



LOS ANGELES DEPARTMENT OF WATER AND
POWER

WATER SYSTEM RATE ACTION REPORT

Chapter 2: Introduction & Background

July 2015



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2.1 PURPOSE AND OBJECTIVES FOR THE PROPOSED RATES

The Los Angeles Department of Water and Power (LADWP or the Department) is the nation's largest municipal utility and supplies water to nearly four million citizens of Los Angeles through the operation of over 7,200 miles of water transmission and distribution mains.

The LADWP Board of Water and Power Commissioners (Board) is currently obligated under Charter Section 609(c)¹ and the Master Resolution to establish rates for water service (Water Rates) and collect charges in an amount which, together with other available funds, will be sufficient to:

- Service the Department's Water System indebtedness; and
- Pay the necessary expenses of operating and maintaining the Water System.

The obligation of the Department under the Charter and the Master Resolution is known as the rate covenant. Necessary expenses include meeting regulatory mandates, investing in infrastructure for better reliability, and accelerating the availability of local water supply sources.

Water Rates are subject to the approval of the Los Angeles City Council (City Council) by ordinance (a rate ordinance). The Charter provides that such rates will, except as otherwise authorized by the Charter, be of uniform operation for customers of similar circumstances throughout the City, taking into consideration, among other things, the nature of the uses, the quantity supplied and the value of the service.

Since the last water base rate increase in 2009, LADWP has taken important steps to reduce the need for additional base rate increases. However, given the nature of LADWP's obligations and commitments, the Department is at a point where rate increases are necessary to provide continued system reliability, meet regulatory obligations and maintain a healthy financial standing.

The proposed rate action puts forward an updated rate design, including new rates, which will enable the Department to comply with the rate covenant and other legal obligations. The objectives of the proposed rate action include;

- Maintaining affordable water rates;
- Continuing to encourage business development in Los Angeles;
- Encouraging water conservation;
- Accelerating the development of sustainable local water supply;
- Transforming infrastructure through increasing upgrades to provide reliable service;

¹ For full text of the Charter, see: www.amlegal.com/library/ca/losangeles.shtml

The proposed rates allow LADWP to meet all of these objectives while continuing to maintain competitive rates relative to peer utilities and benefiting the overall City of Los Angeles.

This section outlines the following considerations of the updated rate design:

- Alignment with Mayor’s Budget Policy and Goals;
- Providing price signals to address current drought conditions;
- Providing cost recovery for major programs and protecting LA’s drinking water
- Legal considerations; and
- Cost of service alignment.

2.1.1 Alignment with Mayor’s Budget Policy and Goals

The Department’s operations align with the Mayor’s larger policy goals for the City of Los Angeles. Especially pertinent to the Water System are the Mayor’s Budget Policy and Goals and Executive Directive 5.

Fiscal Year 2015-16 Budget Policy and Goals

On September 22, 2014, the Mayor of the City of Los Angeles issued his Fiscal Year (FY) 2015-16 Budget Policy and Goals to the General Managers of all City Departments. The Mayor outlined five “Priority Outcomes²” that focus on the results that he believes matter most to the residents of Los Angeles. These outcomes are:

1. Make Los Angeles the best run big city in America
2. Promote good jobs for Angelenos all across Los Angeles;
3. Create a more sustainable and livable City;
4. Ensure our communities are the safest in the nation; and
5. Partner with citizens and civic groups to build a greater City.

The Department’s investments and initiatives outlined in this proposed rate plan were developed with the Mayor’s objectives in mind and strongly align with each Priority Outcome. For example, LADWP’s significant planned investments in infrastructure improvements promote economic development and job growth in the region (Mayor’s Priority Outcome 2) and the significant planned investments in local water supply help to make Los Angeles more sustainable (Mayor’s Priority Outcome 3). For more examples of how LADWP’s rates are guided by Mayor’s Priority Outcomes, see Chapter 2 - Appendix A.

² See <http://sanpedrocity.org/wp-content/uploads/2014/09/FY15-16-Budget-Policy-Letter.pdf>

Executive Directive 5

In response to extreme drought conditions affecting California, on October 14, 2014, the Mayor issued Executive Directive 5, calling for a 20% reduction in per capita water use by 2017, and a reduction of per capita imported water use of 50% by 2024. The directive also called for the creation of an integrated water strategy that increases local water supplies and improves water security in the context of climate change and seismic vulnerability.

Given these circumstances, as well as new water supply and seismic infrastructure initiatives, LADWP must adopt new rate structures and other mechanisms to recover costs, implement conservation programs and continue to provide reliable service to the City of Los Angeles.

2.1.2 Providing Price Signals to Address Current Drought Conditions

LADWP's proposed rate structure will continue to incentivize conservation, using water budget allotments and tiered rates. LADWP's volumetric rate design ties customers' bills directly to the level of consumption and has continued to contribute to significant conservation.

Due to drought conditions, shortage year allotments and shortage year rates have been in effect since 2009 to provide an incentive for reduced consumption. Under shortage year rates, the first tier allotment was reduced by 15%, and second tier rates were increased by multiplying the existing high season tier 2 rate by 1.442.

The Department's proposed rate plan is designed to facilitate even lower levels of usage despite growth in the region.

2.1.3 Providing Cost Recovery for Major Programs and Protecting LA's Drinking Water

The Department has not increased water base rates since July 2009, the month that shortage year rates were implemented; however, capital investments in major programs continued to increase. Figure 1 shows the increase in the major Water System programs and the increase in investments from FY 2009-10 to FY 2019-20. More detail on why these programs are important can be found in Chapter 3, "Rate Drivers."

Figure 1: Increase in Capital Costs for Major Water System Programs Between Year of Last Base Rate Increase and Last Year of Proposed Rate Action (\$M)³

Category	FY 2009-10	FY 2019-20	Change	% Increase	CAGR ⁴
Water Conservation	\$0.7	\$40.3	\$39.6	5657%	50%
Water Quality	\$172.3	\$179.6	\$7.3	4%	0.4%
Water Reclamation	\$30.0	\$273.5	\$243.5	812%	25%
Water Security Plus Infrastructure	\$255.2	\$708.4	\$453.2	178%	11%
Total	\$458.2	\$1,201.8	\$743.6	162%	10%

All together, the total yearly expense of the Department is known as the “revenue requirement.” In general, the revenue requirement is the annual revenue required to cover operations, maintenance, cash funded capital, administrative costs, debt service costs and other expenses to provide safe and reliable service to LADWP’s customers. These major spending categories are required to meet the obligations defined under the rate covenant.

The Department’s annual revenue requirement is determined by the “cash-needs approach,” and is comprised of the following:

- Operating & Maintenance Expenses (O&M): the normal and recurring expenses incurred to run the Water System including, but not limited to, employee costs, water, supplies and administrative costs.
- Cash Funded Capital Expenditures: The amount of cash the Department will spend from its operating revenue in a given year on capital after deducting all other funding sources.
- Debt Service Cost: the principal as well as the interest on all outstanding debt for required payments to the Department’s creditors.

The proposed rates are designed to meet the obligations associated with operating the Water System for the five-year period FY 2015-16 through FY 2019-20. The proposed revenue requirement funds critical LADWP activities, recognizes the Mayor’s directive and legal mandates, and maintains the current fiscal health of the organization.

2.1.4 Legal Considerations

A number of legal considerations provide guidance in developing proposed rates for water service. These include, but are not limited to:

³ All budgeted cost and revenue requirement calculations are based on Financial Plan Case Number 33.

⁴ The Compound Annual Growth Rate (CAGR) represents an annualized growth rate over the period in question (in this case ten years).

- Proposition 218 (California Constitution Article XIII D, Section 6) which provides that:
 - “(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.”
 - “(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.”
 - “(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.”
- The California Court of Appeal decision concerning Proposition 218 (Griffith vs. Pajaro Valley Water Management Agency, Sixth Appellate District) that supports grouping similar customers into classes and setting rates by customer class as a reasonable way to apportion the cost of service.
- California Constitution Article X, Section 2, which encourages prevention of waste or unreasonable use of water and the exercise of conservation.
- City Charter Section 676, Rate Setting, which states: “rates shall be of uniform operation for customers of similar circumstances..., as near as may be, and shall be fair and reasonable, taking into consideration (1) the nature of the uses; (2) the quantity supplied; (3) the value of the service.”

2.1.5 Cost of Service Alignment Confirmation

On October 2, 2012, the Los Angeles City Council approved LADWP’s Incremental Electric Rate Ordinance Number 182273 to provide incremental rate adjustments for FY 2012-13 and 2013-14. In its action to approve LADWP’s power rates, the City Council requested that LADWP “conduct a new formal cost of service study in order to prepare for future power rate restructuring.” Though this recommendation was in response to a Power System rate ordinance, LADWP has also completed a cost of service study for its Water System rates to evaluate its water service cost structure and ensure that its rates are cost based.

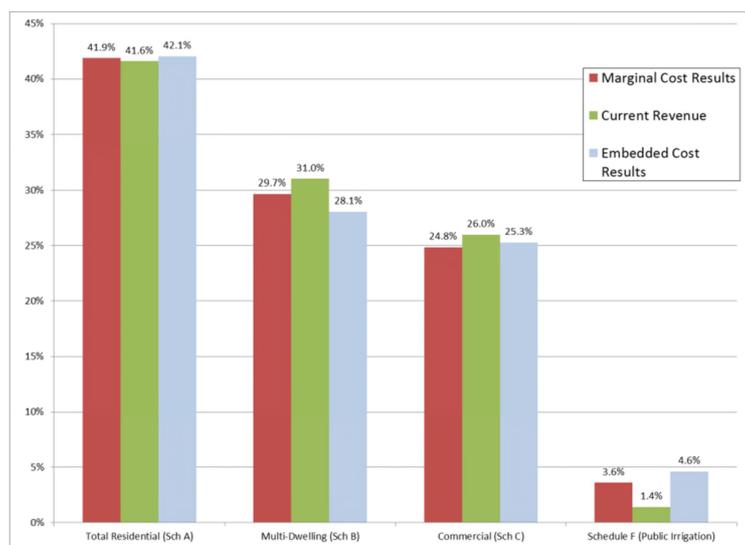
LADWP has chosen to use a marginal cost approach to determine the cost of providing service to the major customer classes and to guide the development of rates. Marginal costs reflect the change in cost incurred to serve a small increment in demand for utility services. Marginal cost is an accepted methodology for utility cost of service studies in the United States and globally.

The current use of marginal forward-looking costs (projected expenditures instead of historical expenditures) for setting rates has fundamentally contributed to water demand management in the LADWP service area during periods of water scarcity, supply uncertainties, and water supply and demand imbalances. Since 1970, water usage by LADWP customers has been virtually unchanged despite a significant growth in population in the region. LADWP looks to continue this success story.

In addition, LADWP has also conducted an embedded cost of service analysis to validate the marginal cost of service study results and to provide additional guidance for allocating the revenue requirement to major customer classes.

Figure 2 below illustrates the results of the marginal cost of service study and embedded cost of service analysis compared to the current revenue percentages for each customer class. The results indicate that the percentage of current revenues for Single-Dwelling Unit Residential and Public Irrigation customers are less than the cost of service, while the percentage of revenues for Multi-Dwelling Unit Residential and Commercial, Industrial, Governmental and Temporary Construction customers are slightly higher than the cost of service. However, as discussed in Chapter 5, Water Rate Design, the cost of service and current revenue percentages are within a reasonable range to avoid significant reallocating of revenue requirement for all customer classes, except uses described in Schedule F. The complete cost of service study report can be found in Chapter 4.

Figure 2: Cost of Service Study Results



2.2 BENEFITING CONSUMERS AND THE OVERALL CITY

A rate increase will benefit present and future citizens of Los Angeles. The proposed rate action will allow LADWP to provide Los Angeles with effective water conservation programs, high quality water, new infrastructure resulting in increased service reliability and improved customer service, thus improving the standard of living for citizens of LA.

Water is a scarce and precious resource; LADWP's proposed investments to develop a sustainable local water supply will also ensure that the citizens of LA continue to have access to reasonably priced sources of water in the future.

Many customers have noted an aesthetic improvement of tap water. This result is due in part to improvements that LADWP has made over the past ten years to provide state-of-the-art large scale ultraviolet disinfection and chloramine as a secondary disinfectant to minimize the formation of disinfection byproducts, provide longer lasting disinfection, and improve the taste of tap water. Of equal importance, LADWP has effectively reduced the levels of naturally occurring arsenic in the Los Angeles Aqueduct (LAA) supply since 2000.

Inductive economic analysis done by the Los Angeles Economic Development Corporation (LAEDC) suggests that Department expenditures for major projects in Los Angeles create jobs and stimulate additional economic output. The LAEDC estimated that, in FY 2011-12, Water System expenditures, totaling \$992 million, supported 12,290 jobs (direct, indirect, and induced) and created an additional economic output of \$2,717 million⁵. If the local characteristics of the current Los Angeles economy remain similar to the assumptions made by the LAEDC, the average annual Water System spending of \$1,463 million per year over the five-year rate action will support an annual 18,000 jobs and induce an annual \$4 billion in additional economic activity and output.

2.3 MAJOR ACCOMPLISHMENTS SINCE THE LAST RATE ACTION

Since the last base rate action in 2009, the LADWP Water System has achieved significant accomplishments in many areas of operations that have resulted in cost savings, efficiencies, and infrastructure investment. These accomplishments include, but are not limited to:

- Working with the Ratepayer Advocate;
- Labor agreement;
- Cost Reduction Plan and other cost-saving reductions;
- Conservation;
- Major Water System investments;
 - Local water supply
 - Water quality
 - Infrastructure
 - Eastern Sierra environmental commitments; and

⁵ Exhibit 3-2, page 14. "Los Angeles Department of Water and Power: Supplying Power, Water and Jobs for Los Angeles," September 2012. Economic and Policy Analysis Group; Los Angeles County Economic Development Corporation.

- Financial planning to avoid rate increases (securitization, refinancing, regulatory asset treatment, State 0% loans, and grants).

This section discusses some of these accomplishments; however, given the nature of these accomplishments, many of the benefits are yet to be realized.

2.3.1 Ratepayer Advocate Input

LADWP has been working closely with the Ratepayer Advocate (RPA), holding bi-weekly meetings since July 2013. In these meetings, many major aspects of LADWP's financial plans and actions that require Board approval have been reviewed. Specific topics discussed pertaining to the Water System include, but are not limited to:

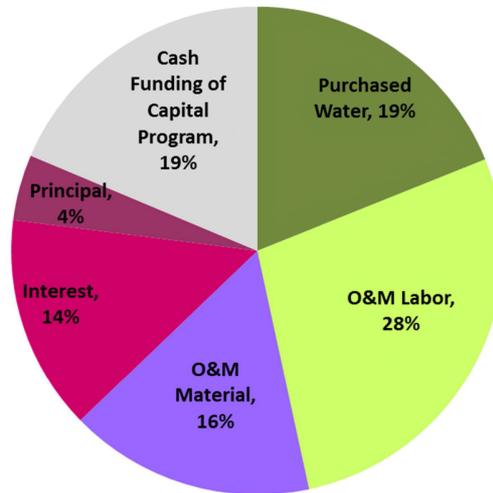
- Major initiatives and capital projects;
- Monthly cash/variance reports;
- Quarterly Board packages for estimated water quality improvement, demand side management (water conservation), recycled water, and water security expenditures;
- Financial plans that may potentially be used in the rate action;
- Marginal Cost Study results;
- Water rate design options; and
- Various sensitivity cases to stress test the revenue requirement (approximately 30 cases).

For this rate action, the proposed rate design and financial plans were jointly reviewed to address any concerns or questions. The RPA requested that LADWP develop several alternative financial scenarios to evaluate the proposed financial plan and rates. This list was compiled in a working effort between LADWP and the Ratepayer Advocate, based upon possible scenarios that the Water System may face. It is noted that the RPA did ask for a few scenarios that potentially had impacts on funding for water quality projects. For these cases, the analysis was completed in a manner that kept water quality projects fully funded so as to keep in compliance with Federal regulations. The financial plan results for each scenario are provided in Chapter 3.

2.3.2 Labor Agreement and Reduction in Labor Costs

The Department has aggressively managed O&M costs through a wide variety of labor-related cost reduction efforts. Collectively, wages and benefits represent 28% of the Water System's \$1,108 million revenue requirement for FY 2015-16. Figure 3 shows the current portion of the Water System's revenue requirement represented by wages and benefits in operating and maintenance expenses, inflation (in the form of cost of living adjustments or "COLA") and pension costs.

Figure 3: Water System FY 2015-16 Revenue Requirement Components



Labor Agreement

In September 2013, IBEW union workers approved revisions to the labor contract, or Memorandum of Understanding (MOU) between their union and the Department. Under the proposal, the four-year package freezes salaries for three years and then limits a cost-of-living increase to 2.9% in the final year⁶. It also includes provisions to permit LADWP and IBEW, by mutual agreement, through the Joint Labor/Management Resolution Board, to reexamine various existing work rules, pay bonus structures, and resolves a lawsuit filed by the LADWP Pension Board over payments to workers who transferred into the utility.

From October 2013 to September 2017, LADWP will save approximately \$456 million from the new contract, as summarized in Figure 4.

⁶ Inflation impact of non-labor expenses are forecasted to be an average of 2.66% per year, based on "Los Angeles County Long-Term Forecast", UCLA Anderson, July 2014.

Figure 4: Key Components of the Labor MOU

Key Components of the MOU	Four-Year Savings Estimate (\$M)
Defer Cost of Living Adjustment from 10/1/13 to 10/1/16	\$385.0
Entry Level Salary Reduction for 34 Common Classes	\$15.0
Sick Time Medical Certification Requirement	\$12.0
Contracting Out Overtime Restriction - Reduction from 10% to 5%	\$3.0
Retirement Plan Tier 2 For All New Hires	\$41.0
Total Estimated Savings Over Four Years	\$456.0

It is estimated the contract will result in a \$5 billion savings over 30 years. The contract takes a 2% salary increase to cover employee health care costs. It makes a number of changes to the pension system, including moving the retirement age from 55 to 63 and capping payouts at 80% of the last three years average salary, resulting in an estimated savings of \$1.8 billion. The biggest savings, estimated at \$4.22 billion, will come from salary savings. Other savings will come from reduced payments to contract out and a change in sick leave.

There will also be savings of \$180 million to \$210 million (from the settlement of reciprocity lawsuit) in the calculations of retirement benefits for employees who transfer into the LADWP system.

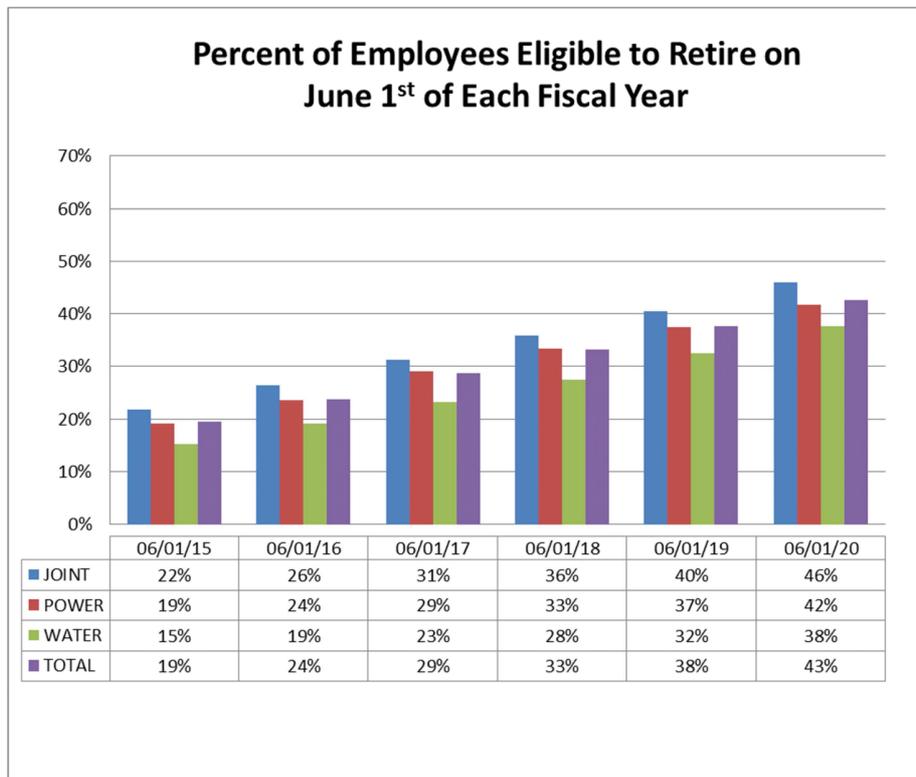
LADWP identified a unique opportunity to place new hires in a new Tier 2 pension that provides for a reduced pension calculation. Given its current workplace demographic, over the next four years this approach is estimated to save the Department \$41 million. Approximately 58% of the workforce will be eligible to retire in ten years. Therefore, savings will be significant as more and more new hires take the place of retiring employees.

Retirement & Overtime

A significant aspect of LADWP’s three-year cost reduction plan (more detail on the cost reduction plan can be found in Section 2.3.3) was reducing labor costs by managing headcount through attrition (mainly retirements) and overtime.

As shown in Figure 5, 43% of LADWP’s workforce is eligible to retire by June 1, 2020.

Figure 5: LADWP Retirement Eligible Personnel 2015-2020⁷



To prepare for the expected retirements and associated loss of institutional knowledge, the Department is increasing recruiting and training efforts in advance of expected retirements in critical functional areas. New hires will enter the Department at a new Tier 2 pension level, which will provide LADWP with additional savings.

The original cost reduction plan also targeted reductions in overtime. Figure 6 outlines the overtime targets set in 2011 and interim results, as well as targets for the future.

Figure 6: LADWP Overtime Performance and Targets (Excluding Daily Exempts) Budgeted Overtime as a Percentage of Total Labor Costs

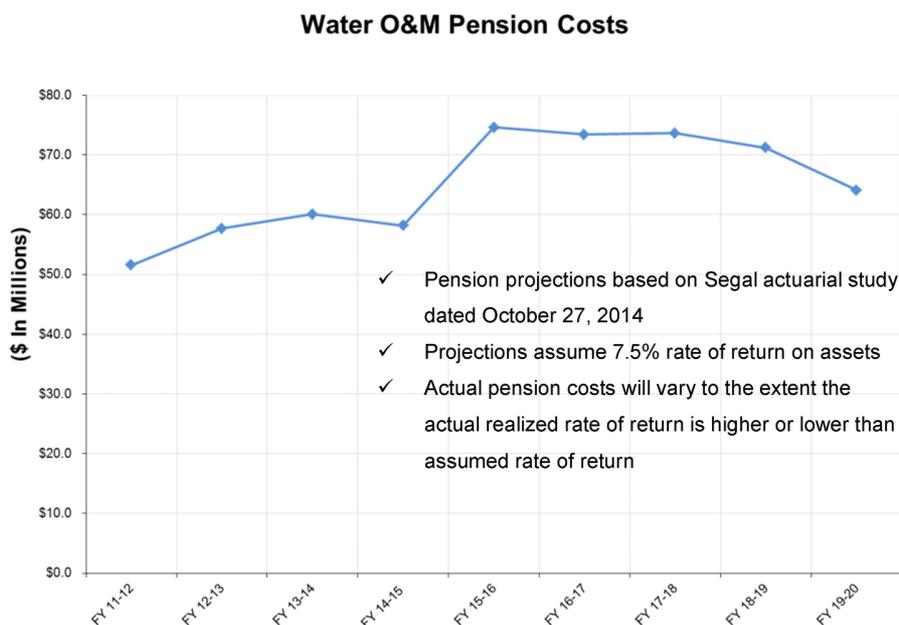
	Average FY 2008-09 through FY 2010-11	Cost Reduction Plan Target	FY 2011-12 through FY 2013-14	Average FY 2014-15 through FY 2019-20
Water System	12.4%	10.0%	12.7%	9.8%
Power System	25.3%	22.0%	20.6%	17.5%
Joint System	12.4%	10.0%	12.4%	9.1%

⁷ Criteria for retirement eligibility are defined as “age 55 with over thirty years of service” or “age 60 with five or more years of service.” LADWP data estimated as of June 1st of each year.

Pensions

Figure 7 summarizes the O&M pension expense for the Water System in recent years and over the proposed rate period. The increase from FY 2014-15 to FY 2015-16 is a result of a more granular and accurate method of allocation of shared service costs between Water System and Power System capital and O&M expenditures. The more granular approach resulted in an allocation of additional shared service costs to the Water System with a corresponding decrease in costs allocated to the Power System.

Figure 7: Water System O&M Pension Costs



2.3.3 Cost Reduction Plan Highlights

From February 2011 to June 2014, the Department implemented a multiyear, multimillion dollar, enterprise-wide cost reduction plan that focused on initiatives that would have an immediate and measurable impact on the Department's expenses. This plan included changes in areas such as labor, operations and capital expenditures to help keep rates reasonable.

In 2011, the Department examined its portfolio of recurring and non-recurring projects and related labor and non-labor expenses to identify areas to reduce costs in the short-term. The major components identified for the Department's original cost reduction plan were as follows:

- Overtime reductions, vacancy and attrition-based labor savings;
- Non-labor operations savings; and

- Capital cost savings.

The cost reduction plan was developed to balance the need to maintain reasonable customer rates and financial stability with LADWP’s major Water and Power System initiatives.

LADWP exceeded its original \$459 million target by \$7.8 million dollars. As of June 2014, LADWP had saved an estimated \$467 million dollars across the entire Department over the three-year period.

Figure 8: Cost Reduction Plan Current Results (Water and Power Systems)

Source	February 2011-June 2014 Savings (\$M)
Labor	\$230.0
Non-Labor	\$142.8
Capital	\$94.1
Total	\$466.9

Though the cost reduction plan was designed as a three-year program, various initiatives have sustainable effects that LADWP expects to realize in the future.

Additional Cost-Savings Initiatives

In addition to savings associated with the official cost reduction plan, LADWP has implemented many other initiatives to control or reduce costs.

- **Shade Balls:** LADWP has pioneered the use of cost-efficient shade balls to meet water quality regulatory compliance, saving \$80 million dollars that would have been spent on floating reservoir covers.
- **Electronic Water Quality Report (WQ Report):** In 2014, LADWP provided an interactive WQ Report online and notified customers of the availability of the electronic report, which saved \$400,000 in mailing costs⁸.
- **Pipe Material Evaluations:** LADWP has commenced pilot projects to test and evaluate alternate pipe materials to maximize the life of pipeline infrastructure and reduce the long-term cost of ownership.
- **Outsourcing:** LADWP continues to examine opportunities for outsourcing as a cost-effective way to complete capital projects and plans to contract out an estimated 61% of

⁸ Full report can be found here:
https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB401710&RevisionSelectionMethod=LatestReleased

its total Water System capital work⁹ on average over the next five years compared to 42% in FY 2013-14.

- City Coordination: Improved planning and coordination with the Bureau of Street Services of the Department of Public Works has reduced paving costs and improved the long-term durability of streets.
- Maximo System Replacement: The replacement of the Maximo Work Management System will assist in the Water System's asset management program and maximize efficiencies in procurement and inventory management by reducing carrying costs.
- Real Estate Consolidation: LADWP is in the process of acquiring a 17.35 acre property adjacent to its 35 acre Valley Center facility to consolidate operations. The consolidated property is expected to provide opportunities to optimize facilities/real estate and reduce staff.
- Procurement Card Program: Tighter internal controls are being implemented on procurement cards so that charges are only authorized on approved contracts, taking advantage of wholesale prices and competitive bidding processes.

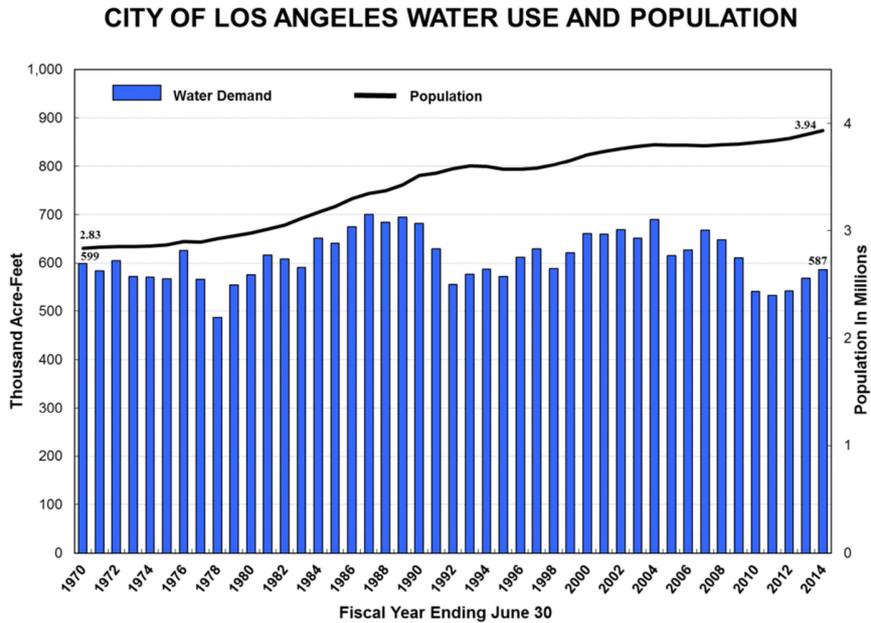
These and many other operational improvement initiatives are discussed throughout this report. Process improvements and other cost savings opportunities have become a major strategic focus area for LADWP. Initiatives are organized through LADWP's Corporate Performance Improvement Group. This group is responsible for promoting, monitoring, and reporting on performance improvement efforts.

2.3.4 Conservation

The Department takes great pride in the fact that, despite a growing population in Los Angeles, water conservation efforts have kept water usage relatively stable. Within the proposed rate period, conservation will be even more important, given the continued drought and the Mayor's call for a 20% reduction in per capita water use by 2017. During FY 2013-14, water use was below 1970 levels despite significant population growth, as shown in Figure 9.

⁹ Includes the portion of support services/shared services (Joint) capital projects allocated to the Water System.

Figure 9: Water Demand and Los Angeles Population 1970-2014¹⁰



The Department and its customers have been very successful in reducing water usage through conservation programs supported by a volumetric-based rate structure. In part, this trend can be attributed to the implementation of shortage year rates¹¹. From June 2009 through August 2014, a period in which shortage year rates have been applied, water usage has been reduced by approximately 16.4%. The reductions in consumption for specific customer classes during that time period are shown in Figure 10.

¹⁰ Population was updated with 2010 US Census data. Records are subject to change on findings from the Water Loss Component Audit.

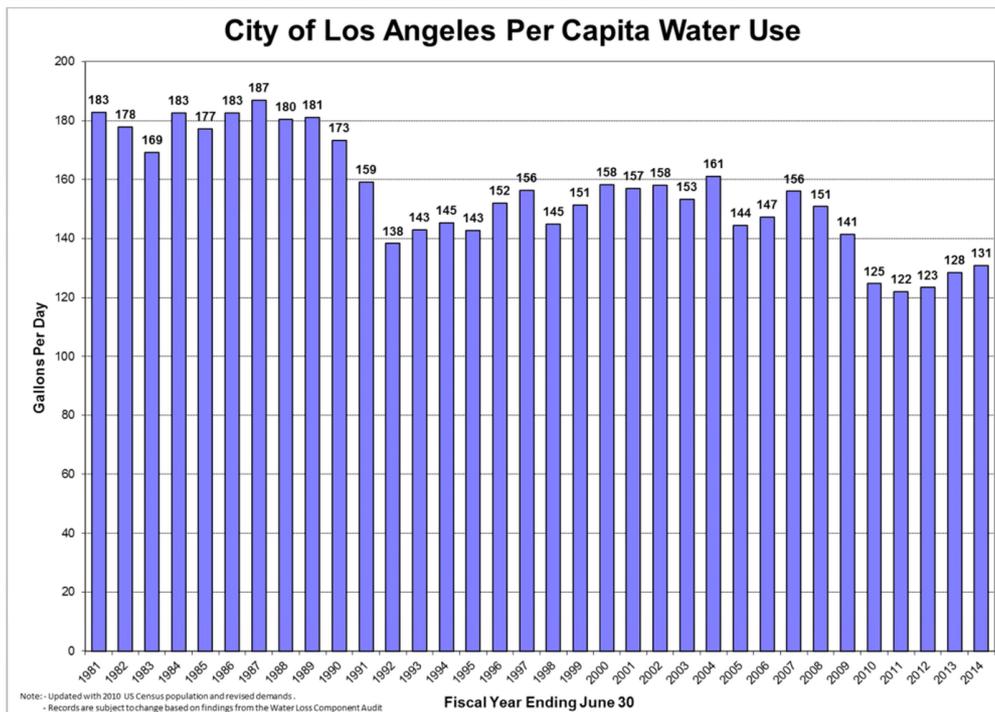
¹¹ Under shortage year rates, the tier 1 water allocation, which is the standard allocation every customer gets per billing cycle, is reduced by 15%. A residential customer's allocation is currently based on the household size, temperature zone, lot size and season.

Figure 10: Conservation by Customer Class (June 2009-August 2014)

Customer Class	Cumulative Conservation (June 2009–August 2014)
Single-Dwelling Unit Residential	-20.8%
Multi-Dwelling Unit Residential	-11.1%
Commercial	-13.5%
Industrial	-19.2%
Governmental	-17.1%
Total Water Usage	-16.4%

This trend is also apparent in Figure 11, a chart of per capita water consumption in LA from 1980 to 2014.

Figure 11: City of Los Angeles Per Capita Water Use



To help continue conservation efforts, LADWP’s proposed rate structure, discussed in Chapter 5, strives to make allotments similar to the current shortage year rates permanent.

Customer Conservation Programs

LADWP provides one of the most comprehensive water conservation programs in the country. Some of the achievements of customer programs include:

- From 2009 through early 2015, over 14 million square feet of turf has been removed and replaced with California Friendly Landscapes in commercial and residential properties, saving 480 million gallons of water per year.
- Over 1.5 million ultra-low-flush and high-efficiency toilets have been installed in the City.
- Over 1.8 million water-efficient showerheads have been distributed.

The following table shows the cost effectiveness of the water conservation rebate programs. The average cost of the water conservation rebate programs ranges from \$450 to \$500 per acre-foot (AF), which is highly cost effective in comparison to Metropolitan Water District (MWD) purchased water, as shown in Figure 12.

Figure 12: Cost of Conservation Programs Versus MWD Purchased Water

Program	Cost/AF
Residential Rebates	\$424
Commercial Rebates	\$380
Technical Assistance Program	\$229
Residential Turf Removal	\$1,296
Commercial Turf Removal	\$741
Average Rebate Program Cost	\$450 to \$500
MWD Purchased Water	\$890 to \$1,032

Given recent drought conditions, LADWP seeks to continue its successful conservation programs. A complete list of current programs can be found in Chapter 2 - Appendix B.

Water Loss Audit

LADWP completed its first in-depth Water Loss Audit and Component Analysis Project in the Fall of 2013¹². The audit examined the efficiency of the Water System by auditing losses in the distribution system for FY 2010-11.

The report found that LADWP's Water System does not have significant volumes of real losses¹³ (3.5%), reflecting a well-performing system. LADWP's Infrastructure Leakage Index (ILI) was

¹² The executive summary for this report can be found here:

https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB402320&RevisionSelectionMethod=LatestReleased

determined to be an impressive 1.26 for FY 2010-11. However, LADWP will act on the report's additional recommendations to improve infrastructure and reliability, as many assets are reaching the end of their useful life, and preventative maintenance is more cost effective than emergency maintenance. For a more complete summary of the audit findings, refer to Chapter 2 - Appendix E.

In October 2014, LADWP founded its Water Loss Task Force (Task Force) to implement the audit recommendations. The Task Force will assess the findings from the audit, prioritize recommendations, and execute action plans to further decrease water loss and improve LADWP's Water System performance.

2.3.5 Major Water System Investments

Major investments have been made to improve the LADWP Water System since the previous rate action in the areas of water quality, groundwater remediation, local water supply, infrastructure and Owens Lake regulatory compliance. The next section has a high level overview of these investments; for more details on specific projects in each area, please see Chapter 2 - Appendix C.

Water Quality

The Water System has met and is on track to meet deadlines to comply with State and Federal drinking water standards, specifically the Long-Term 2 Enhanced Surface Water Treatment Rule¹⁴ (LT2ESWTR) and the Stage 2 Disinfectants and Disinfection Byproducts Rule¹⁵ (Stage 2 D-DBPR) recently promulgated by the United States Environmental Protection Agency (EPA). LADWP publishes a quarterly Water Quality report on all completed and current projects. Please see Chapter 2 - Appendix D for the most recent update.

- Reservoir Covers and Decommissioning: The Department has designed covers to protect reservoirs such as Santa Ynez, or is developing new reservoirs to take non-compliant reservoirs (Upper and Lower Hollywood, Silver Lake, and Ivanhoe) out of commission. To replace these reservoirs, Headworks East was completed in November 2014, and Headworks West is 60% complete.
- Trunk Lines: Trunk line projects are required for water quality reservoir compliance projects to redistribute water from existing reservoirs as LADWP takes non-compliance reservoirs. Since 2000, LADWP has replaced approximately 224,000 feet of water quality related trunk line projects and has assessed another 34 projects to determine

¹³ "Real losses" are losses such as leaks and theft. These losses are in contrast to "apparent losses," that include meter inaccuracies and billing errors.

¹⁴ For more information see: <http://water.epa.gov/lawsregs/rulesregs/sdwa/lt2/regulations.cfm>

¹⁵ For more information see: <https://www.federalregister.gov/articles/2006/01/04/06-3/national-primary-drinking-water-regulations-stage-2-disinfectants-and-disinfection-byproducts-rule>

priority. Construction on the First Street trunk line has been completed. City Trunk Line South projects are under construction.

- Chloramination: LADWP has spent the past ten years converting its water supply from chlorine to chloramine disinfection to reduce disinfection byproducts. Both chlorine and chloramines are effective killers of bacteria and other microorganisms, but chloramines form less byproducts and do not have a chlorine odor. Since May 2014, chloraminated water has been served throughout the LADWP Water System. Construction is complete on chloramination stations at the Van Norman station (1 and 2), Manhattan Station well-field, Tujunga Wells, North Hollywood pump station, Green Verdugo Reservoir, Stone Canyon filtration plant, and Mission Wells pump station. The 99th Street Station is in progress and is expected to be complete in FY 2017-18.
- River Supply Conduits (RSC): RSCs are major transmission pipelines built in the 1940's. RSC improvement is necessary for improving water pressure as required by California Department of Public Health regulations. It will also allow for greater operational flexibility to compensate for loss of water storage within the distribution system; for example, RSC improvement would assist in facilitating planned changes to the method of disinfection. Approximately 30,000 linear feet of the RSC that runs between North Hollywood pump station and the Headworks Spreading Grounds site, located near Forest Lawn Drive just west of Victory Boulevard, will be replaced with a larger diameter steel pipe. Units 1B, 2B, 3 and 4 have been completed. Units 5, 6, and 7 are scheduled to be completed within the next five years.
- Ultra Violet (UV) light: LADWP determined that a specific wavelength of UV light can inhibit the growth of bacteria that cause nitrification. LADWP is developing a schedule for installation of UV lights in tanks based on frequency of nitrification, operating needs, and roof conditions. Design of the LA Reservoir Filtration Plant is 98% complete.
- Sanitary Survey: The LADWP has conducted watershed sanitary surveys since 1995 in the Owens River/Mono Basin watershed of the LAA. The survey assesses the potential sources of contamination in the watershed and recommends improvements to the source water protection program.

Overall, investments in water quality projects have been effective and LADWP has complied with or exceeded goals, providing the citizens of Los Angeles some of the best quality water in the area.

Local Water Supply

In order to reduce reliance on purchased water and mitigate the volatility of available water during dry years, the Department has made significant investments to develop local water supplies.

- Conservation: Conservation is a key part of local water supply, given drought conditions. Please see Section 2.3.4 for accomplishments in this area.

- **Recycled Water:** In 2012, the Department published its Recycled Water Master Plan Report to identify ways to meet the Urban Water Management Plan¹⁶ goals of increasing recycled water use Citywide to approximately 59,000 acre-feet per year (AFY) by 2035. From November of 2012 to December of 2013, the Department installed 6,652 feet of Purple Pipe projects, and will connect new customers to this infrastructure. Recycled water supply increased by 34% from 7,480 AFY in FY 2012-13 to 10,050 AFY in FY 2013-14.
- **Groundwater:** LADWP is currently undergoing a study that will outline how to remove contamination from groundwater for the betterment of the environment. In 2014, LADWP acquired Central Basin water rights that will increase supply by an additional 1,546 AFY. The water rights will be owned by the City of Los Angeles in perpetuity, thereby reducing the City's reliance on purchased water supplies.
- **Stormwater capture:** The Department has implemented centralized and decentralized projects that have increased the amount of stormwater captured by an average of 10,600 AFY and 254 AFY, respectively.

Infrastructure

In the context of the Water System, the term infrastructure refers to aqueducts, reservoirs, tanks, pumping stations, regulator stations, distribution mainlines, trunk lines¹⁷, and hydrants.

Most major water systems in the United States are facing aging infrastructure problems in the coming years. It is estimated that during the years 2009 through 2028, local governments in the United States will spend anywhere from \$2.5 trillion to \$4.8 trillion on water and wastewater infrastructure¹⁸.

The City of Los Angeles' water system was largely constructed between 1920 and 1970; therefore, much of the water infrastructure is approaching its useful service life. LADWP has strategically utilized currently available funding to maintain infrastructure reliability.

- **Mainline Replacements:** From FY 2009-10 through FY 2013-14, the Department replaced 540,000 feet of mainline. This investment has decreased the number of blowouts and leaks from 1,454 in FY 2009-10 to 1,149 in FY 2013-14.
- The LAA requires rehabilitation of pipelines' internal coating, external coating, structural support and cathodic protection system, as well as removal of decaying roofs on the

¹⁶ For the full report see:

https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=QOELLADWP005416&RevisionSelectionMethod=LatestReleased

¹⁷ Some trunk line projects are designed to help meet water quality regulations; due to the alternative funding sources available for water quality improvements, LADWP separately tracks water quality and general trunk line investments.

¹⁸ Trends in Local Government Expenditures on Public Water and Wastewater Services and Infrastructure. For full report see: <http://www.usmayors.org/publications/201002-mwc-trends.pdf>

conduit portion. LADWP has been replacing sections of the LAA cover over many years; the remaining 16,000 feet is being replaced this year.

- **Seismic Retrofits:** LADWP has completed the Terminal Hill Tunnel and Shaft Project to mitigate seismic hazards. In September of 2014, the Water System completed a study in conjunction with the Mayor's Office evaluating the Water System's seismic resiliency and sustainability, which created a program that will continuously mitigate seismic risks.
- **Regulator Stations:** In September 2003, LADWP commenced a retrofit program that has reduced the number of call-outs (failures in which Department personnel must attend to the station outside of regularly scheduled maintenance) per year from over 200 to less than 10. To date, approximately 200 stations and tank altitude valves have gone through complete retrofitting, which involves replacing everything in the vaults, gate valves, regulator valves, etc.

2.3.6 Eastern Sierra Environmental Commitments

Dust Mitigation

The Department is continuing dust mitigation efforts at Owens Lake to comply with agreements with the Great Basin Unified Air Pollution Control District (GBUAPCD or the District).

- Since November 2003, the Department has spent more than a billion dollars to mitigate dust at Owens Lake. This number reflects the costs of construction, O&M, and the value of water diverted to Owens Lake for dust mitigation instead of delivery to Los Angeles for drinking water supply. The Department has been allocating up to 95,000 acre-feet of drinking water each year for this practice. As a result of past efforts, 90% of the dust on Owens Lake is now controlled.
- In October of 2012, LADWP completed Phase 8 of the Owens Lake Dust Mitigation project and Phases 9 and 10 will be completed by the end of 2017.

Owens Lake December 2014 Stipulated Judgment

In November 2014, LADWP and the GBUAPCD reached an agreement regarding the remainder of dust mitigation measures as well as dust mitigation methods. In this agreement, which was subsequently approved in a December 2014 stipulated judgment, LADWP will mitigate a maximum of 53.4 square miles and can replace shallow flooding methods with alternative dust mitigation techniques such as tillage (physical contouring and maintenance). Upon completion, LADWP will be in full compliance with dust mitigation requirements.

This agreement benefits ratepayers, as LADWP will no longer be subjected to additional litigation regarding areas of dust mitigation. In addition, the use of new, low-water use dust mitigation methods is likely to decrease the amount of water for dust suppression.

Mono Basin Agreement

In August 2013, the LADWP Board approved an agreement among LADWP, the Mono Lake Committee, California Trout, and the California Department of Fish and Wildlife to protect the Mono Basin environment and the four major streams that flow into Mono Lake. The agreement has conditions that will be in LADWP's Water Diversion License. LADWP remains committed to the Mono Basin environment through the conditions of the agreement and its Water Diversion License. Among such conditions are the following:

- LADWP will construct modifications to the spillway at Grant Lake Dam, which will allow higher water flows—assisting the movement of sediment, creating deep pools for trout, and improving stream habitat quality. Design is 30% complete on a modification to the Great Lake Reservoir spillway that will include an adjustable weir, allowing water to be discharged from the reservoir to Lower Rush Creek, restoring the eco-system in Rush Creek.
- The annual supply of water to Los Angeles from the Mono Basin will be determined by pre-existing rules.
- LADWP will fund a team, governed by all four partners, which will oversee continuous scientific study of Mono Lake and Mono Basin stream conditions.

2.3.7 Keeping Rates Competitive and Financial Planning

One of LADWP's main strategic goals is to maintain an overall rate advantage while funding essential utility needs. Developing the proposed rates is a balancing act between the need to plan for a long-term water supply, provide reliable quality service, and continue to meet regulatory mandates and the desire to maintain reasonable rates. In addition, contractual obligations for wages, benefits and pensions and the impact of inflation must be considered.

As discussed throughout this report, LADWP has made significant investments in the Water System and requires additional investments in the future. Most of these investments are typically financed through borrowed funds, making it imperative that LADWP has regular and continued access to capital markets at reasonable interest rates. The Department has taken advantage of several financial strategies to keep ratings high through securitization, bond refinancing, regulatory asset accounting, State 0% loans, and grants.

Securitization

In total, LADWP's estimated \$4,964 million of capital spending over the next five years is approximately 78% higher than the level over the preceding five-year period of about \$2.8 billion. Major drivers for this spending increase include infrastructure improvements, the development of an enhanced local water supply program and the impact of compliance with State and Federal mandates (including the Safe Drinking Water Program). The five-year capital forecast is summarized in Figure 13.

Figure 13: Five-Year Capital Investment Program Summary (FY 2015-16 through FY 2019-20)

Program Area	Total Capital (\$M)
Water Conservation	\$195
Water Quality	\$1,354
Infrastructure	\$2,447
Local Water Supply	\$712
Owens Valley	\$256
Total	\$4,964

LADWP forecasts the need for external financing (borrowed funds) for about 74%¹⁹ of capital spending over the next five years. External financing allows the costs of the financed projects to be spread over the useful life of the projects, enables the recovery of costs from those customers that benefit from the projects, and mitigates the rate impacts that would result if this work was directly funded in full from customer rates. However, given the substantial increase in capital spending levels that is anticipated, even with borrowing, rate increases will be required.

In October 2013, the California legislature enacted AB 850 which expanded the financing powers of a Joint Powers Authority (JPA) by authorizing JPAs to issue “rate reduction bonds” secured by utility project charges to finance water conservation, reclamation and mitigation projects. LADWP will participate in the formation of a qualifying JPA that will issue some of the required debt related to water quality and related investments at lower interest rates. This approach will help minimize the rate increase by reducing additional revenue needed in FY 2015-16 by \$45.6 million²⁰.

LADWP anticipates using securitization to finance a substantial portion of capital projects over the next five years, as shown in Figure 14.

¹⁹ Includes non-securitized and planned securitized debt amounts.

²⁰ Based on Sensitivity Case Number 50 (more information on the sensitivity cases can be found in Chapter 3).

Figure 14: LADWP Securitization and Non-Securitization Borrowing

\$M	Historical			Projected					
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	5-Year Total
LADWP Borrowing (Non-Securitized)	\$352	\$509	\$436	\$112	\$233	\$259	\$416	\$395	\$1,414
Borrowing for Securitization				\$409	\$475	\$427	\$409	\$542	\$2,261
Total				\$511	\$708	\$686	\$825	\$937	\$3,675

Due to the differences in the required debt service payments under securitization compared to normal borrowing, LADWP may not see significant benefits from securitization in the short-term, but in the long-term, LADWP will benefit from cost savings through securitization. In addition, securitized debt would not contribute to the debt service coverage ratio. LADWP anticipates forming a JPA in FY 2015-16. Additional information about the creation of a JPA is provided in Chapter 2 - Appendix F.

Bond Refinancing

LADWP’s bond refinancing through the cost reduction program reduced borrowing costs by an estimated \$91 million from FY 2011-12 through FY 2014-15²¹ for both Water and Power Systems. It is expected that refinancing measures will save \$357 million over the lifetime of the bonds, \$85 million of which is from Water System bonds²². For more details on this refinancing, please see Chapter 2 - Appendix G. LADWP will aggressively continue its initiatives to refinance debt as market conditions permit more favorable borrowing costs.

Regulatory Assets

Beginning in FY 2011-12, LADWP has treated conservation and reclamation programs as well as the unfunded pension liability as regulatory assets, allowing the cost to be amortized over the life of the programs rather than being collected in one year. Regulatory asset accounting will benefit LADWP by deferring the impact of these programs on customer rates without impacting the debt to equity ratio. With the growth of the programs, this classification has helped to minimize the immediate rate impact of applicable programs.

²¹ This amount includes projected savings through the end of FY 2014-15.

²² Present value dollars.

State 0% Loans

LADWP has benefited from the State of California’s Safe Drinking Water State Revolving Fund (SDWSRF) to fund water quality projects. These funds are administered by the California Department of Public Health and require a competitive application process. Figure 15 shows the total amount received by the Department since January 2002 (the year the fund was initiated) through October 2014. It is estimated that a total of \$338.7 million (present value dollars) has been saved in avoided interest costs. Because this fund is revolving, LADWP expects to continue to take advantage of these loans as they are available. For more information on the amount of each loan, specific projects, and calculation of avoided interest costs, refer to the latest Water Quality Project Update in Chapter 2 - Appendix D.

Figure 15: Water Quality Project Zero Interest Loans Since Program Inception in 2002

Funding Type	Total Awarded to Date (\$M)
Low-interest loans	\$272.9
Zero-interest loans (Construction)	\$514.7
Zero-interest loans (Planning)	\$1.5
Total	\$789.1

Grants

LADWP maximizes its opportunity to obtain grants for major projects, as summarized in Figure 16. During the past five years, LADWP has received a total of approximately \$33.2 million in grant funding. To the extent these grants are available, LADWP will continue to pursue additional grant resources.

Figure 16: Grant Funding from FY 2010-11 through FY 2014-15

Project	Source	Grant Amount (\$M)
MWD RFP on Stormwater Capture Master Plan Grant	MWD	\$0.4
Water recycling/conservation programs and initiatives, including the Commercial/Industrial Drought Resistant Landscape Incentive Program; the Groundwater Replenishment Pilot Study; and the LADWP Distribution System Water Audit and Component Analysis from the United States Bureau of Reclamation.	Federal	\$1.7
State Water Resources Control Board Laurel Canyon Boulevard Green Street Project–Prop 84	State	\$2.0
State Water Resources Control Board for Woodman Avenue Multi-Beneficial Stormwater Capture Project–Prop 50	State	\$1.6
California Department of Public Health’s Proposition 50 Chapter 3 Security Grant Program for the LADWP Water System Security Upgrades and Intertie Project	State	\$10.0

Project	Source	Grant Amount (\$M)
California Department of Water Resources' Proposition 84 Integrated Regional Water Management (IRWM) Program <ul style="list-style-type: none"> • Manhattan Well Improvements (\$3 million; shared with project partners) • Terminal Island Water Reclamation Plan Advanced Purification Facility and Distribution System Expansion Project (\$2.5 million) • Los Angeles–Burbank Groundwater System Interconnection (\$500,000, shared with project partners) • Mission Wells Improvement (\$3 million) 	State	\$9.0
California Department of Water Resources' Proposition 84 IRWM Program <ul style="list-style-type: none"> • Central Los Angeles County Regional Water Recycling Project (\$2.5 million) • Tujunga Spreading Grounds Enhancement Project (\$3 million) • Pacoima Spreading Grounds Improvement Project (\$3 million; shared with project partners) 	State	\$8.5
Total		\$33.2

Proposition 1 Funding

On November 4, 2014, California voters approved Proposition 1 (Prop 1), the Water Quality, Supply, and Infrastructure Improvement Act of 2014. Prop 1 is a general obligation bond measure of \$7.545 billion that will provide funding to restore and protect ecosystems and watersheds, provide safe drinking water to disadvantaged communities, build new storage projects, protect and clean up groundwater, and support regional water security through local resource development.

Most Prop 1 funding is subject to appropriation by the Legislature through the budget process. LADWP will monitor budget discussions, track and engage on any proposed legislation related to Prop 1 implementation, and ultimately participate in the guideline development process to optimize the City's ability to compete for and be awarded Prop 1 funding.

Prop 1 gives priority to projects that provide matching funds. LADWP does not expect Prop 1 to fully fund any critical water projects. However, it could fund up to half of important water projects such as the San Fernando Basin Groundwater Remediation Project, expected to cost between \$600 million and \$900 million, and the Groundwater Replenishment Project, which is expected to cost about \$400 million or more.

Water Resources Reform and Development Act of 2014 (WRRDA)

The WRRDA, which President Obama signed in in June 2014, is the primary legislation by which Congress authorizes the US Army Corps of Engineers (ACOE) Federal and non-Federal water infrastructure and restoration projects.

Section 1014 of WRRDA provides a new authorization mechanism for the study, planning, and construction of new water projects by non-Federal interests. Under Section 1014, an applicant may submit a feasibility study to the ACOE for review. LADWP, LA Sanitation, and other water agencies are awaiting ACOE’s finalization of implementation guidance for Section 1014. As these guidelines are developed and finalized, Water System management will identify a priority project that fits the opportunity and would provide the most benefit to City ratepayers. If the City is granted a project authorization through this new approval process, the cost savings to ratepayers could be significant, possibly in the tens of millions of dollars.

2.3.8 High-Level Benchmarking

In February 2015, the Department completed an initial high-level benchmarking study. The study identified areas where LADWP is comparable or better than industry performance and where LADWP has opportunities for improvement. Key findings of the benchmarking study for the Water System are summarized in Figure 17.

Figure 17: Water System High-Level Benchmarking Results

Benchmarking Area	Quartile	Notes
Total O&M Costs	2 nd /3 rd	The Water System total O&M costs on a per customer and per gallon basis are 2nd/3rd quartiles. These results include the \$56 million of O&M costs for the LAA, an expense most water utilities do not have. If this cost was excluded, results for these metrics would improve by one full quartile.
Customer Service O&M Costs	4 th	The Water System benchmark for customer service O&M per account fell into the 4th quartile. This result could be lower as a result of business strategies for mostly publicly owned utilities within the AWWA peer set.
Total Planned Service Disruptions per Customer	1 st /2 nd	LADWP’s 1st and 2nd quartile results are favorable benchmarks relative to National and Western Regional peers, respectively.
Total Unplanned Service Disruptions per Customer	2 nd	LADWP 2nd quartile result is a favorable benchmark relative to both National and Western Regional peers.
Real System Losses	2 nd /3 rd	The 2nd and 3rd quartile results show that the Water System losses are roughly in-line with the peer median.
LA Metro Wage Rates	N/A	Compared to other regions of the US, wage rates for the LA Metro area can range from 13% to 33% higher than peer utilities. Labor costs, including overtime and benefits, represents 73% of the Water System’s total O&M expense.
Regional Water Rates	N/A	LADWP’s rates were competitive with neighboring water utilities in all customer classes for FY 2012-13. Most water utilities in California are increasing rates in response to both State and Federal regulatory requirements as well as much needed water storage and recycling infrastructure programs.
Key Financial Metrics	N/A	LADWP’s key financial metrics are in line with industry peer sets.

The high-level benchmarking summary provides a roadmap that will help identify areas for further study and analysis. Some of the processes to study will include, but may not be limited to customer service, outside contracting and salary/pension/healthcare costs. Processes that may present opportunities for improving financial and/or Departmental performance will also undergo business process mapping studies. These studies will compare industry best practices and identify next steps for LADWP to move toward best practices.

2.4 CUSTOMER REBATE AND SAVINGS PROGRAMS

The purpose of this rate action is to increase current rates to recover increasing O&M and capital costs incurred by the Water System to provide high quality water to the citizens of Los Angeles. Though, on a per unit basis, rates may increase, LADWP provides many customer rebate and savings programs to mitigate increases in total bills through conservation efforts.

A sample list of programs that are available to LADWP customers include, but are not limited to, the following programs.

- Commercial/Industrial Rebate Incentive Program- This program is a partnership with MWD to offer rebates for business customers who purchase and install water conservation equipment such as high-efficiency toilets and urinals, weather-based irrigation controllers, cooling tower conductivity controllers and other measures.
- Residential Rebate Program- This program is a partnership with MWD to offer numerous rebates for residential customers who purchase and install water conservation equipment. Rebates are offered for various measures such as high-efficiency clothes washers, high-efficiency toilets, weather-based irrigation controllers, and others.
- Residential Landscape Incentive Program- This program provides rebates to residential customers for turf removal and replacement with California Friendly Landscapes, mulch, permeable pathways, and artificial turf. Customers can get up to \$3.75 per square foot of turf removed.
- Consultant Services for Residential Field Audits- Contractors will provide a Field Audit Program, performing on-site water-use evaluations for residential and commercial customers' properties. The contractor will provide customized water-efficiency recommendations, including information about LADWP rebates and other assistance programs, to help customers eliminate water waste and reduce their potable water use. The Program will initially target 2,000 customers.

A comprehensive list of customer rebate and savings programs can be found in Chapter 2 - Appendix B.

2.5 RESPONSE TO CITY COUNCIL RECOMMENDATIONS

On September 25, 2012, the City Council adopted an amended committee report with ten recommendations associated with third-party review of LADWP's Incremental Electric Rate Ordinance. LADWP has made significant progress toward addressing the recommendations by working collaboratively with the Ratepayer Advocate, Chief Legislative Analyst, and Chief Administrative Officer. The last report was provided to the City Council in June of 2014 outlining the Department's status for addressing each recommendation. While the recommendations are originally addressed to the Power System, several also have relevance to the Water System, and the current status is included in Chapter 2 - Appendix H. The City Council adopted the following ten recommendations:

- a. Conduct negotiations with labor to find common ground that allows for greater flexibility to contract out effectively and bring salaries and benefits closer to other power utility providers.
- b. Reevaluate and consider replacing the surcharge-based restructuring approach with fully restructured permanent rates once legal considerations allow.
- c. Conduct a new formal cost of service study in order to prepare for future power rate restructuring.
- d. Conduct a benchmarking assessment to review the cost per project for the repowering program and the Power Reliability Program to ensure cost reasonableness.
- e. Identify opportunities to contract out and explore the potential savings, including the benchmarking of staffing and outsourcing levels against utility peers.
- f. Review overtime expenses allocation, as well as the Department's contractual requirements that have an impact on overtime.
- g. Complete a rigorous review of the Department's hedging plan to lock in low fuel prices.
- h. Establish a plan for energy efficiency that maintains expenditure levels at an achievable and cost effective level.
- i. Seek greater Departmental efficiencies by pursuing process improvement efforts across a range of areas and practices.
- j. Submit a semi-annual report to the Mayor and City Council regarding the status of the Renewable Portfolio Standards program and its impact on rates.

Programs or other activities have been developed and implemented to address all of the recommendations. While some activities are ongoing, LADWP has made significant progress in each area. A detailed status of each of these recommendations from the City Council is included in Chapter 2 - Appendix H.

2.6 RECENT RATE ACTION HISTORY

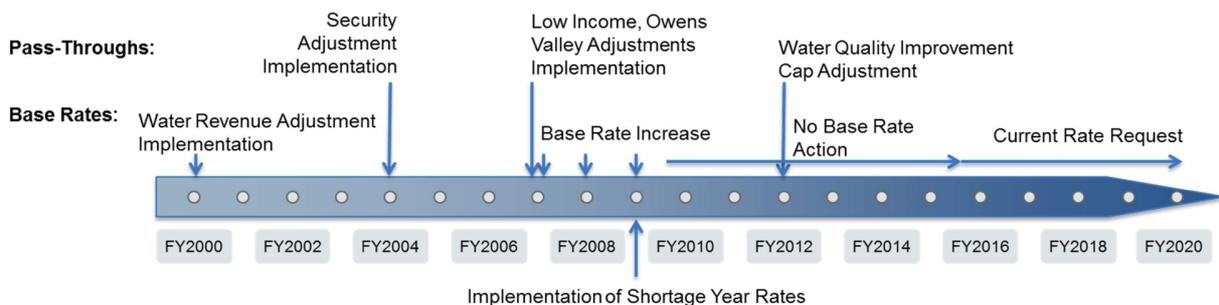
The Department has not increased water base rates since July 2009, the month that shortage year rates were implemented. By the time the proposed rates are implemented later in 2015, over six years will have elapsed since the last change to base rates.

To help mitigate the impact of water quality programs on base rates, on February 8, 2012, the City Council approved a \$0.35 per hundred cubic feet (HCF) increase in the cap for the Water Quality Improvement Adjustment (WQIA) factor. This increase was implemented on March 19, 2012 and ensured that LADWP had sufficient revenues to fund an adequate portion of specific water quality projects needed to comply with drinking water regulations through the issuance of revenue bonds.

While the implementation of the increased WQIA factor allowed the Department to fund the required water quality projects through the issuance of revenue bonds, the current WQIA factor covers only a portion of the total water quality compliance expenses. In addition, the WQIA factor does not recover the growing costs of other programs such as local water supply investments and infrastructure improvements. Upon approval of this cap in 2012, it was recognized that these revenues allowed LADWP to access the bond market in the short run, but, going forward, a more permanent rate plan would be necessary.

Figure 18 summarizes LADWP’s water rate actions from 1998 to 2009.

Figure 18: Historical Timeline of Water Rate Actions (1998-2009)



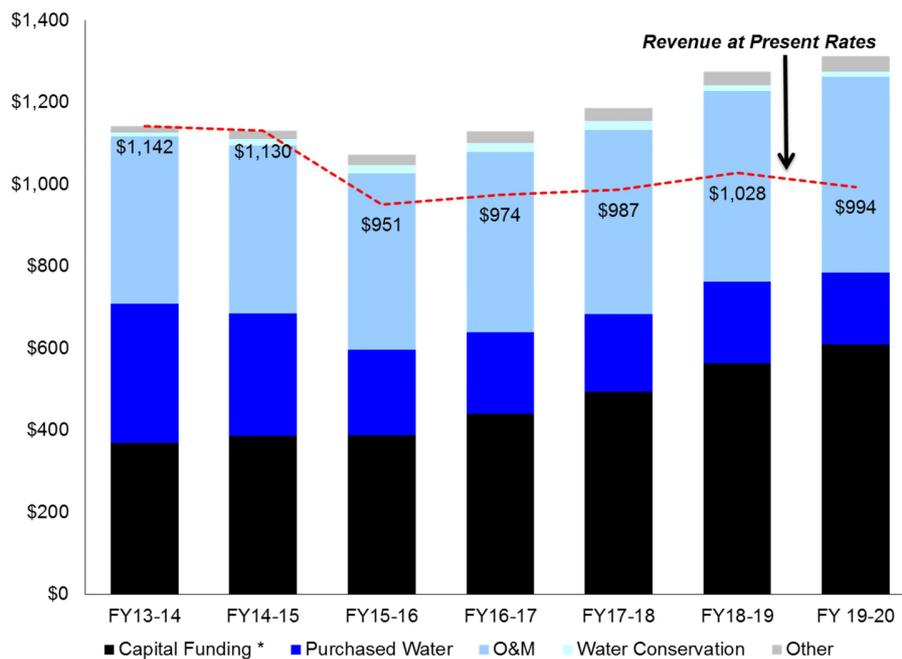
2.7 WHY IS A RATE INCREASE NEEDED NOW?

This report highlights major actions that LADWP has taken to reduce the need for interim rate actions up until this point. However, given the nature of the necessary projects and other obligations, the Department is at a point where a rate increase is required to improve Water System infrastructure, continue to meet regulatory requirements and develop sustainable local water supply, while maintaining a healthy financial standing. This new rate action allows

LADWP to meet its objectives and obligations while continuing to maintain competitive rates relative to peer utilities.

Current revenues will be inadequate to fund the major Water System programs, as summarized by a graphical representation of the income statement in Figure 19.

Figure 19: Current Revenue Shortfall (Given No Rate Increase, Including Purchased Water)



Note: Expenses are based on Financial Plan Case Number 33, which assumes normal precipitation. If precipitation is below normal as it has been in the most recent two years, the revenue requirement is likely to be higher.

* All amounts based on income statement and capital funding include depreciation, net interest expense, and retained earnings.

To meet the Water System’s revenue requirement, revenues will have to increase by an average incremental amount of \$90 million annually (excluding the impact of purchased water) through the period of FY 2015-16 to FY 2019-20. This translates to an average annual rate increase of 8.48%, as reflected below in Figure 20. Assuming normal precipitation and including the impact of purchased water, the average annual rate increase would equal 4.96%.

Figure 20: Year-Over-Year (YOY) Rate Driver Breakdown of Proposed Retail Rate and Revenue Requirement Increase (Assuming Normal Precipitation)

Rate Driver	Average Revenue Requirement Increase (\$M)	Average System Retail Rate Increase (\$/HCF)	Average Annual Rate Increase (%)
Conservation (Securitization)	-6 ²³	0.13	-0.50%
Groundwater (Securitization)	5	0.54	0.40%
Stormwater	2	0.18	0.13%
Recycled Water	4	1.31	0.35%
Owens Valley	4	0.32	0.35%
Water Quality	22	0.36	2.06%
Infrastructure (Base)	16	-0.04	1.96%
Infrastructure (Pass-Through)	44	4.32	3.72%
Total before Purchased Water	90	7.13	8.48%
Purchased Water	-44	-1.24	-3.53%
Total	46	5.89	4.96%

2.7.1 Financial Metrics

The Department must closely manage and monitor the Water System’s key financial metrics in the current environment throughout the five-year rate period to avoid the metrics deteriorating to a level that might cause a ratings downgrade resulting in higher customer rates.

The Department faces a significant challenge to maintain financial stability while funding both ongoing operations and the additional capital and O&M expenditures. With several large mandated investments required over the next five years, rate increases are necessary to both finance the required programs and maintain access to capital markets at the lowest rates possible.

Without a rate increase, O&M costs continue to rise and impact important financial metrics:

- Debt Service Coverage Ratio (DSC): This ratio divides the funds available for debt service by the sum of long-term principal and total interest payments. It is the amount of

²³ Many conservation investments are eligible for lower financing through securitization, resulting in a reduction in revenue requirement for conservation projects.

cash flow available to meet annual interest and principal payments on the Department’s debt.

- Capitalization Ratio: Defined as the long-term debt level divided by the sum of long-term debt plus equity. Companies with extraordinarily high capitalization ratios are considered to be a higher risk. Companies with a high capitalization ratio may also find it difficult to secure additional bond issues in the future.
- Operating Cash Target: Minimum target for operating cash reserves (often defined as days cash on hand or a total cash target amount).

As summarized in Figure 21, absent a rate increase, financial metrics would deteriorate dramatically by FY 2019-20.

Figure 21: Selected Financial Metrics Without Rate Increase

Fiscal Year-End 2019-2020	Days of Operating Cash (With Debt Service)	Capitalization Ratio	Debt Service Coverage
Target With Proposed Rate Increase	150	0.61	1.75
Results Assuming No Rate Increase ²⁴	54	0.75	0.46

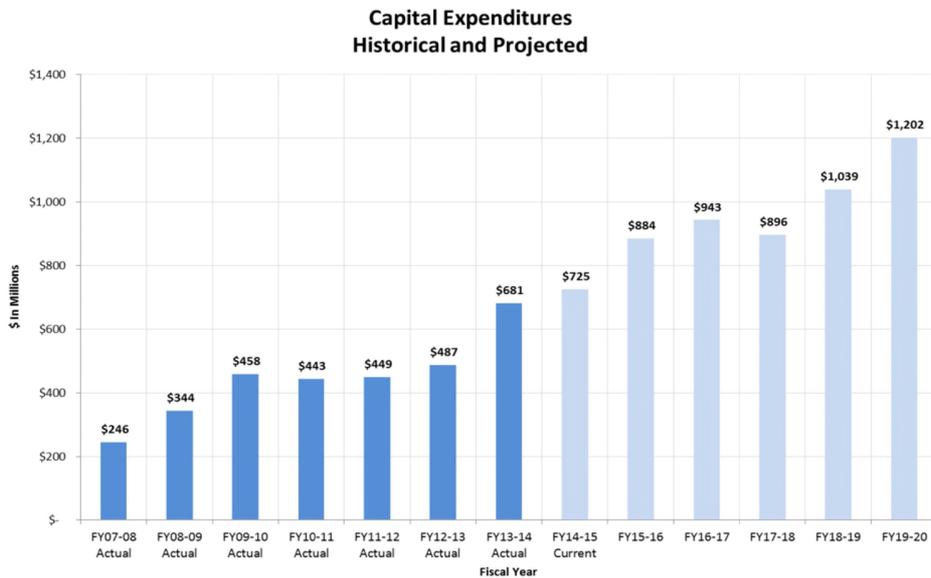
The situation is clearly unsustainable as the Department would not be able to raise the financing for its mandated water quality programs, much less the required infrastructure improvement and the needed local supply investments.

2.7.2 Capital Spending Requirements

As previously discussed, the funding of the Department’s initiatives to enhance infrastructure, meet externally imposed mandates and enhance water conservation and local supply will drive significant increases in its capital spending. As shown in Figure 22, proposed capital spending will increase by an average of \$79 million annually over the next five years (FY 2015-16 through FY 2019-20).

²⁴ Based on Sensitivity Case Number 46 (no rate increase for five years and no offsetting cuts to O&M expense). More information on the sensitivity cases can be found in Chapter 3.

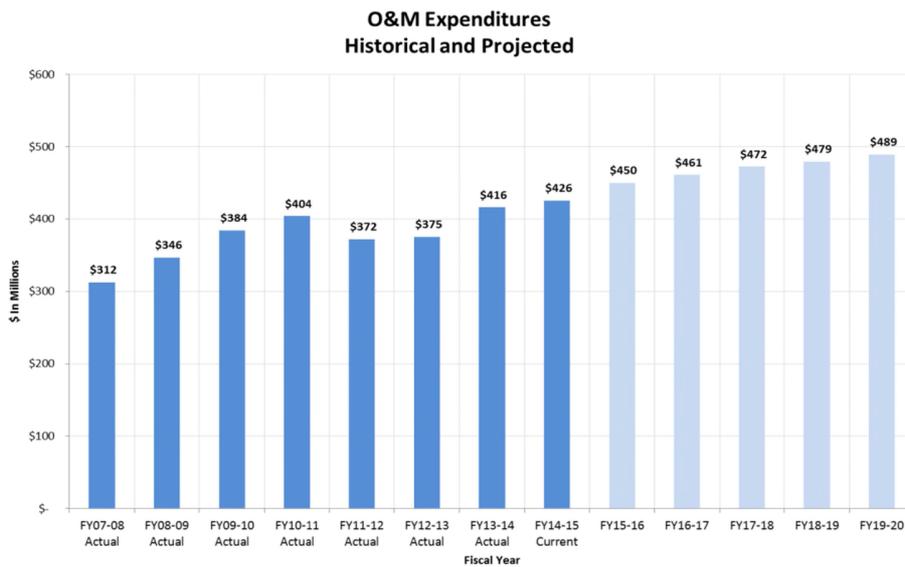
Figure 22: Capital Expenditures Historical and Projected



2.7.3 Operations and Maintenance Expense Requirements

Operations & maintenance expenditures will grow to support major Water System projects. A forecast of O&M expenses, shown in Figure 23, increases at an average rate of \$10 million per year from FY 2015-16 through FY 2019-20 (excluding purchased water).

Figure 23: Operations and Maintenance Expenditures Historical and Projected



The proposed increases in capital spending and O&M expenses are required to begin implementing a more sustainable infrastructure and water supply for the future of Los Angeles.

In order to reduce O&M costs, LADWP has also taken significant steps to reduce the higher than normal level of uncollectible revenue that has temporarily resulted from the recent new customer information system (CIS) implementation. Efforts to increase revenue collection include, but are not limited to:

- Implementing on-line, self-service payment options;
- Redoubling review of bill accuracy (planning an audit in 2015);
- Forming system defect remediation team that has already reduced critical defects to approximately 100 with plans to eliminate remaining known critical defects by Fall 2015;
- Reducing estimated bills to 5% of total bills (which is the current target level);
- Decreasing call wait times to pre-implementation levels; and
- Reducing collection thresholds (amount past due and length of time past due before collection efforts begin).

As system remediation allows, additional payment and other self-service options will be added and budget billing (i.e., level pay) will be introduced. Customer outreach and education plans about programs and services will also be expanded. These efforts are designed to reduce the level of LADWP's uncollectibles from 1.42% in FY 2014-15 to 0.97% in FY 2019-20 of total operating revenue (before securitization).

2.7.4 Rating Agency Considerations

Standard and Poor's (S&P), Fitch Ratings, and Moody's currently rate bond offerings of the Water System at AA, AA, and Aa2, respectively. The Department's proposed expenditures and rates take into account financial targets that are designed to avoid a ratings downgrade.

Figure 24 shows the current Board approved financial metrics, alongside financial metrics at the time of the previous base rate increase. Public Resources Advisory Group (PRAG) undertook a review of these financial metrics in June 2013 and found that there was some potential for relaxing the financial metrics for the Water System, which in turn helps to reduce the revenue requirement and customer rates. Based on PRAG's advice, the Department adopted these financial metrics for FY 2014-15 and used them to develop the current financial plan. (PRAG's full advisory note is in Chapter 2 - Appendix I).

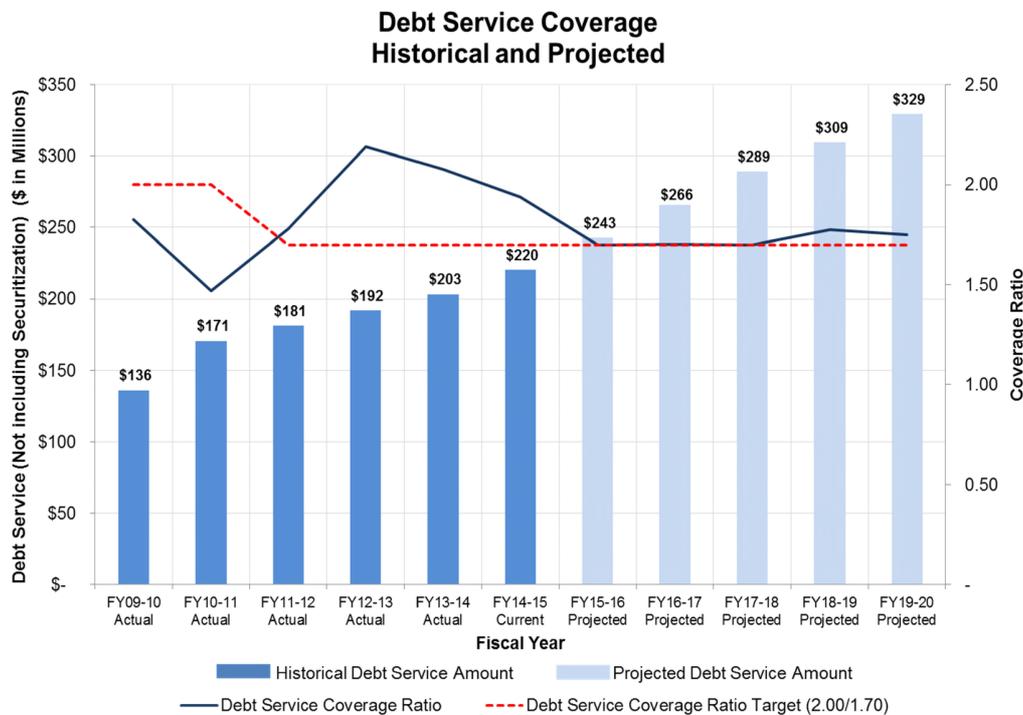
Figure 24: Current Water System Financial Metrics (Approved by Board)

Metric	Current Target (As of May 2014)	Previous Target
Debt Service Coverage Ratio	1.70	2.0
Capitalization Ratio	Less Than 65%	Less Than 60%
Operating Cash Target	150 Days Operating Cash on Hand	\$200M ²⁵

In addition, the Department is required to satisfy an Additional Bond Test Ratio (adjusted net income divided by maximum debt service) of at least 1.25 under existing bond covenants. This ratio represents the minimum coverage ratio required in order to issue new parity long-term debt when issuing additional parity obligations. It is a test for ensuring that the Department can meet the debt service requirements of issuing any new additional bonds.

Under the proposed rates, the Department will meet these targets over the next five years. The Department’s historical and projected debt service coverage ratio, capitalization ratio, and days of operating cash results are shown in Figure 25, Figure 26 and Figure 27.

Figure 25: Historical and Projected Debt Service Coverage



²⁵ Sufficient cash to support operating costs for approximately 110 days.

Figure 26: Projected Water System Debt Outstanding and Capitalization Ratio (Excluding Securitization)

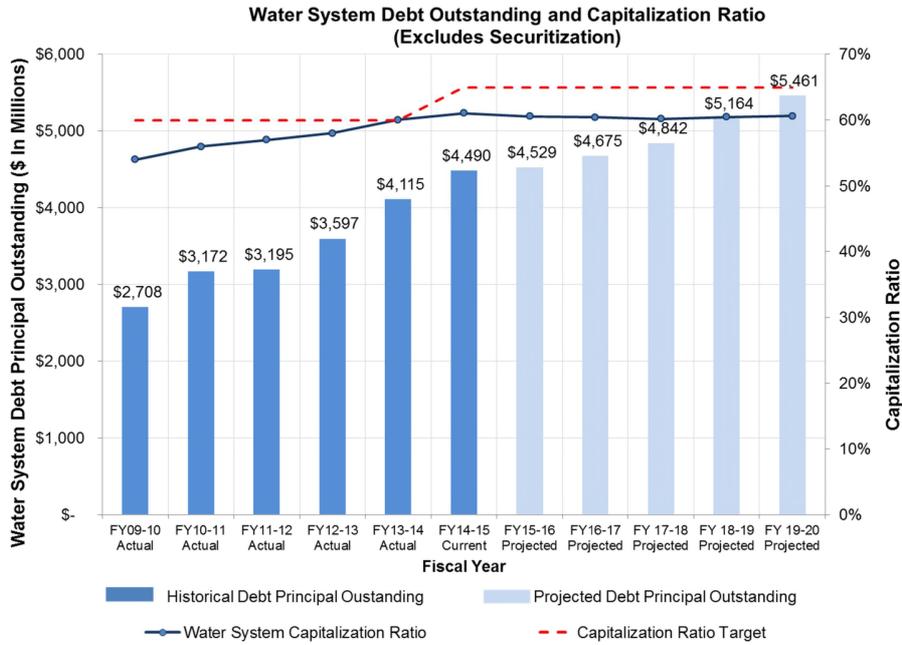
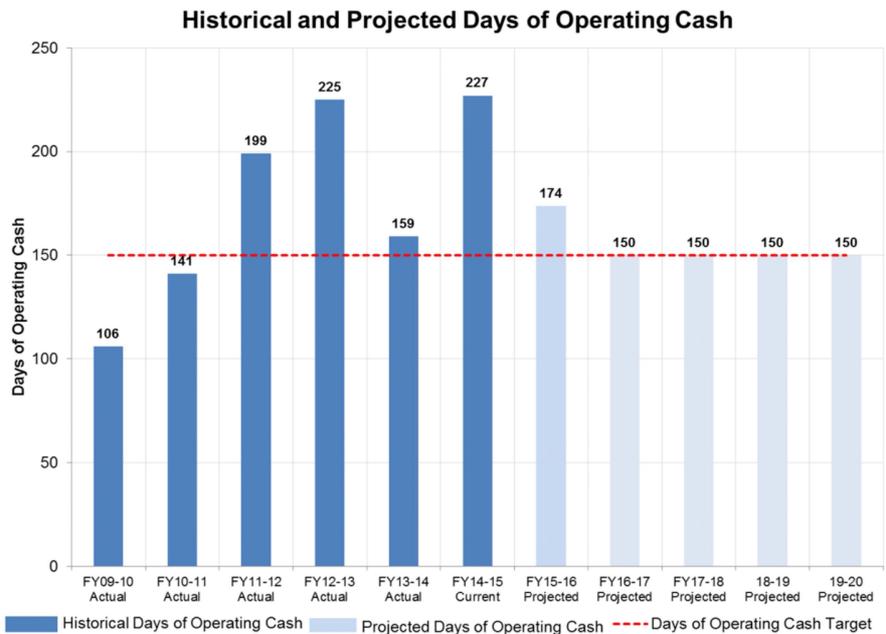


Figure 27: Historical and Projected Days of Operating Cash²⁶



²⁶ With the change in the financial metric, post-2013, operating cash target is calculated by “days” instead of a set target amount.

2.7.5 Risks of Downgrade

If the relaxed financial metrics were to result in a ratings downgrade from AA/AA/Aa2 to AA-/AA/Aa3, there would be an increase in borrowing costs. It is estimated, with a lower rating in a worst case scenario, borrowing costs could increase by 40 basis points, as shown in Figure 28.

Figure 28: Projected Increase in Borrowing Costs from Water System Downgrade (AA to AA-)

Scenario	Increase in Borrowing Cost
Current Market Fixed	+20 bps
Worst Case Market Fixed	+40 bps
Current Market Variable	+10 bps
Worst Case Variable	+25 bps

A ratings downgrade increases the Department's cost of borrowing, negatively affecting the Department's days operating cash on hand. Therefore, the Department and its customers benefit from the Water System maintaining its current bond ratings.

To finance the required investments, it is critical the Department maintain the appropriate credit ratings to convey to the market a strong financial health for a large diversified California municipal utility. The proposed rates are designed to allow LADWP to meet the financial metrics to maintain its current bond ratings.