



COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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December 22, 2015

IN REPLY PLEASE

REFER TO FILE: WM-0
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TO: Each Supervisor

FROM: Gail Farber *Gail Farber*
Director of Public Works

BOARD MOTION OF SEPTEMBER 15, 2015, AGENDA ITEM NO. 59 REPORT ON THE COUNTY'S PROGRESS TOWARD IMPLEMENTING RECYCLED WATER

On September 15, 2015, the Board instructed the Chief Executive Officer, the Directors of Public Works, Internal Services, Planning, Parks and Recreation, and the Interim Director of Public Health to report back on the following:

- An updated status on the Office of Water Recycling within the Department of Public Works, and the County's progress toward implementing the policies, projects, and priorities established by the Board and identified in the reports from the County Water Recycling Task Force and County Office of Water Recycling, dated January 30, 2007, and February 2, 2009, with recommendations to improve the effectiveness and delivery of recycled water infrastructure to meet Countywide needs, including a report on how recycled water may be delivered by implementing or enhancing irrigation systems or by trucking recycled water to County landscaped medians, parkways, and Landscape Maintenance Districts, to maintain the health of trees, plants, and flowers to support important ecosystems.
- A recycled water action plan, developed in collaboration with the County Sustainability Council, with updated cost estimates and timelines for implementation.
- Instructed the Director of Public Works to provide a report to the Board on the health of existing trees within the County.

In addition, the Board instructed the Directors of Public Works and Planning to provide them with a protocol related to permit fees for gray water usage and to develop an implementation program for streamlining the review and approvals process for

residential gray water systems, with development of an information pamphlet to consumers interested in implementing such systems at their residences.

Office of Water Recycling and the County's progress in implementing recycled water

A Recycled Water Task Force was created by the Board in 2006 to explore the expanded use of recycled water both at County facilities and throughout the region in order to increase local water supply sustainability. At the time, the Board observed a need for regional leadership for this issue and directed Public Works to bring together affected agencies and get them working toward expanded recycled water service for the region. Shortly afterward, a report was submitted to the Board on January 30, 2007, summarizing opportunities to achieve this goal, which included establishing the Office of Water Recycling. That report was followed up with a second report on February 2, 2009, listing County facilities with potential for recycled water service. In the years following, sanitation agencies, water agencies, and the County have utilized the Integrated Regional Water Management framework to engage in collaborative planning and greatly increase the amount of recycled water used throughout the region. At the same time, professional trade groups such as the WaterReuse Association have helped organize the region and make significant progress in legislative advocacy, applied research, policy development, and educational tools associated with recycled water.

These efforts have led to significant progress in the expansion of recycled water use. Pipelines have been constructed to serve County parks and other County facilities, as well as numerous other facilities throughout the region such as oil refineries, cemeteries, and other land uses. Regulations and permitting requirements have also been eased, which have expanded the uses of recycled water. Infrastructure and regulatory improvements have given groundwater management agencies the ability to increase the allowable percentage of recycled water recharged into groundwater basins. The Seawater Barriers operated by Public Works to protect coastal groundwater basins from seawater intrusion are moving toward 100 percent use of recycled water. Presently, the Seawater Barriers use 17,000 acre-feet on average annually, which is approximately 53 percent of the total water used.

Looking at the region as a whole, use of recycled water has increased by a third since 2008 (Figure 1). Currently, 160,000 acre-feet of annual water demand is met through recycled water. This represents approximately 5 percent of the region's water portfolio (Figure 2). Agencies are collaborating through the Integrated Regional Water Management program to further develop projects to increase recycled water usage. The joint Bureau of Reclamation-Los Angeles County Flood Control District Los Angeles

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Basin Stormwater Conservation Study is also identifying opportunities for increased water reuse.

The region has also been very productive financially. To date, local recycled water supply agencies have been awarded over \$30 million in grants from the State for 13 recycled water projects totaling over \$260 million to supply 35,000 acre-feet per year of recycled water. See Attachment A for details.

Recently, the Metropolitan Water District of Southern California announced a partnership with the Sanitation Districts of Los Angeles County to purify secondary effluent from the Joint Water Pollution Control Plant in the City of Carson to produce advanced treated recycled water and deliver the treated water for groundwater replenishment throughout Los Angeles, Orange, and San Bernardino Counties. Reports indicate this project would produce enough water to meet the annual needs of 1.4 million people. Public Works intends to work with the Metropolitan Water District of Southern California, Sanitation Districts, and others on the development of this project.

The business model for providing recycled water involves sanitation agencies purifying wastewater and then water agencies purchasing that purified recycled water and distributing/selling it to individual customers. It is extremely expensive to build the transmission infrastructure to distribute the recycled water and typically only the larger water agencies that have the financial resources and customer base to make it cost-effective. These water agencies have to carefully evaluate potential demand and identify customers from a geographic area before they commit the extensive financial resources to building the infrastructure. In many cases, providing recycled water to communities is cost-prohibitive. Grants can help with this situation, but funding is limited. In some cases, progressive agencies like the County of Los Angeles will build facilities to be able to accept recycled water in anticipation of recycled water becoming available at some future date.

Land use agencies such as the County and municipalities work with water agencies to identify potential customers and expand the use of recycled water. In 2009, a committee comprised of staff from the Departments of Public Works, Parks and Recreation, and Internal Services, as well as the Chief Executive Office, completed a report, which prioritized County facilities for conversion to recycled water. Since then, Pathfinder Park, Rimgrove Park, and the Los Amigos Golf Course have been converted to recycled water. Parks and Recreation is working with the West Basin Municipal Water District to develop a feasibility study funded through Proposition 1 to look at extending recycled water use to Kenneth Hahn State Recreation Area and Ladera Park. The report is scheduled to be completed by February 2016. Additionally, Internal

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Services Department facilities that were converted to recycled water include Camp Gonzales, Registrar-Recorder/County Clerk in Norwalk, Norwalk Library, and the Internal Services Department Car Wash at the Eastern Avenue Complex.

Over the past several months, the County Sustainability Council, comprised of staff from various County departments, has met in response to the Statewide Mandatory Water Reductions to strategize ways to conserve water at County facilities. One strategy involves improving coordination with recycled water supply agencies to identify feasible projects that can connect County facilities to recycled water, hiring consultants to develop new cost estimates for extending recycled water service, and prioritizing facilities for conversion to recycled water based on the economic and technical feasibilities.

Public Works purchases recycled water from the City of Lancaster for grading and compaction of dirt roads and shoulders in the Antelope Valley and recycled water from the City of Burbank Department of Water and Power for dust control at 12 debris basins in the Burbank area. Public Works is also working with several other recycled water purveyors including the City of Los Angeles to finalize agreements to use recycled water for street sweeping and other approved uses. In the Valencia area, approximately 230 trees are irrigated with recycled water in three Landscape Maintenance District zones. Public Works has also analyzed options for trucking recycled water to irrigate other zones, but at this time, it is cost-prohibitive.

Recycled Water Action Plan

In 2009, County departments prepared a report, which prioritized County facilities for conversion to recycled water. This list was based on recycled water infrastructure in place at that time. The County Sustainability Council's Water Use Workgroup is in the process of working with water agencies to update our maps of recycled water transmission lines. This information will be used to reassess the priorities established in the 2009 report. In addition, the Water Use Workgroup intends to develop new cost estimates for extending recycled water service laterals and retrofitting the on-site system to be able to accept recycled water, analyze the future payback through the cost difference in potable and recycled water rates, and reprioritize these facilities for conversion to recycled water based on the economic and technical feasibilities. This report will be completed by September 30, 2016.

Health of existing trees

Public Works manages over 170,000 parkway and median trees located throughout the County's unincorporated area and has detailed information and inventory on the species, size, location, current condition, and maintenance schedule for each of these trees. Public Works routinely inspects and trims the trees, every 2 or 5 years, depending on the growth rate of the trees. All tree trimming is done per arboricultural standards for the health and safety of both the trees and the public. Supplemental, expedited inspections of the health of parkway and median trees are also performed when a tree is identified as structurally unsound, overly stressed, diseased, dying, dead, or a potential risk to the public's safety, particularly during the State's extended drought.

The current condition of parkway trees in the County's urban forest is as follows:

- Excellent condition – 3.3 percent
- Very good condition – 10.6 percent
- Good condition – 70.1 percent
- Fair condition – 14.5 percent
- Poor condition – 1.5 percent

In addition, on October 27, 2015, Public Works representatives met with deputies from all Board offices to discuss Public Works' Urban Forest Management Program and Landscape Maintenance Districts in more detail. Attachment B includes additional information on Public Works' Urban Forest Management Program.

Gray water Implementation Program

In January 1996, the County was the first Jurisdiction in the State to implement an ordinance as part of the County of Los Angeles Plumbing Code (Title 28) to allow use of gray water for residential buildings. This ordinance with minor revisions was eventually added to the international Association of Plumbing and Mechanical Officials model plumbing code (Uniform Plumbing Code) and adopted by the California Building Standards Commission and became law for the entire State. Since 1996, Public Works' Building and Safety Division has been issuing gray water permits to applicants and in an effort to streamline our process, we will expedite review of the simple system gray water installations to encourage homeowners to use these systems to help sustain our State scarce water resources. Already, Public Works has created a process that allows for the Clothes Washer System to be exempt from plan review, permit, inspection, and all related fees.

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Currently, Public Works in conjunction with the Department of Public Health, are preparing a "Gray Water Guideline" brochure to inform the public of the benefits of installing a gray water system. The brochure will be used as an educational tool for homeowners, engineers, and contractors for the design of gray water systems and to provide information regarding the specific laws related to the gray water systems. The brochure will explain what a gray water system is, where it can be used, different types of gray water systems such as "Clothes Washer Systems," "Simple Systems," and "Complex Systems," and the plan review, permit requirements, and applicable fees. It will also provide a detailed step-by-step guide to design and size a Simple System for use by homeowners or professionals.

If you have any questions, please call me or your staff may contact Gary Hildebrand, Deputy Director, at (626) 458-4012 or ghildeb@dpw.lacounty.gov.

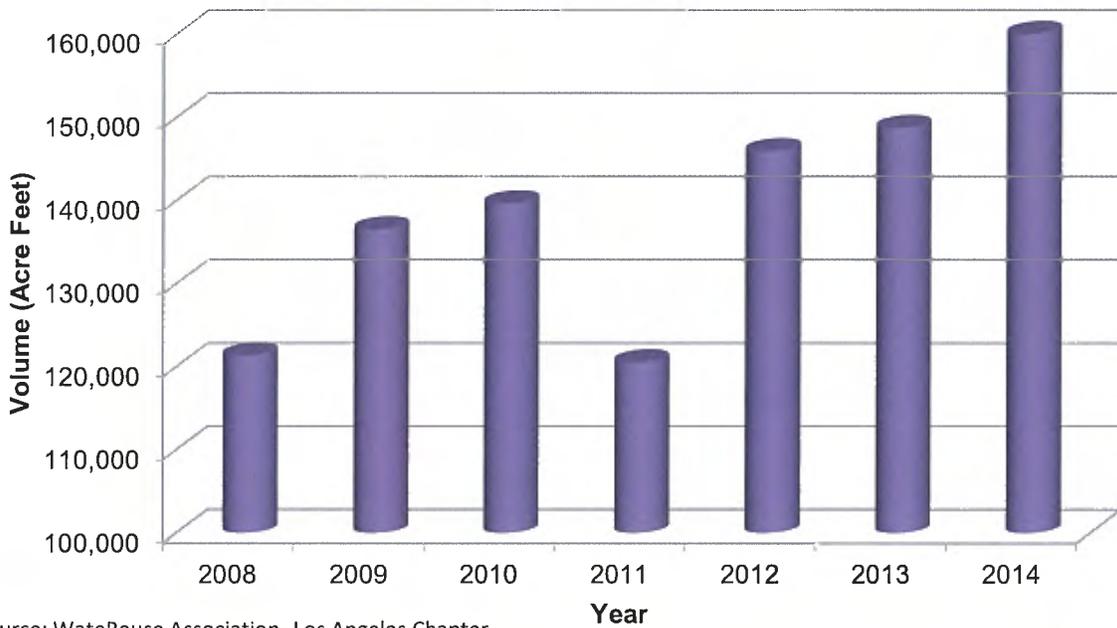
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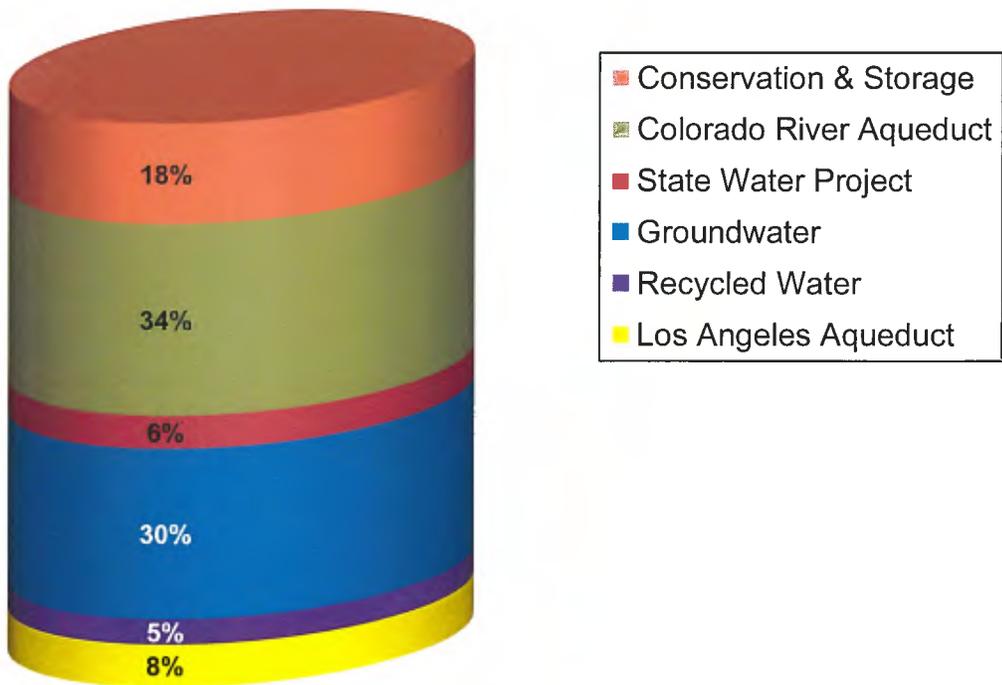
cc: Chief Executive Office (Rochelle Goff)
County Counsel
Executive Office

Figure 1: Greater Los Angeles County Recycled Water Usage



Source: WaterReuse Association- Los Angeles Chapter

Figure 2: Los Angeles County 2015 Water Supply



Attachment A
Grant Funded Recycled Water Projects since 2007
December 22, 2015

Project Name	Lead Agencies	Description of Project	Grant Amount	Estimated Project Cost
Southeast Water Reliability Project	Central Basin MWD	Construct a recycled water pipeline that will run from the City of Pico Rivera to the City of Vernon.	\$3,530,000	\$98,502,400
Leo J. Vander Lans Advanced Water Treatment Plant Expansion	Water Replenishment District of Southern California	Expand the capacity of the existing treatment process at the water reclamation plant, which will deliver highly treated recycled water to the Alamitos Seawater Intrusion Barrier.	\$4,676,040	\$29,165,300
Central Los Angeles County - Regional Water Recycling Program	Los Angeles DWP	Expand recycled water use in the Griffith Park area.	\$2,500,000	\$10,289,300
South Gardena Recycled Water Pipeline Project	West Basin MWD Los Angeles DWP City of Gardena	Construct a recycled water pipeline that will connect four sites in South Gardena.	\$975,000	\$975,000
Terminal Island Water Reclamation Plant Advanced Water Purification Facility and Distribution System Expansion	Los Angeles DWP	Expand the capacity at the water reclamation plant, which will deliver highly treated recycled water to the Dominguez Gap Barrier, Machado Lake, and various industrial uses.	\$2,517,441	\$82,025,700
West Coast Basin Barrier Project Unit 12 Injection Observation Wells	Los Angeles County Flood Control District	Construct new wells to increase the injection of recycled water into the West Coast Basin for local supply and seawater intrusion prevention.	\$1,017,441	\$5,018,900
Recycled Water Turnouts	Water Replenishment District of Southern California	Construct two turnout connection facilities to an existing recycled water supply pipeline to allow delivery of additional recycled water to replenish groundwater supplies in Montebello.	\$5,000,441	\$6,697,300
On-Site Recycled Water Retrofits	West Basin MWD Los Angeles DWP City of Gardena	Construct laterals and on-site retrofitting to provide eight sites with recycled water for landscape irrigation.	\$628,941	\$2,562,800
Upper San Gabriel Valley Municipal Water District Recycled Water Program Expansion	Upper San Gabriel Valley MWD San Gabriel Valley Water Co.	Construct a recycled water pipeline that will connect sites in the Cities of La Puente, Industry, South El Monte, El Monte, and Pico Rivera.	\$2,223,641	\$5,885,500
Hoover, Toll, and Keppel School Recycled Water Project	City of Glendale	Construct a recycled water pipeline for irrigation to multiple schools in the City of Glendale.	\$1,875,000	\$2,595,500
Gateway Cities Regional Recycled Water System Expansion Project	Los Angeles Gateway Region Integrated Regional Water Management Authority	Construct a recycled water pipeline that will connect sites in the Cities of Santa Fe Springs, Pico Rivera, Bell Gardens, South Gate, Lynwood, and Downey.	\$920,811	\$1,046,200
Las Virgenes - Calleguas Municipal Water Districts Interconnection Project	Las Virgenes MWD	Includes construction of a recycled water pipeline.	\$2,511,001	\$9,207,400
Recycled Water Supply for Palos Verdes Golf Course	City of Palos Verdes Estates	Construct a new recycled water line and pump station to serve the Palos Verdes Golf Course.	\$2,600,000	\$9,285,300
			\$30,975,755	\$263,256,600

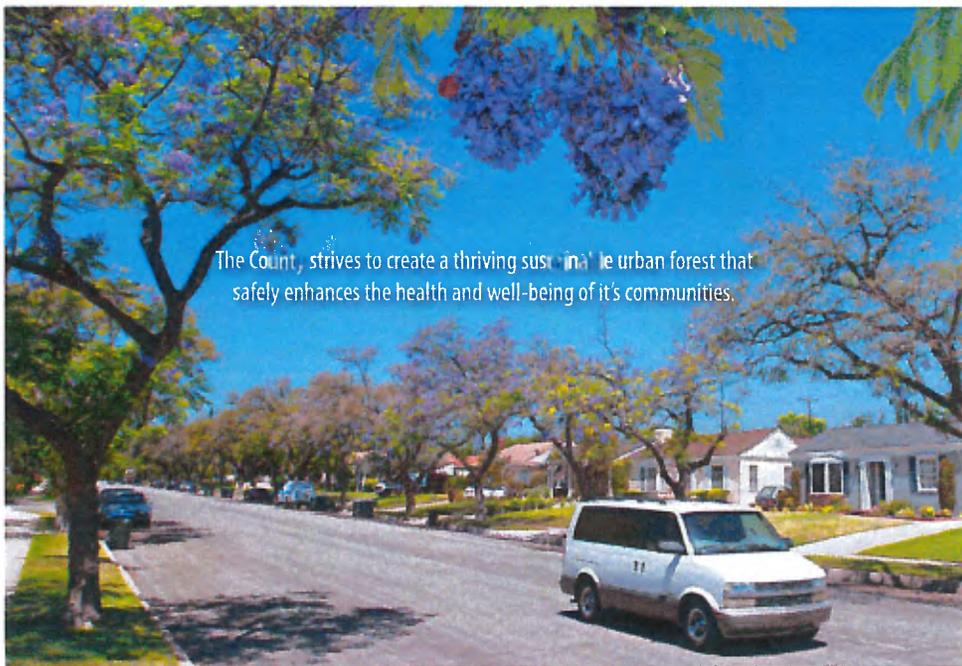
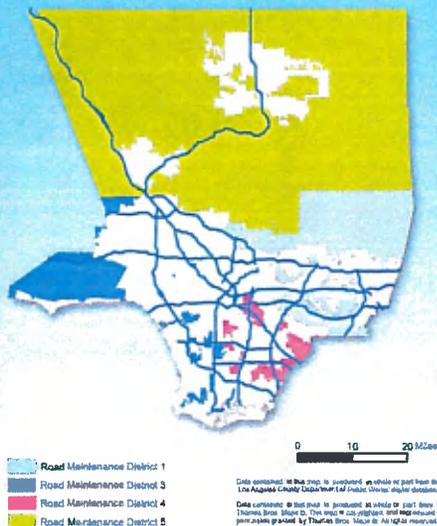
County of Los Angeles Department of Public Works Road Maintenance Districts

For more information on the County's Urban Forest, please contact the Public Works Road Maintenance District that services your area.

dpw.lacounty.gov/rmd/parkways

- MD1 626-337-1277
- MD3: 310-348-6448
- MD4: 562-869-1176
- MD5: 661-947-7173

Urgent Matters:
800-675-HELP (4357)



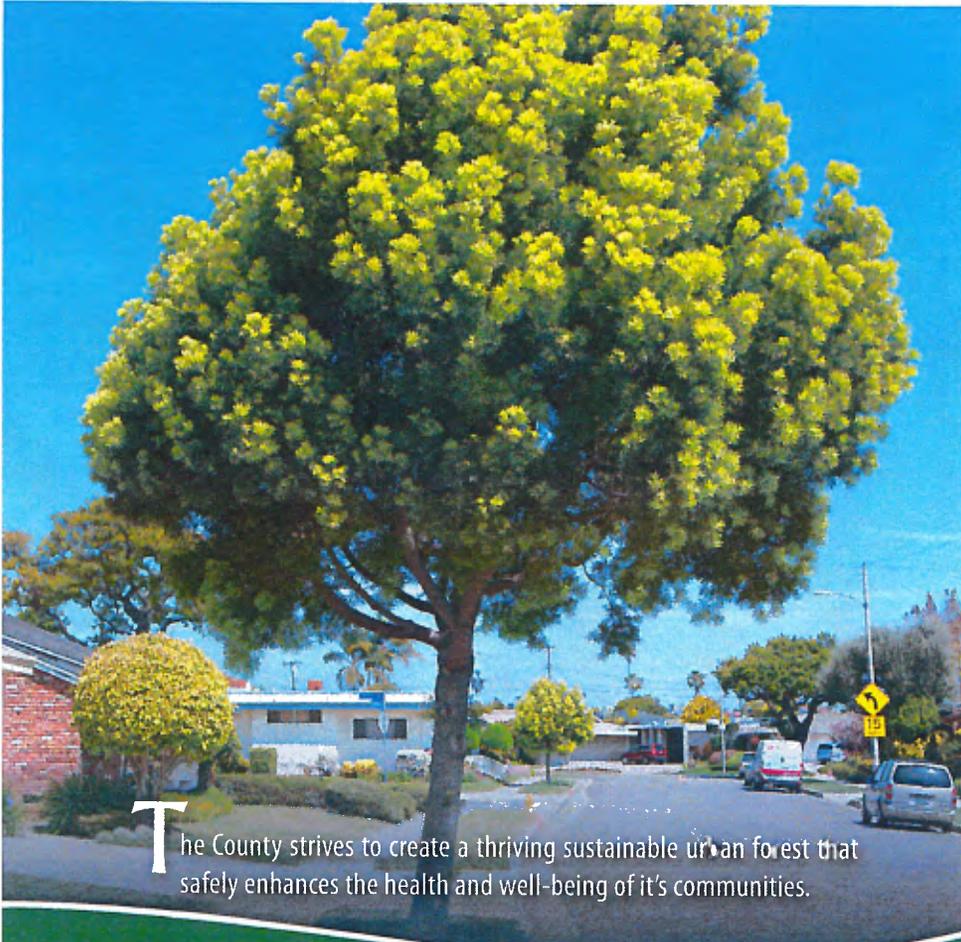
The County strives to create a thriving sustainable urban forest that safely enhances the health and well-being of its communities.



Los Angeles County Department of Public Works CARING FOR THE COUNTY'S URBAN FOREST



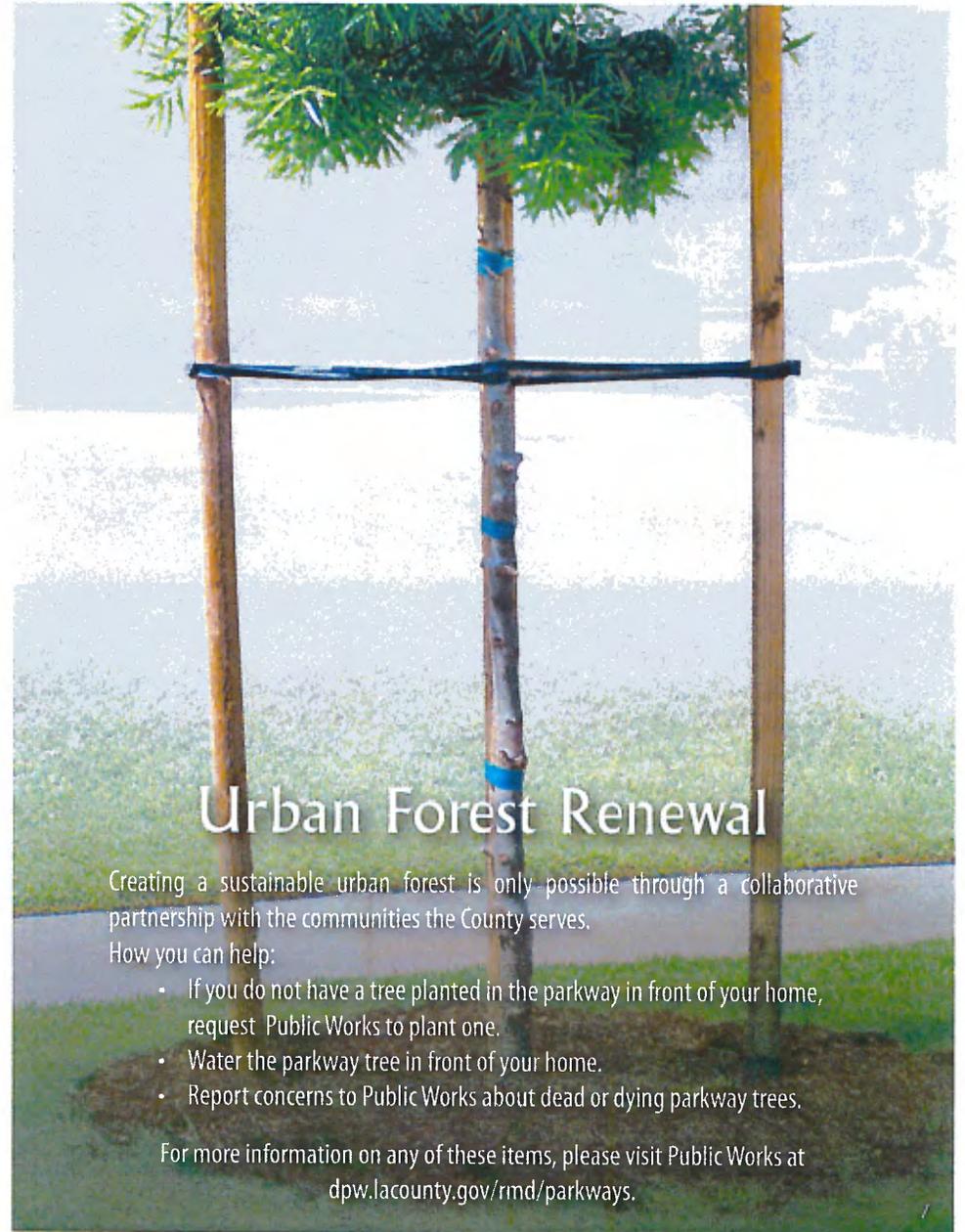
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The County strives to create a thriving sustainable urban forest that safely enhances the health and well-being of its communities.

Parkway and median trees are part of Los Angeles County's urban forest, which is an essential element of a healthy, livable community. A well-managed, thriving urban forest is vital to our region's future.

Since October 1983, Public Works has cared for and maintained over 170,000 parkway and median trees located throughout the County's unincorporated area along more than 3,000 miles of roadways. Public Works recently took over the maintenance of approximately 1,400 additional trees within road right of way in various Landscape Maintenance Districts.



Urban Forest Renewal

Creating a sustainable urban forest is only possible through a collaborative partnership with the communities the County serves.

How you can help:

- If you do not have a tree planted in the parkway in front of your home, request Public Works to plant one.
- Water the parkway tree in front of your home.
- Report concerns to Public Works about dead or dying parkway trees.

For more information on any of these items, please visit Public Works at dpw.lacounty.gov/rmd/parkways.

Challenges and Opportunities

Many of the County's trees are reaching the end of their lives and are stressed due to lack of water caused by the State's drought. While the majority of the County's urban forest is in good to excellent condition, several of these factors have impacted the health of some of the trees which makes them susceptible to various pests and fungus infestations. Therefore, to better balance the health of the County's trees with it's goal of public safety, Public Works is increasing it's focus on urban forest renewal.

Trees are replanted routinely with species that are appropriate for the available space and other factors that complement the existing trees and the community when possible. Public Works takes advantage of drought tolerant species to help counteract the effects of climate change.



Benefits of a Healthy Urban Forest



- * Clean air
- * Heat reduction
- * Stormwater capture
- * Improved community walkability
- * Increased property value
- * Noise suppression
- * Habitat for wildlife
- * Increase well-being



Caring for the County's Urban Forest

Tree Information

Public Works gathers information on the species, size, location, condition, and maintenance work for each tree in its inventory.

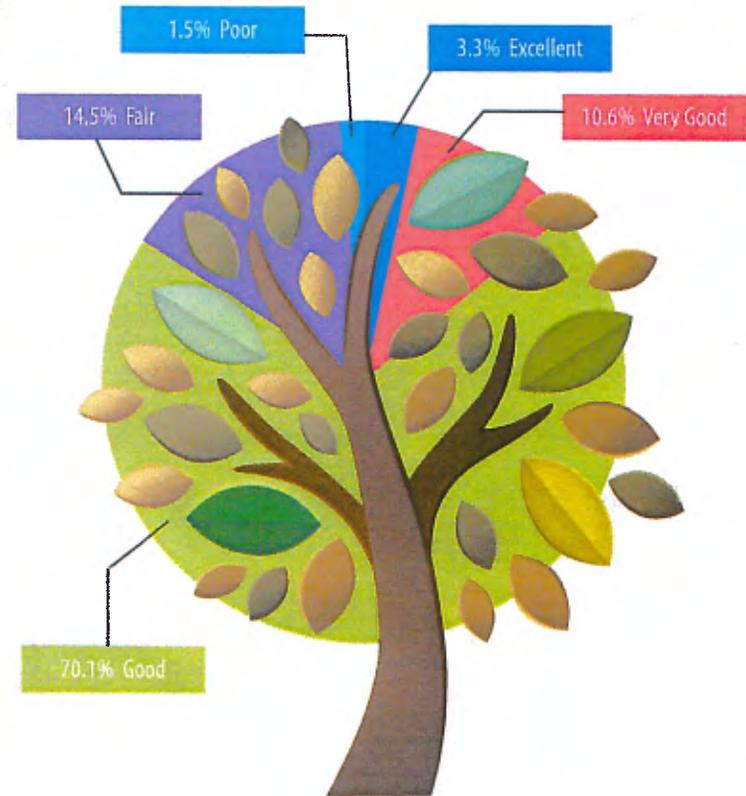
Inspection & Trimming

Public Works routinely inspects and trims trees, every two or five years, depending on the growth rate. All trimming is done per arboricultural standards for the health and safety of the trees and the public.

Safety

Expedited evaluation of trees are also performed when a tree is identified as structurally unsound, overly stressed, diseased, dying, dead, or a potential risk to the public's safety. If the tree is determined to be a threat to public safety, Public Works immediately schedules to remove the tree or creates a safe area around the tree.

Condition of Parkway Trees in Los Angeles County's Urban Forest



Trees were rated as being in poor condition and noted for continued monitoring if there was potential for recovery. Public Works will continue to evaluate those trees and upgrade their condition assessment if there is improvement or remove those that have declined in condition. The number of trees in poor condition are shown below for each of the Supervisorial Districts (SD) along with the corresponding percentage of the total number of trees in that SD.

SD1 – 330 trees (1.4%), SD2 – 430 trees (1.7%), SD3 – 275 trees (1.3%), SD4 – 320 trees (1.1%), SD5 – 1,110 trees (1.6%)

Condition ratings are performed prior to trees being trimmed.