

CITY OF BAKERSFIELD
DEPARTMENT OF RECREATION AND PARKS

In a Time of Drought, What is a Tree Worth?

SUMMARY:

Trees can be valued in several ways. A 15 gallon tree can be purchased and planted for about \$120. For a mature tree, the *Landscape Tree Appraisal* by Purdue University Department of Horticulture assesses tree values based on species, location, size, and other factors. As examples of replacement values, Purdue University valued a 4" Red Oak on a city street at \$2,847 and a 10" Sugar Maple in a city park at \$3,544. The American Forestry Association values a tree's benefits to the environment over 50 years at \$57,000.

In addition to these economic assessments, trees are valued for aesthetic and environmental benefits that are hard to quantify. A perspective was provided by a writer to *The Bakersfield Californian* who stated, "*We need policies that value older, bigger trees more than little, young whips. By allowing trees to die and then replacing them in areas not to be modified by pending construction leaves us with continuing inventory of young, small trees that never get a chance to get big.*"

The current drought is stressing trees in parks and streetscapes and many mature trees will not survive. Given that, how should the City of Bakersfield Department of Recreation and Parks respond?

PURPOSE OF INQUIRY:

The California Penal Code §925a authorizes a grand jury to investigate and report upon the operations of any city and make such recommendations a grand jury may deem proper. The purpose of this inquiry was for the 2015-2016 Kern County Grand Jury (Grand Jury) to understand the extent to which the City of Bakersfield (City) Department of Recreation and Parks (Department) is able to maintain the City-owned parks and public landscaping in this time of drought.

PROCESS:

The Cities and Joint Powers Committee (Committee) interviewed Department staff, reviewed the 2015-2016 budget and other documents pertinent to the inquiry and conducted research on the internet. The Committee took a tour of landscaped areas that are the responsibility of the Department, consulted the Tree Foundation of Kern and researched other resources for perspective on issues of interest. The Committee also reviewed the Bakersfield Recreation and Parks Master Plan (Master Plan), written in 2007, which is available on-line.

FACTS:

- A. The City encompasses 150 square miles with an estimated population of 369,505.
- B. The Department maintains 59 parks, Kern River Parkway, Dr. Martin Luther King, Jr. Community Center, Silver Creek Community Center, McMurtrey Aquatic Center and Centennial Plaza.
- C. The City has approximately 243 miles of public landscaping along streets, referred to as streetscape, maintained by the Department. Some streets have three areas to maintain which include both sides of the street and median. Other streets include just one side of the street and a median while others include just one side of the street. As development occurs, the mileage increases. Areas not maintained by the Department include business property, schools, apartments, private property and areas not within the City limits.
- D. Trees in the urban environment provide many benefits. These include improved air quality, reduction in summer temperatures and air conditioning costs, improved water quality, reduction in crime and increased property values. The City recognizes these benefits by requiring developers to adhere to standards that include the planting of trees and other plants as part of street development.
- E. There are an estimated 85,000 trees in the City-owned inventory of parks and streetscape. For purposes of illustration, at \$750 per tree the value of the public tree inventory would be over \$63 million. Shrubs and ground cover would add considerably to that figure.
- F. At a local nursery a 15 gallon tree can be purchased for about \$70 and planted for approximately \$50. A 24” box tree would cost around \$230 and be planted for about \$100.
- G. The American Forestry Association values a tree in a forest in terms of erosion control, air pollution reduction and wildlife shelter over a period of 50 years at more than \$57,000.
- H. In December, 2014 the Bakersfield City Council approved a one-year \$325,000 contract for tree-trimming services. Contractor services include pruning, tree removal and stump removal as directed by the Department. Under the contract, a small tree costs \$50 to remove, whereas a tree that is greater than 36” in diameter, costs \$1,500 to remove.
- I. On September 2, 2015, the City Council amended the tree-trimming contract to increase the amount to \$650,000 and extend the term to June 30, 2016. The report to the City Council stated “*Contract activity has increased with the need to remove dead trees due to drought conditions.*” The report also noted that additional funds might be needed before the end of the new term.

- J. For 18 years, the City has been a “Tree City USA” under Arbor Day Foundation criteria.
- K. In the event of damage to a tree as a result of an accident, the Department calculates the value of replacement for an insurance claim. Costs include City staff time and equipment to remove the damaged tree, prepare the site and for a contractor to provide and plant a new 24” box tree.
- L. The 2015-2016 Department budget of \$18,991,657 is allocated as follows:

	Funding Source		<u>Total (\$)</u>	Percent <u>Allocation</u>
	<u>General Fund (\$)</u>	<u>Maintenance District (\$)</u>		
<u>Recreation</u>	2,901,543	0	2,901,543	15%
<u>Parks Maintenance</u>	2,534,958	1,962,554	4,497,512	24%
<u>Streetscapes Maintenance</u>	5,865,202	4,540,815	10,406,017	55%
<u>Administration</u>	1,186,585	0	1,186,585	6%
Total	<u>12,488,288</u>	<u>6,503,369</u>	<u>18,991,657</u>	<u>100%</u>

- M. The Department’s 2015-2016 budget for salaries and benefits for 150 authorized full-time employees is \$10,466,381. As of September 23, 2015, 148 positions were filled.
- N. The 2015-2016 budget for 220 authorized temporary employees is \$1,161,686. As of August 31, 2015, 146 positions were filled.
- O. For purposes of maintaining the public parks and streetscape, the City is divided into five geographic areas. A supervisor and subordinate employees are assigned to each area. There is a sixth “trades” section with employees who have more specialized skills, including a tree trimming crew. These employees work in the five geographic areas as needed for particular projects or duties.
- P. The Department maintains and staffs two community centers, an aquatic center and other facilities:
- The Dr. Martin Luther King, Jr. Community Center is located at the intersection of East California Avenue and South Owens Street. The meeting rooms, kitchen, picnic areas, and gymnasium, are available for rental to the public. Reservations must be made at least 3 weeks in advance and require a minimum \$100 cleaning deposit. A two hour minimum rental

fee is required. There is also a pool which is operated seasonally by the Department.

- Silver Creek Community Center is located at the corner of Harris Road and Reliance Drive in southwest Bakersfield. This 14-acre complex features a pavilion, swimming pool, which is open seasonally, two meeting rooms, performance stage, disc golf course, tennis courts, horseshoe pits, par exercise course and two large picnic areas. Some of these areas are available for rental on a first come, first-served basis. The Silver Creek meeting rooms, kitchen, picnic areas and pavilion (covered court), are available for rental to the public. Reservations must be made at least 3-weeks in advance and require a minimum \$200 cleaning deposit.
- The McMurtrey Aquatic Center (Center) is located at 1325 Q Street. The Center features an Olympic size competition pool, water slides, one and three meter diving boards and picnic areas for public use and party rentals. The Center also provides a variety of water programs.
- The Saunders Multi-purpose facility has year round soccer, in-line hockey, basketball and roller derby events. Outdoor fitness facilities are available to the public at City in the Hills, Truxtun Avenue and Aera Park. Mesa Marin Sports Complex operates one of the largest softball leagues in California, as well as various tournaments year round. State Farm Sports Village offers soccer and youth football to over 4,000 children through agreements with AYSO and Golden Empire Youth Football.

Q. The City of Bakersfield Parks and Recreation Master Plan was written in 2007. The Master Plan states: *“The purpose of doing a Recreation and Parks Master Plan is twofold. First, it provides the City with an opportunity to assess its past and future growth and where it is in terms of providing the needed facilities and programs to serve that growth. Secondly, it provides the City with an updated Master Plan suggesting policies, park standards, current and future needs assessments, analysis of facility conditions and funding/financial recommendations which results in a current strategic planning document allowing the City to address the needs, issues, and demands for recreation programs, facilities, and parks to better serve the Bakersfield community now and in the future.”*

R. The Master Plan suggests it should be updated every 5 to 7 years. One objective in the approved 2015-2016 Department budget is: *“Identify funding source(s) to review and update Recreation and Parks Master Plan to include future community needs.”*

FINDINGS:

- F1. Drought and water rationing are stressing City owned trees and shrubs in parks and along streets. Department staff and resources are insufficient to keep parks and streetscape maintained at an acceptable level in the coming months and years.
- F2. City owned parks and streetscape require considerable maintenance. Department staff carry out routine maintenance and respond to increased citizen concerns about broken and poorly adjusted sprinklers, distressed trees and other observations. Staff provides support for removal of homeless encampments in the Kern River, assists in sidewalk replacement where tree roots lift sidewalks, and carries out tree removal and trimming around City facilities, among other duties.
- F3. Department staff assigned to streetscape maintenance appears to be knowledgeable and hard working. However, drought and water rationing have led to additional workload that is stretching staff time and equipment to the limit. When equipment is out of service, some work must be deferred while awaiting repairs or replacement.
- F4. Citywide reduction in water usage means less water is being applied to landscaping. Compared to 2013, the Department has reported that the City has cut water use by about 50% for City facilities, parks and streetscape.
- F5. City policy, to comply with State mandates, requires irrigation to occur only on designated days and times. Controllers that regulate the timing and duration of irrigation cannot in all cases accommodate these daily restrictions, leading to less efficient watering patterns and increased stress on vegetation. In some areas, watering by the City must be further curtailed to maintain acceptable water pressure in surrounding areas.
- F6. The words “rain”, “drought” and “desert” are not mentioned in the Master Plan, indicating that a drought was not anticipated in 2007.
- F7. Maintenance of streetscapes is mentioned in the Master Plan, but almost exclusively from the standpoint of recommended funding through maintenance districts. City Subdivision and Engineering Design Manual Standards for Landscaping applicable to development proposals do not emphasize planting and hardscape that recognize the need to conserve water in a time of drought.
- F8. Streetscape areas under the responsibility of the Department are not well documented in an easily accessed format. Maintenance staff therefore must depend upon their own knowledge of streetscape areas in their daily work. Such knowledge can be difficult to pass on to other employees and interested third parties.

- F9. Geographic Information System (GIS) mapping is available for tree location mapping. The cost for consultant services is in the range of \$2.00 - \$5.00 per tree. The information can be compiled with location, species, size and condition. Maps can be printed from the database.
- F10. The City utilizes a work order system called Mainstar and in addition uses the "CitySourced" app which tracks complaints from the public. Additional technology is available that can access the GIS database in the field and could also be used to log complaints and work orders. Adapting this technology to the needs of the Department would allow complaint follow-up, rapid response to important repairs, and better communication and documentation.
- F11. If enough trees are lost due to the drought the City could be at risk of losing the "Tree City USA" designation.
- F12. In the event of damage to a tree as a result of an accident, the Department calculates the insurance claim based upon staff time and equipment to remove the damaged tree and prepare the site, and for a contractor to provide and plant a new 24" box tree. This method does not take into account the size, age or species of tree. For example, if a large diameter tree must be removed as a result of an accident, the small diameter replacement tree would take many years to reach the same size and maturity. The benefits of that larger tree are therefore lost in this example of a calculation for an insurance claim.
- F13. The Department would like to offer more recreational activities than currently available. The two City community centers currently offer some after school programs and anyone is welcome to attend. However, these centers may not be easily accessible from all areas of the City.
- F14. According to the Department, approximately 17 years ago, the Bakersfield City and Greenfield School Districts opened their facilities for after school programs that were planned, organized and supervised by the Department:
- Consisted of homework help, sports, arts and crafts and non-competitive games
 - Schools funded half and the District funded half to cover staffing, supplies and equipment
 - Schools started their own programs and the Department contracts were phased out over a twelve year period
 - According to the Department, the costs became prohibitive when the schools began charging fees for custodians, room rentals and other costs. The Department states, "*It is frustrating to see the gates locked after school and in the summer, keeping the kids out once the school bell rings*"

- F15. The Kern High School District (KHSD) currently has a joint use agreement with the Department to use city pools for swim team practices and some swim meets.
- KHSD donated money to help build the McMurtrey Aquatic Center
 - The schools have first priority in use of the pools, outside of the City programs
- F16. As stated by the Department, *“More dialogue with community leaders, school administrators and board members would result in greater opportunities for children during their out of school hours”*.
- F17. According to the Kern County Superintendent of Schools, all school districts within the County have a reasonable policy to allow community use of school facilities. Educational Code §38131 (a) states: *“There is a civic center at each and every public school facility and grounds within the state where the citizens, parent teacher associations, Camp Fire girls, Boy Scout troops, veterans' organizations, farmers' organizations, school-community advisory councils, senior citizens' organizations, clubs, and associations formed for recreational, educational, political, economic, artistic, or moral activities of the public school districts may engage in supervised recreational activities, ...”*

COMMENTS:

The Committee would like to thank the Department Director and staff for their cooperation in this inquiry. The Committee concluded that under the current unusual circumstances, the staff is working diligently to protect and preserve the investment in parks and streetscapes that have been made over many years.

RECOMMENDATIONS:

- R1. Utilizing Department staff, personnel from other departments, and appropriate outside assistance, the City should immediately identify parks and streetscape vegetation that will survive and that which cannot be saved. The City should formulate and implement an emergency plan to maximize the retention of these important resources. General Fund monies should immediately be made available for additional staff and equipment as needed.
(Findings F1, F2, and F3)
- R2. The City should examine the three day a week watering mandate for parks and streetscapes. Additional watering days would allow staff the latitude to find water savings and create more efficient watering patterns without impacting water pressure in surrounding areas. (Findings F4 and F5)
- R3. Until the Master Plan can be updated, the City should prepare a plan with objectives that focus resources, including increased staff, equipment, and contractors in areas in which they will do the most good to retain and nurture

the maximum amount of City-owned landscape. General Fund monies should be made available to implement the plan in the annual budget cycle. (Findings F1, F2, and F3)

- R4. Within two years, the Master Plan should be updated by City staff and, if required, a consultant, to include a much expanded focus on public landscaping in time of drought. This should include revision of the City Subdivision and Engineering Design Manual Standards for Landscaping applicable to development proposals. The update should contain an emphasis on drought resistant plants and hardscape in appropriate areas. General Fund monies should be made available for this planning process. (Findings F1, F2, F3, F4, F5, F6 and F7)
- R5. Through a GIS system, the Department should document the trees and other streetscape that must be maintained by the Department. A grant through Cal Fire, the California Department of Forestry and Fire Protection, may be available to implement such a system. (Findings F8 and F9)
- R6. The Department should explore technology to provide increased efficiency and better documentation of work orders, complaints and responses. Such technology should be purchased when funds become available. (Findings F9 and F10)
- R7. The Department should implement a standardized method to value a tree for insurance claims after damage by an accident. This method should take into account the size, maturity, condition and species, among other factors, of the actual tree which was damaged. *Landscape Tree Appraisal* by Purdue University Department of Horticulture and other methods of calculating tree values should be reviewed for applicability in this context. (Finding F12)
- R8. The Department should initiate dialogue with KHSD and/or neighborhood schools to use facilities for recreation programs across the city. Costs should be paid by General Fund monies or other sources. School Districts could be asked to share the costs. (Findings F13, F14, F15, F16 and F17)

NOTES:

- The City of Bakersfield should post a copy of this report where it will be available for public review.
- Persons wishing to receive an email notification of newly released reports may sign up at: www.co.kern.ca.us/grandjury.
- Present and past Kern County Grand Jury Final Reports and Responses can be accessed on the Kern County Grand Jury website: www.co.kern.ca.us/grandjury.

RESPONSE REQUIRED WITHIN 90 DAYS

**PRESIDING JUDGE
KERN COUNTY SUPERIOR COURT
1415 TRUXTUN AVENUE, SUITE 200
BAKERSFIELD, CA 93301**

**CC: FOREPERSON
KERN COUNTY GRAND JURY
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