

## **ENVIRONMENTAL SERVICES**

The mission of the Environmental Services Department is to deliver world-class utility services and programs to improve our health, environment, and economy.

## ENVIRONMENTAL SERVICES

The Environmental Services Department (ESD) provides recycling and garbage services, wastewater treatment, potable water delivery, stormwater management, and recycled water management. ESD also manages programs to conserve water and energy resources and achieve other environmental goals.

ESD provides City-wide coordination of efforts to protect and conserve air, land, water, and energy resources through policy development, education, and grant-seeking. This work is guided by the City's Green Vision and regulatory requirements.

Most ESD revenue comes from various customer fees and charges; less than 1 percent of its budget comes from the General Fund (about \$1.4 million in the 2016-17 adopted budget).

In 2016-17, ESD's operating budget totaled \$258 million.\* Staffing in 2016-17 included 540 full-time equivalent positions, a slight increase from 2015-16 and a 13 percent increase from ten years ago.

\* In addition to expenditures paid out of its operating budget, ESD was also responsible for \$1.7 million in actual Citywide expenses, including \$667,000 for Silicon Valley Energy Watch. The operating budget also does not include capital expenditures, reserves, and some other program expenditures paid through ratepayer funds (including City overhead).

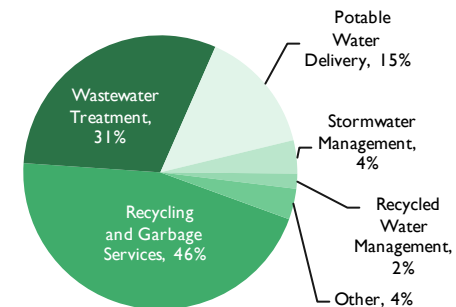
### RESIDENT SURVEY

% of San José residents surveyed who rated the following as "excellent" or "good"

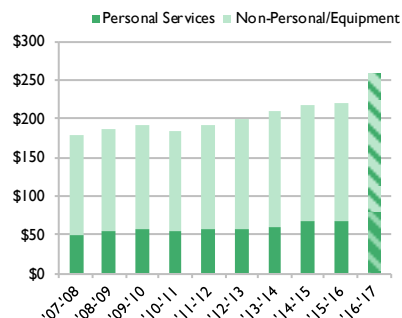
- 38%** Air quality
- 36%** Quality of overall natural environment in San José
- 41%** Preservation of natural areas such as open space, farmlands, and greenbelts

**80%** of San José residents made efforts to make their homes more energy efficient during the past 12 months

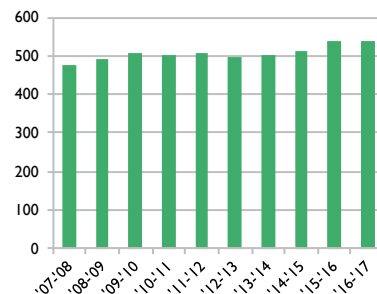
### ESD Operating Budget Breakdown (2016-17)



### ESD Operating Expenditures (\$millions)

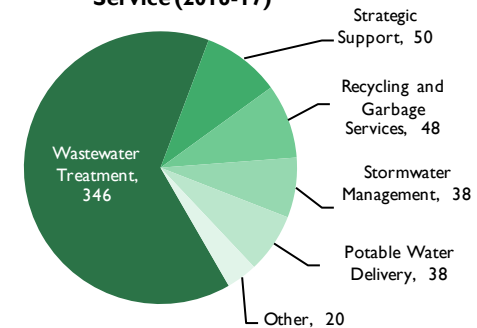


### ESD Authorized Positions



Note: 2016-17 is adopted budget data. All other years are actual expenses.

### ESD Staffing Breakdown by Positions per Service (2016-17)



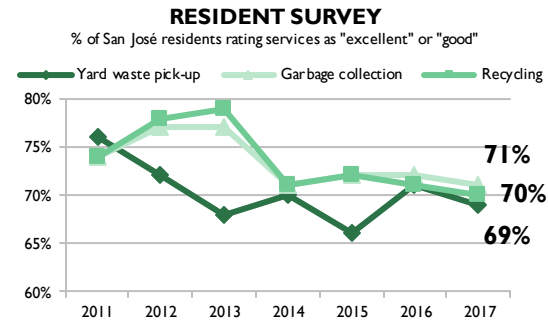
RECYCLING & GARBAGE SERVICES

ESD provides recycling and garbage services to nearly 323,000 residential households in San José through contracted service providers.\* ESD also provides waste management programs and services for San José businesses, large events, public areas, and City facilities. It manages contracts for commercial collection and recyclables processing, organics processing, and construction waste collection services in the City. ESD’s operating budget for recycling and garbage services was \$117.3 million.

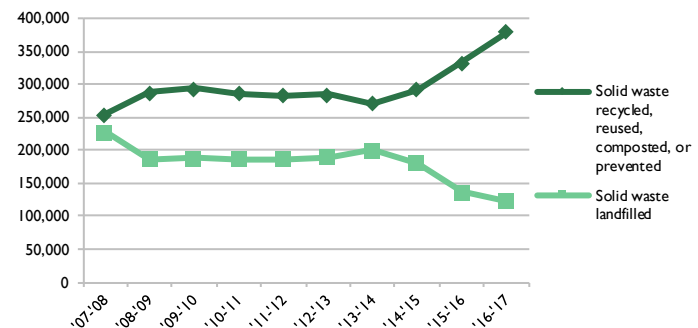
The State monitors each jurisdiction’s “per capita disposal rate” and requires that 50 percent of solid waste be diverted\*\* from landfills. The Department of Resources Recycling and Recovery has taken a statewide approach to meet the State’s goal of achieving 75 percent “recycling” by 2020; it regulates AB 341 (Mandatory Commercial Recycling) and AB 1826 (Mandatory Commercial Organics Recycling, effective 2016).

Since 2005, San José has diverted at least 60 percent of waste, including 68 percent in 2016. Increases in the diversion rate in recent years have been supported by ESD’s expansion of garbage processing services that enable greater recovery of recyclable materials and compostable organics prior to landfill disposal.

\*For information on single-family residential recycling, see the May 2015 audit [Curbside Recycling: The City Can Enhance Its Single-Family Residential Recycling Program to Improve Waste Diversion](#).  
 \*\*“Diversion” refers to any combination of waste prevention, recycling, reuse, and composting activities that reduces waste disposed at landfills. (Source: CA Integrated Waste Management Board)



Tons of Residential Solid Waste Recycled vs. Landfilled

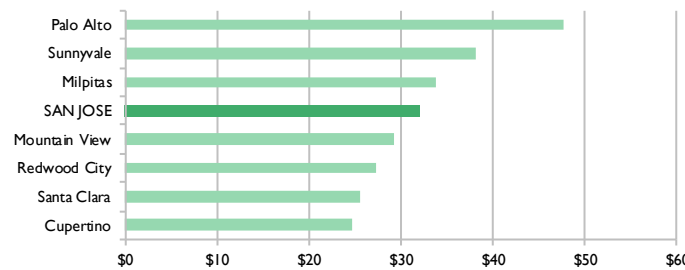


**RESIDENT SURVEY**

**93%** of San José residents surveyed reported recycling at home “usually” or “always”

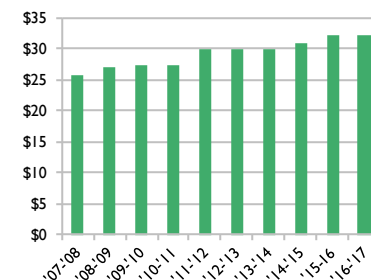
**45%** of San José residents rated utility billing “excellent” or “good”

Comparison of Monthly Residential Garbage and Recycling Rates (2016-17)



Sources: Rates listed on local government websites for municipalities provided  
 Note: Rates listed for all municipalities are for the 32-gallon cart size (with the exception of Sunnyvale’s 35-gallon cart). Although this is San José’s smallest and standard cart, some municipalities offer smaller 20-gallon bins.

San José Garbage and Recycling Monthly Bills (32-gallon cart)



# ENVIRONMENTAL SERVICES

## STORMWATER MANAGEMENT

ESD, with the Departments of Public Works and Transportation, oversees the City's storm drains and storm sewer system in order to sustainably manage stormwater, conveying rainwater into creeks and eventually the South San Francisco Bay. ESD accounts for just over a quarter of storm sewer expenditures.

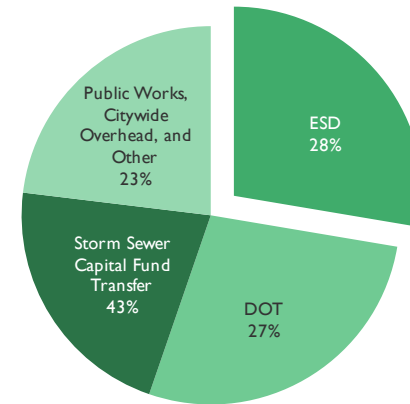
Specifically, ESD manages regulatory programs, initiatives, and activities to prevent pollution from entering the storm sewer system and waterways.\* These efforts protect water quality and the health of the South Bay watershed and the San Francisco Bay.

One such program is the litter/creek cleanup program. Overall, 706 creek cleanup events were held and about 801 tons of trash were removed in 2016-17. The increase in cleanup events in the past three years is largely due to additional cleanups by the Housing Department's Homeless Encampment Response Program; the Parks, Recreation & Neighborhood Services Department's Watershed Protection Team; and creek cleanup partners. The City has achieved a Citywide trash load reduction of 79 percent since 2009, outpacing a 70 percent state requirement.

The annual fee for a single-family residence in 2016-17 was \$94.44. While this is a 74 percent increase from 2007-08, the fee has remained relatively level since 2009-10.

\* These programs and activities are regulated by a state permit for municipal storm water systems. For more information, see the [California Water Boards' webpage](#) on the subject.

**Breakdown of Storm Sewer Operating Fund Budgeted Expenditures**

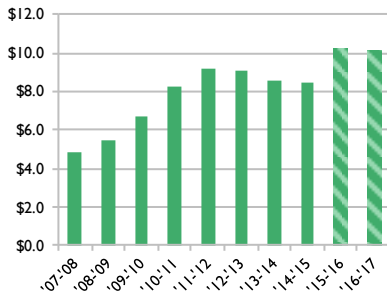


Source: 2016-17 Adopted Operating Budget

### Baykeeper Consent Decree

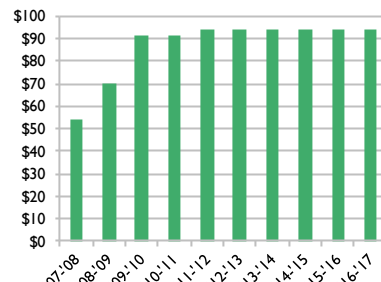
In June 2016, the City executed a consent decree to settle a lawsuit filed by the San Francisco Baykeeper. The consent decree stipulates that the City will appropriate \$100 million over a ten-year period to implement multi-benefit projects (e.g. green infrastructure) intended to reduce the flow of pollutants from the City's urban areas to receiving waters.

**ESD Operating Expenditures Stormwater Management (\$millions)**

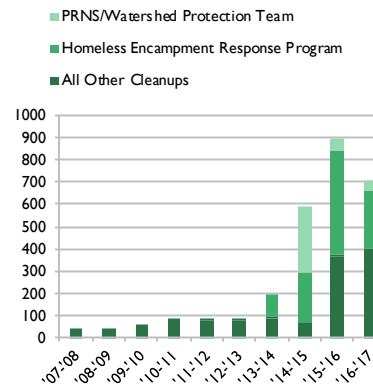


Note: 2015-16 and 2016-17 are adopted budget data. All other years are actual expenses.

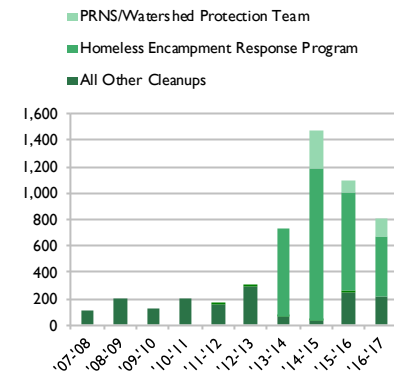
**Annual Fee for Household Storm Sewer Service**



**Number of Creek Cleanups**



**Tons of Litter Collected at Creek Cleanups**



**RETAIL WATER DELIVERY**

ESD operates and maintains the San José Municipal Water System (Muni Water), which serves about 27,000 customers in North San José, Alviso, Evergreen, Edenvale, and Coyote Valley. Other local San José water retailers include Great Oaks Water Company (which serves Blossom Valley, Santa Teresa, Edenvale, Coyote Valley, and Almaden Valley) and the San José Water Company (which serves the San José Metropolitan area). For 2016-17, the operating budget for retail water delivery totaled about \$37.7 million.

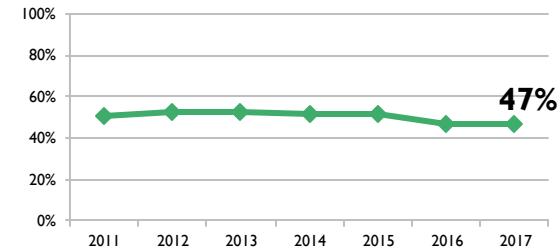
Muni Water rates increased very slightly in 2016-17, but have increased by 121 percent over ten years. According to ESD, this increase is primarily due to increases in wholesale water costs. Other San José retail water providers have also increased their rates dramatically (127 percent over ten years).

In 2016-17, Muni Water delivered 6,362 million gallons of water to its customers, down 18 percent from five years ago. 95 percent of City residents who responded to the resident survey indicated they made efforts to conserve water the past year, likely due to exceptional drought conditions in California in recent years. In March 2017, the City declared an end to a Citywide water shortage due to heavy rain and snow throughout the state that ended the drought. Muni Water met federal water quality standards in 99.8 percent of water samples taken.\*

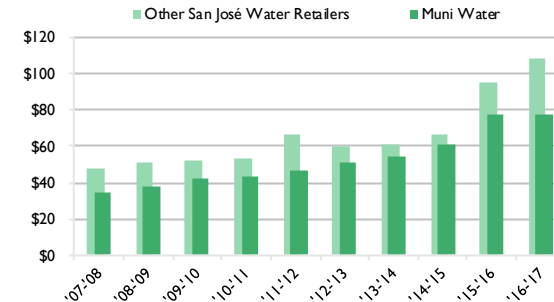
\* For more information on water quality, see the [2016 Water Quality Report](#).

**RESIDENT SURVEY**

% of San José residents rating drinking water delivery as "excellent" or "good"



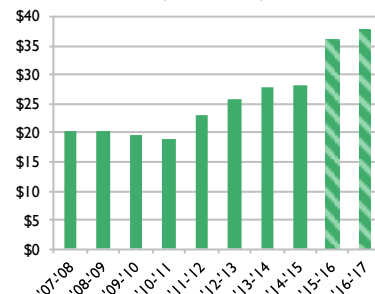
**Comparison of Monthly Residential Water Bills**



Source: ESD and Auditor Analysis

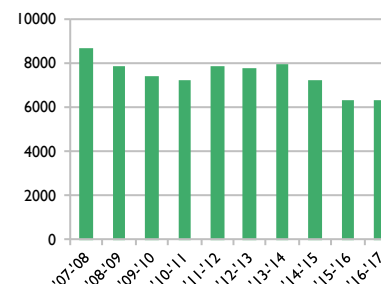
Note: Monthly bill based on 15 HCF/month usage. Average of other San José water retailers' rates weighted based on number of customers served.

**Operating Expenditures Retail Water Delivery (\$millions)**

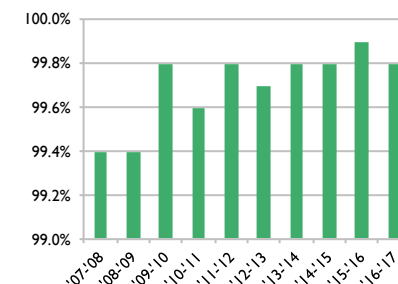


Note: 2015-16 and 2016-17 are adopted budget data. All other years are actual expenses.

**Millions of Gallons of Water Delivered to Muni Water Customers**



**% of Water Samples Meeting State and Federal Water Quality Standards**



**RESIDENT SURVEY**

**95%** of San José residents indicated they made efforts to conserve water during the past 12 months

## ENVIRONMENTAL SERVICES

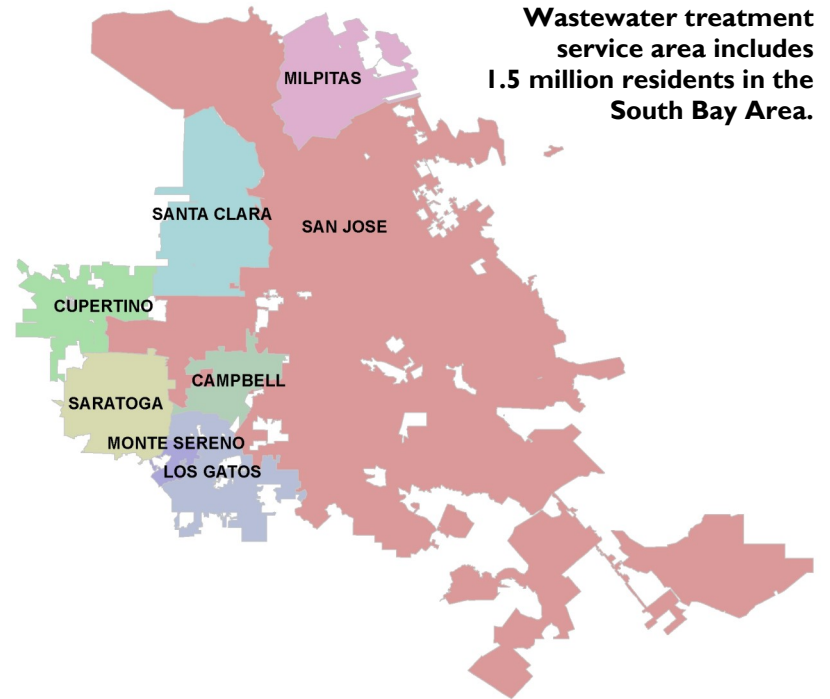
### WASTEWATER TREATMENT

The City's Department of Transportation maintains the City's sanitary sewer system (see Transportation chapter) that flows to the San José-Santa Clara Regional Wastewater Facility. ESD staff at the Facility provides wastewater treatment for 1.5 million residents in San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno. The Facility is co-owned with the City of Santa Clara; however, it is managed and operated by ESD. ESD also manages pretreatment programs to control for pollutants at their source. For 2016-17, budgeted operating expenditures totaled nearly \$79 million. ESD wastewater treatment operations account for the largest share of ESD employees: 346 full-time budgeted positions out of 540 total.

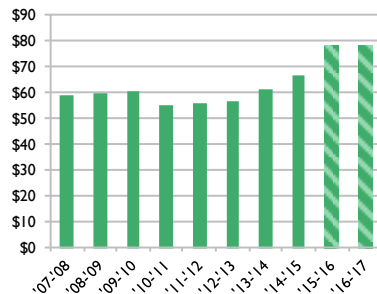
The Wastewater Facility continues to meet the Regional Water Quality Control Board's permit requirements for water discharged into the San Francisco Bay. In 2016-17, pollutant discharge requirements were met or surpassed 100 percent of the time.

The cost per million gallons treated was \$1,311, a 35 percent increase from \$969 ten years ago. According to ESD, although there has been a decline in influent over the past several years, increasing maintenance and capital costs due to aging infrastructure at the Facility have contributed to high operational costs. In accordance with the Plant Master Plan adopted in 2013, the City is moving forward with over \$2 billion in long-term capital improvement projects to upgrade and rebuild the facility over the next 30 years, with over \$1 billion in improvements occurring within the first 10 years.\*

\* For more information, see the [Capital Improvement Program webpage](#).

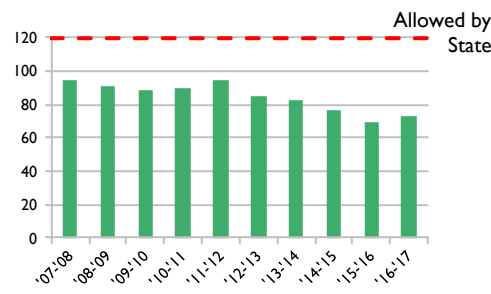


**Operating Expenditures Wastewater Treatment (\$millions)**



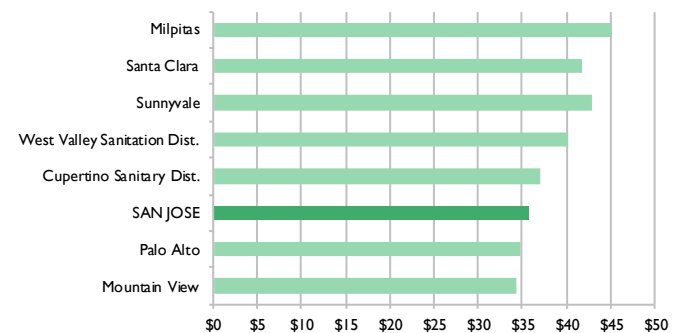
Note: 2015-16 and 2016-17 are adopted budget data. All other years are actual expenses.

**Millions of Gallons per Day Discharged to Bay During Average Dry Weather Season**



Note: Based on [2016 Annual Self-Monitoring Report](#).

**Comparison of Monthly Sewer Rates\* (2016-17)**



\* Sewer rates pay for costs of the sewer system as well as wastewater treatment. Sources: Rates listed on local government websites for municipalities provided.

**RECYCLED WATER**

The City invests in South Bay Water Recycling (SBWR) in order to reduce wastewater effluent and protect the ecosystem of the South Bay, including the habitats of two federally endangered species, the Salt Marsh Harvest Mouse and the California Clapper Rail. SBWR serves the cities of Milpitas, Santa Clara, and San José.

In 2016-17, 19 percent of wastewater influent was recycled for beneficial purposes during the dry weather period, up from 13 percent ten years ago. SBWR customers used recycled water for cooling towers and to irrigate parks, golf courses, schools, and commercial landscape.\* SBWR met recycled water quality standards 100 percent of the time during the same period.

In 2016-17, SBWR delivered about 3,900 million gallons\*\* of recycled water to 831 customers, who paid between \$2.21 and \$2.87\*\*\* per hundred cubic feet of water, depending on the use. The Silicon Valley Advanced Water Purification Center, operated by the Santa Clara Valley Water District in partnership with San José and Santa Clara, produces up to 8 million gallons per day of highly purified water used to enhance the quality and supply of recycled water.

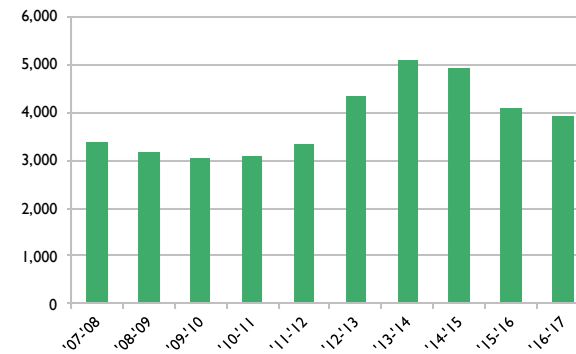
The cost per million gallons of recycled water delivered was \$2,133 in 2016-17, a 44 percent increase from last year. According to ESD, additional costs were related to deferred maintenance and improvements.

\* For more information, see the March 2016 audit [South Bay Water Recycling: Better Information and Renegotiation of Contractual Obligations Will Increase Transparency and Aid Program Success](#).

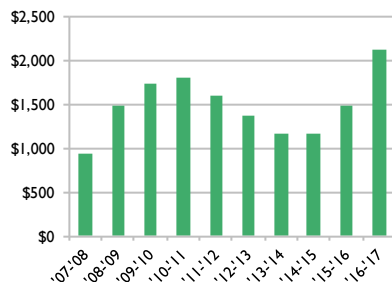
\*\* 1 million gallons of water equals 1,336 hundred cubic feet.

\*\*\* This rate is for City of San José Municipal Water customers; other SBWR provider rates may vary.

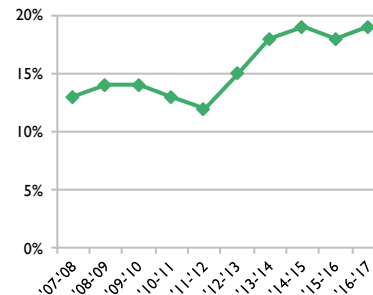
**Millions of Gallons of Recycled Water Delivered Annually**



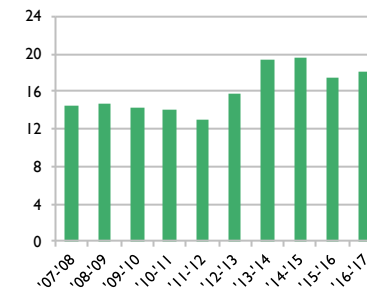
**Cost per Million Gallons of Recycled Water Delivered**



**% of Wastewater Recycled for Beneficial Purposes During Dry Weather Periods**



**Millions of Gallons per Day Diverted During Dry Weather Periods**



## SUSTAINABILITY IN SAN JOSÉ

### SAN JOSÉ GREEN VISION

On October 30, 2007, the San José City Council adopted the [Green Vision](#), a 15-year plan for economic growth, environmental sustainability, and an enhanced quality of life. The Green Vision lays out ten ambitious goals for the City, in partnership with residents and businesses, to achieve by 2022.

Green Vision Goals	Green Vision Achievements To Date
Create 25,000 clean tech jobs as the world center of clean tech innovation	Nearly 16,000 clean tech jobs in San José have been created as of 2016.
Reduce per capita energy use by 50 percent	Per capita energy use was reduced by 11 percent from 2007 to 2015.
Receive 100 percent of its electrical power from clean renewable sources	The amount of electrical power from clean renewable sources increased from 13 percent in 2007 to 33 percent in 2015.
Build or retrofit 50 million square feet of green buildings	As of 2015, certified green building space totaled 9.3 million sq. ft. Nearly 1 million sq. ft. of private sector green building space was added in 2014.
Divert 100 percent of the waste from its landfill and convert waste to energy	The City's diversion rate was 68 percent in 2016. The City partners with Zero Waste Energy Development Company (ZWED) to accept commercial organic waste for conversion into energy and compost.
Recycle or beneficially reuse 100 percent of its wastewater (100 million gallons per day)	831 customers, a record number, collectively used an average of 10.7 million gallons of recycled water per day.
Adopt General Plan with measurable standards for sustainable development	In Dec. 2016, the City adopted General Plan amendments related to urban villages and affordable housing.
Ensure that 100 percent of public fleet vehicles run on alternative fuels	Forty-four percent of City vehicles ran on alternative fuels in 2016-17.
Plant 100,000 new trees and replace 100 percent of streetlights with smart, zero-emission lighting	As of 2016-17, 12,630 new trees have been planted on public property. Nearly 26,000 streetlights have been converted to smart Light Emitting Diode (LED) streetlights.
Create 100 miles of interconnected trails	By the end of 2016-17, there were 59 miles of off-street trails in the City.

### THE FUTURE OF SUSTAINABILITY IN SAN JOSÉ

#### San José Environmental Sustainability Plan

The City is currently developing an [Environmental Sustainability Plan](#) to build upon the City's Green Vision. The City has been gathering public input through Council study sessions and community meetings. The Plan is expected to analyze and consolidate existing environmental goals (e.g., the Green Vision, San José Bike Plan, and others) into a comprehensive strategy. It will include short- and long-term measurable objectives and identify potential funds and financing strategies.

#### San José Clean Energy

In May, 2017, the City Council voted to form San José Clean Energy (SJCE), which will become the default electricity provider to San José residents and businesses. The City Council also approved a guiding framework for SJCE that will enable customers to access a "greener" mix of electricity than currently offered by PG&E. A new department has been established, and service is expected to be phased in beginning in April 2018 with municipal customers. Residents and businesses are expected to be phased in during FY 2018-19.