CITY OF PASADENA

2018 STATE OF THE URBAN FOREST

Acknowledgements

The Department of Public Works Parks and Natural Resources Division would like to thank the following departments, organizations and individuals for their continued support for the City's urban forest.

Office of the Mayor & City Council
Terry Tornek, Mayor
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City Manager's Office
Steve Mermell, City Manager
Julie A. Gutierrez, Assistant City Manager
Nicholas G. Rodriguez, Assistant City Manager

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Urban Forestry Advisory Committee (UFAC)
Design Commission
Municipal Services Committee
California Natural Resources Agency
Environmental Enhancement and Mitigation Program
Pasadena Beautiful Foundation

Introduction

The City of Pasadena is graced with a rich heritage and presence of more than 60,000 public trees, of over 250 different species. The City's urban forest provides a multitude of environmental, placemaking and economic benefits for residents, businesses and visitors of Pasadena.
The management of the urban forest is taken with the utmost respect and diligence, as noted by the Arbor Day Foundation, who has awarded Pasadena a Tree City USA designation for 28 years, and a Tree City USA Growth award for 18 years.

TREE CITY USA®
Arbor Day Foundation®

"Tree City USA communities see the impact an urban forest has in a community first hand, " said Dan Lambe, President of the Arbor Day Foundation. "Additionally, recognition brings residents together and creates a sense of community pride, whether it's through volunteer engagement or public education."

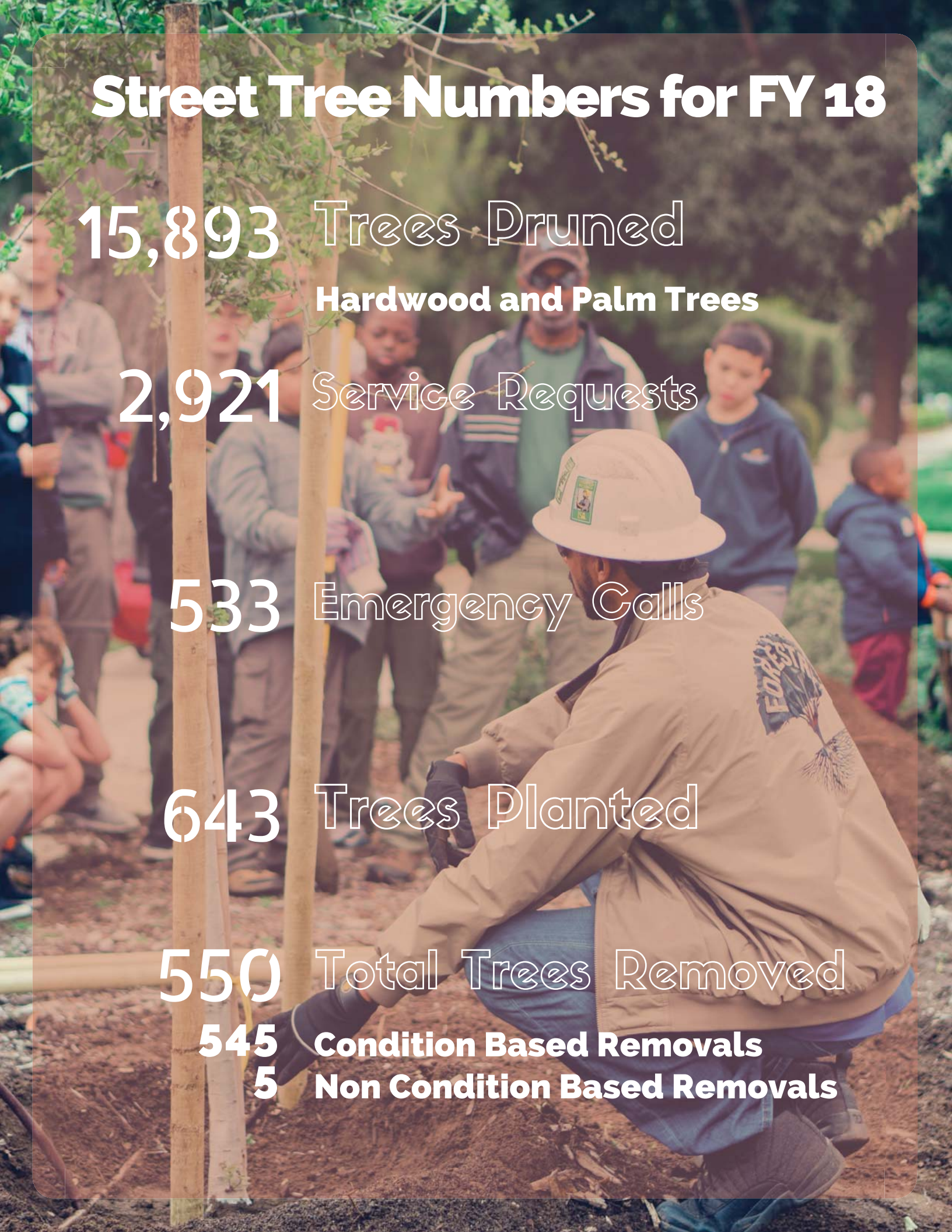
It is the goal of this inaugural State of the Urban Forest report to provide a snapshot of FY 2018 data available through the City's asset management tool (Lucity) and through the Citizen Service Center program. Additionally, the goal of this report is to provide insight into the process and challenges of managing an urban forest. Finally, the report will highlight the fiscal year's achievements and ongoing projects for FY 2019.

Urban forestry management in Pasadena can be described as the intersection of the City's Tree Protection Ordinance (TPO), the Master Street Tree Plan (MSTP), and Forestry and Park operations. The TPO, as adopted in the Pasadena Municipal Code, sets forth the provisions to protect both public and private trees, and the remedies available to recoup losses to the urban forest as a result of illegal or negligent activity. The MSTP is the guiding document that identifies a specific tree species to be planted on a block-by-block basis throughout the City. The MSTP is intended to promote a uniform landscape on a neighborhood scale, while promoting overall species diversity throughout the City. Forestry and Park operations are charged with routine tree maintenance - planting, watering, pruning and removal; non-routine or citizen-initiated service requests; and emergency stand-by service. The three components of forestry management are based on the best management practices of the tree care industry and municipal service.

Public Trees - Public Works Department
Private Trees - Planning Department

Guiding document that designates tree species throughout City

Routine, non-routine, and emergency tree maintenance



Street Tree Numbers for FY 18

15,893 Trees Pruned

Hardwood and Palm Trees

2,921 Service Requests

533 Emergency Calls

643 Trees Planted

550 Total Trees Removed

545 Condition Based Removals

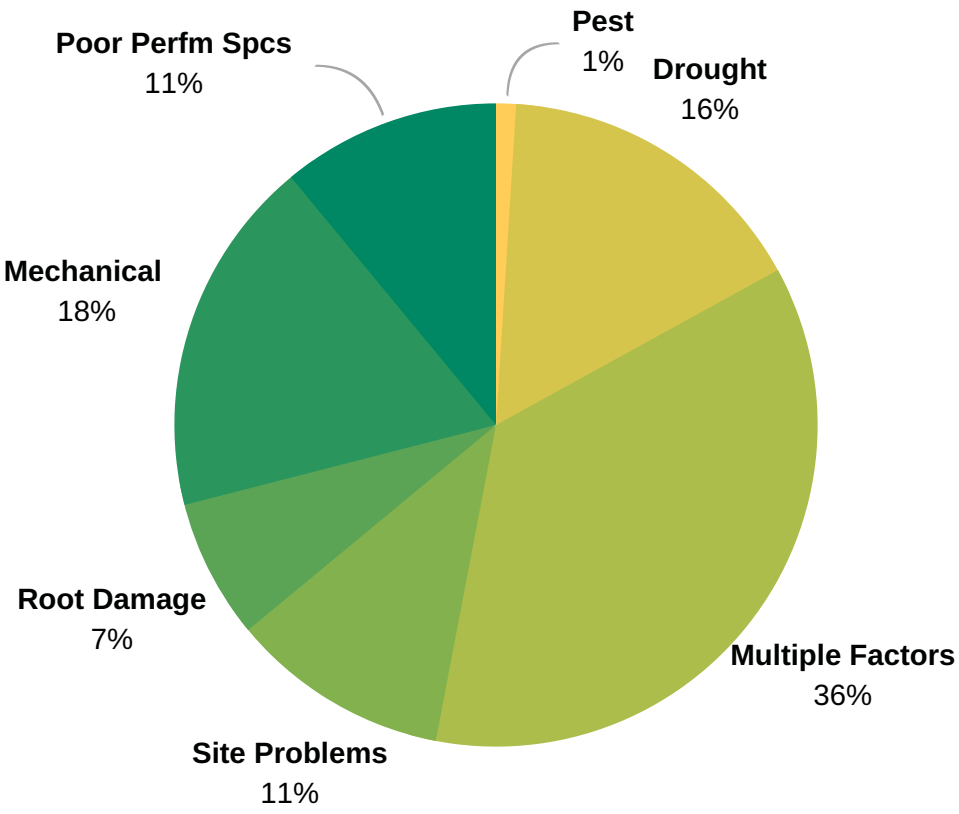
5 Non Condition Based Removals

Street Tree Removals

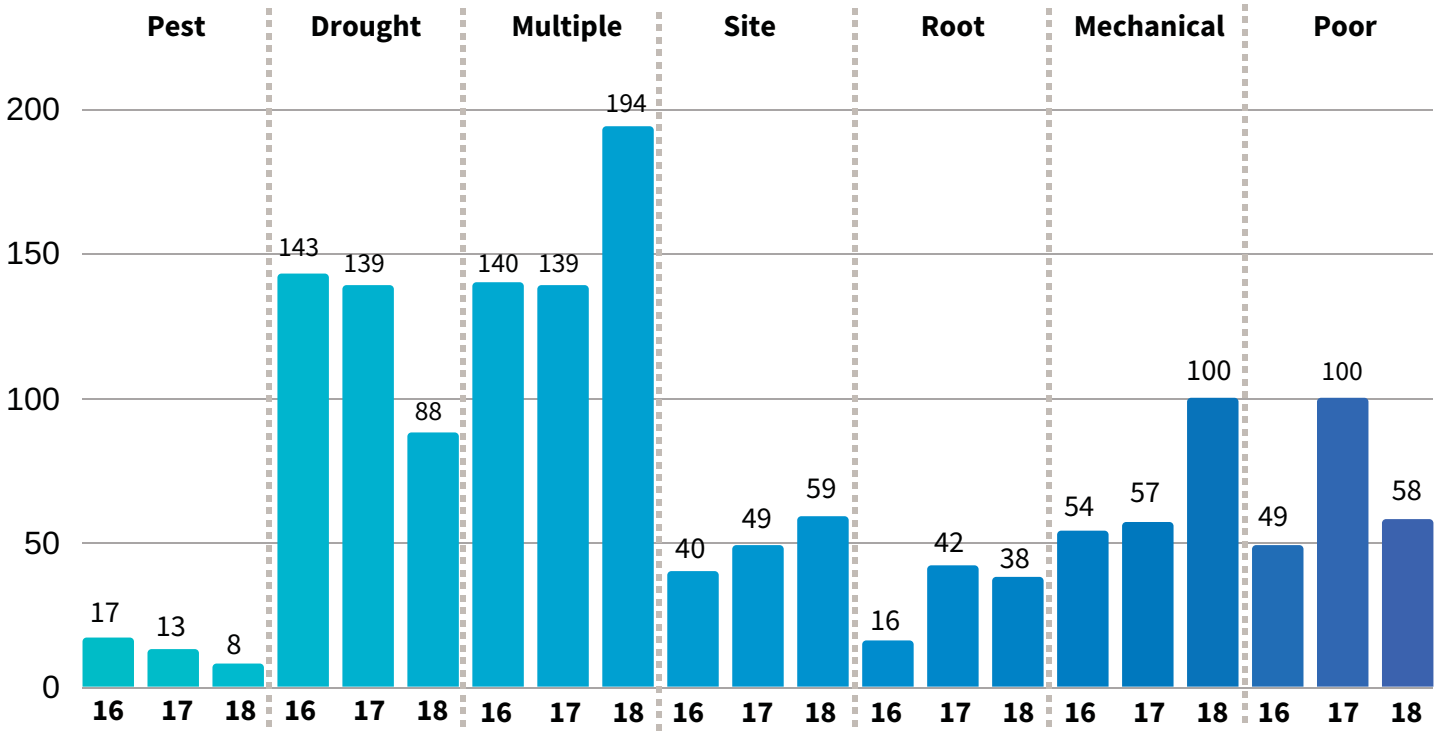
The Department of Public Works routinely inspects trees that may warrant removal based on their condition, and in FY 2018, **545** street trees were removed based on their condition. A City Arborist will document - if identifiable - the factors that may have adversely impacted the subject tree and ultimately led to its removal. The common causes for condition-based tree removals include:

Pest Infestation: presence of pest identified in area of wood based on industry standard.
Drought Stress: poor annual precipitation; symptoms may include discolored, wilted and defoliated tree canopy.
Site Problems: characteristics of planting site that may include overcrowding by adjacent trees or landscaping; and poor soil drainage.
Root Damage: aggressive root pruning or soil compaction.
Mechanical or Tear Injury: injuries attributed to vehicle and landscaping (mechanical) equipment; and irreparable limb or leader failure (tear) sometimes attributed to weather.
Poor Performing Species: tree species found to be highly susceptible to drought, breakage, or otherwise unsuitable for the local environment, and the Department is no longer planting.
Multiple Factors: single factor could not be identified as the primary cause for the removal.

FY 18 Removal Categories



Street Tree Removals



Total Condition Based Removals

FY 2016 : 459

FY 2017: 539

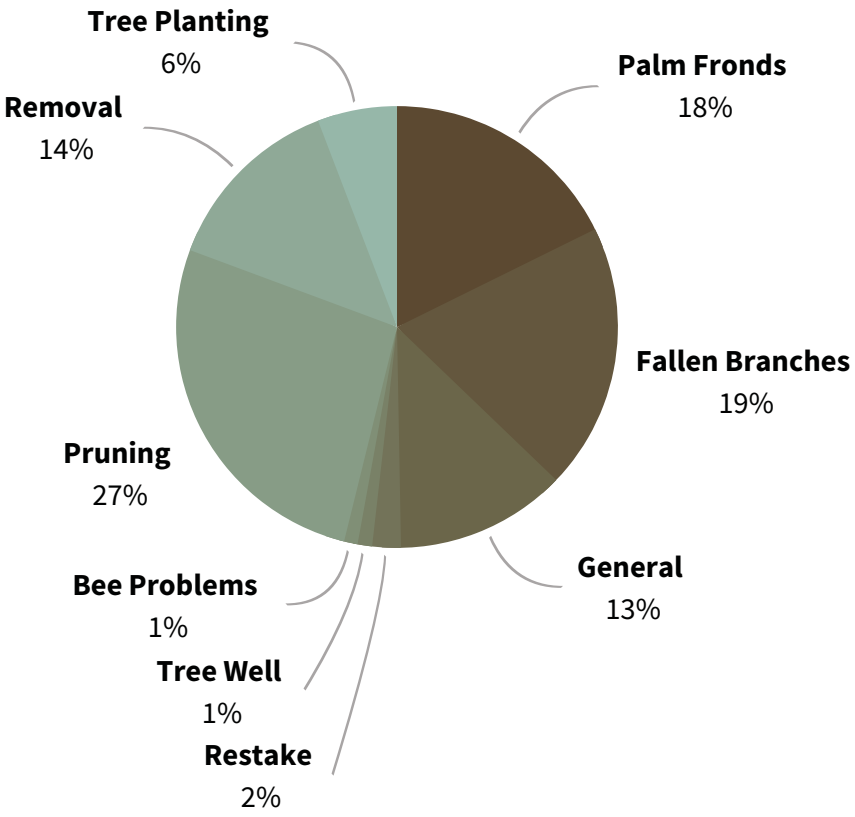
FY 2018: 545

Pest infestations - such as Shot Hole Borer and Bark Beetle - tend to garner a fair amount of media attention, however, the largest identifiable factor impacting street tree mortality on average is drought and heat-related stress. In order to curb the impacts of drought and heat-related stress on street trees, the Department irrigates all newly planted trees for the first three years. This effort occurs for approximately 40 weeks throughout the year depending on precipitation, but is undertaken regularly during the summer months. During periods of extreme heat, the Department reallocates resources to irrigate mature trees along freeway-adjacent streets.

Additionally, the Department encourages residents to provide supplemental water to street trees, and provides information about proper irrigation practices.

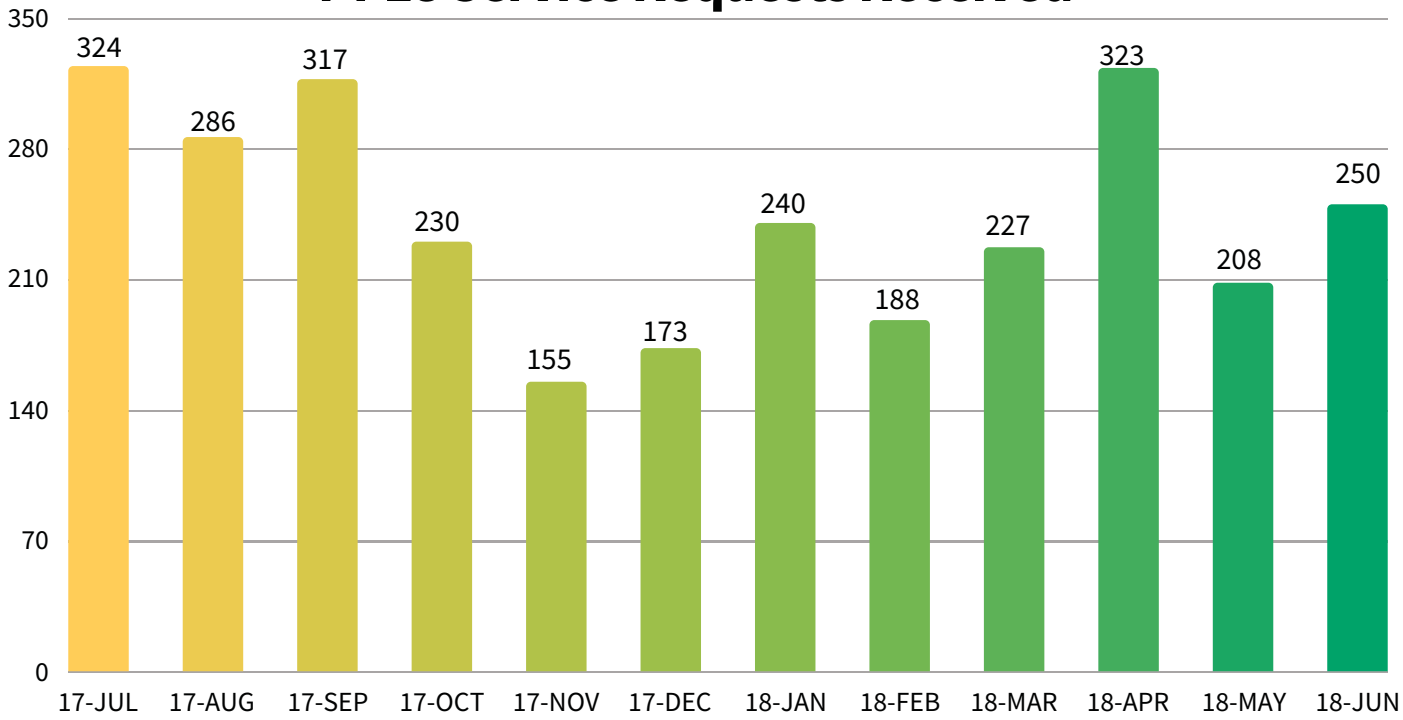
Small tree care crew reconstructing a tree well and irrigating a newly planted Southern Magnolia (Magnolia grandiflora) tree.

Citizen Service Requests



The Department received **2,921** citizen service requests in FY 2018. The majority of the service requests were for pruning service. Although the Department regularly prunes all street trees on cycles based on best management practices, trees do not grow in a uniform manner, therefore, out-of-cycle prunes are sometimes warranted in order to address safety concerns - such as clearance from buildings, traffic signs and sidewalks. The Department has worked closely with the Citizen Service Center in order to improve the management of service requests and communication with residents.

FY 18 Service Requests Received



Program Achievements

Tree Protection Ordinance Amendment

The Department worked with the City Attorney's Office and the Department of Planning & Community Development in order to strengthen the City's Tree Protection Ordinance (TPO), specifically, the penalties and administrative proceedings section, which is the City's main tool to remedy situations where protected trees are illegally or negligently injured. The amendment to the TPO was adopted by City Council on May 7, 2018. In addition to the TPO amendment, the Department also enhanced its internal policies related to protecting street trees within the scope of a construction project - such as the requirement for applicants to remit a security deposit based on an appraised value of the subject tree(s); and the adoption of standard protective tree fencing.

Master Street Tree Plan Amendment

The following tree species were identified by the Department to be poor performing due to their susceptibility to drought; frequency of branch breakages; and high mortality rate: Silver Maple, *Acer saccharinum;* Tulip, *Liriodendron tulipifera;* Purple Leaf Plum, *Prunus cerasifera.* The Department collected feedback about potential replacement tree species from residents who lived on streets where the poor performing tree species were designated by the Master Street Tree Plan (MSTP). The proposed replacement tree species were then presented to the Urban Forestry Advisory Committee; after which the replacement species were presented to the Design Commission. City Council approved an amendment to the MSTP replacing the three poor performing species on December 4, 2017.

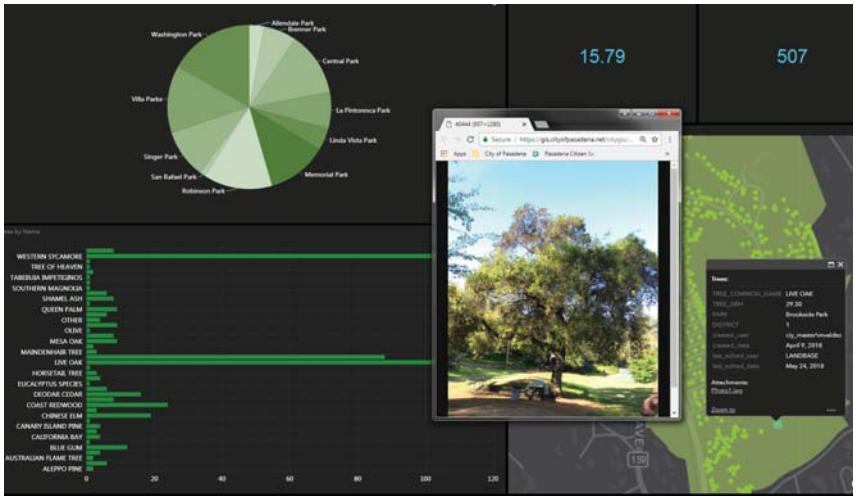
Protective tree fencing around a mature Southern Magnolia (Magnolia grandiflora) tree. .

Newly planted Crape Myrtle (Lagerstroemia indica) tree [foreground] along Brooks Avenue where Purple Leaf Plum (Prunus cerasifera) tree [background] was replaced in the MSTP.

Program Achievements

Park Tree Inventory Project

Park tree inventory on City GIS & Maps Division Webpage



The Department conducted a GIS inventory of the City's park and library trees with support provided by the Department of Information Technology. **2,397** trees were inventoried by staff and student workers using field computer tablets. The following attributes were collected in the field on each tree: species; gps coordinates; trunk diameter; City park or library; district; and a photo of the subject tree. An internal webpage developed by the City's GIS & Maps Division provides geospatial reporting features based on the collected attributes of the trees. The park and library tree inventory has been integrated into the City's asset management program, Lucity, which provides maintenance record-keeping and assists the Department in developing routine maintenance work plans.

Expanded Mulch Recycling Program

Forestry crew dropping off mulch at Victory Park

The Department expanded its mulch giveaway program in FY18 by providing free mulch for pickup biweekly for a period of 10 months, in comparison to 8 months during the previous FY. The Department delivered mulch to Victory Park and Robinson Park on the first and second working-Friday of each month, respectively. The lack of a publicly accessible laydown area limits the Department's ability to collect and distribute mulch. The mulch provided was comprised of plant material from trees removed by the City. Mulch helps improve soil content and moisture retention for landscaping. Additionally, the mulch provided through this program reduces the green waste produced by the City. Approximately **280** tons of mulch was provided in FY 18 through this program.

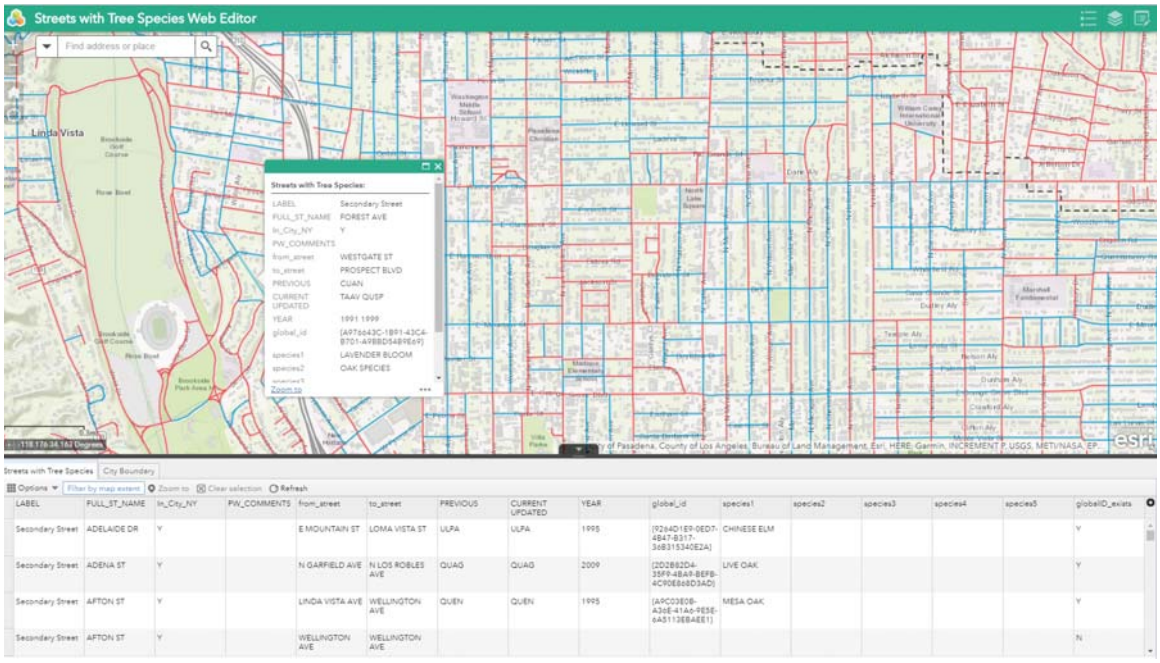
FY 19 Division Projects

Master Street Tree Plan Web Search Tool

Originally published in 1940 as the "Official Street Tree List", the City's Master Street Tree Plan is the guiding document that designates the official tree species to be planted on a block-by-block basis throughout the City. As the City developed and expanded, and as arboricultural practices have changed, the MSTP has been revised and amended accordingly. Many iterations of the MSTP over, the Department is working with the GIS & Maps Division to develop a publicly-accessible MSTP search tool. The search tool will allow the user to find the designated tree species based on a City address by utilizing the City's existing GIS platform. The search tool will be a notable improvement from the current version of the MSTP where staff has to map the respective street block (to and from streets) based on the address, and reference a lengthy table of City blocks in the MSTP.

Pruning Cycle Maps

In an effort to continue improving public information - such as the updated webpage that includes new educational documents - the Department will publish the street tree pruning cycle maps on the Division's webpage in FY 19. Palm trees are currently pruned on a two-year cycle, and most hardwood trees are pruned on five-year cycle. A constantly changing tree inventory is part of the challenge of providing accurate pruning maps. As Forestry crews complete pruning assignments, field staff provide notes that identify discrepancies in the tree inventory to office staff. While the pruning maps are intended to assist the Department and provide better information for residents, the unique characteristics of each tree will be taken into consideration before pruning work is approved.



Master Street Tree Plan Web Search Tool

FY 19 Division Projects

APWA Accreditation

The Department is working towards accreditation by the American Public Works Association (APWA). The accreditation process is a comprehensive self assessment and documentation of the many facets and divisions of the Department including: engineering; recycling and waste management; fleet management; parks and forestry, etc. The component related to parks and forestry entails reviewing and comparing best management practices of the following: routinely updating a tree inventory; publication of protected tree rules and regulations; adoption of standard maintenance and tree removal practices, etc. Accreditation is awarded to agencies that have demonstrated excellent municipal service, and found by the APWA to be consistent with industry best practices and peer agencies.

Forestry crew conducting a safety training with aerial lift trucks.

Forestry crew performing aerial pruning on a Chinese Elm (Ulmus parvifolia) tree.

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Produced by the Department of Public Works
Parks & Natural Resources Division.