

Tree Canopy Priorities and Actions

For City of San Diego Council's Environment Committee meeting on April 18, 2019

Why are tree canopy goals and actions so important?

- Trees provide essential health and ecosystem benefits to residents, businesses and visitors
- Current tree canopy is not distributed equitably across districts and neighborhoods
- Few actions have been taken to implement Climate Action Plan (CAP) goal of 15% tree canopy cover by 2020
- CAP goal of 35% by 2035 was set without involving community members or professionals
- Larger trees provide more benefits, so current trees need to be kept healthy
- Plant now to get shade and tree canopy coverage in 20 years

What are the next steps?

- Complete the analysis of land cover types by jurisdiction and land use
- Analyze tree cover equity by census tracts, correlating with CalEnviroScreen3.0 data
- Facilitate engagement of communities and local professionals in understanding current distribution of tree canopy and other land cover types
- Identify current benefits using iTree models, tree inventories and other data sources¹
- Identify social, economic, and ecological tree benefits that are valued by the City, communities, and other stakeholders
- Identify gaps and then goals for individual communities, such as reaching the canopy percentage necessary to reduce urban heat island temperatures to a specific range, or to reduce stormwater runoff by a projected amount
- Translate this into 5-year and 30-year action plans and estimated costs

What have other cities done?

- See examples at <http://www.vibrantcitieslab.com/>
- Phoenix, AZ assessed the tradeoffs between urban heat, shade, trees, and water
- Ann Arbor, MI identified residential areas with vulnerable populations for tree planting priorities
- Pittsburg, PA developed achievable, minimum canopy cover goals for each land use type, neighborhood, and watershed utilizing tree canopy and iTree data
- Dallas, TX calculated benefits of cooling, health benefits, and lives saved if trees added

Actions identified in Five-year Urban Forest Management Plan, goals 1.A., 1.B. and 2.B.:

- Conduct an urban tree canopy assessment using the LiDAR data to calculate the current tree canopy cover and identify the spatial characteristics.
- Using the urban tree canopy assessment, develop canopy cover goals for each community that support the Climate Action Plan canopy cover goal.
- Develop partnerships with non-profit and other community organizations to enhance the city's urban forest.

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¹ Tree benefits were calculated for 70,000 trees that were inventoried in 2018; they are 15,700 ton Carbon storage, 320,000 ft³/yr avoided runoff, 11 ton/year pollution removal, and \$160 million replacement value for the trees

Tree Planting Initiative

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Why is tree planting so important?

- Plant now to get shade trees in 20 years
- Trees provide essential health and ecosystem benefits
- Climate Action Plan commitment to increase tree canopy

What has the City done to plant additional trees?

- \$300,000 appropriated in FY 2018 for Tree Planting Initiative
- About 2,000 trees planted on street rights-of-way and in parks by contractors, with site suitability review and contract oversight by City staff
- Some FY 2019 funds available to plant trees
- Grants for planting about 700 trees, provided by California Department of Forestry and Fire Protection (CalFire) in several disadvantaged communities (FY 2016 and 2018)
- Community Forest Advisory Board (CFAB) and Council staff developed outreach strategy and actions at November 8, 2017 meeting
- CFAB members facilitated multi-tree requests from neighborhood blocks and HOAs
- Tree Steward training and volunteer cadre established for Balboa Park, to monitor young tree health

What will it take, to expand tree planting?

- Commit to multi-year tree planting initiative, starting in FY 2020
- Improve tracking system for confirmations and notifications, after request and tree watering agreement made at <https://www.sandiego.gov/blog/free-tree-sd>
- Strengthen onsite inspection and contractor tree plantings to plant trees right and thus maximize future tree health and longevity
- Monitor tree health and survival, using enhanced information technology
- Educate and/or offer training to residents and businesses about tree care and watering
- Reverse the trend toward planting smaller trees, so future benefits won't be reduced
- Incorporate and expand tree planting and replacement commitments by San Diego Gas & Electric
- Engage Council and City staff and local community groups to work collectively to identify priorities and actions to plant and water trees

Actions identified in Five-year Urban Forest Management Plan, goals 1.B. and 2.A.:

- Develop a tree planting program that identifies potential planting sites on public land and encourages tree planting on private property
- Any time a tree is [or is permitted] to be planted, maintained, removed or serviced in any way, record all permits and work in enterprise asset management system
- Develop an urban forest management plan that includes a 20-year removal and replacement plan

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Tree Codes and Best Management Practices

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What code revisions are needed?

- Street tree protection and planting (Ch. 6, Art. 2, Div. 6, under revision by City Forester)
- Land development code (Ch. 14, Art. 2, Div. 4, preparing for 13th revision)
- Landscape standards (part of land development code)
- Standard drawings for Public Works Construction
- All need to follow national American National Standards Institute ANSI 300 and International Society of Arboriculture (ISA) standards

What are the code compliance issues?

- No code compliance officer for trees in Development Services
- Individual inspections by horticulturalists (arborists), from Get It Done reports, are inefficient and reactive
- The City lacks fines for tree removals, topping, and tree damage
- There are many dead, missing, and topped trees in parking lots and commercial properties—negating the anticipated landscape benefits of approved permits
- Water was turned off in some freeway easements to meet “gallons saved” directives, and now there are dead trees and wasted public investments

What are the issues with Best Management Practices (BMPs)?

- Trees are being planted with poor quality nursery stock, in soil volume that chokes root growth, planted incorrectly, and not corrected
- There are insufficient staff for oversight of contractors, to follow ANSI 300 and ISA
- Contracts need to require (inspect for) certified arborists, tree workers, and equipment
- City staff need to be confident in rejecting work if it doesn't meet specifications
- Training is needed for City staff, tree and landscape contractors, and property managers.
- Information technology needed for tracking tree conditions and management actions

The Five-year Urban Forest Management Plan has 17 items relating to codes and Best Management Practices; five of them are listed here for illustration:

1.B. 2. Review and revise as appropriate Council Policy 200-05 Planting of trees on city streets to clarify tree removal and planting standards.

2.A. 4. Develop and improve code enforcement program that could include fines and other penalties for removing, damaging, or causing the loss of a public tree.

3.A. 3. Improve tree stock selection and procurement through the review and revision of specifications and guidelines for the purchase and selection of trees to be planted in the public right-of-way or parks.

3.B. 5. 6. 7. Develop a policy that incorporates best management practices (BMPs) to minimize conflicts between tree roots and water and sewer lines; minimize impacts of tree roots on curbs, gutters, and sidewalks; and minimize tree canopy conflicts with power lines.

3.B. 10. Develop policies that encourage and incentivize developers, homeowners' associations, and other organizations to preserve, maintain, and plant trees.

Urban Forest Management Financing Options

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Why do trees need to be managed?

- Healthy trees live longer
- Trees provide essential health and ecosystem benefits

What does it cost to NOT manage trees?²

- Loss of asset value
- Greater public safety risks, City liabilities, and settlements
- More defects if young trees not pruned (structural pruning costs \$3/tree for young trees and \$45/tree for 20-year-old trees³)
- More infrastructure conflicts
- Greater mortality from drought and pests, and high cost of removing dead trees
- Avoidable health costs, and less public access to green space
- (Responses of 700 City residents in 2014⁴ were that 49% would support increasing the City's budget for tree planting-care, and 28% would support a 1% fee or tax for tree care.)

What do other cities spend?⁵

- Average \$9 per capita, 0.5% of city budget (would be \$13 million for City of SD)
- 18 FTE staff in cities with 200,000 to 1 million
- Funds from general fund (72%), assessment districts and fees (11%), and grants (4%)
- Funds expended for tree planting (14%), pruning (23%) and removal (25%)

How are other cities financing urban forest management?⁶

- General Fund
- Special districts (by petition, >50% of property owners, City or non-profit administrators), such as Maintenance Assessment and Business Improvement Districts
- Parcel tax (independent of property value, based on program costs. 2/3 voter approval)
- General Obligation Bond (repaid by levying tax revenue. 2/3 voter approval)
- Service fees and permits, Grants and partnerships

Actions identified in Five-year Urban Forest Management Plan, goals 2.A. and 3.B.:

- Develop and implement a tree enterprise asset management system.
- Develop urban forest budget report that captures all of the current sources and levels of funding related to urban forest management.
- Identify funding sources for planting, care, maintenance, and protection of trees in the public right-of-way, parks, and trees of significant importance.

² Vogt, Hauer and Fischer. 2015. Costs of Maintaining and Not Maintaining the Urban Forest, http://www.isa-arbor.com/education/resources/Vogt_AUFNov2015.pdf

³ Ryder and Moore. 2014. Economic Benefits of Formative Pruning. <http://joa.isa-arbor.com/request.asp?JournalID=1&ArticleID=3261&Type=2>

⁴ City of San Diego, Five-year Urban Forest Management Plan. 2017. https://www.sandiego.gov/sites/default/files/final_adopted_urban_forestry_program_five_year_plan.pdf

⁵ Hauer and Peterson. 2016. Municipal Tree Care and Management in the US. <https://www.uwsp.edu/cnr/Documents/MTCUS%20-%20Forestry/Municipal%202014%20Final%20Report.pdf>

⁶ Financing San Francisco's Urban Forest, http://default.sfplanning.org/plans-and-programs/planning-for-the-city/urban-forest-plan/UFP_Street_Tree_Report_FINAL_Dec_2013.pdf