. 2014. Municipal Tree Care and Management in the United States: A 2014 Urban & Community Forestry Census of Tree Activities. Special Publication 16-1, College of Natural Resources, University of Wisconsin – Stevens Point. 71 pp. (UFMP Page 17)

Thompson, R.P., Reimer, J.L. (2018). The State of Urban and Community Forestry in California. Status in 2016 and trends since 1988. Urban Forest Ecosystems Institute, California Polytechnic State University, San Luis Obispo. Supported by CAL FIRE Urban and Community Forestry Program, Technical Report No.15, October 2018. (UFMP Page 17)

Kempter, G.P. 2004. Best Management Practices – Utility Pruning of Trees. International Society of Arboriculture. (UFMP Page 24)

APPENDIX B. INTERACTIVE STRATEGY AND ACTION WORKSHEET

Framework of Plan Actions

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Timeframe	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits*	Audit Category / Element Reference
Goal, strategy, and action number. Cell is color-coded to match the goal reference color	The action statement	The recom-mended overall order of implement-tation	1-3 ranking of action importance indicated by cell color (3 = highest priority)	1-3 ranking of resources required indicated by cell color (3 = highest level of effort)	Ranges from 0-3, 4-5, 5+ and ongoing years to implement the action	Year to complete the action	UFP = Urban Forestry Program; PWMS = Public Works Maintenance Services; PM = Park Maintenance Division; CDPD = Community Development Planning Division; NPO = Non-Profit Organization; UFWG = Urban Forestry Working Group	C = Community, E = Equity, H = Human Health, N = Natural Environment. First in order = greatest	Reference to the audit completed to develop the Plan for action monitoring. Bold references indicate highest impact

Table 2. Description of attributes in the action tables

Framework of Plan Targets

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
Supporting target leading to final target aligned with action "target year" and desired outcome	Supporting target leading to final target aligned with action "target year" and desired outcome	**A target in bold font is the primary target to measure success of implementing the corresponding action**	A statement to build support for implementing the respective action	Existing and potential sources to fund the respective action	Policy number impacted or supported by the UFMP action.

Table 3. Description of attributes in the targets tables

Acronyms

ANSI=American National Standards Institute; CAP=Climate Action Plan; FAQs=Frequently Asked Questions; FY = Fiscal Year; ISA=International Society of Arboriculture; MOUs=Memorandums of Understanding; OSHA = Occupational Safety and Health Administration; RFP=Request for Proposal; SOPs=Standard Operating Procedures; UFWG = Urban Forestry Working Group; TCA=Tree Canopy Assessment; UFMP=Urban Forest Management Plan; UFP=Urban Forestry Program

Fremont Urban Forest Management Plan Actions and Targets

Table 4. Fremont Urban Forest Management Plan actions and targets

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
A1a	Track tree plantings and maintenance of public trees by partners to the extent possible utilizing tree inventory software and/or City asset management program.	25			0-3 Years	2025	UFP, PM, PWMS, CDPD, NPO	N	3.03, 5.03, **5.04**, **5.05**, **5.06**, 5.07, **5.15**, 6.12, 7.05, 7.08, 9.24, 11.01-11.10
A1b	Align work plans with the short-term actions in this UFMP and prepare an annual activity calendar to achieve the mid- and long-term actions.	26			0-3 Years	2025	UFP	N, C, H	4.01, 4.02, 4.03, **6.01**
A1c	Maintain the public tree inventory in tree inventory software as changes occur.	2			Ongoing	Annual	UFP, PM, PWMS, CDPD, NPO	N	1.01, 1.02, 1.04, 1.05, 1.13, 1.14, **5.01**, 5.02, 5.13, 5.14
A1d	Secure and implement an online platform for the public to view the public trees inventoried and to seek opportunities for residents to add trees planted and/or established on their properties.	36			4-5 Years	2027	UFP, PM, PWMS, CDPD, NPO	N	3.03, **5.03**, **5.04**, **5.05**, **5.06**, **5.07**, **5.15**, 6.12, 7.05, 7.08, 9.24, 11.01-11.10
A1e	Complete an urban forest audit using similar criteria as the 2021 audit completed for the UFMP to evaluate improvements in urban forest management and adapt strategies.	37			4-5 Years	2027	UFP, PM, PWMS, CDPD, NPO	N, C, H, E	**1.01-11.10**
A1f	Complete an updated Tree Canopy Assessment (TCA) and review Plan every 5 years.	38			4-5 Years	2027	UFP	N, E, C, H	1.01, 1.02, 1.04, 1.05, 1.13, 1.14, **5.01**, 5.02, 5.13, 5.14

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
A1a: The City accurately maintains the tree inventory data	**A1a: A system is established to methodically and routinely gather partners' tree planting and removal data**	A1a: Tree planting and removal data from all partners is integrated into the City's asset system or similar	*Accurate tracking enables assessment of efficacy of actions and progress towards canopy goals.*	TBD	7-1.8
A1b: Management actions and urban forestry operations are detailed in a list	**A1b: The list of actions and operations is organized into a monthly task sheet**	A1b: An activity calendar is created and updated as needed on an annual basis, annual progress report is shared	*Organization of required services and operations enables effective planning and prioritization with limited resources.*	TBD	7-1.8
A1c: The City accurately maintains the tree inventory data	**A1c: A system is established to methodically and routinely gather partners' tree planting and removal data**	A1c: Tree planting and removal data from all partners is integrated into the City's asset system	*Accurate tracking enables assessment of efficacy of actions and progress towards canopy goals.*	TBD	7-1.8
A1d: The City accurately maintains the tree inventory data	**A1d: A system is established to methodically and routinely gather partners' tree planting and removal data**	A1d: Tree planting and removal data from all partners is integrated into the City's asset system	*Accurate tracking enables assessment of efficacy of actions and progress towards canopy goals.*	TBD	7-1.8
A1e: A team to complete the updated audit is established	**A1e: The first City-led urban forest audit is completed**	A1e: An urban forest audit is routinely (every ~5 years) conducted	*Evaluations enable adaptive management.*	TBD	7-1.8
A1f: A budget is prepared and approved for the TCA	A1f: An RFP is prepared and consultant selected to complete a TCA or the TCA is conducted in-house	**A1f: An updated TCA is completed and updates are routinely made every 5 years**	*An updated assessment of canopy gains and losses informs policy and management, provides a status of canopy goals, and offers a baseline to establish new goals.*	TBD	7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
A1g	Analyze changes to the public tree population by evaluating the inventory in terms of tree structure, characteristics, trends, and ecosystem benefits to inform maintenance, management, and outreach approaches.	39			4-5 Years	2027	UFP	E, C, N	1.07, **1.09**, 3.03, 3.04, **5.02**, **5.07**
A2a	Adhere to industry standards and best practices for all City-led tree-related operations and services.	32			0-3 Years	2025	UFP, PM, PWMS, CDPD, NPO	N, C, H	1.03, 1.05, 1.06, **1.12**, 7.07, 7.08, **9.01**-**9.30**
A2b	Provide urban forestry-related data, resources, regulations, and goals when the City is updating or creating plans and resources.	12			Ongoing	Annual	UFP, CDPD	N	1.01, **2.09**, **4.03**, 6.02-6.09, **6.10**, **6.11**, **6.12**, **6.13**, 7.08, **7.09**, **8.02**, **8.03**, **8.05**
A2c	Update City resources with references and information relating to industry standards and best practices. Utilize ANSI A300, ANSI Z133.1-2012, and ISA BMPs for guidance.	44			4-5 Years	2027	UFP, PM, PWMS	N, C, H	1.05, 1.06, **1.10**, **1.11**, **1.12**, **9.01**, **9.03**, **9.04**, 9.05, 9.07-9.11, **9.12**, **9.13**, 9.17-9.21, **9.23**, 9.24, **9.30**
A2d	Educate, train, and monitor adherence to industry standards, best practices, and specifications by partners, contractors, residents, and others interacting with public trees.	54			5+ Years	TBD	UFP, PM, PWMS	N, C, H	1.05, 1.06, **1.10**, **1.11**, **1.12**, **9.01**, **9.03**, **9.04**, 9.05, 9.07-9.11, **9.12**, **9.13**, 9.17-9.21, **9.23**, 9.24, **9.30**
A3a	Provide notices, resources, and information regarding the need to properly maintain public trees for adjacent property owners where the inventory identifies a priority or need.	34			0-3 Years	2025	UFP, PM, PWMS	N, H, C, E	2.02, 5.03-5.07, 5.15, 6.03, 7.03, **10.13**, 11.01, 11.03, 11.09, 11.10

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
A1g: The public tree inventory is current to the extent possible	**A1g: The ecosystem services and benefits of the public tree population is understood**	A1g: Ecosystem services and benefits of the public tree population are routinely updated (every 2 years) based on inventory data and industry research	*An understanding of benefits, services, and value can be conveyed to the public and inform management.*	TBD	7-1.6, 7-1.8
A2a: Annual training or resources shared with pertinent staff	A2a: Annual training or resources shared with pertinent staff	A2a: Data and observations show a reduction in tree planting and maintenance malpractice	*A well managed urban forest is sustainable, resilient, lower risk, and beneficial.*	TBD	7-1.6, 7-1.8
A2b: Relevant data and information in the UFMP are prepared to support updates to City plans	**A2b: Regular (annual) meetings are attended to identify opportunities to integrate plans**	A2b: Updates to relevant City plans incorporate urban forestry data	*Alignment of planning efforts reduces inefficiencies and supports achieving shared goals.*	TBD	7-1.8
A2c: City resources are updated to reflect standards and BMPs	A2c: In-house and contractor specifications meet ANSI, ISA, and OSHA standards	A2c: Observations show a decrease in tree malpractices on public and private property	*A well managed urban forest is sustainable, resilient, lower risk, and beneficial.*	TBD	7-1.8
A2d: In-house and contractor specifications meet ANSI, ISA, and OSHA standards	A2d: In-house and contractor specifications meet ANSI, ISA, and OSHA standards	A2d: Observations show a decrease in tree malpractices on public and private property	*A well managed urban forest is sustainable, resilient, lower risk, and beneficial.*	TBD	7-1.8
A3a: The public tree inventory is utilized to inform adjacent property owners of tree maintenance and removal needs	A3a: Observations show a reduced number of public trees requiring extensive maintenance or removal	A3a: Public street trees are pruned either through contracts, in-house, or by adjacent property owners resulting in a 5-7-year rotational cycle	*Increasing the number of trees pruned annually will address the impacts of deferred maintenance, reduce risk, maximize benefits, and lower costs.*	TBD	7-1.8, 8-2.1

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
A3b	Update protocols and procedures for evaluating risk and condition of public trees and in cases where trees are involved in construction and development projects. Utilize ANSI A300 Tree Risk Standards for guidance.	35			0-3 Years	2025	UFP, PM, PWMS	H, C, N	1.03, 2.09, 4.03, **7.01**-**7.09**, **9.11**, 9.20, 11.01, 11.03
A3c	Continue to prioritize contracted tree maintenance and removals based on the inventory data, service requests, and observations.	3			Ongoing	Annual	UFP	E, H, C, N	5.03-**5.07**, **5.15**, **6.03**, **7.03**, 10.13, **11.01**, **11.03**, **11.09**, **11.10**
A3d	Analyze the public tree inventory to identify priorities for maintenance and removals.	4			Ongoing	Annual	UFP	E, H, C, N	5.03-**5.07**, **5.15**, **6.03**, **7.03**, 10.13, **11.01**, **11.03**, **11.09**, **11.10**
A3e	Create a maintenance practice that is based on the public tree inventory and maintenance standards.	50			4-5 Years	2027	UFP	N, H, E, C	2.01-2.04, 3.01, 3.05, 5.03-**5.07**, **6.03**, **7.03**, 10.13, **11.01**, **11.03**, **11.09**, **11.10**
A3f	Conduct a sample or windshield survey to identify public trees that may pose a risk and utilize the ISA Level 2 Risk Assessment procedures for the trees in question.	51			4-5 Years	2027	UFP, PM, PWMS	H, C, N	**1.03**, 2.09, 4.03, **7.01**-**7.09**, **9.11**, **9.20**, 11.01, 11.03

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
A3b: Existing protocols and industry recommendations are compiled	**A3b: Protocols and risk assessment criteria updated, documented, and distributed**	A3b: Inventories show a reduction in tree risk, less service requests, and improved public perception	*Consistent assessments using industry best practices reduces risk and improves public perception.*	TBD	7-1.8, 8-2.1
A3c: Service requests and maintenance continue to be prioritized and contracted by the UFP	A3c: Service requests and maintenance continue to be prioritized and contracted by the UFP	A3c: All public young trees receive proper training and established trees are maintained on a recommended rotation	*Priorities enable appropriate management within the confines of resources.*	TBD	7-1.8, 8-2.1
A3d: Service requests and maintenance continue to be prioritized and contracted by the UFP	A3d: Service requests and maintenance continue to be prioritized and contracted by the UFP	A3d: All public young trees receive proper training and established trees are maintained on a recommended rotation	*Priorities enable appropriate management within the confines of resources.*	TBD	7-1.8, 8-2.1
A3e: The public tree inventory is maintained	**A3e: Public tree maintenance is prioritized based on the inventory**	A3e: Public street trees are pruned either through contracts, in-house, or by adjacent property owners resulting in a 5-7-year rotational cycle	*A proactive pruning program effectively manages risk, maximizes the benefits, and supports sustainable management.*	TBD	7-1.8
A3f: The public tree inventory is utilized to manage public tree risk based on available funding	**A3f: The public tree population is routinely monitored for risk and risk is mitigated based on available funding**	A3f: Inventories show a reduction in tree risk, less service requests, and improved public perception	*Consistent assessments using industry best practices reduces risk and improves public perception.*	TBD	7-1.8, 8-2.1

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
A3g	Establish and implement a proactive pruning community education program to include the recommended rotation of 5-7 years.	64			5+ Years	TBD	UFP	N, H, E, C	2.01-2.04, 3.01, 3.05, 5.03-5.07, 6.03, 7.03, 10.13, **11.01, 11.03, 11.09, 11.10**
A3h	Update the public tree inventory with an ISA Level 2 Risk Assessment for trees greater than 8 inches in diameter or by using criteria recommended by an ISA Certified Arborist.	65			5+ Years	TBD	UFP, PM, PWMS	H, C, N	1.03, 2.09, 4.03, **7.01-7.09**, 9.11, 9.20, 11.01, 11.03
B1a	Share internally and externally through messaging and materials the City's urban tree canopy goal of 24% tree canopy cover by 2062.	27			0-3 Years	2025	UFP, PM, PWMS, CDPD, NPO	N, E, C, H	1.01, 1.02, **1.04**, 1.07, 1.09, 1.12, 3.06, **5.01**, 5.02, 5.13, 5.14, 6.10, **6.12**, 6.13, **10.02**, **10.12**, 11.02, 11.05, 11.06, 11.07
B1b	Integrate the tree canopy goal and supporting metrics into relevant City and partner plans, regulations, and messaging, such as the Climate Action Plan update, and the General Plan.	40			4-5 Years	2027	UFP, CDPD, NPO	N, E, C, H	1.01, **2.09**, **4.03**, 5.01, **6.06-6.13**
B1c	Evaluate and revise priority planting areas on public land subsequent to regularly updated TCA.	60			5+ Years	TBD	UFP	N, E, C, H	1.01, **1.04**, 5.01, 5.03-5.15, **6.12**, 10.03, 10.15
B2a	Promote the goal to plant 800 trees per year in areas that address tree equity and sustainability. Engage with the community for public park and street plantings to instill ownership and stewardship of the new trees.	28			0-3 Years	2025	UFP	N, E, C, H	**6.12**, 9.02, 9.14, 9.22, **10.03**

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
A3g: The public tree inventory is maintained and maintenance contracts continue	A3g: The tree maintenance, removals, and risk priorities are adequately addressed	**A3g: The public street trees are proactively pruned on a recommended 5-7 year cycle**	*A proactive pruning program effectively manages risk, maximizes the benefits, and supports sustainable management.*	TBD	7-1.8
A3h: Existing protocols and industry recommendations are compiled	**A3h: The public trees are assessed for risk using industry standards**	A3h: Inventories show a reduction in tree risk, less service requests, and improved public perception (Year 10)	*Consistent assessments using industry best practices reduces risk and improves public perception.*	TBD	7-1.8, 8-2.1
B1a: Canopy goals and targets are evaluated and discussed with other divisions and partners	B1a: Canopy goals are supported by divisions and partners and amendments to City regulations are prepared	**B1a: Canopy goals are integrated into the CAP 2.0 and other plans and regulations and milestones are achieved**	*Equal access to green spaces and an equitable distribution of tree canopy provides social, economic, and environmental benefits.*	TBD	7-1.8, 7-8.1
B1b: Programs and partners are identified	**B1b: Canopy goals and planting targets are adopted by partners**	B1b: Tree equity is achieved in all neighborhoods	*Collaboration enables the efficient and effective achievement of goals.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 4-5.3, 4-5.7, 7-1.7, 7-1.8, 7-7.2
B1c: Priority planting areas established in the UFMP begin to be stocked with trees	**B1c: The updated TCA is utilized to refine priority planting areas and strategies**	B1c: Tree equity is achieved in all City neighborhoods	*Continually evaluating priorities and opportunities ensures effective and sustainable outcomes.*	TBD	7-1.8
B2a: Tree planting locations, species, and support are identified	**B2a: 800 trees are planted per year that are either City-led or with partners**	B2a: A Master Tree Planting Plan based on the annual number of trees and priority planting areas guides strategic planting	*A strategic plan for planting informed by inventory data can achieve canopy goals, sustainability, and equity.*	TBD	4-2.2, 4-2.3, 4-2.5, 7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
B2b	Review and finalize the recommended tree list developed as part of the UFMP project and update the City's webpage for "Approved Street Trees".	33			0-3 Years	2025	UFP	N, C	5.03-5.07, **6.12**, **9.22**, **10.01**-**10.07**, 10.11, **10.12**, 10.13, **11.02**, 11.05, 11.06, **11.07**, 11.10
B2c	Select tree species, locations, and timing for planting that supports the goals for species and age diversity, sustainability, tree equity, and resiliency.	13			Ongoing	Annual	UFP	N, E, C, H	**6.12**, **9.02**, **9.14**, **9.22**, 10.03
B2d	Update the recommended tree list based on the tree inventory, climate change projections, site suitability, drought tolerance, ecosystem services, tree canopy goals, among other factors.	21			Ongoing	Annual	UFP	N	**5.03**-**5.07**, 6.12, **9.22**, 10.01-10.07, 10.11, 10.12, 10.13, **11.02**, 11.05, 11.06, **11.07**, 11.10
B2e	Scale up public tree plantings based on the tree canopy goals and continue to address the areas of greatest need and sustainability.	45			4-5 Years	2027	UFP	N, E, C, H	**6.12**, 9.02, 9.14, 9.22, 10.03
B2f	Incorporate the recommended tree list into City resources and messaging.	46			4-5 Years	2027	UFP, CDPD, NPO	N, E, C, H	1.01, **2.09**, **4.03**, 5.01, **6.06**-**6.13**
B2g	Utilize the findings from the UFMP to provide information on the locations and types of trees to plant for the Capital Improvement Program, Climate Action Plan, stormwater management, and development projects.	47			4-5 Years	2027	UFP, CDPD, NPO	N, E, C, H	1.01, **2.09**, **4.03**, 5.01, **6.06**-**6.13**

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
B2b: The recommended tree list is finalized	**B2b: The tree inventory is maintained and tree lists are updated every 5 years**	B2b: The tree list reflects the goals for diversity and sustainability and public tree species frequencies do not surpass the diversity thresholds	*A strategic plan for planting informed by inventory data can achieve canopy goals, sustainability, and equity.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 7-1.8
B2c: The tree inventory is up-to-date and the recommended tree list is finalized	**B2c: Planting decisions are based on tree inventory data**	B2c: A Master Tree Planting Plan informs the timing of and species selection for tree plantings	*A strategic plan for planting informed by inventory data can achieve canopy goals, sustainability, and equity.*	TBD	4-2.2, 4-2.3, 4-2.5, 7-1.8
B2d: An analysis of the tree inventory and UFMP informs changes to the tree species planting palette	B2d: The tree list is updated based on the inventory data and urban forest needs	B2d: The tree list is updated as needed and analyses of the urban forest show climate change resiliency	*The recommended tree list provides options for planting the urban forest for a changing climate to be resilient and sustainable.*	TBD	7-1.8, 7-4.1, 7-8.1
B2e: The tree inventory is up-to-date and the recommended tree list is finalized	**B2e: Incremental tree canopy goals and planting targets are achieved**	B2e: Tree equity is achieved in all neighborhoods	*A strategic plan for planting informed by inventory data can achieve canopy goals, sustainability, and equity.*	TBD	4-2.2, 4-2.3, 4-2.5, 7-1.8
B2f: Relevant resources are identified	**B2f: Relevant documents, resources, and messaging incorporate the approved tree list**	B2f: The urban forest is resilient to climate change and tree pests / diseases	*Collaboration enables the efficient and effective achievement of goals.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 4-5.3, 4-5.7, 7-1.7, 7-1.8, 7-7.2
B2g: Programs and partners are identified	**B2g: Canopy goals and planting targets are adopted by City programs and partners**	B2g: Tree equity is achieved in all neighborhoods	*Collaboration enables the efficient and effective achievement of goals.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 4-5.3, 4-5.7, 7-1.7, 7-1.8, 7-7.2

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
B2h	Communicate and collaborate with City programs, partners, and the public to understand, support, and implement local tree canopy goals and goals for sustainability.	55			5+ Years	TBD	UFP, CDPD, NPO	N, E, C, H	1.01, 2.09, 4.03, 5.01, **6.06-6.13**
C1a	Establish an Urban Forestry Working Group as required in the CAL FIRE Grant as the technical advisory committee with regular meetings to monitor progress of implementing the 2020 CAL FIRE Grant actions.	1			0-3 Years	2025	UFP	N, C	**6.14**, **1.01-11.10**
C1b	Utilize a continuous improvement framework (Commitment, Strategy, Process, Performance) to improve operational workflows and coordination among departments impacting or influencing the urban forest.	14			Ongoing	Annual	UFP, PM, PWMS, CDPD	N	**2.09**, **4.03**
C1c	Stay current with industry research, science, and technology through various platforms. An example includes management of current and potential exotic tree pest and disease threats.	15			Ongoing	Annual	UFP	N	**2.01-2.08**, 3.01, **7.09**, **11.03**, **11.09**
C1d	Maintain relevant qualifications, certifications, and trainings for City staff to effectively manage the urban forest.	5			Ongoing	Annual	UFP, PM, PWMS, CDPD	N, C	**2.01-2.08**, **7.01**, **8.07**
C1e	Provide or support training to departments involved in the tree permitting processes, development plan reviews, tree inspections, building inspections, project design, and construction. Ensure the involvement of ISA Certified Arborists with these efforts.	41			4-5 Years	2027	UFP, PM, PWMS, CDPD	N	**1.05**, **1.10-1.12**, **2.01-2.09**, **4.03**, **9.01**, **9.03**, **9.04**, **9.12**, **9.13**, **9.19**, **9.23**

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
B2h: Programs and partners are identified	**B2h: Canopy goals and planting targets are adopted by partners**	B2h: Tree equity is achieved in all neighborhoods	*Collaboration enables the efficient and effective achievement of goals.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 4-5.3, 4-5.7, 7-1.7, 7-1.8, 7-7.2
C1a: Potential departments, partners, and sectors necessary for implementation of the UFMP identified	C1a: All necessary members join the workgroup	**C1a: Meeting framework and responsibilities established. Team meets at least quarterly**	*Coordinating implementation of the UFMP enables success.*	TBD	7-1.8
C1b: UFMP actions to improve efficiencies begin to be implemented	C1b: Regular meetings between departments and partners identify changes in workflows and resource needs	C1b: The framework shows improvements in workflows, efficiency, efficacy, and communications	*As cities grow and change, workflows will adapt.*	TBD	7-1.8
C1c: A framework for acquiring necessary information is established	**C1c: Tree management staff attend relevant conferences, webinars, and trainings**	C1c: Tree management staff attend relevant conferences, webinars, and trainings	*Long-term planning and management of a sustainable urban forest requires continual research and practice.*	TBD	7-1.8
C1d: UFP staff maintain all necessary credentials	C1d: All UFP staff maintain credentials and 2 new City staff become ISA Certified Arborists	C1d: All staff interacting with trees in the City are ISA Certified Arborists	*Qualified and certified staff that maintain credentials will apply standards and best practices for a sustainable urban forest.*	TBD	7-1.8
C1e: Training needs are identified	**C1e: Annual training meets the needs of City staff and the urban forest**	C1e: Annual training meets the needs of City staff and the urban forest and staff are equipped to train others	*Training will improve transparency, consistency, and effectiveness.*	TBD	7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
C2a	Update or establish urban forestry protocols, specifications, and standards for capital projects, construction administration, maintenance, contracts, and performance monitoring.	48			4-5 Years	2027	UFP	N	1.02, 1.04, 1.05, 1.09, 1.10, 1.11, 1.12, 2.09,3.04, 4.03, 7.07, **9.01-9.14**, **9.17-9.24**, **9.30**
C2b	Update tree-related classifications in the City Urban Forestry classifications to include industry credentials such as ISA Certified Arborist and Tree Risk Assessment Qualification (TRAQ).	56			5+ Years	TBD	UFP	N	1.02, 1.04, 1.05, 1.10, 1.11, 1.12, **2.01-2.04**, 4.01-4.03, 9.12, 9.13, 9.19, 9.22, 11.05, 11.06, 11.08, 11.09
C3a	Continue to evaluate annual public tree inventory collection and data management equipment needs.	6			Ongoing	Annual	UFP	N	**3.01**, **3.05**
C3b	To support the goals of the UFMP, explore options for dedicated, sustained funding beyond the City's General Fund, such as the Gas Tax. Continue to seek and acquire funding and technical assistance from organizations such as the CAL FIRE, U.S. Forest Service, CA Natural Resources Agency, and others.	16			Ongoing	Annual	UFP	N, C, H, E	**3.01**, **3.05**
D1a	Evaluate tree-related ordinances, policies, and regulations to identify changes that would support the goals of the UFMP.	29			0-3 Years	2025	UFP, CDPD, UFWG	N, C	1.02, 1.05, **1.10**, **1.11**, 1.12, 6.13, 7.07, 7.09, 9.01-9.14, 9.17-9.24, 9.29, 9.30, 10.02, 10.09, 10.12, 11.02-11.10
D1b	Provide information and resources regarding the Street Tree Ordinance and the Tree Preservation Ordinance to raise awareness and decrease violations.	22			Ongoing	Annual	UFP, CDPD, UFWG	N, C	1.02, 1.05, **1.10**, **1.11**, 1.12, **6.13**, 7.07, 7.09, 9.01-9.14, 9.17-9.24, 9.29, 9.30, **10.02**, **10.09**, **10.12**, 11.02-11.10

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
C2a: Recommendations in the UFMP are reviewed and relevant documents are gathered	C2a: A document is prepared detailing necessary changes to City documents	**C2a: Updates reflect changes to the UFP and goals of the UFMP and are revisited periodically**	*Effective communications and protocols that are documented offers transparency and efficiency.*	TBD	7-1.8
C2b: Required certifications and qualifications for tree management staff identified	**C2b: Staff maintain certifications, qualifications, and licenses**	C2b: Staff maintain certifications, qualifications, and licenses	*Staff training reduces costs and improves production, safety, levels of service, and the urban forest.*	TBD	4-2.2, 4-2.3, 4-2.5, 7-1.7, 7-1.8
C3a: Database updated to reflect changes to the public tree population, budget request prepared	**C3a: Annual budget is secured for inventory management needs**	C3a: All public street, park, median, backup lot, and property trees are reinventoried every 5 years	*A current and well maintained inventory provides data for sustainably managing the public trees and urban forest at large.*	TBD	7-1.8
C3b: Resources of partners are utilized	**C3b: At least 2 grant applications are awarded for projects like tree planting, planning, or inventory**	C3b: The City and partners are awarded grants and adequately budgeted to meet all goals in the UFMP	*Diverse funding achieves long-term UFMP goals.*	TBD	7-1.8
D1a: The efficacy of tree-related ordinances is evaluated	D1a: The UFP works with City staff to formalize a stakeholder engagement process to inform proposed amendments to ordinances	**D1a: Proposed amendments to ordinances are supported by the community and adopted by City Council**	*Effective ordinances are the foundation for long-term urban forest sustainability.*	TBD	4-5.7, 7-1.8
D1b: The efficacy of tree-related ordinances is evaluated	D1b: Information and resources are prepared for sharing with various audiences	**D1b: A measurable reduction in ordinance violations is observed**	*Effective ordinances are the foundation for long-term urban forest sustainability.*	TBD	4-5.7, 7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
D1c	Continue to review construction and development plans, designs, and projects to promote the preservation of healthy and beneficial trees throughout the City's urban forest.	17			Ongoing	Annual	UFP, PWMS, CDPD, UFWG	N, C	1.01, 1.02, 1.04, **1.05**, **1.10**, **1.11**, **1.12**, 2.01-2.04, **2.09**, **4.02**, **4.03**, 9.01, 9.03, 9.04, **9.12**, **9.13**, 9.19, 9.21, 9.24, 10.02, 10.09, 10.12
D1d	Continue to manage the Landmark Trees Program and increase awareness through education.	18			Ongoing	Annual	UFP, UFWG	N, C	**1.05**, **1.10**, 10.02, **10.09**, 10.12
D1e	Explore opportunities to expand the Landmark Trees Program that recognizes and protects the trees to continue sustaining Fremont's urban forest value and heritage.	23			Ongoing	Annual	UFP, UFWG	N, C	**1.11**, **10.02**, **10.09**, **10.12**
D2a	Maintain the public tree inventory to effectively monitor for existing and potential tree pest and disease vulnerability.	7			Ongoing	Annual	UFP	N, H	**5.03**-**5.12**, **7.09**, 9.16
D2b	Manage invasive species in public parks, rights-of-way, and on public properties as feasible with available funding.	8			Ongoing	Annual	UFP, PM, PWMS, NPO	N, H	1.01, **7.08**, **7.09**
D2c	Educate and train property owners and contractors to identify and manage tree pests and diseases, and other best practices such as watering.	49			4-5 Years	2027	UFP, NPO	N, C, H	7.08, 7.09, **10.01**-**10.04**, 10.11, **10.12**, **10.13**, 10.15

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
D1c: The UFP continues to be engaged in the process	D1c: Relevant projects are adequately reviewed	D1c: 90% compliance to tree regulations is achieved	*Effectively monitoring development designs and projects is essential to achieving canopy goals.*	TBD	7-1.7, 7-1.8
D1d: The role of the UFWG or similar in overseeing the Landmark Trees Program is finalized	**D1d: The UFWG or similar is created and information about the Landmark Trees Program is shared with the public**	D1d: The Landmark Trees Program expands to include voluntary designations of trees on private property	*Protection of significant trees in a city retains a community's character and associated benefits.*	TBD	7-1.8
D1e: The role of the UFWG or similar in overseeing the Landmark Trees Program is considered	**D1e: The UFWG or similar is created and information about the Landmark Trees Program is shared with the public**	D1e: The Landmark Trees Program expands to include voluntary designations of trees on private property	*Protection of significant trees in a city retains a community's character and associated benefits.*	TBD	7-1.8
D2a: Tree inventory is up-to-date	**D2a: Tree inventory is analyzed and concerns are identified**	D2a: The City routinely (annually) evaluates the inventory for susceptibility and has the necessary funds to respond	*A well maintained inventory and frequent monitoring will inform current and potential risks to the urban forest.*	TBD	7-1.8
D2b: Current maintenance regimen is continued	**D2b: Sample inventory of parks and open space identifies extent of a management strategies for invasives species**	D2b: City parks and properties are effectively managed to reduce and prevent invasive species	*A healthy and sustainable urban forest requires the management of non-native invasive plant species.*	TBD	7-1.1, 7-1.3, 7-1.8
D2c: Resources and information is shared on the City's website	**D2c: Annual online or in-person workshops are supported by the City**	D2c: The urban forest is sustainable and resilient to tree pests and diseases	*A healthy and sustainable urban forest can only be achieved with commitments from the City and community.*	TBD	7-1.6, 7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
D2d	Strengthen storm and disaster preparations, mitigations, and recovery strategies, protocols, and mechanisms. Prepare a new emergency action plan that is developed and overseen by the Urban Forestry manager.	58			5+ Years	TBD	UFP	H, C, N	**7.08**, **8.01-8.07**
D2e	Explore amendments to City tree-related ordinances and regulations that expand on tree planting, maintenance, and preservation requirements to support the goals of the UFMP and other City Plans such as the Climate Action Plan.	59			5+ Years	TBD	UFP, CDPD, NPO	N	1.01, 1.04, **1.10**, **1.11**, 6.12, 7.08, 7.09, **9.02**, **9.14**, 9.22, 9.23, 9.30
E1a	Continue to build and strengthen partnerships with community groups, institutions, agencies, and organizations to raise awareness, support, and stewardship of the urban forest.	9			Ongoing	Annual	UFP, NPO	C, N, E	**10.01-10.15**
E1b	Support in a technical capacity the strengthening of a local community organization(s) devoted to stewardship of the urban forest. Establish regular meetings and MOUs where applicable. Use the guidance provided in the UFMP to implement.	42			4-5 Years	2027	UFP, NPO	C, N, E	**10.01-10.15**
E1c	Utilize the Urban Forestry Working Group as needed under the Recreation Commission's guidance when additional community input is required under this management plan.	43			4-5 Years	2027	UFP	N, C	**2.04**, 2.08, **4.04**, 10.02, 10.06, 10.07, 10.09, 10.10, 10.12, 10.14
E1d	Plant a more diverse palette of trees that meets the City's tree diversity requirements and updated planting recommendations.	53			5+ Years	TBD	UFP, NPO	N, C	**9.14**, **9.22**, 10.12

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
D2d: Resources to support storm and disaster management are gathered	D2d: Changes to storm and disaster procedures are drafted as needed	**D2d: Procedures for urban forest and storm/disaster management are formalized in an emergency action plan**	*Preparation, response, and recovery is essential to a sustainable urban forest and public health.*	TBD	7-1.8
D2e: The recommended changes provided as part of the UFMP are reviewed	D2e: Necessary updates to ordinances are prepared for stakeholder input and feedback	**D2e: Ordinances and regulations meet the needs of the urban forest while supporting community priorities and policies**	*The recommended tree list provides options for planting the urban forest for a changing climate to be resilient and sustainable.*	TBD	4-2.2, 4-2.3, 4-2.5, 7-1.8, 7-4.1, 7-7.2, 7-8.1
E1a: A network of existing and potential partners is identified using the UFMP and community outreach plan	**E1a: A diverse network of partners exists with clear communications and roles defined**	E1a: All City neighborhoods, demographics, and cultures are represented through partnerships	*Partnerships enable efficient achievement of shared goals.*	TBD	7-1.6, 7-1.8
E1b: Local community partners are identified	**E1b: Regular meetings and MOUs are established between the City and partner(s)**	E1b: Community organizations establish a network of stewards to achieve local canopy goals	*Local community groups and organizations can effectively engage local community members and increase program capacity and impacts.*	TBD	7-1.6, 7-1.8
E1c: UFMP guidance is reviewed, refined, and finalized	**E1c: UFWG or similar is established and members are selected**	E1c: UFWG or similar supports implementation of the UFMP and supporting programs	*A city with a board devoted to the urban forest increases capacity, enables cohesive planning, and shared success.*	TBD	7-1.6, 7-1.8
E1d: Nursery partners identified	E1d: Master Tree Planting Plan completed	E1d: Nursery supply of diverse tree species meets City and public demand	*Limited availability of tree species can impede urban forest diversity and resiliency.*	TBD	2-3.7, 4-2.2, 4-2.3, 4-2.5, 7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
E2a	Develop a communications plan for public outreach, education, and engagement with strategies for clear and consistent design and messaging about the urban forest.	30			0-3 Years	2025	UFP, UFWG, NPO	C, N, E	10.01, 10.02, 10.04, 10.05, 10.07, 10.09, 10.10, 10.11, 10.12, 10.13, 10.14, 10.15
E2b	Aligned with the public communications plan, provide urban forestry information, resources, and updates on a regular basis.	10			Ongoing	Annual	UFP, UFWG	C, N, E	**10.01-10.15**
E2c	Partner with local neighborhood organizations to diversify the volunteers and event attendees in an effort to build community-wide awareness, support, and stewardship of the urban forest.	19			Ongoing	Annual	UFP, NPO	C, N, E	**10.01-10.07**, **10.10-10.15**
E2d	Evaluate the 50/50 program to ensure that it is aligned with the needs of residents and make policy recommendations to align with the UFMP.	24			Ongoing	Annual	UFP	C, N, E	**10.01-10.07**, **10.10-10.15**, 11.01, **11.03**, **11.09**, 11.10
E2e	Continue to track and annually report urban forestry activities of all partners to maintain Arbor Day Tree City USA designation.	11			Ongoing	Annual	UFP, PM, PWMS, CDPD, NPO	C, N, E	**10.07**, **10.14**
E2f	Finalize the draft Tree Maintenance Manuals for residents and tree care professionals that were developed as part of the UFMP and share with the appropriate audiences.	57			4-5 Years	2027	UFP, NPO	N, C, E, H	**9.01**, **9.03-9.05**, **9.07-9.09**, **9.21**, **9.30**, **10.01-10.15**, **11.01**, **11.03**, **11.04**, **11.09**, **11.10**

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
E2a: Information from the UFMP is compiled and outreach strategies are drafted	E2a: UFMP outreach strategies are coordinated with other City departments and efforts	**E2a: A community outreach plan clearly defines the messaging and approaches**	*Consistent messaging resonates with the audience.*	TBD	7-1.6, 7-1.8
E2b: Urban forestry information relevant to the season and events is shared on various platforms	E2b: Urban forestry information relevant to the season and events is shared on various platforms	E2b: Urban forestry information relevant to the season and events is shared on various platforms	*Readily available information raises awareness and increases support to achieve common goals.*	TBD	7-1.6, 7-1.8
E2c: The Tree Inventory Report is distributed across neighborhoods on multiple platforms	**E2c: The network of partners increases the diversity and count of volunteers by 5%**	E2c: Annual volunteer reports show representation of all City neighborhoods, demographics, and cultures	*A community that participates in stewardship take ownership and provide support.*	TBD	7-1.6, 7-1.8
E2d: The 50/50 budget is fully utilized	**E2d: The 50/50 budget increases to meet demand**	E2d: The 50/50 budget meets the demand, specifically in lower income areas	*A cost-share program to maintain public trees builds relationships to care for a sustainable urban forest.*	TBD	7-1.6, 7-1.8
E2e: Receive Tree City USA recognition	E2e: Receive Tree City USA and Growth Award recognition annually	**E2e: Receive Tree City USA recognition and Sterling status**	*A city must demonstrate that it cares about its urban forest.*	TBD	7-1.6, 7-1.8
E2f: The manuals are reviewed, updated, and finalized	**E2f: The manuals are available online and distributed to targeted audiences**	E2f: A measurable improvement in adherence to industry standards and practices is observed	*It is primarily the responsibility of adjacent property owners to maintain street trees in the public right-of-way.*	TBD	7-1.6, 7-1.8

Action #	Urban Forest Management Plan Action	Order	Priority	Effort	Time-frame	Target Calendar Year	Lead & Collaborator(s)	Co-Benefits	Audit Reference
E2g	Engage residents in tree planting events and trainings with emphasis in neighborhoods that have lower tree canopy cover area than the Citywide tree canopy cover of 14%.	61			5+ Years	TBD	UFP, NPO	C, N, E	1.01, 1.02, 1.04, **6.12**, **10.01**-**10.04**, **10.11**-**10.15**
E2h	Gather input and feedback from the public as it relates to the UFMP implementation progress, the resulting outcomes, and potential changes needed.	62			5+ Years	TBD	UFP, NPO, UFWG	C, N, E	**10.05**
E2i	Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or tree fund framework for costs associated with this program and utilize local community partners and any new tree-related boards or working groups.	63			5+ Years	TBD	UFP, NPO	C, N	**10.06**
E3a	Target urban forestry outreach and education to under-represented communities, renters, and non-English speaking residents that aligns with the audiences' values, priorities, and other considerations.	31			0-3 Years	2025	UFP, NPO	E, C, N	**10.01**-**10.15**
E3b	Continue to strengthen or build partnerships with community-based organizations that are inclusive of the diverse demographics of the City.	20			Ongoing	Annual	UFP, NPO	E, C, N	**10.02**, **10.12**, **10.15**
E3c	Prioritize areas of the City with the highest CalEnviroScreen Scores for new tree plantings.	52			4-5 Years	2027	UFP, NPO	E, C, N	**10.01**-**10.15**

SHORT-TERM ACTION TARGET	MID-TERM ACTION TARGET	LONG-TERM ACTION TARGET	Key Issue(s) or Consideration(s)	Potential Funding Mechanism	Fremont General Plan Policies
E2g: Utilize the TCA to identify priority planting neighborhoods and areas	**E2g: Annual tree planting events are well attended and support UFMP goals and actions**	E2g: A Master Tree Planting Plan informs priority areas and tree species and all neighborhoods engaged	*A community that participates in stewardship take ownership and provide support.*	TBD	2-3.6, 2-3.7, 4-2.2, 4-2.3, 4-2.5, 4-5.7, 7-1.6, 7-1.8
E2h: Survey responses from the UFMP project are examined and addressed	**E2h: An online survey is launched to gather input and feedback**	E2h: An online survey is launched and feedback is received from all neighborhoods, demographics, and cultures	*Gathering feedback and input from the community informs future strategies, messaging, and resource needs.*	TBD	7-1.6, 7-1.8
E2i: Criteria and sectors of exemplary urban forest stewardship is established	E2i: Announcement of recognition program is shared with City partners and the public with a request for nominations	**E2i: Exemplary urban forest stewardship recognition awarded to multiple sectors**	*A city must demonstrate that it cares about its urban forest and the individuals caring for it.*	TBD	7-1.6, 7-1.8
E3a: The community outreach plan is implemented in target areas	**E3a: The community outreach plan is implemented in target areas**	E3a: All City neighborhoods, demographics, and cultures are represented and engaged in the urban forest	*Readily available information raises awareness and increases support to achieve common goals.*	TBD	7-1.6, 7-1.8
E3c: A network of existing and potential partners is identified using the UFMP and community outreach plan	**E3c: A diverse network of partners exists with clear communications and roles defined**	E3c: All City neighborhoods, demographics, and cultures are represented through partnerships	*Partnerships enable efficient achievement of shared goals.*	TBD	7-1.6, 7-1.8
E3d: The CalEnviroScreen Scores are evaluated and reported	**E3d: Updates to tree canopy goals integrate CalEnviroScreen**	E3d: Updates to CalEnviroScreen show improvements in all low-scoring areas	*Partnerships enable efficient achievement of shared goals.*	TBD	7-1.6, 7-1.8

APPENDIX C. RECOMMENDED TREE LIST

A master list detailing the recommended trees to grow the City's urban forest was developed based on the existing tree lists, the analysis of the inventory data, climate change impacts, public and stakeholder input, and the trees necessary to be resilient and sustainable. The table below details the 30 attributes assigned to each recommended tree and the following list is paraphrased for presentation in the Plan. The comprehensive interactive tree list was provided to the Urban Forestry Program as a separate worksheet.

Table 5. Summary of attributes collected for the Recommended Tree List

Type	Leaf Size (large, medium, small)	Locally Native (yes/no)
Botanical Name	Shade (dense or filtered)	Key Feature (fall color, flower, specimen tree, canopy, bark, leaf, form, fruit, wildlife)
Common Name	Fall Color (showy or not showy)	City Approved Street Tree (yes/no)
Other Names	Flower (showy or not showy)	2011 Planting Guide List (yes/no)
Evergreen/Deciduous/Conifer	Debris (heavy, medium, light)	San Diego City Tree (yes/no—useful in planting for changing climate)
Shape	Useful Life (30, 60, 100, 100+ years)	Our City Forest San Jose Nursery List (yes/no)
Height (0-15, 15-35, >35 feet)	Soil (good drainage tolerant, poor drainage tolerant, boron tolerant, sodium tolerant)	SFEI Urban Ecological Consideration (oak woodland, savanna, grassland; riparian forest; wet meadow)
Spread (0-20, 20-35, >35 feet)	Water Use (tolerant or not tolerant)	Potential Location (residential, back-up lot, tree well, street median, private yard, park)
Vigor (slow, moderate, fast)	Planting Width (5, 6, 10 feet)	Species Substitute
Rooting (large vigorous, shallow surface, deep, root suckers)	Low Watering Needs (yes/no)	Concerns

Note, careful consideration needs to be given to the selection of trees for planting projects. The separate interactive tree list includes the attributes and criteria such as the tree's native region, climate adaptability, water requirements, among other considerations to ensure the trees survive and thrive. The following list is paraphrased for presentation in the Plan and the list should serve as a living document that is updated by the City's Urban Forester as needed. The list may serve as a resource for City-led and public-led plantings though additional resources and considerations should be evaluated when finalizing the appropriate tree species for planting projects.

Large Statured Trees

Table 6. Large statured recommended trees

Botanical Name	Common Name	Planting Width (feet)	Key Feature
Acer rubrum	Scarlet Maple	5+	Fall Color
Acer rubrum 'October Glory'	Red Maple 'October Glory'	5+	Fall Color
Acer rubrum 'Red Sunset'	Red Maple 'Red Sunset'	5+	Fall Color
Aesculus californica	California Buckeye	10+	Flower, Fruit, Wildlife
Aesculus x carnea	Red Horse Chestnut	10+	Flower, Fruit, Wildlife
Albizia julibrissin	Silk Tree	10+	Flower
Betula pendula	European White Birch	10+	Fall Color, Unique Bark
Carpinus betulus 'Fastigiata'	Hornbeam	6+	Fall Color, Form
Cedrus deodar	Deodar Cedar	10+	Unique Leaf
Celtis sinensis	Chinese Hackberry	5+	Fall Color
Cinnamomum camphora	Camphor Tree	10+	Fall Color, Fruit
Ginkgo biloba	Maidenhair Tree	5+	Fall Color, Unique Leaf
Ginkgo biloba 'Princeton Sentry'	Ginkgo 'Princeton Sentry'	5+	Fall Color, Unique Leaf
Magnolia grandiflora	Southern Magnolia	10+	Flower
Magnolia soulangiana	Southern Magnolia	10+	Flower
Pinus canariensis	Canary Island Pine	6+	Fruit
Pinus pinea	Italian Stone Pine	10+	Fruit
Platanus acerifolia 'Bloodgood'	Sycamore 'Bloodgood'	5+	Unique Bark, Unique Leaf
Platanus acerifolia 'Columbia'	Sycamore 'Columbia'	5+	Unique Bark, Unique Leaf
Platanus acerifolia 'Yarwood'	Sycamore 'Yarwood'	5+	Large Canopy
Quercus agrifolia	Coast Live Oak	10+	Large Canopy, Fruit, Wildlife
Quercus coccinea	Scarlet Oak	5+	Fall Color, Large Canopy, Fruit Wildlife
Quercus douglasii	Blue Oak	6+	Large Canopy, Wildlife
Quercus ilex	Holly Oak	5+	Large Canopy, Fruit, Wildlife
Quercus lobata	Valley Oak	10+	Large Canopy, Fruit, Wildlife
Quercus rubra	Red Oak	6+	Fall Color, Large Canopy, Fruit, Wildlife
Quercus shumardii	Shumard Oak	10+	Fall Color, Large Canopy, Wildlife
Quercus suber	Cork Oak	6+	Large Canopy, Unique Bark, Wildlife
Schinus molle	California Pepper Tree	10+	Fruit
Tristania conferta	Brisbane Box, *Lophostemon confertus*	10+	Flower, Unique Bark, Fruit
Zelkova serrata	Japanese Zelkova	10+	Fall Color, Form
Zelkova serrata 'Village Green'	Zelkova 'Village Green'	10+	Form

Medium Statured Trees

Table 7. Medium statured recommended trees

Botanical Name	Common Name	Planting Width (feet)	Key Feature
Acacia melanoxylon	Black Acacia	6+	Form
Acer buergeranum	Trident Maple	5+	Fall Color, Unique Bark, Unique Leaf
Alnus cordata	Italian Alder	6+	Form
Arbutus 'Marina'	Strawberry Tree	6+	Flower, Fruit, Wildlife
Brachychiton populneus	Bottle Tree	5+	Flower, Fruit
Casuarina stricta	Beefwood	10+	Unique Bark, Unique Leaf
Cercis canadensis	Eastern Redbud	10+	Fall Color, Flower, Unique Leaf
Crataegus phaenopyrum	Washington Thorn	6+	Fall Color, Flower, Fruit, Wildlife
Geijera parviflora	Australian Willow	5+	Unique Leaf
Jacaranda mimosifolia	Jacaranda	10+	Flower
Koelreuteria paniculata	Goldenrain Tree	5+	Fall Color, Flower, Fruit
Laurus nobilis 'Saratoga'	Grecian Laurel	6+	Flower
Melaleuca linariifolia	Flaxleaf Paperbark	5+	Flower, Unique Bark, Unique Leaf
Melaleuca quinquenervia	Cajeput Tree	6+	Flower, Fruit
Melaleuca styphelioides	Melaleuca	10+	Fall Color, Unique Bark
Morus alba	Fruitless Mulberry	10+	Unique Leaf
Olea europaea 'Swan Hill'	Fruitless Olive	6+	Form
Pistacia chinensis	Chinese Pistache	5+	Fall Color, Fruit
Pistacia chinensis 'Keith Davey'	Chinese Pistache 'Keith Davey'	5+	Fall Color
Prunus cerasifera	Purple Leaf Plum	5+	Flower
Prunus cerasifera 'Krauter Versuvius'	Plum 'Krauter Versuvius'	5+	Flower, Unique Leaf
Pyrus calleryana 'Aristocrat'	Flowering Pear	5+	Fall Color, Flower, Fruit
Pyrus calleryana 'Chainticleer'	Flowering Pear	5+	Fall Color, Flower, Fruit
Pyrus calleryana 'Red Spire'	Flowering Pear	5+	Fall Color, Flower, Fruit
Rhus lancea	African Sumac	6+	Fruit
Robinia ambigus 'Idahoensis'	Idaho Locust	6+	Flower, Unique Leaf
Sapium sebiferum	Chinese Tallow	5+	Fall Color, Flower
Sophora japonica 'Regent'	Japanese Pagoda	5+	Fall Color, Flower

Small Statured Trees

Table 8. Small statured recommended trees

Botanical Name	Common Name	Planting Width (feet)	Key Feature
Acer palmatum	Japanese Maple	10+	Fall Color
Erioboytra deflexa	Bronze Loquat	6+	Flower
Lagerstroemia cultivars	Crape Myrtle	5+	Fall Color, Flower, Unique Bark
Melaleuca ericifolia	Heath Melaleuca	6+	Unique Bark, Unique Leaf
Tristania laurina	Swamp Myrtle	5+	Flower

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URBAN FOREST MANAGEMENT PLAN

APRIL 2023