

# Public Works

department



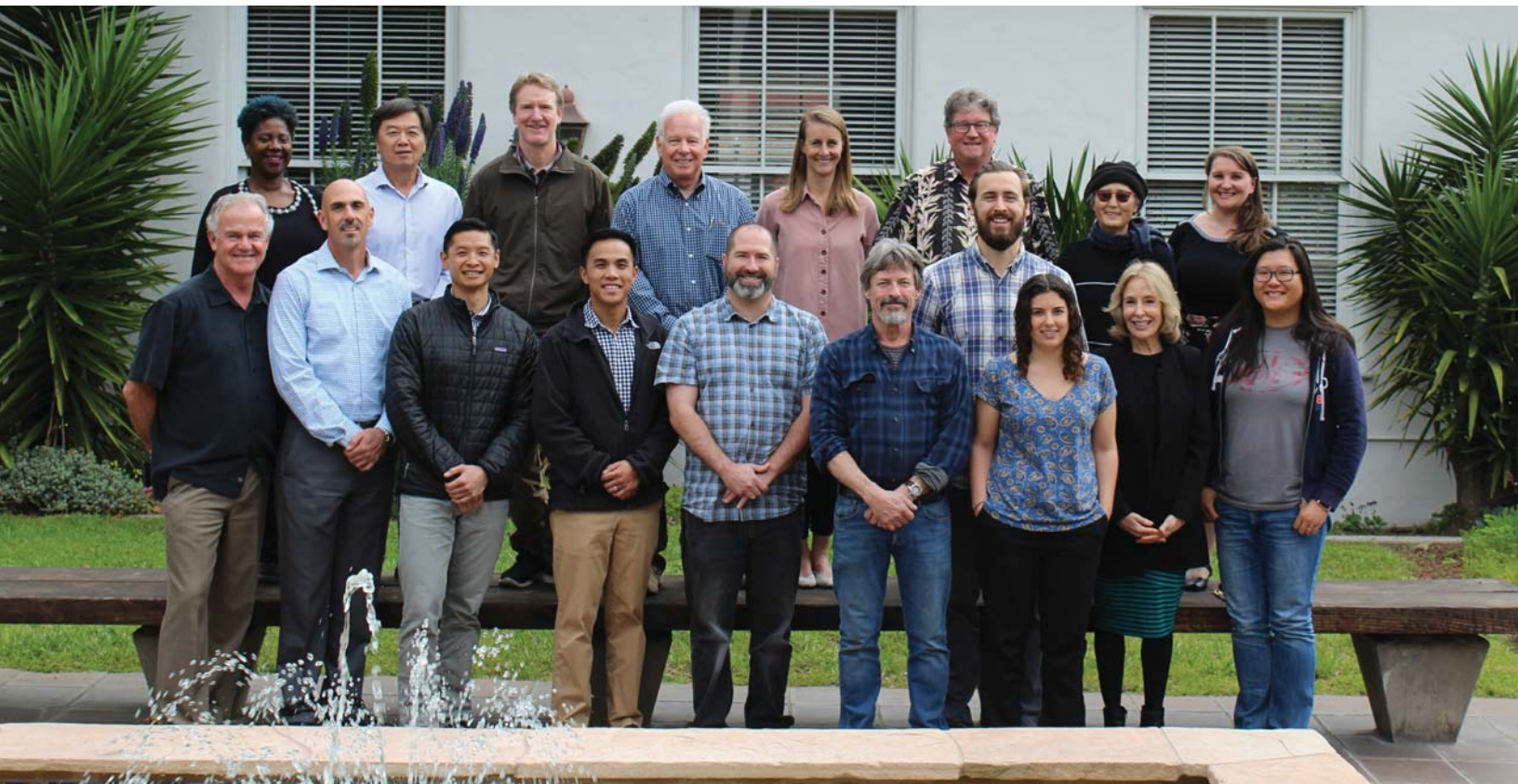


## Department Description

The Department of Public Works administers the City's public works activities including street maintenance, wastewater collection and treatment, refuse collection and disposal, recycling collection and processing, street sweeping, traffic management, on-street and off-street parking, storm water collection and pollution prevention, environmental compliance, fleet maintenance, facilities maintenance, and provides professional engineering services to City projects as needed.

The Public Works Department's primary objective is to efficiently deliver the services above in a safe, professional, sustainable and cost-effective manner to the residents, businesses and visitors of Santa Cruz.

The Public Works Department is organized into four major divisions: Engineering & Traffic Engineering (includes Parking and Stormwater), Operations, Resource Recovery and Wastewater.



# Engineering & Traffic Engineering

The Engineering and Traffic Engineering division develops, coordinates, and implements the department's Capital Improvement Program related to transportation, wastewater, refuse, storm drains and flood control, parking, facilities, and emergency repairs. The CIP includes grant applications and management, environmental review, permitting, design, construction and inspection. Assistance is provided to other departments as needed. The division provides review and permitting for property development and utility installation. Traffic Engineering also manages the on and off street parking functions.

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## FY 2018 Accomplishments

### Engineering & Traffic Engineering

- Acquired over \$2.6 million in Transportation Safety and Infrastructure grants to projects supporting Community Safety and Well-Being, Economic Vitality, and Reliable Infrastructure. These grants provide funding for a myriad of transportation and active transportation projects including additional funding for Highway 1/9 intersection improvements, River Street pavement rehabilitation, and Pacific Avenue sidewalk between Second and Front Streets.
- Completed the award-winning Branciforte bike & pedestrian bridge and trail project.
- Completed the Pacific Avenue contraflow bike lane facility.
- Bid the Riverside Avenue utility undergrounding and streetscape project.





- Launched Street Smarts public education campaign with mission to reduce the number of traffic related crashes and injuries in Santa Cruz. The campaign has delivered interactive assemblies to 1,600 Santa Cruz City Schools elementary students. Its 18 traffic safety videos have received thousands of views on KION/Telemundo and Facebook. Its traffic safety messages have been posted on banners in front of 12 schools, on street poles, City vehicles, in Good Times magazine, and elsewhere.
- Completed the SW corner improvements at the Ocean and Water Streets intersection.
- Completed the East Cliff emergency repair at Alhambra Avenue project.
- Designed and bid several 2017 winter storm damage repair projects.
- Completed approximately \$6 million in arterial, collector, and residential street paving projects through a variety of methods.
- Completed the City Hall emergency generator project.
- Completed the Corporation Yard main building seismic retrofit project.
- Completed the Front Street-Pacific historic wall repair and guard rail project.



- Completed downtown parking lot #10 deck restoration project.
- Completed installation of all new parking control equipment at downtown lot #10.
- Completed the Curtis Street storm drain phase one project.
- Completed various street storm drain repair and catch basin replacement projects with new gas tax funds.
- Completed various wastewater sewer line and treatment plant rehabilitation projects.
- Completed the landfill Cell 3A construction.
- Implemented, trained, and enforced new state storm water quality requirements for city and private development projects.

- Implemented the "Dig Once" policy and coordinated and inspected various fiber and small cell installations citywide.

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## Resource Recovery

The Resource Recovery operation collects all refuse, recycling, and green waste in the City; provides street cleaning services; provides refuse disposal at the landfill; processes and markets all recyclables, green food waste and other diverted material; provides waste reduction and recycling education and outreach programs; manages environmental compliance at the Resource Recovery Facility; and administers the Refuse Fund to manage expenses and collect sufficient revenues from our customer base and sale of materials to cover all expenses of the Resource Recovery operations.

Resource Recovery is organized under three main areas: Collection Operations, which includes all refuse, recycling, and organics collections, as well as street sweeping; the Resource Recovery Facility which includes the landfill and recycling facility; and Waste Reduction, which includes outreach, education, and the Green Business program.



# FY 2018 Accomplishments

## Resource Recovery

- Completed construction of new landfill cell, 3A, and received conditional approval for permitted waste disposal. The first loads of disposal were placed in the cell in early June 2017, with all waste currently being placed in Cell 3A.
- Waste Reduction launched the new "Ultimate Recycling Guide," interactive pages on the department's website, providing user-friendly and comprehensive information on what can and cannot be recycled. It is accessible on multiple platforms including mobile devices.
- Waste Reduction designed and rolled-out the Master Recycler program. This six-week program introduces residents and business owners to various aspects of the City's recycling program. After attending this class, participants, or "Recycling Ambassadors," come away with a better understanding of our programs, larger global environmental issues, and community challenges to make Santa Cruz a continued leader in environmental stewardship.



- Resource Recovery collections staff rolled-out the pilot, state mandated, food discards commercial collection program to over 26 businesses throughout the city. This material is currently taken to a facility that grinds up the material and processes it into an animal feed product. The program is currently diverting an additional 45-50 tons per month of discarded food scraps.
- Resource Recovery collections staff increased our illegal dumping collection throughout the City. This ranges from discarded furniture and appliances to illegal campsite clean-ups. The program has collected over 100 tons of illegally disposed material throughout the city. Note that this tonnage is in addition to any organized campsite, river, or beach cleanups, which we routinely support throughout the year.



# Wastewater

The Wastewater division is responsible for the operation and maintenance of a regional award-winning wastewater treatment and disposal facility as well as the City's subsurface storm water and wastewater collection systems, 24 related remote pumping facilities, the leachate facility, and pipeline. It also provides inspection, sampling, public education, and monitoring of business and industrial establishments to limit discharge of harmful constituents into the sanitary wastewater and storm water drain systems. The service area includes Live Oak, Capitola, Soquel, and Aptos, as well as the City of Santa Cruz and the Santa Cruz County Sanitation District. The ocean outfall pipe is also utilized by the City of Scotts Valley wastewater plant.



# FY 2018 Accomplishments

## Wastewater

- Initiated in house toxicity (bioassay) testing in 2017, bringing in a test that has always been done through contract laboratories to maintain fiscal stability.
- Implemented Enhanced Producer Responsibility Ordinance to secure a sustainable environment, community safety, and maintain economic vitality by ensuring that manufacturers underwrite the successful disposal of syringes and pharmaceuticals at their end of use cycles.
- Provided analytical support to identify the effective points to control bacteria pollution on the San Lorenzo River and Branciforte Creek, in support of the mandated TMDL.
- Identified the sources of controllable bacteria in the San Lorenzo River to support the City's TMDL mandate.
- Completed DNA analyses of 450 surface and ocean water samples by digital qPCR for the City's environmental programs in house. Current market value at private contract labs exceeds \$180,000.
- Continued project development to expand current water reuse equipment to produce Title 22 and reclaim water for offsite use.





- Executed contract and assisted in condition assessment data development for the infrastructure and equipment replacement/rehabilitation plan for the wastewater facility.
- Completed project of installing sub-metering instrumentation to evaluate energy consumption at the equipment level.
- Continuing to replace critical main plumbing systems that provide the prime hydraulic moving force of wastewater through the various treatment systems.
- Implementation of the paperless 8-1-1 system to reduce paper use by 99.9% and the ability to remotely complete requests thereby reducing our carbon footprint.
- Continuing to expand the use of "no dig" technology and "pipe patch" wherever possible in an effort to reduce the need for "open cut" sewer mainline spot repairs, thereby reducing labor, backfill, and paving costs, as well as disruption to local traffic.
- Implementation of a connection to the WWTF SCADA system to include the collection and storm water pumping facilities and enhance the pump station monitoring and alarm capabilities.



## Operations

The Operations division is comprised of three sections which are responsible for the management, inspection, repair, and maintenance of the City's infrastructure, fleet, and facilities.

### Streets Maintenance

This division maintains and repairs the City's street surfaces, curbs, gutters, and storm drain systems. They assist with and may construct minor street projects. Additionally, they provide service to enterprise funded departments for water and

sewer utility trench resurfacing projects. Additionally, Streets maintains the City's nearly 2,000 City-owned streetlights as well as street signage.

## Fleet Maintenance

This division plans, coordinates, and manages the ongoing operation and mechanical maintenance of the City's fleet of vehicles and equipment. Fleet reviews and recommends vehicles for the fleet replacement program, including inter-departmental reassignment of equipment. The division is also responsible for the operation and maintenance of the City's two-way radio communications system, including maintenance of mandated CC radio licenses.

## Facilities Maintenance

This division maintains City owned buildings and structures in good working order to comply with mandated guidelines, using environmentally friendly methods and materials. Facilities' goal is to evaluate, recommend, and repair City facilities in order to keep them functioning as efficiently as possible, while providing departments with timely and effective maintenance services, while extending the useful life of the City's facility assets.





# FY 2018 Accomplishments

## Operations

- Provided project management, oversight, and participation of the DeLaveaga Golf Lodge remodel projects.
- Continued completion of the Citywide facilities and streetlight energy efficiency projects funded by a California Energy Commission loan, as well as a sub-meter installation for the implementation of the deep energy efficiency grant project.
- Implemented the Corporation Yard's seismic retrofit and restroom upgrades.



- Implemented the Stormwater Pollution Prevention Plan (SWPPP) for the Corporation Yard, and received improved ratings from the Storm Water Annual Hot Spot inspection from the City's Environmental Compliance inspectors.
- Provided assistance to Police and Parks departments in illegal campsite debris cleanup.

- Paved areas of the Municipal Wharf and several streets throughout the City.
- Assisted in the setup of the River Street Emergency Transitional Camp with grounds preparations, moving large equipment, and tent site construction, as well as procurement of the showers trailer.
- Completed the required annual San Lorenzo River levee vegetation management projects and channel bench preparations for flood control, as well as vegetation and sediment removal at the Arana Creek channel.
- Continued to identify high energy/fuel use vehicles and equipment, and replace with more energy-efficient models as possible.
- Fleet replaced the standard petroleum diesel fuel it dispenses with renewable diesel fuel, thereby reducing emissions, increasing vehicle efficiency, and reducing fuel costs.

# FY 2019 Goals

## Engineering & Traffic Engineering

- Construct the Monterey Bay Scenic Sanctuary Rail Trail - segment 7 project.
- Complete design, environmental review and permitting of the San Lorenzo River trestle walkway widening project.
- Design multiple Active Transportation Plan funded Safe Routes to School crossings and the HSIP pedestrian crossing projects.
- Implement the Bike Share Santa Cruz program at various station locations throughout the City.
- Implement the water reuse program at the WWTF and La Barranca Park.
- Complete the Highway 1/9 intersection right-of-way acquisition process and the final design.
- Complete the NW corner of the Ocean & Water Streets intersection improvements.
- Construct the safety related Bay & King Street protected left turns and street lights, and the Bay Street sidewalk project.



- Approve design concept and initiate final design for the Bay & High Streets roundabout project.
- Evaluate and design various intersection improvement projects downtown and in the beach area.
- Continue to implement a robust street paving program by using the remaining Measure H bond funding, enhanced gas tax and new Measure D funding.
- Implement approximately \$3 million in new storm damage restoration projects.
- Complete the Bay Drive storm damage project.
- Complete the City Hall Annex space utilization reorganization project.



- Complete the right of way process and County Sanitation District sewer design for the Murray Street Bridge seismic retrofit project.
- Complete various wastewater collection and treatment facility capital improvement projects.
- Complete the analysis of downtown parking supply, new supply, and enhanced Transportation Demand Management.
- Construct the Riverside Avenue utility undergrounding and streetscape project.



- Work with Economic Development to identify location(s) for additional downtown parking to meet current and future demand.
- Continue evaluation and implementation of large and small Active Transportation Plan projects.
- Continue enhancement of programs to improve transportation options - GO SANTA CRUZ.
- Continued focus on traffic safety through the City's educational "Street Smarts" campaign.

## Resource Recovery

- Produce additional video productions for new topics including the food waste program, holiday recycling tips, and potential revision of our Resource Recovery tour video to update language and information.
- Increase the number of certified and re-certified Green Businesses by 20 businesses in FY 2019.
- Expand the number of participating businesses in the Food Discard Collection Program.
- Consolidate the number of daily collection routes, creating more effective daily travel time and allowing expansion into other areas, such as food discards collection.
- Complete the installation of our own food discard processing equipment at the Resource Recovery facility, reducing transportation time and expense, and allowing for expansion of the program's tonnages.



## Wastewater

- Further project development to expand current water reuse equipment to produce Title 22 reclaim water for offsite use.
- Evaluate condition assessment data, risk graphs, and preliminary cost development to prepare a prioritized infrastructure and equipment replacement/rehabilitation plan for the wastewater facility.
- Continue to deliver critical preventative maintenance and repairs to the wastewater facility therefore providing a reliable process 24 hours per day
- Continue to install energy efficient variable frequency drives on process equipment increasing process reliability and decreasing energy consumption.
- Will initiate the first review of laboratory space and effective transformation in 20+ years.



- Implement a Biosafety Level II laboratory to perform DNA analyses of bacteria at Cowell and in the San Lorenzo River and tributaries.
- Implement analyses of complex chemistries and metals analyses within wastewater and other environmental samples.
- Implement a local limit for industrial wastes expressed as TOC to maintain the integrity of the wastewater treatment infrastructure while maintaining economic stability.
- Continue to identify and evaluate the collection and storm water systems for lining, pipeline rehabilitation, and CIPP.
- A continued commitment of excellent service to the community we serve.

## Operations

- Facilities will continue the implementation and data collection for the deep energy efficiency grant project.
- Street Maintenance will continue positive progress on street and curb maintenance and repair projects.
- Operations will oversee completion of the SWPPP projects at the Corporation Yard.
- Facilities will initiate a project to replace more City lighting with energy efficient fixtures and lamps using the PG&E "On-Bill" financing program.
- Facilities will oversee expansion of solar photovoltaic electricity generation at the Corporation Yard, the Landfill, and the DeLaveaga Golf Lodge.



# Public Works

## DEPARTMENT SUMMARY

|   | Fiscal Year*<br>2017<br>Actuals | Fiscal Year 2018  |                    |                     | Fiscal Year<br>2019<br>Adopted |
|---|---------------------------------|-------------------|--------------------|---------------------|--------------------------------|
|   |                                 | Adopted<br>Budget | Amended*<br>Budget | Estimated<br>Actual |                                |
| <b>EXPENDITURES BY CHARACTER:</b>         |                                 |                   |                    |                     |                                |
| Personnel Services                        | 24,779,592                      | 28,276,960        | 28,397,927         | 25,557,860          | 29,196,883                     |
| Services, Supplies, and Other Charges     | 20,720,714                      | 27,462,715        | 28,311,566         | 25,982,424          | 27,832,507                     |
| Capital Outlay                            | 2,234,268                       | 3,380,892         | 5,460,430          | 3,814,228           | 4,695,388                      |
| Debt Service                              | 6,280,220                       | 6,639,446         | 6,670,127          | 5,855,335           | 6,162,224                      |
| Transfers Out & Other Financing Uses      | -                               | -                 | -                  | 1,622,779           | 1,358,141                      |
| <b>Total Expenditures</b>                 | <b>54,014,794</b>               | <b>65,760,013</b> | <b>68,840,050</b>  | <b>62,832,626</b>   | <b>69,245,143</b>              |
| <b>EXPENDITURES BY ACTIVITY:</b>          |                                 |                   |                    |                     |                                |
| Public Works Administration               | 4101 356,183                    | 440,733           | 435,053            | 353,915             | 320,210                        |
| Engineering                               | 4102 717,179                    | 1,305,882         | 1,326,036          | 1,171,018           | 1,307,016                      |
| Public Works Operations                   | 4103 126,690                    | 285,388           | 289,160            | 292,849             | 276,636                        |
| Facilities Services                       | 4110 1,283,652                  | 1,527,656         | 1,537,098          | 1,489,235           | 1,554,778                      |
| Street Maintenance and Sidewalk Repair    | 4210 1,298,650                  | 2,133,229         | 2,171,763          | 1,760,977           | 2,516,605                      |
| Traffic Engineering                       | 4220 434,522                    | 759,786           | 766,805            | 720,471             | 754,611                        |
| Parking Services                          | 4221 1,584,695                  | 1,972,354         | 1,945,354          | 1,802,738           | 1,900,536                      |
| Traffic Maintenance                       | 4223 529,673                    | 473,397           | 647,759            | 484,231             | -                              |
| Parking Citation and Permits Office       | 4229 476,772                    | 583,041           | 583,041            | 508,478             | 562,990                        |
| After Hours Call Duty Program             | 4901 25,777                     | 13,989            | 13,989             | 32,000              | 32,000                         |
| Subtotal General Fund                     | 6,833,793                       | 9,495,455         | 9,716,058          | 8,615,912           | 9,225,382                      |
| Wharf Gate Operations                     | 4226 500,007                    | 561,962           | 561,962            | 507,682             | 610,400                        |
| Subtotal Other General Funds              | 500,007                         | 561,962           | 561,962            | 507,682             | 610,400                        |
| Traffic Signal Maintenance                | 4224 205,889                    | 253,998           | 337,755            | 241,806             | 255,190                        |
| Street Lighting                           | 4225 338,932                    | 430,540           | 430,540            | 444,799             | 365,275                        |
| Bicycle/Pedestrian System Maintenance     | 4227 23,554                     | 35,000            | 40,000             | 35,375              | 35,000                         |
| Traffic Impact                            | 4228 42,328                     | 59,690            | 59,690             | 59,646              | 61,891                         |
| Clean River, Beaches & Oceans             | 4235 407,225                    | 684,227           | 726,043            | 735,829             | 795,830                        |
| Transportation Development Act            | 6301 748,134                    | 744,077           | 744,077            | 744,077             | 744,077                        |
| Wastewater Customer Service               | 7201 290,246                    | 304,758           | 304,758            | 304,758             | 314,513                        |
| Wastewater Collection Control             | 7202 2,333,252                  | 2,913,720         | 2,995,725          | 2,745,935           | 3,381,832                      |
| Wastewater Treatment Facility             | 7203 9,315,527                  | 10,225,631        | 10,455,176         | 10,012,661          | 11,346,842                     |
| Secondary Plant Parks Mitigation          | 7204 438,274                    | 601,087           | 601,087            | 456,131             | 527,108                        |
| Wastewater Source Control                 | 7205 559,995                    | 669,143           | 675,143            | 634,010             | 706,823                        |
| Wastewater Pump House                     | 7206 71,613                     | 48,000            | 132,681            | 133,054             | 248,000                        |
| Wastewater Admin Charges                  | 7207 870,929                    | 914,475           | 914,475            | 914,475             | 939,166                        |
| Wastewater Lab                            | 7208 1,048,261                  | 1,346,157         | 1,356,156          | 1,336,504           | 1,524,286                      |
| Sewer Debt Service                        | 7242 3,671,500                  | 3,684,967         | 3,684,967          | 3,684,917           | 3,686,089                      |
| Refuse Customer Accounting                | 7301 440,080                    | 462,137           | 462,137            | 466,214             | 588,166                        |
| Resource Recovery Collection - Containers | 7302 5,263,607                  | 6,872,790         | 8,076,703          | 5,840,244           | 6,739,959                      |
| Refuse Disposal                           | 7303 5,839,413                  | 6,075,038         | 6,194,678          | 5,903,366           | 7,548,801                      |

\*Sums may have discrepancies due to rounding



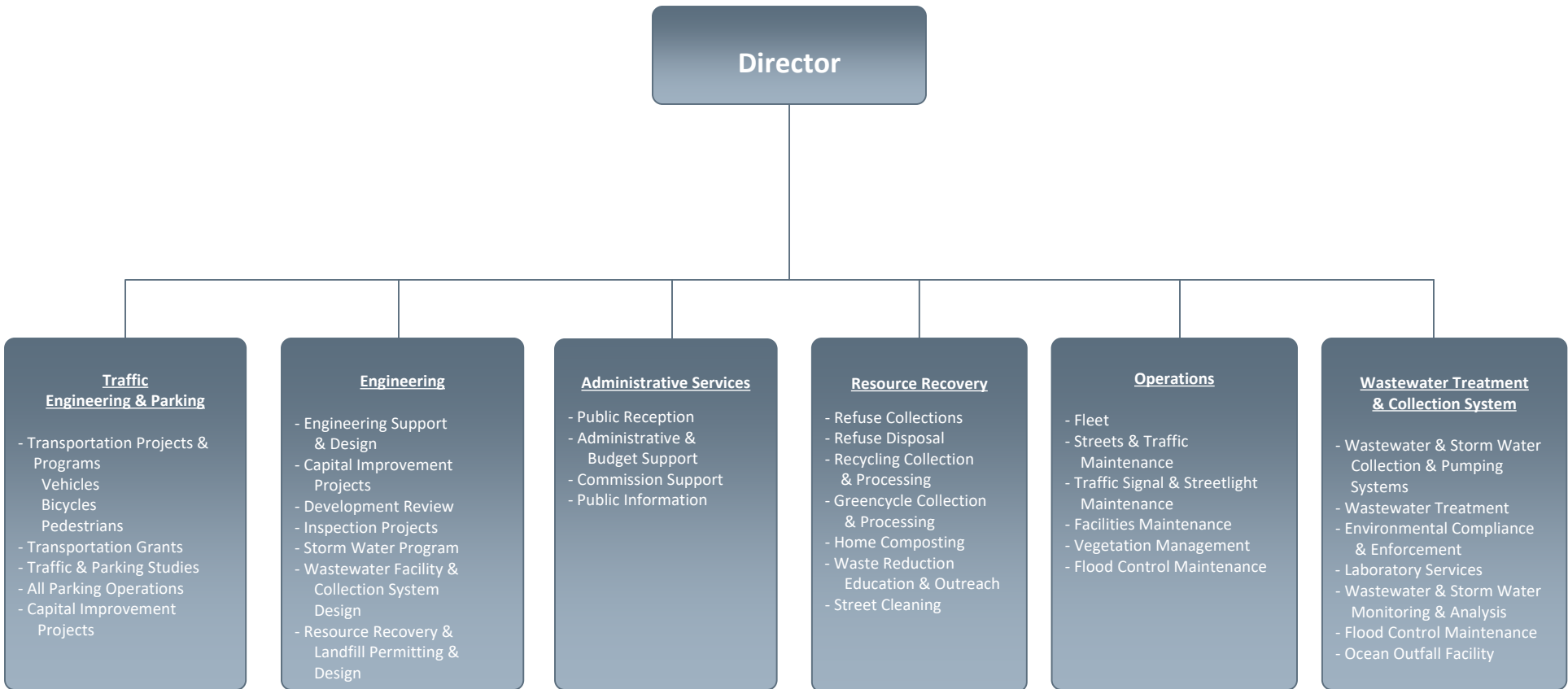
# Public Works

## DEPARTMENT SUMMARY

|  |      | Fiscal Year*<br>2017<br>Actuals | Fiscal Year 2018   |                    |                     | Fiscal Year<br>2019<br>Adopted |
|--|------|---------------------------------|--------------------|--------------------|---------------------|--------------------------------|
|  |      |                                 | Adopted<br>Budget  | Amended*<br>Budget | Estimated<br>Actual |                                |
| Recycling Program - Processing           | 7304 | 1,824,947                       | 2,148,423          | 2,202,942          | 2,031,816           | 2,268,809                      |
| Resource Recovery Collection -<br>Cart   | 7305 | 2,640,222                       | 3,623,197          | 3,667,719          | 3,095,328           | 3,113,655                      |
| Waste Reduction                          | 7306 | 379,946                         | 508,321            | 523,889            | 476,557             | 578,584                        |
| Street Cleaning                          | 7307 | 753,379                         | 1,089,943          | 1,323,203          | 1,073,594           | 869,130                        |
| Off-Street Parking                       | 7401 | 4,149,843                       | 5,035,098          | 5,169,840          | 4,837,983           | 5,160,216                      |
| Storm Water Management                   | 7501 | 930,472                         | 1,251,042          | 1,586,042          | 1,577,131           | 907,622                        |
| Storm Water Overlay Debt Service         | 7540 | 189,435                         | 189,650            | 189,650            | 189,652             | 189,102                        |
| Mechanical Maintenance                   | 7831 | 2,970,861                       | 3,557,481          | 3,559,706          | 3,113,321           | 3,531,624                      |
| Communications                           | 7832 | 5,586                           | 11,700             | 11,700             | 10,900              | 10,880                         |
| Employee Commute Van                     | 7833 | 5,332                           | 2,818              | 2,818              | 2,818               | 2,818                          |
| Vehicle Lease Program                    | 7835 | 860,914                         | 1,637,188          | 1,813,773          | 2,270,803           | 2,136,020                      |
| Pool Vehicles                            | 7836 | 45,475                          | 37,450             | 39,106             | 37,450              | 37,450                         |
| City Schools                             | 7837 | 33,581                          | 40,000             | 40,000             | 40,000              | -                              |
| Equipment Lease Program                  | 7839 | -                               | 244,850            | 244,850            | 258,253             | 794,603                        |
| Subtotal Other Funds                     |      | 46,698,753                      | 55,702,596         | 58,567,030         | 53,709,407          | 59,409,361                     |
| Total Expenditures                       |      | 54,032,554                      | 65,760,013         | 68,845,050         | 62,833,001          | 69,245,143                     |
| <b>RESOURCES BY FUND</b>                 |      |                                 |                    |                    |                     |                                |
| General Fund                             | 101  | 3,807,743                       | 4,444,389          | 4,444,389          | 4,453,155           | 4,225,144                      |
| Municipal Wharf                          | 104  | 1,181,746                       | 1,250,000          | 1,250,000          | 1,218,908           | 1,250,000                      |
| Gasoline Tax                             | 221  | 1,226,992                       | 1,805,606          | 1,837,606          | 1,840,030           | 2,751,906                      |
| Traffic Impact Fee-Citywide<br>Fund      | 226  | 231,067                         | 500,000            | 500,000            | 748,141             | 500,000                        |
| Clean River, Beaches &<br>Ocean Tax Fund | 235  | 629,206                         | 635,658            | 635,658            | 635,658             | 635,564                        |
| Transportation<br>Development Act        | 291  | 748,134                         | 744,077            | 744,077            | 744,077             | 744,077                        |
| Wastewater                               | 721  | 21,669,271                      | 21,670,847         | 21,670,847         | 21,965,109          | 21,800,847                     |
| Refuse                                   | 731  | 19,751,718                      | 19,465,900         | 19,485,581         | 19,687,447          | 20,236,000                     |
| Parking                                  | 741  | 5,102,475                       | 4,448,000          | 4,468,000          | 5,017,175           | 4,820,500                      |
| Storm Water                              | 751  | 574,788                         | 579,307            | 579,307            | 583,713             | 579,510                        |
| Storm Water Overlay                      | 752  | 320,966                         | 323,694            | 323,694            | 323,694             | 322,916                        |
| Equipment Operations                     | 811  | 3,246,041                       | 4,639,050          | 4,832,047          | 3,380,095           | 3,885,085                      |
| Total Resources                          |      | 58,490,147                      | 60,506,528         | 60,771,206         | 60,597,202          | 61,751,549                     |
| <b>Net General Fund Cost</b>             |      | <b>(3,026,050)</b>              | <b>(5,051,066)</b> | <b>(5,176,539)</b> | <b>(4,162,757)</b>  | <b>(5,000,238)</b>             |
|  |      | <b>FY 2017</b>                  |                    |                    | <b>FY 2018</b>      | <b>FY 2019</b>                 |
| <b>TOTAL AUTHORIZED PERSONNEL:</b>       |      | 239.70                          |                    |                    | 249.70              | 252.70                         |

\*Sums may have discrepancies due to rounding

# Public Works Department



\* Shown by function.