



● **Board of Directors**
Finance and Insurance Committee

4/12/2016 Board Meeting

8-1

Subject

Adopt resolutions fixing and adopting water rates and charges for 2017 and 2018; and adopt the resolution finding that continuing an ad valorem tax rate at the rate levied for fiscal year 2015/16 is essential to Metropolitan's fiscal integrity. Approve biennial budget for fiscal years 2016/17 and 2017/18, proposed ten-year forecast, proposed revenue requirements for fiscal years 2016/2017 and 2017/18, and recommended water rates and charges to be effective on January 1, 2017 and January 1, 2018

Executive Summary

This letter recommends approval of the biennial budget for fiscal years (FY) 2016/17 and 2017/18 and the associated ten-year forecast, the revenue requirements for FY 2016/17 and FY 2017/18, and the recommended water rates and charges to be effective on January 1, 2017 and January 1, 2018; adoption of (1) the resolution fixing and adopting water rates to be effective on January 1, 2017 and January 1, 2018; (2) the resolution to fix and adopt the Readiness-to-Serve Charge effective January 1, 2017; (3) the resolution to fix and adopt the Capacity Charge effective January 1, 2017; and (4) the resolution to fix and adopt the Treated Water Fixed Charge effective January 1, 2017. This letter also recommends adoption of the resolution suspending the restriction in Section 124.5 of the Metropolitan Water District Act (MWD Act) and continuing an ad valorem property tax rate at the existing FY 2015/16 rate of .0035 percent for FY 2016/17 and FY 2017/18 to generate tax revenues for Metropolitan to pay the annual debt service on its general obligation bonds and a portion of its obligations to the State of California under its State Water Contract (SWC).

Metropolitan's Board, the Finance and Insurance (F&I) Committee of the Board, and Metropolitan's member agencies have been reviewing and evaluating Metropolitan's proposed biennial budget and revenue requirements, and the rates and charges necessary to support the revenue requirements. The ten-year forecast of costs, fixed charges, revenue requirements, and rates and charges were also presented and implications of near-term actions on long-term revenue requirements were discussed. The Proposed Biennial Budget, Ten-Year Financial Forecast (Ten-Year Forecast), and Capital Investment Plan (CIP) – all previously provided to the Board and posted online – are included collectively as **Attachment 1** – Proposed Biennial Budget FY 2016/17 and FY 2017/18. On January 28, 2016, staff provided to the Board the Proposed Biennial Budget and Ten-Year Forecast, containing revenue requirements and cost of service analysis, and the estimated rates and charges necessary to meet the revenue requirements contained in the Proposed Biennial Budget. On February 5, 2016 staff posted online the Biennial Budget, Ten-Year Forecast and CIP documents. On March 16, 2016, staff provided to the Board and posted online the updated CIP with minor revisions. On March 16, 2016, staff also provided to the Board and posted online the cost of service report. On March 30, 2016, staff provided to the Board and posted online an updated cost of service report with minor revisions as **Attachment 3** – Metropolitan Water District of Southern California, Fiscal Years 2016/17 and FY 2017/18 Cost of Service for Proposed Water Rates and Charges. The F&I Committee held four public workshops on February 8, 2016, February 23, 2016, March 7, 2016 and March 22, 2016, which were open to full board participation. These workshops included extensive budget, revenue requirements, and rates and charges discussions.

At Workshop #1, held on February 8, 2016, staff made an extensive presentation regarding the estimated revenue requirements that form Metropolitan's projected costs of service, an overview of the Proposed Biennial Budget,

major expenditures, reserves, Ten-Year Forecast, and the treatment of the San Diego County Water Authority (SDCWA) exchange agreement set-aside. At Workshop #2, held on February 23, 2016, staff addressed specific questions raised by the Board, provided further detail regarding the estimated revenue requirements in the Proposed Biennial Budget, and provided an overview of Metropolitan's existing rate structure and the process of determining rate components under Metropolitan's existing rate structure. Mr. Rick Giardina, Executive Vice President with Raffelis Financial Consultants, Inc. (RFC), an independent financial and rate consultant, and current Chair of the American Water Works Association (AWWA) Rates and Charges Committee, presented to the Board a proposed fixed charge alternative to recover a portion of the treatment revenue requirement that is currently recovered through the existing 100 percent volumetric Treatment Surcharge. Mr. Giardina's presentation was preceded by a presentation on this topic to the member agency managers by staff in September 2015 and by Mr. Giardina on January 15, 2016.

At Workshop #3, held on March 7, 2016, staff discussed the proposed water rates and charges and made a presentation addressing further questions from the Board. Mr. Giardina of RFC also made a presentation further addressing questions raised by the Board regarding the fixed treated water charge alternative. At Workshop #4, held on March 22, 2016, staff discussed the proposed CIP, provided an overview of the cost of service report, and addressed additional questions raised by the Board. Mr. Giardina also provided a presentation summarizing the options for a fixed treated water charge alternative.

PUBLIC HEARING: Proposed Rates and Charges and Suspending the Tax Rate Restriction in Section 124.5 of the Metropolitan Water District (MWD) Act

A public hearing on proposed rates and charges and the proposal to suspend the tax rate restriction in Section 124.5 of the MWD Act was held on March 8, 2016, where members of the public addressed the Board and provided comments. Sixteen speakers provided oral comments to the Board. In addition, two letters were received on the proposed rates and charges and made part of the record of the public hearing. A list of all member agencies, subagencies and members of the public that provided comments in response to the proposed rates and charges and proposed continuation of the ad valorem tax at the existing rate is included in [Attachment 2 – Public Hearing Comments](#). All materials received at the public hearing have been reviewed by staff and are available for review in the office of the Chief Financial Officer and on the Directors' and Metropolitan's websites.

Details

BIENNIAL BUDGET AND RATES AND CHARGES

Based on the Board discussions over the past two months, the Proposed Biennial Budget for FY 2016/17 and FY 2017/18, revenue requirements for FY 2016/17 and FY 2017/18 to support the Proposed Biennial Budget, and rates and charges for calendar years 2017 and 2018 are presented for the Board's consideration as described below. The proposal meets the Board's financial policies by providing anticipated revenues that meet the anticipated cost of service, as shown in the biennial budget proposal and cost of service report, meets the fixed charge coverage target, provides funding from revenues for the CIP, and promotes long-term fiscal sustainability goals as reflected in the Ten-Year Forecast. The proposal also allocates costs so that payers bear their fair and reasonable share.

The Proposed Biennial Budget and revenue requirements are based on normal conditions. Calendar year 2016 is anticipated to provide approximately a 50 percent allocation on the State Water Project (SWP) due to recent rains and snow in Northern California. The conditions in the Colorado River watershed are near normal. With a 50 percent allocation on the SWP and approximately 1.0 million acre-feet (MAF) of diversions on the Colorado River Aqueduct, Metropolitan should be able to replenish its storage reserves by approximately 200 to 300 thousand acre-feet (TAF) of water.

Metropolitan delivers a reliable water supply to the region throughout a variety of hydrologic conditions. Metropolitan has a diverse water supply portfolio and has made long-term investments in storage programs, conservation, local resource development, and drought response to help meet customer demands by storing in wet years to manage through dry years. Historically, Metropolitan's water sales have varied widely. Over the last twenty years, annual sales have averaged 2.0 MAF. Over the last five years, annual sales have averaged

1.8 MAF. Therefore, it is reasonable for Metropolitan to base the Proposed Biennial Budget and revenue requirements on a conservative annual sales estimate of 1.70 MAF, SWP deliveries of approximately 955 TAF, and Colorado River diversions of 1.0 MAF for each of FY 2016/17 and FY 2017/18. Variations in revenues and costs due to hydrology will be managed by use of financial reserves established for this purpose.

Attachment 1 – Proposed Biennial Budget FY 2016/17 and 2017/18 – provides an overview of the biennial budget; departmental budget detail; information on Metropolitan’s SWP costs, CRA power costs, Supply Programs, Demand Management Programs and Capital Financing; and information on the CIP. The Proposed Biennial Budget also includes the Ten-Year Forecast.

Table 1: FY 2016/17 and 2017/18 Proposed Operating and Capital Appropriations, \$ millions

Proposed Budget	FY 2016/17	FY 2017/18	Total Biennium
Operating Budget	\$1,200.2	\$1,231.2	\$2,431.4
Debt Service	\$328.5	\$344.1	\$672.6
PAYGo	\$120.0	\$120.0	\$240.0
Grand Total	\$1,648.7	\$1,695.3	\$3,344.0

The Proposed Biennial Budget, revenue requirements and rates and charges assumes the Board maintains the ad valorem tax rate at its current level when the rate is set in August of 2016 and 2017. The current ad valorem tax rate is estimated to generate \$199 million over the next two fiscal years, providing \$88 million to pay for general obligation and State Water Contract (SWC) Burns-Porter bond debt service and \$111 million to offset other SWC costs. In addition, maintaining the ad valorem tax rate helps to maintain a balance between fixed and variable revenues and mitigate the need for future water rate increases. If the ad valorem tax rate restriction is not suspended when the Board sets the tax rate in August, the projected rate increases in FY 2016/17 and FY 2017/18 will need to be 3 percent higher; in this event, the Board would need to waive the requirements of Administrative Code Section 4304 and direct staff to return to the Board at its regular May 2016 meeting with a revised Biennial Budget, revenue requirements, and rates and charges to produce the necessary revenue.

Proposed Rates and Charges for Board Consideration

The Staff Recommendation is proposed overall rate increases of 4.0 percent in FY 2016/17 and 4.0 percent in FY 2017/18. These increases continue funding the Board’s key priorities as described in the February 9, 2016 Board Letter 9-2, including:

- Funding for the CIP of \$400 million for the biennial period of FY 2016/17 and FY 2017/18, of which \$240 million will be funded from revenues. This level of revenue-funded capital is appropriate given the significant portion of the capital program that is focused on replacement and refurbishment of capital facilities, and lessens the pressure on water rates from debt service in future years. This level of revenue-funded capital will cover 60 percent of the projected capital spending for the next two fiscal years.

The level of revenue-funded capital that the water rates and charges are set to generate in FY 2016/17 and FY 2017/18 is lower than the \$221 million for FY 2015/16. This lower level of revenue-funded capital provides cost relief as other budgeted costs are increasing.

- Continued funding of \$161 million for the biennial period of FY 2016/17 and FY 2017/18 for Supply Programs in the region, the Central Valley, and the Colorado River system to cover the costs of storing or withdrawing supplies. This initiative helps reduce the likelihood that Metropolitan will need to declare a Water Supply Allocation in future dry years.
- Continued funding of Demand Management Programs at \$151 million for the biennial period of FY 2016/17 and FY 2017/18 to help Metropolitan’s member agencies and their retail water subagencies meet the state-mandated 20 percent by 2020 goal of reduced per capita water consumption and meet the 2015 Integrated Resources Plan Update goals for local resource development. These programs reduce the need to transport water into the Metropolitan service area or within Metropolitan’s distribution system.

- Funding of \$838 million for the biennial period of FY 2016/17 and FY 2017/18 for Operations and Maintenance (O&M), including labor and benefits, water treatment chemicals, solids handling, professional services, and operating equipment purchases. This proposed O&M funding includes increased benefit costs, including retirement-related benefits, and merit increases.
- Funding of \$1,282 million for the SWC and Colorado River power costs for the biennial period of FY 2016/17 and FY 2017/18 to ensure a reliable water supply to southern California.
- Rate increases in the remaining eight years of the Ten-Year Forecast ranging from 4 to 5 percent, which meet all financial policy guidelines.

As noted, the cost of service report supporting the proposed rates and charges for 2017 and 2018 is provided as [Attachment 3](#) – Metropolitan Water District of Southern California, Fiscal Years 2016/17 and FY 2017/18 Cost of Service for Proposed Water Rates and Charges.

REVENUE REQUIREMENTS

Table 2 summarizes the revenue requirements for FY 2016/17 and FY 2017/18, which incorporates the expenditures described above, as well as revenues from sources other than water rates and charges that offset the amount to be generated by water rates and charges.

Table 2: Revenue Requirements, \$ in millions

Fiscal Year Ending	2015/16 Adopted	2016/17 Proposed	2017/18 Proposed
Departmental and Other O&M	390	393	395
Variable Treatment	28	24	25
State Water Project (without Variable Power)	328	435	447
State Water Project Variable Power	187	147	153
CRA Power	37	47	54
Supply Programs	66	79	82
Demand Management	62	75	76
Debt Service	325	328	344
PAYGO	221	120	120
Change in Required Reserves	18	65	25
Subtotal Expenditures	1,661	1,714	1,721
Revenue Offsets	150	139	146
Total Revenue Requirement	1,511	1,575	1,574

Metropolitan's Board establishes rates and charges for water services that, so far as practicable, result in revenues to pay for Metropolitan's operations and maintenance expenses, operating equipment, power costs on the CRA, SWP operations, maintenance, power and replacements costs, SWP capital charges, demand management programs, and supply programs. To develop each biennial budget proposal and establish Metropolitan's revenue requirement for a given period, Metropolitan staff assemble and calculate Metropolitan's operating expenses, capital financing costs and other requirements expected to be incurred during the fiscal years in the budget period – the cost of service. Staff also estimates offsetting revenue sources. This information is used to develop the Proposed Biennial Budget and revenue requirements.

RATES AND CHARGES

The detailed rates and charges to support the biennial budget expenditures and resulting revenue requirements are shown in Table 3.

Table 3: Proposed Water Rates by Element and Charges

Rates and Charges Effective January 1st	2016	Option #1a		Option #1b		Option #2	
		2017	2018	2017	2018	2017	2018
Tier 1 Supply Rates (\$/AF)	\$156	\$201	\$209	\$201	\$209	\$201	\$209
Tier 2 Supply Rate (\$/AF)	\$290	\$295	\$295	\$295	\$295	\$295	\$295
System Access Rate (\$/AF)	\$259	\$289	\$299	\$289	\$299	\$289	\$299
Water Stewardship Rate (\$/AF)	\$41	\$52	\$55	\$52	\$55	\$52	\$55
System Power Rate (\$/AF)	\$138	\$124	\$132	\$124	\$132	\$124	\$132
Full Service Untreated Volumetric Cost (\$/AF)							
Tier 1	\$594	\$666	\$695	\$666	\$695	\$666	\$695
Tier 2	\$728	\$760	\$781	\$760	\$781	\$760	\$781
Treatment Surcharge (\$/AF)	\$348	\$195	\$197	\$195	\$197	\$313	\$320
Full Service Treated Volumetric Cost (\$/AF)							
Tier 1	\$942	\$861	\$892	\$861	\$892	\$979	\$1,015
Tier 2	\$1,076	\$955	\$978	\$955	\$978	\$1,073	\$1,101
Readiness-to-Serve Charge (\$M)	\$153	\$135	\$140	\$135	\$140	\$135	\$140
Capacity Charge (\$/cfs)	\$10,900	\$8,000	\$8,700	\$8,000	\$8,700	\$8,000	\$8,700
Treated Water Fixed Charge (\$M)		\$98	\$102	\$98	\$102		

Options #1a and #1b include a Fixed Treated Water Charge to recover \$97.5 million in FY 2016/17 and \$101.7 million in FY 2017/18. The balance of the treatment costs are recovered through the Treatment Surcharge. The difference between Option #1a and Option #1b is how the Treated Water Fixed Charge is apportioned among member agencies with treated water purchases.

Option #2 does not include a Treated Water Fixed Charge; treatment costs are recovered solely through the 100 percent volumetric Treatment Surcharge.

All other rates and charges are the same under Options #1a, #1b, and #2.

Table 3 also shows the bundled full-service untreated and full-service treated cost for purposes of demonstrating the combined impact of the rate elements. The volumetric rate components of the bundled full-service untreated cost are increasing, with the exception of the System Power Rate, due to increased costs for Supply Programs, the SWC, Demand Management Programs, and Departmental O&M. These increased costs are partially offset by lower overall power costs recovered through the System Power Rate.

In comparison, the bundled full-service Tier 1 treated cost is increasing only slightly due to lower treatment costs, as described in the February 9, 2016 board letter.

The Readiness-to-Serve Charge (RTS) and Capacity Charge are decreasing from the amounts set effective January 1, 2016. As explained in the February 9, 2016 board letter, these charges recover only capital financing costs, and are therefore sensitive to changes in the components of capital financing, which are PAYGo (capital funded from revenues) and debt service. As explained above, the amount of revenue-funded capital included in the revenue requirement decreased from \$221 million for FY 2015/16 to \$120 million in FY 2016/17 and FY 2017/18. This reduction is causing the RTS and Capacity Charge to decrease from the January 1, 2016 amounts.

The Ten-Year Forecast provides planning beyond the budget period and provides information to the Board on the impacts of different rate proposals and funding assumptions over a longer planning horizon.

Actual revenues and expenses may vary from budgeted amounts for a variety of reasons. Administrative Code Section 5202(e) contemplates variation in actuals to budget and provides policy guidance to the Board. Metropolitan's financial obligations may include liabilities and future commitments, such as retiree obligations

and debt service, that are not reflected in the budget but that can be addressed in a fiscally prudent manner to reduce future obligations and keep future rate increases reasonable within the policy guidance provided by Administrative Code Section 5202(e).

Staff will provide a mid-cycle biennial budget review in June 2017.

TREATED WATER FIXED CHARGE

A proposal for a Treated Water Fixed Charge has been provided to the Board. The proposal is cost of service (COS)-based, as it uses the information from Metropolitan's COS report to identify the costs allocated to Fixed Demand and Fixed Standby for recovery through a fixed charge. The proposal aligns the fixed charge with the service level and investment Metropolitan has made in the capacity and treatment processes at its five treatment plants. A Treated Water Fixed Charge ensures that a portion of Metropolitan's treatment costs, of which 91 percent are fixed, are covered regardless of volumes sold, thereby improving revenue stability.

A Treated Water Fixed Charge would recover the sum of the Fixed Demand and Fixed Standby costs, which are approximately 38 percent of the Treatment Revenue Requirement in FY 2016/17 and FY 2017/18, or \$97.5 million and \$101.7 million, respectively. A Treated Water Fixed Charge would be apportioned among the member agencies with historical treated water purchases.

The remaining Treatment Revenue Requirement, approximately 62 percent, would be recovered through a volumetric rate of \$195 per acre-foot effective January 1, 2017 and \$197 per acre-foot effective January 1, 2018.

Options for a Treated Water Fixed Charge are provided in [Attachment 7](#) – Resolution Fixing and Adopting a Treated Water Charge, and include:

- A fixed charge made up of two components. The first component recovers the Fixed Standby costs (\$56.7 million in FY 2016/17) and is apportioned to member agencies based on the average treated water sales by member agency for the most recent ten fiscal years (ten-year rolling average). The second component recovers the Fixed Demand costs (\$40.8 million in FY 2016/17) and is apportioned to member agencies based on each agency's peak treated water demand for the last three summer seasons, defined as the highest daily treated water demand for May through September. This proposal has no minimum amount.
- A fixed charge that is apportioned to member agencies based on the higher of the average treated water sales by member agency for fiscal years 1998 through 2007, or the most recent ten fiscal years (ten-year rolling average) and recovers both the Fixed Standby costs and the Fixed Demand costs (\$97.5 million in FY 2016/17). This proposal would maintain a minimum amount for each member agency on a go-forward basis.

SDCWA EXCHANGE AGREEMENT SET-ASIDE

Due to SDCWA's litigation challenging Metropolitan's rates, Metropolitan currently holds \$235.5 million in its financial reserves in accordance with the 2003 Amended and Restated Exchange Agreement between Metropolitan and SDCWA (exchange agreement). This amount includes \$188.3 million associated with exchange agreement water deliveries from January 2011 through December 2014, \$42.2 million associated with exchange agreement water deliveries since January 2015, and accumulated interest on both amounts. Amounts held pursuant to the exchange agreement will continue to accumulate while the litigation, including all appeals, is pending based on the quantities of exchange agreement water that Metropolitan provides to SDCWA and the amount of charges disputed by SDCWA. In accordance with the exchange agreement, the amounts held are SDCWA's payments under the exchange agreement that are in dispute and interest earned thereon, which is based on Metropolitan's investment portfolio. The amounts held do not include the statutory prejudgment interest award or statutory post-judgment interest, nor awards of costs or attorneys' fees, none of which the exchange agreement requires to be held.

To provide greater clarity on the amount of the exchange agreement set-aside, Metropolitan proposes to establish a designated fund to hold these amounts, the Exchange Agreement Set-Aside Fund. The fund would be separate from Metropolitan's Water Rate Stabilization Fund and Revenue Remainder Fund. Disputed amounts will be

transferred to the Exchange Agreement Set-Aside Fund as SDCWA payments are received and would continue to be invested with Metropolitan's short-term investments managed by the Treasurer until such time as the litigation is resolved.

UNSPENT CONSERVATION PROGRAM FUNDS

The Board-approved conservation program budget for the current biennial period ending June 30, 2016 is \$450 million. Staff estimates that expenditures for the conservation program will be approximately \$60 million below budget at \$390 million. The amount of unspent funds will be subject to final verification at the end of the fiscal year. Staff seeks authorization to use these unspent funds in the following manner:

- A. Extend the Onsite Recycled Water Retrofit Program through June 30, 2018 and authorize the use of \$10 million in funding for the program during the biennial budget period 2016/17-2017/18; and
- B. Authorize staff to process applications for turf removal that were placed on a waiting list pending review of funding status. Processing of these applications could begin July 1, 2016 or as soon as availability of funding is verified. Total funding of these applications and the associated administrative fees could be as much as \$23 million, if all participants complete their projects; and
- C. Authorize all remaining unspent conservation funds, after items A and B above, to be used to augment the conservation program budget for the biennial period of 2016/17-2017/18.

The actions listed above would continue to provide funding for highly popular programs that conserve water and develop recycled water supplies. These programs provide long-term benefits in conserving and developing water supplies at the local level, and reducing demands on Metropolitan's system, and also continuing Metropolitan's drought response in the near-term.

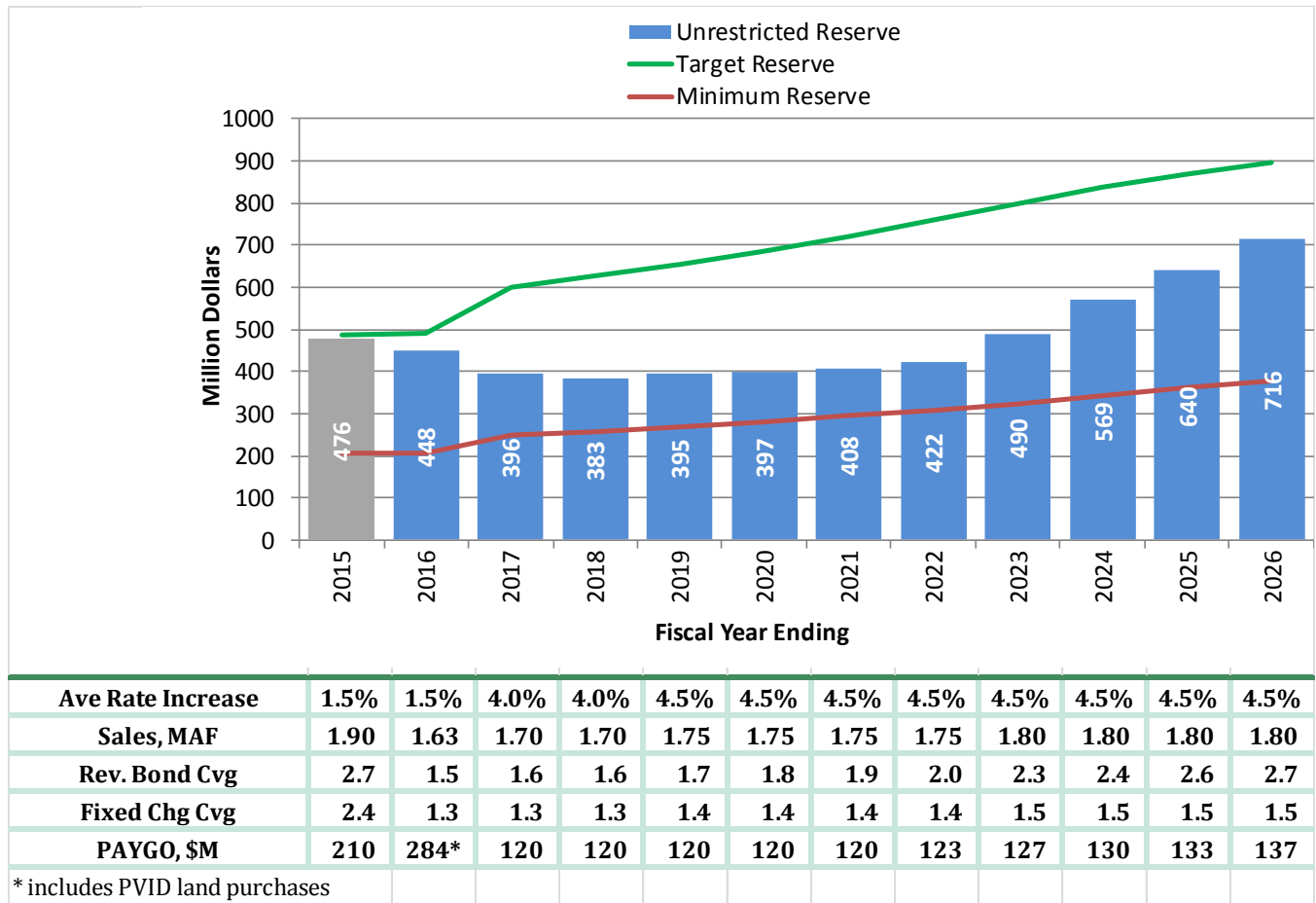
TEN-YEAR FINANCIAL FORECAST

The Proposed Biennial Budget and Ten-Year Forecast comprise Metropolitan's long-range financial plan. The Biennial Budget establishes the foundation for a ten-year forecast of water sales, expenditures, revenues, projected rate increases and financial indicators. Incorporating a ten-year financial forecast within the biennial budget process helps ensure the long-range financial plan is continuously updated every two years to reflect any changes in underlying assumptions and/or financial policies. This approach is well suited to the dynamic environment Metropolitan operates in, rather than periodic updates of a stand-alone long-term financial planning document. The Ten-Year Forecast is included in [Attachment 1](#) – Proposed Biennial Budget FY 2016/17 and FY 2017/18.

The Proposed Biennial Budget sets the stage for predictable and reasonable rate increases over the ten-year planning period. Use of operating revenue funding for the CIP will result in lower revenue requirements in later years of the forecast, as the use of operating revenues to fund the CIP will reduce any needed new money bond issues. Over the ten-year forecast, the higher proposed levels of revenue funding for the CIP will result in debt service by FY 2025/26 that is approximately \$20 million less than FY 2016/17. These lower costs combined with maintaining the ad valorem tax rate at its current level throughout the ten-year period will mitigate increases in future water rates and charges.

Key financial indicators of the ten-year forecast are summarized in Figure 1.

Figure 1: Projected Rate Increases, Reserves, and Financial Indicators



The Ten-Year Forecast, which is included in [Attachment 1](#), assumes the following:

- Sales are forecasted to range from 1.70 MAF in FY 2016/17 to 1.80 MAF in FY 2025/26;
- Beginning in FY 2016/17, 60 percent of the CIP is revenue funded. Revenue-funding a percentage of the CIP costs rather than using a fixed dollar amount allow revenue-based funding to adjust to changes in the CIP over time;
- Metropolitan’s investments in storage programs continue, providing regional supply reliability; and
- Demand management programs continue to be funded to help ensure that Metropolitan’s member agencies and their retail water subagencies meet the 20 percent by 2020 goal of reduced per capita water consumption.

Resulting rate increases beyond the biennial budget period are in a range of 4 percent to 5 percent each year.

SUSPENSION OF THE TAX RATE RESTRICTION IN SECTION 124.5 OF THE MWD ACT

Since FY 1990/91, Section 124.5 of the Metropolitan Water District Act (MWD Act) has limited property tax collections to the amount necessary to pay the total of annual debt service on Metropolitan’s general obligation bonds plus a small portion of its SWC payment obligation, limited to the preexisting debt service on state general obligation bonds (Burns-Porter bonds) for facilities benefitting Metropolitan. Section 124.5 permits Metropolitan to suspend this restriction if, following a public hearing, the Board finds that such revenue is essential to the fiscal integrity of the District. Metropolitan held public hearings under Section 124.5 for FY 2013/14, FY 2014/15, and FY 2015/16 and adopted the resolutions suspending the rate restriction and continuing the current ad valorem property tax rate at the rate levied since FY 2012/13 (of .0035 percent of assessed valuation). This letter proposes

the Board again consider suspending the Section 124.5 restriction for FY 2016/17 and FY 2017/18 by adopting the resolution included in **Attachment 8** – Resolution Finding that Continuing an Ad Valorem Property Tax Rate at the Rate Levied for Fiscal Year 2015/16 is Essential to the Fiscal Integrity of the District and Suspending the Ad Valorem Tax Rate Restriction.

Metropolitan has assessed ad valorem property taxes in its service area since its inception. Metropolitan has constitutional and statutory authority, as well as voter authorization, to collect revenues through ad valorem taxes assessed on real property within its service territory.

Generally, Metropolitan may collect ad valorem property taxes to cover its general obligation bonds and its SWC obligations, as described below. Since FY 1990/91, Section 124.5 of the MWD Act has limited property tax collections to the amount necessary to pay the total of annual debt service on Metropolitan's general obligation bonds plus a small portion of its SWC payment obligation, limited to the preexisting debt service on state general obligation bonds (Burns-Porter bonds) for facilities. Under Section 124.5's restriction, the ad valorem property tax rate has been decreasing, and will continue to decrease, as the bonds are paid off. In the meantime, Metropolitan's SWC obligations have been increasing and will continue to increase. For example, the state is expecting substantial costs associated with repair and replacement of the 50-year-old State Water Project (SWP) infrastructure. Further, implementation of the proposed California WaterFix would lead to increased SWC payments. A significant portion of Metropolitan's SWC costs are fixed charges that must be paid regardless of the volume of water Metropolitan receives from the SWP. It is appropriate and fiscally prudent to pay such fixed costs from fixed, rather than volumetric, revenues to the extent possible.

Section 124.5 permits Metropolitan to suspend the tax rate restriction if, following a public hearing, the Board finds that such revenue is essential to the fiscal integrity of the District. The Board conducted a public hearing at its March 8, 2016 regular meeting to consider suspending the tax restriction clause of Section 124.5 for the limited purpose of maintaining the ad valorem tax at current levels. Notices of the public hearing were filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate on February 22, 2016. After carefully considering the comments from the public hearing, as well as board presentations, workshops and underlying materials described in this board letter, the Board may consider the proposal to suspend the limitation in Section 124.5 to maintain the ad valorem property tax rate at the current level of .0035 percent of assessed valuation resulting in approximately \$98 million in FY 2016/17 and \$101 million in FY 2017/18, as incorporated in the proposed Biennial Budget for FY 2016/17 and FY 2017/18.

Continuing the current ad valorem tax rate will significantly contribute to Metropolitan's long-term fiscal health and stability by providing a diverse, fixed revenue source, balancing the mechanisms for funding the immediate and anticipated obligations of the SWC, helping to maintain Metropolitan's creditworthiness, and providing the Board with flexibility as it funds Metropolitan's SWC obligations and other obligations, including refurbishment and replacement of Metropolitan's infrastructure, continued funding of retiree medical and pension costs, and cost impacts of replenishing storage, which was drawn down during the recent multiyear drought.

Metropolitan continually evaluates its financial condition, including its long-term fiscal health and stability. Over the past five years, beginning with rate refinement discussions involving Metropolitan staff and member agencies, Metropolitan has examined the contributions of ad valorem property taxes and other fixed and variable revenue sources to its financial strength. Board letters, presentations, and board reports from August 2011 through March 2016, presentations to member agencies, correspondence, contracts and reports on water rates and charges, potential revenue sources, revenues and expenses, the SWP and SWC, financings and financial planning, and other materials relating to Metropolitan's long-term fiscal health and stability are available at www.mwdh2o.com.

Historical Revenue Sources

Metropolitan assesses ad valorem taxes pursuant to authority to "levy and collect taxes on all property within the district for the purposes of carrying on the operations and paying the obligations of the district." (MWD Act, Section 124.) Prior to 1942, Metropolitan was constructing the Colorado River Aqueduct and had no water to sell so all of its revenues came from ad valorem taxes. In FY 1941/42, Metropolitan began to sell water, but the majority of Metropolitan's revenues were still derived from ad valorem taxes. Not until 1974 did 50 percent of Metropolitan's revenues come from water sales, with the remainder derived primarily from ad valorem taxes.

Metropolitan executed its SWC in 1960. The ability to levy property taxes to satisfy payment obligations under the SWC is expressly provided for in the contract. (See “State Water Contract Obligations” below.) Indeed, under certain circumstances, upon written notice from the state, Metropolitan *must* levy a property tax sufficient to satisfy SWC obligations then due or coming due.

In 1984, the Legislature adopted SB 1445, amending the MWD Act to add Section 124.5, and other sections. Effective FY 1990/91, Section 124.5 limits Metropolitan's annual property tax levy at the amount needed to pay the total of annual debt service on Metropolitan's general obligation bonds and the then-existing portion of the SWC obligation for debt service on State Burns-Porter bonds for facilities benefitting Metropolitan, unless after notice and hearing the Board finds that not reducing the tax rate is essential to the District's fiscal integrity. Due to the formula to decrease tax rates as bonds are paid off, Section 124.5 accelerated the shift to revenue from the sale and delivery of water so that today over 80 percent of Metropolitan's revenue is derived from volumetric water rates.

SB 1445 also authorized alternative sources of fixed revenue, including standby or readiness-to-serve charges and benefit assessments. It was not until FY 1992/93, when standby charges were initially adopted, that Metropolitan had any fixed revenue other than property tax. Now, however, those fixed-revenue alternatives are likely governed by additional legal requirements not in place or contemplated when the Legislature enacted SB 1445. Further, the precise scope of those requirements is uncertain, meaning that uncertainty and potential risk will accompany reliance on any new fixed revenue alternative authorized by SB 1445.

State Water Contract Obligations

Metropolitan is one of 29 agencies that contract with the state for use of and deliveries from the SWP. Metropolitan's SWC was the first contract executed and the prototype for the state water contracts that followed, and its terms were validated by the California Supreme Court in *Metropolitan Water Dist. v. Marquardt* (1963) 59 Cal.2d 159. Metropolitan is the largest agency in terms of the number of residents in its service area, the allocation of SWP water that it has contracted to potentially receive, and the allocation of SWP infrastructure and power costs that results in Metropolitan paying the highest percentage of total annual payments made to the Department of Water Resources of all of the agencies with state water contracts.

Under the SWC, Metropolitan is obligated to pay allocable portions of the cost of construction of the SWP system and ongoing operating and maintenance costs. Metropolitan is obligated to pay these fixed costs regardless of quantities of water available from the project and received. In contrast, a smaller portion of payments are based on deliveries requested and actual deliveries received, costs of power required for actual deliveries of water, and offsets for credits received. Approximately 70 to 80 percent of Metropolitan's SWC obligations are fixed, or unrelated to the quantity of water delivered.

The ability of state water contractors to levy property taxes sufficient to satisfy their contractual obligations was a foundation of the Burns-Porter Act and a factor relied on by California voters in approving it. *Goodman v. County of Riverside* (1983) 140 Cal.App.3d 900, 905-06; *see also, Alameda County Flood Control v. Department of Water Resources, Antelope Valley-East Kern Water Agency* (2013) 213 Cal. App. 4th 1163. In approving the Burns-Porter Act, California's voters approved “an indebtedness in the amount necessary for building, operating, maintaining, and replacing the [State Water] Project, and they intended that the costs were to be met by payments from local agencies with water contracts. Further, the voters necessarily approved the use of local property taxes whenever the boards of directors of the agencies determined such use to be necessary to fund their water contract obligations” *Goodman*, 140 Cal.App.3d at 910. Thus, SWC obligations are voter-approved indebtedness that may be funded by override property taxes (taxes above the one percent general tax limit established by Article XIII A (Proposition 13) of the state constitution).

Most of the other state water contractors substantially rely on ad valorem property taxes to satisfy their SWC obligations. Metropolitan is unique in that it collects only a declining portion of the state general obligation bond debt service (the Burns-Porter bonds)—which is a small portion of its SWC payment obligation—through its ad valorem tax rate.

Continuing an Ad Valorem Property Tax Rate at the FY 2015/16 Rate is Essential to Fiscal Integrity

As noted above, Section 124.5 provides Metropolitan's Board with the flexibility to suspend the rate restriction "... if the board of directors of the district, following a hearing held to consider that issue, finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district" SB 1445 did not define "essential" or "fiscal integrity" but the full text of the provision, the legislative context, and the legislative history provide guidance to their intended meaning.

Fundamental to Metropolitan's fiscal health is consideration of current and anticipated SWC obligations and a balancing of proper mechanisms for funding immediate and anticipated obligations. SWC obligations have steadily increased since Section 124.5 was added to the MWD Act in ways that the Legislature did not anticipate, and those obligations are expected to continue to increase. Budgeted SWC costs are \$582 million in FY 2016/17 and \$599 million in FY 2017/18, comprise approximately 35 percent of Metropolitan's annual expenditures and are Metropolitan's single largest cost category. If ad valorem taxes are reduced, in FY 2016/17 the amount of property taxes available to satisfy SWC obligations will be approximately \$26.5 million and the proportion of SWC obligations that would be covered would be approximately 4.5 percent. By FY 2025/26, SWC obligations are expected to increase to \$1,131 million if the proposed California WaterFix is implemented. The amount of property taxes available to satisfy SWC obligations will be zero.

Ad valorem taxes are important to fiscal health because they help Metropolitan equitably distribute the costs of Metropolitan's services. As a wholesale water agency, Metropolitan's customers are its 26 member agencies. Each member agency pays volumetric rates based on the amount of water Metropolitan sells and delivers to it. In contrast, ad valorem taxes are levied directly on residents and businesses that are property owners within Metropolitan's service area. All property owners within Metropolitan's service area benefit from the water system that allows water to be sold and delivered in Southern California. Ad valorem taxes ensure that residences and businesses pay a share of costs of the system.

Similarly important to fiscal health is a diverse portfolio of revenue sources and, as only one of three fixed revenue sources, ad valorem taxes are fundamental to Metropolitan's diverse portfolio. Diverse revenues help maintain Metropolitan's strong credit ratings, which lower interest costs, increase access to credit markets allowing greater flexibility to respond to market changes, and increase the affordability of Metropolitan's services. The Board's willingness to make difficult rate decisions and follow through with planned financial actions demonstrates strong financial management. Metropolitan has adopted a set of financial policies, including revenue bond coverage and fixed charge coverage targets, capital paid for from revenues (Pay-As-You-Go, or PAYGo), and reserve policies that support Metropolitan's strong credit ratings. An important element of these financial policies is a diversity of revenue sources and fixed revenue sources.

A diverse portfolio of revenue sources also preserves equity across member agencies. Metropolitan ensures a reliable supplemental water supply to a broad service area. Although its member agencies rely on Metropolitan's supplemental supplies to varying degrees, the entire region and its substantial economy benefit from the availability of Metropolitan water. An agency that normally purchases small amounts of Metropolitan water may need to substantially increase its reliance on Metropolitan, such as in the event of a local source interruption or other emergency. A mix of fixed and volumetric revenues balances the burdens so that each member agency bears a fair share of costs.

Also important to fiscal health is a fair and appropriate balance between fixed costs and fixed revenues (revenues from charges such as property taxes and Metropolitan's standby and readiness-to-serve (RTS) charges and capacity charges that do not vary directly depending on the amount of water purchased and delivered). In FY 2016/17, approximately 80 percent of Metropolitan's budgeted costs are fixed, while approximately 17 percent of Metropolitan's budgeted revenues are from fixed sources. The ad valorem property tax contributes approximately 6 percent, or one-third of fixed revenues. By FY 2025/26, the RTS and capacity charges will contribute about 11 percent to Metropolitan's forecasted total revenues, but ad valorem taxes will be near zero. Absent maintenance of the tax rate or other changes, fixed revenues as a percentage of total revenues will decline from 17 percent to 11 percent.

An analysis of fiscal health and stability must consider long-term circumstances, and the full spectrum of facts and circumstances, including the appropriate mix of property taxes and water rates and charges that will best allow Metropolitan to satisfy the region's long-term water supply and delivery needs. Metropolitan's fixed costs, particularly fixed SWC obligations, are increasing—and increasing in ways unforeseen by the Legislature in 1984. Fixed revenue alternatives to the property tax are unavailable or impractical—another circumstance unforeseen by the Legislature in 1984. Metropolitan's long-term fiscal well-being in significant part turns on the balance between water rates, charges and property taxes. Suspension of the Section 124.5 restriction is necessary and appropriate to allow Metropolitan to maintain a critical fixed revenue source at a meaningful level. It is also essential to satisfy Metropolitan's SWC obligations, which will allow Metropolitan to ensure the region's water supply, delivery, and water quality for the long term.

Continuing the ad valorem property tax rate at the FY 2015/16 rate of .0035 percent would maintain a modest portion of Metropolitan's revenues, about 6 percent, on the tax roll. For example, a house with a \$400,000 assessed valuation in Metropolitan's service area currently pays about \$14 a year in taxes towards Metropolitan's costs. Importantly, maintaining the ad valorem tax revenues helps mitigate future rate increases that would be needed to make up for the loss of tax revenues. By helping mitigate future rate increases, this action provides Metropolitan's Board with flexibility as it considers funding for programs such as ongoing needed repair and replacement work; conservation, recycling and reclamation projects; groundwater clean-up efforts; environmental mitigation work; the impacts of climate change; and the many other costs associated with ensuring a safe and reliable supply of water for Southern California.

Policy

Metropolitan Water District Act Section 61: Ordinances, Resolutions and Orders

Metropolitan Water District Act Section 124.5: Ad Valorem Tax Limitation

Metropolitan Water District Act Section 130: General Powers to Provide Water Services

Metropolitan Water District Act Section 133: Fixing of Water Rates

Metropolitan Water District Act Section 134: Adequacy of Water Rates; Uniformity of Rates

Metropolitan Water District Act Section 134.5: Water Standby or Availability of Service Charge

Metropolitan Water District Administrative Code 4301(a): Cost of Service and Revenue Requirement

Metropolitan Water District Administrative Code Section 4304: Apportionment of Revenues and Setting of Water Rates

Metropolitan Water District Administrative Code Section 5107: Biennial Budget Process

Metropolitan Water District Administrative Code Section 5109: Capital Funding from Current Revenues

Metropolitan Water District Administrative Code Section 5200(b): Funds Established

Metropolitan Water District Administrative Code Section 5202(e): Fund Parameters (Water Rate Stabilization Fund)

California Environmental Quality Act (CEQA)

CEQA determination for Option #1, #2, and #3:

The proposed action is not defined as a project under CEQA because it involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not subject to CEQA because it involves other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is not defined as a project under CEQA and is not subject to CEQA pursuant to Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines.

Board Options

Option #1

Adopt the CEQA determination that the proposed action is not defined as a project under CEQA and is not subject to CEQA, and

- a. Approve the FY 2016/17 and FY 2017/18 biennial budget;
- b. Appropriate \$2,431.4 million for Metropolitan O&M and operating equipment, power costs on the Colorado River Aqueduct, SWP operations, maintenance, power and replacement costs and SWP capital charges; demand management programs including the local resources and conservation credits program; and costs associated with supply programs;
- c. Appropriate as a continuing appropriation, \$672.6 million for FY 2016/17 and FY 2017/18 debt service on Metropolitan general obligation and revenue bonds;
- d. Authorize the use of \$240 million in operating revenues to fund the Capital Investment Plan;
- e. Determine that the revenue requirements to be paid from rates and charges are \$1,575.0 million in FY 2016/17 and \$1,574.3 million in FY 2017/18;
- f. Approve water rates effective January 1, 2017, and January 1, 2018, as shown in Table 3, Option #1a above;
- g. Adopt the Resolution Fixing and Adopting Water Rates To Be Effective January 1, 2017 and 2018, in the form of [Attachment 4](#), using the rates shown in Section 1, Option #1a in the Resolution;
- h. Adopt the Resolution Fixing and Adopting A Readiness-To-Serve Charge Effective January 1, 2017, in the form of [Attachment 5](#), using the charge shown in Section 6 of the Resolution;
- i. Adopt the Resolution Fixing and Adopting A Capacity Charge Effective January 1, 2017, in the form of [Attachment 6](#), using the charge shown in Section 6 of the Resolution;
- j. Adopt the Resolution Fixing and Adopting A Treated Water Charge Effective January 1, 2017, in the form of [Attachment 7](#), using the charge shown under Option #1a in Section 6 of the Resolution;
- k. Approve the Ten-Year Financial Forecast, as shown in the Proposed Biennial Budget FY 2016/17 and FY 2017/18 in [Attachment 1](#);
- l. Adopt the Resolution Finding that Continuing an Ad Valorem Property Tax Rate at the Rate Levied for FY 2015/16 is Essential to the Fiscal Integrity of the District and Suspending the Ad Valorem Tax Rate Restriction for FY 2016/17 and FY 2017/18, in the form of [Attachment 8](#);
- m. Authorize establishment and use of the Exchange Agreement Set-Aside Fund as set forth in this letter; and
- n. Authorize use of unspent conservation funding, including extension of the Onsite Recycled Water Retrofit Program through the biennial budget period, as set forth in this letter.

Fiscal Impact: Fiscal Impact: Revenues from rates and charges of \$1,487.5 million in FY 2016/17, and \$1,548.1 million in FY 2017/18, and an increase in the overall effective rate of 4.0 percent in 2017 and 4.0 percent in 2017 if the rates and charges are adopted as recommended.

Option #2

Adopt the CEQA determination that the proposed action is not defined as a project under CEQA and is not subject to CEQA, and

- a. Approve the FY 2016/17 and FY 2017/18 biennial budget ;
- b. Appropriate \$2,431.4 million for Metropolitan O&M and operating equipment, power costs on the Colorado River Aqueduct, SWP operations, maintenance, power and replacement costs and SWP

- capital charges; demand management programs including the local resources and conservation credits program; and costs associated with supply programs;
- c. Appropriate as a continuing appropriation, \$672.6 million for FY 2016/17 and FY 2017/18 debt service on Metropolitan general obligation and revenue bonds;
 - d. Authorize the use of \$240 million in operating revenues to fund the Capital Investment Plan;
 - e. Determine that the revenue requirements to be paid from rates and charges are \$1,575.0 million in FY 2016/17 and \$1,574.3 million in FY 2017/18;
 - f. Approve water rates effective January 1, 2017, and January 1, 2018, as shown in Table 3, Option #1b above;
 - g. Adopt the Resolution Fixing and Adopting Water Rates To Be Effective January 1, 2017 and 2018, in the form of **Attachment 4**, using the rates shown in Section 1, Option #1b of the Resolution;
 - h. Adopt the Resolution Fixing and Adopting A Readiness-To-Serve Charge Effective January 1, 2017, in the form of **Attachment 5**, using the charge shown in Section 6 of the Resolution;
 - i. Adopt the Resolution Fixing and Adopting a Capacity Charge Effective January 1, 2017, in the form of **Attachment 6**, using the charge shown in Section 6 of the Resolution;
 - j. Adopt the Resolution Fixing and Adopting A Treated Water Charge Effective January 1, 2017, in the form of **Attachment 7**, using the charge shown under Option #1b in Section 6 of the Resolution;
 - k. Approve the Ten-Year Financial Forecast, as shown in the Proposed Biennial Budget FY 2016/17 and FY 2017/18 in **Attachment 1**;
 - l. Adopt the Resolution Finding that Continuing an Ad Valorem Property Tax Rate at the Rate Levied for FY 2015/16 is Essential to the Fiscal Integrity of the District and Suspending the Ad Valorem Tax Rate Restriction for FY 2016/17 and FY 2017/18, in the form of **Attachment 8**;
 - m. Authorize establishment and use of the Exchange Agreement Set-Aside Fund as set forth in this letter; and
 - n. Authorize use of unspent conservation funding, including extension of the Onsite Recycled Water Retrofit Program through the biennial budget period, as set forth in this letter.

Fiscal Impact: Revenues from rates and charges of \$1,487.5 million in FY 2016/17, and \$1,548.1 million in FY 2017/18, and an increase in the overall effective rate of 4.0 percent in 2017 and 4.0 percent in 2017 if the rates and charges are adopted as recommended.

Option #3

Adopt the CEQA determination that the proposed action is not defined as a project under CEQA and is not subject to CEQA, and

- a. Approve the FY 2016/17 and FY 2017/18 biennial budget and;
- b. Appropriate \$2,431.4 million for Metropolitan O&M and operating equipment, power costs on the Colorado River Aqueduct, SWP operations, maintenance, power and replacement costs and SWP capital charges; demand management programs including the local resources and conservation credits program; and costs associated with supply programs;
- c. Appropriate as a continuing appropriation, \$672.6 million for FY 2016/17 and FY 2017/18 debt service on Metropolitan general obligation and revenue bonds;
- d. Authorize the use of \$240 million in operating revenues to fund the Capital Investment Plan;
- e. Determine that the revenue requirements to be paid from rates and charges are \$1,575.0 million in FY 2016/17 and \$1,574.3 million in FY 2017/18;
- f. Approve water rates effective January 1, 2017, and January 1, 2018, as shown in Table 3, Option #2 above;
- g. Adopt the Resolution Fixing and Adopting Water Rates To Be Effective January 1, 2017 and 2018, in the form of **Attachment 4**, using the rates shown in Section 1, Option #2 in the Resolution;
- h. Adopt the Resolution Fixing and Adopting A Readiness-To-Serve Charge Effective January 1, 2017, in the form of **Attachment 5**, using the charge shown in Section 6 of the Resolution;
- i. Adopt the Resolution Fixing and Adopting A Capacity Charge Effective January 1, 2017, in the form of **Attachment 6**, using the charge shown in Section 6 of the Resolution;
- j. Approve the Ten-Year Financial Forecast, as shown in the Proposed Biennial Budget FY 2016/17 and FY 2017/18 in **Attachment 1**;

- k. Adopt the Resolution Finding that Continuing an Ad Valorem Property Tax Rate at the Rate Levied for FY 2015/16 is Essential to the Fiscal Integrity of the District and Suspending the Ad Valorem Tax Rate Restriction for FY 2016/17 and FY 2017/18, in the form of **Attachment 8**;
- l. Authorize establishment and use of the Exchange Agreement Set-Aside Fund as set forth in this letter; and
- m. Authorize use of unspent conservation funding, including the extension of the Onsite Recycled Water Retrofit Program through the biennial budget period, as set forth in this letter.

Fiscal Impact: Revenues from rates and charges of \$1,487.5 million in FY 2016/17, and \$1,548.1 million in FY 2017/18, and an increase in the overall effective rate of 4.0 percent in 2017 and 4.0 percent in 2017 if the rates and charges are adopted as recommended.

Option #4

Do not adopt the CEQA determination, and do not adopt the proposed biennial budget and rates and charges; provide staff direction and waive Administrative Code Section 4304.

Staff Recommendation

Option #1


 _____ 3/30/2016
 Gary Breaux Date
 Assistant General Manager/Chief Financial Officer


 _____ 3/30/2016
 Jeffrey Kightlinger Date
 General Manager

- Attachment 1 – Proposed Biennial Budget FY 2016/17 and FY 2017/18 (including Ten-Year Financial Forecast and Capital Investment Plan)**
- Attachment 2 – Public Hearing Comments**
- Attachment 3 – Metropolitan Water District of Southern California, Fiscal Years 2016/17 and 2017/18 Cost of Service for Proposed Water Rates and Charges**
- Attachment 4 – Resolution Fixing and Adopting Water Rates to be Effective January 1, 2017 and 2018**
- Attachment 5 – Resolution Fixing and Adopting A Readiness-To-Serve Charge Effective January 1, 2017**
- Attachment 6 – Resolution Fixing and Adopting A Capacity Charge Effective January 1, 2017**
- Attachment 7 – Resolution Fixing and Adopting A Treated Water Charge Effective January 1, 2017**
- Attachment 8 – Resolution Finding that Continuing an Ad Valorem Property Tax Rate at the Rate Levied for Fiscal Year 2015/16 is Essential to the Fiscal Integrity of the District and Suspending the Ad Valorem Tax Rate Restriction for Fiscal Years 2016/17 and 2017/18**



PROPOSED BIENNIAL BUDGET

Fiscal Years 2016/17 and 2017/18

Realizing the Benefit of Sound Investments

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GENERAL MANAGER'S TRANSMITTAL LETTER

To be provided in adopted budget document

(Pages 1 thru 6)

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DISTRICT OVERVIEW

District Profile

The Metropolitan Water District of Southern California (Metropolitan) is a metropolitan water district created in 1928 under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (the Act)). Metropolitan has 26 member public agencies and its primary purpose is to provide its members with a supplemental wholesale water supply service for domestic and municipal uses. Metropolitan may develop, store, and distribute water for domestic and municipal purposes, and other beneficial uses if excess water is available, and may provide, generate, and deliver electric power within or without the state for the purpose of developing, storing, and distributing water.

Metropolitan is governed by a 38-member board of directors representing the 26 member agencies. Metropolitan directors are selected by their respective member agencies and some also serve on the governing body of that particular member agency. All powers, privileges and duties vested in or imposed upon Metropolitan are exercised and performed by and through its Board of Directors. Board and committee meetings are open to the public and are broadcast on the Internet through Metropolitan's website, www.mwdh2o.com. A schedule of board and committee meetings is available on the Web.

To supply Southern California with reliable and safe water, Metropolitan imports water from the Colorado River and Northern California to supplement local supplies, and helps its member agencies develop increased water conservation, recycling, storage and other local resource programs. Metropolitan was established to obtain an allotment of Colorado River water and to construct and operate the 242-mile Colorado River Aqueduct (CRA), which runs from an intake at Lake Havasu on the California-Arizona border, to an endpoint at Metropolitan's Lake Mathews reservoir in Riverside County. Metropolitan owns and operates an extensive range of capital facilities including the CRA, 16 hydroelectric facilities, nine reservoirs, 830 miles of large-scale pipes, and five water treatment plants. Four of these treatment plants are among the 10 largest plants in the nation. In fact, Metropolitan is the largest distributor of treated drinking water in the United States.

In 1960, Metropolitan, along with 30 other public agencies, signed a long-term contract with the state for supply and transportation of water from the State Water Project (SWP). The SWP is the largest state-built, user-financed water project in the country. Its facilities were constructed with several general types of financing, the repayment of which is made by the 29 agencies and districts that have long-term contracts with the state (the State Water Contractors). The State Water Contractors also pay for the operations, maintenance, power, and replacement costs of the SWP, as the State Water Contracts are the basis for all SWP construction and ongoing operations. As the largest of the now 29 contractors, Metropolitan contracts with the state Department of Water Resources (DWR), which operates the SWP, for slightly less than half of all SWP supplies. Water supplies from the SWP are conveyed to Metropolitan via the SWP's 444-mile California Aqueduct, which was made possible pursuant to Metropolitan's State Water Contract; the SWP serves urban and agricultural agencies from the San Francisco Bay area to Southern California.

To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer arrangements within and outside of its service area. Metropolitan also provides financial incentives to its member agencies for local investments in water management projects and programs. An increasing percentage of Southern California's water supply comes from these local resources, including conservation, water recycling and recovered groundwater.

To pay for its costs, the Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose charges for water standby and service availability; incur general obligation bonded indebtedness and issue revenue bonds, notes and short-term revenue certificates; execute contracts; and exercise the power of eminent domain for the purpose of acquiring property. In addition, Metropolitan's Board is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan's service area.

Mission

The mission of Metropolitan is to provide its 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Periodically the Board has reviewed its policies and mission to ensure they fit with the times. In FY 2016/17, the General Manager intends to embark on a strategic review of Metropolitan's Mission and Programs.

Core Values

Metropolitan's core values include the following:

- Integrity
- Stewardship
- Diversity
- Open Communication
- Leadership
- Teamwork

Metropolitan Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies.

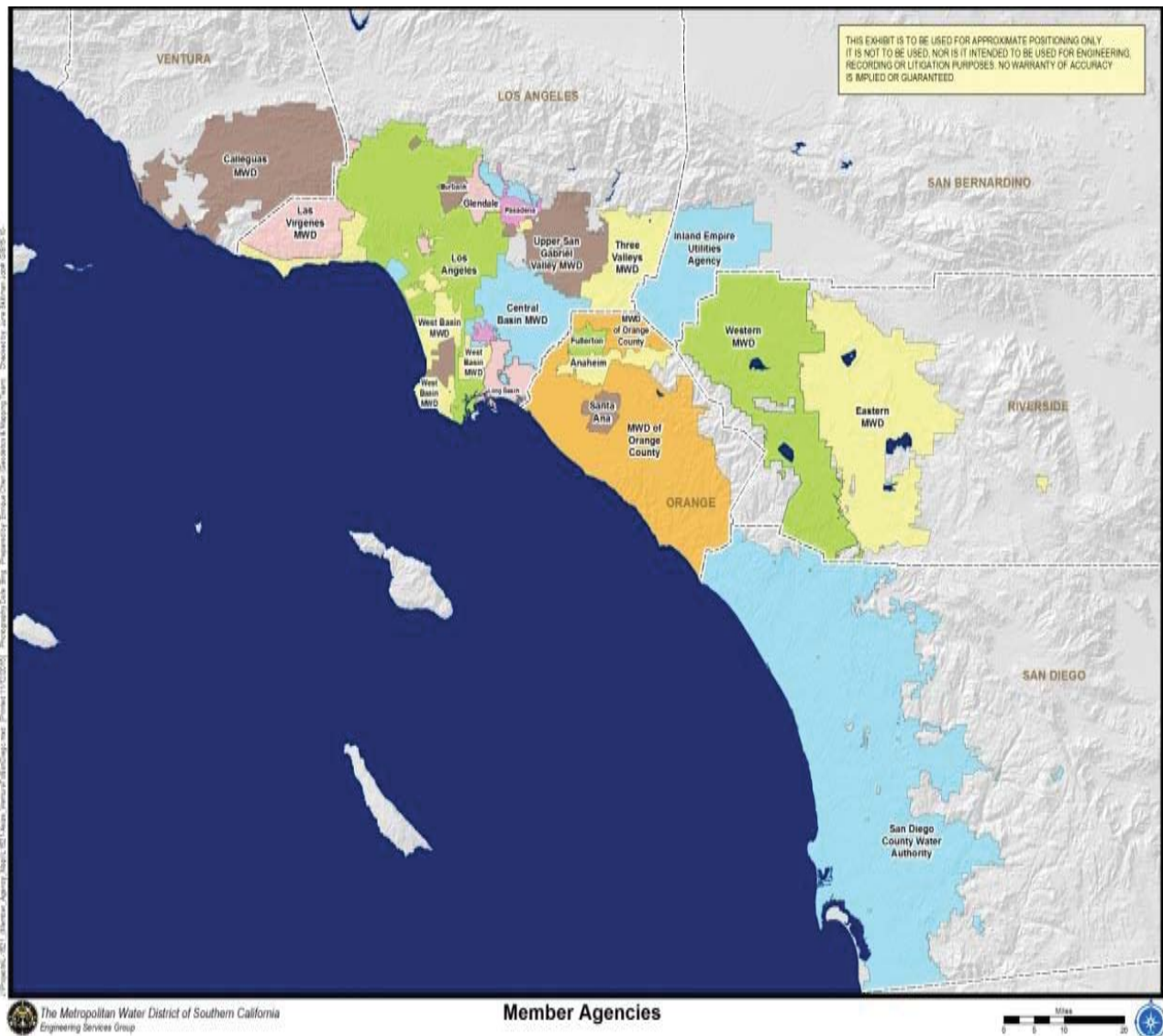
Metropolitan estimates that approximately 18.5 million people lived in Metropolitan's service area in 2014, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Population projections prepared by SCAG in 2012 and SANDAG in 2010, as part of their planning process to update regional transportation and land use plans, show expected population growth of about 18 percent in Metropolitan's service area between 2010 and 2035. The 2010 Census population estimates are incorporated into SCAG's 2012 projections. The 2010 SANDAG regional growth projections do not incorporate the 2010 Census population estimates. The economy of Metropolitan's service area is exceptionally diverse. In 2014, the economy of the six counties which contain Metropolitan's service area had a gross domestic product larger than all but fifteen nations of the world. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area.

The climate in Metropolitan’s service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year has historically been approximately 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

Service Area Map

The map below shows the area served by Metropolitan. It includes parts of six of the ten counties that comprise Southern California. The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California.

The economy of the area served by Metropolitan is generally described in terms of data for the six-county area (Six County Area) consisting of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Although these counties comprise Metropolitan’s service area, Metropolitan’s territory does not encompass all of the area within each of the six counties. In 2014, the economy of the Six County Area was larger than all but fifteen nations of the world. The Six County Area economy ranked between Mexico (\$1.28 trillion) and Indonesia (\$888 billion), with an estimated gross domestic product (GDP) of just over \$1.25 trillion. The Six County Area’s gross domestic product in 2014 was larger than all states except California, Texas, and New York.



Summary of Recent Trends and Outlook for the Six County Area Economy

The national economy has expanded since 2009 although at growth rates below the historical average for economic recoveries. Private sector nonfarm wage and salary job levels in August 2015 were nearly 4.3 million above the pre-recession peak level, including a gain of over 850,000 manufacturing jobs and 734,000 construction jobs since the recession low. The unemployment rate in the nation has declined from near 9.8% in November 2010 to 5.1% in August 2015.

Housing starts and new permits have rebounded as the number of foreclosures has declined and housing prices have risen in most parts of the country, although the pace of housing recovery has slowed in recent months. Consumer price increases remain well below 2% annually aided by the decline in oil prices.

The Six County Area has regained all the jobs lost during the recession and more. Revised job estimates released in March 2015 show that job gains in 2013 and 2014 were much larger than previously reported and higher than the national growth rate. Year-over-year job gains continued in 2015 and between August 2014 and August 2015 job growth for the entire Six County Area was 214,200 jobs or a gain of 2.5% compared to a 2.1% increase in jobs for the nation.

Unemployment rates in the Six County Area have declined sharply between 2010 and August 2015. In August 2015 unemployment rates ranged from a low of 5.1% in Orange County to a high of 7.0% in Riverside and Los Angeles counties. Income, taxable sales, assessed valuation and housing prices rose in 2013 and 2014. Residential building permits rebounded in 2013 and 2014 and were up 22% for the first seven months of 2015. Nonresidential permit levels reached a record \$12.3 billion in 2014 and were down 5% in the first seven months of 2015.

The Six County Area is experiencing growth in both domestic and foreign visitors. Hotel rates and occupancy are increasing in the Six County Area and the same is true for employment in the hotel and amusement park sectors. In 2014 Los Angeles County set tourism records in visitors (44.2 million), hotel occupancy rates (78.9%) and average daily rate (\$147.30). Foreign travel to the region is outpacing domestic travel with large gains in visitors from China of +20.4% in 2014 to 686,000 visitors. Air passenger travel in the Six County Area reached a record level in 2014 and was up again in 2015.

Population growth in the Six County Area since 2010 has exceeded the national average according to both the California Department of Finance ("DOF") estimates and those published by the Census Bureau. However, population growth in California and the Six County Area has been slowing since 2000 compared with previous decades. The Six County Area added an average of 230,000 residents per year between 2000 and 2005 but only an additional 154,000 residents per year in the next nine years although gains in the past three years have averaged 190,000 residents per year.

Long-term job growth is driven by the Six County Area's economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by the Center for Continuing Study of the California Economy (CCSCE), the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG) report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Tourism and Entertainment and Health Care.

The recent growth in taxable sales, assessed valuation and hotel occupancy in the Six County Area has led to higher revenue growth for cities and counties and allowed them to rehire some of the local government and school employees who were laid off during the recession.

For selected demographic and economic information for Metropolitan's service area or the Six County Area, please refer to the appendix which includes information on:

- Job growth trends
- Construction activity
- Housing trends
- Assessed valuation
- International Trade
- Income & Wages
- Population
- Economic structure and long term prospects

Strategic Plan Summary

The General Manager submits to the Board of Directors a business plan containing the General Manager's key priorities for the coming year for review and approval.

Five strategic priorities support Metropolitan's mission for fiscal years 2016/17 and 2017/18:

Strategic Priority #1: Complete the Bay Delta Conservation Plan/California WaterFix Environmental Impact Report/Statement.

Strategic Priority #2: Develop Water Supplies and Manage Water Reserves.

Strategic Priority #3: Embark on Strategic Review of Metropolitan's Mission and Programs.

Strategic Priority #4: Educate the Public and Stakeholders on Critical Water Supply Conditions and Critical Water Management Decisions.

Strategic Priority #5: Employee Development

For more detail on the GM's strategic priorities, please refer to the Office of the General Manager budget.

The General Counsel, General Auditor and Ethics Officer also submit to the Board of Directors a business plan containing their department's key priorities for the coming year for review and approval.

The groups within the General Manager department submit their business plans to the General Manager annually for review and approval. These business plans include a group mission statement and Objectives and Actions to support the relevant General Manager's strategic priorities.

Performance Indicators

Metropolitan has developed a series of performance measures that are used to measure and maintain mission-critical processes as well as support internal decision making. These includes financial, water quality, human resource, legislative, outreach, etc. measures which are closely aligned with Metropolitan's business plans, key priorities and objectives.

Please see the Operating Expenditures section for Metropolitan's performance measures including fiscal year results and targets.

Organization Structure

Member Agencies

The following table lists the 26 member agencies of Metropolitan which include 11 municipal water districts, 14 cities and one county water authority.

Municipal Water Districts	Cities	County Water Authority
Calleguas	Anaheim	San Diego
Central Basin	Beverly Hills	
Eastern	Burbank	
Foothill	Compton	
Inland Empire Utilities Agency	Fullerton	
Upper San Gabriel Valley	Glendale	
Western of Riverside County	Long Beach	
Las Virgenes	Los Angeles	
Orange County	Pasadena	
Three Valleys	San Fernando	
West Basin	San Marino	
	Santa Ana	
	Santa Monica	
	Torrance	

Board of Directors

Metropolitan is governed by a 38-member Board of Directors. Each member public agency is entitled to have at least one representative on the Board, plus an additional representative for each full five percent of the total assessed valuation of property in Metropolitan’s service area that is within the member public agency. Changes in relative assessed valuation do not terminate any director’s term. Accordingly, the Board may, from time to time, have more than 38 directors.

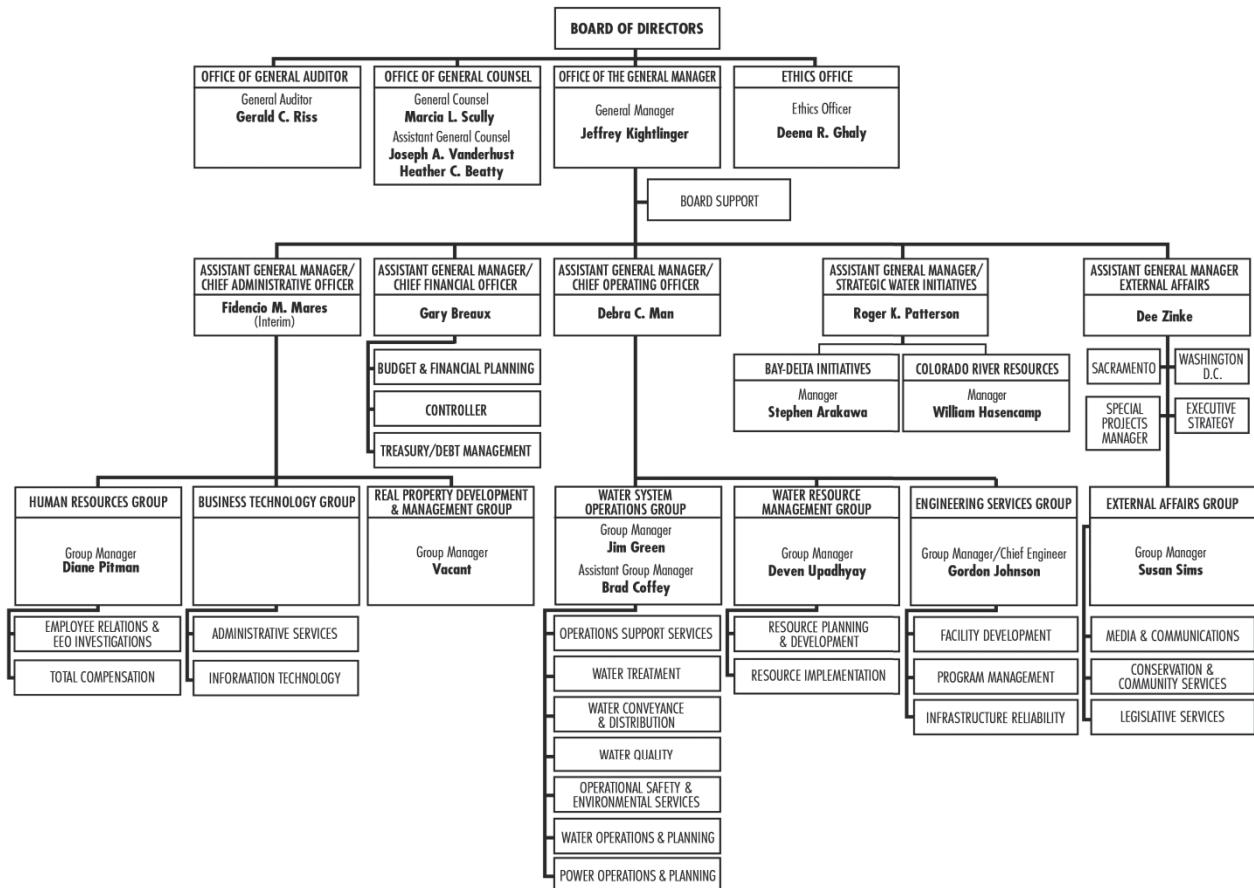
The Board includes business, professional and civic leaders. Directors serve on the Board without compensation from Metropolitan. Voting is based on assessed valuation, with each member agency being entitled to cast one vote for each \$10 million or major fractional part of \$10 million of assessed valuation of property within the member agency, as shown by the assessment records of the county in which the member agency is located. The Board administers its policies through the Metropolitan Water District Administrative Code (the “Administrative Code”), which was adopted by the Board in 1977. The Administrative Code is periodically amended to reflect new policies or changes in existing policies that occur from time to time.

Metropolitan’s day-to-day management is under the direction of its General Manager, who serves at the pleasure of the Board, as do Metropolitan’s General Counsel, General Auditor, and Ethics Officer.

Organization Chart

A larger version is provided on the inside back cover of the biennial budget book.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



As of March 2, 2016

Metropolitan Senior Management

Jeffrey Kightlinger	General Manager
Marcia Scully	General Counsel
Gerald Riss	General Auditor
Deena Ghaly	Ethics Officer
Gary Breaux	Assistant General Manager/Chief Financial Officer
Debra Man	Assistant General Manager/Chief Operating Officer
Fidencio Mares	Interim Assistant General Manager / Chief Administrative Officer
Roger Patterson	Assistant General Manager/Strategic Water Initiatives
Dee Zinke	Assistant General Manager/External Affairs
Dawn Chin	Board Executive Secretary

Workforce

Metropolitan employs approximately 1,840 people. Most are represented by the American Federation of State, County and Municipal Employees (AFSCME), Local 1902; the Management and Professional Employees Association (MAPA), Local 1001; the Supervisors Association; and the Association of Confidential Employees (ACE). The four bargaining units represent approximately 99 percent of Metropolitan's employees. The remaining one percent is unrepresented.

Offices

Metropolitan's headquarters are located at 700 N. Alameda St., Los Angeles, California 90012. Metropolitan has legislative offices in Sacramento and Washington D.C.



Financial Organization

Fund Structure and Descriptions (from Metropolitan's Administrative Code)

To provide for accountability of public moneys in accordance with applicable federal and state law and regulations and Board policies, the following funds active or prospectively active have been established in the Treasury of the District:

- **General Fund** (Fund No. 1001, established 1929).
 - Moneys not specifically allocated or appropriated may be placed in this fund and used for general purposes of the District.
 - Expenditures for reimbursable work and water conservation capital and indirect costs under the contract with Imperial Irrigation District are paid from this fund.
- **Replacement and Refurbishment Fund** (Fund No. 5001, established 1988).
 - Used to finance certain capital program expenditures from current revenues in accordance with Section 5109, subject to the conditions contained in Section 5202(b).
- **State Contract Fund** (Fund No. 5701, established 1960).
 - Used for the payment of capital charges under the State Water Contract, including the capital charges for off-aqueduct power facilities, subject to the conditions contained in Section 5201(d).
- **Special Tax Fund** (Fund No. 5702, established 1951).
 - Annexation fees (cash payments and special tax collections) are deposited in this fund and transferred to the State Contract Fund to pay a portion of State Water Contract capital charges.
- **Water Revenue Fund** (Fund No. 1002, established 1975).
 - Receipts from water sales are deposited in this fund and are transferred to various other funds in accordance with revenue bond covenants and Board resolutions to pay in order of priority:
 1. Operation and maintenance expenditures;
 2. Principal of, premium, if any, and interest on the Prior Lien Waterworks Revenue Bonds and any required deposits into any reserve funds or accounts therefore;
 3. The interest on and bond obligation of Subordinate Lien Water Revenue Bonds and Parity Obligations issued pursuant to Master Resolution 8329 (the Master Resolution) adopted by the Board on July 9, 1991 and any Supplemental Resolutions thereto;
 4. All other payments required for compliance with the Master Resolution, and any Supplemental Resolutions;
 5. Principal of and interest on Commercial Paper Notes and other amounts due a provider of a liquidity facility;

6. Deposits into the Water Standby Charge Fund in accordance with resolutions imposing such charges; and
 7. Any other obligations which are charges, liens, or encumbrances upon or payable from net operating revenues.
- Moneys remaining at the end of each month, after the foregoing transfers, are transferred to the Revenue Remainder Fund.
 - **Operation and Maintenance Fund** (Fund No. 1003, established 1975).
 - Used to pay all operation and maintenance expenditures, including State Water Contract operation, maintenance, power and replacement charges, subject to the conditions contained in Section 5201(f).
 - **Revenue Remainder Fund** (Fund No. 1004, established 1975).
 - Used to maintain working capital and may be used for any lawful purpose by the District, subject to the conditions contained in Section 5202.
 - **Water Rate Stabilization Fund** (Fund No. 5501, established 1987).
 - Used to reduce future water revenue requirements or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.
 - **Water Treatment Surcharge Stabilization Fund** (Fund No. 5502, established 1988).
 - Used to mitigate required increases in the surcharge for water treatment or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.
 - **Revolving Construction Fund** (Fund No. 5003, established 1988).
 - Capital expenditures made from this fund are to be reimbursed from proceeds of security sales to the extent such expenditures are authorized uses of debt proceeds under the Act, subject to the conditions and restrictions contained in Section 5201(g).
 - **Employee Deferred Compensation Fund** (Fund No. 6003, established 1976).
 - Compensation deferred by employees under Section 457 of the Internal Revenue Code of 1986, as amended, is deposited in this fund and is withdrawn in accordance with Articles 2 and 3 of Chapter 7 of Division VI of this Administrative Code.
 - **Iron Mountain Landfill Closure/Postclosure Maintenance Trust Fund** (Fund No. 6005, established 1990).
 - Used as a trust fund to maintain moneys sufficient to cover the costs of closure and postclosure maintenance of the District's solid waste landfill facility at Iron Mountain, in accordance with regulations of the California Integrated Waste Management Board, and subject to the conditions contained in Section 5201(l).
 - **Water Standby Charge Fund** (Fund No. 1005, established 1992).
 - Used to separately hold revenues attributable to water standby charges; amounts deposited in this fund are used exclusively for the purpose for which the water standby charge was authorized.

- **Water Transfer Fund** (Fund No. 1007, established 1995).
 - Used for moneys set aside for the purchase of water through transfers or similar arrangements, and for the costs of filling the Eastside Reservoir Project.
- **Self-Insured Retention Fund** (Fund No. 1008, established 1999).
 - Used to separately hold amounts set aside for emergency repairs and claims against the District as provided in Section 5201(o).
- **Lake Matthews Multi Species Reserve Trust Fund** (Fund 6101, established 1997.)
 - Used as set forth in agreement between Metropolitan and the Riverside County Habitat Conservation Agency for the Multi Species Reserve.
- **Other Funds to be established for bond issues, notes or other obligations of the District**
 - There shall be established in the Treasury of the District such funds and accounts as are required pursuant to bond covenants, tax and non-arbitrage certificates, bond counsel letters of instruction and related documents, to provide for accountability of District funds and compliance with applicable federal and state law and regulations. Such funds and accounts shall be established for each issue of bonds, notes or other obligations of the District as required in the respective bond or note resolution and closing documents.
- **Water Stewardship Fund** (Fund No. 1009 established 2005).
 - Used to collect revenue from the Water Stewardship Rate and to pay costs associated with water recycling, seawater desalination, conservation, brackish water desalination, or other demand management programs. These funds can also be used to fund administrative costs associated with these programs. Funds may be used as directed by the Board, for other lawful purposes, in accordance with Section 5201(p) and Section 5202(d).

Financial Reporting

Metropolitan prepares its financial reports in conformity with generally accepted accounting principles (GAAP). The Office of the Chief Financial Officer prepares, at the conclusion of each fiscal year, the Comprehensive Annual Financial Report (CAFR) in compliance with principles and standards for financial reporting set forth by the Governmental Accounting Standards Board (GASB).

Budgetary and Accounting Basis

The budget is developed and monitored on a modified accrual basis. This means that revenues and expenses are recognized in the period they are earned and incurred regardless of whether cash has been received or disbursed. Differences between the basis of budgeting and the financial statements are minimal. Depreciation and amortization will not be recorded and payments of debt service will be recorded when due and payable. The modified-accrual basis of accounting provides a better match of revenues and expenses for budgeting and reporting.

Financial Planning

In conjunction with the development of the biennial budget, Metropolitan prepares a ten year financial forecast. The ten-year plan supports long range resource, capital investment and operational planning. It includes a forecast of future costs and the revenues necessary to support operations and investments in

infrastructure and resources that are derived from the most recent Integrated Resources Plan and other planning processes.

To support Metropolitan's biennial budget, ten-year forecast, and financial planning, revenue requirements are evaluated to determine the level of rate adjustments required for the upcoming budget year. To the extent possible, increases in rates are adjusted to avoid large fluctuations.

Financial, Administrative and Operating Policies

Metropolitan establishes policies and resolutions to comply with the stipulations set forth in the Metropolitan Water District Act and Administrative Code.

The following policies are included in the appendices as a reference:

- §. 5107. Biennial Budget Process.
- §. 5200. Funds Established.
- §. 5201. Restricted Funds.
- §. 5202. Fund Parameters.
- §. 5203. Indirect Credit of District
- §. 5204. Compliance with Fund Requirements and Bond Indenture Provisions
- §. 5101. Investment of Surplus Funds.
- Operating policy F-01. Operating, Expensed and Capital Equipment
- Operating policy F-07. Capitalization & Retirement of Plant Assets
- Statement of Investment Policy

§. 5107. **Biennial Budget Process** sets forth the process, requirements and timeline in which the biennial budget must be submitted to and adopted by the Board.

§. 5200. **Funds Established** sets forth the active or prospectively active funds that have been established in the Treasury of the District.

§. 5201. **Restricted Funds** sets forth the conditions under which cash and securities are held in the various ledger funds.

§. 5202. **Fund Parameters** sets forth the parameters for the minimum cash and securities to be held in the various ledger funds as of June 30 of each year.

§. 5203. **Indirect Credit of District** gives the Chief Executive Officer authority to negotiate with the Department of Water Resources on the basis of using the indirect credit of the District to finance State Revenue Bonds.

§. 5204. **Compliance with Fund Requirements and Bond Indenture Provisions** sets forth the conditions under which the Chief Executive Officer assures annual compliance with minimum fund requirements and with the provisions of the covenants for all outstanding District bond issues during the preceding fiscal year.

§. 5101. **Investment of Surplus Funds** delegates to the Treasurer of the District the authority to invest or to reinvest funds of the District subject to the terms and conditions set forth in Section 5101.

Operating policy F-01. Operating, Expensed and Capital Equipment governs the purchase, assignment, tracking, maintenance and retirement of operating, expensed and capital equipment.

Operating Policy F-07. Capitalization & Retirement of Plant Assets establishes the policies governing the capitalization and retirement of plant assets. .

Statement of Investment Policy. Per Section 5114 of the Administrative Code, the Treasurer is required to render a Statement of Investment Policy for the following fiscal year for approval by the Board and to obtain the Board's annual delegation of authority to the Treasurer to make investments on behalf of Metropolitan.

Budget Process

The budget process provides an opportunity to align shorter-term Objectives and Actions in the department and group level business plans to Metropolitan's longer-term Mission, Values, and Strategic Priorities and the needs of our member agencies. Each even numbered year, under the direction of the General Manager, a biennial budget is prepared for Metropolitan operations covering the following two fiscal years. The Board does have the opportunity to amend the budget as it sees fit to changing fiscal and climatic changes.

The budget is presented to the Board for consideration and adoption in April in order to align it with the adoption of water rates also approved in April. This permits incorporation of approved O&M budget expenditures into the Revenue Requirements process, which facilitates the setting of water rates. The Board and member agencies conduct extensive reviews of and provide significant input to the budget over three months from January to April. This year's budget review process included board workshops on February 8, February 23, March 7 and March 21, a public hearing on March 8, and several other presentations and caucuses with member agencies, with final approval occurring at the April 12 Board meeting.

The O&M budget is presented in an organizational format and is described in terms of its scope of work, personnel requirements, and allocation by expense category. The budget serves to identify the resource requirements for the actions and tasks each group will engage in to support the General Manager's Business Plan. The overall emphasis, consistent with Metropolitan's mission, has been on providing high quality and reliable water supplies at a fair and competitive price and in an environmental and economically responsible way.

Balanced Budget

Metropolitan considers the budget to be balanced when the sources of funds equals the uses of funds. That is, budgeted operating revenues, and on occasion the use of water rate stabilization funds, are equal to or greater than budgeted operating expenditures including debt service and ending fund balances meet minimum policy levels. Rates and charges are set to ensure that revenues are sufficient to recover the total cash needs in a given fiscal year.

Budget Calendar

Due Date	Activity
July - November	Identification of major maintenance and capital projects and CIP Evaluation Team review of new and continuing projects.
August - October	Budget instructions issued to all groups. Personnel complements are developed including full-time, part-time, temporary, and overtime estimates. Group managers begin proposed budget presentations to senior management.
November	CIP Evaluation Team completes review of project proposals for the CIP. O&M budgets, CIP estimates, and operating equipment budgets are developed. Senior management reviews and makes final recommendations on group budgets.
December	Group budgets are revised as necessary. Proposed budget is finalized and materials and presentations are developed for presentation to the Board of Directors.
January-March	Proposed budget is presented to the Board of Directors and member agency managers. Proposed group and department budgets are presented to the relevant Board committees. Proposed annual budget workshops are conducted with the full Board and budget estimates are revised as necessary.
April	Business and Finance Committee recommends action on the annual budget. Board of Directors takes action on adoption of the annual budget.

Starting in the summer, the groups identify needed major maintenance and new capital projects and develop cost estimates. In August, the budget guidelines and a calendar of budget process deadlines are issued to group, assistant group, and section managers by Budget and Financial Planning staff outlining major budget priorities consistent with the General Manager's Business Plan, staffing and operational objectives.

The development phase begins with overall program formulation and identification of individual projects, staffing, and equipment needs. Personnel budgets, including requests for temporary and part-time help, are then prepared and professional services requirements are identified. All requests for personnel, equipment purchases, and projects must be submitted with formal justifications, which address a standard set of questions developed by Budget and Financial Planning staff.

Each organization is required to identify the extent to which its proposed budget supports the General Manager's strategic priorities as outlined in the Business Plan. This information is later used to update the Business Plan in the late spring in an iterative process.

The procedures for preparation of each element of the budget are outlined below.

Labor and Professional Services Budget

The labor budget consists of regular full-time payroll, overtime, premium pay, and part-time and temporary employees. The professional services budget consists of planned payments to outside consultants for specialized skills. Personnel complements reflect the staffing of on-going work with regular employees rather than temporary employees or consultants. In addition, each group provides detailed information on consultant, overtime, and temporary employee usage. This enables senior management to examine the level and types of resources being committed to the business plan strategic priorities and make appropriate determinations for the allocation of labor resources.

Adjustments to the proposed budget are made following the review by senior management and the General Manager.

Equipment Budgets

Operating equipment is any equipment, machine, vehicle, tool, or other item that is portable, costs more than \$5,000, and has an anticipated useful life of at least five years. Expensed equipment is similar to operating equipment except that it costs less than \$5,000. All operating equipment is tracked while the tracking of expensed equipment is required for only certain classes of equipment (e.g., workstation/laptop computers, communications equipment, etc.).

The justification for equipment requests includes a description of the item, where it will be used, what it will be used for, and whether or not the item is new or a replacement. If the item is a replacement, the frequency of downtime and cost of repair of the old item versus purchasing a new one must be provided. If the item is required equipment for expanded functions or additional personnel, this must also be explained. A cost/benefit analysis is performed for equipment costing more than \$40,000.

Depending on the nature of the equipment, the requests may be evaluated by several groups. For example, each group manager and the fleet equipment coordinator review vehicle requests.

Finance Department Responsibilities

Treasury and Debt Management

- Recommend procedures for revenue collection, payment of approved demands, reporting and other actions associated with the prudent management of Metropolitan's financial resources.
- Provide for the issuance of debt to fund the capital improvement program.

Controller and Accounting Operations

- Prepare monthly expenditure and revenue reports.
- Prepare periodic reports on the status of expenditures, revenues, investments and actions taken to ensure the financial stability of Metropolitan.
- Prepare and present information on financial trends to facilitate evaluation of Metropolitan's financial position and identify conditions requiring management attention.

Budget and Financial Planning

- Support the development of the Strategic Plan that includes projections of short range and long range financial needs, and recommend methods for meeting those needs.
- Support the development of annual water rates and charges, Metropolitan's biennial operating and capital improvement program budget and ten year financial forecast.
- Prepare Metropolitan's proposed biennial operating budget and budget documents.
- Prepare budget performance reports on a monthly, quarterly, semi-annual and annual basis.
- Develop procedures and controls to monitor and assure compliance with the budget.
- Assist departments throughout the year with their budgets and financial issues.

- Prepare financial projections, schedules of rates and charges, tax rate proposals and other financial materials.

Other Department Responsibilities

Engineering

- Prepare Metropolitan's capital improvement program budgets and CIP budget document.

General Manager Responsibilities

- Review and present to the Board of Directors long range plans, budgets and revisions, schedules of rates and charges, payments of financial demands and other financial transactions, as necessary.
- Prepare annual business plan containing General Manager's key priorities for the coming year.
- Implement emergency financial procedures within approved limits, when necessary.

Budgetary Controls

Budget requests are evaluated at several management levels. Managers and staff review budget requests during each phase of the budget process. Each request for a new project, additional personnel, or piece of operating equipment is scrutinized by each group and further reviewed by Budget and Financial Planning staff during the budget process.

All budget submittals are reviewed collectively by the group and section managers. Only those items that are deemed appropriate to support the initiatives of the General Manager's Business Plan are included in the budget recommendation.

Once the budget is completed, the expenditures for each group are monitored on a monthly basis to ensure that the groups do not exceed the authorized operating budget for the fiscal year or biennial period, unless approved by the General Manager

Budget Adjustments

The budget may be amended outside of the normal budget cycle when overall expenditures are anticipated to significantly exceed estimates. A report outlining the reasons for increasing the budget appropriation is prepared and submitted to the Board of Directors for consideration. The Board of Directors must approve any increases in the overall budget appropriations.

Capital Investment Plan (CIP)

The Capital Investment Plan (CIP) communicates the capital priorities of Metropolitan for the next two fiscal years. Within the ten year financial forecast, the CIP projects have been carefully reviewed, scored and ranked to ensure water reliability and safety while meeting all regulatory requirements.

Structure

The highest level of the CIP structure is Program. Under each CIP Program, there is one to several appropriations, each with multiple projects.

There are 12 capital programs which include:

- System Flexibility/Supply Reliability
- Water Quality/Oxidation Retrofit
- Colorado River Aqueduct (CRA) Reliability
- Treatment Plant Reliability
- Distribution System Reliability
- Right of Way & Infrastructure Protection
- Prestressed Concrete Cylinder Pipe Reliability
- Regulatory Compliance
- Minor Capital Projects
- Cost Efficiency & Productivity
- System Reliability
- Regional Recycled Water Supply Program

Definitions of the 12 capital programs can be found in the Capital Investment Plan Section of this budget book.

Preparation

The Capital Improvement Program (CIP) is prepared as part of Metropolitan's biennial budget process.

The CIP is updated to provide an overview of the financial, design, and construction status of existing projects on a quarterly basis, as well as proposals for new projects on an annual basis. All projects are reviewed and prioritized on a biennial basis by the CIP Evaluation Team.

When the need for a project is recognized, a justification is prepared which provides information regarding the expected benefits, how the work will be accomplished, the consequences of not approving the project, alternative levels of effort and cost to accomplish the project, a discussion of the impact of the project on future O&M costs, and a cost estimate for the project.

Many of the major capital projects are developed through the planning process, which include area studies that identify capital facilities needed to meet projected water demands. New and proposed water quality regulations also have resulted in the need for major capital projects. These projects or requirements may also be identified in detailed analyses such as the System Overview Study and the Integrated Resources Plan.

Capital projects include new facilities, betterments, and replacements that cost at least \$50,000 and have an anticipated useful life of at least five years. In the case of information technology capital projects, the cost must exceed \$250,000 and the resulting asset must have an anticipated useful life of at least three years.

Projects can be further differentiated into three general categories: major capital, minor capital, and major O&M projects. Major capital projects cost at least \$250,000 and are brought to the Board for approval prior to funding. Minor capital projects cost between \$50,000 and \$250,000 are included in the CIP and are within

the General Manager's authority to approve from a Board-approved appropriation for minor capital projects. Major O&M projects involve costs and scopes that are deemed significant and/or non-routine by the proposing organization and track expenditures in support of significant programs but do not necessarily extend the useful life of the asset. Examples of Major O&M projects include managing quagga mussels in the aqueduct, repairing a roof, and maintaining emergency management programs.

Additional information on project budgeting can be found in the Capital Investment Plan Section of this budget book.

BIENNIAL BUDGET SUMMARY

PROPOSED APPROPRIATIONS

The FY 2016/17 proposed appropriation of \$1,648.7 million is comprised of \$1,200.2 million or 72.8 percent for operations expense, \$328.5 million or 19.9 percent for debt service expense, and \$120.0 million or 7.3 percent to fund Replacement and Refurbishment (R&R) expenses from operating revenues. The FY 2017/18 proposed appropriation of \$1,695.3 million is comprised of \$1,231.2 million or 72.6 percent for operations expense, \$344.1 million or 20.3 percent for debt service expense, and \$120.0 million or 7.1 percent to fund Replacement and Refurbishment expenses from operating revenues. The table below provides a comparison of FY 2016/17 and FY 2017/18 and illustrates the total proposed appropriations for the operating and capital budgets.

FY 2016/17 and 2017/18 Proposed Operating and Capital Appropriations, \$ millions

Proposed Budget	FY 2016/17	FY 2017/18	Total Biennium
Operating Budget	\$1,200.2	\$1,231.2	\$2,431.4
Debt Service	328.5	344.1	672.6
PAYGo	120.0	120.0	240.0
Grand Total	\$1,648.7	\$1,695.3	\$3,344.0

The proposed biennial budget for FY 2016/17 and 2017/18 provides funding for Metropolitan's key priorities while meeting most financial policy guidelines, with proposed overall rate increases of 4.0 percent in each year of the proposed biennial budget. The proposed overall rate increases of 4.0 percent are in line with recent increases, consistent with rate projections of 3 to 5 percent increases, and reflect the current environment of lower sales volumes due to the Governor's Executive Order to reduce statewide water use by 25 percent.

The biennial budget is developed and monitored on a modified accrual basis. Revenues and expenses are recognized in the period they are earned and incurred. Depreciation and amortization are not included; payment of debt service is included. The modified-accrual basis of accounting provides a better match of revenues and expenses for budgeting and reporting.

FUND SUMMARY

The following tables show fund balance, and projected revenues and expenditures for Metropolitan for each fiscal year of the biennial budget.

FY 2016/17 Fund Summary, \$ millions

Fiscal Year Ending June 30th, 2017 (\$ in Millions)	All Funds	Operating Funds	Debt Service and Construction Funds	Reserve Funds (1)	Other Funds (2)
Beginning of Year Balance	1,418.1	411.0	301.1	448.3	257.7
USES OF FUNDS					
Expenses					
State Water Contract	582.3	582.3	-	-	-
Supply Programs	78.7	78.7	-	-	-
Colorado River Power	46.6	46.6	-	-	-
Debt Service	328.5	6.5	322.0	-	-
Demand Management	75.1	75.1	-	-	-
Departmental O&M	387.7	387.7	-	-	-
Treatment Chemicals, Sludge & Power	24.3	24.3	-	-	-
Operating Equipment	5.6	5.6	-	-	-
Sub-total Expenses	1,528.8	1,206.8	322.0	-	-
Capital Investment Plan	200.0	9.6	190.4	-	-
Fund Deposits					
R&R and General Fund	120.0	9.6	110.4	-	-
Revenue Bond Construction	9.6	-	9.6	-	-
Water Stewardship Fund	-	-	-	-	-
Exchange Agreement Set-aside	46.6	-	-	-	46.6
Treatment Surcharge Stabilization Fund	6.7	-	-	-	6.7
Interest for Construction & Trust Funds	0.3	-	0.3	-	0.0
Increase in Required Reserves	65.1	6.8	16.5	41.8	-
Increase in Rate Stabilization Fund	-	-	-	-	-
Sub-total Fund Deposits	248.4	16.4	136.9	41.8	53.3
TOTAL USES OF FUNDS	1,977.2	1,232.7	649.3	41.8	53.3
SOURCES OF FUNDS					
Revenues					
Taxes	98.3	75.1	23.3	-	-
Interest Income	13.6	5.1	3.9	4.5	0.1
Hydro Power	15.3	15.3	-	-	-
Fixed Charges (RTS & Capacity Charge)	182.3	182.3	-	-	-
Treatment Surcharge Revenue	272.9	272.9	-	-	-
Water Sales Revenue (less TS)	1,032.3	1,032.3	-	-	-
Miscellaneous Revenue	12.0	12.0	-	-	-
Bond Proceeds	89.6	-	89.6	-	-
Working Capital Borrowing	46.6	-	-	-	46.6
Sub-total Revenues	1,763.0	1,594.9	116.8	4.5	46.7
Fund Withdrawals					
Transfer Fund	-	-	-	-	-
R&R and General Fund	120.0	9.6	110.4	-	-
Bond Funds for Construction	-	-	-	-	-
Water Stewardship Fund	-	-	-	-	-
Treatment Surcharge Stabilization Fund (3)	-	-	-	-	-
Decrease in Required Reserves	-	-	-	-	-
Decrease in Rate Stabilization Fund	94.2	-	-	94.2	-
Sub-total Fund Withdrawals	214.2	9.6	110.4	94.2	-
TOTAL SOURCES OF FUNDS	1,977.2	1,604.5	227.2	98.7	46.7
Inter-Fund Transfers	(0.0)	(371.8)	422.1	(56.9)	6.6
End of Year Balance	1,452.3	417.8	327.6	395.9	311.1

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

(2) includes Water Stewardship, Water Treatment Stabilization, Trust Funds and Exchange Agreement Set-aside.

(3) Not affected by treatment rate structure.

FY 2017/18 Fund Summary, \$ millions

Fiscal Year Ending June 30th, 2018 (\$ in Millions)	All Funds	Operating Funds	Debt Service and Construction Funds	Reserve Funds (1)	Other Funds (2)
Beginning of Year Balance	1,452.3	417.8	327.6	395.9	311.1
USES OF FUNDS					
Expenses					
State Water Contract	599.4	599.4	-	-	-
Supply Programs	81.7	81.7	-	-	-
Colorado River Power	54.4	54.4	-	-	-
Debt Service	344.1	7.1	337.0	-	-
Demand Management	75.9	75.9	-	-	-
Departmental O&M	388.7	388.7	-	-	-
Treatment Chemicals, Sludge & Power	24.6	24.6	-	-	-
Operating Equipment	6.4	6.4	-	-	-
Sub-total Expenses	1,575.3	1,238.3	337.0	-	-
Capital Investment Plan	200.0	5.4	194.6	-	-
Fund Deposits					
R&R and General Fund	120.0	5.4	114.6	-	-
Revenue Bond Construction	-	-	-	-	-
Water Stewardship Fund	-	-	-	-	-
Exchange Agreement Set-aside	47.4	-	-	-	47.4
Treatment Surcharge Stabilization Fund	-	-	-	-	-
Interest for Construction & Trust Funds	0.4	-	0.4	-	0.0
Increase in Required Reserves	25.4	17.9	(2.6)	10.1	-
Increase in Rate Stabilization Fund	-	-	-	-	-
Sub-total Fund Deposits	193.2	23.3	112.4	10.1	47.4
TOTAL USES OF FUNDS	1,968.5	1,267.0	644.0	10.1	47.4
SOURCES OF FUNDS					
Revenues					
Taxes	100.5	81.7	18.8	-	-
Interest Income	12.4	4.8	3.7	3.8	0.1
Hydro Power	21.6	21.6	-	-	-
Fixed Charges (RTS & Capacity Charge)	172.7	172.7	-	-	-
Treatment Surcharge Revenue	261.3	261.3	-	-	-
Water Sales Revenue (less TS)	1,114.2	1,114.2	-	-	-
Miscellaneous Revenue	12.1	12.1	-	-	-
Bond Proceeds	79.7	-	79.7	-	-
Working Capital Borrowing	47.4	-	-	-	47.4
Sub-total Revenues	1,822.0	1,668.5	102.2	3.8	47.5
Fund Withdrawals					
Transfer Fund	-	-	-	-	-
R&R and General Fund	120.0	5.4	114.6	-	-
Bond Funds for Construction	0.3	-	0.3	-	-
Water Stewardship Fund	-	-	-	-	-
Treatment Surcharge Stabilization Fund (3)	3.2	-	-	-	3.2
Decrease in Required Reserves	-	-	-	-	-
Decrease in Rate Stabilization Fund	23.0	-	-	23.0	-
Sub-total Fund Withdrawals	146.5	5.4	114.9	23.0	3.2
TOTAL SOURCES OF FUNDS	1,968.5	1,673.9	217.1	26.8	50.7
Inter-Fund Transfers	(0.0)	(406.9)	426.8	(16.7)	(3.3)
End of Year Balance	1,499.0	435.7	325.0	383.1	355.3

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

(2) includes Water Stewardship, Water Treatment Stabilization, Trust Funds and Exchange Agreement Set-aside.

(3) Not affected by treatment rate structure.

SOURCES OF FUNDS

Total Sources of FY 2016/17 and 2017/18 Funds, \$ millions

	2015/16 Budget	2016/17 Proposed	2017/18 Proposed	2016/17 Proposed Compared to 2015/16 Budget	2017/18 Proposed Compared to 2016/17 Proposed
SOURCES OF FUNDS					
Revenues					
Taxes	92.2	98.3	100.5	6.1	2.2
Interest Income	27.9	13.6	12.4	(14.4)	(1.1)
Hydro Power	18.9	15.3	21.6	(3.6)	6.4
Fixed Charges (RTS & Capacity Charge)	198.8	182.3	172.7	(16.5)	(9.6)
Treatment Surcharge Revenue	308.9	272.9	261.3	(36.0)	(11.6)
Water Sales Revenue (less TS)	999.5	1,032.3	1,114.2	32.8	81.9
Miscellaneous Revenue	11.3	12.0	12.1	0.7	0.1
Bond Proceeds and Reimbursements	-	89.6	79.7	89.6	(10.0)
Working Capital Borrowing	-	46.6	47.4	46.6	0.8
Sub-total Revenues	1,657.5	1,763.0	1,822.0	105.5	59.0
Fund Withdrawals					
R&R and General Fund	267.9	120.0	120.0	(147.9)	-
Bond Funds for Construction	-	-	0.3	-	0.3
Treatment Surcharge Stabilization Fund *	-	-	3.2	-	3.2
Decrease in Water Rate Stabilization Fund	-	94.2	23.0	94.2	(71.2)
Sub-total Fund Withdrawals	276.6	214.2	146.5	(62.5)	(67.7)
TOTAL SOURCES OF FUNDS	1,934.1	1,977.2	1,968.5	43.1	(8.7)

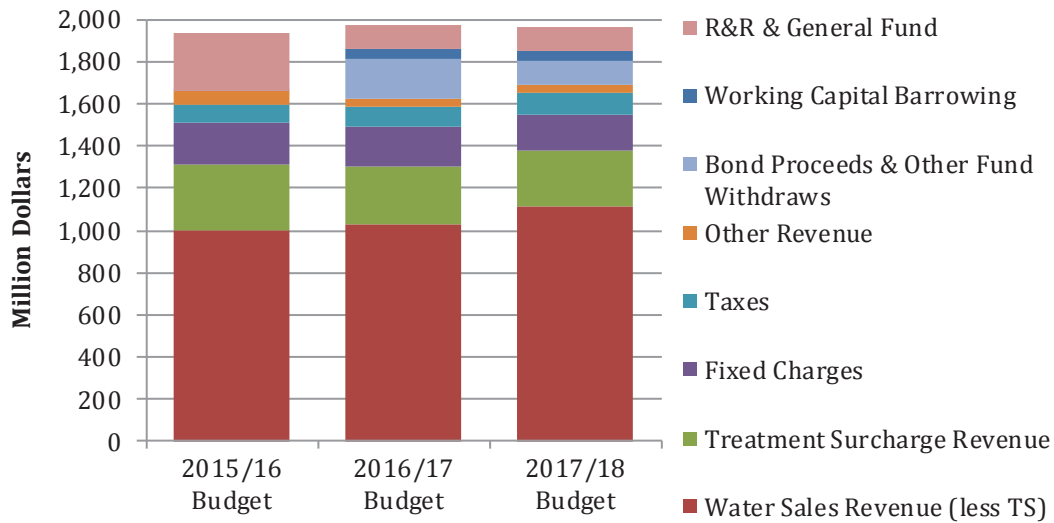
Totals may not foot due to rounding.

* Not affected by treatment rate structure

OPERATING REVENUE

Estimated revenues from water sales, fixed charges (Readiness-To-Serve Charge and Capacity Charge), taxes and annexation fees, and other miscellaneous income (interest income, power recovery, etc.) are projected to be \$1.63 billion for FY 2016/17 and \$1.69 billion for FY 2017/18. For FY 2016/17, this is \$30.7 million less than the FY 2015/16 budget, and for FY 2017/18, this is \$68.1 million more than FY 2016/17. The decrease in revenues for FY 2016/17 is due to decreased sales volumes. For FY 2017/18, the revenue is higher due to higher water rates and charges in calendar year 2017 and calendar year 2018. In addition, the forecast assumes the ad valorem tax rate is maintained at .0035 percent of assessed valuations. A description of each revenue source is included in the Glossary of Terms.

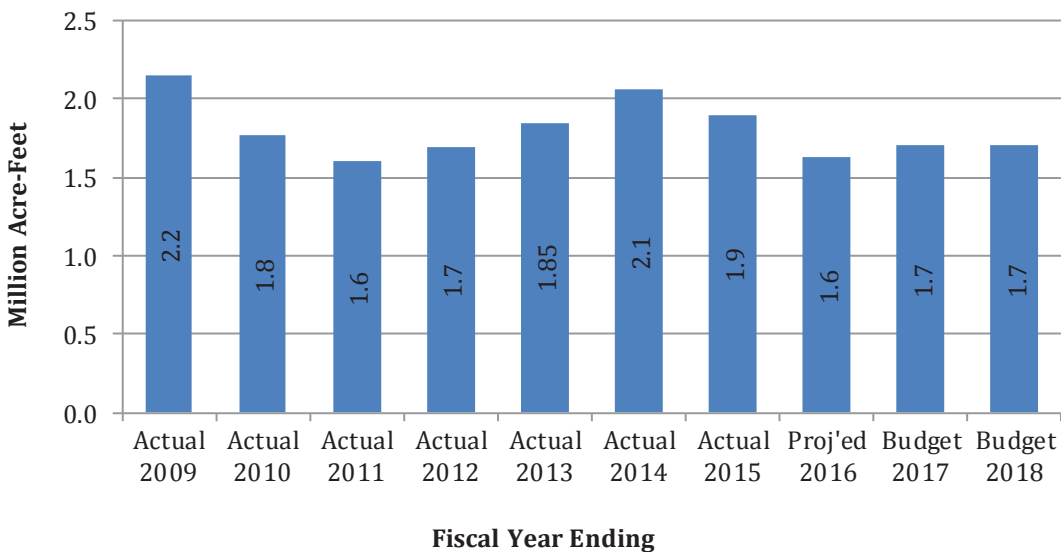
Sources of Funds FY 2016/17 and FY 2017/18, \$ millions



Water Sales

Revenues from water sales, including the Treatment Surcharge, are budgeted at \$1,305.2 million in FY 2016/17 and \$1,375.5 million in FY2017/18. Water rates and charges are proposed to increase by 4.0 percent overall effective January 1, 2017 and 4.0 percent overall effective January 1, 2018. Water sales for FY 2016/17 are estimated to be 1.70 million acre-feet (MAF), a decrease of 50 thousand acre-fee (TAF) from the FY 2015/16 budget. Water sales for FY 2017/18 are estimated to be 1.70 MAF, unchanged from the FY 2016/17 budget. Water sales are forecasted to be lower than FY 2015/16 budget due to conservation efforts throughout the region as a result of the Governor’s Executive Order calling for a statewide reduction in water use of 25 percent. Metropolitan’s implemented the Water Supply Allocation Plan in FY 2015/16 at a Level 3 Regional Shortage Level due to declining storage levels and a low State Water Project (SWP) allocation of 20 percent in calendar year 2015, which followed a historically low allocation in calendar year 2014 of 5 percent.

Water Sales Trend, MAF



The FY 2016/17 fiscal year water sales include 1.52 MAF of firm sales and 180 TAF of exchange water sold to the San Diego County Water Authority (SDCWA) pursuant to the 2003 Amended and Restated Exchange Agreement (exchange water). Treated sales are estimated 822 TAF, or 48 percent of total sales in FY 2016/17. The FY 2017/18 fiscal year water sales include 1.501 MAF of firm sales and 195 TAF of exchange water. Treated sales are estimated at 826 TAF, or 49 percent of total sales in FY 2017/18. The figure above shows the trend of water sales.

Taxes and Annexation Fees

Revenues from taxes and annexation fees, which will be used to pay voter-approved debt service on general obligation bonds and a portion of the capital costs of the SWP, are estimated to be \$98.3 million in FY 2016/17 and \$100.5 million in FY 2017/18. The ad valorem tax rate is assumed to remain at the current level of .0035 percent of assessed value in both fiscal years; assessed valuations are projected to increase by 2.5 percent each fiscal year.

Fixed Charges

Fixed charges include the Capacity Charge and Readiness-to-Serve Charge. In FY 2016/17, these charges are estimated to generate \$38.3 million and \$144.0 million, respectively. In FY 2017/18, these charges are estimated to generate \$35.2 million and \$137.5 million, respectively. In total this represents a \$16.5 million decrease from the FY 2015/16 to FY 2016/17, and a \$9.6 million decrease from the FY 2016/17 to the FY 2017/18 budget. Fixed charges are decreasing due to the lower levels of PAYGo funded capital.

A proposal will be presented to the Board for consideration of a fixed treatment charge to address fixed cost recovery of treatment costs which are currently only recovered through a volumetric rate.

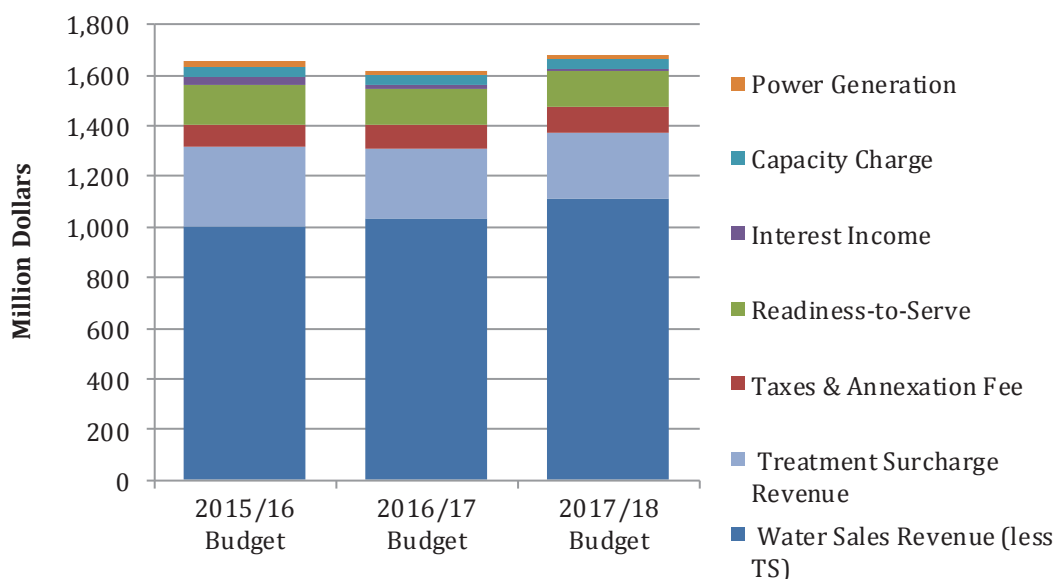
All Other Revenue

Receipts from hydroelectric power sales are estimated to be \$15.3 million for FY 2016/17 and \$21.6 million for FY 2017/18. FY 2016/17 is lower than the FY 2015/16 budgeted amount of \$18.9 million due to lower deliveries through the distribution system and a pipeline outage in Calendar Year 2016 which is impacting the generation at one of the larger plants.

Miscellaneous revenues, including interest income and lease revenues, are estimated to total \$25.6 million and \$24.6 million for FY 2016/17 and FY 2017/18 respectively (including trust accounts and construction funds), primarily due to lower assumed interest rates and lower fund balances to invest.

A summary of operating revenues is shown in the graph below.

Operating Revenues, \$ millions



CAPITAL FUNDING

The FY 2016/17 and FY 2017/18 Capital Investment Plan (CIP) will be funded with bond proceeds and current operating revenues (PAYGo). It is anticipated that Metropolitan will issue \$90 million in new revenue bonds in FY 2016/17 and \$80 million in new revenue bonds in FY 2017/18. Combined with revenue funded capital of \$120.0 million in FY 2016/17 and \$120.0 million in FY 2017/18, Metropolitan will be able to fully fund the CIP.

Please refer to the section on debt financing for additional details on debt funding of capital projects.

Capital Funding Source Descriptions

New Bond Issues

Metropolitan has the ability to issue long-term bonds to fund its capital programs. The proceeds of the bond sales can be used to pay for capital expenses over several years. The repayment of the bonds is generally over 30 years and is paid from water rate revenues.

Revenue Funded Capital

Annual capital expenses that are not paid from debt funding, grants, or loans must be paid from revenues, either from current year revenues or from the R&R fund, if funds exist.

OTHER SOURCES

Due to the SDCWA's litigation challenging Metropolitan's rates, Metropolitan currently holds \$235.5 million in its financial reserves in accordance with the 2003 Amended and Restated Exchange Agreement between Metropolitan and SDCWA (exchange agreement). This amount includes \$188.3 million associated with exchange agreement water sales from January 2011 through December 2014, \$42.2 million associated with exchange agreement water sales since January 2015, and accumulated interest on both amounts. Amounts held pursuant to the exchange agreement will continue to accumulate while the litigation, including all appeals, is pending based on the quantities of exchange agreement water that Metropolitan provides to SDCWA and the amount of charges disputed by SDCWA. In accordance with the exchange agreement, the amounts held are SDCWA's payments under the exchange agreement that are in dispute and interest earned thereon, which is based on Metropolitan's investment portfolio. The amounts held do not include the statutory prejudgment interest award or statutory post-judgment interest, neither of which the exchange agreement requires to be held.

To provide greater clarity on the amount of the exchange agreement set-aside, Metropolitan proposes to establish a designated fund to hold these amounts. The fund would be separate from Metropolitan's Water Rate Stabilization Fund and Revenue Remainder Fund and would continue to be invested with Metropolitan's short-term investments managed by the Treasurer until such time as the SDCWA v MWD litigation is resolved.

Staff will propose to the Board that Metropolitan make working capital borrowings, in part, to pay for O&M costs and replenish the reserve funds pending a final decision in the SDCWA v MWD litigation.

USES OF FUNDS

Total uses of funds are \$1.98 billion for FY 2016/17 and \$1.97 billion for FY 2017/18. The table and graph below show the breakdown of expenditures and other obligations that make up the Uses of Funds.

Total Uses of FY 2016/17 and 2017/18 Funds, \$ millions

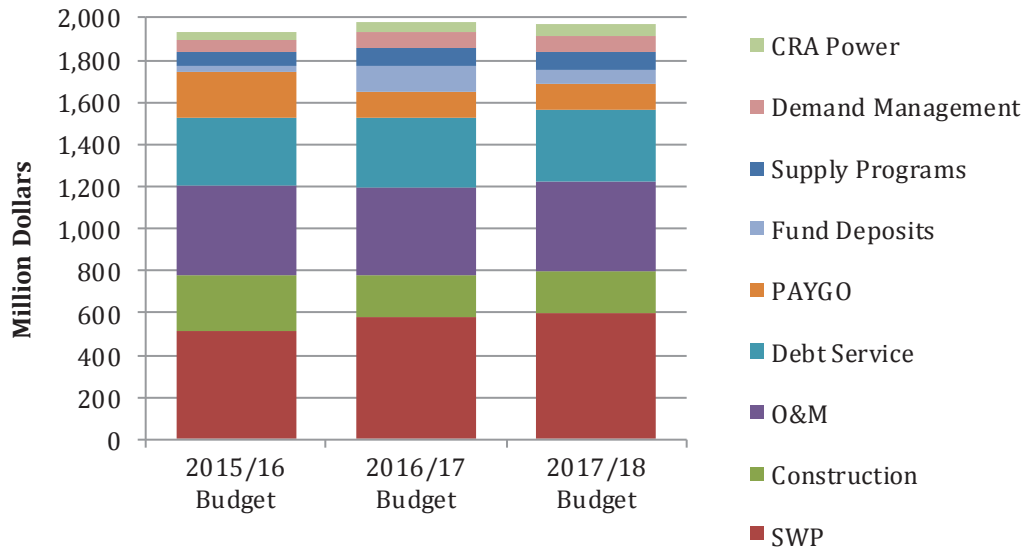
	2015/16 Budget	2016/17 Proposed*	2017/18 Proposed*	2016/17 Proposed Compared to 2015/16 Budget	2017/18 Proposed Compared to 2016/17 Proposed
USES OF FUNDS					
Expenses					
State Water Contract	515.0	582.3	599.4	67.2	17.2
Supply Programs	66.5	78.7	81.7	12.2	3.0
Colorado River Power	36.5	46.6	54.4	10.1	7.8
Debt Service	324.7	328.5	344.1	3.7	15.6
Demand Management	61.7	75.1	75.9	13.5	0.8
Departmental O&M	364.3	387.7	388.7	23.4	1.0
Treatment Chemicals, Solids & Power	27.6	24.3	24.6	(3.3)	0.3
Other O&M	26.6	5.6	6.4	(21.0)	0.8
Sub-total Expenses	1,422.9	1,528.8	1,575.3	105.9	46.5
Capital Investment Plan	267.9	200.0	200.0	(67.9)	-
Fund Deposits					
R&R and General Fund	221.0	120.0	120.0	(101.0)	-
Revenue Bond Construction	-	9.6	-	9.6	(9.6)
Water Stewardship Fund	-	-	-	-	-
Exchange Agreement Set-aside	-	46.6	47.4	46.6	0.8
Treatment Surcharge Stabilization Fund **	0.4	6.7	-	6.2	(6.7)
Interest for Construction & Trust Funds	0.4	0.3	0.4	(0.1)	0.0
Increase in Required Reserves	18.2	65.1	25.4	46.9	(39.7)
Increase in Water Rate Stabilization Fund	3.3	-	-	(3.3)	-
Sub-total Fund Deposits	243.4	248.4	193.2	5.0	(55.2)
TOTAL USES OF FUNDS	1,934.1	1,977.2	1,968.5	43.1	(8.7)

Totals may not foot due to rounding.

* Other O&M budget has been reassigned in Departmental Budget

** Not affected by treatment rate structure

Total Uses of FY 2016/17 and 2017/18 Funds, \$ millions



Colorado River Aqueduct Power

CRA power costs are projected to be \$46.6 million in FY 2016/17 and \$54.4 million in FY 2017/18 based on diversions of approximately 1.0 MAF through the CRA. FY 2017/18 is \$7.8 million higher despite similar pumping as a result of the need to purchase more supplemental energy due to expiration of the Southern California Edison Service and Interchange Agreement.

Please refer to the section on the CRA for additional details on this expense.

State Water Project

State Water Project (SWP) expenditures are budgeted at \$582.3 million for FY 2016/17 and \$599.4 million in FY 2017/18. This is based on total deliveries of 865 TAF in FY 2016/17 and 882 TAF in FY 2017/18. SWP power costs are expected to be \$164.9 million for FY 2016/17 and \$168.6 million for FY 2017/18. Power costs are lower due to favorable markets for wholesale power and natural gas, and renewable solar and wind projects.

The forecasted amount for SWP expenditures reflects incorporation of rate management credits into the forecast. Rate management credits result from a provision of the State Water Contract that provides for the reduction of capital charges based on differences between the Department of Water Resources' collections from the SWP contractors and the actual amounts paid for capital-related charges.

Please refer to the section on the SWP for additional details on this expense.

Demand Management Costs

Metropolitan provides financial incentives to its member agencies for the development of local water recycling and groundwater recovery projects through the Local Resource Program (LRP). Metropolitan also provides financial incentives for the development of conservation programs through the Conservation Credits Program (CCP). Total expenditures are budgeted at \$75.1 million for FY 2016/17 and \$75.9 million in FY 2017/18.

Please refer to the section on Demand Management for additional details on this expense.

Supply Programs

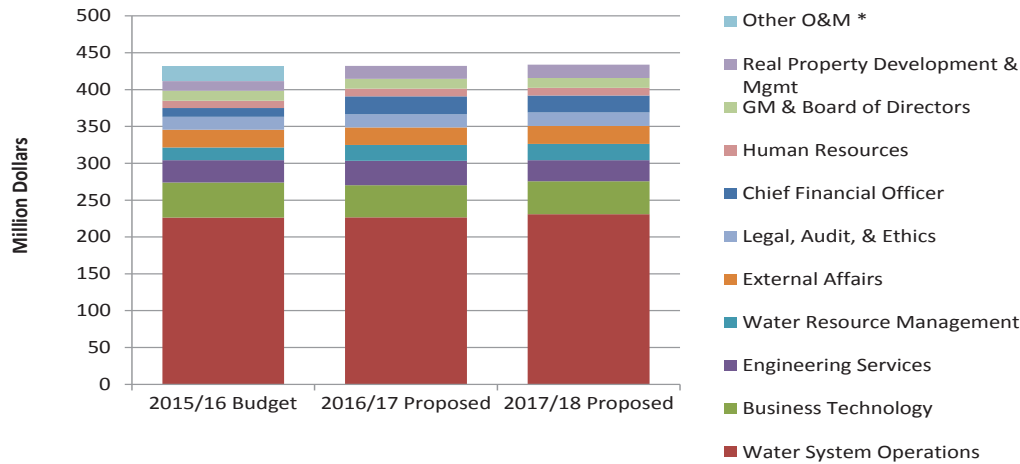
Metropolitan's two principal sources of supply draw from two different watersheds. This has allowed Metropolitan to draw more heavily on one source in the event the other is experiencing a drought. To further ensure regional supply reliability, Metropolitan has developed a portfolio of additional supply programs on both watersheds. Total expenditures are budgeted at \$78.7 million for FY 2016/17 and \$81.7 million in FY 2017/18.

Please refer to the section on the Supply Programs for additional details on this expense.

OPERATIONS AND MAINTENANCE

The FY 2016/17 O&M budget, including operating equipment purchases, is \$417.7 million. This is \$0.9 million, or 0.2 percent, lower than the FY 2015/16 budget of \$418.5 million. The FY 2017/18 O&M budget is \$419.8 million, an increase of \$2.1 million, or 0.5 percent, over the FY 2016/17 budget.

Departmental Budget by Organization (without operating equipment and overhead credit), \$ millions



*Other O&M reassigned to Departmental Budget in FY 2016/17 and FY 2017/18

Operations and Maintenance Budget by Organization, \$ thousands

Departmental Units	2015/16 Budget	2016/17 Proposed*	2017/18 Proposed*	2015/16 Budget vs. 2016/17 Proposed*	%	2016/17 Proposed* vs. 2017/18 Proposed*	%
Office of the General Manager	\$ 13,505.5	\$ 13,276.5	\$ 13,430.9	\$ (229.0)	(1.7%)	\$ 154.4	1.2%
Water System Operations w/o Variable Treatment	198,816.1	202,239.5	206,364.4	3,423.5	1.7%	4,124.8	2.0%
Water Resource Management	17,157.9	21,583.9	22,238.7	4,426.1	25.8%	654.8	3.0%
Engineering Services	30,270.9	32,954.3	28,469.7	2,683.4	8.9%	(4,484.6)	(13.6%)
Business Technology	47,438.9	43,788.1	44,687.8	(3,650.8)	(7.7%)	899.7	2.1%
Real Property Development & Mgmt	12,969.5	17,679.3	18,027.4	4,709.8	36.3%	348.1	2.0%
Human Resources	10,038.0	10,362.2	10,221.3	324.2	3.2%	(140.9)	(1.4%)
Office of the Chief Financial Officer	11,989.4	24,327.9	23,082.3	12,338.5	102.9%	(1,245.6)	(5.1%)
External Affairs	24,252.0	23,733.0	24,335.1	(519.0)	(2.1%)	602.2	2.5%
Subtotal - General Manager's Dep.	366,438.0	389,944.8	390,857.6	23,506.7	6.4%	912.9	0.2%
General Counsel	13,228.5	13,532.2	13,777.0	303.7	2.3%	244.8	1.8%
General Auditor	3,072.0	3,084.8	3,140.8	12.8	0.4%	55.9	1.8%
Ethics Office	1,075.2	1,356.4	1,376.0	281.3	26.2%	19.6	1.4%
Overhead Credit from Construction	(19,544.7)	(20,213.4)	(20,427.4)	(665.7)	(3.4%)	(214.0)	(1.1%)
Total Departmental Budget	364,266.0	387,704.8	388,724.0	23,438.8	6.4%	1,019.2	0.3%
Other O&M							
CCP Vendor Administration	1,550.0	-	-	(1,550.0)	(100.0%)	-	NA
Performance Programs	638.3	-	-	(638.3)	(100.0%)	-	NA
Association Dues	5,184.8	-	-	(5,184.8)	(100.0%)	-	NA
Labor and Additive Adjustments	-	-	-	-	NA	-	NA
Insurance	9,800.0	-	-	(9,800.0)	(100.0%)	-	NA
Leases	600.0	-	-	(600.0)	(100.0%)	-	NA
Property Taxes	636.7	-	-	(636.7)	(100.0%)	-	NA
Subtotal - Other	18,409.8	-	-	(18,409.8)	(100.0%)	-	NA
TOTAL OPERATIONS & MAINTENANCE	382,675.8	387,704.8	388,724.0	5,029.1	1.3%	1,019.2	0.3%
Operating Equipment	8,190.3	5,623.4	6,426.0	(2,566.9)	(31.3%)	802.6	14.3%
Variable Treatment	27,644.2	24,330.3	24,610.2	(3,313.9)	(12.0%)	279.9	1.2%
GRAND TOTAL	\$ 418,510.3	\$ 417,658.5	\$ 419,760.2	\$ (851.8)	(0.2%)	\$ 2,101.7	0.5%

Totals may not foot due to rounding

* Other O&M budget has been reassigned in Departmental Budget

The graph above depicts the distribution of the departmental O&M by organization without other O&M, the overhead credit, and operating equipment. Including treatment costs, the Water System Operations (WSO) Group accounts for 58 percent and 59 percent, respectively, of the total departmental budget for FY 2016/17 and FY 2017/18. Business Technology, which incorporates Administrative Services and Information Technology, is the second largest departmental expenditure area, accounting for 11 percent of the total departmental budget for FY 2016/17 and FY 2017/18. A summary of the O&M budget by organization is shown in the table above. Given the forecast of lower water sales over the next two fiscal years, O&M budgets were reviewed and reduced. The table below summarizes the O&M budget by expenditure type. A more detailed discussion of significant factors impacting the O&M budget follows.

2016/17 and 2017/18 Operations & Maintenance Annual Budget by Expenditure Type, \$ thousands

	2015/16 Budget	2016/17 Proposed	2017/18 Proposed	2015/16 Budget vs. 2016/17 Proposed	2016/17 Proposed vs. 2017/18 Proposed
Salaries & Benefits (1)	267,424.3	266,809.2	273,061.3	(615.1)	6,252.1
Chemicals, Solids, and Power (2)	27,644.2	24,330.3	24,610.2	(3,313.9)	279.9
Outside Services	43,777.4	42,476.6	38,785.0	(1,300.8)	(3,691.6)
Materials & Supplies (3)	25,783.3	25,987.0	25,387.2	203.7	(599.8)
Other	45,690.8	52,432.0	51,490.6	6,741.3	(941.5)
Operating Equipment	8,190.3	5,623.4	6,426.0	(2,566.9)	802.6
Total	418,510.3	417,658.5	419,760.2	(851.8)	2,101.7

Totals may not foot due to rounding

(1) Includes overhead credit for construction and savings from liability reduction

(2) Costs associated with treatment only.

(3) Without chemicals associated with treatment plants.

FY 2016/17 O&M Budget

The proposed FY 2016/17 O&M budget includes \$417.7 million for labor and benefits, water treatment chemicals, power, and solids handling, materials and supplies, professional services, and operating equipment purchases. This is \$0.9 million, or 0.2 percent, lower than the FY 2015/16 budget of \$418.5 million due primarily to an effort to control labor costs and equipment expenditures in an environment of lower water sales. Variable treatment costs are also lower due to less treated water sales.

Salaries and Benefits: Labor costs, not including those charged to construction are \$266.8 million. This is \$0.6 million, or 0.2 percent, lower than the FY 2015/16 budget of \$267.4 million. This decrease is primarily the result of an effort to control costs by unfunding positions or planning to leave positions vacant for some period during the fiscal year. Labor costs reflect negotiated labor increases and increases in retirement, medical and dental premiums.

The total authorized personnel complement for the FY 2016/17 budget is 1,912 authorized positions, including 26 agency and district temporary full-time equivalents (FTEs), and reflects an increase of 1 net full-time position from the FY 2015/16 budget. Incorporating unfunded positions and positions that are planned to be vacant for portions of the year, the total funded positions are 1,840 FTEs.

Other O&M – Chemicals, solids, and power reflect the cost of the water treatment process and are anticipated to decrease by \$3.3 million in FY 2016/17, driven by a decrease in treated water sales. Operating equipment is budgeted \$2.5 million lower to minimize replacement of equipment. Other O&M is higher primarily due to increased property tax expenditures associated with the PVID land purchase.

FY 2017/18 O&M Budget

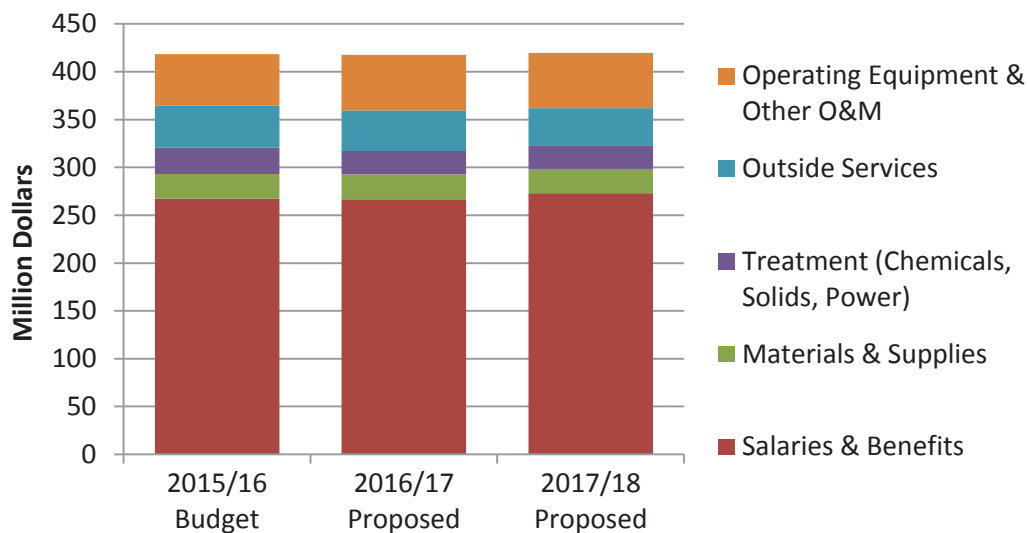
The proposed FY 2017/18 O&M budget is \$419.8 million, an increase of \$2.1 million, or 0.5 percent, compared to the FY 2016/17 budget. This increase is primarily due to merit increases for qualified employees, an increase in labor additive costs, and slight increase in chemical and power costs to operate the treatment plants due to slightly higher treated water sales.

Salaries and Benefits –The FY 2017/18 O&M labor budget is about \$6.3 million or 2.3% higher than the FY 2016/17 budget. Labor and Additives were calculated to allow for salaries and benefits to increase at the inflation rate of 2.25 percent overall.

The total authorized personnel complement for FY 2017/18 is reduced by 2 FTEs to 1,910 positions, due to a decrease in temporary labor. Incorporating unfunded positions and positions that are planned to be vacant for portions of the year, the total funded positions are 1,841 FTEs.

Other O&M –The cost of chemicals, power, and sludge disposal incurred in the water treatment process is anticipated to increase slightly by \$0.7 million in FY 2017/18 due primarily to higher treated water sales.

Departmental Budget by Expenditure Type, \$ millions



The figure above summarizes the total departmental O&M budget by expenditure type, of which about 65 percent is for salaries and benefits in both FY 2016/17 and 2017/18.

STAFFING PLAN

Total authorized positions (including temporary workers) for FY 2016/17 and FY 2017/18 are 1,912 and 1,910 positions respectively. Total O&M personnel are up by 4 district temporary positions (rounded) to 1,912 in 2016/17 and decrease 2 regular full time positions to a total of 1,910 in FY 2017/18. Positions dedicated to capital work are expected to increase slightly during the biennium while positions dedicated to O&M will decrease slightly. The proposed FY 2016/17 and FY 2017/18 budget includes unfunded positions and positions that are planned to be vacant for portions of the year in order to manage O&M labor costs. Therefore, funded positions are lower than the authorized complement. The personnel complement is shown in the following tables.

Regular and Temporary Positions

	2014/15 Budget	2015/16 Budget	2016/17 Budget	2017/18 Budget	2015/16 Budget vs. 2016/17 Budget	2016/17 Budget vs. 2017/18 Budget
Regular Full Time Positions	1,886	1,885	1,886	1,886	1	0
District Temporary Positions	20	20	22	20	2	-2
Agency Temporary Positions	-	-	4	4	4	0
Total	1,906	1,905	1,912	1,910	7	-2

Totals may not foot due to rounding.

O&M and Capital Staffing Levels

	2015/16 Budget	2016/17 Proposed	2017/18 Proposed
O&M Positions			
Regular Full Time Positions	1,604	1,600	1,592
District & Agency Temporary Positions	20	24	23
Total O&M	1,624	1,624	1,615
Capital Positions			
Regular Full Time Positions	281	286	294
District & Agency Temporary Positions	-	2	1
Total Capital	281	288	295
GRAND TOTAL	1,905	1,912	1,910

Totals may not foot due to rounding.

CAPITAL INVESTMENT PLAN

The CIP budget for FY 2016/17 and FY 2017/18 is forecasted at \$200.0 million in both fiscal years. It is proposed to be funded by current operating revenues (i.e., budgeted PAYGo) and by issuing new revenue bonds. The FY 2016/17 capital budget is \$68 million lower than the FY 2015/16 budget.

The two largest areas of expenditures in the FY 2016/17 and FY 2017/18 CIP are Infrastructure Reliability and Water Quality. It is currently anticipated that infrastructure expenditures will continue to grow as more facilities reach the end of their service life and require rehabilitation and refurbishment.

The CIP is discussed in more detail in the CIP supplemental volume.

Cash Funded Capital

Overall, the CIP is proposed to be funded 60 percent by current operating revenues (budgeted PAYGo). The PAYGO funding for FY 2016/17 and FY 2017/18 is budgeted at \$120 million in each fiscal year.

Debt Funded Capital

Overall, the CIP is proposed to be funded 40 percent by revenue bond proceeds. New debt issues are planned in FY 2016/17 in the amount of \$90 million, and in FY 2017/18 in the amount of \$80 million. Given construction funds expected to be available at the beginning of the biennial budget period and planned PAYGo amounts, these bond issues should provide sufficient funds to meet CIP expenditures over the two years.

Debt Service

For FY 2016/17 and FY 2017/18, Metropolitan plans to issue new revenue bond debt as described above. Debt service payments in FY 2016/17 are budgeted at \$328.5 million and \$344.1 million in FY 2017/18.

Please refer to the section on Capital Financing for additional details on this expense.

FUND BALANCES AND RESERVES

Metropolitan operates as a single enterprise fund for financial statements and budgeting purposes. Through its administrative code, Metropolitan identifies a number of accounts, which are referred to as funds, to separately track uses of monies for specific purposes as summarized in the table below.

The FY 2016/17 budget forecasts a \$52.4 million decrease in reserves by June 30, 2017 and includes the Water Rate Stabilization Fund (WRSF) and the Revenue Remainder Fund. In addition, required reserves and increases to the Treatment Surcharge Stabilization Fund (TSSF) and the Water Stewardship Fund (WSF) are projected to increase by \$30.0 million.

The FY 2017/18 budget forecasts a \$12.9 million decrease in reserves by June 30, 2018 and includes the WRSF and the Revenue Remainder Fund. In addition, required reserves and changes to the TSSF and WSF are expected to increase by a net of \$12.1 million.

Fund balances are budgeted to be \$1.45 billion at June 30, 2017. Of that total, \$746 million is restricted by bond covenants, contracts, or board policy, and \$706 million is unrestricted. Fund balances are budgeted to be \$1.50 billion at June 30, 2018. Of that total, \$762 million is restricted by bond covenants, contracts, or board policy, and \$737 million is unrestricted.

On June 30, 2017, the targets for the minimum and target reserve funds are estimated to be \$247.2 million and \$600.6 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the WRSF and Revenue Remainder Fund will total about \$395.9 million, about \$148.7 million over the minimum level.

On June 30, 2018, the targets for the minimum and target reserve funds are estimated to be \$257.3 million and \$626.9 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the WRSF and Revenue Remainder Fund will total about \$383.1 million, about \$125.8 million over the minimum level.

Included in the designated trust funds is the exchange agreement set-aside amounts discussed previously.

Projected Fund Balances, \$ millions

	Restricted		Unrestricted		Total
	Contractual	Board	Designated	Undesignated	
2016/17 Proposed					
Operating Funds	205.3	103.5	0.0	0.0	308.8
Debt Service Funds	296.6	0.0	0.0	0.0	296.6
Construction Funds	31.0	0.0	0.0	0.0	31.0
Reserve Funds (1)	0.0	0.0	0.0	395.9	395.9
Rate Stabilization Funds (2)	0.0	0.0	6.7	0.0	6.7
Trust and Other Funds (3)	109.9	0.0	303.5	0.0	413.4
Total June 30, 2017	642.8	103.5	310.2	395.9	1,452.3
2017/18 Proposed					
Operating Funds	217.5	109.2	0.0	0.0	326.7
Debt Service Funds	293.5	0.0	0.0	0.0	293.5
Construction Funds	31.5	0.0	0.0	0.0	31.5
Reserve Funds (1)	0.0	0.0	0.0	383.1	383.1
Rate Stabilization Funds (2)	0.0	0.0	3.4	0.0	3.4
Trust and Other Funds (3)	109.9	0.0	350.9	0.0	460.8
Total June 30, 2018	652.4	109.2	354.3	383.1	1,499.0

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund, and working capital borrowings in an amount equal to the exchange agreement set-aside

(2) includes Water Stewardship Fund and Treatment Surcharge Stabilization Fund

(3) includes exchange agreement set-aside

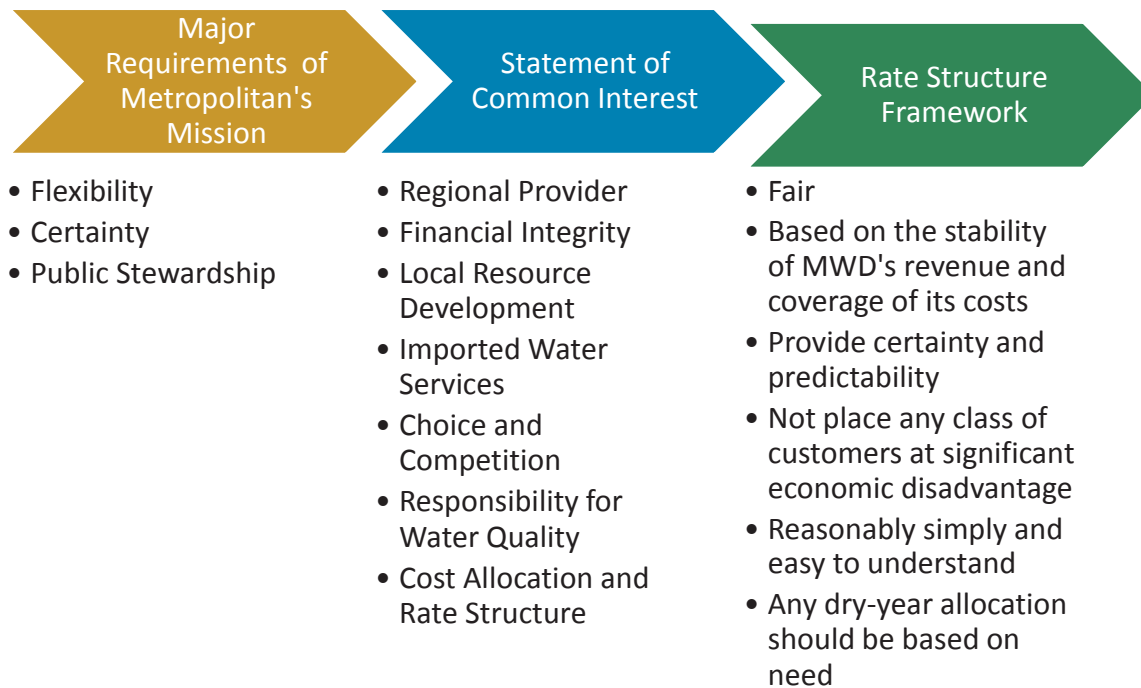
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RATE STRUCTURE OVERVIEW

Framework

The Rate Structure Framework evolved through a comprehensive strategic planning process initiated in 1998. As depicted in the following figure, the first step of the process was to identify the “Major Requirements of Metropolitan’s Mission,” which was reflected in the Strategic Plan Policy Principles. The Statement of Common Interests formed the basis of Metropolitan’s strategic plan to address these mission requirements. One of the most important common interests was “Cost Allocation and Rate Structure.” In determining the most appropriate cost-of-service (COS) and rate structure, a set of pricing objectives, or guiding rate principles, was developed. These guiding rate principles defined Metropolitan’s Rate Structure Framework by which various COS and rate-setting methodologies could be evaluated.

Development of the Rate Structure Framework



The strategic planning process which established the foundation of the Rate Structure Framework is discussed below.

Major Requirements of Metropolitan's Mission

As one of the first steps in the strategic planning process in 1998, the Board developed a list of three mission requirements in its Metropolitan vision statement – flexibility, certainty, and public stewardship:

- **Flexibility.** Metropolitan is aware of the legislative and economic pressures which make flexibility in providing water services for a changing demand and in a competitive water market paramount. Fair compensation for wheeling through Metropolitan's conveyance systems is an essential element of Southern California's developing market.
- **Certainty.** The certainty that Metropolitan's water supply is reliable and that the COS is appropriate is of utmost importance to member agencies and their retailers who are endeavoring to provide not only water, but value to the residents in their service area.
- **Public Stewardship.** As public stewards of much of Southern California's water supply, Metropolitan and its member agencies are responsible for making certain that the water is provided in a cost-effective and environmentally sound manner.

Statement of Common Interests

From the strategic planning mission requirements, the Board developed a list of seven areas of common interest that formed the major focus elements of the Metropolitan strategic plan:

- **Regional provider.** This area includes the concerns of protecting regional infrastructure and providing service during drought periods. Regional water must be provided to meet the needs of the member agencies, and water supplies must be equitably allocated during drought periods based on the Water Surplus and Drought Management Plan principles.
- **Financial integrity.** It is a common interest of the members for Metropolitan to assure the financial integrity of the agency in all aspects of its operations.
- **Local resource development.** Metropolitan supports local resources development by working in partnership with its member agencies and by providing member agencies with financial incentives for water conservation and for local projects.
- **Imported water service.** Metropolitan is responsible for providing imported water to meet the committed needs of its member agencies.
- **Choice and competition.** After Metropolitan provides imported water for the member agencies' committed demands, a member agency can choose the most cost-effective additional water supplies for its customers. These choices include either Metropolitan, local resource development, market transfers, or some combination of these secondary options. Metropolitan and its member agencies can decide how to provide these additional supplies collaboratively while balancing local, imported, and market opportunities with affordability.
- **Responsibility for water quality.** Metropolitan must advocate source water quality and implement in-basin water quality for the imported water it supplies. This is necessary to guarantee compliance with primary drinking water standards and to meet the water quality requirements for water recycling and ground water replenishment.
- **Cost allocation and rate structure.** The framework for a revised rate structure will be established to address allocation of costs, financial commitment, unbundling of services, and fair compensation for services including wheeling, peaking, growth, and others.

Rate Structure Framework

A major element of common interest was “*Cost Allocation and Rate Structure.*” In addressing this element a set of pricing objectives, or guiding rate principles, had to be developed to evaluate alternative COS and rate setting approaches, or methodologies. As a result, the Board adopted a set of rate principles which was defined as the *Rate Structure Framework*. The Rate Structure Framework provided the principles for the Strategic Planning Steering Committee to develop a preferred rate structure. The Rate Structure Framework includes the following principles:

The rate structure should be *fair*;

It should be based on the *stability* of Metropolitan’s revenue and coverage of its costs;

- It should provide certainty and predictability;
- It should not place any class of customers at *significant economic disadvantage*;
- It should be reasonably *simple and easy to understand*; and
- Any dry-year allocation should be *based on need*.

The 2001 COS and rate structure was adopted by the Board to address the Rate Structure Framework.

RATE STRUCTURE DESIGN

The elements of the rate structure, and the rates and charges for calendar year 2016, are summarized in Table 14.

Table 14. Rate Elements

Rate Design Elements	Functional Costs Recovered	Type of Charge	Rate or charge effective January 1, 2016
Tier 1 Supply Rate	Supply	Volumetric (\$/af)	\$156
Tier 2 Supply Rate	Supply	Volumetric (\$/af)	\$290
System Access Rate	Conveyance/Distribution (Average Capacity)	Volumetric (\$/af)	\$259
Water Stewardship Rate	Demand Management	Volumetric (\$/af)	\$41
System Power Rate	Power	Volumetric (\$/af)	\$138
Treatment Surcharge	Treatment	Volumetric (\$/af)	\$348
Capacity Charge	Peak Distribution Capacity	Fixed (\$/cfs)	\$10,900
Readiness-to-Serve Charge	Conv./Distr./Emergency Storage (Standby Capacity)	Fixed (\$M)	\$153

Supply Rates

Purpose

The rate structure recovers supply costs through a two-tiered price structure. The amount of water a member agency may purchase at the lower Tier 1 Supply Rate, water sales within a member agency's Tier 1 maximum, is established by either a purchase order agreement or calculated as 60 percent of its Revised Base Firm Demand.

Tier 1 Supply Rate

The Tier 1 Supply Rate is a volumetric rate charged on Metropolitan water sales that are within a member agency's Tier 1 maximum. The Tier 1 Supply Rate supports a regional approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not recovered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales.

Tier 2 Supply Rate

The Tier 2 Supply Rate is a volumetric rate that reflects Metropolitan's cost of purchasing water transfers north of the Delta. The Tier 2 Supply Rate is charged on Metropolitan water sales that exceed a member agency's Tier 1 maximum. The Tier 2 Supply Rate encourages the member agencies and their customers to maintain existing local supplies and develop cost-effective local supply resources and conservation.

Implementation

Because the Tier 1 maximum is set at a total member agency level and not at a meter level, all system water delivered will be billed at the Tier 1 Supply Rate. Any water delivered that exceeds the Tier 1 maximum will be billed an additional amount equivalent to the difference between the Tier 2 and Tier 1 Supply Rates.

For member agencies without purchase orders and member agencies with purchase orders that accrue a cumulative Tier 2 obligation at the end of year five of the purchase order, the Tier 2 Supply Rate will be applied in the month where the Tier 1 maximum is surpassed on all applicable deliveries. Otherwise, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any purchase order commitment obligation.

Benefits

The use of the two-tiered structure for Supply Rates provides several benefits including (1) efficient resource management, and (2) clear price signals to accommodate a water transfer market.

System Access Rate (SAR)

Purpose

The SAR recovers the cost of the Conveyance and Distribution System that is used on an average annual basis through a uniform, volumetric rate. All users (member agencies and third parties) pay the SAR for access to conveyance and distribution capacity in the Metropolitan system.

Implementation

The SAR is charged for each acre-foot of water transported by Metropolitan, regardless of the ownership of the water being transported. All users (member agencies and third-party wheelers) using the Metropolitan

system to transport water pay the same SAR for the use of the system conveyance and distribution capacity used to meet average annual demands.

Benefits

There are several benefits to the SAR, including (1) support of a regional approach, (2) accommodates a water transfer market that does not unfairly advantage one user over another, (3) provides a clear linkage between costs and benefits, and (4) establishes a simple approach to recovering the costs of conveyance service.

Water Stewardship Rate (WSR)

Purpose

The WSR provides a dedicated source of funding for conservation and local resources development through a uniform, volumetric rate. The WSR supports past and future conservation and local resources projects. Because of the uniform benefits conferred on all system users by investments in conservation and local resources, all users of Metropolitan's conveyance and distribution system pay the WSR.

Implementation

The WSR is charged to each acre-foot of water delivered by Metropolitan, regardless of the water being transported. All users (member agencies and third-party wheelers) benefit from the system capacity made available by investments in Demand Management Programs like Metropolitan's Conservation Credits Program and Local Resources Program. Therefore, all users pay the WSR.

Benefits

The WSR provides significant benefits including (1) support of a regional approach, and (2) providing a dedicated source of funding for the development of local resources.

System Power Rate (SPR)

Purpose

The SPR recovers the costs of energy required to pump water to Southern California through the SWP and CRA. The cost of power is recovered through a uniform, volumetric rate.

Implementation

The SPR is applied to all deliveries of Metropolitan water to member agencies. Wheeling parties pay for actual cost (not system average) of power needed to move the water. Member agencies engaging in wheeling transaction of up to one year pay the wheeling rate (consisting of the actual cost of power, SAR, WSR, and an administrative fee). Other wheeling transactions are pursuant to individual contracts. For example, a party wheeling water through the California Aqueduct would pay the variable power cost associated with using the SWP transportation facilities.

Benefits

The primary benefit of the SPR is that it clearly identifies Metropolitan's average cost of power.

Treatment Surcharge

Purpose

The Treatment Surcharge recovers all of the costs of providing treatment capacity and operations through a uniform, volumetric rate per acre-foot of treated water sales.

Implementation

The Treatment Surcharge is charged to all treated water sales.

Benefits

There are several benefits provided by the treatment surcharge, including that (1) only treated water users pay for the costs of treatment, and (2) by averaging the costs of providing treated water service over the entire system the regional economies of scale are preserved.

Capacity Charge

Purpose

The Capacity Charge provides a price signal to encourage agencies to reduce peak demands on the Distribution System and to shift demands that occur during the May 1 through September 30 period into the October 1 through April 30 period, resulting in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs.

Implementation

Each member agency will pay the Capacity Charge per cubic feet per second (cfs) based on a three-year trailing maximum peak day demand. Each member agency's peak day is likely to occur on different days; therefore this measure approximates peak week demands on Metropolitan.

Benefits

The Capacity Charge provides several benefits including (1) increasing the overall efficiency of water use, (2) improving the fair allocation of costs among member agencies based upon the demand imposed by each agency, and (3) providing a source of fixed revenue.

Readiness-To-Serve Charge (RTS)

Purpose

The RTS recovers the cost of the portion of system that is available to provide emergency service and available capacity during outages and hydrologic variability.

Implementation

The RTS is a fixed charge that is allocated among the member agencies based on a ten-fiscal-year rolling average of firm demands. Water transfers and exchanges are included for purposes of calculating the ten-year rolling average. The Standby Charge will continue to be collected at the request of the member agency and applied as a direct offset to the member agency's RTS obligation.

Benefits

The RTS provides two major benefits, which includes (1) a better matching of costs and benefits, and (2) a SAR that recovers only those costs associated with providing average annual service.

Purchase Order for System Water

Purchase Orders were developed to establish a financial commitment from the member agency to Metropolitan in exchange for the ability to purchase more water at the lower Tier 1 Supply Rate. In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024. Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the Purchase Order Commitment) over a ten-year period.

There is no annual minimum or maximum purchase commitment required by the Purchase Order. A member agency has the full ten-year term to fulfill the Purchase Order Commitment. In exchange for this commitment, the member agency can purchase an amount of firm water supply equal to 90 percent of its cumulative Base Period Demand over the full ten years at the lower Tier 1 Supply Rate. An agency that determined that a Purchase Order is not in its best interest may purchase up to 60 percent of its Revised Base Firm Demand annually at the lower Tier 1 Supply Rate. The terms and conditions of the Purchase Order are uniform for all member agencies.

The Base Period Demand was established for each member agency. Member agencies chose a base amount of (1) the member agency's Revised Base Firm Demand which is the highest fiscal year purchases during the 13-year period of fiscal year 1990 through fiscal year 2002, or (2) the highest year purchases in the most recent 12-year period of fiscal year 2003 through fiscal year 2014.

At the end of the Purchase Order Term, if the member agency has not purchased enough firm supply to meet its Purchase Order Commitment, it will be billed for the remaining balance of the Purchase Order Commitment at the average of the Tier 1 Supply Rate in effect during the Term. This payment may be prorated with interest evenly over the next 12 invoices.

If a member agency fulfills its Purchase Order Commitment prior to the end of the Purchase Order Term, (e.g. purchased ten times 60 percent of the Initial Base Period Demand) then the member agency has met its obligation under the Purchase Order. The member agency may continue to purchase up to 90 percent of its cumulative Base Period Demand over the Term at the Tier 1 Supply Rate for the duration of the Purchase Order Term.

Although the maximum amount of water that can be purchased at the Tier 1 Supply Rate may increase over time if the agency's Base Period Demand increases, the Purchase Order Commitment is fixed for the entire Purchase Order Term and does not increase.

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UNDERSTANDING THE LAYOUT OF THE DEPARTMENTAL BUDGET

DEPARTMENTAL/GROUP BUDGET

The Departmental Section provides detailed information about the Operations and Maintenance (O&M) budget of each group and department and consists of the following:

Mission

Describes, at a high level, the scope of the organization's functions.

Programs

Describes the organizations roles and responsibilities by program or section and provides a summary organizational chart.

Goals & Objectives

Summarizes the objectives each organization proposes to accomplish in the upcoming fiscal years.

O&M Financial Summary

Provides a summary of the organization's O&M budgets. For FY 2016/17 and FY 2017/18, O&M expenditures are identified by expense categories such as salaries and benefits, professional services, and "other" expenditures and incorporate the group objectives.

Expense Category

Category	Description
<i>Salaries and Benefits</i>	Labor costs and fringe benefits for Metropolitan's regular, district temporary, and agency temporary employees. Total salaries and benefits, direct charges to capital, and O&M salaries are shown.
<i>Professional Services</i>	All costs associated with work performed by outside contractors and consultants.
<i>Operating Equipment</i>	Costs associated with the purchase of capitalized portable equipment, including automobiles, trucks, servers, and other applicable portable equipment.
<i>Other</i>	Cost of purchasing chemicals, materials and supplies, reprographics, travel, telephone, and other necessary items for effective operation of Metropolitan. A breakdown has been provided to itemize those expense categories that are five percent or more of the "other" category.

O&M Budget by Section

Provides a summary of the organization's O&M budget and personnel count by section or program.

Personnel Summary

Provides a breakdown for the organization of total personnel involved in O&M and capital work

Budget Highlights

Identifies the major factors of the budget variance over the biennium as well as any significant changes by budget year.

OFFICE OF THE GENERAL MANAGER

The Office of the General Manager manages and administers all Metropolitan activities except those functions specifically delegated by statutes and Board order to the General Counsel, General Auditor, or Ethics Officer.

PROGRAMS

The Office of the General Manager provides overall leadership and management of Metropolitan’s mission. This includes the management of all matters pertaining to the business of the Board and research on actions and policies of the Board by staff for directors, member agencies, and the public.

The General Manager’s Business Plan outlines the strategic priorities that this office and Metropolitan will focus on for the period covered by the biennial budget.

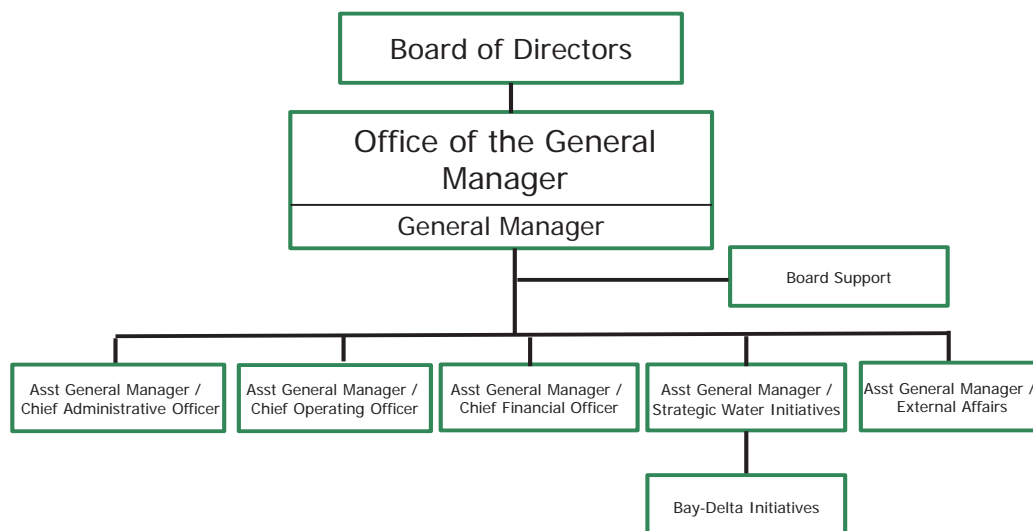
The Office of the General Manager accomplishes its mission through the following programs or sections:

[Office of the General Manager](#) is responsible for the management and administration of Metropolitan’s activities including the

management of all matters pertaining to the business of the Board and research on actions and policies of the Board by staff for directors, member agencies, and the public.

[Bay-Delta Initiatives](#) organization was created in recognition of the increased importance of the Bay Delta to Southern California’s long-term reliability goals and opportunities available to advance the long-term needs of the Bay Delta. This organization spearheads efforts necessary to ensure a stable water supply from key sources in an environmentally responsible manner.

[Board of Directors](#) provides policy and direction as the governing body of the Metropolitan Water District. The Board Support Team provides administrative support to the business of the Board.



GOALS AND OBJECTIVES

For FY 2016/17 and FY 2017/18, the General Manager's Business Plan outlines five strategic priorities to support Metropolitan's mission.

Strategic Priority #1: Complete the Bay Delta Conservation Plan/California WaterFix (BDCP/CA WaterFix) Environmental Impact Report/Statement

During FY 2016/17, the goal will be to complete the environmental documentation and necessary financing agreements so that Metropolitan's Board of Directors can make a sound business decision on participation in and implementation of the BDCP/CA WaterFix.

Interim steps in this process that will be completed during this time period include organizing and developing procedures and structures to handle the mechanics and logistics of managing a mega-construction project, including but not limited to: establishing and staffing a construction office; developing appropriate specifications for equipment procurement, design and construction; establishing procedures for land acquisition and habitat development; creating approaches for interim and long-term project financing; and preparing all necessary permitting documentation.

In addition, staff will continue near-term efforts to provide greater reliability of State Water Project (SWP) supplies. These actions include identifying and pursuing early-action habitat projects that satisfy current permit obligations and will also be compatible with the BDCP/CA WaterFix. Staff will also pursue implementation of new management techniques for species in the Delta including development of new models for species life cycles, turbidity monitoring and other approaches all designed to lead to better management of water supplies while enhancing protection for endangered species.

Finally, staff will continue implementation of the Delta Flood Emergency Preparedness, Response Recovery Plan in the event of a catastrophic interruption of water supplies due to earthquake or flood damage.

Strategic Priority #2: Develop Water Supplies and Manage Water Reserves

Staff will work closely with the Board to manage Metropolitan's water supply reserves in the face of the unprecedented drought conditions in California and throughout the Southwest. Should El Niño conditions create more supply, staff is prepared to maximize storage opportunities. On the other hand, should supply conditions not improve then actions will include implementation of storage withdrawals, coordination of deliveries with the member agencies, close monitoring of drought conditions and possible allocation actions as part of the Water Surplus and Drought Management (WSDM) plan, and targeted outreach on conversation efforts. The past year's successful implementation of the Water Supply Allocation Plan (WSAP) will be reviewed and a determination will be made on what actions to take for FY 2016/17.

Strategic Priority #3: Embark on Strategic Review of Metropolitan's Mission and Programs

Periodically the Board has reviewed its policies and mission to ensure they fit with the times. Many significant policy issues have arisen from the historic drought conditions and were discussed in the 2015 Integrated Resources Plan (IRP) update. FY 2016/17 presents an opportune time for Metropolitan to look in the mirror and determine if changes to policies should be made as we make critical decisions on broader California water policy matters.

Strategic Priority #4: Educate the Public and Stakeholders on Critical Water Supply Conditions and Critical Water Management Decisions.

The coming two years will be a cross road for California water. The current drought gripping California has caused unprecedented water conditions for much of California and led to a dramatic response at the state and federal level. These conditions are likely to continue at least through 2017 if not beyond, complicated by the strong El Niño conditions and flooding

predictions. Additionally, indications are that key decisions may occur on a Bay Delta plan, a potential water bond, significant legislative proposals for statewide action and key Colorado River milestones. It will be essential to fully engage the public and key stakeholders in Metropolitan's service area and statewide on the importance of these issues, as decisions made over the next two years will impact California water for decades to come.

Strategic Priority #5: Employee Development

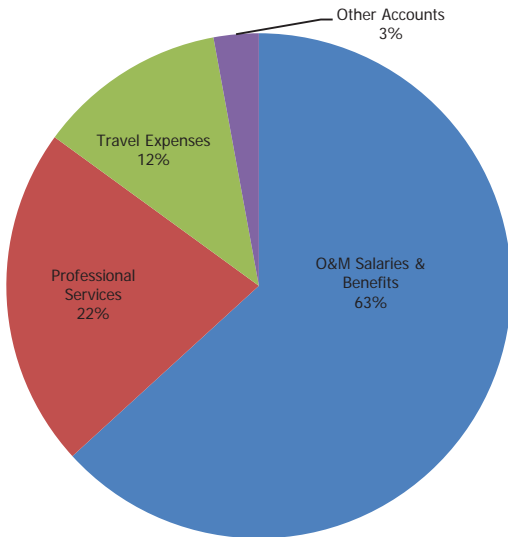
The proposed budget calls for Metropolitan to cease its managed attrition that has shrunk Metropolitan from 2,400 full-time employee positions to a current workforce of approximately 1,770. Recruitment activity will be expanded to keep pace with retirements and fund the work force at approximately 1,840 positions over the next two years. Increased employee cross-training and employee development efforts will be needed to meet the challenge of retirements brought about by an aging workforce.

O&M FINANCIAL SUMMARY

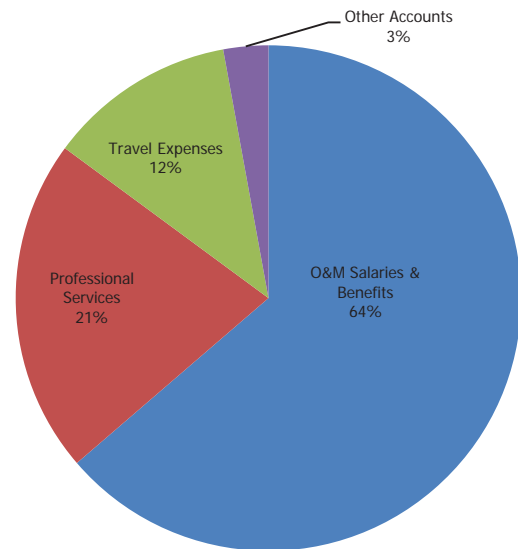
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	8,358,900	9,118,400	8,977,000	(141,400)	9,169,600	192,600
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	8,358,900	9,118,400	8,977,000	(141,400)	9,169,600	192,600
% Change		9.1%		(1.6%)		2.1%
Professional Services	4,171,100	3,666,100	3,391,700	(274,400)	3,353,600	(38,100)
Conferences & Meetings	85,300	20,500	107,100	86,600	108,400	1,300
Subsidies & Incentives	49,600	57,900	60,600	2,700	60,600	—
Travel Expenses	519,000	483,100	572,800	89,700	571,900	(900)
Other Accounts	228,600	159,400	167,300	7,900	166,800	(500)
Total O&M	13,412,500	13,505,400	13,276,500	(222,900)	13,430,900	154,500
% Change		0.7%		(1.7%)		1.2%

Note - Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

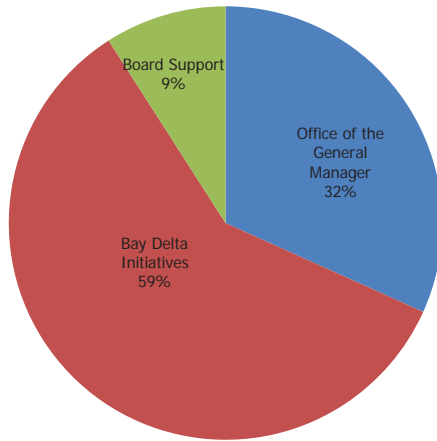


FY 2017/18 BUDGET BY EXPENDITURE

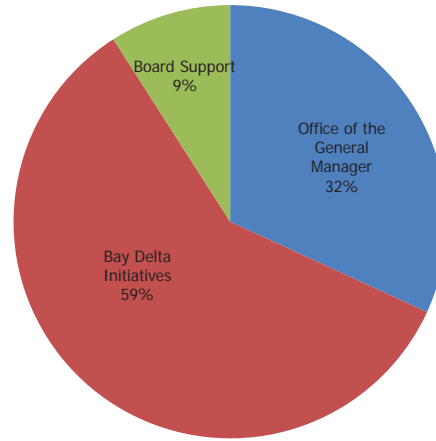


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16	2016/17	Change from	2017/18	Change from	Personnel Budget		
	Budget	Proposed	2015/16	Proposed	2016/17	15/16	16/17	17/18
Office of the General Manager	4,230,100	4,207,600	(22,500)	4,273,200	65,700	13	12	12
Bay-Delta Initiatives	8,126,400	7,864,300	(262,000)	7,939,100	74,800	19	19	19
Board Support	1,149,000	1,204,600	55,600	1,218,500	13,900	5	5	5
Total O&M	13,505,500	13,276,500	(229,000)	13,430,900	154,400	37	36	36

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		32	36	35	(1)	35	—
	O&M	32	36	35	(1)	35	—
	Capital	—	—	—	—	—	—
Temporary		—	1	1	—	1	—
	O&M	—	1	1	—	1	—
	Capital	—	—	—	—	—	—
Total Personnel		32	37	36	(1)	36	—
	O&M	32	37	36	(1)	36	—
	Capital	—	—	—	—	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of the General Manager's biennial budget is \$13.3 million in FY 2016/17 and \$13.4 million in FY 2017/18 or a decrease of 1.7% and an increase of 1.2%, respectively from the prior budget years. The main factors affecting these changes:

- Salaries and Benefits costs were reduced as a result of the elimination of one regular position.
- Costs for Travel and Conferences & Meetings were increased to respond to and promote key initiatives, notably those related to the Bay Delta and Colorado River supplies.
- Offsetting these increases was a reduction in professional services mainly related to drought-related science projects funded in FY 2014/15 that are now nearing completion.
- At the General Manager's direction, budgets were restated to reflect the movement of the Inspection trip Team to External Affairs.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

Total personnel count was reduced by one from the FY 2015/16 budget with the elimination of a position.

Salaries and Benefits reflect negotiated labor increases.

Professional Services

The budget decrease is mainly due to the exclusion of funding for State and Federal Contractors Water Agency drought-related science projects that were funded in FY 2014/15 but are now nearing completion. Other Bay-Delta related projects undertaken by Engineering in

FY 2014/15 and FY 2015/16 that were funded through Bay Delta initiative are also not included in the budget for FY 2016/17.

FY 2017/18

Personnel-related issues

Total personnel count remains flat with FY 2016/17.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Professional Services

The budget decrease is due to the completion of some projects that are not anticipated to continue this year.

WATER SYSTEM OPERATIONS

Water System Operations (WSO) group reliably treats and delivers high-quality water to Metropolitan's member agencies in an efficient, sustainable, and environmentally responsible manner.

PROGRAMS

Water System Operations treats and delivers water from the Colorado River and the State Water Project (SWP) through a raw water conveyance system, five treatment plants, and an extensive treated water distribution network. Water quality is paramount and all functions focus on producing and maintaining water surpassing drinking water standards.

WSO accomplishes its mission through the following programs or sections:

Office of Manager provides day-to-day operational management as well as strategic and organizational leadership, directing all initiatives and core business efforts of WSO. The office also provides support functions such as budgeting, administration, and security. The security function ensures that Metropolitan's employees, water infrastructure, and equipment are adequately protected.

Operations Support Services provides a diverse range of support to Metropolitan's core operational reliability functions and, on a reimbursable basis, to public entities such as DWR and member agencies. The Manufacturing unit performs fabrication, machining, coating, valve and pump refurbishment, underwater maintenance, and crane safety and certification. Construction Services unit performs general construction, large equipment transportation, equipment installation, and emergency response. The Fleet Services unit acquires and maintains vehicles and emergency generators. The Power & Equipment Reliability unit provides maintenance services which include: predictive, preventive, and corrective maintenance analysis for critical

equipment, including all hydroelectric power plants, pressure control structures, high voltage equipment, and heating, ventilation, and air conditioning (HVAC) systems. Additionally, the section helps member agencies with service connection requests.

Water Treatment operates and maintains five water treatment plants with a combined capacity of over 2.6 billion gallons per day. The section oversees treatment processes to ensure high-quality water is reliably produced that complies with drinking water regulations. All five treatment plants are staffed and operated 24 hours a day, seven days a week. Four of the treatment plants (Jensen, Mills, Skinner, and Diemer) have been retrofit to use ozone as the primary disinfectant. Ozone construction is underway at the Weymouth plant and, by the end of this biennial budget, the nearly \$1.3 billion ozone retrofit program will be complete.

Water Conveyance and Distribution meets delivery requirements of member agencies by moving water throughout Metropolitan's 5,200 square mile service area and performing a wide range of operations and maintenance activities to ensure system reliability. The conveyance system consists primarily of the Colorado River Aqueduct system and five pumping plants. The distribution system consists of about 820 miles of pipelines, approximately 350 service connections to member agencies, 16 hydroelectric plants, and 9 storage and regulatory reservoirs that help Metropolitan meet peak flow periods.

Water Quality ensures that Metropolitan provides safe and aesthetically pleasing water through the following activities: conducting chemical and biological analyses; optimizing existing treatment processes; testing new technologies to assure compliance with current and future regulations; and providing technical expertise, laboratory services, and troubleshooting of water quality issues for Metropolitan and its member agencies. Water Quality also works to preserve and improve source water quality through rigorous watershed surveys and advocating for measures to reduce the risk of point and non-point source pollution.

Water Operations and Planning plans and implements the movement and use of water resources. These plans incorporate infrastructure and supply limitations, agency demands, changing water quality requirements, and storage program economics. Operational scenarios that encompass a broad range of potential supplies and demands are developed and refined on a weekly basis throughout the year. This process prepares WSO for a wide variety of possible outcomes as the year develops while maintaining reliable deliveries and balancing water storage reserves at reasonable cost.

In addition, the section programs and maintains Metropolitan’s control system, known as Supervisory Control and Data Acquisition (SCADA) and is also responsible for emergency response management and providing emergency response training to employees.

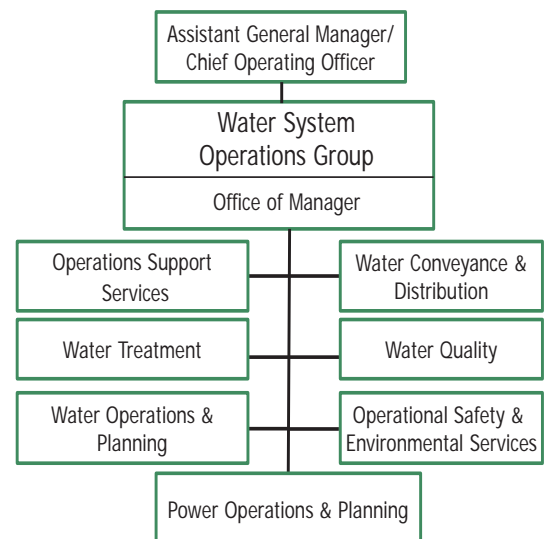
Safety and Environmental Services is responsible for ensuring a safe working environment for employees through programs and training, ensuring business operations are conducted in an environmentally responsible way, and complying with all environmental and occupational health and safety rules and regulations. The section integrates environmental, health and safety practices into Metropolitan’s operations and culture with the

goal of achieving a safe work place and eliminating environmental incidents.

In addition, the section manages technical skills training for maintenance craft employees and sponsors an accredited apprenticeship program which trains industrial mechanics and electricians over a four-year period of classroom and hands-on instruction.

Power Operations and Planning plans, acquires and accounts for the energy required to operate the Colorado River Aqueduct (CRA). This activity requires energy transactions with electric utilities and marketers. The section also negotiates and manages the contracts and energy accounting of Renewable Energy Credits and Greenhouse Gas Allowances for 16 small hydroelectric power plants and the CRA.

In addition, the section is generally responsible for most wholesale energy activities including evaluation of proposed energy-related regulations and legislation; analysis of state and regional transmission plans and impacts to the CRA transmission system; and reporting on compliance with regional and national electric reliability standards. Finally, the section works closely with energy staff at DWR on energy and transmission issues for the SWP.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, WSO will focus on the following key issues:

System Reliability

Manage and maintain the water system to ensure operational reliability for all reasonably expected demands.

As the drought eases, rebuild water storage into accounts that provide the greatest delivery flexibility and cost effectiveness.

Plan, schedule, and execute the Annual Shutdown Plan to ensure reliable operation of the water delivery system, including a strategy to manage longer shutdowns to support the refurbishment of pre-stressed concrete cylinder pipelines.

Maintain eight-pump flow readiness and manage storage accounts to capture all available Colorado River supplies.

With member agency and regional partners, develop new water supplies to supplement the core SWP and Colorado River supplies including groundwater recovery, ocean desalination, and indirect potable reuse.

Participate with the California Department of Water Resources (DWR) on value-engineering efforts to ensure cost-effective rehabilitation of SWP conveyance, pumping, and generation facilities.

Fully utilize the manufacturing shops in La Verne to maintain Metropolitan's infrastructure reliability and support projects for DWR and the member agencies.

Establish vibration-based predictive maintenance program for all large electric motors, vertical turbine pumps, and emergency generators to improve equipment reliability and reduce unnecessary maintenance.

Provide secure facilities through employee training, access controls, incident monitoring, and

response for critical infrastructure sites and office locations.

Conduct emergency response exercises involving internal operational groups and member agencies.

Energy Management

Manage and limit price exposure for wholesale energy to support CRA pumping.

Secure an agreement for coordinated electrical operations of the CRA.

Workforce Development & Succession Planning

Conduct annual Management Academy to improve internal recruitment pool for entry-level supervisors.

Recruit and begin training a new apprentice class each year for the mechanical and electrical trades.

Water Quality, Environmental Protection, and Safety

Meet or surpass all drinking water standards and ensure delivery of aesthetically pleasing water.

Engage in the regulatory process to ensure full consideration of technical and economic feasibility for drinking water and environmental regulations.

Engage watershed stakeholders and regulators to ensure effective control of source water contaminants such as uranium, perchlorate, chromium, pharmaceuticals, nutrients, and algal toxins.

Complete implementation of ozone retrofit program with the startup of ozone at the Weymouth plant.

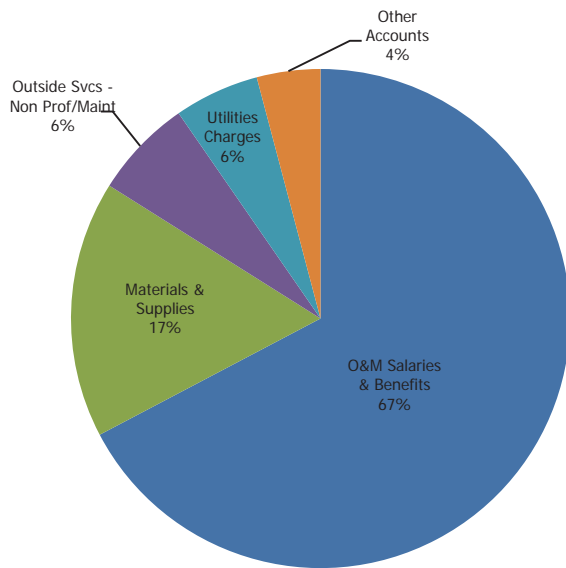
Provide safety and environmental services to ensure safe work practices and adhere to environmental and workplace health and safety regulations.

O&M FINANCIAL SUMMARY

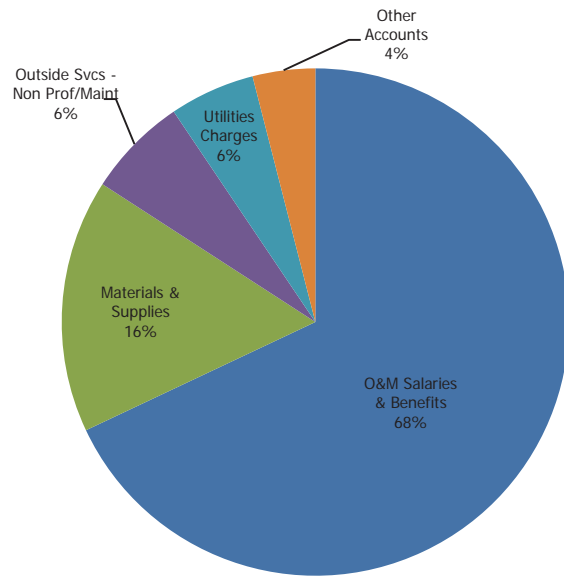
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	155,336,500	155,277,700	159,583,100	4,305,400	164,188,300	4,605,200
Direct Charges to Capital	(7,391,500)	(7,222,700)	(7,126,100)	96,600	(7,161,700)	(35,600)
O&M Salaries and Benefits	147,945,000	148,055,000	152,457,000	4,402,000	157,026,600	4,469,600
% Change		0.1%		3.0%		3.0%
Professional Services	1,325,900	2,377,000	1,119,000	(1,258,000)	1,060,500	(58,500)
Materials and Supplies	36,671,100	39,381,200	37,725,800	(1,655,400)	37,323,200	(402,600)
Outside Services - Non Professional / Maintenance	13,508,100	15,307,800	14,575,100	(732,700)	14,841,100	266,000
Utilities Charges	13,904,900	13,651,900	12,483,200	(1,168,700)	12,576,300	93,100
Other Accounts	9,076,100	7,687,300	8,209,700	522,400	8,146,800	(62,900)
Total O&M	222,431,100	226,460,200	226,569,800	109,500	230,974,500	4,404,800
% Change		1.8%		(0.0%)		1.9%
Operating Equipment	7,311,300	7,019,900	4,489,200	(2,530,700)	5,539,400	1,050,200
Total O&M and Operating Equipment	229,742,400	233,480,100	231,059,000	(2,421,100)	236,513,900	5,454,900
% Change		5.0%		(1.0%)		2.4%

Note – Totals may not foot due to rounding.

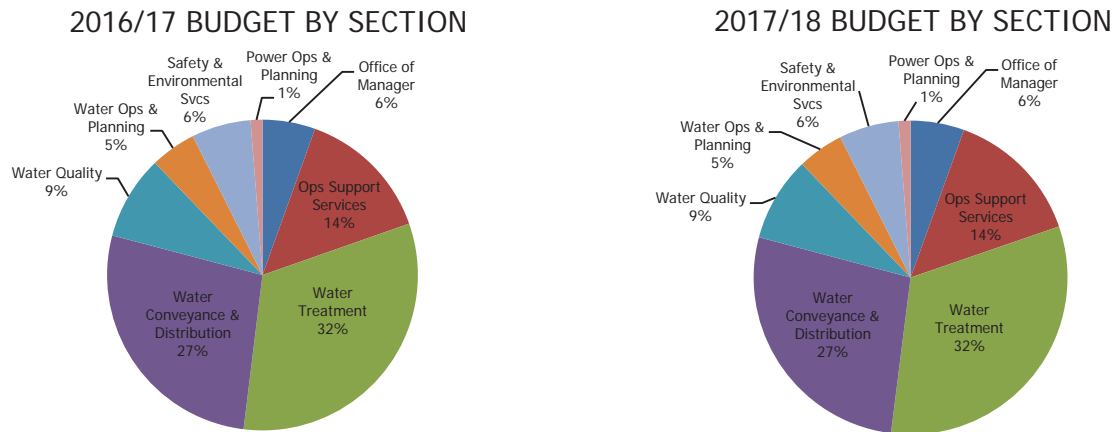
2016/17 BUDGET BY EXPENDITURE



2017/18 BUDGET BY EXPENDITURE



O&M BUDGET BY SECTION



	2015/16	2016/17	Change from	2017/18	Change from	Personnel Budget		
	Budget	Proposed	2015/16	Proposed	2016/17	15/16	16/17	17/18
Office of the Manager	12,769,300	12,439,500	(329,700)	12,759,300	319,800	20	19	19
Operations Support Services	32,292,800	32,042,800	(250,000)	32,803,700	760,900	153	161	161
Water Treatment	75,815,600	73,218,000	(2,597,600)	74,550,100	1,332,100	275	273	273
Water Conveyance and Distribution	57,196,000	61,530,600	4,334,500	62,671,900	1,141,300	267	271	271
Water Quality	20,409,400	19,771,400	(638,000)	20,118,100	346,700	95	93	93
Water Operations and Planning	10,691,300	10,786,100	94,800	10,990,100	204,000	43	43	43
Safety and Environmental Svcs	14,342,800	13,985,400	(357,400)	14,228,500	243,100	54	55	55
Power Operations and Planning	2,943,200	2,796,000	(147,200)	2,852,900	56,900	11	11	11
Total O&M	226,460,300	226,569,800	109,500	230,974,600	4,404,800	917	926	926

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		883	949	951	2	951	—
	O&M	852	903	907	4	907	—
	Capital	31	46	44	(2)	44	—
Temporary		30	14	19	5	19	—
	O&M	28	14	19	5	19	—
	Capital	1	—	—	—	—	—
Total Personnel		913	963	970	7	970	—
	O&M	880	917	926	9	926	—
	Capital	32	46	44	(2)	44	—

SIGNIFICANT BUDGET ISSUES

WSO's biennial O&M and Operating Equipment budget is \$231.1 million in FY 2016/17 and \$236.5 million in FY 2017/18 or a decrease of 1.0% and an increase of 2.4%, respectively from the prior year budgets. The decrease is due primarily to the following factors:

- Lower treated water flows, falling worldwide commodity prices and lower chemical dosages needed to treat the more abundant Colorado River supplies has resulted in the reduction of chemical costs for water treatment.
- Lower-than-projected electrical rates and new solar energy production has resulted in decreased utility costs.
- A reduction in professional services primarily due to the deferral or winding down of projects.
- Overall reduction in security costs as a result of a highly competitive bid for new security guard contract.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

For O&M work, the complement of regular employees was increased by two positions to reflect increased support for servicing the vehicle fleet and a shift of two positions back to O&M as a result of decreasing capital work. In addition, the equivalents of 5 temporary employees were added to offset peak workload and long-term employee absences.

Salaries and Benefits reflect negotiated labor increases.

Professional Services

The budget reflects the deferral or winding down of projects. Budget is based on historical spending and planned projects.

Materials and Supplies

The budget reflects decreased chemical costs for water treatment due to lower treated water flows, falling worldwide commodity prices and lower chemical dosages needed to treat Colorado River supplies.

Utilities Charges

The budget reflects decreased electricity costs due to lower-than-projected electrical rates and new solar energy production.

Other

The Outside Services-Non Professional/Maintenance budget reflects decreased security costs resulting from highly competitive bid for new security guard contract.

FY 2017/18

Personnel-related issues

Overall personnel count for both O&M and capital work remains flat from the FY 2016/17 budget.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Materials and Supplies

The budget reflects inflationary pressure anticipated on materials and supplies and offset by less chlorine required to treat quagga mussels as a result of a decrease in CRA imported water.

Utilities Charges

The budget reflects higher anticipated electricity rates from FY 2016/17.

Other

Outside Services-Non Professional/Maintenance budget reflects increased cost anticipated for annual security guard contract.

Operating Equipment – FY 2016/17 and FY 2017/18

The operating equipment budget has been reduced in this biennial budget which results in a slightly aging fleet, particularly for lighter-duty vehicles. Priority was placed on maintaining sufficient heavy equipment for emergency response and aqueduct maintenance. For emergency response, the goal is to enable an internal response to two simultaneous pipeline breaks.

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WATER RESOURCE MANAGEMENT

Water Resource Management (WRM) plans, secures, and manages water resources that Metropolitan supplies to its member agencies in a reliable, cost-effective, and environmentally responsible manner.

PROGRAMS

Water Resource Management protects and optimally manages imported water quantity and quality; advances water-use efficiency; provides supply and demand forecasts that are the foundation for resource planning; and develops and implements timely resource planning, programs, and projects.

In addition, WRM assists member agencies in optimizing their use of local resources to benefit the entire Metropolitan service area and ensures Metropolitan receives a fair return on contractual investments in local and imported resources.

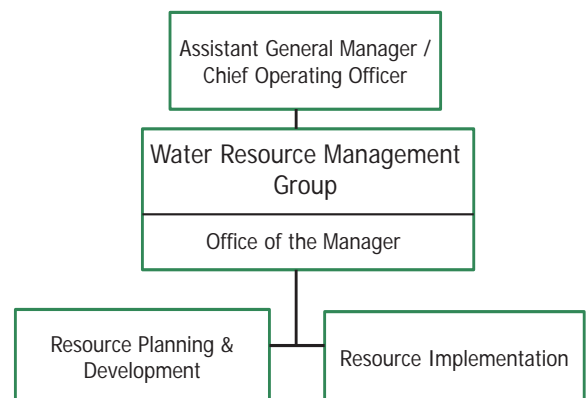
Water Resource Management accomplishes its mission through the following programs or sections:

Office of Manager directs the group’s efforts in planning, securing, and managing Metropolitan’s water resources; monitors and tracks the group’s business plan, financial and budgetary initiatives; and provides administrative and business process support.

Resource Planning & Development is responsible for providing an integrated water supply and demand forecast that will meet the needs of member agencies and reflect their long-range planning efforts for local supplies which sets the foundation for Metropolitan’s resource mix and local supplies needed to meet demands. This section also supports the development of resource programs, projects, and infrastructure to meet projected resource targets; administers the

planning process; defines strategies for meeting service area water needs including the Integrated Resource Plan (IRP) and Water Surplus and Drought Management (WSDM) plan; and develops resource options, such as groundwater conjunctive use, regional recycling and seawater desalination; as well as alternatives for short-range planning and implementation through joint action with Water System Operations.

Resource Implementation develops and administers water resource programs and contracts, and pursues application of new technologies and innovation for the Colorado River, State Water Project, water recycling, groundwater recovery, and conservation. This section also monitors and responds to regulatory, legislative, and operational activities that may influence Metropolitan’s rights and benefits related to the quality, reliability and cost of water.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, WRM will focus on the following key issues:

Colorado River

Evaluate continuing challenges to the Quantification Settlement Agreement (QSA) and develop strategies to respond to changed conditions.

Protect Colorado River resources, Metropolitan's Colorado River rights, and optimize the use of available Colorado River water.

Facilitate salinity management projects and other actions that protect and improve source water quality.

Partner with other Colorado River water delivery contractors to develop new Metropolitan supplies, including cross-border water supply programs.

Administer Imperial Irrigation District (IID) and Palo Verde Irrigation District (PVID) agricultural conservation programs.

Work with representatives of the International Boundary and Water Commission and United States Bureau of Reclamation (USBR) to continue implementation of Minute 319 and coordinate emergency deliveries for Tijuana.

Continue administration of pilot system water projects that help keep Lake Mead levels above shortage triggers.

Develop strategy and tools for managing new agricultural land purchases in the Palo Verde Valley.

Groundwater Storage Program

Continue management of nine approved conjunctive use programs to store water for dry-year yield.

Continue facilitation of dialogue among agencies in groundwater management, recycled water production, and stormwater and flood management to enhance groundwater basin recharge.

Continue to monitor and inform member agencies and groundwater managers of proposed legislation and regulations that potentially affect groundwater recharge or management.

Legislative Review

Continue to review and provide comments on proposed state and federal legislation on water resources issues related to Metropolitan's mission and WRM functions.

Regional Resources and Water Conservation

Implement Long-Term Water Conservation Plan and new LRP initiatives to meet 20x2020 urban water use reduction target.

Pursue grant funding supplement implementation of regional water conservation program initiatives.

Participate in activities leading to expanded use of recycled water and increased water-use efficiency.

Administer agreements that provide incentives for conservation, recycled water, recovered groundwater production, and support development of local resource development projects.

Conduct research to advance local resource and conservation program effectiveness.

Seawater Desalination

Continue to develop and actively participate in CalDesal and support its regulatory and legislative initiatives with the State's Ocean Plan and the Ocean Protection Council's draft Strategic Action Plan.

State Water Project

Renegotiate the SWP contract, extending the contract term, and adjust cost repayment provisions to reflect longer term supply and repayment needs.

Ensure accurate billings and influence sound financial decisions by DWR, including effective DWR energy management practices with regard to renewable energy, emissions reductions, transmission strategies, and energy acquisitions.

Continue to discuss and resolve disputed charges for the SWP.

Protect SWP water, power, and financial positions under the Oroville Federal Energy Regulatory Commission (FERC) relicensing process as well as associated litigation and upcoming FERC relicensing and several DWR facilities in Southern California.

Support Metropolitan's interests in any SWP-related litigation.

Coordinate major rehabilitations and new SWP capital improvements to ensure cost-effective and reliable water supply, energy generation, and use.

Promote water quality monitoring and forecasting activities and raise awareness of potential water quality impacts from operational decisions.

Develop and implement strategies to access SWP conveyance facilities to optimize use of Metropolitan water transfer and banking programs in light of scheduled and forced infrastructure outages.

Continue participation in State Water Contractors, Inc., State Water Project Contractors Authority, and State and Federal Water Contractors Authority to coordinate activities at a statewide level.

Future Supply Actions

Staff will consider other future supply actions as deemed necessary.

Continue participation in the Southern California Water Committee Stormwater Task Force to identify opportunities and remove obstacles to increases in stormwater capture and infiltration for measurable groundwater yield.

Water Supply and System Planning

Complete annual progress reports on IRP implementation and Metropolitan's water supplies and achievements in conservation, recycling, and groundwater recharge (SB 60 report).

Complete the annual forecast of Metropolitan sales to support revenue requirements and budget process.

Explore potential partnerships with member agencies and other entities for development of regional seawater desalination, recycling, and groundwater replenishment facilities.

Upgrade and enhance planning tools, such as computer models for demand forecasting, resource program evaluation, and distribution system.

Continue work with the Water Utility Climate Alliance to perform case studies on climate data applications to water resources planning.

Water Transfers and Exchanges Program

Continue to manage existing water transfer, exchange, and storage programs along the California Aqueduct and Colorado River Aqueduct and implement approved water transfers.

Pursue additional water transfers and exchanges as needed.

Work with other State Water Contractors on a long-term water transfer permitting process.

Workforce Development & Succession Planning

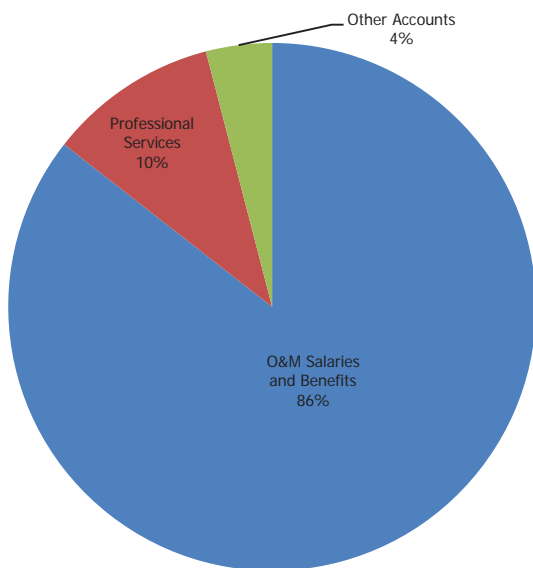
Continue to develop staff expertise in critical areas to prepare for future employee retirements or departures.

O&M FINANCIAL SUMMARY

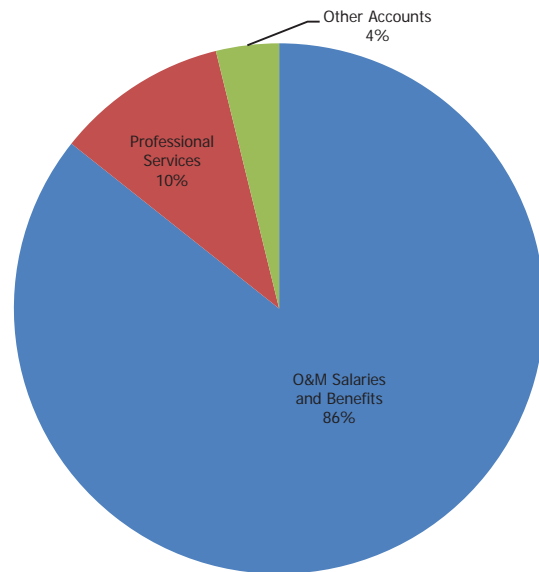
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	12,717,400	14,157,500	14,288,800	131,300	14,574,300	285,500
<i>Direct Charges to Capital</i>	<i>(2,000)</i>	—	—	—	—	—
O&M Salaries and Benefits	12,715,400	14,157,500	14,288,800	131,300	14,574,300	285,500
% Change		11.3%		0.9%		2.0%
Professional Services	1,322,100	2,113,200	1,710,000	(403,200)	1,740,000	30,000
Grant / Donation Expense	102,000	125,000	125,000	—	125,000	—
Graphics & Reprographics	11,200	79,900	35,700	(44,200)	25,700	(10,000)
Materials and Supplies	125,300	82,300	104,400	22,100	89,400	(15,000)
Memberships & Subscriptions	181,600	185,700	4,998,400	4,812,700	5,365,000	366,600
Rent & Leases	11,500	10,000	45,000	35,000	43,000	(2,000)
Training & Seminars Costs	10,700	46,000	36,200	(9,800)	36,200	—
Travel Expenses	139,200	156,500	126,000	(30,500)	126,100	100
Other Accounts	85,500	201,800	114,400	(87,400)	114,000	(400)
Total O&M	14,704,500	17,157,900	21,583,900	4,426,100	22,238,700	654,800
% Change		16.7%		25.8%		3.0%

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

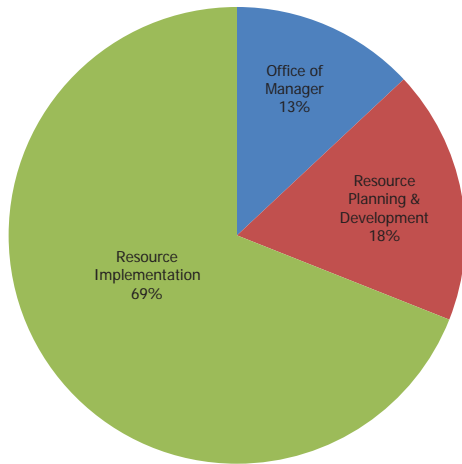


FY 2017/18 BUDGET BY EXPENDITURE

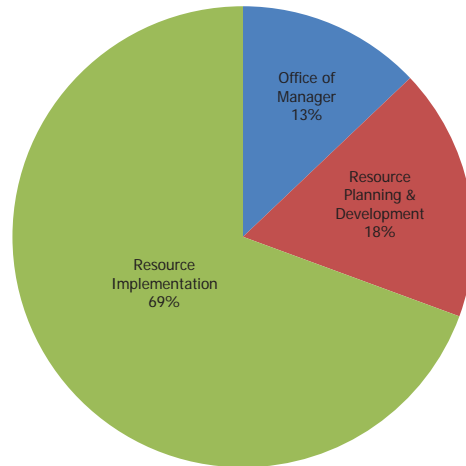


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16	2016/17	Change from	2017/18	Change from	Personnel Budget		
	Budget	Proposed	2015/16	Proposed	2016/17	15/16	16/17	17/18
Office of Manager	3,559,500	2,811,900	(747,600)	2,871,000	59,100	19	14	14
Resource Planning & Development	4,276,500	3,881,900	(394,600)	3,935,900	54,000	15	16	16
Resource Implementation	9,321,900	14,890,200	5,568,200	15,431,900	541,700	34	38	38
Total O&M	17,157,900	21,583,900	4,426,100	22,238,700	654,800	68	68	68

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		59	68	68	—	68	—
	O&M	59	68	68	—	68	—
	Capital	—	—	—	—	—	—
Temporary		—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel		59	68	68	—	68	—
	O&M	59	68	68	—	68	—
	Capital	—	—	—	—	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

WRM's biennial budget is 21.6 million in FY 2016/17 and \$22.2 million in FY 2017/18, or an increase of 25.8% and 2.8%, respectively from the prior budget years. The biennial budget includes association dues related to SWP and CRA previously budgeted in Other O&M. Excluding these association dues, WRM achieved a 2.9% decrease between FY 2015/16 and FY 2016/17 while taking on additional responsibilities related to Colorado River Program Desert Land Management. The decrease was primarily due to the following factors:

- The primary factor, professional services, has been decreased through the reduction or deferral of various conservation research studies, system analysis technical studies, supply and aqueduct modeling, and water use investigations. The reduction may limit the ability to provide timely responses to technical studies and update models for the water resource evaluation.
- Some memberships were eliminated that may reduce the ability to collaborate with other boards or agencies on statewide and federal issues.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

Total personnel count remains flat with the FY 2015/16 budget.

Salaries and Benefits budget reflects anticipated retirements and vacancies filled at lower level job classifications offset by negotiated labor increases.

Professional Services

The budget reflects reduced technical services for Colorado River water use mapping and monitoring, conservation research studies, IRP, system analysis technical studies and eliminated SWP supply and aqueduct modeling support. These reductions were offset by professional services related to Colorado River Program Desert Land Management.

Memberships and Subscriptions

Budget includes association dues for SWP and CRA previously budgeted in Other O&M.

Budget also reflects the elimination of memberships and subscriptions for Western Urban Water Coalition, California Urban Water Agencies, and WaterReuse Foundation.

Other

The budget reflects reduced travel associated with SWP, CRA, conservation, and local resources program and a reduction in conservation marketing materials and IRP reports.

FY 2017/18

Personnel-related issues

Total personnel count remains flat with the FY-2016/17 budget.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Professional Services

The budget reflects an increase related to the State Water Contract audit.

ENGINEERING SERVICES

Engineering Services Group provides innovative, high-quality, and cost-effective solutions to meet our customers’ needs and to ensure the long-term reliability and successful operation of Metropolitan’s infrastructure.

PROGRAMS

Engineering Services performs project management, design, construction management, environmental planning, infrastructure protection monitoring, water-related facility planning, and manages Metropolitan’s Capital Investment Plan (CIP).

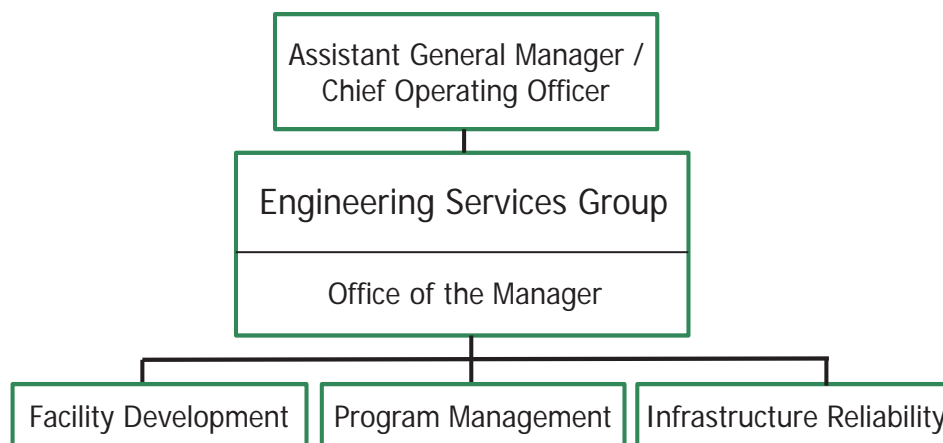
Engineering Services accomplishes its mission through the following programs or services:

Office of the Group Manager oversees the management of the Engineering Services group by providing strategic leadership on engineering initiatives and core business efforts, to ensure the continued reliability and quality of water deliveries.

Facility Development is responsible for providing design, environmental planning, and local and regional water-related facility planning services.

Infrastructure Reliability is responsible for construction management and for the monitoring and protection of Metropolitan’s infrastructure.

Program Management is responsible for overall project delivery of capital and O&M projects, and serves as Metropolitan’s “Owner’s Engineer.”



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, Engineering Services will focus on the following key issues:

California Water Fix and California Eco Restore

Provide engineering and program management leadership in support of the California Water Fix and California Eco Restore initiatives.

Drought Management

Develop and execute projects to optimize water system operations and expand the delivery of Colorado River water to areas of the distribution system that are normally supplied by the State Water Project.

Expedite development of a Regional Recycled Water Supply Program including the design and construction of a demonstration-scale recycled water treatment plant, and preparation of a comprehensive feasibility study of a full-scale recycled water system.

Continue to support opportunities to collaborate with other agencies to enhance local water supplies.

Infrastructure Reliability

Manage and complete Board-authorized projects within the CIP to ensure the reliable delivery of water to Metropolitan's member agencies.

Provide engineering and technical services to support the operation and maintenance of Metropolitan's water conveyance, delivery, and treatment facilities.

Protect public safety, minimize future costs of infrastructure maintenance and repairs, avoid unplanned outages by monitoring Metropolitan's facilities and right-of-way, and performing essential technical assessments.

CIP Management

Execute and prioritize capital projects to address Metropolitan's short-term needs and long-term objectives, and optimize utilization of internal and external resources.

Evaluate project performance to identify and implement improvements in project delivery.

Employee Development

Lead workforce development and succession planning activities to optimally maintain technical expertise and skills needed in the future.

Customer Service

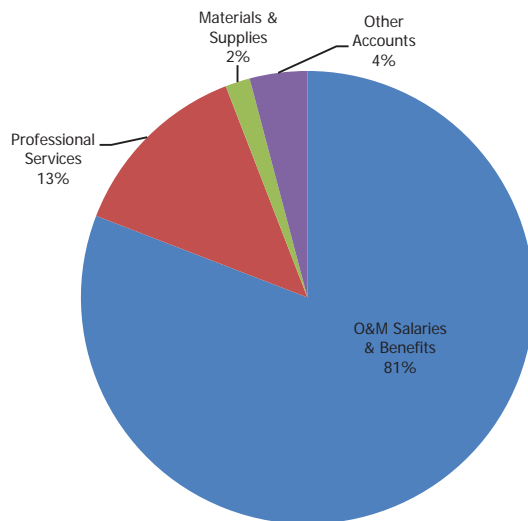
Provide technical leadership and services to meet Metropolitan's business needs.

O&M FINANCIAL SUMMARY

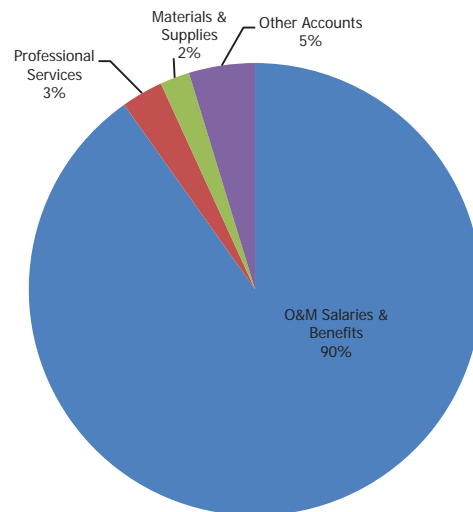
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	68,237,600	68,811,500	72,098,200	3,286,700	73,586,700	1,488,500
<i>Direct Charges to Capital</i>	<i>(41,307,600)</i>	<i>(41,895,500)</i>	<i>(45,450,400)</i>	<i>(3,554,900)</i>	<i>(47,913,900)</i>	<i>(2,463,500)</i>
O&M Salaries and Benefits	26,930,000	26,916,000	26,647,800	(268,200)	25,672,800	(975,000)
% Change		(0.1%)		(1.0%)		(3.7%)
Professional Services	1,161,600	1,445,300	4,371,000	2,925,700	851,000	(3,520,000)
Communication Expenses	95,200	130,000	100,000	(30,000)	100,000	—
Materials and Supplies	578,400	448,800	580,200	131,400	602,200	22,000
Memberships & Subscriptions	89,400	146,700	181,300	34,600	188,900	7,600
Taxes & Permits	371,500	302,000	320,000	18,000	330,000	10,000
Travel Expenses	167,600	261,900	140,400	(121,500)	130,000	(10,400)
Utilities Charges	166,800	240,000	180,000	(60,000)	180,000	—
Other Accounts	558,900	380,200	433,600	53,400	414,800	(18,800)
Total O&M	30,119,400	30,270,900	32,954,300	2,683,400	28,469,700	(4,484,600)
% Change		0.5%		8.9%		(13.6%)
Operating Equipment	566,200	406,300	435,400	29,100	258,800	(176,600)
Total O&M and Operating Equipment	30,685,600	30,677,200	33,389,700	2,712,500	28,728,500	(4,661,200)
% Change		1.9%		8.8%		(14.0%)

Note – Totals may not foot due to rounding.

2016/17 BUDGET BY EXPENDITURE

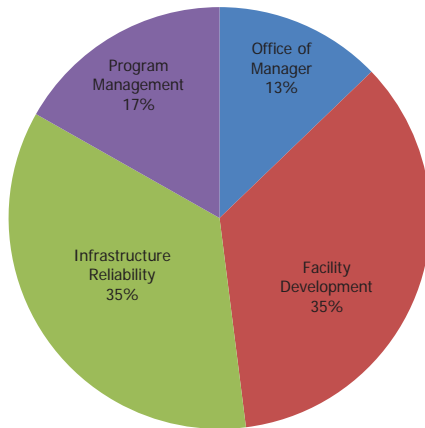


2017/18 BUDGET BY EXPENDITURE

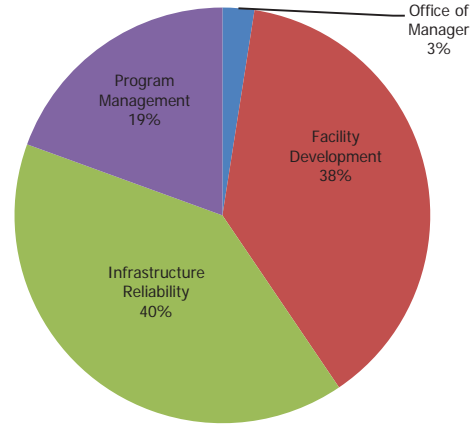


O&M BUDGET BY SECTION

2016/17 BUDGET BY SECTION



2017/18 BUDGET BY SECTION



	2015/16	2016/17	Change from	2017/18	Change from	Personnel Budget		
	Budget	Proposed	2015/16	Proposed	2016/17	15/16	16/17	17/18
Office of Manager	1,117,700	4,219,200	3,101,500	703,500	(3,515,700)	8	1	1
Facility Development	12,010,200	11,598,100	(412,100)	10,831,700	(766,400)	55	50	45
Infrastructure Reliability	11,404,300	11,601,600	197,300	11,397,700	(203,900)	60	58	56
Program Management	5,738,700	5,535,500	(203,300)	5,536,800	1,382	23	30	29
Total O&M	30,270,900	32,954,300	2,683,400	28,469,700	(4,484,600)	146	139	131

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		345	371	371	—	371	—
	O&M	134	146	139	(7)	131	(8)
	Capital	211	225	232	7	240	8
Temporary		2	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	2	—	—	—	—	—
Total Personnel		347	371	371	—	371	—
	O&M	134	146	139	(7)	131	(8)
	Capital	213	225	232	7	240	8

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

Engineering Services O&M budget is \$33.0 million in FY 2016/17 and \$28.5 million in FY 2017/18. As detailed below, Engineering Services' budget is influenced significantly by a new initiative, Metropolitan's Regional Recycled Water Supply Program. During FY 2016/17, a conceptual feasibility study for this program will be conducted that is categorized as a Major O&M project. This effort is planned to be completed within that fiscal year.

Total planned O&M expenditures for FY 2016/17 are approximately \$2.7 million or 8.9% more than in FY 2015/16, with the addition of Major O&M support required for Metropolitan's Regional Recycled Water Supply Program. All support to the California Water Fix initiative is planned to be funded under a reimbursable agreement.

For FY 2017/18, planned O&M expenditures are approximately \$4.5 million or 13.6% less than in FY 2016/17, due to completion of Major O&M work in support of the Regional Recycled Water Supply Program.

O&M	FY 2015/16	FY 2016/17	FY 2017/18
Labor	\$26,916,000	\$25,105,100	\$25,672,800
Non-labor	\$3,354,900	\$2,786,500	\$2,796,900
Total O&M	\$30,270,900	\$27,891,600	\$28,469,700
Recycled Water (labor & non-labor)	\$0	\$5,062,700	\$0
Total O&M & Special Initiative	\$30,270,900	\$32,954,300	\$28,469,700
% Change		8.9%	(13.6%)

Note: Excludes Operating Equipment

The following are the significant changes by budget year.

FY 2016/17

Personnel-Related Issues

Total personnel levels remain consistent with the previous fiscal year. However, the O&M and capital complement is different from the FY 2015/16 budget. This is primarily due to the shift in Major O&M work with the California Water Fix initiative no longer being funded under Major O&M as it is planned to be funded under a reimbursable agreement, and Major O&M support required for Metropolitan's Regional Recycled Water Supply Program.

Planned capital expenditures for FY 2016/17 are approximately \$56 million less than in

FY 2015/16, with a total capital budget of \$180 million. This decrease in planned expenditures reflects a readjustment of project budgets and schedules to meet Metropolitan's overall biennial budgetary goals. Actual capital expenditures during the FY 2015/16 are also projected to be about \$33 million less than budgeted.

Salaries and Benefits reflect negotiated labor increases.

Professional Services

The budget primarily reflects increases to support Metropolitan's Regional Recycled Water Supply Program.

Materials and Supplies

The budget reflects an increase in design-related software maintenance costs.

Travel Expenses

The budget reflects decreases of travel-related expenses for the California Water Fix initiative, which is planned to be funded under a reimbursable agreement.

Utility Charges

The budget reflects an overall decrease in Engineering Services' utility costs at the La Verne facility based on current expenditure trends.

Other

Other non-labor budget includes planned expenditures to support Metropolitan's Regional Recycled Water Supply Program and Engineering's workforce development programs (e.g., Career Launch, Mentoring Program, etc.).

FY 2017/18

Personnel-related issues

Total personnel levels remain consistent with the previous fiscal year. However, the O&M and capital complement is different from the FY 2016/17 budget. This is primarily due to the planned completion of Major O&M work in FY 2016/17 for Metropolitan's Regional Recycled Water Supply Program, resulting in a shift of O&M staffing to CIP in FY 2017/18.

Planned capital expenditures for FY 2017/18 will remain steady, with a total capital budget of \$180 million. High priority projects that will continue during the fiscal year include the Weymouth Oxidation Retrofit Program, which will be completed; the Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program; the Colorado River Aqueduct (CRA) Reliability Programs; and the Right of Way and Infrastructure Protection Program.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Professional Services

The budget primarily reflects a decrease due to completion of support to Metropolitan's Regional Recycled Water Supply Program.

Materials and Supplies

The budget reflects anticipated increases in design-related software maintenance costs.

Other

The Conference and Meetings budget reflects decreases due to completion of support to Metropolitan's Regional Recycled Water Supply Program.

Operating Equipment – FY 2016/17 and FY 2017/18

The operating equipment budget reflects a slight increase from FY 2015/16 to FY 2016/17, and then a decrease in FY 2017/18 primarily due to the deferral of vehicle replacements. Other equipment identified to be replaced includes robotic total stations (field survey equipment) which have already exceeded their expected service life.

BUSINESS TECHNOLOGY

Business Technology Group (BTG) provides outstanding value to its customers for a wide range of administrative and technical services.

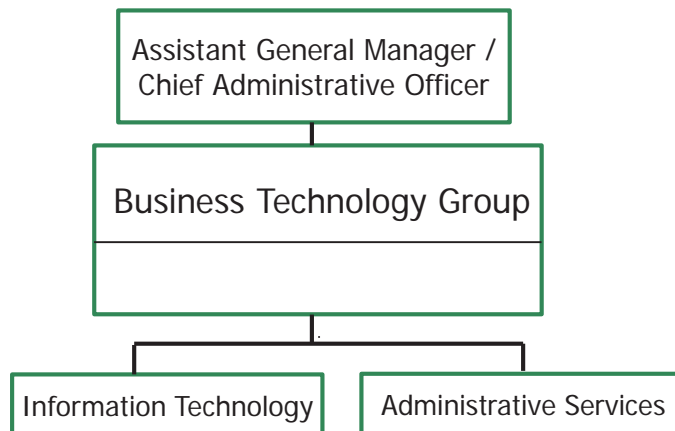
PROGRAMS

Business Technology group accomplishes its mission through the following programs or sections:

Administrative Services provides a range of services including contracting, procurement, inventory management, warehousing, graphics, technical writing, grant management, records management, and administration of Metropolitan’s Rideshare Program.

Information Technology delivers comprehensive technology services and solutions in water systems and business applications (e.g., laboratory information management system, financial and human resource systems, maintenance management system, etc.), geographic information systems, telecommunications/networks, SCADA, programming, network communications, and computer hardware and software.

In addition, the section oversees Metropolitan’s annexation functions.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, BTG will focus on the following key issues:

Business Technology & Process Enhancement

Implement projects in support of the Information Technology Strategic Plan (ITSP) update. Expected initiatives include additional migration to mobile technology and implementation of cloud solutions to enhance productivity and streamline business processes, mitigate cost or cost avoidance.

Continue with the development of the Water System Control Master Plan to fully coordinate and further protect the operational and business investments of Metropolitan's SCADA systems.

Continue to evaluate emerging technology advancements in the business environment to determine their application for Metropolitan.

Continue to promote procurement training methods including online training for credit card use and agreement administration to further the customer's knowledge of available procurement tools and value added opportunities for Metropolitan.

Continue to monitor and participate in local and national efforts aimed at enhancing security capabilities for water utilities.

Partner with the Engineering Services and Water Systems Operations groups to begin deployment of a Water Systems Asset Information Program that will support ongoing and future planning, engineering, operations, maintenance, and asset management.

Initiate the design phase of the Enterprise Content Management (ECM) system to satisfy existing and future compliance of physical and electronic records in line with fiscal, legal, and regulatory requirements. As part of a strong ECM strategy and design, the system will provide a framework for collaboration and automation while protecting Metropolitan by reducing risk of exposure in litigation, enhancing efficiency of core business

processes, and supporting the enterprise business continuity plan.

Information Systems Upgrades and Projects

Complete upgrade for Enterprise Learning Management.

Initiate project to replace the critical data storage devices at Metropolitan Headquarters datacenter to provide sufficient computing power and modernize the datacenter to meet current and future needs.

Deploy phase one of a three-phase project to improve the reliability, performance, and capacity of Metropolitan's wireless network infrastructure comprising of microwave radio wide-area networks (WANs) and wireless access point local-area-networks (LANs).

Begin the first phase of the project to implement power, grounding, and HVAC upgrades to computer rooms and communications facilities to ensure that critical IT, WSO, and business systems remain operational for required emergency durations in the event of a temporary electrical power outage.

Deploy the upgrade of audio, video and information technology-related equipment in the main board room and all committee rooms in Metropolitan's headquarters building.

Complete final design and seek Board approval for a construction contract to upgrade the control and electrical protection systems at the Wadsworth Pumping Plant to ensure continued reliability of the facility.

Continue enhancements to Metropolitan's cyber security capabilities to ensure protection against evolving cyber threats.

Complete deployment of the emergency two-way radio system to improve its coverage, reliability, ease of use and durability during emergencies.

Initiate an infrastructure upgrade at Metropolitan's IT Disaster Recovery Facility (DRF) in Riverside County. The upgrade will equip the facility with necessary upgrades to hardware and software to recover critical IT systems at a desired performance level and reduce risk of disruption of these business systems.

Sustainability Efforts

Continue with innovative sustainability efforts in business practices and employee education by hosting Metropolitan's Annual Spring Green Expo and Innovators Showcase, Metropolitan's Rideshare Program to reduce travel emission, and the Our Legacy e-Newsletter for employees.

Facility & Energy Management

Continue to optimize the cost of maintaining Metropolitan's headquarters building and DVL

Visitors Center while supporting Metropolitan's sustainability initiatives and the guidelines and benchmarks established by the Building Owners and Managers Association.

Begin implementation of findings from an energy management/usage audit of Union Station designed to reduce energy costs and improve operational efficiency.

Continue to partner with Real Property Development and Management to effectively utilize space and to support leasing space for revenue generation.

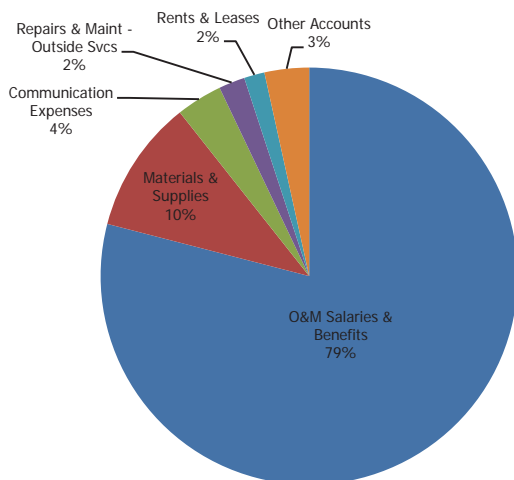
Manage critical rehabilitation projects of Union Station Headquarters as the facility ages beyond 17 years old; repairing and replacing equipment only as required.

O&M FINANCIAL SUMMARY

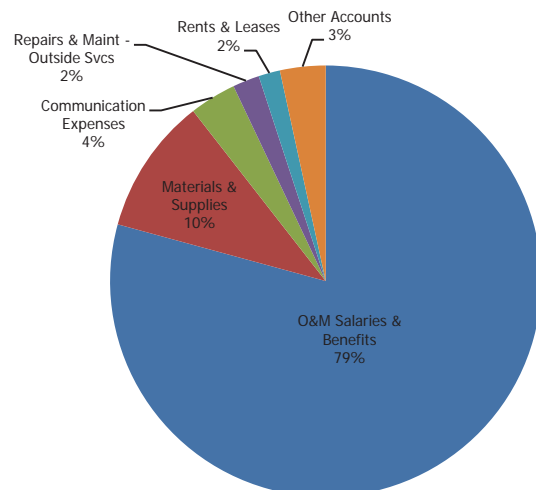
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	35,763,900	38,773,200	35,956,400	(2,816,800)	36,773,600	817,200
Direct Charges to Capital	(1,304,000)	(966,100)	(1,352,600)	(386,500)	(1,363,100)	(10,500)
O&M Salaries and Benefits	34,459,900	37,807,100	34,603,800	(3,203,300)	35,410,500	806,700
% Change		9.7%		(8.5%)		2.3%
Professional Services	409,600	413,100	490,900	77,800	507,100	16,200
Communication Expenses	1,457,800	1,481,400	1,565,500	84,100	1,565,500	—
Materials and Supplies	4,613,000	4,903,100	4,522,000	(381,100)	4,567,800	45,800
Outside Services - Non Professional / Maintenance	558,000	505,700	455,800	(49,900)	453,800	(2,000)
Rent & Leases	668,400	788,600	696,000	(92,600)	721,000	25,000
Repairs & Maintenance - Outside Services	637,700	936,900	889,500	(47,400)	896,500	7,000
Subsidies & Incentives	511,900	563,200	549,200	(14,000)	549,200	—
Other Accounts	180,400	39,800	15,400	(24,400)	16,400	1,000
Total O&M	43,496,700	47,438,900	43,788,100	(3,650,800)	44,687,800	899,700
% Change		9.1%		(7.7%)		2.1%
Operating Equipment	936,200	764,000	667,200	(65,300)	627,800	(70,900)
Total O&M and Operating Equipment	44,459,900	48,202,900	44,455,300	(3,747,600)	45,315,600	860,300
% Change		8.4%		(7.8%)		1.9%

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

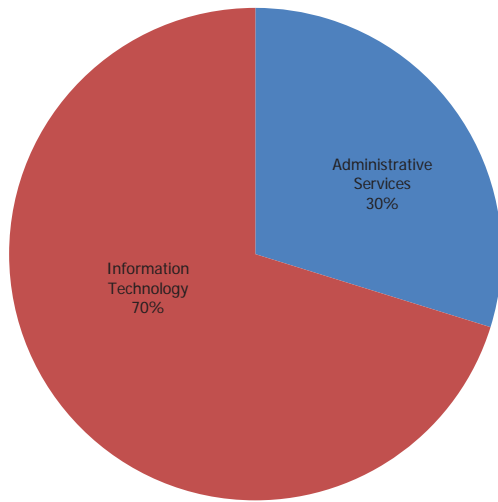


FY 2017/18 BUDGET BY EXPENDITURE

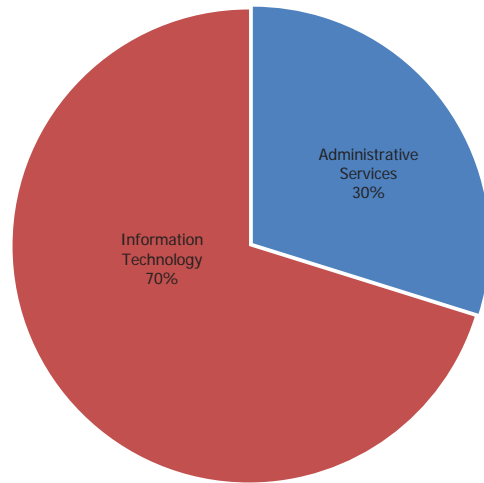


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17	Personnel Budget		
						15/16	16/17	17/18
Office of the Manager	1,660,200	—	(1,660,200)	—	—	7	—	—
Administrative Services	13,170,200	13,046,200	(124,000)	13,327,900	281,700	76	82	82
Information Technology	32,608,500	30,741,900	(1,866,600)	31,359,800	617,900	124	123	123
Total O&M	47,438,900	43,788,100	(3,650,800)	44,687,800	899,700	207	205	205

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		196	212	212	—	212	—
	O&M	191	207	205	(2)	205	—
	Capital	5	5	7	2	7	—
Temporary		5	—	2	2	1	(1)
	O&M	5	—	—	—	—	—
	Capital	—	—	2	2	1	(1)
Total Personnel		201	212	214	2	213	(1)
	O&M	196	207	205	(2)	205	—
	Capital	5	5	9	4	8	(1)

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

At the General Manager's direction, Business Technology has been reorganized.

- The Office of the Manager has been eliminated and all functions with the exception of annexation have been reassigned to other areas within Metropolitan.
- Business Outreach and videography and photography services have been moved to External Affairs
- Facilities management for Union Station and the DVL Visitor Center has been moved to Real Property Development and Management.
- Budgets have been restated to reflect the movement of Business Outreach and Facilities Management.

Business Technology's biennial O&M and Operating Equipment budget is 44.5 million in FY 2016/17 and \$45.3 million in FY 2017/18 or a decrease of 7.8% and a slight increase of 1.9%, respectively from the prior budget years. The decrease is due to the following factors:

- The primary factor, Salary and Benefits, has been reduced as a result of the elimination of a position, the unfunding of nine positions and the anticipated vacancies from retirements and position movements. In addition, resources are anticipated to be shifted to Capital Projects in lieu of the use of consultants. Business Technology is preparing its customers for O&M service delays over this biennium period as workload will be tightly managed and prioritized in order to meet budget reductions.
- Software maintenance costs were eliminated for any new corporate/business applications that have not come online with some costs passed back to the user.
- Lower outside service maintenance costs are expected for IT servers as a result of new servers installed over the past biennium that are under warranty.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

FY 2015/16 budget was not restated to reflect individual position movements related to the reorganization. If those position movements are taken into account total personnel count remains flat with the FY 2015/16 budget.

Salaries and Benefits budget reflects the elimination of one regular position, a transfer of a regular position to Human Resources, nine unfunded positions, and planned vacancies that will negatively impact service levels in the areas of Records Management and Warehouse systems. In the areas of information technology, service level delays and/or reductions are planned for the areas of new mobile technology, software compliance monitoring, database administration

for Oracle Financials, and desktop/helpdesk support.

Salaries and Benefits also reflect negotiated labor increases

Capital labor budget reflects an increase in scheduled demands for ongoing rehabilitation and upgrades of IT facilities in support of the Water System Operations and Engineering Services groups. These include upgrades to the DVL Controls at the Wadsworth Pumping Plant, the Emergency Two-way Radio system, the Water Asset Information System, Water Systems Control Master Plan, Cyber Security Enhancements and the Communications Infrastructure Upgrade.

Professional Services

The budget reflects additional IT support in the areas of video streaming for board and committee rooms and initiatives associated with the ITSP.

Materials and Supplies

The budget reflects reduced levels of software licensing/support agreements as a result of deferred capital projects associated with capital reporting, Enterprise Content Management, and Emergency Radio Communications. Any contractual cost increases of existing software maintenance and licensing will be absorbed.

Outside Services – Non Professional and Repairs/Maintenance

The budget reflects a decrease due to deferral/delays for maintenance of IT Servers and equipment.

Other

The rents and leases budget reflects the current costs for rideshare vehicles and reprographic equipment.

FY 2017/18

Personnel-related issues

Total regular personnel count for both O&M and capital work remains flat from the FY 2016/17 budget.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Operating Equipment – FY 2016/17 and FY 2017/18

The operating equipment budget reflects the critical replacement of IT servers, routers, and storage devices used for Metropolitan applications.

The operating equipment budget is decreasing slightly between budget years FY 2016/17 and FY 2017/18 primarily as a result of fewer IT equipment replacements.

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HUMAN RESOURCES

Human Resources (HR) strategically, and cost effectively, recruits, retains, motivates, rewards, and develops Metropolitan's employees.

PROGRAMS

The focus of Human Resources is to work closely with management to foster effective people management; prepare for future workforce challenges; partner with customers on people solutions; and provide excellent HR services that ensure compliance to numerous HR laws, regulations, and responsibilities.

HR services include employee and labor relations, recruitment and selection, equal employment opportunity (EEO), benefits, retirement, leave administration, classification and compensation administration, medical screening, workers compensation, training, organizational development, and workforce and career development.

HR accomplishes its mission through the following programs or sections:

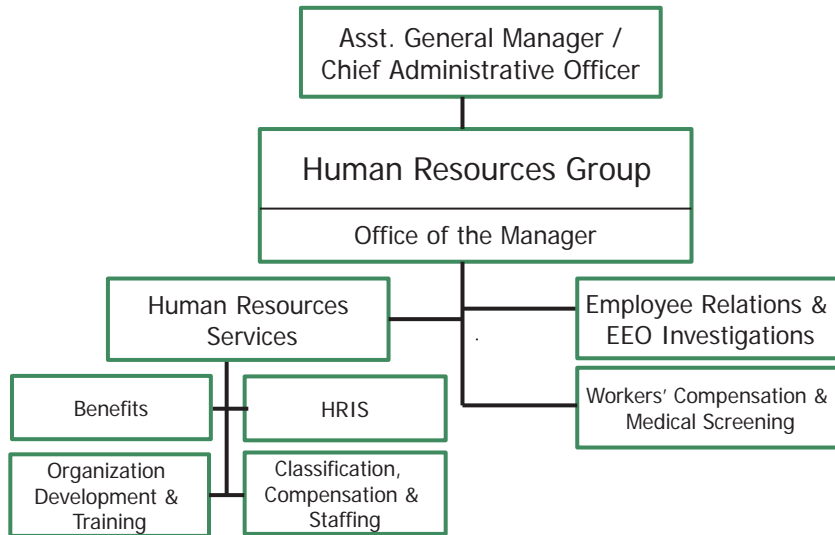
Office of Human Resource Group Manager provides strategic leadership and direction for Metropolitan's Human Resources functions. Organizations reporting directly to it include Employee Relations, Human Resources Services, and Workers' Compensation and Medical Screening.

Employee Relations is responsible for fostering harmonious labor relations between Metropolitan and its four certified bargaining units, and plays a key role in contract negotiations, including working as a partner with senior management in

developing Metropolitan's collective bargaining strategy. The staff also serves as a resource to managers and supervisors on such matters as grievances, disciplinary actions, and workplace conflicts. The section also provides ongoing training to managers on all facets of employer-employee relations.

The section also has responsibility for diversity and inclusion and investigating internal complaints of unlawful discrimination. Diversity and inclusion includes partnering with Employee Resource groups and external affinity groups to outreach to future applicants. EEO investigations staff meet with complainants, interviews witnesses, and issues findings as to whether allegations of unlawful discrimination can be substantiated. This work is critical in ensuring that Metropolitan maintains a workplace free of discrimination and harassment.

Human Resources Services is responsible for the strategic design and implementation of Metropolitan's compensation, benefits, recruitment, training and the Human Resources Information Systems programs. The section leads and participates in continuous process improvement and cost optimization studies for all plans. Responsibilities include job analysis, market assessments, recruitment, active employee and retiree benefit program administration, partnering with management on new initiatives, and implementing new programs and agreements.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, HR will focus on the following key issues that support the GM's objective of Employee Development and additional HR priorities:

Ensure Effective People Management

Strong people management skills are essential to meeting Metropolitan's future challenges and successes. HR will ensure that the role of management is defined and that current managers have the tools and training needed to provide effective people management.

A formal, multi-tiered Management and Leadership Development program will help managers better understand their roles and responsibilities as they progress through management.

Learning opportunities will be provided to employees to prepare for future management positions from the entry level manager all the way to the executive level.

Ongoing events, workshops and forums will provide opportunities to deliver consistent expectations and tools for management.

Build Partnerships with HR Customers

Effective people solutions require that HR partner with its customers which includes management, labor, employees, retirees and others. HR must understand the customer's business needs and then build working relationships that develop effective solutions to people-related challenges. This working partnership will minimize misdirected efforts, speed decision-making, reduce rework and, ultimately, produce a better workplace at a reduced cost.

Strengthen HR/customer partnerships and communication to identify areas for improvement in HR products, services, support and messaging.

Ensure Risk Management, Employee Relations, EEO and Legal Department coordinate to avoid unnecessary litigation of liability claims and cost-

effectively resolve claims that are addressed by these organizations.

Prepare to Meet Challenges of Future Workforce Changes

Based on current workforce demographics, it is a certainty that Metropolitan will face increasing staff turnover over the next decade. This will create opportunities for existing employees and challenges for management. As employees are promoted or hired, management needs to examine opportunities for re-organizing work, restructuring functions, supporting diversity and managing change.

This will include a focus on learning, development, knowledge capture, cross-training opportunities, and building pipelines for future vacancies.

HR will develop new strategies, support existing efforts and ensure Metropolitan remains competitive when compared to other organizations.

HR will support career development activity undertaken by employees to enhance knowledge, skills, and abilities for future work and promotional opportunities, including support of internship and mentoring initiatives.

Provide Excellent Human Resources Services

HR provides a wide range of services and support from pre-hire to retirement and impacts almost every aspect of the organization. To make maximum contribution, all HR functions must serve as trusted advisors that speak with one voice, listen well and provide consistent guidance on people-related matters.

HR will continue to simplify policies, processes, and procedures to reduce the costs of HR administration by utilizing technology, reducing redundancies or implementing new approaches to existing services.

HR will develop standard reports to enhance management access to employee data and assist with decision-making.

HR will administer a full range of benefit services for health, leave, deferred compensation and retirement programs.

HR will continue to review the recruitment process and procedures to improve quality of hire and time-to-fill.

Ensure Compliance with Laws and Regulations

HR manages compliance to four MOUs and the Administrative Code, and addresses many sensitive and confidential personnel issues.

HR will continue to monitor a wide array of changing legal and regulatory requirements while adapting HR processes and systems to conform to these changing requirements.

HR will ensure Metropolitan meets Equal Employment Opportunity requirements and numerous Federal, State, and Local laws and regulations and Public Sector codes and rulings.

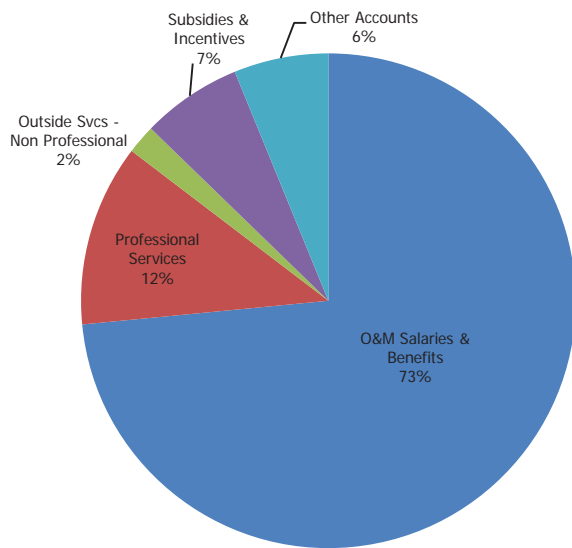
HR will maintain fiduciary responsibilities in the management of financial and retirement programs and comply with the Affordable Care Act and with all privacy and data security requirements.

O&M FINANCIAL SUMMARY

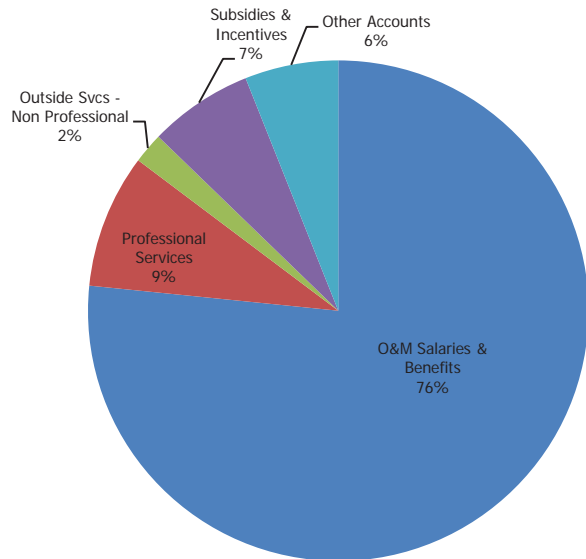
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	7,460,700	7,469,300	7,613,100	143,800	7,829,300	216,200
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	7,460,700	7,469,300	7,613,100	143,800	7,829,300	216,200
% Change		0.1%		1.9%		2.8%
Professional Services	712,200	1,029,600	1,231,800	202,200	885,400	(346,400)
Advertising	165,700	165,000	150,000	(15,000)	150,000	—
Outside Services - Non Professional / Maintenance	120,800	277,000	197,000	(80,000)	202,000	5,000
Subsidies & Incentives	955,500	678,800	680,000	1,200	687,300	7,300
Training & Seminars Costs	181,800	130,800	184,200	53,400	158,200	(26,000)
Other Accounts	323,200	287,500	306,100	18,600	309,100	3,000
Total O&M	9,919,900	10,038,000	10,362,200	324,200	10,221,300	(140,900)
% Change		1.2%		3.2%		(1.4%)

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

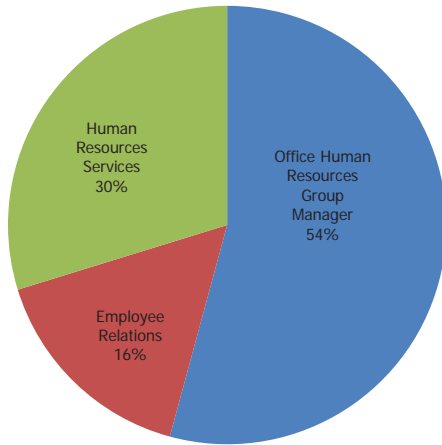


FY 2017/18 BUDGET BY EXPENDITURE

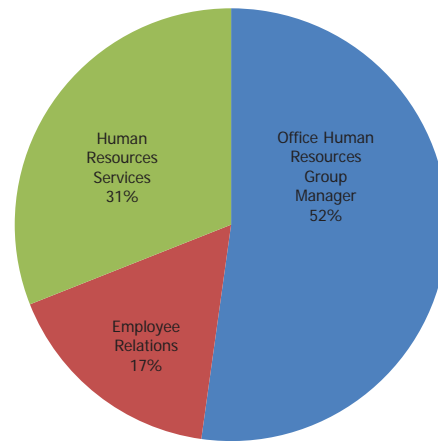


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17	Personnel Budget		
						15/16	16/17	17/18
Office of the Manager	4,879,300	5,617,900	738,600	5,335,300	(282,600)	15	17	17
Employee Relations	1,650,200	1,659,700	9,527	1,717,200	57,500	7	7	7
Human Resources Services	3,508,500	3,084,600	(423,900)	3,168,700	84,200	15	14	14
Total O&M	10,038,000	10,362,200	324,200	10,221,300	(140,900)	37	38	38

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		36	37	38	1	38	—
	O&M	36	37	38	1	38	—
	Capital	—	—	—	—	—	—
Temporary		2	—	—	—	—	—
	O&M	2	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel		38	37	38	1	38	—
	O&M	38	37	38	1	38	—
	Capital	—	—	—	—	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

HR's biennial budget is \$10.4 million in FY 2016/17 and \$10.2 million in FY 2017/18 or an increase of 3.2% and a decrease of 1.4% respectively from the prior budget years. The changes are due primarily to the following factors:

- While professional services increase in the first year to support bargaining unit negotiations, over the biennium professional services decrease by 13%. Based on an assessment of future training needs and priorities more in-house training versus hiring consultants will be done
- Salaries and Benefits increase is due to merit increases, negotiated labor increases and an increase in retirement related benefit costs.
- At the General Manager's direction, budgets were restated to reflect the movement of the Risk Management Unit to the Office of the Chief Financial Officer.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

Personnel count increased by one from FY 15/16 budget for an analyst to support workers compensation and medical screening.

Salaries and Benefits reflect negotiated labor increases offset by hiring replacement employees at lower levels.

Professional Services

The budget reflects services related to bargaining unit negotiations.

Advertising

The budget is anticipated to be lower due to a declining number of recruitments.

FY 2017/18

Personnel-related issues

Personnel count remains flat from FY 16/17.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Professional Services

The budget is anticipated to be lower due to the completion of labor negotiations.

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REAL PROPERTY DEVELOPMENT & MANAGEMENT

The Real Property Development and Management (RPDM) group plans, secures and manages Metropolitan's real property assets, proactively seeking to enhance revenue while ensuring that Metropolitan's core business is protected.

PROGRAMS

The Real Property Development and Management group accomplishes its mission through the following programs or sections:

Office of the Group Manager directs the group's efforts in planning, acquiring, and managing Metropolitan's real property assets; monitors and tracks the group's business plan, financial and budgetary initiatives; and provides administrative and business process support.

The Office of the Group Manager is also responsible for the development of real property policies and strategies.

The Office of the Group Manager includes the Planning & Acquisition unit, the Revenue & Property Management unit, the Facility Management unit and the Business Management - Real Estate Team.

Planning & Acquisition Unit is responsible for the planning and acquisition of property and property rights for O&M and capital projects including the Right of Way and Infrastructure

Protection Program, Regional Recycled Water Supply Program, and Bay Delta Initiatives.

Revenue & Property Management Unit strategically seeks to generate supplementary ongoing revenue from Metropolitan's real property assets and handle surplus property dispositions and requests from third parties to use Metropolitan real property through leases, licenses, entry permits, and easements.

Facility Management Unit is responsible for facilities management for Union Station headquarters facility and the DVL Visitor Center

Business Management – Real Estate Team handles property tax and lease payments, contract support, Board letter and report coordination and all other administrative functions related to property acquisition and management.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, RPDM will focus on the following key issues:

Revenue Enhancement Strategies

Continue to implement revenue enhancement strategies and opportunities for Metropolitan real property assets.

Continue to meet and negotiate with State and local agencies and other compatible tenants seeking to lease space at Metropolitan's headquarters building.

Continue review of the comprehensive inventory of Metropolitan-owned real property to identify excess property and consider leasing opportunities based on compatible third-party and secondary-use requests.

Continue efforts to detect and address right-of-way encroachments in a responsible manner.

Monitor compliance with terms of licensing and leasing agreements (e.g., invoicing, insurance coverage, accounts receivable).

Monitor legislation regarding eminent domain, relocation assistance, and public agency real estate acquisition and appraisal practices.

Property Management System Improvement

Continue efforts to improve procedures, tools, technologies, and practices for public sector property management in light of current and future trends.

Complete implementation of REPortfolio, the group's new real property management system software.

Bay Delta Initiatives Support

Provide property planning, research, and valuation in support of the California Water Fix and Eco Restore efforts. DVL Management

Continue to manage DVL and explore new marina opportunities, expand lease revenues, and improve trail access and public use.

Real Property Asset Protection & Stewardship

Protect rights-of-way and facilities for optimal operating conditions and promote stewardship and sustainability of real property assets.

Make property tax payments and file possessory tax reports to appropriate counties on time.

Make timely and suitable responses to adjacent projects, land developments, legislation, and environmental proceedings.

Complete annual site inspections of conveyed property.

Improve land security practices to further decrease incidences of trespass.

Revise right-of-way operating policies to reflect contemporary best practices.

Property & Right of Way Acquisition

Provide real property and right-of-way acquisition, negotiations, and relocation services for Metropolitan projects.

Conduct real property valuation, feasibility and cost studies for proposed and planned infrastructure and water reliability projects.

Capital Projects Support

Appraise and acquire all permanent and temporary easements for the Right of Way and Infrastructure Protection program.

Prepare a land use study, perform site analysis, and appraise construction areas for the Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation and Replacement program. Acquire temporary easements for construction laydown areas for the Conveyance and Distribution System Rehabilitation program.

Prepare real property feasibility and cost studies for the Regional Recycled Water Supply program.

Facility & Energy Management

Continue to optimize the cost of maintaining Metropolitan's headquarters building and DVL Visitors Center while supporting Metropolitan's sustainability initiatives and the guidelines and benchmarks established by the Building Owners and Managers Association.

Begin implementation of findings from an energy management/usage audit of Union Station designed to reduce energy costs and improve operational efficiency.

Continue to effectively utilize space and to support leasing space for revenue generation.

Manage critical rehabilitation projects of Union Station Headquarters as the facility ages beyond 17 years old; repairing and replacing equipment only as required. Workforce Development & Succession Planning

Workforce Development & Succession Planning

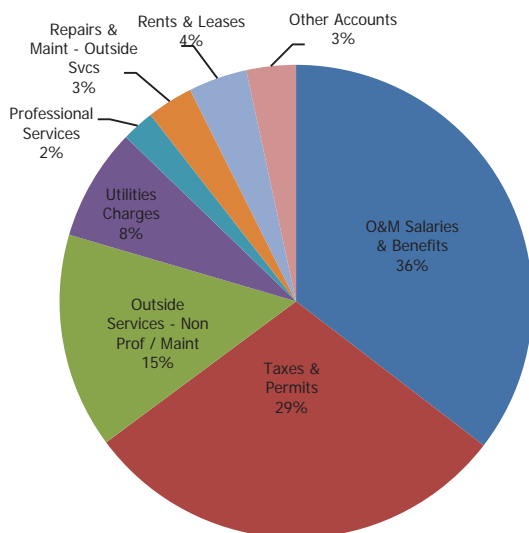
Expand knowledge, skills, and abilities of staff through training, succession planning, and educational workshops.

O&M FINANCIAL SUMMARY

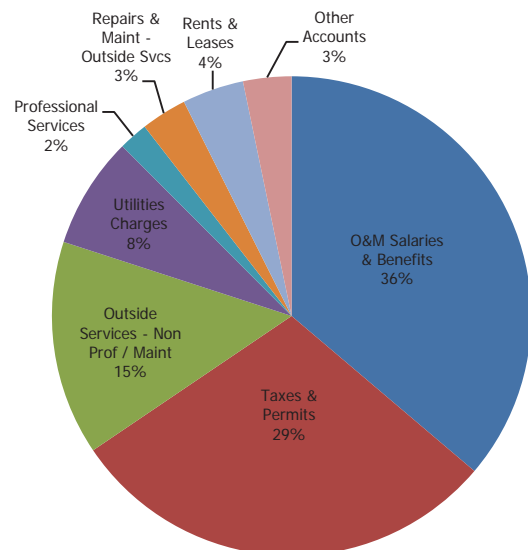
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	6,212,600	7,264,000	6,854,300	(409,700)	7,121,700	267,400
<i>Direct Charges to Capital</i>	<i>(241,200)</i>	<i>(289,800)</i>	<i>(591,800)</i>	<i>(302,000)</i>	<i>(596,300)</i>	<i>(4,500)</i>
O&M Salaries and Benefits	5,968,300	6,974,200	6,262,500	(711,700)	6,525,400	262,900
% Change		16.9%		(10.2%)		4.2%
Professional Services	321,900	383,600	394,600	11,000	354,600	(40,000)
Outside Services - Non Professional / Maintenance	2,126,900	2,651,300	2,601,200	(50,100)	2,608,500	7,300
Rents & Leases	41,800	37,200	709,200	672,000	749,200	40,000
Repairs & Maintenance - Outside Services	376,800	599,900	558,000	(41,900)	558,000	—
Taxes & Permits	35,700	54,700	5,199,900	5,145,200	5,288,300	88,400
Utilities Charges	1,109,300	1,482,400	1,356,100	(126,300)	1,356,100	
Other Accounts	745,600	786,200	597,800	(188,400)	587,400	(10,400)
Total O&M	10,726,300	12,969,500	17,679,300	4,709,800	18,027,500	348,200
% Change		20.9%		36.3%		2.0%
Operating Equipment	—	—	31,500	31,500	—	—
Total O&M and Operating Equipment	10,726,300	12,969,500	17,710,800	4,741,300	18,027,500	348,200
% Change		20.9%		36.6%		2.0%

Note – Totals may not foot due to rounding.

2016/17 BUDGET BY EXPENDITURE



2017/18 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Regular		36	43	39	(4)	39	—
	O&M	34	40	36	(4)	36	—
	Capital	2	3	3	—	3	—
Temporary		1	3	1	(2)	1	—
	O&M	1	3	1	(2)	1	—
	Capital	—	—	—	—	—	—
Total Personnel		37	46	40	(6)	40	—
	O&M	35	43	37	(6)	37	—
	Capital	2	3	3	—	3	—

Note – Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

RPDM's biennial budget is \$17.7 million in FY 2016/17 and \$18.0 million in FY 2017/18, an increase of 36.6% and 2.0% respectively from the prior budget years. The biennial budget includes property taxes and rents & leases previously budgeted in Other O&M. Excluding these amounts, RPDM achieved an 8.5% decrease between FY 2015/16 and FY 2016/17 and a slight increase of 1.3% between FY 2016/17 and FY 2017/18. The decrease is due primarily to the following factors:

- A reevaluation and reduction in classifications prior to recruitments for previously vacant positions and the elimination of two district temps. Following reorganization, four regular positions in Facilities management were reassigned to other organizations within Metropolitan.
- A reduction in law enforcement in the DVL recreation area and DVL landscape maintenance services.
- Reduced participation fees for the Western Riverside County Agricultural Coalition, formed to inform and educate agricultural producers about regulator issues and to coordinate with county and state regulatory agencies.
- Additional maintenance reductions/deferrals for Union Station Headquarters and DVL Facilities are also planned that will negatively affect service levels.
- At the General Manager's direction, budgets have been restated to reflect the movement of Facilities Management from Business Technology to Real Property Development & Management.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

Total personnel count reflects a reduction of four regular positions and two district temps from FY 2015/16. Following reorganization, four regular positions within Facilities Management were subsequently reassigned to other organizations within Metropolitan.

Salaries and Benefits reflect negotiated labor increases offset by hiring replacement employees at lower levels.

The budget reflects an increase in capital labor due to increased support of the Right of Way and Infrastructure Protection program, the Prestressed Concrete Cylinder Pipe Rehabilitation and Replacement program, and the Conveyance and Distribution System Rehabilitation program.

Taxes & Permits

The budget reflects property taxes previously budgeted in Other O&M. Property taxes for the PVID land purchase are included.

Rents & Leases

The budget reflects rents & leases previously budgeted in Other O&M.

Utilities Charges

The utilities budget reflects a decrease to align with current usage at Union Station and DVL Facilities along with the assumption of a zero-percent change to utility rates.

Professional and Non Professional Services

The budget reflects an increase in consulting services anticipated for management of the Verbena properties, offset by a reduced need for law enforcement due to lower lake elevations and the resulting decrease in visitors, and a reduced landscape maintenance contract that incorporates a sharing of costs with other property tenants.

The budget also reflects a decrease due to deferral/delays for Union Station and DVL visitor building maintenance and services.

Other

Memberships & Subscriptions budget reduction is a result of reassessed participation fees for the Western Riverside County Agricultural Coalition.

The budget also reflects reductions in janitorial and building maintenance supplies due to deferring building maintenance at Union Station and DVL facilities

FY 2017/18

Personnel-related issues

Personnel count remains flat from FY 2016/17 budget.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Professional Services

The budget reflects the reduced need for law enforcement due to lower lake elevations and the resulting decrease in visitors.

Other

The budget reflects an anticipated increase in property taxes and rents and leases.

Operating Equipment – FY 2016/17 and FY 2017/18

FY 2016/17 reflects the replacement of Union Station headquarters equipment at end of life.

OFFICE OF CHIEF FINANCIAL OFFICER

The Office of the Chief Financial Officer (CFO) provides innovative, proactive, and strategic financial direction in support of the mission of Metropolitan, the Board of Directors, management, and employees.

PROGRAMS

The Office of the Chief Financial Officer is responsible for maintaining Metropolitan's strong financial position and high credit ratings and helping to achieve equitable water rates and charges that generate sufficient revenues.

In addition, the Office of the CFO assists in the efficient management of Metropolitan's financial resources, and ensures that adequate financial controls are in place to accurately record financial transactions, communicate financial results, and protect Metropolitan's assets.

The Office of the CFO accomplishes its mission through the following programs or sections:

Chief Financial Officer is responsible for the overall administration of finance and accounting functions for Metropolitan including debt and investment management; financial planning and analysis including rate setting and budgeting; accounting and control including financial reporting, payroll, accounts payable, accounts receivable; and risk management and business continuity.

The business continuity program ensures that Metropolitan takes the necessary steps to identify the impacts of potential losses and maintain viable recovery strategies, recovery plans, and continuity of operations.

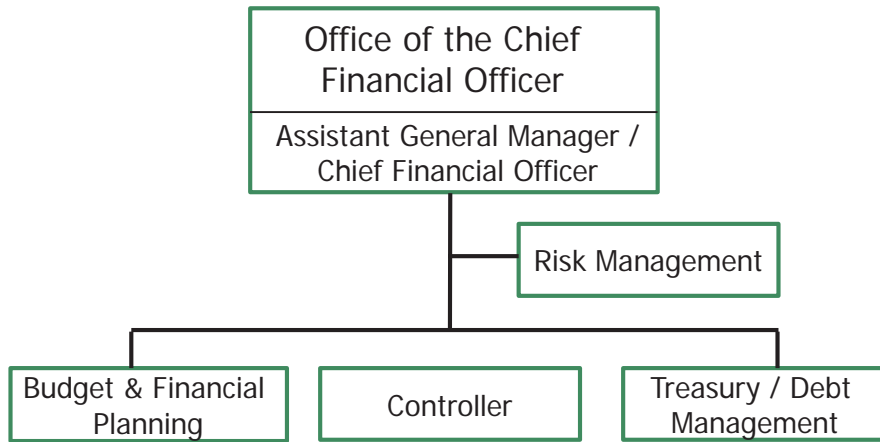
Risk Management Unit which reports directly to the Chief Financial Officer section involves

managing all aspects of Metropolitan's casualty insurance and risk management programs to minimize exposure to loss.

Budget and Financial Planning is responsible for Metropolitan's biennial budget, revenue requirements, and rates and charges recommendations; cost monitoring and analysis; short and long term financial analysis; planning and financial modeling; the water standby charge program; and the annual tax levy and annexation fee calculations.

Controller is responsible for maintaining internal controls that safeguard Metropolitan's assets, as well as recording and maintaining its official accounting records via the billing, accounts payable, payroll, and financial reporting functions.

Treasury/Debt Management is responsible for Metropolitan's investment and treasury obligations including receipt, safekeeping, and disbursement of Metropolitan's funds; preparation of security sales documents; and all commercial banking activities, including all payment processing, including but not limited to wires, checks, and automatic deposits; and administration of debt obligations including all issuance of bonds, and investor and bond rating agency relations.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, the Office of the CFO will focus on the following key issues:

Cost of Service

Complete the annual cost-of-service analysis for rates and charges for calendar year 2017 and 2018.

Financial Forecasts and Analysis

Provide an updated 10-year financial forecast in the biennial budget.

Continue to provide the Board with various analyses to manage financial performance for long-term rate stability, given the future potential implementation of BDCP/CA WaterFix.

Analyze the underfunding of financial obligations that have accrued over the past several years.

Annexation/Tax Levy

Complete the annual annexation calculation and tax levy assessment.

Rates and Charges

Manage and effectively administer rates and charges to recover costs consistent with Board policy and objectives.

Financial Reporting/Internal Controls

Continue to record and report the financial activities of Metropolitan in a timely and transparent manner to the Board and member agencies.

Continue to ensure that internal controls are in place to provide assurance that assets are safeguarded and financial information is fairly stated.

Continue to improve communications of financial information to the Board, member agencies, management, and the financial community.

Work with each section within the Office of the CFO to establish staff back-up responsibilities for various work processes.

Capital Financing

Update capital financing plans and work with rating agencies and investors to communicate financial needs and capabilities, ensure cost-effective access to capital markets, and maintain long-term bond ratings of AA or better.

Work with Metropolitan's underwriting team, financial advisors, and swap advisors to identify financing opportunities to prudently manage the overall cost of financing Metropolitan's capital investment program.

Manage investor relations to ensure clear communications, accuracy of information, and integrity.

Continue to manage debt service to mitigate the volatility of debt service payments over time and reduce debt service costs through re-financings and the prudent use of interest rate swaps, in accordance with Metropolitan's interest rate swap policy.

Maintain relationships with the financial community and bond rating agencies to maintain Metropolitan's high credit ratings and access to various aspects of the financial markets to maximize financial flexibility.

Investment

Prudently invest Metropolitan's funds with the objective of safety of principal, liquidity, and yield.

Manage the short term portfolio to provide the necessary liquidity to fund in excess of \$3.0 billion over the biennium in expenditures for Operations and Maintenance, debt service, and construction projects.

Measure the performance of the short-term portfolio, and manage the portfolio to meet or exceed the short-term benchmark consistent within established investment codes and policy.

Manage outside portfolio managers to ensure compliance with Metropolitan's investment policy, and to monitor investment performance.

Risk Management

Continue to effectively manage Metropolitan's casualty insurance and risk management programs to minimize exposure to loss.

Business Continuity

Refine the Business Continuity Plan and Program in accordance with the results of the Business Impact Analysis and internal audit recommendations. Conduct a Risk Assessment and implement an annual Business Continuity

Plan update cycle utilizing the new Business Continuity Program Management System developed in the Fusion Framework system. Work with IT Disaster Recovery to identify actions required to meet the recovery requirements identified in the Business Impact Analysis and conduct exercises to test the program's capabilities to recover Metropolitan's business functions in the event of a significant regional disaster.

Workforce Development & Succession Planning

Continue to examine and consider the challenges associated with succession planning and future staffing requirements in light of the composition and age of the workforce.

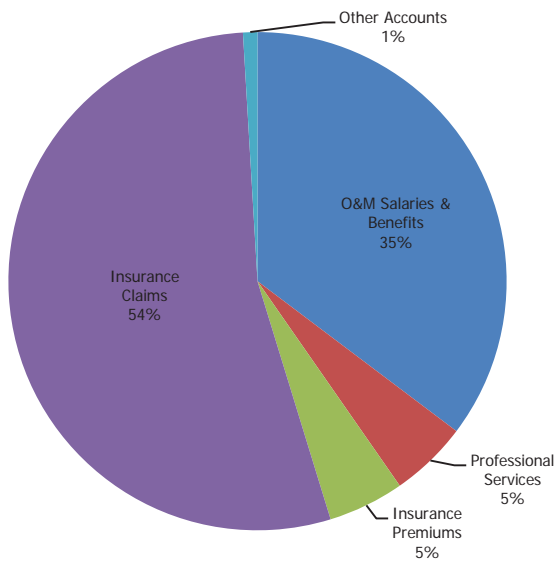
Continue to develop and offer classes in the Finance Academy to foster employee development.

O&M FINANCIAL SUMMARY

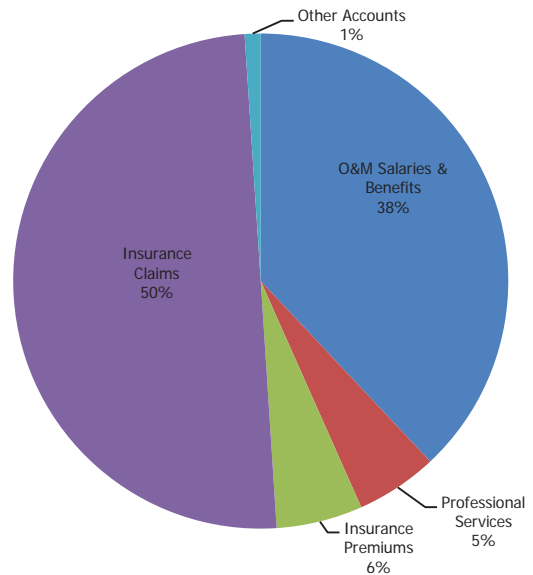
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	8,845,300	9,389,200	8,582,600	(806,600)	8,770,400	187,800
<i>Direct Charges to Capital</i>	<i>(113,600)</i>	<i>(157,600)</i>	—	157,600	—	—
O&M Salaries and Benefits	8,731,700	9,231,600	8,582,600	(649,000)	8,770,400	187,800
% Change		5.7%		(7.0%)		2.2%
Professional Services	1,036,300	1,234,400	1,227,900	(6,500)	1,234,100	6,200
Insurance Premiums	1,122,400	1,300,000	1,200,000	(100,000)	1,300,000	100,000
Insurance Claims			13,090,500	13,090,500	11,537,300	(1,553,200)
Other Accounts	261,300	223,400	226,900	3,500	240,600	13,700
Total O&M	11,151,700	11,989,400	24,327,900	12,338,500	23,082,400	(1,245,500)
% Change		7.5%		102.9%		(5.1%)

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

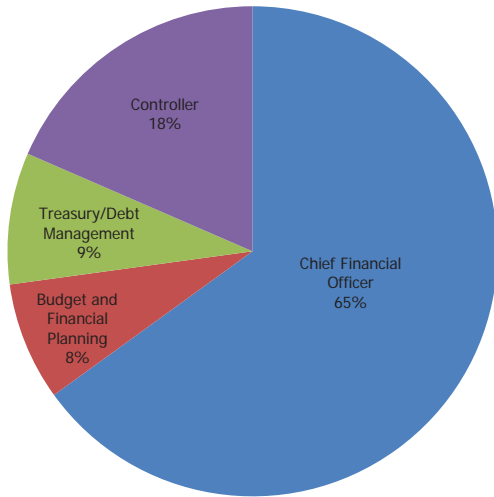


FY 2017/18 BUDGET BY EXPENDITURE

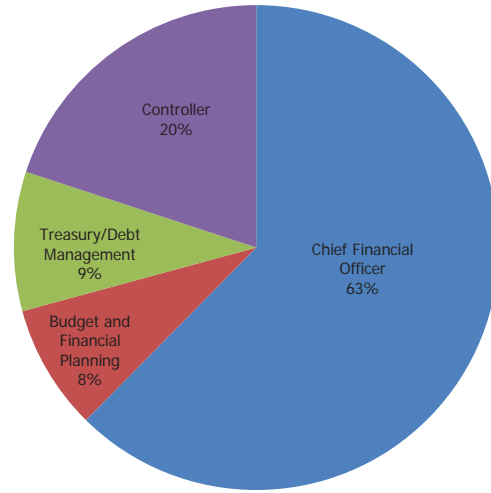


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16	2016/17	Change from	2017/18	Change from	Personnel Budget		
	Budget	Proposed	2015/16	Proposed	2016/17	15/16	16/17	17/18
Chief Financial Officer	3,252,900	15,819,700	12,566,800	14,403,300	(1,416,400)	7	6	6
Budget and Financial Planning	1,969,000	1,899,400	(69,700)	1,931,800	32,400	8	8	8
Controller	4,424,900	4,496,500	71,600	4,602,700	106,300	26	28	28
Treasury/Debt Management	2,342,600	2,112,400	(230,200)	2,144,500	32,100	7	7	7
Total O&M	11,989,400	24,327,900	12,338,500	23,082,300	(1,245,600)	48	49	49

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		45	50	49	(1)	49	—
	O&M	45	48	49	1	49	—
	Capital	1	2	—	(2)	—	—
Temporary		1	—	—	—	—	—
	O&M	1	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel		46	50	49	(1)	49	—
	O&M	45	48	49	1	49	—
	Capital	1	2	—	(2)	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of the CFO's biennial budget is \$24.3 million in FY 2016/17 and \$23.1 million in FY 2017/18 or an increase of 102.9% and a decrease of 5.1% respectively from the prior budget years. The biennial budget includes insurance premiums and claims previously budgeted in Other O&M. Excluding insurance, the CFO budget decreased 6.1% between FY 2015/16 and FY 2016/17 and increased 2.0% between FY 2016/17 and FY 2017/18. The change is primarily due to the following factors:

- Salaries and benefits have been reduced by 5.0% over the biennium as a result of three positions being unfunded and several position classifications being downgraded.
- Professional Services and other non-labor costs excluding insurance increased by only 1.2% over the biennium.
- At the General Manager's direction, budgets were restated to reflect the movement of the Risk Management Unit from Human Resources to the Office of the CFO.

The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

Total personnel count decreases by one to reflect the reassignment of a position in Risk Management following the reorganization. Five positions have been eliminated through the last several budget cycles. In addition, three positions have been unfunded and several position classifications have been downgraded over the biennium.

Salaries and Benefits reflect negotiated labor increases.

The budget also reflects a decrease in capital labor following the completion of the Oracle upgrade.

Insurance Premiums

Insurance premiums previously budgeted in Other O&M are anticipated to remain lower in 2016/17 based on 2015/16 negotiated rates.

Insurance Claims

Third party liability claims were previously budgeted in Other O&M.

FY 2017/18

Personnel-related issues

Total personnel count remains flat from the FY 2016/17 budget.

Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

Insurance Premiums

The budget reflects anticipated increases in 2016/17 rates.

Insurance Claims

Third party liability claims budget reflects an anticipated reduction in litigation costs.

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EXTERNAL AFFAIRS

External Affairs is charged with working with state and federal legislators to enhance and protect the operational interests of Metropolitan and its member agencies.

PROGRAMS

External Affairs is responsible for advancing Metropolitan's policy objectives and communicating with external audiences on its behalf. Because Metropolitan's water supplies and operations are influenced significantly by state, federal and even international policy, External Affairs manages strategic offices in Sacramento, Washington, D.C. and San Diego, and conducts its core business at the Union Station headquarters. Personnel in External Affairs' remote offices execute Metropolitan's state and federal legislative advocacy, provide strategic counsel and extend community outreach to these regions. Personnel at the Union Station office give voice to Metropolitan's policy priorities and project initiatives through external communications, regional outreach and educational initiatives in support of the General Manager's Business Plan.

Office of Group Manager oversees the Legislative Services, Conservation & Community Services, Media & Communications Sections, Customer Services Unit and the Business Management Team. The Group Manager directs the activities of the group, establishes the communication plans, and manages and deploys resources in support of Metropolitan's policy objectives in coordination with the board, executive management and other groups in the organization.

Business Outreach Team which reports directly to the Office of Group Manager seeks to advance Metropolitan's policy to actively encourage participation in the solicitation and procurement of all construction contracts, professional service contracts, equipment, and other materials and supplies by all individuals and

businesses, including but not limited to small, local owned, women-owned, minority-owned, and veteran and economically disadvantaged business enterprises.

Customer Services Unit which reports directly to the Group Manager, provides support services to member agencies; manages outreach efforts regarding Metropolitan's facility operations, construction activities, conservation and other water resource initiatives; works with and supports member agencies, local government and the community-at-large; provides staff support for the Agriculture and Industry Relations Committee; and directs research efforts to support External Affairs programs.

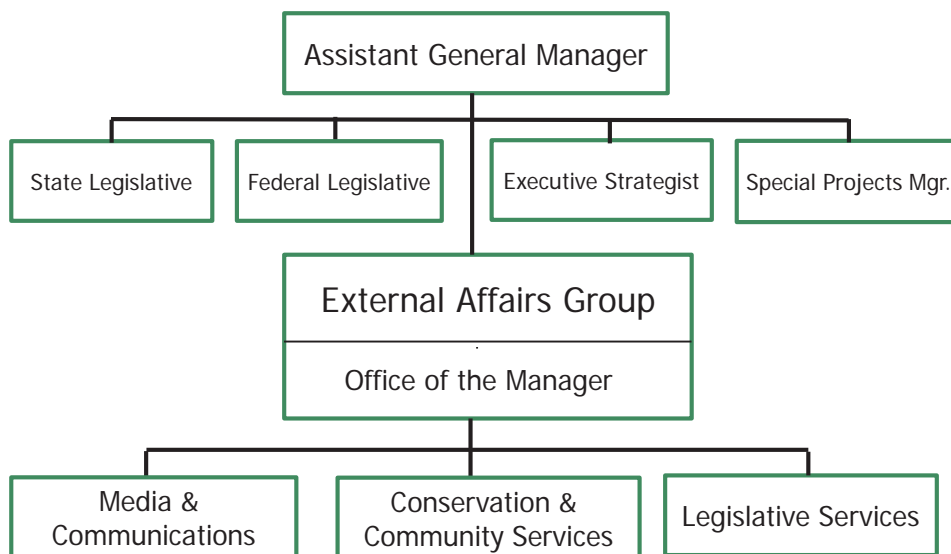
Inspection Trip Team which reports directly to the Customer Services Unit conducts field inspection trips to Metropolitan and related facilities for the purpose of providing business and community leaders with firsthand knowledge of Metropolitan's operations.

Media & Communications develops, coordinates and communicates messages, information and achievements to support Metropolitan's key objectives and programs. The section is responsible for strategic communications planning, handling media inquiries and press conferences; developing news releases, videos, fact sheets, talking points, brochures and opinion pieces; and managing Metropolitan's websites, e-newsletters, blogs and its growing presence on social media platforms.

Conservation and Community Services advances public awareness through advertising,

education and community outreach. The Community Programs Unit coordinates and manages Metropolitan’s sponsorships for education and research programs, exhibits, water forums, events, and community memberships. The Education Unit develops and distributes printed and online materials to support a comprehensive, standards-based water education curriculum and oversees programs that support Metropolitan’s initiatives for students and teaching staff in elementary and secondary schools, colleges and universities.

Legislative Services promotes and protects the interests of Metropolitan and its member agencies before executive, legislative, and regulatory agencies of the state and federal governments. The section advances Metropolitan’s policy objectives and board-adopted legislative priorities with legislators and other water policymakers to meet Metropolitan’s legislative and regulatory objectives, and supports an effective and growing outreach program with member agencies and other stakeholders to mobilize and sustain support for legislative and regulatory policies.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, External Affairs will continue to focus on the following key issues and objectives:

Legislative Policy Objectives

Work with the board, member agencies and executive management to secure support for and/or sponsor federal and state legislation and regulatory policies that advance Metropolitan's policy objectives, including strategic water quality and supply initiatives, conservation and drought responses, Delta solutions, regional water resources projects, and sustainable water and energy management.

Conduct briefings, presentations, and inspection trips for elected officials, government leaders and environmental and business organizations to inform about the impacts of legislative and regulatory policies on Metropolitan operations and the overall management of water programs, policies and sustainability initiatives throughout Southern California.

Communication and Outreach Efforts

Develop and implement strategic, creative and well-coordinated communication plans to inform the public, businesses, environmental and other stakeholder groups about Metropolitan's important role and leadership to ensure safe, reliable water supplies now and into the future through its operations, policies, objectives, and programs.

Expand public outreach efforts to disseminate information on Metropolitan and its programs, policies and objectives through broad-based direct contact with the news media and through production of publications, videos, social media/Internet platforms and the Your Water e-newsletter that inform and educate. Continue to develop and utilize cost-effective social, digital and online platforms to provide information to target audiences and engage with stakeholders.

Strengthen the Community Partnering Program's capacity to enhance communication and information sharing with community leaders,

stakeholder groups and the public on water issues and stewardship in communities throughout Southern California.

Water Supply Reliability, Conservation and Sustainability

Develop and implement paid advertising and other effective outreach campaigns using available resources for multi-cultural and multi-media communications efforts that increase public awareness of drought and water supply conditions and support for long-term conservation strategies.

Provide communication support for Metropolitan programs and projects that ensure water supply reliability including existing water operations, imported supplies from the Colorado River and State Water Project, local resource programs that diversify the region's water portfolio, expanded conservation actions and innovative water supply technologies.

Increase awareness of Metropolitan's long-standing efforts to promote environmental stewardship through its actions and investments for projects, programs, research, and collaboration that protect, restore and enhance habitat, ecosystems, watersheds, and water quality.

Bay Delta Initiatives

Provide information and secure support of stakeholders, the public and legislators for Metropolitan's positions on policies that promote water supply reliability and an environmentally sustainable Bay-Delta. This includes programs and policies related to the California WaterFix and EcoRestore.

Member Agency Support

Facilitate ongoing communication and coordination between Metropolitan and its member agencies through regular meetings of general managers, legislative and education coordinators and public information officers.

Respond promptly to member agency requests regarding Metropolitan's services and infrastructure, conservation, environmental and legislative issues, and public outreach.

Engage in research and related activities that provide accurate and timely information on public opinions, consumer/customer attitudes and awareness to help inform future outreach activities with member agencies, stakeholders and the public.

Board and Committee Activities

Provide primary support to the Communications and Legislation Committee and the Agriculture and Industry Relations Committee, and ensure that committee presentations, board letters and associated activities such as inspection trips and community events provide timely, accurate, important information on programs, trends and activities that can help inform board actions and ensure transparency.

Engage in research and related activities that provide accurate and timely information on public opinions, consumer/customer attitudes and awareness to help inform future outreach activities with member agencies, stakeholders and the public.

Business Outreach

Continue to maintain an effective Business Outreach Program for regional, small businesses, and veterans to ensure broad participation and competitive costs while achieving board-adopted goals of 25% or better for contracting dollars to small business.

Continue to participate as a host of the Annual California Construction Expo where Metropolitan and other state agencies present public works construction opportunities to contractors and suppliers.

Continue to partner with member agencies in hosting "Connect 2 Met" business opportunity

forums in order to educate local business on how to conduct business with public agencies and their purchasing departments.

Continue collaboration with member agencies, water agencies, and Isle Utilities to maintain a Technology Approval group to identify, develop, and commercialize emerging water technologies. The goal is to advance public water agencies' role in the development of water and power related technologies.

Educational Programs

Continue to update and expand distribution of Metropolitan's comprehensive K-12 water education curriculum that meets state standards for each grade level in the areas of science, math, language arts and social studies.

In coordination with member agencies and the educational community, advance the use of online services and new technologies to reach more students, teachers and classrooms including underserved and culturally diverse populations. Explore opportunities to expand services for all educational levels in traditional classrooms, homeschool and online education services, and after school programs.

Continue support for Metropolitan's unique educational programs including Solar Cup, World Water Forum and the Student Art Contest.

Emergency Management and Crisis Communication

Support Metropolitan's emergency preparedness with a responsive, updated crisis communications plan and trained staff for emergency response.

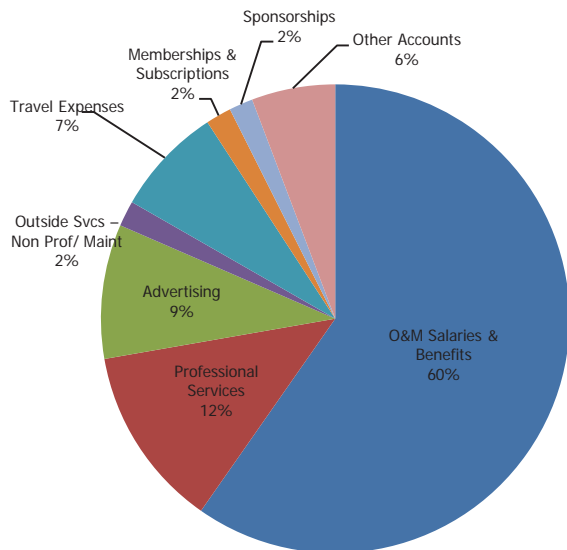
Expand capabilities of social media and other communications technologies to provide essential services to Metropolitan staff and the public during times of emergency and in response to natural and man-made disasters.

O&M FINANCIAL SUMMARY

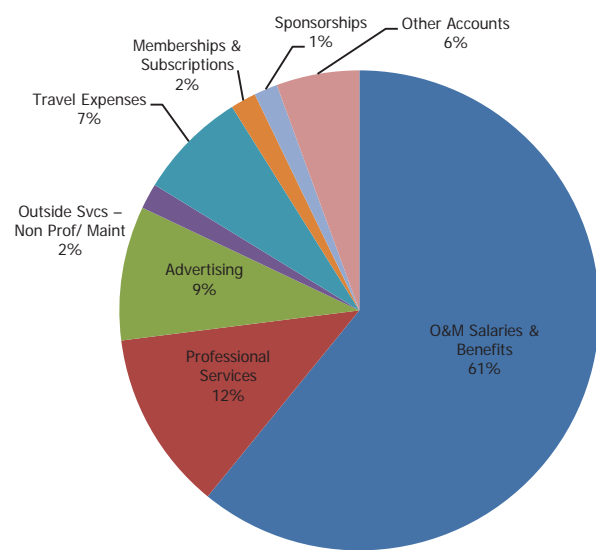
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	12,533,400	13,816,800	14,170,400	353,600	14,816,600	646,200
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	12,533,400	13,816,800	14,170,400	353,600	14,816,600	646,200
% Change		10.2%		2.6%		4.6%
Professional Services	2,349,200	2,904,700	2,976,700	72,000	2,946,700	(30,000)
Advertising	1,539,600	3,164,600	2,200,000	(964,600)	2,200,000	—
Memberships & Subscriptions	425,100	422,100	418,600	(3,500)	418,600	—
Outside Services - Non Professional / Maintenance	504,800	576,500	546,000	(30,500)	525,000	(21,000)
Sponsorships	282,700	282,000	391,300	109,300	386,300	(5,000)
Travel Expenses	1,292,500	1,623,100	1,787,900	164,800	1,787,900	—
Other Accounts	1,053,900	1,462,200	1,242,100	(220,100)	1,254,100	12,000
Total O&M	19,980,900	24,252,000	23,733,000	(519,000)	24,335,100	602,200
% Change		21.4%		(2.1%)		2.5%

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE

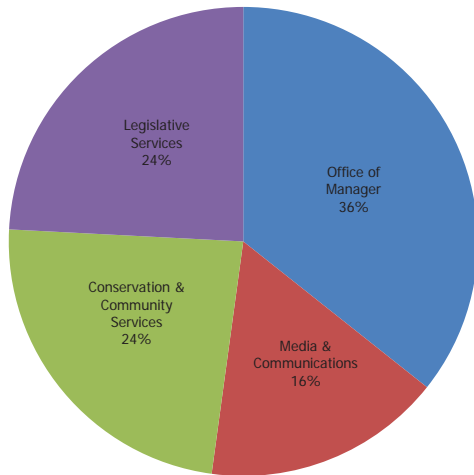


FY 2017/18 BUDGET BY EXPENDITURE

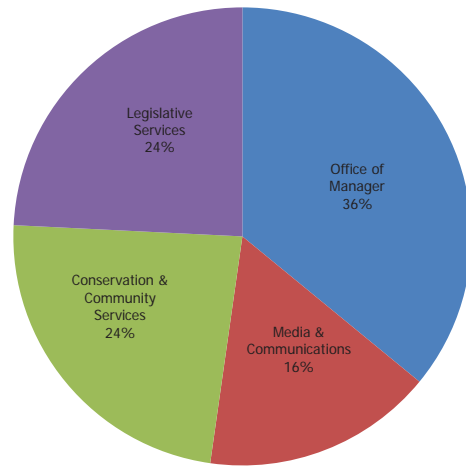


O&M BUDGET BY SECTION

FY 2016/17 BUDGET BY SECTION



FY 2017/18 BUDGET BY SECTION



	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17	Personnel Budget		
						15/16	16/17	17/18
Office of Manager	8,344,800	8,466,800	122,000	8,744,600	277,800	27	27	27
Media & Communications	3,385,400	3,911,100	525,700	3,969,300	58,200	15	19	18
Conservation and Community Services	6,920,000	5,616,000	(1,303,900)	5,728,000	112,000	11	11	11
Legislative Services	5,601,800	5,739,000	137,200	5,893,200	154,200	14	14	14
Total O&M	24,252,000	23,733,000	(519,000)	24,335,100	602,200	67	71	70

Note - Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2014/15	2015/16	2016/17	Change from	2017/18	Change from
		Actual	Budget	Proposed	2015/16	Proposed	2016/17
Regular		59	67	70	3	70	—
	O&M	59	67	70	3	70	—
	Capital	—	—	—	—	—	—
Temporary		1	—	1	1	—	(1)
	O&M	1	—	1	1	—	(1)
	Capital	—	—	—	—	—	—
Total Personnel		60	67	71	4	70	(1)
	O&M	60	67	71	4	70	(1)
	Capital	—	—	—	—	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

External Affairs' biennial budget is \$23.7 million in FY 2016/17 and \$24.3 million in FY 2017/18 or a decrease of 2.1% and an increase of 2.0%, respectively from the prior budget years. In an effort to achieve budget savings, advertising and outreach efforts have been reexamined with the following impacts:

- **Advertising:** In FY 2014/15 and 2015/16, the board authorized a \$5.5 million multi-media and multi-lingual advertising and outreach campaign to promote greater awareness of water conditions and conservation activities. With the currently proposed funding for the next two fiscal years, a limited advertising campaign using social and digital media, radio and some outdoor advertising could be implemented. To run a full-scale advertising campaign on drought response or other important water management issues, board authorization and additional funding will be necessary in FY 2016/17 and FY 2017/18.
- **Capital Projects Outreach:** Communications and public outreach support for capital improvements and other major operational and policy initiatives, including the Regional Recycled Water Supply program and refurbishment of existing infrastructure such as the Second Lower Feeder and other pipe rehabilitation projects will require funding from the capital projects.
- **Diamond Valley Lake:** External Affairs inherited the responsibility for the exhibits and education materials at the DVL Visitors Center without an O&M budget and the exhibits have fallen into disrepair. To update and maintain the exhibits at DVL Visitors Center at a level of quality consistent with Metropolitan's standards and provide information that engages audiences to discover more about the history and future of water management in Southern California, new funding will be required in future budgets for the visitor center and activities in the community.
- **At the General Manager's direction,** budgets were restated to reflect the movement of the Inspection trip Team and the Business Outreach Team to External Affairs.

The following are the significant changes by budget year:

FY 2016/17

Personnel-related issues

FY 2015/16 budget was not restated to reflect individual position movements (i.e., videographers) related to the reorganization. If those position movements are taken into account total personnel count remains flat with the FY 2015/16 budget.

The budget for Salary and Benefits reflects negotiated labor increases somewhat offset by anticipated vacancies from retirements and unfilled positions.

Other

The budget reflects reductions in funding for materials and supplies, advertising, non-professional and graphics to achieve budget

savings. These changes have been carefully evaluated to ensure External Affairs will be able to successfully carry out its core mission and objectives in these areas effectively and efficiently.

The budget identifies and redirects existing funding for new research and related activities that provide accurate and timely information on public opinions, consumer/customer attitudes and awareness to help inform future outreach activities with member agencies, stakeholders and the public.

FY2017/18

Personnel-related issues

Total Personnel count remains flat with the FY 2016/17 budget. Salaries and Benefits reflect the district's overall cost increase for operating expenses of 2.25%.

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GENERAL COUNSEL DEPARTMENT

The Legal Department provides a full range of legal services in a professional, timely, cost-effective, and creative manner.

PROGRAMS

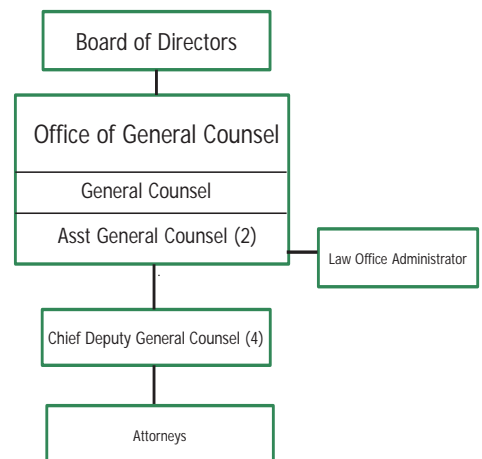
The General Counsel is the chief legal spokesperson for Metropolitan and the Board of Directors and oversees the Legal Department’s administrative functions.

The General Counsel represents Metropolitan in litigation and other proceedings to which Metropolitan is a party; provides legal advice to the Board, its committees, and to Metropolitan’s staff; drafts, reviews, and negotiates contracts, documents, and other agreements; consults with representatives of other public and private entities on matters of mutual concern; and monitors and analyzes pending and enacted legislations and, when appropriate, drafts legislative recommendations.

The Office of the General Counsel provides legal services to the Board, its committees, and to Metropolitan staff in the following areas:

- Represents Metropolitan interests relating to water supply matters, including Bay Delta resources, Colorado River supply, the State Water Contract, groundwater and water transfer issues, California Environmental Quality Act and Endangered Species Act issues, energy issues, and water delivery and treatment.
- Represents Metropolitan’s interest with regard to claims and litigation by or against Metropolitan.

- Provides legal advice with respect to the acquisition, management, and disposal of Metropolitan property and the administration of annexations, and provides legal assistance in Metropolitan’s procurement and construction contract programs.
- Provides legal advice with respect to Metropolitan’s financial activities, including Metropolitan’s rates and charges, taxation, bond issuance, legality of investments, and fiscal administration.
- Provides legal advice related to labor and personnel matters.
- Reviews, analyzes, and monitors pending state and federal legislation and drafts legislative recommendations.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, the Office of the General Counsel will focus on the following key issues:

Water Supply Reliability

Pursue a comprehensive legal strategy that proactively addresses legal issues associated with the comprehensive solutions in the proposed California WaterFix while vigorously asserting and defending Metropolitan's interest in litigation and administrative proceedings.

Provide legal advice in support of the development of the California WaterFix and the California EcoRestore, including Delta conveyance options, and the associated environmental documentation and implementing agreements in a manner supportive of Metropolitan's goals and objectives.

Represent Metropolitan, as a separate party or working through the State Water Contractors, in litigation and regulatory proceedings relating to operation of the State Water Project (SWP), water diversions in and affecting the Delta or SWP supplies, construction of new conveyance facilities, and other matters relating to the Delta.

Provide legal advice regarding implementation, financing, and governance of a Delta conveyance system and any resulting amendments to Metropolitan's long-term water supply contract with the Department of Water Resources.

Provide legal advice and support relative to water supply, delivery and water quality issues resulting from the drought and the reduced allocation from the SWP. Provide legal advice and support for initiatives to address the proclaimed emergency due to drought conditions. Provide legal advice and support for proposed water transfers and exchanges and development of local resources, desalination and conservation projects and programs. Provide legal advice and support with respect to implementation of Metropolitan's Water Supply Allocation Plan, water delivery and other issues related to drought conditions. Provide legal support for capital projects required

to provide additional flexibility in the operation of Metropolitan's distribution system.

Provide legal advice and support for update and implementation of Metropolitan's Integrated Water Resources Plan Update and Urban Water Management Plan, including development of the Long-Term Conservation Plan and resource programs to assist the region in meeting the goal of reducing retail water consumption by 20 percent by the year 2020.

Provide legal advice and support in connection with the proposed extension and amendment of the State Water Contract (SWC) and preparation of supporting environmental documents under the California Environmental Quality Act (CEQA) and any separate amendment of the SWC relating to the development and operation of new or additional conveyance facilities.

Continue to defend and enforce the terms of the Quantification Settlement Agreement and related agreements among the participating agencies and other agencies with Colorado River contracts.

Assist in developing, negotiating and documenting new water conservation and augmentation projects to address the long-term supply and demand issues identified in the Bureau of Reclamation's 2012 Colorado River Basin Water Supply and Demand Study.

Provide legal support for Metropolitan's efforts to protect and make optimal use of its Colorado River rights and related water transfer, storage, and exchange programs. Provide legal support for initiatives to identify and obtain new water supplies on the Colorado River, and to protect existing Colorado River water supplies against erosion by unlawful or unreasonable uses.

Finance

Provide legal advice regarding adoption of rates and charges. Continue to defend Metropolitan against challenges to its rate structure.

Provide legal advice and assist with amendments to existing bond resolutions and the development of a subordinate lien bond resolution.

Operations

Negotiate and prepare service connection agreements for new or modified member agency connections. Provide legal assistance on regulatory and real estate issues, including CEQA issues, arising from service connection requests.

District Governance

Continue to provide timely advice to the board and committees on governance and legal compliance matters.

Serve as the point of contact and coordinate Metropolitan responses to Public Records Act requests (PRAs).

Corporate Resources/District Infrastructure

Provide legal support for capital investment and repair and replacement plans, including professional services and procurement contracts.

Provide legal support for environmental analysis under CEQA of Metropolitan's projects and other discretionary actions, in addition to analyzing potential environmental impacts of other agencies' projects on Metropolitan properties and facilities.

Workforce /Human Resources

Provide proactive counsel and advice on workforce issues.

Continue to defend Metropolitan in PERB matters, as well as grievance and disciplinary matters.

Real Property

Assist Real Property Development and Management group (RPDM) in the negotiation and documentation of real property acquisitions and the surplusing of real property. Negotiate and provide legal support for the lease and licensing of Metropolitan property. Provide legal support for the grant and acceptance of easements and entry permits.

Support the expanded work efforts of RPDM.

Technology

Work with the Business Technology Group, Human Resources and External Affairs on social media policies.

Energy Costs and Management

Assist with implementation of the Energy Management Plan, including providing advice on wholesale energy transactions, renewable energy projects and energy-related contracts and legislation.

Provide legal support to ensure that SWP energy needs are met in a cost-effective and sustainable manner.

Legal Department Administration

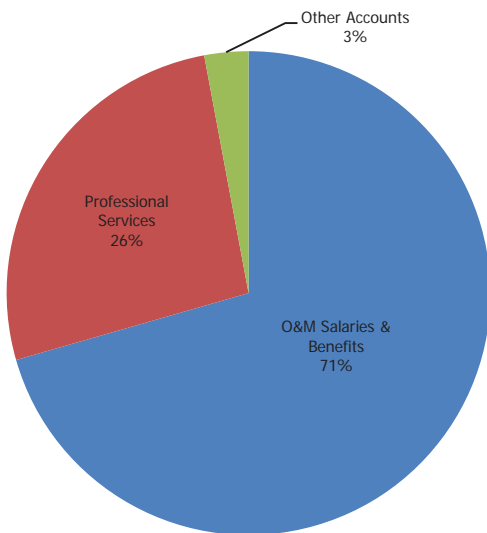
Continue to aggressively manage outside counsel costs, while obtaining effective representation to protect Metropolitan's interests. Continue to work with IT staff on implementation of the electronic discovery management system to enable Metropolitan's Legal and IT staff to more effectively and efficiently respond to litigation and PRAs.

O&M FINANCIAL SUMMARY

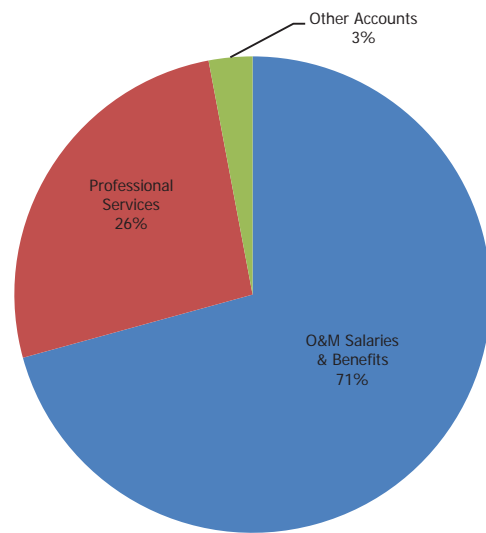
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	8,900,800	9,195,500	9,545,800	350,300	9,744,000	198,200
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	8,900,800	9,195,500	9,545,800	350,300	9,744,000	198,200
% Change		3.3%		3.8%		2.1%
Professional Services	1,082,300	3,620,000	3,588,400	(31,600)	3,625,000	36,600
Materials and Supplies	28,000	60,000	50,000	(10,000)	50,000	—
Memberships & Subscriptions	95,100	110,000	100,000	(10,000)	100,000	—
Outside Services - Non Professional / Maintenance	24,900	40,000	30,000	(10,000)	30,000	—
Rent & Leases	14,800	20,000	20,000	—	20,000	—
Subsidies & Incentives	51,000	55,000	55,000	—	55,000	—
Travel Expenses	105,700	90,000	110,000	20,000	120,000	10,000
Other Accounts	16,400	38,000	33,000	(5,000)	33,000	—
Total O&M	10,319,000	13,228,500	13,532,200	303,700	13,777,000	244,800
% Change		28.2%		2.3%		1.8%

Note – Totals may not foot due to rounding.

2016/17 BUDGET BY EXPENDITURE



2017/18 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Regular		34	36	36	—	36	—
	O&M	34	36	36	—	36	—
	Capital	—	—	—	—	—	—
Temporary		1	2	2	—	2	—
	O&M	1	2	2	—	2	—
	Capital	—	—	—	—	—	—
Total Personnel		35	38	38	—	38	—
	O&M	35	38	38	—	38	—
	Capital	—	—	—	—	—	—

Note – Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of the General Counsel's biennial budget is \$13.5 million in FY 2016/17 and \$13.8 million in FY 2017/18 or an increase of 2.3% and 1.8% respectively from the prior budget years. The increase is primarily due to the following factors:

- Professional services costs increase reflects anticipated expenses for Bay Delta legal costs, water quality litigation, employment litigation and water rates litigation.
- Salaries and Benefits costs were impacted by negotiated labor increases, merit increases for qualified employees and in the second year by an overall cost increase for operating expenses of 2.25%.

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GENERAL AUDITOR DEPARTMENT

The Audit Department provides independent, professional, and objective assurance and consulting services designed to add value to and improve Metropolitan’s operations.

PROGRAMS

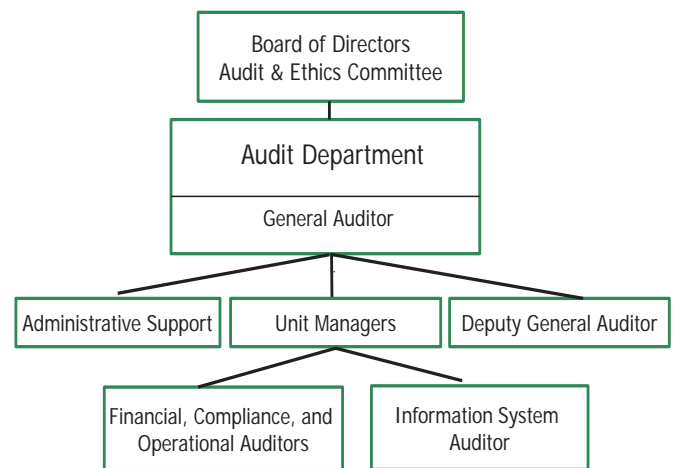
The Audit Department helps the organization accomplish its objectives by using a proactive, systematic approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

The scope of work of the Audit Department is to determine whether Metropolitan’s network of risk management, internal control, and governance processes, as designed and represented by management, is adequate and functioning in a manner to ensure:

- Risks are appropriately identified, managed, and monitored
- Significant financial, managerial, and operating information is accurate, reliable, and timely
- Employees’ actions are in compliance with policies, standards, procedures, and applicable laws and regulations
- Resources are acquired economically, used efficiently, and protected adequately
- Programs, plans, and objectives are achieved

- Quality and continuous improvement are fostered in the organization’s control processes
- Significant legislative or regulatory issues impacting the organization are recognized and addressed appropriately

Opportunities for strengthening internal controls, improving efficiency, and protecting the organization’s image may be identified during audits. They will be communicated to the appropriate level of management.



GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, the Audit Department will focus on the following key issues:

Risk Analysis, Risk Mitigation and Internal Controls

Provide risk perspective and auditing advice and counsel to the Board and management in operational and financial activities.

Publish risk-focused audit reports designed to clearly communicate the General Auditor's opinion regarding the internal control structure, significant control issues, and recommendations to mitigate noted risk.

Improve the completion time for audits and evaluate the adequacy and timeliness of management's responses to, and corrective actions taken on, all significant control issues noted in audit reports.

Emphasize test work of significant projects.

Workforce Development

Encourage training opportunities for Audit Department staff to enhance competencies in risk assessment and broaden knowledge of Metropolitan operations. Utilize this knowledge in fine-tuning the Annual Audit Risk Assessment and Audit Plan.

Management and Leadership

Efficiently manage the department's budget for maximum effectiveness of state budgetary objectives.

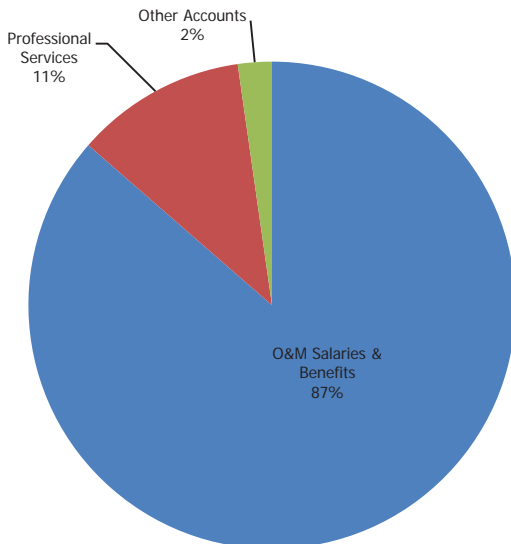
Uphold the mission, roles, and responsibilities of the Audit Department.

O&M FINANCIAL SUMMARY

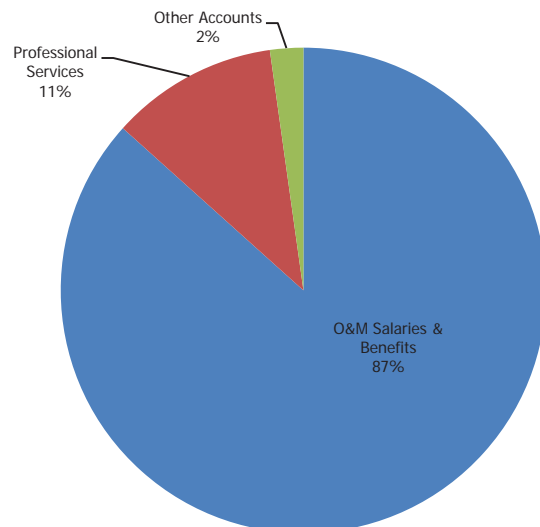
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	2,247,500	2,652,500	2,665,300	12,800	2,721,300	56,000
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	2,247,500	2,652,500	2,665,300	12,800	2,721,300	56,000
% Change		18.0%		0.5%		2.1%
Professional Services	305,000	350,000	350,000	—	350,000	—
Materials and Supplies	13,400	14,500	15,000	500	15,000	—
Memberships & Subscriptions	4,200	5,500	5,500	—	5,500	—
Rent & Leases	3,200	5,500	5,500	—	5,500	—
Subsidies & Incentives	9,500	15,000	15,000	—	15,000	—
Training & Seminars Costs	5,600	14,500	15,000	500	15,000	—
Travel Expenses	1,000	5,000	5,000	—	5,000	—
Other Accounts	5,300	9,500	8,500	(1,000)	8,500	—
Total O&M	2,594,700	3,072,000	3,084,000	12,800	3,140,800	56,000
% Change		18.4%		0.4%		1.8%

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE



FY 2017/18 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Regular		10	12	12	—	12	—
	O&M	10	12	12	—	12	—
	Capital	—	—	—	—	—	—
Temporary		—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel		10	12	12	—	12	—
	O&M	10	12	12	—	12	—
	Capital	—	—	—	—	—	—

Note - Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Audit Department’s biennial budget is \$3.1 million in FY 2016/17 and FY 2017/18.

- Salaries and Benefits costs were impacted by negotiated labor increases, merit increases for qualified employees and in the second year by an overall cost increase for operating expense of 2.25%.

ETHICS OFFICE

The Ethics Office promotes a transparent and ethical culture at Metropolitan by proposing and administering Metropolitan's ethics-related regulations and providing advice and education to the Metropolitan community.

PROGRAMS

Metropolitan's Ethics Office was established by special legislation enacted in 2000. As an independent department head, the Ethics Officer maintains a small staff and reports directly to the Board of Directors. The operations of the Ethics Office run the gamut of standard ethics and compliance functions: from training employees and board members on ethics rules and standards to policy-making to compliance. An important objective has been to balance these various responsibilities and to execute them in an integrated fashion to maximize their effectiveness.

Metropolitan's evolving approach to ethics is grounded in objective, measurable elements. Establishing clear and consistently applied rules is an essential condition of fair and predictable enforcement as well as practical and unambiguous advice and education. As a free-standing department, the Ethics Office continues to review and periodically recommend revisions to Metropolitan's internal ethics rules and standards to promote compliance through advice, education, and investigation of alleged violations.

The Ethics Office accomplishes its mission through the following programs or services:

Ethics Compliance Serving as filing officer for state-mandated financial interest disclosures for directors and hundreds of employees who make or participate in making decisions affecting outside financial interests. Maintaining and updating Metropolitan's code for designating positions and disclosure categories narrowly tailored to the unique responsibilities of each designated position.

Advice Providing advice, counseling, or other assistance to any director, officer, employee, or contractor regarding application or interpretation of Metropolitan's ethics rules or policies. Typically, this advice focuses on options for avoiding conflicts of interest or other violations of standards of conduct for public officials.

Policy Analysis and Program Development Performing risk assessment, drafting of proposed rules and procedures, preparing board and committee presentations, drafting strategic planning documents, analyzing procedural justice issues, and preparing case memoranda and correspondences.

Investigation Performing comprehensive investigations, including investigation planning, gathering of evidence, document review, witness interviews, comparative analysis of facts, drafting of reports, and organization and indexing of evidence.

Education Developing training programs, drafting publications, and preparing website content. The Office also facilitates sexual harassment prevention training for directors, and provides orientations for new directors and employees about Metropolitan's internal ethics provisions.

Outreach Holding events at headquarters and field facilities to communicate availability, purpose, and process of Ethics Office.

Management Providing oversight, planning, and administration of all Ethics Office programs. Proactively engaging, coordinating with, and receiving feedback from the board, senior management, and other interested persons.

Administration Providing case docketing and information management, intake administration, matter tracking, budget preparation, contract administration, and preparation of quarterly, semi-annual, and annual reports.

GOALS AND OBJECTIVES

In FY 2016/17 and FY 2017/18, the Ethics Office will focus on the following key issues and initiatives:

Policy Development

In 2013 and 2014, the Ethics Office proposed and the board approved amendments to the foundational ethics rules within Metropolitan's Administrative Code. Some issues were deferred for later consideration. The Ethics Office plans to initiate further analysis and review of alternatives for promoting transparency and maintaining the integrity of procurements and other official decisions that can affect outside financial interests. The Office also plans to consider alternatives for identifying the relative seriousness of various potential violations, in order to provide guidelines for the board and department heads to apply when considering responsive actions related to investigation findings.

Investigation Process

Besides reviewing and updating procedures and guidelines, develop human resources capacity to plan, implement, and document investigations of alleged violations in accordance with best practices for quality, integrity, objectivity, and professionalism. Clarify responsibilities and duties of employees and others to cooperate fully in any investigation, along with consequences of non-cooperation, false statements, or obstruction.

Program Development

Provide annual assessments of overall program effectiveness in annual business plans.

Develop and track metrics for accurately gauging the health of Metropolitan's ethics culture at any given time, in accordance with emerging findings and research in the ethics and compliance industry.

Maintain open lines of communication with the Audit and Ethics Committee and the Board, along with the other departments about program needs, trends, and directions.

Education and Outreach

Develop Ethics Office materials to increasingly and effectively communicate the Ethics Office's role at Metropolitan and how it can advance Metropolitan's core missions. Increase awareness among directors, employees, and other interested persons of how they can interact directly with the Ethics Office to address individual concerns. Update public website to enable easy access to program materials and public information.

Modernization of Business Processes

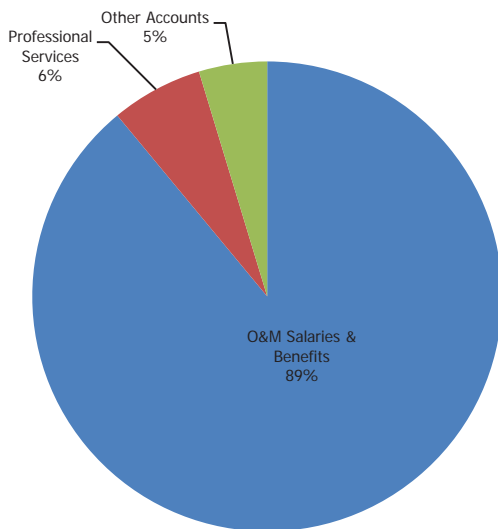
Implement an electronic system for compiling, and analyzing information and records for cases, investigations, advice responses, education, and administration. Develop automated reporting tools to promote clear reporting for auditing, board review, or other oversight purposes.

O&M FINANCIAL SUMMARY

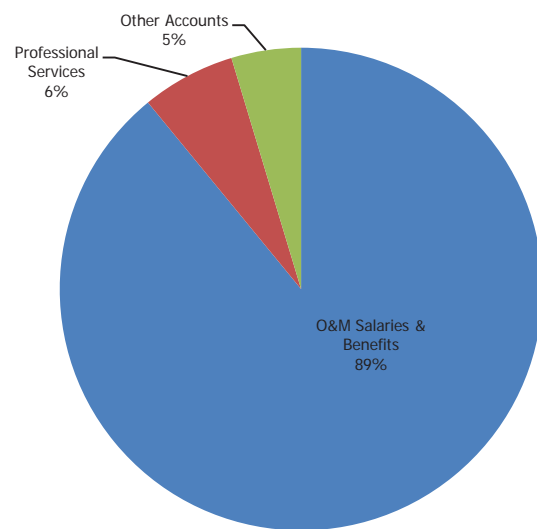
	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Total Salaries and Benefits	927,300	939,700	1,208,300	268,600	1,227,900	19,600
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
O&M Salaries and Benefits	927,300	939,700	1,208,300	268,600	1,227,900	19,600
% Change		1.3%		28.6%		1.6%
Professional Services	40,300	100,000	85,000	(15,000)	85,000	—
Memberships & Subscriptions	2,400	3,500	15,000	11,500	15,000	—
Outside Services - Non Professional / Maintenance	11,900	—	15,000	15,000	15,000	—
Rent & Leases	2,000	3,500	3,500	—	3,500	—
Subsidies & Incentives	9,500	11,000	13,000	2,000	13,000	—
Training & Seminars Costs	—	4,000	6,000	2,000	6,000	—
Travel Expenses	600	4,000	6,000	2,000	6,000	—
Other Accounts	1,900	9,500	4,600	(4,900)	4,600	—
Total O&M	995,900	1,075,200	1,356,400	281,200	1,376,000	19,600
% Change		8.0%		26.2%		1.4%

Note – Totals may not foot due to rounding.

FY 2016/17 BUDGET BY EXPENDITURE



FY 2017/18 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Regular		4	4	5	1	5	—
	O&M	4	4	5	1	5	—
	Capital	—	—	—	—	—	—
Temporary		—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel		4	4	5	1	5	—
	O&M	4	4	5	1	5	—
	Capital	—	—	—	—	—	—

Note – Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Ethics Office's biennial budget is \$1.4 million in FY 2016/17 and \$1.4 million in FY 2017/18 or an increase of 26.2% and 1.4% respectively from the prior budget years. The increase is due primarily to the following:

- The Ethics Officer has proposed a re-organization, modifications of positions, and addition of one full-time employee, as described below.

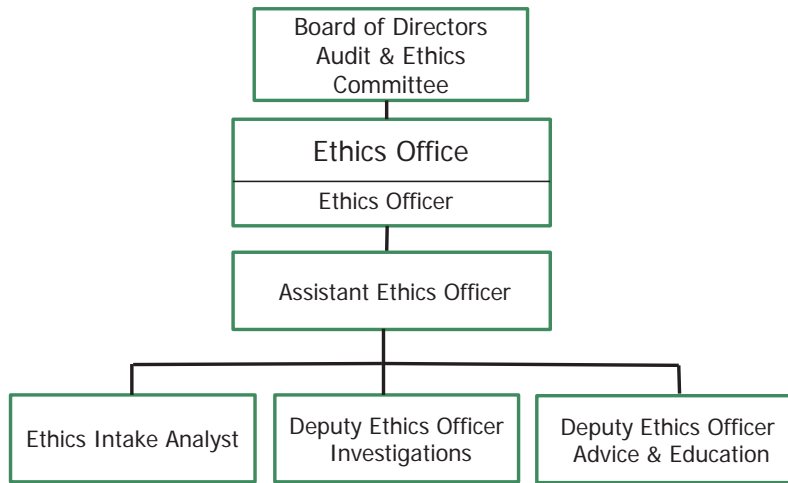
The following are the significant changes by budget year.

FY 2016/17

Personnel-related issues

The Ethics Officer has proposed a reorganization and reorientation of its personnel resources in order to:

- Provide capacity for the Ethics Office to perform its core responsibilities with its own personnel.
- Enable the Ethics Office to function at the highest levels of professionalism, expertise, and integrity in the field of governmental ethics and compliance, and to meet the best practices standards in this emerging field.
- Enable the Ethics Officer to dedicate more time to addressing high-level issues with directors and senior management staff.
- Ensure continuation of operations in the event the Ethics Officer is absent or otherwise unable to act in person.



One existing position (Ethics Policy Analyst) would be altered to an Assistant Ethics Officer position, reporting directly to the Ethics Officer. This position would ensure consistency and coordination with the Ethics Officer’s priorities and assist the Ethics Officer in considering actions or policies recommended by other professional staff. Also, consistent with the other three departments, this designation would enable continuation of operations in the event the Ethics Officer is absent or otherwise unable to act in person.

A new job classification Deputy Ethics Officer would be added. This classification would involve essential functions and qualifications consistent with mid- or advanced-level professionals in the field of government ethics and compliance. One Deputy Ethics Officer position would focus on investigations, fact-finding, and analysis. The other Deputy Ethics Officer position would focus on advanced research, writing, analysis, and drafting of policies, rules, and procedures, provide focused advice, and develop educational programs and materials.

One Deputy Ethics Officer position would be modified from a Principal Administrative Analyst classification. The other Deputy Ethics Officer position would be added as a new position within the Ethics Office.

As a result of these changes, the Ethics Office staff (including the Ethics Officer) would increase from four to five employees.

Professional Services

The Ethics Office does not anticipate major changes to its professional services requirements in the next two-year budget cycle.

FY 2017/18

Personnel-related issues

No additional anticipated changes.

Professional Services

No additional anticipated changes.

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STAFFING SUMMARY

Group/Department	2014/15 Actual	2015/16 Budget	2016/17 Proposed	2017/18 Proposed
Regular Employees				
Office of the General Manager	32	36	35	35
Water System Operations	883	949	951	951
Water Resource Management	59	68	68	68
Engineering Services	345	371	371	371
Business Technology	196	212	212	212
Human Resources	36	37	38	38
Real Property Development & Management	36	43	39	39
Office of the Chief Financial Officer	45	50	49	49
External Affairs	59	67	70	70
Subtotal Department	1,690	1,833	1,833	1,833
General Counsel	34	36	36	36
General Auditor	10	12	12	12
Office of Ethics	4	4	5	5
Subtotal Regular Employees	1,738	1,885	1,886	1,886
Temporary Employees				
District Temporary	36	20	22	20
Agency Temporary	7	0	4	4
Subtotal Temporary Employees	43	20	26	24
Total Authorized Positions		1,905	1,912	1,910
Unfunded / Vacancy		(56)	(72)	(69)
Total Employees	1,781	1,848	1,840	1,841

Note - Totals may not foot due to rounding.

OPERATING EQUIPMENT SUMMARY

Classification	2016/17 Quantity	2016/17 Amount	2017/18 Quantity	2017/18 Amount
Automobiles	1	\$ 8,720		
Boats	3	95,475	11	366,230
CPU's, Laptops & Servers	1	16,350	2	182,925
Construction/Shop/Maintenance Equipment	32	626,968	32	627,840
Heavy Equipment	28	683,300	27	549,459
Lab Equipment	8	1,579,068	10	2,463,337
Monitoring Equipment	10	1,103,391	1	500,000
Other Equipment	19	274,503	2	27,468
Pumps	5	150,784	2	66,381
Survey Equipment	2	17,614	1	21,717
Trucks	1	102,460	1	102,460
Utility Vehicles	23	964,756	35	1,505,590
Automobiles			1	12,576
Total	133	\$ 5,623,389	125	\$ 6,425,983

Note - Totals may not foot due to rounding.

PERFORMANCE MEASURES

Performance Measure	Measurement Intent	FY 13/14 Performance	FY 14/15 Performance*	Target
Delta Milestones	Monitor progress toward implementation of Delta Habitat Conservation Plan.	95%	80%	90%
	Completion of a project finance and cost allocation plan.	95%	80%	100%
	Actions toward achieving emergency response and other short-term Delta solutions.	95%	95%	100%
Credit Rating	Enable Metropolitan to access capital markets at the lowest borrowing cost.	Moody's – Aa1 S&P – AAA Fitch – AA+	Moody's – Aa1 S&P – AAA Fitch – AA+	AA, Aa2 or better
Maintain Reserve Balances	Ensure financial strength by managing reserves to within Board-established policy.	\$487 M	\$476 M	≥ \$204.9 M
High Performance Workplace	Assess workplace climate as a means of identifying potential improvements.	62% favorable score	N/A	≥ 63%
Public and Media Awareness	Monitor awareness of critical water issues to gauge effectiveness of outreach efforts as a percent of organizations reached with Metropolitan's message.	Media - 96%; Legislative - 162%	Media – 97% Legislative – 156%	≥85%
Implement Legislative Strategy	Measure passage of Metropolitan-supported legislation as a measure of the effectiveness of efforts in support of water policy issues.	88%	91%	≥85%

Performance Measure	Measurement Intent	FY 13/14 Performance	FY 14/15 Performance*	Target
Member Agency Service Satisfaction	Monitor Member Agency Service Level Satisfaction Index as an indicator of value of Metropolitan services to our customers.	63%	65%	≥ 80% (rating of "5" or better)
Unexpected Outages	Monitor water system maintenance and operations reliability to ensure uninterrupted water service.	3	2	0 service shutdowns
Meet All Scheduled Water Deliveries	Monitor reliability of water delivery as an indicator of effectiveness of maintenance activities and replacement and improvement projects.	100%	100%	100%
Prioritize Maintenance	Optimize maintenance processes to ensure timely completion of preventative maintenance (PM) work.	91.0%	87%	> 90% of all PMs > 99% of regulatory PMs
CRA Power	Secure economical power for CRA pumping needs.	100%	100%	100%
Electrical Reliability	Meet electrical reliability standards to pass all annual audits and inspections.	100%	100%	100%
Aqueduct Readiness	Maintain eight-pump flow readiness to ensure conveyance reliability	1,775 cfs	CRA operating on 8-pump flow. No flow test performed.	One stable test at eight-pump flow (1,750 cfs) annually.
Hydropower Generation	Optimize hydropower generation by minimizing power revenues lost to forced outages.	6.6%	4.1%	< 5% of power revenue lost
Cap and Trade	Develop procurement strategy for Cap-and-Trade allowances.	TBD	TBD	New Measure
Emergency Preparedness	Prepare for emergencies by conducting three emergency response exercises at all operational units annually.	27	47	≥ 27/yr
O&M Training	Ensure O&M employees complete training in accordance with training plans	84%	86%	≥ 90%

Performance Measure	Measurement Intent	FY 13/14 Performance	FY 14/15 Performance*	Target
Apprenticeship Program	Ensure sufficient apprentices graduate to meet O&M needs.	0**	13	≥15 graduates annually
Compliance with Drinking Water Standards	Ensure that all state, federal, and local water quality standards are met or exceeded.	100%	100%	100%
Total Dissolved Solids (TDS) mg/l	Monitor water quality compliance with the Board of Directors' salinity goals.	529 mg/l	587 mg/l	≤ 500 mg/l
Water Quality Satisfaction	Strive to minimize the number of customer complaints reported from member agencies as an indicator of overall water quality satisfaction.	0	3	< 10 complaints annually
Water Quality Regulatory Process	Actively engage in providing written comments on all applicable water quality regulations and public health determinations.	100%	100%	100%
Source Water Quality	Actively protect source water quality by engaging stakeholders on each recommendation from the 2012 Colorado River sanitary survey.	85%	95%	75% (for FY 2014/15; 100% completion by Dec 2015)
Environmental Compliance	Ensure compliance with all environmental permit requirements.	98.5%	98.7%	100%
Worker Safety	Ensure worker safety by enacting practices that minimize the injury/illness rate.	4.01	3.16	< 4.9 incidents/year/100 employees
Final Design Efficiency	Ensure costs are compatible with industry standards of similar agencies by measuring for cost efficiency and value-added features.	14.2%	5.7%	9% - 12% (Const. Costs > \$3 M)
		13.2%	16.4%	9% - 15% (Const. Costs ≤ \$3 M)

Performance Measure	Measurement Intent	FY 13/14 Performance	FY 14/15 Performance*	Target
Construction Inspection Efficiency	Ensure that capital projects are completed on time, on budget, meet specifications, and meet customer needs at the lowest possible cost.	17.0% 15.3%	12.2% 20.3%	9% - 12% (Const. Costs > \$3 M) 9% - 15% (Const. Costs ≤ \$3 M)
Completion of OPT Committee Milestones	Establish and meet expectations set by the Operations & Personnel Committee.	88%	81%	100%
Number of Leases Negotiated at or above FMV	Monitor number of existing leases and new leases negotiated at or above Fair Market Value.	100%	100%	100%
Revenue Generated from Real Property Activities	Track total revenue generated from all real property activities including but not limited to permits, licenses, leases, easements or other use fees.	\$5.0 M	\$6.0	\$10.4 M
Departmental O&M Budget Performance	Demonstrate financial control and accountability.	97.7%	98.1%	≤ 100%
Fixed Charge Coverage	Demonstrate sufficiency of revenues to cover fixed charges.	2.2	1.79	≥ 1.2
Significant External Audit Findings	Assess the quality of accounting processes and controls.	0	0	0

* Actual performance through June 2015

** Program length does not allow for any graduates for FY 2014. The Apprenticeship Program has classes that will graduate in 2015, 2016, 2017, and 2018

STATE WATER PROJECT

OVERVIEW

The State Water Project (SWP), managed and operated by the Department of Water Resources (DWR), is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife. The SWP provides irrigation water to 750,000 acres of farmland, mostly in the San Joaquin Valley, and provides municipal and industrial water to approximately 25 million of California's estimated 37 million residents.

The SWP consists of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. Water from rainfall and snowmelt runoff is captured and stored in SWP conservation facilities and then delivered through SWP transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. Metropolitan receives water from the SWP through the California Aqueduct, which is 444 miles long. The budgeted costs for the SWP are as follows:

SWP Cost Summary, \$ millions¹

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Delta Water Charge: Capital	\$35.0	\$22.1	\$39.2	\$17.1	\$39.4	\$0.2
Delta Water Charge: OMP&R	68.7	56.5	102.1	45.6	105.3	3.3
Transportation Capital	122.9	147.9	137.3	(10.6)	139.8	2.5
Transportation OMP&R	145.4	128.2	177.4	49.2	184.0	6.6
Power, Variable	116.3	187.0	155.3	(31.7)	162.8	7.5
Power, OAPF	22.5	9.8	9.6	(0.2)	5.8	(3.8)
Credits	(72.5)	(36.3)	(38.6)	(2.3)	(37.9)	0.7
SWP Total¹	\$438.3	\$515.0	\$582.3	\$67.3	\$599.4	\$17.1
SWC Dues	\$3.3	\$4.5	\$4.3	\$(0.2)	\$4.6	\$0.3
Acre-feet delivered	579,000	927,000	865,350	(61,650)	881,850	16,500

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Annually, the DWR reviews and redetermines the water supply and financial aspects of the SWP as required by the SWC. This results in the annual Statement of Charges to the Contractors for each calendar year. The information that supports the Statement of Charges is published by the DWR as Appendix B to the appropriate Bulletin 132 (i.e., the Statement of Charges for Calendar Year 2016 is supported by Appendix B to

Bulletin 132-15). DWR does not charge rates for water service. It does not develop a revenue requirement and then develop rates based on projected billing determinants for a calendar year. Rather, DWR apportions its costs to the Contractors based on their proportionate share of estimated supply costs (Delta Water Charge) and transportation costs (Transportation Charge).

Metropolitan's budgeted SWP costs are based on the 2016 Statement of Charges and supporting Appendix B. Power costs are estimated by Metropolitan assuming a 50 percent allocation and use of the Central Valley storage programs.

STATE WATER CONTRACT

All water supply-related capital expenditures and operations, maintenance, power and replacement (OMP&R) costs associated with the SWP conservation and transportation facilities are paid for by 29 agencies and districts, known collectively as the State Water Contractors (Contractors). Through Calendar Year 2012, Metropolitan has paid about 60 percent of the total payments to DWR by all Contractors. Metropolitan's financial records show that total accumulated amounts paid under the SWC are \$10.7 billion through fiscal year 2013/14. Metropolitan's SWC expires on December 31, 2035.

The Contractors have long-term contracts with DWR for the delivery of SWP water and use of the SWP transportation facilities. Metropolitan signed the first State Water Contract (SWC) on November 4, 1960, and received its first delivery of SWP water in 1972. Metropolitan has a contractual right to a proportionate share of the project water that DWR determines is available for allocation to the Contractors. This determination is made each year based on existing supplies in storage, forecasted hydrology, and other factors. Available project water is then allocated to the Contractors in proportion to the amounts set forth in Table A of their SWCs (Table A Allocation). Under its SWC, Metropolitan is entitled to roughly 46% of the annual Table A Allocation.

Since inception, the SWC provided Contractors the ability to use the SWP to convey non-SWP water under certain circumstances. Specifically, Article 18(c)(2) of the original SWC addresses situations where there is a shortage in the supply of water made available under the contract and states "[T]he District, at its option, shall have the right to use any of the project transportation facilities which by reason of such permanent shortage in the supply of project water to be made available to the District are not required for delivery of project water to the District, to transport water procured by it from any other source: [p]rovided, [t]hat such use shall be within the limits of the capacities provided in the project transportation facilities for service to the District under this contract". However, Article 18(c)(2) only applied in the event a permanent shortage was declared by DWR and it was unclear on how costs would be charged for using SWP facilities to transport nonproject water. In 1994, the Contractors and DWR negotiated the Monterey Amendment to the SWC, including Article 55, which made explicit that the Contractors' rights to use the portion of the SWP conveyance system necessary to deliver water to them (their "reaches") also includes the right to convey non-SWP water at no additional cost as long as capacity exists. Power for the conveyance of non-SWP water is charged at the SWP melded power rate. The Monterey Amendments also expanded the ability to carryover SWP water in SWP storage facilities, allowed Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use, and permitted certain Contractors to borrow water from terminal reservoirs. These amendments, approved by Metropolitan's Board in 1995, offered the means for individual Contractors to increase supply reliability through water transfers and storage outside their service areas.

The SWC is predominantly a 'take-or-pay' agreement, with Contractors paying most water conservation and transportation costs regardless of the amount of water delivered. The charges to the Contractors include a SWP supply charge (Delta Water Charge) and a SWP transportation charge (Transportation Charge). The Delta Water Charge recovers both Capital and OMP&R costs for those facilities that conserve and create the

actual water supply of the SWP. The Delta Water Charge is based on Contractors' cumulative Table A Allocations, and is paid regardless of whether Contractors receive any Table A Allocations in a given year.

The Transportation Charge recovers the costs associated with the various aqueduct reaches that deliver project water to the Contractors. The Capital and fixed OMPR portions of the SWP Transportation Charge recover costs from the Contractors based on their proportionate use of facilities. Unlike the Delta Water Charge, which is uniform for a unit of Table A water, the allocation of these portions of the Transportation Charge will vary based on the aqueduct segments needed to deliver water to a specific Contractor. The further a Contractor is from the Delta and the greater its capacity in the transportation facilities, the greater its allocation of the Capital and fixed OMPR Transportation Charges. The capacity of the SWP to deliver water decreases with distance from the Banks Pumping Plant, located in the Sacramento-San Joaquin Delta, as water is delivered to Contractors through the South Bay Aqueduct and the Coastal Branch Aqueduct, and to turnouts in the San Joaquin Valley and Southern California. Payment of the Transportation Charge entitles Contractors to the right to use their capacity in the SWP facilities for transportation of SWP or non-SWP water, on a space available basis, under the SWC. A Contractor that participates in the repayment of a particular reach, or segment of the SWP, has already paid the costs of using that reach for the conveyance of water supplies through the Transportation Charge. On average, Metropolitan pays about 63 percent of SWP transportation costs.

In addition to the charges for water supply and transportation facilities discussed above, DWR also charges for the power needed to deliver project water throughout the system. Two charges recover these power costs: the variable OMPR portion of the Transportation Charge (Variable Charge) and the Off Aqueduct Power Facilities (OAPF) charge. Because the SWC are cost recovery contracts, DWR invoices Contractors on an estimated basis for any calendar year, and then provides credits in later years once cost true-ups are finished.

The Variable Charge includes the annually estimated cost of purchased power including capacity and energy, cost of SWP power generation facilities, program costs to offset annual fish losses at the Banks Pumping Plant, purchased transmission services, and credits for sales of ancillary services and excess SWP system power sales. The Variable Charge is calculated on the basis of the energy required to pump an acre-foot of water to its take-out point multiplied by the system energy rate, less energy from the recovery generation plants. The system energy rate is a system-wide average rate calculated as the net cost of energy--total costs less revenues--divided by the net energy required to pump all water. That rate is applied to each acre-foot of water delivered to SWP customer based on the power required to pump the water to designated delivery points on the system. DWR can adjust the system energy rate as the calendar year progresses in order to reflect actual costs

The OAPF charge recovers the debt service and environmental remediation costs of power generation facilities not on the aqueduct, namely Reid Gardner Unit 4 and debt service associated with the South Geysers and Bottle Rock geothermal plants. The OAPF rate is calculated as the total annual estimated costs divided by the total energy required to pump all water. Recovery energy is not considered in this calculation. Each contractor's charge is the OAPF rate times the energy required to pump the contractor's water order.

The SWP uses low-cost hydroelectric and recovery generation resources, but they only provide about 50 percent of the SWP energy needs in an average water year. The SWP relies on the wholesale market and contractual resources with exposure to market price volatility for as much as 30 to 35 percent of its needs, using other contractual resources to fill in the difference.

The SWP energy required to move water to Metropolitan is related to the transportation on the East Branch through Devil Canyon and on the West Branch through Castaic. Because Metropolitan moves the largest amount of water on the SWP and Metropolitan's delivery points on the East and West Branch are at or near the southern extreme of the SWP, Metropolitan pays approximately 70 percent of the SWP power costs.

Cost of SWP Power for Metropolitan Terminal Delivery Points, \$ per Acre-Foot

	CY 2011 DWR	CY 2012 DWR	CY 2013 DWR	CY 2014 DWR	CY 2015 Preliminary	CY 2016 Preliminary	CY 2017 Estimated
East Branch	\$197.34	\$224.27	\$230.27	\$280.07	\$241.17	\$267.57	\$205.08
West Branch	\$170.79	\$210.93	\$215.61	270.03	\$226.58	\$257.02	\$195.05

The SWP energy costs are impacted by the energy policies of the state of California. The SWP is acquiring renewable resources, primarily solar to date, to meet its obligation to reduce greenhouse gas emissions. The SWP energy costs are also impacted by the increasing cost of using the California Independent System Operator's (CAISO) grid to deliver power from its generating sources and the wholesale power market to its pumping loads. The SWP does not own high voltage transmission facilities and must use the CAISO grid to move power; the SWP is the largest payer of the CAISO transmission access rates. Finally, the SWP has an obligation to acquire and surrender emissions allowances for the generating facilities the SWP owns, primarily the Lodi Energy Center.

In total, Metropolitan paid 55 percent of the total SWP charges in Calendar Year 2014.

BUDGET HIGHLIGHTS

The budget for the SWP is increasing due to: higher labor costs; rehabilitation and replacement expenditures, including capital projects at Hyatt, Thermalito Power Plant, and the Perris Dam remediation; and fish restoration, fish mitigation, and Delta Compliance program costs. Power costs are projected to be lower due to: higher water deliveries which spread fixed power costs over a larger usage base; lower market costs for natural gas, wholesale power, and cap-and-trade emissions allowances; and a recent favorable environment for negotiating renewable power contracts.

COLORADO RIVER AQUEDUCT

OVERVIEW

Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the Colorado River Aqueduct (CRA). The CRA consists of 5 pumping plants, 450 miles of high voltage power lines, 1 electric substation, 4 regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. Metropolitan first delivered CRA water in 1941 to its member agencies.

Metropolitan owns, operates, and manages the Colorado River Aqueduct. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA's five pumping stations.

Under its contracts with the federal government, Metropolitan has a fourth priority to 550,000 acre-feet per year of Colorado River water, less certain use by higher priority holders and Indian tribes. Metropolitan also holds a fifth priority for an additional 662,000 acre-feet per year that exceeds California's 4.4 million acre-foot per year basic apportionment, 38,000 acre-feet under the sixth priority during the term of the Colorado River Water Delivery Agreement, and another 180,000 acre-feet per year when surplus flows are available. Metropolitan can obtain water under the fourth, fifth, and sixth priorities from:

- Water unused by the California holders of priorities 1 through 3;
- Water saved by extraordinary conservation programs, crop rotation, and water supply program; or,
- When the U.S. Secretary of the Interior makes available:
 - o Surplus water, Intentionally Created Surplus water, and/or
 - o Water apportioned to, but unused by, Arizona and Nevada.

CRA Cost Summary¹, \$ millions

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
CRA Power	\$39.6	\$36.5	\$46.6	\$10.1	\$54.4	\$7.8
CRA Dues ²	\$0.6	\$0.6	\$0.7	\$0.1	\$0.7	\$0
Acre-feet delivered	1,185,493	876,000	857,100	(18,900)	881,850	24,750

¹ Does not include Departmental costs reflected elsewhere in this Budget

²Six Agency and Colorado River Authority of California

Budgeted CRA Power costs represent expenditures for the Hoover and Parker contracts and market power purchases to support budgeted CRA water deliveries.

CRA COSTS FOR TRANSPORTATION AND SUPPLY

Metropolitan incurs capital and operations and maintenance expenditures to support the CRA activities. The direct costs of the CRA activities include labor, materials and supplies, outside services to provide repair and maintenance, and professional services. The CRA activities benefit from Water Systems Operations support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements on the CRA, and capitalizes those improvements as assets. The costs of Metropolitan's capital financing activities are apportioned to service functions, such as the CRA.

The costs of the CRA supply portfolio developed by Metropolitan are paid by Metropolitan. The CRA supply portfolio is supported by Water Resource Management labor, materials and supplies. The CRA supply portfolio activities benefit from Water Resource Management support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements associated with the CRA supply portfolio capital assets and has capitalized these investments as Participation Rights.

Accordingly, the CRA costs for transportation and supply are reflected in the Departmental and General District Requirements budgets.

CRA COST FOR POWER

Metropolitan currently has four basic sources of power available to meet CRA energy requirements: Hoover Power, Parker Power, Benefit Energy from Southern California Edison (SCE), and wholesale purchases from entities in the Western United States. Each source is obtained at different unit prices

Cost of CRA Power Sources, \$ per Megawatt-hour (MWh)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Hoover ¹	\$16.81	\$17.26	\$18.60	\$29.74	\$15.84
Parker ¹	\$20.13	\$17.27	\$9.33	\$12.41	\$13.55
SP15, off-peak ²	\$23.73	\$23.44	\$33.15	\$40.24	\$33.15
SP15, on-peak ³	\$37.53	\$33.45	\$45.38	\$50.90	\$40.68

¹Information from Annual Reports for years 2011, 2012, 2013, 2014, and 2015

²SP15, off-peak price, described below, is used to determine the market value of Benefit Energy. Benefit Energy is available to Metropolitan for use only during off-peak hours. Thus, to the extent Benefit Energy is not available to meet Metropolitan's off-peak energy needs, Metropolitan must purchase off-peak power.

³SP15, on-peak, described below, is used to determine the market value of Metropolitan's sales of excess energy, if any. SP15 on-peak is also used to determine the pumping costs associated with pumping non-Metropolitan water through the CRA system, unless otherwise provided by contract.

Under a contract between the United States, Department of Energy, Western Area Power Administration, and Metropolitan, Metropolitan currently has a right to approximately 247 megawatts (MW) of capacity at the Hoover Power Plant, which is about 12 percent of the total generating capacity. Metropolitan has an annual firm energy entitlement of 1,291 megawatt-hours (MWh) (904 MWh in summer and 387 MWh in winter), which is about 28 percent of the total Boulder Canyon Project (Hoover) firm energy allocations. This contract expires in 2017; a follow-on contract is in the process of negotiations. Hoover Power Plant generation is cost-

based. Metropolitan acquired the benefits of the low-cost, federally funded hydroelectric plant in order to cost-effectively deliver Metropolitan's Colorado River water to its member agencies.

Under a contract among the United States, Department of the Interior, Bureau of Reclamation (Reclamation) and Metropolitan, Metropolitan funded the total cost of construction of Parker Dam and incidental facilities, and 50 percent of the construction cost of the Parker Powerplant. By providing the funding contribution, Metropolitan is entitled in perpetuity to 50 percent of the capacity and energy of the four Parker generating units, which is approximately 60 MW of capacity. Parker power is also cost-based. Like Hoover power, Metropolitan acquired the benefits of the low-cost, federally funded hydroelectric plant in order to cost-effectively deliver Metropolitan's Colorado River water to its member agencies.

Metropolitan has a Service and Interchange Agreement (Agreement) with SCE that provides services and benefits to both parties. The Agreement expires in 2017. Under the Agreement, SCE can dispatch Metropolitan's Hoover Dam and Parker Dam power entitlements and utilize excess transmission capacity on Metropolitan's CRA transmission system. SCE in return must meet Metropolitan's CRA energy and reliability requirements on a continuous basis. SCE must also provide Benefit Energy, the amount of which is determined annually, at no cost to Metropolitan for the benefits SCE receives.

Benefit Energy is the energy SCE provides to Metropolitan in consideration of the benefits SCE receives under the Service and Interchange Agreement. There is no charge for this energy. The amount of Benefit Energy available annually depends on the amount of water diverted through the CRA, and thereby the amount of energy used. Because SCE is obligated to meet the energy and reliability requirements of the CRA, SCE benefits if the CRA is not operating at full capacity. The relationship between the amount of Benefit Energy provided and pumping load is inverse: the more Metropolitan pumps, the less Benefit Energy SCE provides. Therefore, under a high diversion scenario, Metropolitan receives slightly less Benefit Energy to meet pumping loads than would be realized under a lower diversion scenario. The minimum amount of Benefit Energy provided annually by SCE is 200,000 MWh. The contract sets maximum and minimum amounts of Benefit Energy that can be allocated monthly. Benefit Energy can only be used to meet off-peak energy requirements. A follow-on contract to the Service and Interchange Agreement is in the process of negotiations.

Metropolitan's current basic resource mix is very cost effective but is not sufficient to pump Metropolitan's Colorado River water supplies in all years. For that reason, Metropolitan is required to purchase supplemental power to transport Colorado River water supplies in some years. As a result, Metropolitan requires that any party seeking to transport non-Metropolitan water through its Colorado River Aqueduct to purchase, or arrange for Metropolitan to purchase, the power supplies required to pump that water. The amount of power required to pump an acre-foot of water through the CRA is 2,000 kilowatt-hours. The additional pumping would also reduce the amount of Benefit Energy available to Metropolitan under the Service and Interchange Agreement with SCE. To compensate for this loss of Benefit Energy to Metropolitan, an additional 317 kilowatt-hours per acre-foot of water pumped must be provided to Metropolitan. Finally, any Colorado River water that is pumped through Metropolitan's CRA is diverted above Parker Dam and cannot generate energy for Metropolitan's use at the Parker Powerplant. To compensate for this loss, an additional 32 kilowatt-hours per acre-foot are required to make Metropolitan whole for undertaking to pump non-Metropolitan water through the CRA that would otherwise have flowed through the Parker Powerplant. In total, 2,349 kilowatt-hours (or 2.349 megawatt-hours) of energy must be provided to Metropolitan to convey each acre-foot of non-Metropolitan water supplies through the CRA.

Supplemental power can be purchased and transmitted to Metropolitan to pump non-Metropolitan water through the CRA. The market rate for electric energy prices is regularly tracked and published for various regions in California. Metropolitan uses the Platt's Market Report index and the California Independent System Operator (CAISO) Open Access Same-time Information System (OASIS) Day-Ahead Locational Marginal Price as reflective of the supplemental power costs for electric energy used for its pumping plants

on the CRA. The regional index applicable to energy sold for use on the CRA is designated as “South-of-Path 15”, or SP15.

Any party seeking to pump non-Metropolitan water through the CRA would have to purchase, or arrange for Metropolitan to purchase on its behalf, supplemental power. The market cost for purchases of power for the CRA is reflected in the SP15 index published by Platt’s Market Report or the CAISO OASIS Day-Ahead Locational Marginal Price. Because Metropolitan utilizes the pumping capacity on the CRA for its own water supplies during off-peak hours to minimize its costs, the pumping of non-Metropolitan water would occur during on-peak hours and the on-peak price index published in Platt’s Market Report or the CAISO OASIS Day-Ahead Locational Marginal Price is indicative of the price that would be paid to pump non-Metropolitan water.

Metropolitan from time to time sells excess energy into the wholesale market and realizes revenues, which offset the total cost of energy as reflected in the System Power Rate. If Metropolitan were to deliver additional water through the CRA, these sales become a lost opportunity. The on-peak price index published in Platt’s Market Report or the CAISO OASIS Day-Ahead Locational Marginal Price is indicative of the price that Metropolitan could realize by selling excess energy.

South-of-Path 15 On-Peak Energy Prices, \$/MWh

	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
January	\$ 37.13	\$ 28.73	\$ 46.15	\$ 49.53	\$ 35.70
February	\$ 38.13	\$ 29.05	\$ 46.45	\$ 71.85	\$ 31.88
March	\$ 32.72	\$ 24.85	\$ 51.39	\$ 52.06	\$ 30.73
April	\$ 36.01	\$ 29.33	\$ 56.34	\$ 51.19	\$ 29.03
May	\$ 34.91	\$ 31.36	\$ 51.49	\$ 51.85	\$ 28.11
June	\$ 36.98	\$ 31.43	\$ 47.77	\$ 50.90	\$ 37.01
July	\$ 41.20	\$ 36.46	\$ 51.74	\$ 53.18	\$ 39.27
August	\$ 42.25	\$ 44.32	\$ 45.44	\$ 50.47	\$ 39.02
September	\$ 41.53	\$ 41.99	\$ 48.91	\$ 51.49	\$ 38.00
October	\$ 34.78	\$ 42.81	\$ 42.82	\$ 49.06	\$ 35.55
November	\$ 34.49	\$ 39.84	\$ 44.13	\$ 49.28	\$ 30.22
December	\$ 32.59	\$ 38.77	\$ 52.14	\$ 41.80	\$ 29.83

MWh = megawatt-hour, or 1,000 kilowatt-hours

As key contracts expire in 2017, namely Hoover and the SCE Service and Interchange Agreement, Metropolitan’s resource mix and costs will likely change. Metropolitan has an obligation to acquire and surrender emissions allowances for the generation that is imported into California. As these factors continue to develop, Metropolitan may face increased exposure to both on- and off-peak wholesale energy prices.

BUDGET HIGHLIGHTS

The budget for the CRA power is increasing due to expiration of the SCE Service and Interchange Agreement and the loss of Benefit Energy. Benefit Energy is replaced by market purchases, which increases the operating costs.

SUPPLY PROGRAMS

OVERVIEW

Metropolitan's principal sources of water supplies are the State Water Project (SWP) and the Colorado River. Metropolitan receives water delivered from the SWP under State Water Contract (SWC) provisions, including contracted supplies, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan also holds rights to a basic apportionment of Colorado River water and has priority rights to an additional amount from the Colorado River depending on availability of surplus supplies. The Supply Programs supplement these SWP and Colorado River supplies. The budgeted costs for the Supply Programs are as follows:

Supply Programs Cost Summary, \$ millions

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
PVID Program	\$9.4	\$9.4	\$17.4	\$8.0	\$18.0	\$0.6
IID/MWD Conservation	\$12.8	\$12.6	\$10.8	\$(1.8)	\$11.0	\$0.2
Other CRA	\$17.1	\$15.5	\$24.3	\$8.8	\$23.6	\$(0.7)
In Basin	\$3.7	\$1.3	\$1.6	\$0.3	\$1.6	\$0.0
SWP Programs	\$51.2	\$36.5	\$24.6	\$(11.9)	\$27.5	\$2.9
Total Supply Programs¹	\$94.3	\$75.3	\$78.7	\$3.4	\$81.7	\$3.0

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Budgeted Supply Programs costs represent opportunities and actions associated with a 50 percent SWP allocation and deliveries on the CRA of 857.1 to 881.9 thousand acre-feet (TAF). On the SWP, Supply Program expenditures support maximizing storage capabilities of the Central Valley storage programs, utilizing transfer and exchange programs recently executed, and bringing the balance into the region. On the CRA, the expenditures support the Palo Verde Irrigation District land following program and the Imperial Irrigation District/Metropolitan Conservation Program, as well as other programs to conserve and develop supplies.

SUPPLY PROGRAMS HAVE BEEN DEVELOPED TO CONVEY ON THE SWP TRANSPORTATION SYSTEM

Since inception, the SWC provided Contractors the ability to use the SWP to convey non-SWP water under certain circumstances. Specifically, Article 18(c)(2) of the original SWC addresses situations where there is a shortage in the supply of water made available under the SWC and states, "[T]he District, at its option, shall have the right to use any of the project transportation facilities which by reason of such permanent shortage in the supply of project water to be made available to the District are not required for delivery of project water to the District, to transport water procured by it from any other source: [p]rovided, [t]hat such use shall be within the limits of the capacities provided in the project transportation facilities for service to the District under this contract". However, Article 18(c)(2) only applied in the event a permanent shortage was declared by DWR and it was unclear on how costs would be charged for using SWP facilities to transport

nonproject water. In 1994, the Contractors and DWR negotiated the Monterey Amendment to the SWC, including Article 55, which made explicit that the Contractors' rights to use the portion of the SWP conveyance system necessary to deliver water to them (their "Reaches") also includes the right to convey non-SWP water at no additional cost as long as capacity exists. Power for the conveyance of non-SWP water is charged at the SWP melded power rate. The Monterey Amendment also expanded the ability to carry over SWP water in SWP storage facilities, allowed participating Contractors to borrow water from terminal reservoirs, and allowed Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use.

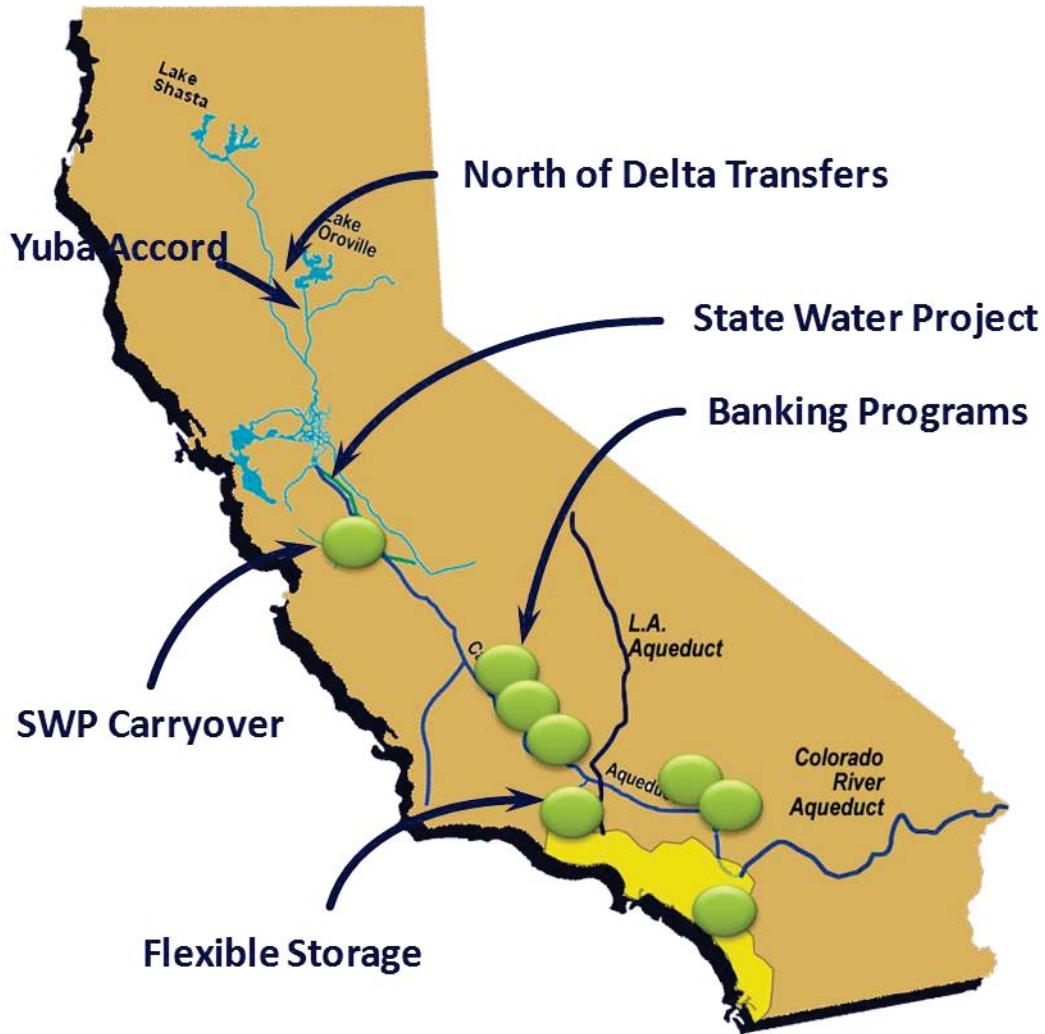
These amendments, approved by Metropolitan's Board in 1995, offered the means for individual Contractors to increase supply reliability through water transfers, and storage outside their service areas.

Since adoption of the 1996 Integrated Resources Plan (IRP) and subsequent updates, Metropolitan has developed and actively managed a portfolio of supplies to convey through the California Aqueduct. Metropolitan submits delivery schedules to DWR for these supplies, and alters these schedules throughout the year based on changes in the availability of SWP and Colorado River water. The figure below shows the geographic location of the portfolio of supplies that Metropolitan has developed to be conveyed through the SWP since adoption of the Monterey Amendment and the 1996 IRP. These resources extend from north of the Delta to Southern California.

Since the Monterey Amendment, Metropolitan has secured one-year water transfer supplies through Metropolitan-only purchases, buyer coalition-purchases, and Governor Drought Water Banks. The most recent years in which these one-year transactions occurred were 2008 through 2010, 2013 and 2015. No purchases were made in 2011 or 2012 due to favorable water supply conditions. Most of the sellers were Sacramento Valley water users who are not Contractors. Other Contractors obtained one-year water transfers during this timeframe as well.

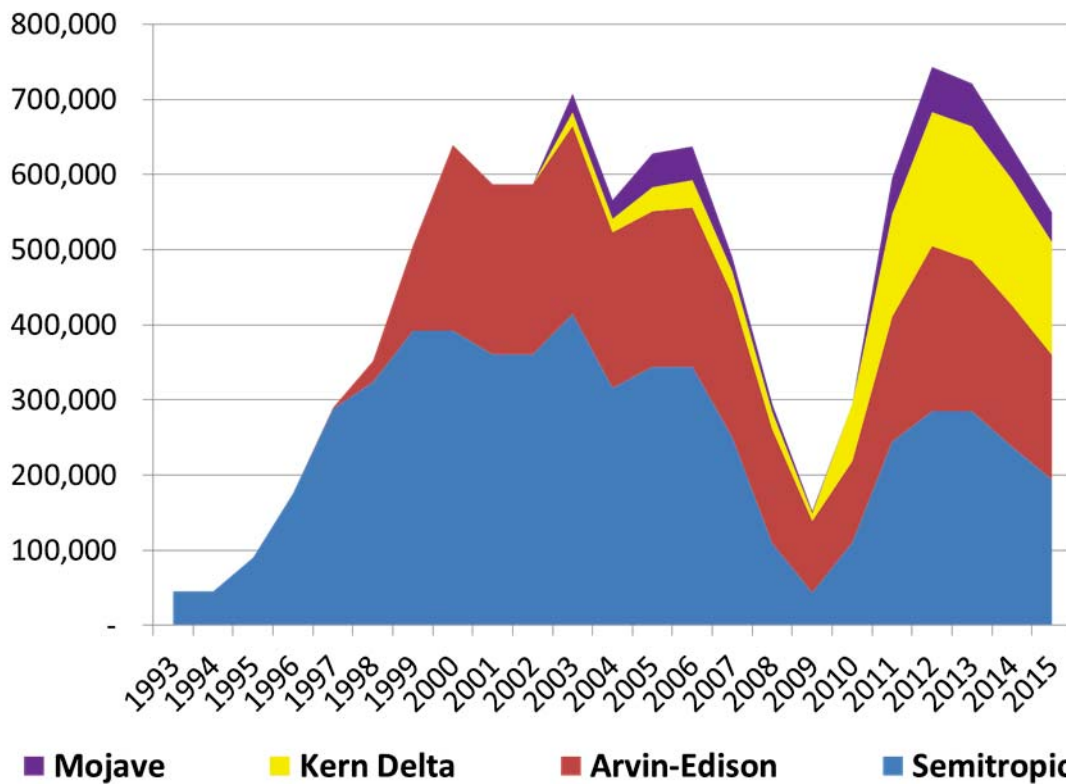
In addition to the one-year water transfers, Metropolitan purchases long-term water transfer supplies through the Yuba Accord. The Yuba Accord has provided water to enhance SWP and CVP water supply reliability by offsetting Delta export reductions and providing dry year water supplies for participating SWP and CVP contractors. This water is Yuba River water developed by Yuba County Water Agency (YCWA) making reservoir releases or by YCWA's member units substituting groundwater for their surface water supplies; it is not SWP water

California Aqueduct Portfolio of Supplies



Metropolitan also has developed groundwater storage agreements that allow Metropolitan to store available supplies in the Central Valley for return later. Metropolitan enters into agreements with DWR to deliver water supplies from the SWP facilities to these storage programs. Metropolitan enters into agreements for introduction of local supplies to return these water supplies to the SWP system for delivery to Metropolitan. The year-end balances of Metropolitan’s SWP storage activities are shown in the graph below.

SWP Groundwater Storage Programs year-end balance, acre-feet



- **Mojave Storage Program:** under the agreement, Mojave Water Agency provides groundwater banking and exchange transfers to allow Metropolitan to store up to 390,000 acre-feet for later return. The agreement allows Metropolitan to annually withdraw Mojave Water Agency's SWP contractual amounts, after accounting for local needs.
- **Kern Delta Storage Program:** under the agreement, Kern Delta Water District provides groundwater banking and exchange transfer to allow Metropolitan to store up to 250,000 acre-feet of SWP water in wet years and take up to 50,000 acre-feet annually during droughts. The water is returned by direct groundwater pump-in or by exchange of surface water supplies.
- **Arvin-Edison Storage Program:** under the agreement, Arvin-Edison Water Storage District stores water on behalf of Metropolitan. Up to 350,000 acre-feet can be stored; Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The water is returned by direct groundwater pump-in and exchange of SWP supplies.
- **Semitropic Storage Program:** under the agreement, Metropolitan stores water in the groundwater basin underlying land within the Semitropic Water Storage District. The maximum storage capacity is 350,000 acre-feet. As of December 2014, the minimum annual yield to Metropolitan is 34,700 acre-feet, and the maximum annual yield is 236,200 acre-feet depending on the available unused capacity and the SWP allocation. The water is returned by direct groundwater pump-in and exchange of SWP supplies.
- **Antelope Valley East Kern (AVEK) Storage and Exchange Program:** under the agreement, AVEK provides at least 30,000 acre-feet over ten years of its unused SWP Table A amount to Metropolitan and Metropolitan, at its discretion, would return half of the exchange water to AVEK at the Banks pumping plant. Under the Storage Program, Metropolitan, at its discretion, could store at least 30,000 acre-feet of its SWP

Table A amount or other supplies in the Antelope Valley Groundwater Basin in an account designated for Metropolitan.

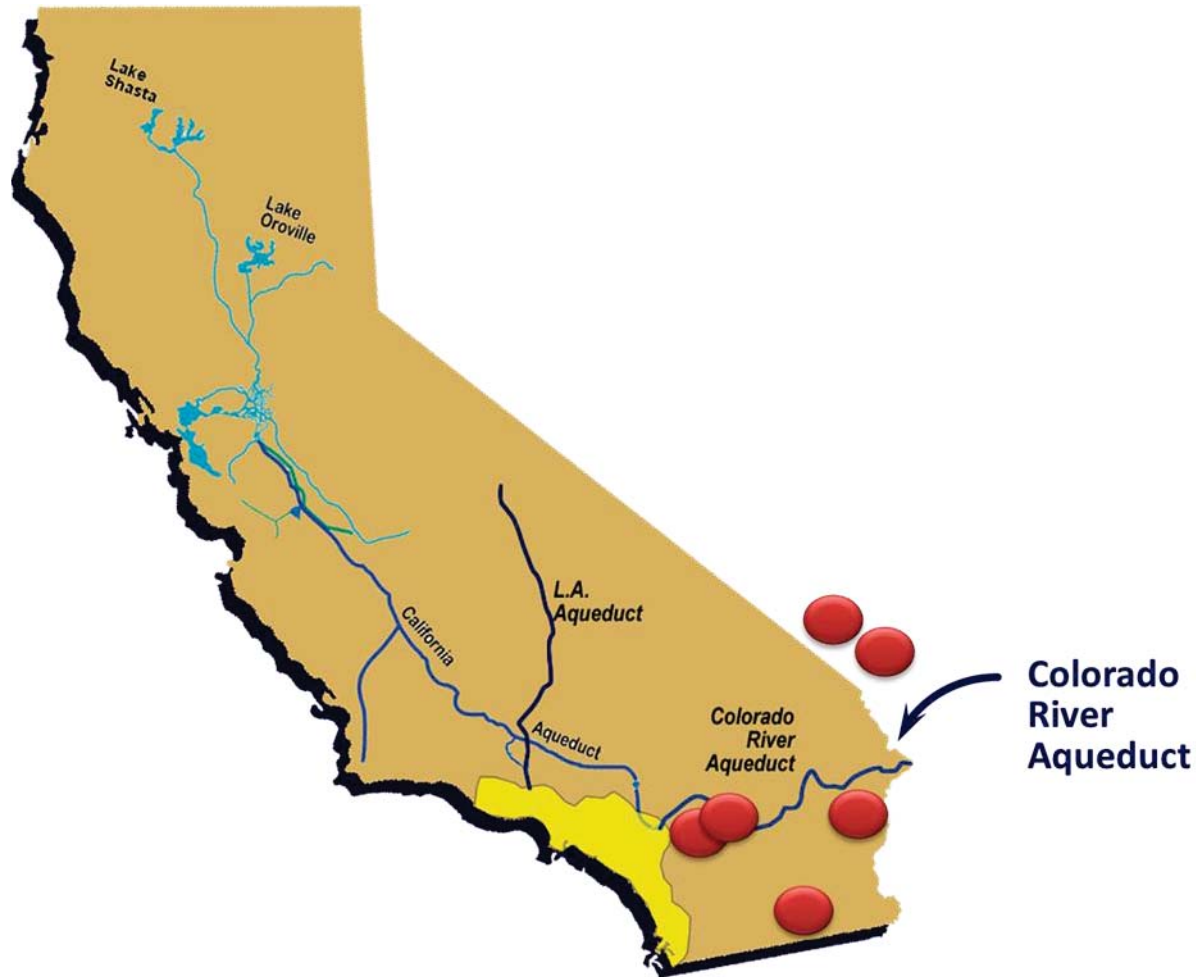
Metropolitan has developed exchanges and transfers with other Contractors to enhance supply flexibility. Some of these agencies have extensive groundwater supplies and are willing to exchange their SWP supplies.

- San Bernardino Valley Municipal Water District: under the agreement, Metropolitan can exchange up to 11,000 acre-feet on an annual basis with the return negotiated.
- San Gabriel Valley Water District: under this agreement, Metropolitan delivers treated water to a San Gabriel Valley Water District subagency in exchange for twice as much untreated SWP supplies delivered into the groundwater basin that supplies this agency and Metropolitan subagencies. Metropolitan can purchase at least 5,000 acre-feet per year, in excess of the unbalanced exchange amount. There are no fees to put water into storage, or take water out of the storage account. This program has the potential to increase Metropolitan's reliability by providing 115,000 acre-feet through 2035.
- Desert Water Agency/Coachella Valley Water District Advance Delivery Program: under this program, Metropolitan delivers Colorado River water to the Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) in exchange for those agencies' SWP Contract Table A allocations to be delivered to Metropolitan at a later date. In addition to their Table A supplies, DWA and CVWD can take delivery of SWP supplies available under Article 21 of the SWC and the Turn-back Pool Program, and non-SWP supplies separately acquired by each agency. These non-SWP supplies have included Yuba Accord water, drought water bank water, and San Joaquin Valley water. Thus the availability of other water sources allows DWA and CVWD to exchange their Table A supplies with Metropolitan. By delivering enough water in advance to cover Metropolitan's exchange obligations, Metropolitan is able to receive DWA and CVWD's available SWP supplies in years in which Metropolitan's supplies are insufficient without having to deliver an equivalent amount of Colorado River water.

SUPPLY PROGRAMS HAVE BEEN DEVELOPED TO CONVEY ON THE CRA

Since adoption of the 1996 Integrated Resources Plan (IRP) and subsequent updates, Metropolitan has developed and actively manages a portfolio of supplies to convey through the CRA, and as owner and operator, determines the delivery schedule of those resources throughout the year based on changes in the availability of SWP and Colorado River water. The figure below shows the geographic location of the portfolio of supplies that Metropolitan has developed for diversion into the CRA since adoption of the 1996 IRP. These resources extend from Lake Mead to Southern California.

Colorado River Aqueduct Portfolio of Supplies



- Imperial Irrigation District/Metropolitan Conservation Program: Under a 1988 Conservation Agreement, Metropolitan has funded water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for the right to divert the water conserved by those investments. Metropolitan provided funding for IID to construct and operate a number of conservation projects that have conserved up to 109,460 acre-feet of water per year that has been provided to Metropolitan. In 2015, 107,820 acre-feet of conserved water is being made available by IID to Metropolitan. Execution of the Quantification Settlement Agreement (QSA) and other agreement amendments resulted in changes in the availability of water under the program. As a result of a 2014 IID-Metropolitan letter agreement, the amount to be made available by IID has been quantified at 105,000 acre-feet per year beginning in 2016. Metropolitan is guaranteed at least 85,000 acre-feet per year, with the remainder of the conserved water being made available to CVWD, if needed under the 1989 Approval Agreement as amended.
- Palo Verde Land Management, Crop Rotation, and Water Supply Program: Under this program, participating landowners in the Palo Verde Irrigation District (PVID) are paid to reduce water use by not irrigating a portion of their land. A maximum of 29 percent of the participating lands within the Palo Verde Valley can be fallowed in any given year. This program saves up to 133,000 acre-feet of water in certain years, and a minimum of 33,000 acre-feet per year. The term of the program is 35 years. Fallowing began on January 1, 2005. In March 2009, Metropolitan and PVID entered into a supplemental emergency fallowing program within PVID that provided for the fallowing of additional acreage in 2009 and 2010. Since 2005, as much as 148,600 acre-feet of water was saved. The volume of water that becomes available to Metropolitan is governed by the QSA and the Colorado River Water Delivery Agreement. Under these agreements:

- o Metropolitan must reduce its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is greater than 420,000 acre-feet in a calendar year, or
- o Metropolitan may increase its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is less than 420,000 acre-feet in a calendar year.

In both cases, each acre-foot of reduced consumptive use by PVID is an additional acre-foot that becomes available to Metropolitan.

- All-American and Coachella Canal Lining Projects: Metropolitan takes delivery of 16,000 acre-feet of water annually as a result of the All-American and Coachella Canal Lining Projects. In the future, that water will be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido and the Vista Irrigation District, upon completion of a water rights settlement among those parties and the United States.
- Southern Nevada Water Authority and Metropolitan Storage and Interstate Release Agreement: Under this 2004 agreement and a related Operational Agreement, additional Colorado River water supplies are made available to Metropolitan when there is space available in the CRA to receive the water, subject to a request by Southern Nevada Water Authority (SNWA) for Metropolitan to reduce its Colorado River water order to return a portion of this water. In 2009, 2012, and 2015, Metropolitan, the Colorado River Commission of Nevada, and SNWA amended the related Operational Agreement. The agreements can be terminated upon 90 days' notice following the return of the water stored by Metropolitan.
- Lower Colorado Water Supply Project: Under a contract among Metropolitan, the City of Needles, and the United States Bureau of Reclamation, Metropolitan receives annually exchange water unused by the City of Needles and other entities who have no rights or insufficient rights to use Colorado River water in California. The beneficiaries of the project, including the City of Needles, receive water exchanged for groundwater pumped from wells into the All-American Canal. Metropolitan makes payments to a trust fund to develop a replacement project or to desalt the groundwater should the groundwater become too saline for discharge into the All-American Canal.
- Lake Mead Storage Program: In December 2007, Metropolitan entered into agreements to set forth the guidelines under which Intentionally Created Surplus (ICS) water is developed, and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead, created through extraordinary conservation, system efficiency, or tributary conservation methods, is available for delivery in a subsequent year, with extraordinary conservation ICS subject to a one-time deduction and evaporation losses. Extraordinary conservation methods used by Metropolitan to date are water saved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, and groundwater desalination. The guidelines concerning the operation of the Colorado River system reservoirs provide the ability for agencies to create "System Efficiency ICS" through the development and funding of system efficiency projects that save water that would otherwise be lost from the Colorado River. Metropolitan has participated in two projects to create System Efficiency ICS:
 - o Drop 2 (Warren H. Brock) Reservoir: Metropolitan contributed funds toward the Bureau of Reclamation's construction of an 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County. This reservoir conserves about 70,000 acre-feet of water per year by capturing and storing otherwise non-storable flow. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead, and has the ability to receive up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the new reservoir adds to the flexibility of Colorado River operations.

- o Yuma Desalting Plant: Metropolitan contributed to a one-year pilot operation of the Plant at one-third capacity to provide data regarding the long-term operation of the Plant. Metropolitan’s yield from the pilot run of the project was 24,397 acre-feet.

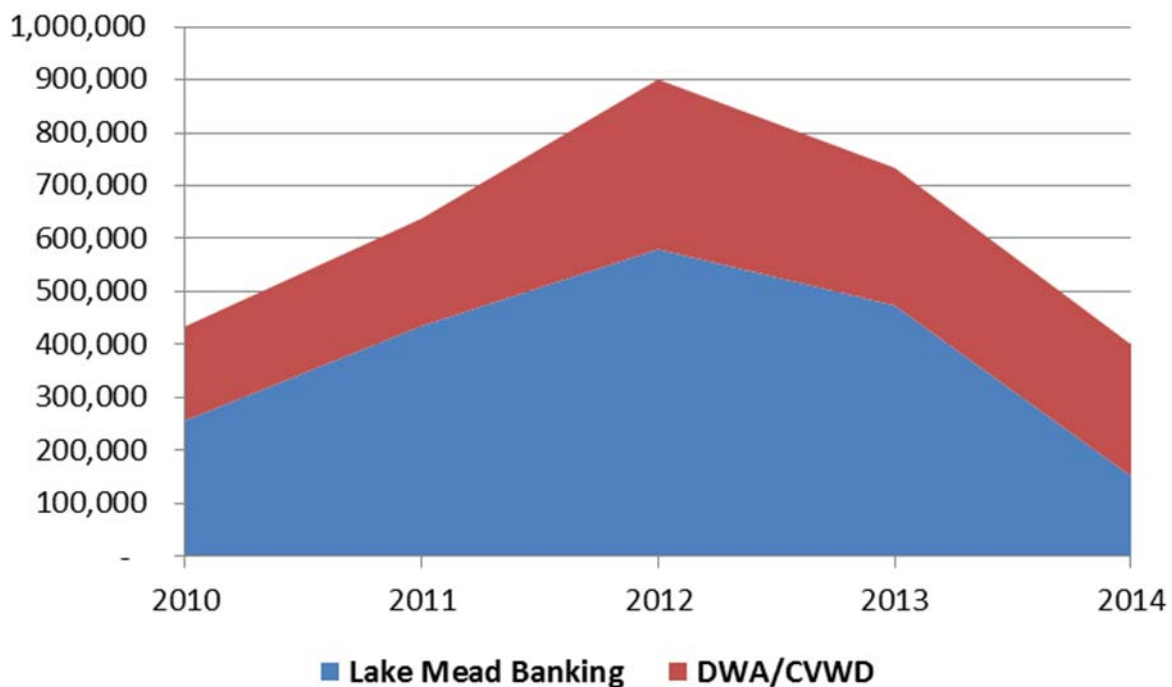
- o In November 2012, Metropolitan executed agreements in support of a program to augment Metropolitan’s Colorado River supply between 2013 and 2017 through an international pilot project in Mexico. Metropolitan’s total share of costs will be \$5 million for 47,500 acre-feet of project supplies. The costs will be paid between 2015 and 2017, and the conserved water will be credited to Metropolitan’s intentionally-created surplus water account no later than 2017. In December 2013, Metropolitan and IID executed an agreement under which IID will pay half of Metropolitan’s program costs, or \$2.5 million, in return for half of the project supplies, 23,750 acre-feet.

- Hayfield Groundwater Storage Program: This program will allow Metropolitan to store Colorado River water in the Hayfield Groundwater Basin in eastern Riverside County for future withdrawal and delivery to the CRA. Drought conditions in the Colorado River watershed have resulted in a lack of surplus supplies for storage. When water supplies become more plentiful, Metropolitan may pursue this program and develop storage capacity of about 400,000 acre-feet.

- Desert Water Agency/Coachella Valley Water District/Metropolitan Water Exchange and Advance Delivery Programs: under these programs, Metropolitan delivers Colorado River water to the DWA and CVWD, in advance of the exchange for their SWP supplies. By delivering enough water in advance to cover Metropolitan’s exchange obligations, Metropolitan is able to receive DWA and CVWD’s available SWP supplies in years in which Metropolitan’s supplies are insufficient without having to deliver an equivalent amount of Colorado River water.

The year-end balances of Metropolitan’s CRA storage programs are shown in the graph below.

CRA Storage Programs year-end balance, acre-feet



BUDGET HIGHLIGHTS

The budget for the Supply Programs increases slightly over the budget period compared to FY 2015/16. This reflects the assumption of a 50 percent allocation on the SWP and approximately 857.1 to 881.9 TAF of deliveries on the CRA over the same three budget periods.

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DEMAND MANAGEMENT

OVERVIEW

Demand Management costs are Metropolitan's expenditures for funding local water resource development programs and water conservation programs. These demand management programs incentivize the development of local water supplies and the conservation of water to reduce the reliance on imported water. These programs are implemented after the service connection between Metropolitan and its member agencies and, as such, do not add any water to the quantity Metropolitan obtains from other sources or to Metropolitan's own supply. Rather, the effect of these downstream programs is to produce a local supply of water for the local agencies.

Demand Management programs reduce the use of and burden on Metropolitan's distribution and conveyance system, which, in turn, helps reduce the capital, operating, maintenance and capital improvement costs associated with these facilities. For example, local water resource development and conservation has deferred the need to build additional infrastructure such as the Central Pool Augmentation Project and the San Diego Pipeline No. 6. Overall, the decrease in demand resulting from these projects is estimated to defer the need for projects between four and twenty-five years at a savings of between \$324 and \$910 million. The programs also free up capacity in Metropolitan's system to convey both Metropolitan water and water from other non-Metropolitan sources.

The budgeted costs for Demand Management are as follows:

Demand Management Cost Summary¹, \$ millions

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Conservation Credits Program	\$134.4	\$20.0	\$27.0	\$7.0	\$32.0	\$5.0
Local Resources Program	\$35.8	\$41.7	\$43.7	\$2.0	\$41.9	\$(1.8)
Future Supply Actions		0	\$4.4	\$4.4	\$2.0	\$(2.4)

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Budgeted Demand Management costs reflect increasing the financial commitment for the Conservation Credits Program and maintaining the financial incentives for existing contracts under the Local Resources Program.

In addition to Metropolitan's own objectives, Metropolitan also pursues local water resource development because it has uniquely been directed to do so by the state Legislature. In 1999, then Governor Davis signed Senate Bill (SB) 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase conservation and local resource development. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

Metropolitan's Demand Management programs also support the region's compliance with the requirements of SB X7-7. In 2009, the state Legislature passed SB X7-7, which was enacted to reduce urban per capita water use by 20 percent by December 31, 2020. Urban retail water suppliers are not eligible for state water grants or loans unless they comply with the water conservation requirements of the legislation. Demand Management programs help the region achieve urban per capita water use reductions.

Demand Management costs also support the Strategic Plan Policy Principles approved by Metropolitan's Board on December 14, 1999. These principles embody the Board's vision that Metropolitan is a regional provider of wholesale water services. In this capacity, Metropolitan is the steward of regional infrastructure and the regional planner responsible for coordinated drought management and the collaborative development of additional supply reliability and necessary capacity expansion. Through these regional services, Metropolitan ensures a baseline level of reliability and quality for service in its service area.

DEMAND MANAGEMENT PROGRAMS REDUCE RELIANCE ON IMPORTED WATER

Metropolitan increased the emphasis on Demand Management programs after the devastating drought of the early 1990's. Metropolitan's 1996 Integrated Resources Plan identified the Preferred Resource Mix as the resource plan that achieved the region's reliability goal of providing the full capability to meet all retail-level demands during all foreseeable hydrologic events, represented the least-cost sustainable resources plan, met the region's water quality objectives, was balanced and diversified and minimized risks, and was flexible, allowing for adjustments should future conditions change.

The Preferred Resource Mix included locally developed water supplies and conservation, and recognized that regional participation was important to achieve their development. Additional imported supplies frequently have relatively lower development costs, but can create a large cost commitment for regional infrastructure to transport and store those imported supplies. On the other hand, local projects, like those designed to recycle water or increase groundwater production, may have higher development costs but require little or no additional infrastructure to distribute water supplies to customers. This trade-off between relatively lower-cost imported supplies requiring large regional infrastructure investments and relatively higher-cost local supply development requiring less additional local infrastructure was an important consideration in the development of the Preferred Resource Mix. A strategy of aggressively investing in imported water supply would lead to higher costs for the region because of the larger investments required in infrastructure. Since 1996, the Integrated Resources Plan has been updated twice, in 2004 and 2010, reaffirming long-term sustainability of the region's water supply through implementation of conservation and local resource development.

DEMAND MANAGEMENT PROGRAMS REDUCE DEMANDS AND BURDENS ON METROPOLITAN'S SYSTEM

Demand Management programs decrease and avoid operating and maintenance and capital improvement costs, such as costs for repair of and construction of additional or expanded water conveyance, distribution, and storage facilities. The programs also free up capacity in Metropolitan's system to convey both Metropolitan water and water from other non-Metropolitan sources.

The purpose of Demand Management is to generate additional local resources or reduce consumption through conservation, which reduces the amount of water that must otherwise be transported through Metropolitan's system. Investments in Demand Management programs like conservation, water recycling and groundwater recovery help defer the need for additional conveyance, distribution, and storage facilities. Demand Management is an important part of Metropolitan's resource management efforts. Metropolitan's

incentives in these areas contribute to savings for all users of the system in terms of lower capital costs that would otherwise have been required to expand and maintain the system.

SB 60 DIRECTED METROPOLITAN TO EXPAND DEMAND MANAGEMENT PROGRAMS

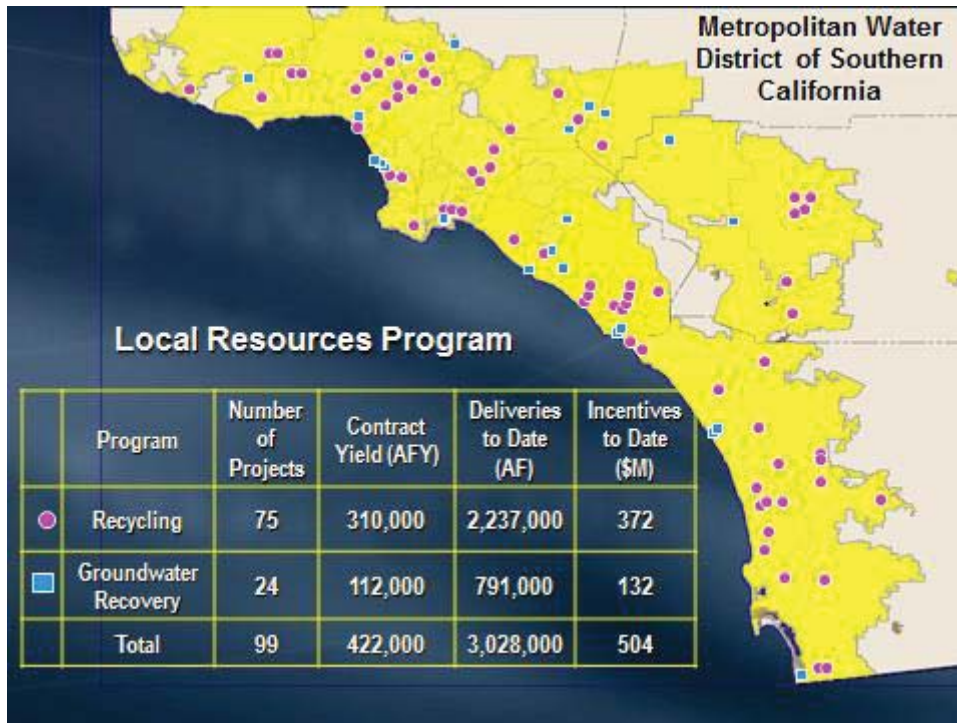
In September 1999, Governor Gray Davis signed SB 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase “sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures.” SB 60 also requires Metropolitan to hold an annual public hearing to review its urban water management plan for adequacy in achieving an increased emphasis on cost-effective conservation and local water resource development, and to invite knowledgeable persons from the water conservation and sustainability fields to these hearings. Finally, Metropolitan is required to annually prepare and submit to the Legislature a report on its progress in achieving the goals of SB 60. SB 60 specifically indicated that no reimbursement was required by legislation because Metropolitan, as a local agency, has the authority to levy service charges, fees or assessments sufficient to pay for the program or level of service mandated by SB 60. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

In FY 2014/15 alone, Metropolitan’s service area achieved 1.5 million acre-feet of water savings from conservation, recycled water and groundwater recovery programs. The 1.5 million acre-feet of water savings from water management activities in fiscal year 2014/15 nearly equaled actual water sold in the same period of 1.91 million acre-feet. These savings derived from programs for which Metropolitan paid incentives, as well as code-based conservation achieved through legislation, building and plumbing codes and ordinances, and reduced consumption resulting from changes in water pricing. Cumulatively, since 1990 Metropolitan has invested almost \$1 Billion to achieve water savings.

Metropolitan’s Conservation Credits Program provides incentives to residents and businesses for use of water-efficient products and qualified water-saving activities. Rebates have been provided to residential customers for turf removal and purchasing of high-efficiency clothes washers and toilets. Rebates are also provided to businesses and institutions for water-saving devices. In fiscal year 2014/15, the Conservation Credits Program achieved 944,000 acre-feet of saved water through new and existing conservation initiatives funded with incentives and maintained through plumbing codes. Cumulatively, through fiscal year 2014/15 the Conservation Credits Program has achieved over 2.2 million acre-feet of water savings.

Metropolitan provides financial incentives through its Local Resources Program for the development and use of recycled water and recovered groundwater. The Local Resources Program consists of 75 recycling projects and 24 groundwater recovery projects located throughout Metropolitan’s service area, of which 85 projects are in operation. From the Local Resources Program’s inception in 1982 through FY 2014/15, Metropolitan has paid out about \$372 million in incentives to produce about 2.2 million acre-feet of recycled water. Metropolitan also provided approximately \$132 million to produce 791,000 acre-feet of recovered degraded groundwater for municipal use.

Local Resources Program Projects



SB X7-7 REQUIRES INCREASED CONSERVATION

SBX7-7 mandated a new requirement to lower urban per capita water use 20 percent by December 31, 2020. Enacted by the state Legislature and signed into law by Governor Schwarzenegger as part of a historic package of water reforms in November 2009, the “20x2020” plan gave local communities flexibility in meeting this target while accounting for previous efforts in conservation and recycling. The Legislature found that reducing water use through conservation and regional water resources management would result in protecting and restoring fish and wildlife habitats, reducing dependence on water through the Delta, and providing significant energy and environmental benefits. Metropolitan coordinates closely with its member agencies to achieve these targets both at a retail agency level in compliance with legislative requirements, and as a region in achieving a true 20 percent reduction in per-capita water use.

BUDGET HIGHLIGHTS

The budget for the Demand Management costs is increasing slightly when comparing the biennial budget to FY 2015/16, due primarily to increased expenditures for the Conservation Credits Program.

CAPITAL FINANCING

OVERVIEW

Capital financing costs are Metropolitan's expenditures for revenue bond debt service, General Obligation bond debt service, debt administration costs, the funding of capital expenditures from current operating revenues, or Pay-As-You-Go (PAYGo), and State Revolving Fund (SRF) Loan payments.

The budgeted costs for capital financing are as follows:

Capital Financing Cost Summary, \$ millions

	2014/15 Actual	2015/16 Budget	2016/17 Proposed	Change from 2015/16	2017/18 Proposed	Change from 2016/17
Debt Service, net of BABs Reimbursement	\$266.3	\$296.4	\$298.7	\$2.3	\$318.1	\$19.4
GO Bond Debt Service	23.4	23.3	23.3	0	18.8	(4.5)
SRF Loan	1.3	1.3	1.3	0	1.3	0
Debt Administration	2.7	3.7	5.2	1.5	5.9	0.7
PAYGo	210.2	221.0	120.0	(101.0)	120.0	0
Total¹	\$503.9	\$545.7	\$448.5	\$(97.2)	\$464.1	\$15.6

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Budgeted amounts for Capital Financing represent the expenditures for existing and future debt service, anticipated debt administration costs to support the debt portfolio, and lower PAYGo amounts to support a lower Capital Investment Plan. Metropolitan generally incurs long-term debt to finance projects or purchase assets which will have useful lives equal to or greater than the related debt. Revenue supported debt can be authorized by Metropolitan's Board of Directors.

CAPITAL INVESTMENT PLAN

The Capital Investment Plan (CIP) for FY 2016/17 and FY 2017/18 is estimated to be \$200.0 million in each fiscal year. It is proposed to be funded by current operating revenues (PAYGo) and revenue bond proceeds. The FY 2016/17 CIP is \$68 million lower than the FY 2015/16 Adopted budget, and the FY 2017/18 CIP is unchanged from FY 2016/17. The largest areas of expenditures in the biennial budget are Infrastructure Reliability and Water Quality.

The CIP budget as developed by Engineering and presented in the Capital Expenditures section of the budget book is estimated to be \$246 million for FY 2016/17 and \$240 million for \$FY 2017/18. Over the last

five years, actual expenditures have been about 20% below budget. In keeping with that trend, the current proposal for the two years is 80% of planned engineering expenditures or \$200 million in each fiscal year.

PAYGo Percentage of Funding, \$ millions

	2015/16 Budget	2016/17 Proposed	2017/18 Proposed
Capital Investment Plan expenses	\$267.9	\$200.0	\$200.0
Project Funding:			
New Bond Issues		90.0	80.0
Prior Bond Funds/Construction Fund		20.0	50.0
Grants and Loans Funds			
Operating Revenues (PAYGo)	221.0	120.0	120.0
R&R Fund	47.0		
PAYGo Percentage of Funding	100.0%	60.0%	60.0%

In FY 2016/17 and FY 2017/18, the percentage of capital that is funded by debt will be set at 40 percent, consistent with the FY 2014/15 and FY 2015/16 ten-year forecast for this time period. The projected average percentage of capital funded from debt will be 40 percent over the ten years of the long-range forecast.

OUTSTANDING DEBT

Metropolitan has total long-term debt outstanding of \$4.35 billion as of December 31, 2015. Metropolitan's debt issues are summarized below and discussed in detail thereafter.

Outstanding Debt, \$'s, as of December 31, 2015

Issue	Debt Outstanding
Long Term Debt:	
Water Revenue Refunding Bonds, 1993 Series A	\$86,540,000
Water Revenue Bonds, 2000 Authorization, Series B-3	88,800,000
Water Revenue Bonds, 2005 Authorization, Series C	175,000,000
Water Revenue Refunding Bonds, 2006 Series B	24,055,000
Water Revenue Bonds, 2006 Authorization, Series A	389,235,000
Water Revenue Refunding Bonds, 2008 Series A-2(1)	62,465,000
Water Revenue Refunding Bonds, 2008 Series B	126,980,000
Water Revenue Refunding Bonds, 2008 Series C	34,700,000
Water Revenue Bonds, 2008 Authorization, Series A	183,525,000
Water Revenue Refunding Bonds, 2009 Series A-2(1)	104,180,000
Water Revenue Refunding Bonds, 2009 Series B	106,690,000
Water Revenue Refunding Bonds, 2009 Series C	91,165,000
Water Revenue Bonds, 2008 Authorization, Series B	12,735,000
Water Revenue Bonds, 2008 Authorization, Series C(2)	78,385,000
Water Revenue Bonds, 2008 Authorization, Series D(2)	250,000,000
Water Revenue Refunding Bonds, 2009 Series D	58,860,000
Water Revenue Refunding Bonds, 2009 Series E	15,590,000
Water Revenue Bonds, 2010 Authorization, Series A(2)	250,000,000
Water Revenue Refunding Bonds, 2010 Series B	79,330,000
Water Revenue Refunding Bonds, 2011 Series A1-A4(1)	228,875,000
Water Revenue Refunding Bonds, 2011 Series B	35,760,000
Water Revenue Refunding Bonds, 2011 Series C	147,935,000
Water Revenue Refunding Bonds, 2012 Series A	181,180,000
Water Revenue Refunding Bonds, 2012 Series B-1 and B-2(1)	98,585,000
Water Revenue Refunding Bonds, 2012 Series C	190,600,000
Water Revenue Refunding Bonds, 2012 Series D	605,000
Water Revenue Refunding Bonds, 2012 Series E3	31,220,000
Water Revenue Refunding Bonds, 2012 Series F	59,335,000
Water Revenue Refunding Bonds, 2012 Series G	111,890,000
Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D(1)	87,445,000
Special Variable Rate Water Revenue Refunding Bonds, 2013 Series E(1)	104,820,000
Water Revenue Refunding Bonds, 2014 Series A	95,935,000
Water Revenue Refunding Bonds, 2014 Series B	10,575,000
Water Revenue Refunding Bonds, 2014 Series C1-C3	30,335,000
Special Variable Rate Water Revenue Refunding Bonds, 2014 Series D(1)	63,575,000
Water Revenue Refunding Bonds, 2014 Series E	86,060,000
Water Revenue Refunding Bonds, 2014 Series G1-G5	57,840,000
Special Variable Rate Water Revenue Refunding Bonds, 2015 Series A-1 and A-2(1)	188,900,000
Water Revenue Bonds, 2015 Series A	208,255,000
Total Revenue Bonds	\$4,237,960,000
Waterworks General Obligation Refunding Bonds, 2009 Series A	\$33,485,000
Waterworks General Obligation Refunding Bonds, 2010 Series A	27,290,000
Waterworks General Obligation Refunding Bonds, 2014 Series A	49,645,000
Total General Obligation Bonds	\$110,420,000
Total Long-Term Debt:	\$4,348,380,000

(1) Outstanding variable rate obligation.

(2) Designated as "Build America Bonds" pursuant to the American Recovery and Reinvestment Act of 2009.

DEBT SERVICE

Debt Service payments in FY 2016/17 are budgeted at \$328.5 million and includes \$23.3 million in General Obligation bond debt service, \$298.7million in revenue bond debt service, \$1.3 million for SRF Loan payments, and \$5.2 million for debt administration costs.

Debt Service payments in FY 2017/18 are budgeted at \$344.1 million and include \$18.8 million in General Obligation bond debt service, \$318.1 million in revenue bond debt service, \$1.3 for SRF Loan payments, and \$5.9 million for debt administration costs. Total debt service costs in FY 2017/18 are expected to be \$15.6 million more than the FY 2016/17 payments due to new money bond issues.

Interest payments on synthetic fixed rate debt were calculated at their associated swap rates plus any spread (if known). Interest rates on variable rate debt were calculated at 0.45 percent for FY 2016/17 and 0.80 percent for FY 2017/18.

Outstanding variable rate debt on December 31, 2015 was approximately \$1.03 billion, including bonds bearing interest in the Index Mode or Flexible Index Mode, special variable rate bonds initially designated as self-liquidity bonds, and variable rate demand obligations supported by standby bond purchase agreements between Metropolitan and various liquidity providers. Of the \$1.03 billion, \$493.6 million are treated by Metropolitan as fixed rate debt by virtue of interest rate swap agreements. The remaining \$534 million of variable rate obligations represent approximately 12.6 percent of total outstanding water revenue bonds.

Going forward, Metropolitan will finance its construction program through a combination of fixed-rate debt and variable rate debt. Metropolitan intends to issue approximately \$90 million of new debt in FY 2016/17 and \$80 million of new debt in FY 2017/18.

DEBT RATINGS

Credit risk is the risk that a financial loss will be incurred if a counterparty to a transaction does not fulfil its financial obligations in a timely manner. This is measured by the assignment of a rating by a nationally recognized statistical credit rating organization. Strong credit ratings provide tangible benefits to ratepayers in the form of reduced debt service cost. A strong credit rating provides better access to capital markets, lower interest rates and better terms on debt, and access to a greater variety of debt products. Prudent financial management policies have resulted in bond ratings of AAA from Standard & Poor's, Aa1 from Moody's, and AA+ from Fitch.

DEBT POLICY AND COVERAGE

Metropolitan is subject to limitations on additional revenue bonds. Resolution 8329 (the "Master Revenue Bond Resolution"), adopted by Metropolitan's Board in 1991 and subsequently supplemented and amended, provides for the issuance of Metropolitan's revenue bonds. The Master Revenue Bond Resolution limits the issuance of additional obligations payable from Net Operating Revenues, among other things, through the requirement that Metropolitan must meet an Additional Bonds Test, as defined in the Master Revenue Bond Resolution.

The Metropolitan Act also provides two additional limitations on indebtedness. The Act provides for a limit on general obligation bonds, water revenue bonds and other indebtedness at 15 percent of the assessed value of all taxable property within Metropolitan's service area. As of December 31, 2015, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of \$4.35 billion represented approximately 0.18 percent of the FY 2015/16 taxable assessed valuation of \$2,451 billion. The second limitation under the Act specifies that no revenue bonds may be issued, except for the purpose of

refunding, unless the amount of net assets of Metropolitan as shown on its balance sheet as of the end of the last fiscal year prior to the issuance of the bonds equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of the bonds. The net assets of Metropolitan at June 30, 2015 were \$6.9 billion. The aggregate amount of revenue bonds outstanding as of December 31, 2015 was \$4.24 billion.

Metropolitan has also established its own policy regarding debt management. The purpose is to maintain a balance between current funding sources and debt financing to retain Metropolitan's financing flexibility. Flexibility allows Metropolitan to use a variety of revenue or debt-financing alternatives, including issuing low-cost variable rate and other revenue supported obligations.

Metropolitan's debt management policy is to:

- Maintain an annual revenue bond debt coverage ratio of at least 2.0 times coverage;
- Maintain an annual fixed charge coverage ratio of at least 1.2 times coverage;
- Limit debt-funded capital to no more than 40 percent of the total capital program over the ten-year planning period; and
- Limit variable rate debt such that the net interest cost increase due to interest rate changes is no more than \$5 million, and limit the maximum amount of variable rate bonds to 40 percent of outstanding revenue bond debt (excluding variable rate bonds associated with interest rate swap agreements).

In order to comply with the debt management policy, Metropolitan has taken the following measures:

Revenue Bond Debt Coverage Ratio

This policy ensures that Metropolitan has sufficient annual operating revenues to pay its operating expenses and meet its debt service obligations on its revenue bonds and other senior debt. The revenue bond debt coverage ratio is defined as Metropolitan's net operating revenue (current year's operating revenue less the current year's operating expenses) divided by the current year's debt service on all revenue bonds and other senior debt. The target is 2.0 times. In FY 2016/17 and FY 2017/18, the projected debt coverage ratio is 1.60 and 1.60 times, respectively.

Fixed Charge Coverage Ratio

In addition to revenue bond debt service coverage, Metropolitan also measures total coverage of all fixed obligations after payment of operating expenditures. This additional measure is used to account for Metropolitan's recurring capital costs for the State Water Contract, which are funded after debt service on revenue bonds and other parity obligations. Rating agencies expect that a financially sound utility consistently demonstrate an ability to fund all recurring costs, whether they are operating expenditures, debt service payments or other contractual payments. Metropolitan's fixed charge coverage ratio target is 1.2 times. In FY 2016/17 and FY 2017/18, the projected debt coverage ratio is 1.30 and 1.30, respectively. These levels help maintain strong credit ratings and access to the capital markets at low cost.

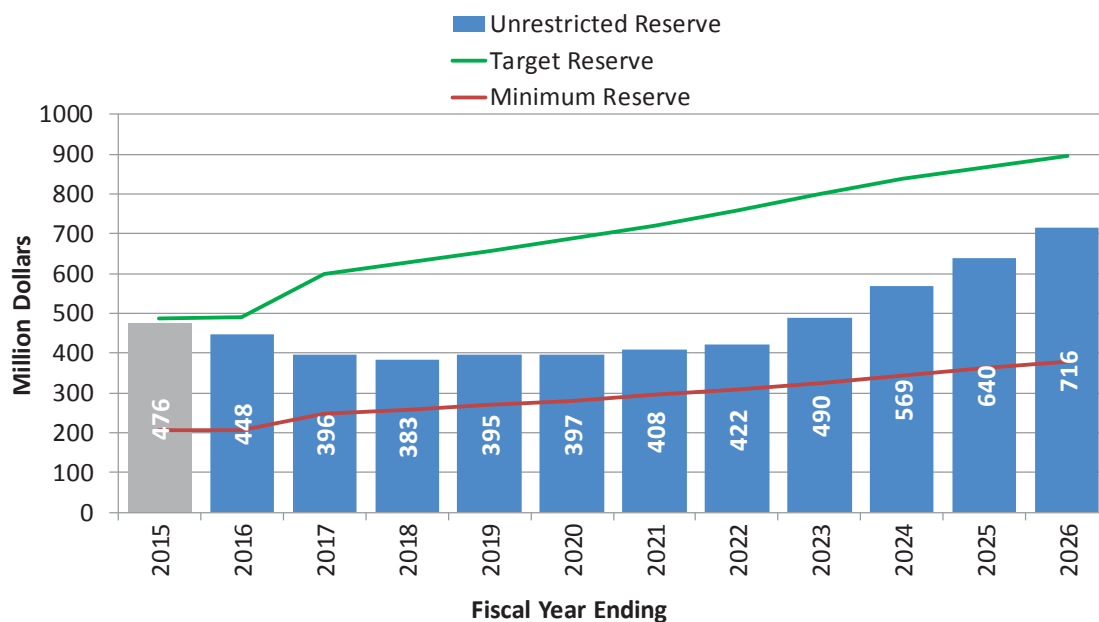
BUDGET HIGHLIGHTS

The budget for Capital Financing is decreasing from the FY 2015/16 budget due to lower CIP expenditures overall. The FY 2017/18 Capital Financing budget is higher than FY 2016/17 as new debt is issued to finance the CIP. Lower overall Capital Financing costs provide increased financial flexibility and resiliency.

TEN-YEAR FINANCIAL FORECAST

The ability to ensure a reliable supply of high quality water for Metropolitan’s 26 member agencies depends on Metropolitan’s ongoing ability to fund operations and maintenance, maintain and augment local and imported water supplies, fund replacements and refurbishment of existing infrastructure, and invest in system improvements. This ten-year plan builds on the biennial budget to support long range resource, capital investment and operational planning. As such, it includes a forecast of future costs and the revenues necessary to support operations and investments in infrastructure and resources that are derived from Metropolitan’s planning processes while conforming to Metropolitan's financial policies. These financial policies, which address reserve levels, financial indicators, and capital funding strategies, ensure sound financial management and fiscal stability for Metropolitan.

Projected Financial Indicators



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Ave Rate Increase	1.5%	1.5%	4.0%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Sales, MAF	1.90	1.63	1.70	1.70	1.75	1.75	1.75	1.75	1.80	1.80	1.80	1.80
Rev. Bond Cvg	2.7	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.3	2.4	2.6	2.7
Fixed Chg Cvg	2.4	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5
PAYGO, \$M	210	284*	120	120	120	120	120	123	127	130	133	137

* includes PVID land purchases

The figure above summarizes the financial metrics of the ten-year financial forecast. Metropolitan projects that the fixed charge coverage ratio will meet the board-established targets throughout the ten-year period. Revenue bond coverage will meet target in FY 2021/22. Reserve levels will be above minimums as established by board policy; PAYGo expenditures are set at a level that is consistent with the board policy adopted in 2014 that PAYGo expenditures would be funded from revenues, with the proposed amount set at

60 percent of the Capital Investment Plan (CIP); and projected rate increases are adequate to cover costs with moderated changes from one year to another.

The estimated overall rate increases result from increasing investments for the State Water Project (SWP) and the California Water Fix, investments in reliability through conservation and local resources, investments to maintain the conveyance and distribution system, and increasing operating and maintenance costs. Annual expenditures are expected to increase from \$1.7 billion in FY 2016/17 to \$2.4 billion by FY 2025/26, or an annual average increase of about 4.0 percent. Metropolitan's share of the costs for the California Water Fix is expected to increase to about \$246 million by FY 2025/26. During this same period, capital investments are expected to be about \$2.1 billion. To finance these capital investments, the ten-year forecast anticipates funding \$1.2 billion of the CIP from water sales revenues, or PAYGo. The balance of the CIP, or \$0.9 billion, would be financed by issuing revenue bond debt, either fixed or variable.

Planning is necessary for Metropolitan to successfully fund the many investments necessary to meet the challenges facing the region over the next ten years with manageable rate increases. Among the more significant challenges are:

- Investing in the elements of the 2015 IRP Update to ensure reliable water supplies for Metropolitan's service area and preparing for uncertainty.
- Continuing to provide supply reliability through a diversified portfolio of actions to stabilize and maintain imported supplies.
- Meeting future growth through increased water conservation and the development of new local supplies, while protecting existing supplies, to achieve higher retail water use efficiency, in compliance with state policy.
- Pursuing a comprehensive transfer and exchange strategy.
- Building storage in wet and normal years to manage risks and drought.
- Funding an estimated \$2.1 billion capital program that provides projects meeting water quality, reliability, stewardship and information technology directives.

ASSUMPTIONS FOR THE TEN-YEAR FORECAST

The following table summarizes key assumptions that underlie the ten-year forecast.

Fiscal Year Ending	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Sales, MAF	1.70	1.70	1.75	1.75	1.75	1.75	1.80	1.80	1.80	1.80
CRA diversions, MAF	1.01	1.04	1.06	1.08	1.07	1.06	1.06	1.06	1.06	1.04
SWP allocation, %	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
CIP, \$M	200	200	200	200	200	205	211	217	222	228
PAYGO, \$M	120	120	120	120	120	123	127	130	133	137
Conservation, \$M	27	32	38	38	38	38	38	38	38	38
CA Water Fix, \$M	-	-	20	38	63	96	133	169	206	246
Inflation, %	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Interest on investments, %	1.25%	1.30%	1.70%	1.70%	1.70%	1.70%	1.70%	1.70%	1.70%	1.70%
Interest rate, fixed bonds, %	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Interest rate, variable bonds, %	0.45%	0.80%	1.20%	1.20%	1.20%	1.20%	1.20%	1.20%	1.20%	1.20%

Metropolitan's principal sources of water supplies are the SWP and the Colorado River. Metropolitan receives water delivered from the SWP under State Water Contract (SWC) provisions, including contracted supplies, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan holds rights to a basic apportionment of Colorado River water and has priority rights to an additional amount depending on availability of surplus supplies. The Supply Programs supplement these SWP and Colorado River supplies. The SWP and Colorado River sources derive from two different hydrologic regions, which have helped buffer shortages. The ten-year forecast assumes an average hydrology on both regions. Together with Metropolitan's Supply Programs, dry periods in either region can be managed.

The CIP has been further reduced from prior forecasts to maintain affordability throughout the ten-year period, reduce debt service, and provide headroom to absorb the additional costs of the California Water Fix. CIP projects have been carefully reviewed, scored and ranked to ensure that only the projects necessary to deliver water reliably and safely while meeting all regulatory requirements are included.

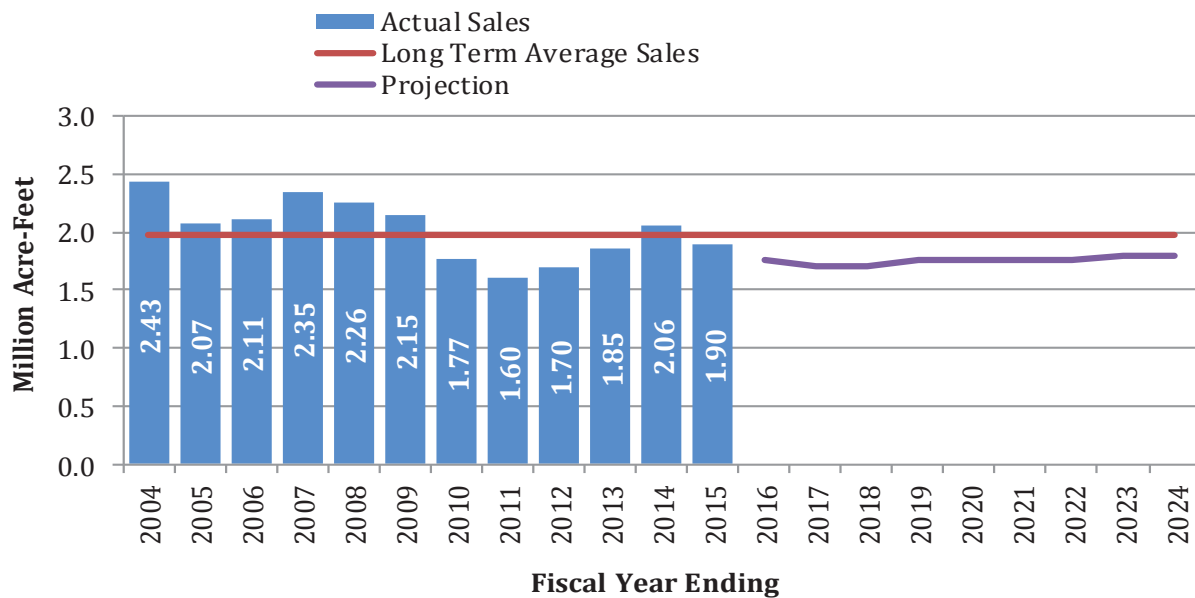
The inflation factor is based on forecasts by economists and is applied to Metropolitan's O&M expenses, including labor, chemicals, and other O&M expenses. The interest rate applicable to Metropolitan's investment portfolio is based on an analysis of the current forward curve for investments over a ten-year period. This interest rate forecast informs the interest rate applicable to variable rate bonds. The interest rate for fixed rate bonds is also based on forecasts.

WATER SALES FORECAST

Water sales revenue provides approximately 80 percent of the revenues necessary to support Metropolitan's capital and operating costs. The 2015 IRP Update provides the basis for the water sales forecast over the ten years. It is expected that demand for Metropolitan supplies will remain relatively flat over the ten-year period, from 1.70 million acre-feet in 2016/17 to 1.85 million acre-feet by 2025/26. This forecast includes the San Diego County Water Authority exchange agreement (exchange agreement) water deliveries. The 2015 IRP Update contemplates continued investment in local resources and retail and regional conservation measures to meet state policy regarding water use efficiency. By 2025/26, conservation and water efficiency initiatives will result in a further reduction of regional water use by an estimated 163,000 acre-feet, which reflect efforts to meet state policy to reduce per capita retail water use by 20 percent by 2020. Local resource augmentation will result in approximately 157,000 acre-feet of additional local supply, including production already anticipated from existing programs. These local supplies and increased conservation and water use efficiency reduce the need to import water and reduce expected water sales by Metropolitan.

The figure below shows historic and forecast water sales, including the exchange agreement water. Long-term, Metropolitan's sales have averaged just under 2.0 million acre-feet. As noted above, expected sales are forecast to be below this average at 1.85 million acre-feet by 2025/26. Under changed economic, climatic and hydrologic conditions, sales over the next ten years could range between 1.5 million acre-feet and 2.0 million acre-feet 80 percent of the time.

Water Sales, MAF



SOURCES OF FUNDS

Revenues

Through 2025/26, receipts from rates and charges, which include the RTS, Capacity Charge and water sales revenues, collected from the member agencies will account for approximately 92 percent of total revenues. Total revenues are projected to increase from about \$1.6 billion in 2016/17 to \$2.5 billion in 2025/26. This increase is almost entirely attributed to increases in water rates and charges.

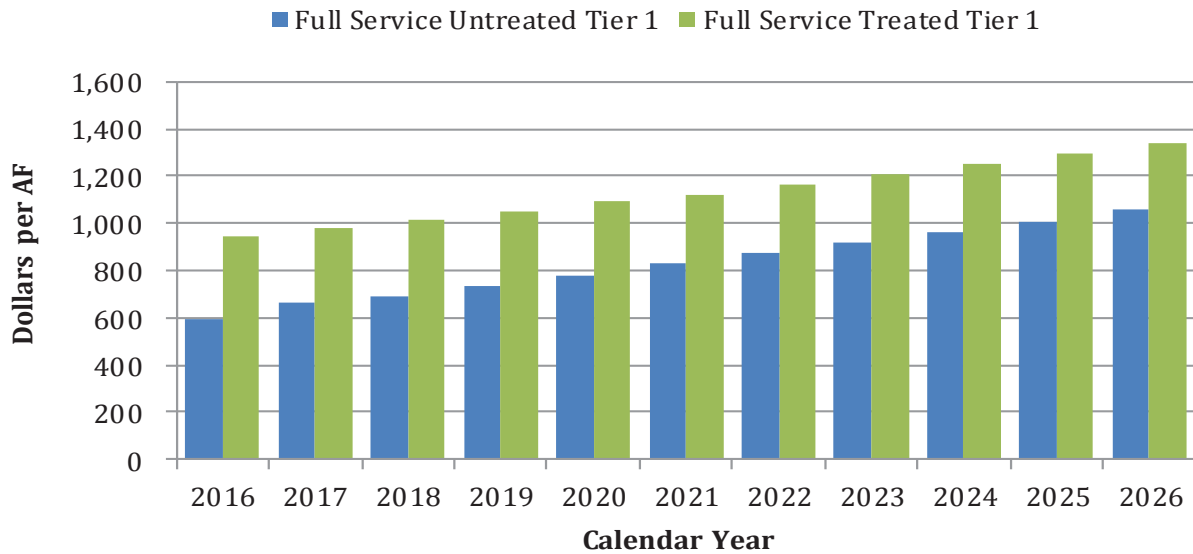
Water Rates and Charges

The table below shows the estimated unbundled water rates and charges under the current rate structure. Components of the rate structure may increase at different rates depending on the costs recovered. The full-service treated Tier 1 water rate is estimated to be approximately \$1,344 per acre-foot by January 1, 2026, compared to \$942 per acre-foot on January 1, 2016, an average increase of 3.6 percent per year over the ten-year period.

Rates & Charges Effective January 1st	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Tier 1 Supply Rate (\$/AF)	\$156	\$201	\$209	\$214	\$226	\$238	\$245	\$250	\$261	\$273	\$285
Tier 2 Supply Rate (\$/AF)	\$290	\$295	\$295	\$295	\$295	\$295	\$295	\$295	\$295	\$295	\$295
System Access Rate (\$/AF)	\$259	\$289	\$299	\$320	\$335	\$358	\$383	\$412	\$440	\$469	\$499
Water Stewardship Rate (\$/AF)	\$41	\$52	\$55	\$59	\$60	\$61	\$61	\$62	\$62	\$62	\$62
System Power Rate (\$/AF)	\$138	\$124	\$132	\$145	\$162	\$178	\$187	\$193	\$198	\$204	\$210
Full Service Untreated Volumetric Cost (\$/AF)											
Tier 1	\$594	\$666	\$695	\$738	\$783	\$835	\$876	\$917	\$961	\$1,008	\$1,056
Tier 2	\$728	\$760	\$781	\$819	\$852	\$892	\$926	\$962	\$995	\$1,030	\$1,066
Treatment Surcharge (\$/AF)	\$348	\$313	\$320	\$315	\$309	\$288	\$288	\$288	\$288	\$288	\$288
Full Service Treated Volumetric Cost (\$/AF)											
Tier 1	\$942	\$979	\$1,015	\$1,053	\$1,092	\$1,123	\$1,164	\$1,205	\$1,249	\$1,296	\$1,344
Tier 2	\$1,076	\$1,073	\$1,101	\$1,134	\$1,161	\$1,180	\$1,214	\$1,250	\$1,283	\$1,318	\$1,354
Readiness-to-Serve Charge (\$M)	\$153	\$135	\$140	\$143	\$148	\$156	\$168	\$182	\$196	\$211	\$228
Capacity Charge (\$/cfs)	\$10,900	\$8,000	\$8,700	\$9,000	\$9,300	\$9,700	\$10,000	\$10,500	\$11,100	\$11,100	\$11,300

The following figure shows the volumetric cost per acre-foot for Tier 1 Full Service untreated water and Tier 1 Full Service treated water. A proposal will be presented to the Board for consideration to address fixed cost recovery of Treatment costs which are currently recovered through a volumetric rate.

Volumetric Cost, \$ AF



Property tax revenue is expected to increase from \$98.3 million in FY 2016/17 to \$120.1 million in FY 2025/26. This projection assumes the Board maintains the ad valorem tax rate at .0035 percent of assessed valuations, by suspending the limit under MWD Act Section 124.5, and assessed value increases by 2.5 percent per year. By FY 2025/26 almost all of the revenues are used to pay SWP costs, which would include Metropolitan’s share of the California Water Fix costs.

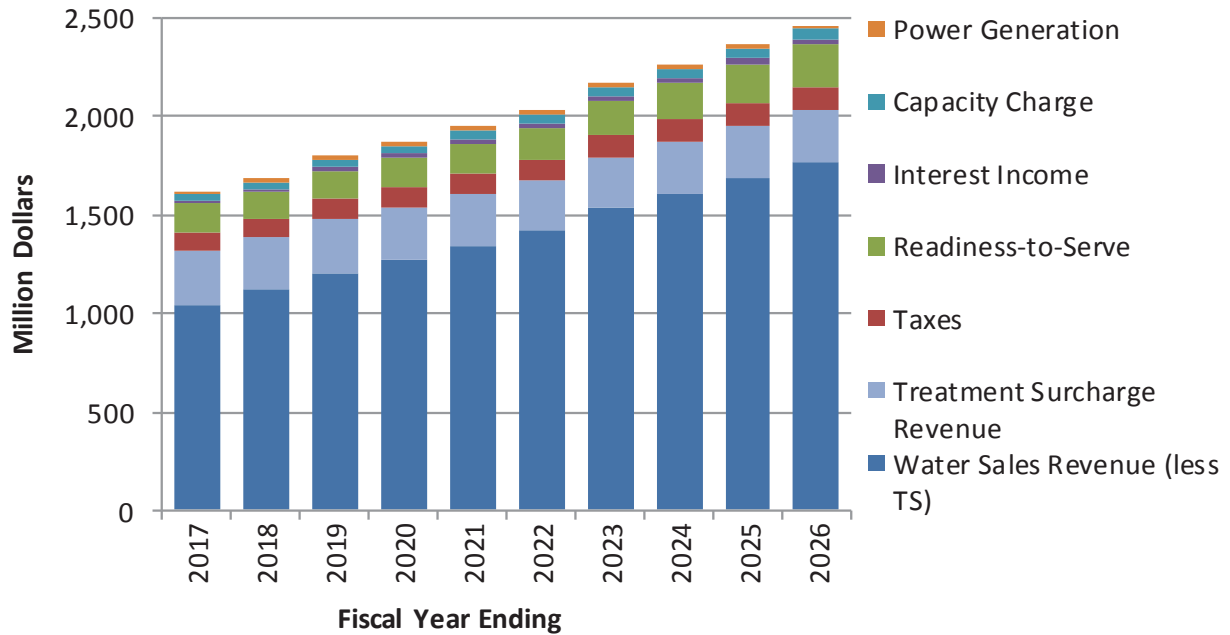
Power sales from Metropolitan’s hydroelectric power recovery plants are projected to average about \$18.5 million per year over this ten-year period. Metropolitan has 16 small hydroelectric plants on its distribution system. The combined generating capacity of these plants is approximately 122 MW. These revenues are dependent on the amount of water that flows through Metropolitan’s distribution system and the price paid. Power from some of the plants is sold under existing contracts that are priced significantly higher compared to the prices currently being offered for renewable power.

Benefits from the hydroelectric plants’ environmental attributes including the Renewable Energy Credits (RECs) are included in the existing contracts and for the Etiwanda Power Plant. Renewable Portfolio standard (RPS) California Energy Commission certification for the DVL units was received in 2009; the associated RECs are sold on an unbundled basis.

Interest income is projected to increase from \$13.6 million in FY 2016/17 to \$28.3 million in FY 2025/26 as a result of increased balances and higher average returns of 1.25 percent to 1.7 percent from FY 2016/17 to FY 2025/26. Metropolitan earns interest on invested fund balances and uses this income to reduce the costs that must be recovered through rates and charges. These invested funds also act as a partial hedge against changes in interest rates on Metropolitan’s variable rate debt obligations. Interest income will vary over the ten-year forecast period as interest rates and cash balances available for investments will fluctuate. Miscellaneous income includes items like leases and late fees and is forecasted to increase from \$12.0 million in FY 2016/17 to \$15 million in FY 2025/26.

Forecasted revenues by major category are shown in the figure below.

Revenue Forecast, \$ millions



Other Funding Sources

Other sources of funds include withdrawals from bond construction funds, Refurbishment and Replacement (R&R) Fund, General Fund, Water Stewardship Fund (WSF), Treatment Surcharge Stabilization Fund (TSSF), Water Rate Stabilization Fund (WRSF), Revenue Remainder Fund, and working capital borrowing.

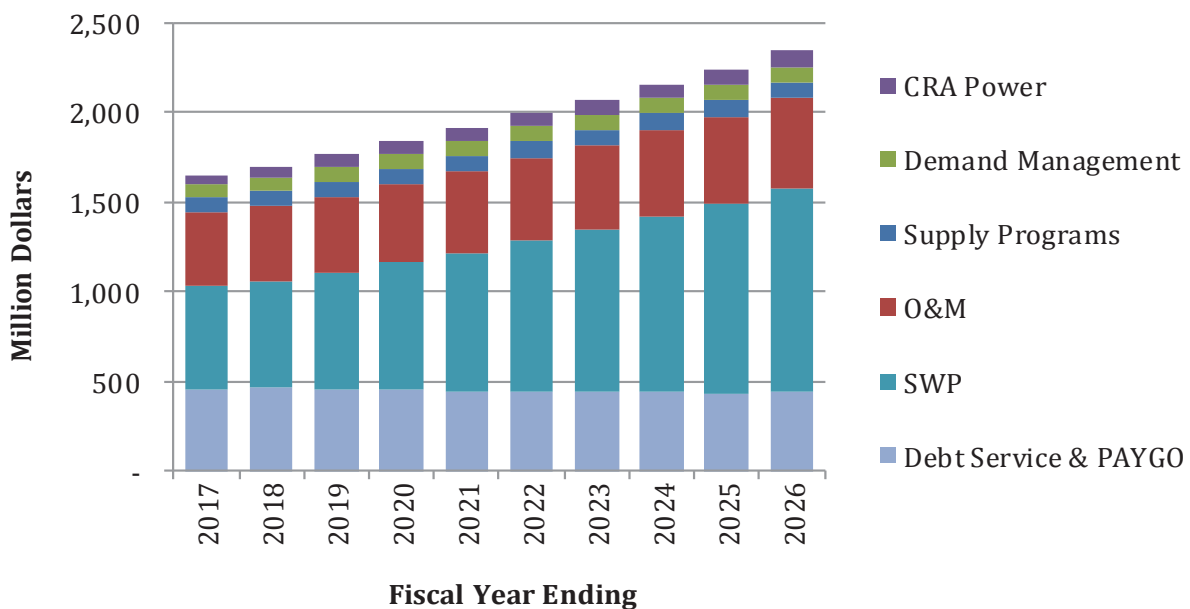
USES OF FUNDS

Over the next ten years, total annual expenditures are projected to range from \$1.7 billion to \$2.4 billion.

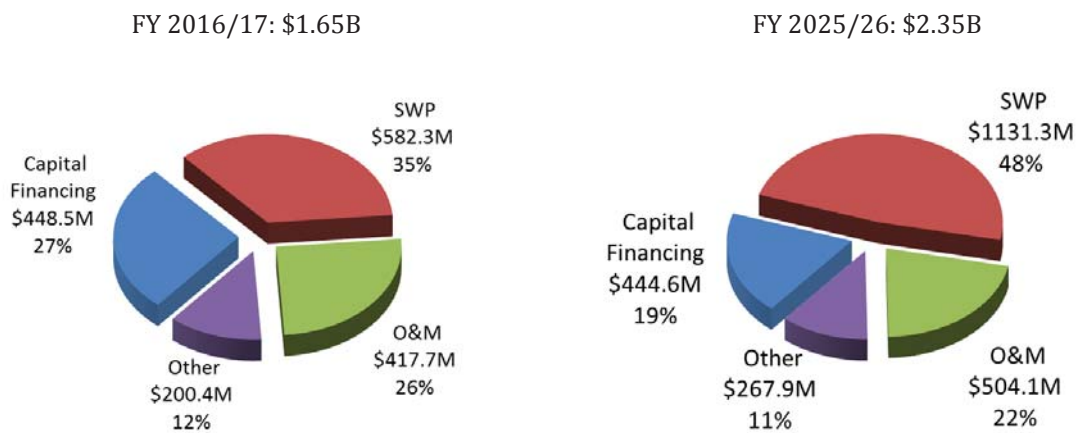
Expenses

Expenses are grouped into six major categories: SWP, O&M, demand management programs, CRA power costs, supply programs, and capital financing. The first figure below illustrates the general trends in expenses over the ten-year period from FY 2016/17 to FY 2025/26. The second figure following shows the comparison of FY 2016/17 to FY 2025/26 in terms of the contribution of expenses to the total.

Expenditure Forecast, \$ millions



Expenditure Forecast, Contribution by Major Area



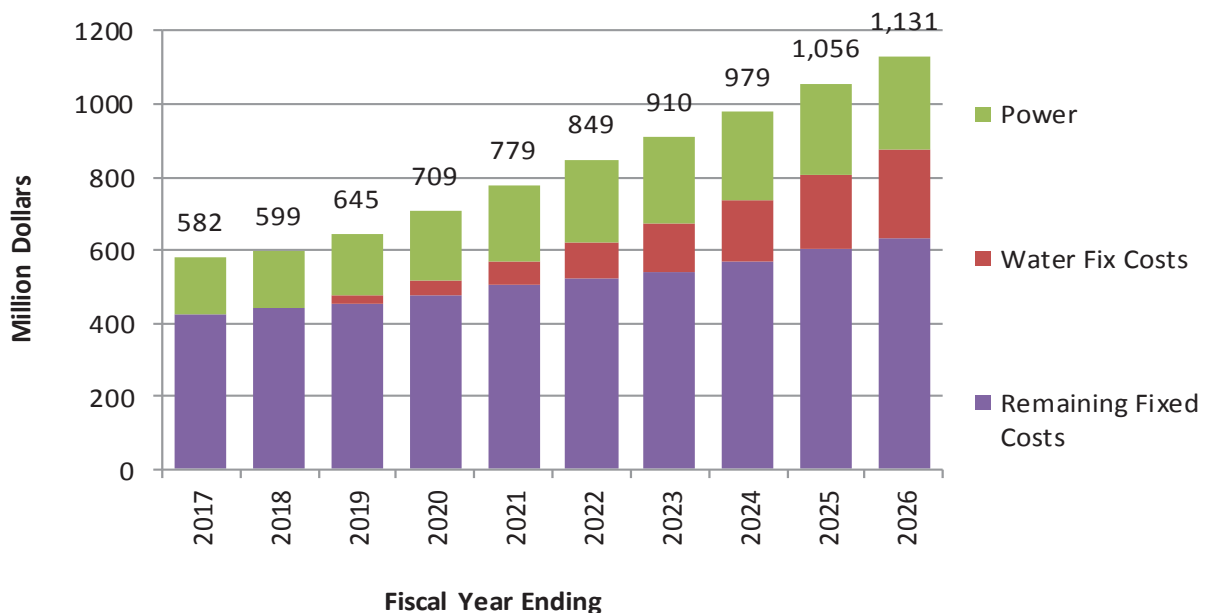
State Water Project

Metropolitan is one of 29 agencies that contract with the State of California for service from the SWP. Metropolitan is obligated to pay its share of the capital and minimum operations, maintenance, power, and replacement charges of the SWP regardless of the amount of water actually received. In addition, Metropolitan pays the power costs to convey the water. The ten-year forecast assumes that SWC annual costs, including power, will increase from \$582 million in FY 2016/17 to \$1,131 million in 2015/26, as shown in the figure below. SWC costs account for 35 percent of Metropolitan’s expenditures in FY 2016/17, growing to 47 percent in FY 2025/26, primarily due to the California Water Fix costs. These costs account for \$246 million in FY 2025/26. Water supply benefits from the California Water Fix are realized outside the ten-year period of the forecast, as are operations, maintenance and energy costs. The remainder of the fixed costs is based upon information provided by the Department of Water Resources, and is associated with Transportation Capital and Minimum Operations & Maintenance, and the Delta Water Supply Capital and Minimum Operations & Maintenance. Variable SWP power costs are projected to gradually increase over the ten-year period.

Power costs will vary depending on the price of electricity, total system deliveries, storage operations, and the amount of water pumped on the SWP. SWP variable power costs are projected to increase about 6.2 percent per year over the ten-year forecast period. Increasing costs affecting the SWP include the cost of emissions allowances, adding renewable energy to the SWP power portfolio, and using the California Independent System Operator grid to transmit power from generation sources to the SWP load locations. The SWP owns generating resources, including the Hyatt complex, recovery generation units on the Aqueduct, and a contract for power from the Kings River Conservation District's Pine Flat generating facility. The SWP is a participant in the Lodi Energy Center, a natural gas-fired combined cycle generating facility located in Lodi, California, and operated by the Northern California Power Agency. The SWP has acquired renewable resources. Additional resources necessary to meet the balance of the project's energy requirements are obtained from the wholesale energy market, which exposes the SWP to wholesale energy market price volatility. Net flows through the SWP that incur power are expected to average about 1.0 MAF per year.

The total SWC costs are shown in the figure below. The SWP is described under the General District Requirements section of the Biennial Budget.

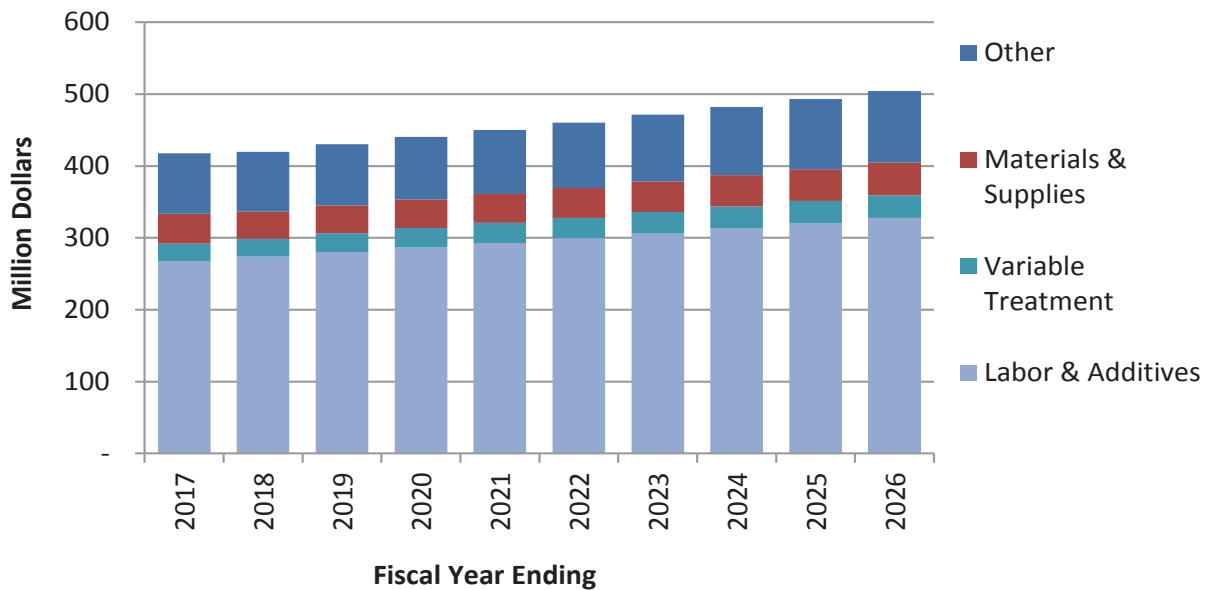
SWP Forecast, \$ millions



Operations and Maintenance

O&M costs in FY 2025/26 are projected to be \$504 million. This represents an average annual increase of 2.1 percent from FY 2016/17. During this time frame, inflation is assumed to be 2.25 percent. The ten-year forecast assumes Metropolitan continues to fully fund the annual required contribution to meet future retiree medical costs (Other Post-Employment Benefits, or OPEB) and retirement benefits.

Figure 14. O&M Forecast, \$ millions



Demand Management

Demand management costs include funding for the Local Resource Programs (LRP) and the Conservation Credit Program (CCP) and are projected to increase from \$75.1million in FY 2016/17 to \$84.5 million in FY 2025/26. The LRP costs are projected to be fairly flat over the ten-year period at about \$45.0 million per year. As the yield from existing LRP projects receiving incentives decreases, new projects are expected to receive funding. The CCP costs are projected to increase from \$27.0 million in FY 2016/17 to \$38 million in FY 2018/19, and remain flat through the remainder of the ten-year period. This program provides continued funding of residential, commercial, and outdoor conservation programs.

Demand Management programs are described under the General District Requirements section of the Biennial Budget.

CRA Power Costs

CRA Power costs are projected to increase from \$46.6 million in FY 2016/17 to \$89.7 million in FY 2025/26. Power costs will vary depending on the price of electricity, Metropolitan’s resource portfolio to meet electricity needs, storage operations, and the amount of water pumped on the CRA. Due to the expiration of the SCE Service and Interchange Agreement, Metropolitan will be buying more supplemental power and will have exposure to market prices.

Power costs are described under the General District Requirements section of the Biennial Budget. Colorado River diversions are expected to average about 1.0 MAF over the ten-year period, slightly more than deliveries as water is stored.

Supply Programs

Supply programs increase slightly over the ten-year period from \$78.7 million in FY 2016/17 to \$93.7 million in FY 2025/26. The estimates represent expenditures for expected conditions. If extreme weather conditions are experienced, these cost estimates could be much higher or lower. If higher than normal demand is coupled with lower than normal supply, supply program costs could be significantly higher.

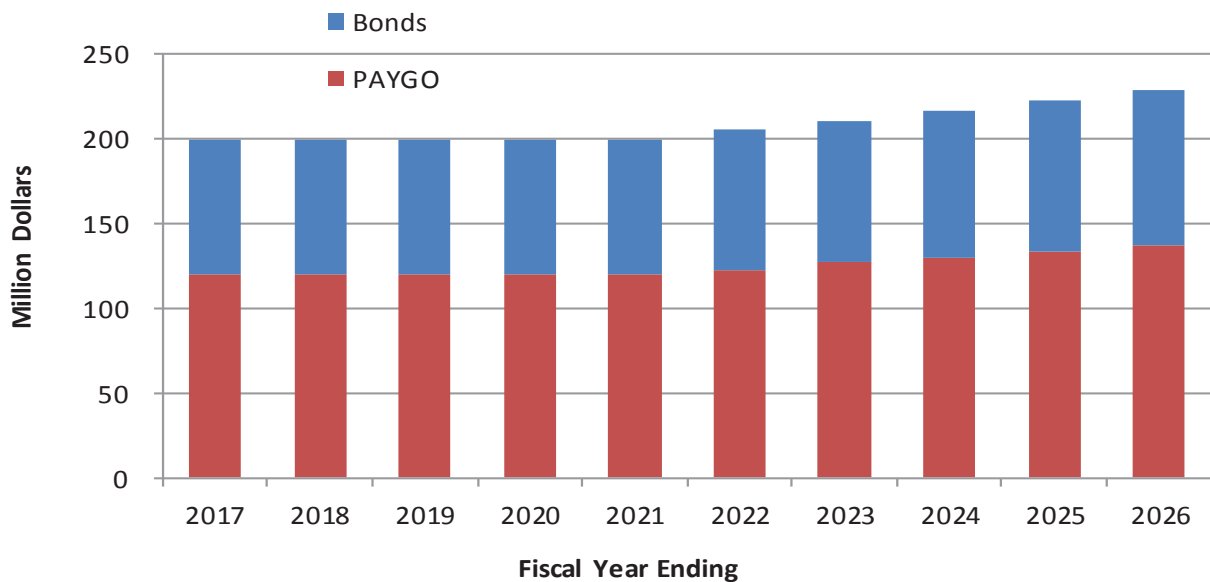
A description of Metropolitan’s Supply Programs is provided under the General District Requirements section of the Biennial Budget.

Capital Investment Plan

The ten-year projected CIP through FY 2025/26 is estimated at \$2.1 billion. The CIP continues to reflect the deferral of facility expansion projects. The CIP focuses on projects that enhance reliability while focusing on necessary refurbishment and replacement of aging infrastructure. Accordingly the O&M impact from the resulting CIP is negligible. Without this emphasis on repair and replacement of aging facilities O&M expenses could potentially be much higher.

The following figure shows the funding source for the ten-year CIP.

CIP Ten-Year Forecast and Funding Sources, \$ millions



Capital Financing Options

The CIP will be funded from a combination of bond proceeds and operating revenues. In order to mitigate increases in water rates, provide financial flexibility, and support Metropolitan's high credit ratings including maintaining revenue bond debt service and fixed charge coverage ratios, it is proposed that 60 percent of the CIP be funded from current revenues, or PAYGo. This level of PAYGo funding is appropriate given that a significant portion of future CIP projects has been identified as R&R projects. This level of PAYGo also ensures that Metropolitan meets its coverage targets by generating a margin of revenues over operating and debt expenditures. The additional revenue required to meet Metropolitan’s revenue bond debt service coverage target of 2.0 times and fixed charge coverage of 1.2 times is available to fund the CIP. PAYGo funding throughout the ten-year horizon of the planning period ensures that current customers are always

contributing funds towards the capital investments they are benefiting from, and not deferring these costs entirely to future generations of ratepayers.

Bond funded expenditures will include a combination of variable and fixed rate debt. Debt has been structured to mitigate near-term rate impacts and smooth out long-term debt service. The principal advantage of variable rate debt is the opportunity for a lower interest cost. Normally, short-term interest rates are lower than long-term interest rates for debt of comparable credit quality. If interest rates remain constant, Metropolitan will generally have significantly lower interest costs on variable rate debt than on fixed rate debt, even after remarketing and liquidity facility costs. Also, if interest rates decline, Metropolitan will benefit from lower interest costs without the necessity or cost of a refunding. If interest rates rise, variable rates could stay lower than the fixed rate originally avoided, and the longer the variable rate debt is outstanding at favorable spreads, the higher the break-even point becomes on fixed rate debt. Variable rate debt is used to mitigate interest costs over the long term, and provides a natural hedge against changes in investment earnings: when interest rates are high, interest costs on variable rate debt is higher but so are earnings from Metropolitan's investment portfolio. When interest rates are low, interest earnings are lower, but so are variable rate interest costs.

Fixed rate debt holders generally require some form of "call protection." Typically, fixed rate bonds are only redeemable a given number of years after their issuance and if the issuer pays a prepayment premium. Because the interest rate on variable rate debt is periodically reset, call protection is not important to variable rate debt holders. Variable rate debt, therefore, may generally be prepaid without premium on any date on which the interest rate is changed or on any interest payment date.

However, variable rate debt does have risks. These risks include:

- Rising interest rates. Because future interest rates are unknown, the costs of capital improvements financed with variable rate debt are more difficult to estimate for revenue planning purposes. Significant interest rate increases could cause financial stress.
- Liquidity facility renewal risk. Variable rate debt normally requires a liquidity facility to protect the investors and issuers against "puts" of a large portion or all of the debt on a single day. Liquidity facilities generally do not cover the full term of the debt. If an issuer's credit declines or the liquidity facility capacity is not available, the issuer runs the risk of not being able to obtain an extension or renewal of the expiring liquidity facility. In that event, the issuer may have to retire the debt or convert it to fixed rate debt.

In the last several years, Metropolitan has issued self-liquidity debt. Metropolitan is irrevocably committed to purchase all self-liquidity bonds tendered pursuant to any optional or mandatory tender to the extent that remarketing proceeds are insufficient and no standby bond purchase agreement or other liquidity facility is in effect. Metropolitan's obligation to pay the purchase price of any tendered self-liquidity bonds is an unsecured, special limited obligation of Metropolitan payable from net operating revenues. In addition, Metropolitan's investment policy permits it to purchase tendered self-liquidity bonds as an investment for its investment portfolio. So, while Metropolitan is only obligated to purchase tendered self-liquidity bonds from net operating revenues, it may use the cash and investments in its investment portfolio to purchase tendered self-liquidity bonds. Metropolitan has not secured any liquidity facility or letter of credit to pay the purchase price of any tendered self-liquidity bonds; however, Metropolitan has entered into revolving credit agreements with which it may make borrowings for the purpose of paying the purchase price of self-liquidity bonds.

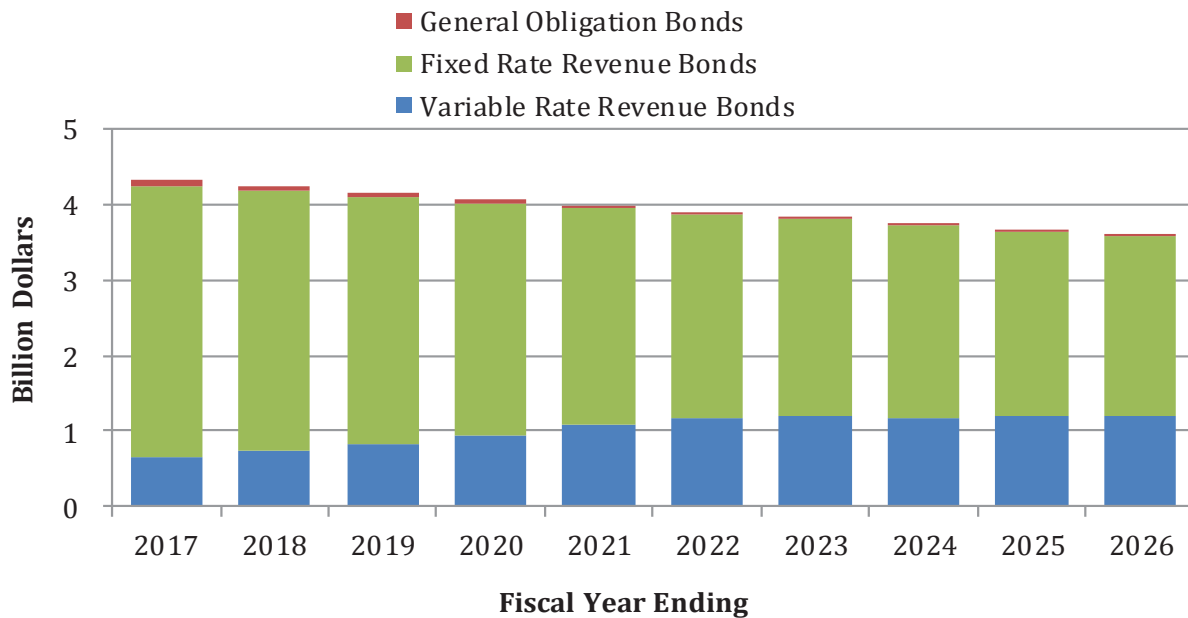
Sales of variable rate debt issues are more complex than fixed rate debt issues. Larger issuers often issue a portion of their debt as variable rate debt. Also, if construction costs are uncertain a borrower can use variable rate debt initially and convert to fixed rate debt in the amount needed after construction is completed.

Debt Financing

It is anticipated that there will be about \$2.1 billion of capital expenditures over the ten-year period. Of this, \$0.9 billion, or 40 percent of future capital expenditures, are anticipated to be funded by debt proceeds. Outstanding bond debt, including revenue and GO bonds, as of December 31, 2015 is \$4.35 billion. The net assets of Metropolitan at June 30, 2015 were \$6.9 billion. Metropolitan may not have outstanding revenue bond debt in amounts greater than 100 percent of its equity. As of June 30, 2015, the debt to equity ratio was 63 percent.

Total outstanding debt is illustrated below. Total outstanding debt is estimated to be \$3.6 billion by FY 2025/26.

Outstanding Debt, \$ billions

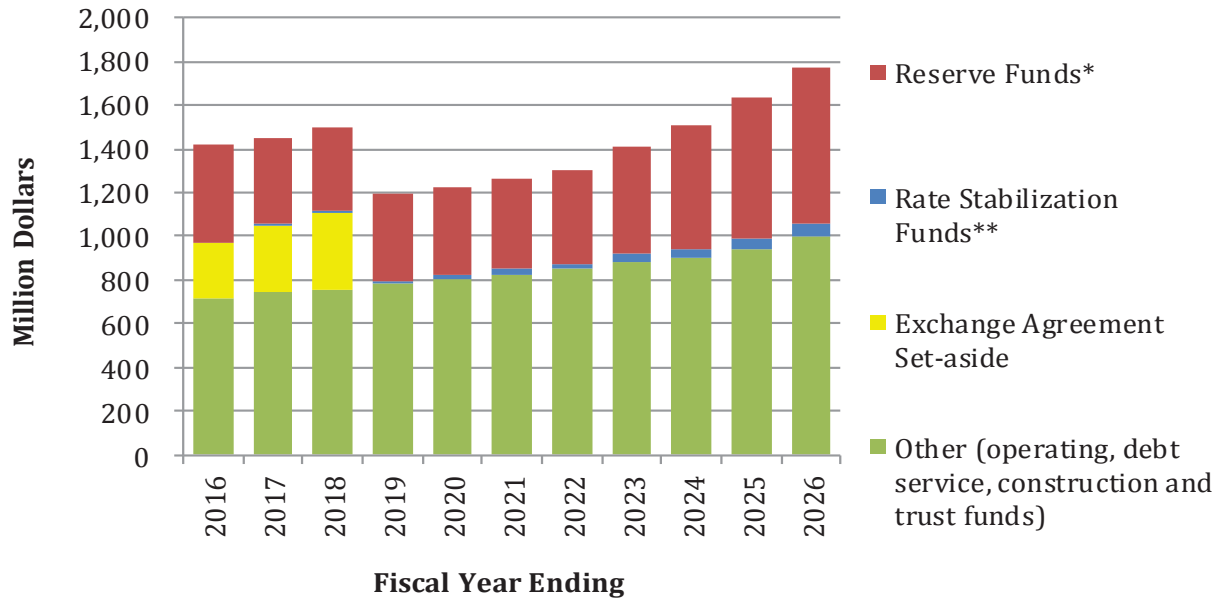


Metropolitan’s variable rate debt as a percentage of total revenue bond debt is projected to increase to 31 percent over this time period as fixed rate debt is retired and new variable rate debt is issued. The appropriate amount of variable rate debt will continue to be monitored and adjusted depending on market rates, financing needs, available short-term investments, and fund levels in the investment portfolio with which variable interest rate exposure can be hedged. GO bond debt will decrease as voter approved indebtedness matures.

FUND BALANCES AND RESERVES

As shown in the figure below, over the next ten years total fund balances are projected to increase to \$1.8 billion in FY 2025/26. The Exchange Agreement Set-aside designated fund is no longer needed after 2018 by which time all appeals in the SDCWA v MWD litigation are expected to be decided.

End of Year Fund Balances, \$ millions



* Includes Water Rate Stabilization Fund and Revenue Remainder Fund. Working capital borrowings have been used, in part, to replace revenues that have been deposited to the Exchange Agreement Set-aside Designated Fund.

** Includes Water Stewardship Fund and Treatment Surcharge Stabilization Fund.

FINANCIAL RATIOS

Revenue bond debt service coverage is one primary indicator of credit quality, and is calculated by dividing net operating revenues by debt service. Revenue bond debt service coverage measures the amount that net operating revenues exceed or "cover" debt service payments over a period of time. Higher coverage levels are preferred since they indicate a greater margin of protection for bondholders. For example, a municipality with 2.0 times debt service coverage has twice the net operating revenues required to meet debt service payments. The ten-year forecast projects that Metropolitan's revenue bond coverage ratio achieves 2.0 times during the last half of the period. Metropolitan's minimum coverage policy is vital to continued strong credit ratings and low cost bond funding.

In addition to revenue bond debt service coverage, Metropolitan also measures total coverage of all fixed obligations after payment of operating expenditures. This additional measure is used primarily because of Metropolitan's recurring capital costs for the State Water Contract. Rating agencies expect that a financially sound utility consistently demonstrate an ability to fund all recurring costs, whether they are operating expenditures, debt service payments or other contractual payments. The ten-year forecast projects that Metropolitan's fixed charge coverage ratio is at least 1.2 times over the ten-year period. These levels help maintain strong credit ratings and access to the capital markets at low cost, and provides PAYGo funding for the CIP.

Ten-Year Financial Forecast, Sources and Uses of Funds, \$ millions

Fiscal Year Ending	2017 Proposed	2018 Proposed	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
SOURCES OF FUNDS										
Revenues										
Taxes	98.3	100.5	102.8	105.1	107.4	109.8	112.3	114.8	117.4	120.1
Interest Income	13.6	12.4	19.1	19.8	20.5	21.1	22.3	24.1	26.1	28.3
Hydro Power	15.3	21.6	22.2	22.7	22.4	21.8	23.1	23.3	21.8	22.3
Fixed Charges (RTS & Capacity Charge)	182.3	172.7	178.8	184.0	192.0	203.5	218.2	234.5	250.3	266.7
Treatment Surcharge Revenue	272.9	261.3	275.6	273.1	261.9	251.2	259.0	258.1	257.3	256.6
Water Sales Revenue (less TS)	1,032.3	1,114.2	1,197.7	1,259.9	1,335.5	1,413.3	1,528.1	1,601.8	1,679.5	1,760.7
Miscellaneous Revenue	12.0	12.1	12.4	12.8	13.3	13.7	14.0	14.3	14.6	15.0
Bond Proceeds	89.6	79.7	79.7	79.7	79.7	79.7	89.4	79.4	89.4	109.2
Working Capital Borrowing	46.6	47.4	-	-	-	-	-	-	-	-
Sub-total Revenues	1,763.0	1,822.0	1,888.3	1,957.3	2,032.6	2,114.1	2,266.3	2,350.3	2,456.3	2,578.9
Fund Withdrawals										
R&R and General Fund	120.0	120.0	120.0	120.0	120.0	123.0	127.0	130.0	133.0	137.0
Bond Funds for Construction	-	0.3	0.3	0.3	0.3	2.8	-	7.2	0.1	-
Treatment Surcharge Stabilization Fund *	-	3.2	-	-	-	6.3	-	-	-	4.0
Decrease in Rate Stabilization Fund	94.2	23.0	-	9.8	2.9	-	-	-	-	-
Sub-total Fund Withdrawals	214.2	146.5	120.3	130.1	123.2	132.0	127.0	137.2	133.1	141.0
TOTAL SOURCES OF FUNDS	1,977.2	1,968.5	2,008.6	2,087.4	2,155.8	2,246.1	2,393.3	2,487.5	2,589.4	2,719.9
Fiscal Year Sales & Exchange (MAF)	1.68	1.70	1.74	1.76	1.75	1.75	1.79	1.80	1.80	1.80

Totals may not foot due to rounding.
 * Not affected by treatment rate structure

Fiscal Year Ending	2017 Proposed	2018 Proposed	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
USES OF FUNDS										
Expenses										
State Water Contract	582.3	599.4	645.5	708.8	778.6	849.2	910.3	978.5	1,056.2	1,131.3
Supply Programs	78.7	81.7	83.8	84.4	84.8	87.8	89.6	91.6	93.7	93.7
Colorado River Power	46.6	54.4	64.6	70.1	74.0	76.5	78.8	83.0	85.7	89.7
Debt Service	328.5	344.1	338.4	334.4	320.5	317.4	308.5	311.9	298.1	307.6
Demand Management	75.1	75.9	82.0	84.5	84.5	84.5	84.5	84.5	84.5	84.5
Departmental O&M	387.7	388.7	397.5	406.4	415.6	424.9	434.5	444.3	454.3	464.7
Treatment Chemicals, Solids & Power	24.3	24.6	26.5	27.3	27.9	28.4	30.0	30.6	31.1	31.8
Other O&M	5.6	6.4	6.6	6.7	6.9	7.0	7.2	7.3	7.5	7.7
Sub-total Expenses	1,528.8	1,575.3	1,644.7	1,722.5	1,792.6	1,875.8	1,943.3	2,031.8	2,111.3	2,210.9
Capital Investment Plan	200.0	200.0	200.0	200.0	200.0	205.4	210.9	216.6	222.5	228.5
Fund Deposits										
R&R and General Fund	120.0	120.0	120.0	120.0	120.0	123.0	127.0	130.0	133.0	137.0
Revenue Bond Construction	9.6	-	-	-	-	-	5.4	-	-	17.7
Water Stewardship Fund	-	-	-	0.8	2.4	3.4	6.9	8.4	7.3	7.7
Exchange Agreement Set-aside	46.6	47.4	-	-	-	-	-	-	-	-
Treatment Surcharge Stabilization Fund *	6.7	-	10.6	9.9	2.3	-	1.2	1.8	0.2	-
Interest for Construction & Trust Funds	0.3	0.4	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.9
Increase in Required Reserves	65.1	25.4	32.7	33.6	38.0	37.8	46.1	37.7	62.8	55.6
Increase in Water Rate Stabilization Fund	-	-	0.0	-	-	0.2	51.8	60.5	51.6	61.5
Sub-total Fund Deposits	248.4	193.2	163.9	164.9	163.2	164.9	239.0	239.1	255.7	280.5
TOTAL USES OF FUNDS	1,977.2	1,968.5	2,008.6	2,087.4	2,155.8	2,246.1	2,393.3	2,487.5	2,589.4	2,719.9

Totals may not foot due to rounding.
 * Not affected by treatment rate structure

Ten-Year Financial Forecast, Coverage Ratios and Fund Balances, \$ millions

Fiscal Year Ending	2017 Proposed	2018 Proposed	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
RATIOS										
Fixed Charge Coverage	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5
Revenue Bond Coverage	1.6	1.6	1.7	1.8	1.9	2.0	2.3	2.4	2.6	2.7
Var. Rate Debt as % of Rev. Bond Debt	15%	18%	20%	23%	27%	30%	31%	32%	33%	33%
RESTRICTED FUNDS EOY balance										
General Fund	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0
Other	637.2	652.6	673.9	695.3	719.7	741.8	778.0	790.4	834.7	894.1
Sub-total Restricted Funds	746.2	761.6	782.9	804.3	828.7	850.8	887.0	899.4	943.7	1,003.1
UNRESTRICTED FUNDS EOY balance										
Reserve Funds (1)	395.9	383.1	394.7	397.3	408.3	422.0	489.8	569.1	639.8	716.2
Treatment Surcharge Stabilization Fund	6.7	3.4	14.0	23.9	26.1	19.9	21.0	22.9	23.1	19.1
Water Stewardship Fund	-	-	-	0.8	3.2	6.6	13.5	21.8	29.1	36.9
R&R Fund	-	-	-	-	-	-	-	-	-	-
General Fund	-	-	-	-	-	-	-	-	-	-
Exchange Agreement Set-aside	303.5	350.9	-	-	-	-	-	-	-	-
Sub-total Unrestricted Funds	706.1	737.4	408.7	422.0	437.7	448.5	524.3	613.8	692.1	772.1
TOTAL FUNDS	1,452.3	1,499.0	1,191.6	1,226.4	1,266.4	1,299.2	1,411.3	1,513.2	1,635.8	1,775.2

Totals may not foot due to rounding.
 (1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

CAPITAL INVESTMENT PLAN

INTRODUCTION

The primary focus of the Capital Investment Plan (CIP) Appendix is to provide information on all capital programs and projects that are scheduled to begin or will be underway during FY 2016/17 and FY 2017/18. Scope, accomplishments, objectives and financial projections are provided for each capital program and appropriation. Every project with work planned for the two budget years is listed under the individual appropriation descriptions starting on page 21.

Capital expenditures for FY 2016/17 and FY 2017/18 are estimated to be \$246 million and \$240 million, respectively, and are planned to be funded by a combination of current operating revenues (R&R and PAYGO) and debt.

The total FY 2016/17 and FY 2017/18 capital budget of \$486 million includes all anticipated costs for labor including administrative overhead, construction and professional services contract costs, right of way, materials, operating equipment, and incidental expenses. It does not include a contingency amount.

CIP Structure

The CIP is structured into three levels. In descending order, they are:

1. PROGRAM
2. APPROPRIATION
3. PROJECT

The highest level of the CIP structure is Program. Programs are comprised of one or more appropriations. There are 12 capital programs described in Table 1. Under each capital program, there is one to several appropriations, each with multiple projects.

Table 1 – Capital Programs

Program	Definition
System Flexibility/Supply Reliability	Projects under this program will enhance the flexibility and/or increase the capacity of Metropolitan's water supply and delivery infrastructure to meet current and projected service demands.
Water Quality/Oxidation Retrofit	Projects under this program will add or upgrade facilities to ensure compliance with water quality regulations for treated water at Metropolitan's treatment plants and throughout the distribution system.
Colorado River Aqueduct (CRA) Reliability	Projects under this program will replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California.

Program	Definition
Treatment Plant Reliability: <ul style="list-style-type: none"> • Diemer Plant • Jensen Plant • Mills Plant • Skinner Plant • Weymouth Plant 	Projects under this program will replace or refurbish facilities and components at Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.
Distribution System Reliability	Projects under this program will replace or refurbish existing facilities within Metropolitan's distribution system including reservoirs, pressure control structures, hydroelectric power plants, and pipelines in order to reliably meet water demands.
Right of Way & Infrastructure Protection	Projects under this program will refurbish or upgrade above-ground facilities and rights-of-way along Metropolitan's pipelines in order to address access limitations, erosion-related issues, and security needs.
Prestressed Concrete Cylinder Pipe (PCCP) Reliability	Projects under this program will refurbish or upgrade Metropolitan's PCCP feeders to maintain reliable water deliveries without unplanned shutdowns.
Regulatory Compliance	Projects under this program will provide for prudent use and management of Metropolitan's assets in compliance with regulations and codes, other than water quality.
Minor Capital Projects	Projects under this program will execute refurbishments, replacements, or upgrades at Metropolitan facilities that cost less than \$250,000.
Cost Efficiency & Productivity	Projects under this program will upgrade, replace, or provide new facilities, software applications, or technology that will provide economic savings that outweigh project costs through enhanced business and operating processes.
System Reliability	Projects under this program will improve or modify facilities throughout Metropolitan's service area in order to utilize new processes and/or technologies, and to improve facility safety and overall reliability. These include projects related to Metropolitan's Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.
Regional Recycled Water Supply Program	Projects under this program are planned to demonstrate the feasibility of recycling wastewater for recharge of groundwater basins within Southern California, for development of a potential regional recycled water supply system.

CAPITAL INVESTMENT PLAN DEVELOPMENT

Background

The projects that comprise the proposed CIP have been identified from many Metropolitan studies of projected water needs as well as ongoing monitoring and inspections, condition assessments, and focused vulnerability studies. Staff continues to study operational demands on aging facilities and has made recommendations for capital projects that will maintain infrastructure reliability and ensure compliance with all applicable water quality regulations, and building, fire, and safety codes. Staff has also studied business and operations processes and proposed projects that will improve efficiency and provide future cost savings. Additionally, several projects have been identified and prioritized to address uncertain and/or reduced allocations from the State Water Project.

CIP Development Process

The CIP is structured to reflect Metropolitan's strategic goals of providing a reliable supply of high-quality water at the lowest cost possible. As part of the CIP development process, all new and existing projects are evaluated against an objective set of criteria to ensure existing and future capital investments are aligned with Metropolitan's priorities for water supply reliability, water quality, and public safety.

A team comprised of staff from Water System Operations, Water Resource Management, Real Property Development and Management, Engineering Services, Finance, and Business Technology evaluate and rate all projects. Those projects that directly support reliability, quality, and safety are budgeted for inclusion in Metropolitan's proposed CIP.

This rigorous evaluation process has resulted in a thorough review and assessment of all proposed capital projects by staff and managers prior to submittal to the evaluation team. Staff continues to conduct comprehensive field investigations that identify critical replacement and refurbishment projects and a variety of necessary facility upgrades related to infrastructure reliability as well as regulatory compliance. Project schedules are evaluated regularly in order to plan for necessary capital investments in infrastructure reliability and to accommodate the urgency of each project. Additionally, current demand projections that account for ongoing conservation, planned increased local supply production, and the economy, have been evaluated to ensure that demand and growth-related projects are appropriately scheduled.

An iterative process is employed to first score and rank every new and existing project, and then solicit feedback from project sponsors, customers, and resource providers in order to establish schedules and cash flow requirements. Those schedules, along with analyses of facility shutdown requirements, environmental permitting timeframes, and contracting process requirements, also enable resource managers to identify staffing needs. The final schedule and implementation plan for FY 2016/17 and FY 2017/18 are reflected in the budget and objectives for each of the individual programs described later in this document.

Project Evaluation

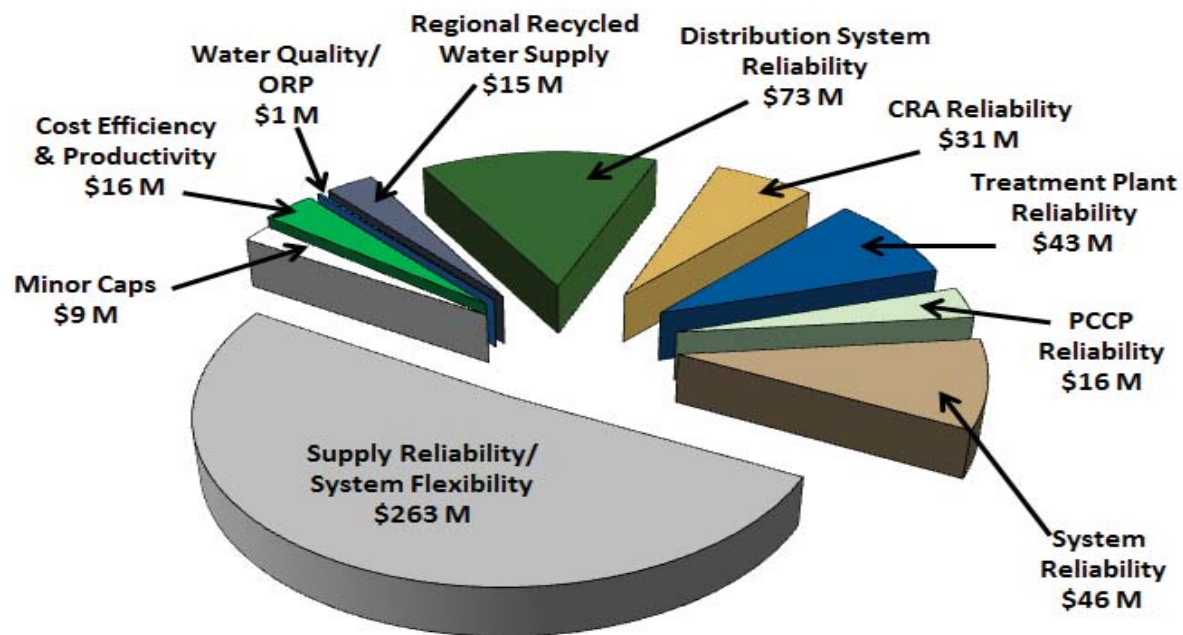
Before a project is included in the CIP, it is evaluated and rated against an established set of criteria. Staff is required to submit proposals for all projects that include scope, justification, alternatives, impacts of re-scheduling work for a later time, impact on operations and maintenance costs, and an estimate of total project cost. For existing projects, staff must also provide justification for continuing the project, explain any changes since inception of the project, and describe critical phases for the upcoming years. Guidelines for project proposals start on page 10. The evaluation criteria cover four characteristics or objectives for capital projects: Project Justification, Directive, Service Disruption, and Cost/Productivity/Sustainability. In addition, a multiplier is applied to a project rating to factor in a risk assessment. See page 13 for a description of each criterion and the risk multiplier.

New Projects for FY 2016/17 and FY 2017/18

As a result of the project evaluation and prioritization process, a total of 53 new projects, excluding Minor Capital projects, have been recommended by the CIP Evaluation Team to either proceed as proposed, or be staged to perform only a portion of the work in the biennial budget period, and have been incorporated into the capital programs. Ten new, unbudgeted projects totaling \$375 million were authorized by the Board during the 2014/15-2015/16 fiscal years to acquire property in Riverside, Imperial, and Los Angeles County, construct solar facilities at the Weymouth and Jensen treatment plants, replace control valves at the Garvey Pressure Control Structure, relocate a portion of the Middle Feeder in the City of Monterey Park, improve employee housing at the CRA villages, upgrade the Sepulveda Canyon Control Facility, construct a Demonstration-Scale Recycled Water Treatment Plant, and perform urgent PCCP repairs on the Sepulveda Feeder.

Figure 1 shows a breakdown of the new projects, including the ten projects described above, identified by capital program. The total estimate of expenditures for all new projects is \$513 million.

Figure 1 – New Capital Projects by Program



Total New Project Estimates – \$513 million (non-escalated)

MAJOR OBJECTIVES FOR FISCAL YEAR FY 2016/17 and FY 2017/18

Below, grouped by CIP Program, are descriptions of capital project major activities anticipated to be underway or completed over the next two fiscal years.

Water Quality/Oxidation Retrofit

Weymouth Plant Oxidation Retrofit

Complete construction, testing, and start-up of new ozonation and chemical feed facilities and commence ozone system operation.

Treatment Plant Reliability

Weymouth Plant

Complete rehabilitation of all internal components of the filters, replace the filter media, and start replacement of filter valves.

Diemer Plant

Complete rehabilitation of four flocculation/sedimentation basins and upgrade of the plant's 24 filter buildings, including valve replacement and seismic strengthening on the east side of the plant. Commence construction of seismic upgrades and control room improvements at the Administration Building.

Jensen Plant

Complete replacement of the filter valves in Module No. 1; complete the refurbishment of four LADWP lagoons; and continue upgrade of the plant electrical systems.

Distribution System Reliability

Complete the replacement of the liner and floating cover at the Palos Verdes Reservoir. Commence construction of Stage 2 relining of the Etiwanda Pipeline, the relining of 9 miles of the Orange County Feeder, and relocation of a portion of the Middle Feeder. Complete final design of the Sepulveda Canyon Control Facility improvements (Bypass Line). Commence construction of the Orange County Region Operations and Maintenance Facility.

Right of Way and Infrastructure Protection

Commence construction of pipeline protection and access improvements in the Orange County Region. Certify the Programmatic EIR for the Western San Bernardino County Region. Complete design of pipeline protection and access improvements in the Los Angeles, Riverside and San Diego County Regions.

Prestressed Concrete Cylinder Pipe Reliability

Commence pipe procurement, valve procurement, and construction to rehabilitate the remaining PCCP portions of the Second Lower Feeder. Continue annual electromagnetic inspections of all PCCP pipelines.

Colorado River Aqueduct Reliability

Complete construction of the sand trap equipment upgrades and the canal improvements to replace deteriorated concrete panels and install parapet walls to increase canal freeboard. Commence construction of the pumping plant overhead crane improvements and discharge line isolation couplings. Commence construction of 6.9 kV Switch House seismic retrofit. Complete design of the pumping plant sump system rehabilitation and main pump power cable replacement.

System Reliability

LaVerne Shop Facilities

Commence construction of remaining utility extensions and final building improvements. Commence procurement of replacement fabrication and machine shop equipment.

Information Technology

Complete the installation of communication infrastructure and equipment to replace outdated PBX-based equipment with unified Internet Protocol based technology. Complete the initial phase of upgrades to replace the control and electrical system protection facilities at the Hiram Wadsworth Pumping Plant. Complete design and begin replacement of input/output components and operating systems for approximately 300 Remote Terminal Units that monitor and control Metropolitan's treatment plants and distribution system.

Headquarters Building

Complete final design and commence construction of seismic upgrades to Metropolitan's Headquarters Building in Los Angeles.

Supply Reliability/System Flexibility

Complete final design of upgrades to the Greg Avenue Pump Station.

Regulatory Compliance

Chlorine Containment

Complete construction of the Chemical Unloading Facility chlorine containment system.

Cost Efficiency and Productivity

Continue design and installation of a new, enhanced corporate project controls and reporting system that will replace the outdated Project Management Information System. Complete design and begin construction of a 1-megawatt solar power facility at the Jensen plant.

Regional Recycled Water Supply

Complete design and begin construction of a demonstration-scale recycled water treatment plant for a Regional Recycled Water Supply Program.

Financial Projections

The CIP budget for FY 2016/17 and FY 2017/18 is estimated to be \$246 million and \$240 million, respectively, and is planned to be funded by a combination of current operating revenues (R&R and PAYGO) and debt. All of the projects in the CIP are reviewed as part of the biennial budgeting process. Considerations for timing of nearby projects and facility shutdowns, urgency, aging infrastructure, updated service demand projections, and regulatory requirements are taken into account. Estimated capital expenditures are updated on a regular basis as new projects are added, other projects are completed, construction cost estimates are refined or contracts awarded. From time to time projects that have been undertaken are delayed, redesigned or deferred for various reasons and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule.

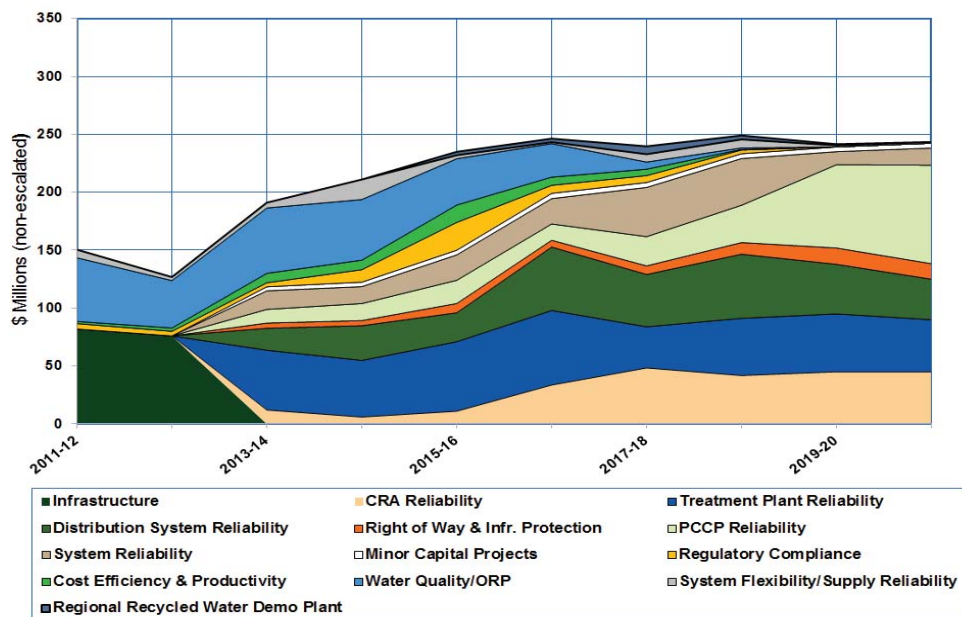
Funds required for the CIP for FY 2016/17 and FY 2017/18 have been estimated based on anticipated project progress and estimated costs for the new biennium budget period. Planned capital expenditures for FY 2016/17 are approximately \$22 million less than what was budgeted for FY 2015/16. This decrease in planned expenditures reflects a normal readjustment of project budgets throughout the previous and current fiscal years as a result of favorable bids on construction contracts and schedule changes to optimize use of resources as well as facility shutdown planning. Actual expenditures in FY 2015/16 are projected to be about \$33 million less than budgeted. Therefore, planned expenditures in FY 2016/17 of \$246 million reflect an increase from actual expenditures in FY 2015/16 of approximately \$11 million.

This increase reflects initiation and ongoing construction on several projects where design and permitting activities have been completed. Examples include liner repairs and cover replacement at the Palos Verdes Reservoir, refurbishment of the settling basins and replacement of the filter valves at the Diemer plant, rehabilitation of the filters at the Weymouth plants, rehabilitation of the sand traps at three of the CRA pumping plants, and canal improvements on the CRA. One additional project to design and construct a 1 mgd recycled water demonstration treatment plant is also planned to move into construction during FY 2016/17.

Figure 2 depicts the actual and projected capital expenditure profile, excluding the extraordinary land purchases, for the 10-year period from FY 2011/12 through FY 2020/21.

Figure 2 – FY 2016/17 – 2017/18 Biennium CIP by Program

10-year Window 2011/12 through 2020/21



HOW TO USE THIS DOCUMENT

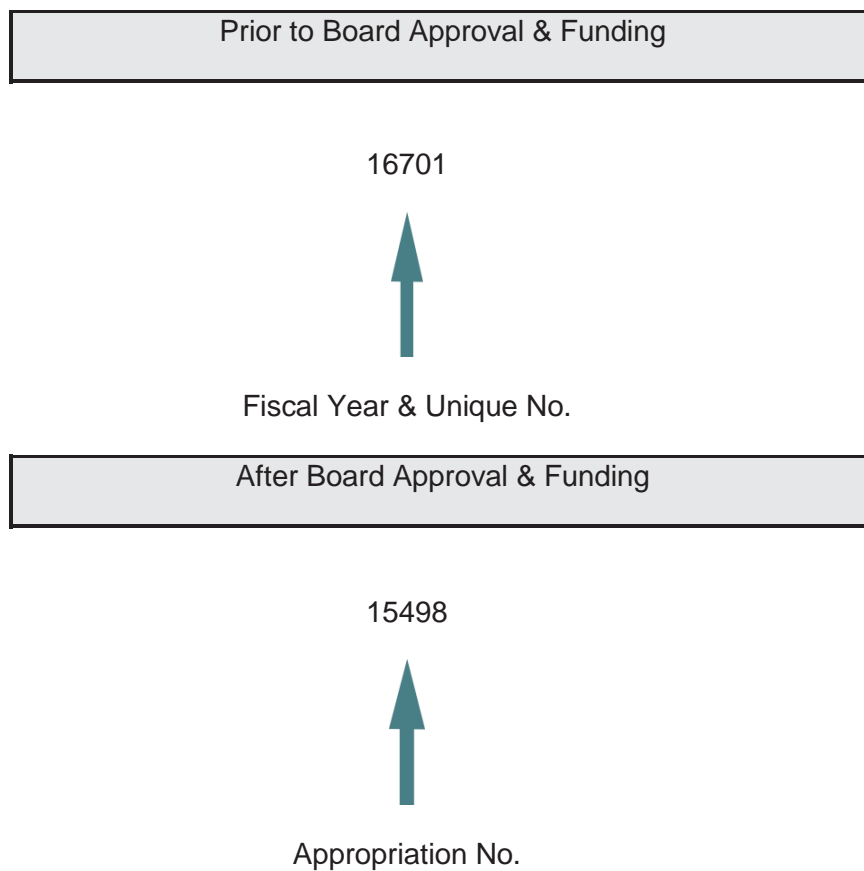
The core of this section is the Individual Appropriation Summary, which provides information for each capital project that is scheduled to begin or will be underway during FY 2016/17. The Individual Appropriation Summary is ordered by Appropriation title, starting on page 21. For assistance in locating a specific appropriation, refer to page 18.

Explanation of Capital Appropriation Numbers

Appropriation numbers are comprised of a five-digit number. The five-digit number uniquely identifies an appropriation.

If an appropriation has not yet received board approval, the first three numeric digits represent the fiscal year the appropriation was identified (e.g., “167” is FY 2016/17), the last two numeric digits uniquely identify the new appropriation placeholder number. If by board action, the authority to perform work and funding has been established, the five-digit numbers in the placeholder number change to the appropriation number. Figure 3 shows examples of the placeholder and appropriation numbers.

Figure 3 – Appropriation Number Naming Convention



Explanation of Individual Appropriation Summary

Each project planned to be underway during the FY 2016/17-2017/18 biennium is included in the Individual Appropriation Summary. The information provided reflects appropriation and project details current as of the time of publication and is subject to change.

Key Information

For each appropriation, key information is highlighted at the top of the Individual Appropriation Summary page and includes total appropriation estimate, appropriated amount, FY 2016/17 and FY 2017/18 biennial estimate, total projected cost through June 30, 2016, estimated percent complete and estimated completion date. Table 2 provides an explanation of each item.

Table 2 – Key Appropriation Information

Item	Description
Total Appropriation Estimate	The total estimate of cost from inception to completion of budgeted projects in an appropriation. It includes a contingency amount and actual expenditures if projects in the appropriation are complete or underway. The total appropriation estimate may have: (a) no funding authorization from the Board; (b) partial funding from the Board; or (c) complete funding from the Board.
Appropriated Amount	Amount of expenditures the General Manager is authorized by the Board to spend on projects in an appropriation. The amounts shown reflect actual appropriated amounts as of December 31, 2015.
Biennial Estimate	Estimate of expenditures from July 2016 through June 2018. It does not include a contingency amount.
Total Projected through June 30, 2016	Actual expenditures to date and estimate of expenditures through June 2016.
Estimated Percent Complete	Estimated percent of work to be completed through June 2016.
Estimated Completion Date	Fiscal year in which all of the budgeted projects in an appropriation will be completed according to the current schedule.

Guidelines for Project Proposals

Project Proposal

Sponsors are required to submit proposals for all projects to be considered for inclusion into the CIP for FY 2016/17 and FY 2017/18. The projects are evaluated, rated and prioritized based on the contents of the proposals. The following guidelines are provided to the sponsors.

Table 3 – Project Proposal Guidelines

Section	Guideline												
Appropriation and Project No. (if existing) and Project Title	If a proposed project has been previously authorized by the Board, provide the Appropriation and Project numbers along with the Project Title. If not previously authorized, provide a project title.												
Sponsoring Group	Indicate the Group sponsoring the project, as follows: <table style="margin-left: 20px; border: none;"> <tr> <td>1) Office of General Manager</td> <td>7) Office of Chief Financial Officer</td> </tr> <tr> <td>2) Water System Operations</td> <td>8) External Affairs</td> </tr> <tr> <td>3) Water Resource Management</td> <td>9) General Counsel Department</td> </tr> <tr> <td>4) Engineering Services</td> <td>10) General Auditor Department</td> </tr> <tr> <td>5) Business Technology</td> <td>11) Ethics Office</td> </tr> <tr> <td>6) Real Property Development and Management</td> <td></td> </tr> </table>	1) Office of General Manager	7) Office of Chief Financial Officer	2) Water System Operations	8) External Affairs	3) Water Resource Management	9) General Counsel Department	4) Engineering Services	10) General Auditor Department	5) Business Technology	11) Ethics Office	6) Real Property Development and Management	
1) Office of General Manager	7) Office of Chief Financial Officer												
2) Water System Operations	8) External Affairs												
3) Water Resource Management	9) General Counsel Department												
4) Engineering Services	10) General Auditor Department												
5) Business Technology	11) Ethics Office												
6) Real Property Development and Management													
Total Project Estimate	Show the total estimate of cost from inception to completion of a project, including administrative overhead and contingency, as applicable.												
GM Business Plan	Indicate which GM Business Plan Strategic Initiative or Core Goal the proposed project best supports.												
Current Project Phase	Indicate the phase (Study, Preliminary Design, etc.) as of the date proposal submitted.												
% Complete Now	Phase percent complete as of the date proposal submitted.												
Project Description	Describe the project scope of work.												
Changes to Existing Project	For an existing project, describe any changes to the project scope, budget, or schedule over the past two years.												
Justification	Describe the nature of the issue to be addressed by the project. What is the problem? Consider issues such as: <ul style="list-style-type: none"> Operational flexibility Water supply/facility expansion Aging/deteriorated infrastructure Process failure/improvement Maintenance capability Seismic vulnerability Obsolescence (vendor support, parts, technology, etc.,) 												

Section	Guideline
	<p>Security</p> <p>Regulatory Compliance (water quality, environmental, health and safety, etc.)</p> <p>Cost savings</p> <p>Revenue generation</p> <p>Environmental benefits</p> <p>Energy savings</p> <p>Health & Safety</p> <p>What is the function of the facility/component being addressed by the proposed project? Why is it important?</p> <p>Include an explanation of how the project addresses any of the above issues and provide documentation, when applicable, to substantiate the need for the project.</p>
Directive	<p>Regulatory/Legal Settlement: Indicate if this is related to a written citation or directive, verbal/written directive, or in-house identification (includes environmental mitigation mandated by a MND or EIR).</p> <p>Special Initiative/Directive: Indicate if the project is specifically identified in one of the core or strategic initiatives; identified via Area Study, System Overview Study, etc.; and/or what phase(s) of the project have been authorized by the Board such as study, preliminary design, final design, or construction by contract.</p>
Service Disruption	<p>Describe how Metropolitan’s day-to-day operations could be impacted if the project is not approved. Consider business as well as water system operations, including maintenance activities.</p>
Cost Efficiency and Productivity	<p>Describe potential cost, water, and/or energy savings, revenue generation, productivity gains, etc., that justify the project. Include a pay-back period.</p>
Alternatives	<p>Provide a brief description of any potential project scope alternatives, including any opportunities to “stage” the work. Include if it is possible to only perform a portion of a project to meet foreseeable customer needs. Consider the possibility of new technology, changing demands, as well as environmental impacts and economies of scale. Describe any reasonable projects, processes, or other initiatives available as alternatives to the project. Discuss both positive and negative aspects of each alternative. If possible, explain what other similar companies are doing about this or similar issue.</p>
Background Information	<p>Provide any other supplemental information (e.g. detailed history of a problem, supporting technical information, shutdown constraints, etc.) that will help in evaluating the project. This can also be attached to the proposal.</p>
Schedule	<p>Indicate the proposed beginning and end dates for all appropriate phases.</p>

Section	Guideline
Detailed Project Estimate	<p data-bbox="477 212 1166 243">Include an itemized list of all costs for the project, as follows:</p> <ol data-bbox="477 275 1341 554" style="list-style-type: none"> 1) Direct Labor with additives at the indicated rate 2) Equipment and Materials 3) Incidental Expenses 4) Professional/Technical Services (e.g., consultants) 5) Right-of-Way and Land Purchases (e.g., easements, fee title, escrow fees) 6) Operating Equipment Use and Rental 7) Contract Payments (e.g., construction contracts) 8) Administrative Overhead at the indicated rate 9) Contingency <p data-bbox="477 585 1318 617">All new project proposals and existing projects must include this estimate.</p>
Post-Implementation O&M Impacts, Costs and Benefits	<p data-bbox="477 653 1419 957">To the extent available/known, provide a description of the impacts, costs, and/or benefits this capital project is anticipated to have on Metropolitan's current and future O&M expenses and services upon completion (e.g. labor, maintenance, and equipment costs; enhanced reliability; improved water quality, etc. For example, "Ozone generators will substantially increase electrical consumption by approximately \$1 million annually and the number of new pieces of equipment will require periodic maintenance per the manufacturer's recommendations beginning in FY 2015/16. PDR and future studies will provide additional detail on the overall lifecycle costs"). This is required for projects greater than \$2 million and whose planned implementation date is within the next five fiscal years.</p>
Approvals	<ol data-bbox="477 978 1411 1203" style="list-style-type: none"> 1) Person submitting and/or sponsoring the proposed project 2) Team manager of the person submitting and/or sponsoring the project 3) Unit manager of the person submitting and/or sponsoring the project 4) Section manager of the person sponsoring the project (e.g., all new and existing WSO-sponsored projects) 5) Group manager sponsoring the project (e.g., all new WSO-sponsored projects) 6) Project manager signs in concurrence. (e.g., Engineering and IT organizations)

Evaluation Criteria

The evaluation criteria cover four characteristics or objectives for capital projects: Project Justification, Directive, Service Disruption, and Cost/Productivity/Sustainability. In addition, a multiplier is applied to a project rating to factor in a risk assessment. Table 4 provides a description of the criteria and multiplier.

Table 4 – Evaluation Criteria and Multiplier

Criteria	Description
Justification	<p>Assessment of the overall importance of a project. Criterion looks at whether or not a project supports the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Supply reliability <input type="checkbox"/> Infrastructure reliability <input type="checkbox"/> Regulatory compliance <input type="checkbox"/> GM Business Plan <input type="checkbox"/> Other goals (e.g., cost savings, revenue generation, and energy savings)
Directive	<p>Assessment of whether or not a project is specifically identified in one of the core or strategic initiatives, if any permitting agency such as the California State Department of Safety of Dams has issued a directive or citation to take corrective actions, and/or the current Board authorized scope of work:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Regulatory/Legal Settlement <input type="checkbox"/> Special Initiative/Directive <input type="checkbox"/> Board authorization
Service Disruption	<p>Assessment of not doing a project. Criterion evaluates the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Impact to Metropolitan’s business operations <input type="checkbox"/> Impact to water system operations (e.g., system delivery and/or reliability, cascading impact on system due to failure, etc.)
Cost/Productivity/Sustainability	<p>Assessment of whether or not a project improves cost efficiency/productivity, specifically:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cost/benefit analysis <input type="checkbox"/> Increased productivity <input type="checkbox"/> Sustainability <input type="checkbox"/> Customer service
Multiplier	Description
Risk Assessment	<p>Assessment of the probability of:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Facility/component/process failure <input type="checkbox"/> Workplace health and safety <input type="checkbox"/> Water quality or environmental impact <input type="checkbox"/> Missed opportunity (e.g., available resources, shutdown, revenue generation, cost savings, supply) <input type="checkbox"/> Not meeting service demands

Capital Investment Plan Summary

Narratives

For each appropriation, narratives include the scope and purpose of the program, accomplishments through FY 2015/16, and objectives for FY 2016/17 and FY 2017/18. In these narratives, major activities, milestones and actions are highlighted. Following each narrative is a description for each project planned to be underway during the two-year budget period.

Capital Investment Plan Summary – Three-Year Outlook

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Cost Efficiency & Productivity Program		\$7,002.5	\$5,499.0	\$474.7
DVL Recreation Facilities	15334	372.3	-	-
Power Reliability and Energy Conservation	15391	4,773.4	10.1	-
Termination of Center for Water Education Ground Lease	15449	21.3	-	-
Business Operations Improvement	15484	1,395.3	2,892.5	344.3
Project Controls and Reporting System	15490	440.3	2,596.3	130.4
Colorado River Aqueduct Reliability Program		\$33,603.6	\$48,298.3	\$41,810.6
Cabazon Radial Gate Facility Improvements	15320	91.9	-	424.9
White Water Siphon Protection	15341	58.1	4,940.8	4,440.7
CRA - Conveyance Reliability	15373	7,905.6	4,192.5	2,430.3
CRA - Pumping Plant Reliability	15374	75.0	1,538.3	154.0
CRA - Electrical/Power Systems Reliability	15384	3,249.5	5,639.5	3,399.6
CRA - Reliability for FY2006/07 through FY2011/12	15438	14,585.6	13,738.8	9,041.5
CRA Main Pump Reliability	15481	1,919.4	11,030.0	9,735.0
CRA - Reliability for FY2012/13 through FY2017/18	15483	5,718.4	7,218.3	12,184.6
Distribution System Reliability Program		\$54,784.7	\$45,195.4	\$55,372.60
Conveyance and Distribution System - Rehabilitation	15377	672.0	2,950.2	17,383.4
Reservoir Cover and Replacement	15417	21,302.0	8,250.8	195.8
Dam Rehabilitation & Safety Improvements	15419	101.5	999.0	-

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12	15441	18,266.3	10,264.7	6,121.9
Hydroelectric Power Plant Improvements	15458	589.8	2,531.5	2,377.1
Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18	15480	13,853.1	19,699.1	28,849.8
Pipeline Rehabilitation and Replacement	15482	-	500.0	444.6
Minor Capital Projects Program		\$4,512.7	\$4,210.2	\$4,159.5
Capital Program for Projects Costing Less Than \$250,000 for FY2012/13 through FY2013/14	15476	1,451.1	-	-
Capital Program for Projects Costing Less Than \$250,000 for FY2014/15 through FY2015/16	15489	1,915.2	1,915.2	1,892.1
Capital Program for Projects Costing Less Than \$250,000 for FY2016/17 through FY2017/18	16810	1,146.4	2,295.0	2,267.4
System Reliability Program		\$21,886.6	\$42,559.4	\$40,287.8
Infrastructure Reliability Information System	14502	1,740.9	1,032.1	383.9
All Facilities - Security Systems Improvement	15295	378.5	380.5	-
Information Technology System - Infrastructure	15376	2,733.8	-	-
Information Technology System - Security	15378	679.9	720.1	-
LaVerne Shop Facilities Upgrade	15395	2,159.7	4,329.3	1,635.9
Water Operations Control	15467	8,626.4	15,271.7	15,232.0
Union Station Headquarters Improvements	15473	934.2	14,148.4	20,807.4
IT Infrastructure Reliability	15487	1,185.3	3,402.2	322.1
Operations Support Facilities Improvement	15495	3,447.9	3,275.2	1,906.5
Prestressed Concrete Cylinder Pipe Rehabilitation		\$14,055.10	\$25,210.43	\$32,251.20
Assess the Condition of Metropolitan's Prestressed Concrete Cylinder Pipe	15297	239.4	59.6	-
PCCP Rehabilitation and Replacement	15471	1,617.3	2,353.7	1,397.6
Sepulveda Feeder PCCP Rehab	15496	5,000.0	1,000.0	3,488.9
Second Lower Feeder PCCP Rehab	16701	7,198.4	21,797.1	27,364.7

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Regional Recycled Water Supply Program		\$3,077.2	\$6,817.7	\$3,337.2
Demonstration-Scale Recycled Water Treatment Plant	15493	3,077.2	6,817.7	3,337.2
Regulatory Compliance Program		\$6,989.3	\$5,959.6	\$3,262.0
Chlorine Containment and Handling Facilities	15346	6,615.3	267.0	-
CRA - Discharge Containment	15385	374.0	5,692.6	3,262.0
Right of Way & Infrastructure Protection Program		\$5,832.0	\$7,398.0	\$10,021.9
Right of Way & Infrastructure Protection	15474	5,832.0	7,398.0	10,021.9
System Flexibility/Supply Reliability Program		\$1,264.28	\$6,719.91	\$7,327.50
Water Delivery System Improvements	15488	-	5,350.8	6,542.5
Verbena Property Acquisition	15492	1,264.3	1,369.1	785.0
Treatment Plant Reliability Program		\$64,384.9	\$35,593.2	\$49,391.9
Weymouth Water Treatment Plant Improvements	15369	1,751.9	3,148.8	3,705.8
Jensen Water Treatment Plant Improvements	15371	1,977.9	-	426.0
Diemer Water Treatment Plant Improvements	15380	18,207.9	6,403.2	14,052.1
Mills Water Treatment Plant Improvements	15381	-	452.7	104.8
Diemer Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15436	9,887.7	7,178.4	8,085.8
Weymouth Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15440	-	660.9	1,678.6
Jensen Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15442	12,066.4	9,204.3	11,659.3
Mills Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15452	869.6	5.6	-
Weymouth Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15477	17,404.5	2,620.9	4,476.1
Diemer Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15478	-	598.9	1,230.2
Mills Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15479	377.8	695.8	1,539.9

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Jensen Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15486	1,841.0	4,623.7	2,433.3
Water Quality/Oxidation Retrofit Program		\$28,974.43	\$6,235.97	\$1,319.20
Skinner Water Treatment Plant Oxidation Retrofit	15388	786.8	69.8	-
Diemer Water Treatment Plant Oxidation Retrofit	15389	61.8	51.0	50.3
Weymouth Water Treatment Plant Oxidation Retrofit	15392	23,119.8	5,303.4	1,182.1
Enhanced Bromate Control	15472	5,006.1	811.8	86.8

Index – Alphabetically by Appropriation Title

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All Facilities - Security Systems Improvement 15295

Total Appropriation Estimate: \$19,600,000 Total Projected Through June 30, 2016: \$18,200,000

Appropriated Amount: \$19,600,000 Estimated Percent Complete: 93%

Biennial Estimate: \$759,000 Estimated Completion Date: 2018

Scope

This appropriation was established to mitigate security threats district-wide and provide security improvements based upon a comprehensive threat assessment matrix developed by staff that identifies potential risks of physical, chemical and biological threats, as well as necessary modifications and improvements at all facilities. Major components of this appropriation consist of physical security improvements, facility screening, and water quality monitoring enhancements.

Purpose

To mitigate security threats district-wide and improve the security of Metropolitan personnel and property.

Accomplishments Through FY 2015/16

Through FY 2015/16, twelve projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Physical Security Improvements At All Facilities	13,743,159	2018	Continue implementation and oversight

Assess the Condition of Metropolitan's Prestressed Concrete Pipe 15297

Total Appropriation Estimate:	\$7,870,000	Total Projected Through June 30, 2016:	\$ 7,500,000
Appropriated Amount:	\$7,870,000	Estimated Percent Complete:	95%
Biennial Estimate:	\$300,000	Estimated Completion Date:	2018

Scope

This appropriation was established to perform pre-stressed concrete cylinder-pipe (PCCP) inspection on Metropolitan's 163 miles of PCCP line, perform soil studies and geotechnical investigations and to perform structural risk analysis.

Purpose

To identify areas of potential PCCP failures which could result in major property damage, personal injury, and disruption to essential services.

Accomplishments Through FY 2015/16

PCCP inspections, soil studies and geotechnical investigations authorized by this appropriation have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Structural Risk Analysis of PCCP	418,301	2017	Complete structural analysis

Business Operations Improvement

15484

Total Appropriation Estimate:	\$9,600,000	Total Projected Through June 30, 2016:	\$ 4,900,000
Appropriated Amount:	\$6,500,000	Estimated Percent Complete:	51%
Biennial Estimate:	\$4,287,800	Estimated Completion Date:	2019

Scope

This appropriation was established to assess and implement projects ensuring customer service, efficiency/productivity, risk management and reliability of Metropolitan's business applications.

Purpose

To ensure reliability, efficiency and effectiveness of Metropolitan's business applications.

Accomplishments Through FY 2015/16

Through FY 2015/16, four projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Oracle Upgrade – Completed deployment

Accounts Payable Automation – Completed deployment

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Budget System Replacement	1,607,997	2019	Begin design
Enterprise Content Management - Phase I	1,944,881	2019	Begin design
PeopleSoft ELM Upgrade	1,232,995	2019	Begin design

Cabazon Radial Gate Facility Improvements 15320

Total Appropriation Estimate:	\$5,000,000	Total Projected Through June 30, 2016:	\$550,000
Appropriated Amount:	\$456,000	Estimated Percent Complete:	11%
Biennial Estimate:	\$91,900	Estimated Completion Date:	2022

Scope

This appropriation was established to convert the Cabazon Radial Gates Facility from an "active" spillway, which requires an operator to activate the gates, to a "passive" spillway which does not require an operator, by replacing both radial gates with a weir structure. Work includes: design, environmental documentation, purchase of materials and construction by contract.

Purpose

To divert flow in the event of an emergency shutdown of the Colorado River Aqueduct into the San Gorgonio Wash, and ultimately into the Whitewater River.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Cabazon Radial Gate Facilities Improvement	4,954,538	2021	Complete final design

Capital Program for Projects Costing Less Than \$250,000 15476 for FY2012/13 through FY2013/14

Total Appropriation Estimate:	\$10,000,000	Total Projected Through June 30, 2016:	\$7,900,000
Appropriated Amount:	\$10,000,000	Estimated Percent Complete:	79%
Biennial Estimate:	\$1,451,100	Estimated Completion Date:	2017

Scope

This appropriation was established to implement capital projects costing less than \$250,000 on the distribution system, conveyance system, and treatment plants during FY 2012/2013 - 2013/14. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs

Accomplishments Through FY 2015/16

Through FY 2015/16, twenty-nine projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap FY 2012/13	9,704,000	2017	Continue design and construction of remaining projects.

Capital Program for Projects Costing Less Than \$250,000 15489 for FY2014/15 through FY2015/16

Total Appropriation Estimate:	\$8,000,000	Total Projected Through June 30, 2016:	\$ 2,000,000
Appropriated Amount:	\$5,000,000	Estimated Percent Complete:	25%
Biennial Estimate:	\$3,830,400	Estimated Completion Date:	2019

Scope

This appropriation was established to implement capital projects costing less than \$250,000 on the distribution system, conveyance system, and treatment plants during FY 2014/15 – 2015/16. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap FY 2014/16	6,572,648	2019	Continue design and construction of remaining projects.

Capital Program for Projects Costing Less Than \$250,000 for FY2016/17 through FY2017/18 **16810**

Total Appropriation Estimate:	\$9,100,000	Total Projected Through June 30, 2016:	\$ 0
Appropriated Amount:	\$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	\$ 3,441,400	Estimated Completion Date:	2021

Scope

This appropriation was established to implement capital projects costing less than \$250,000 on the distribution system, conveyance system, and treatment plants during FY 2016/17 – 2017/18. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap Appn. FY 2016/18	9,100,000	2021	Identify and evaluate projects and begin preliminary design

Chlorine Containment and Handling Facilities

15346

Total Appropriation Estimate:	\$162,000,000	Total Projected Through June 30, 2016:	\$153,000,000
Appropriated Amount:	\$162,370,000	Estimated Percent Complete:	94%
Biennial Estimate:	\$6,882,000	Estimated Completion Date:	2018

Scope

This appropriation was established to construct facilities that handle and contain chlorine to prevent a chlorine release and to comply with security and safety regulations; and other related facilities that handle chlorine to meet water treatment process requirements. Since its inception, new chlorine containment and handling facilities have been completed at all five water treatment plants.

Purpose

To enhance hazardous chemical safety by reducing the potential for exposure to plant personnel or the public of a release of chlorine, and ensure compliance with current California Fire Code requirements.

Accomplishments Through FY 2015/16

Through FY 2015/16, seventeen projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

CUF Chlorination Containment Facility - Continued construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CUF Chlorination Containment Facility	40,045,388	2018	Complete construction

Conveyance and Distribution System - Rehabilitation

15377

Total Appropriation Estimate:	\$119,500,000	Total Projected Through June 30, 2016:	\$70,000,000
Appropriated Amount:	\$72,595,700	Estimated Percent Complete:	59%
Biennial Estimate:	\$3,622,200	Estimated Completion Date:	2024

Scope

This appropriation was established to plan and implement multiple projects throughout the Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs, and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, forty-three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Garvey Reservoir Sodium Hypochlorite Pump & Piping - Completed final design

Orange County Feeder Lining Repair - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Orange County Feeder Lining Repair	34,267,595	2020	Begin construction
Upper Newport Bay Blow-off Structure Rehab	1,422,312	2018	Continue final design

Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12 15441

Total Appropriation Estimate:	\$182,700,000	Total Projected Through June 30, 2016:	\$66,100,000
Appropriated Amount:	\$72,139,000	Estimated Percent Complete:	36%
Biennial Estimate:	\$28,531,000	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects throughout the Conveyance and Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, five projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

OC-88 Pump Station Upgrades - Defined scope

Santa Ana River Bridge Seismic Upgrade - Began construction

Etiwanda Pipeline Lining Replacement – Completed Stage 1 construction; began Stage 2 construction

Collis St. Valve Replacement - Completed final design

Palos Verdes Reservoir Sodium Hypochlorite Pump - Began construction

Lake Mathews Discharge Facility Upgrades - Continued design

Orange County Feeder Relocation in Fullerton – Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Allen McColloch Pipeline Cathodic Protection	2,155,262	2018	Begin construction
Collis St. Valve Replacement and Repair By-Pass at station 0256+23 on the Palos Verdes Feeder	3,198,651	2017	Begin construction
DVL Inlet / Outlet Tower Debris Screen Rehabilitation	2,850,641	2018	Begin construction
Etiwanda Pipeline Lining Replacement	45,702,091	2020	Continue construction
Lake Mathews Discharge Facility Upgrades	7,289,051	2021	Begin construction
OC-88 Pump Station Upgrades	9,730,895	2019	Begin design
Orange County Feeder Cathodic Protection System Rehabilitation	758,206	2018	Begin construction
Palos Verdes Reservoir Sodium Hypochlorite Pump and Piping Replacement	3,227,400	2019	Complete construction
Santiago Lateral Sta 216+40 Butterfly Valve Replacement	1,835,170	2018	Begin construction

Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18 15480

Total Appropriation Estimate:	\$332,500,000	Total Projected Through June 30, 2016:	\$23,000,000
Appropriated Amount:	\$35,110,000	Estimated Percent Complete:	7%
Biennial Estimate:	\$33,552,200	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects throughout the Conveyance and Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Orange County C&D Team Support Facility - Completed final design

DVL East Dam Power Line Realignment - Completed final design

Sepulveda Canyon Control Facility Bypass Project - Began preliminary design

Garvey Reservoir Control Structure Valve Upgrades - Began construction

Middle Feeder Relocation for SCE Mesa Substation - Began final design

San Diego Pipeline 3 Blowoff to Pump Well Conversion – Completed construction

Upper Feeder Protection – Completed construction

Middle Feeder Blow-off Valve Replacement Sta. 782+53.16 – Completed design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
A-6 Venturi Meter Replacement	906,000	2018	Begin preliminary design
Conveyance and Distribution System Electrical Structures Rehabilitation	83,286,691	2025	Begin preliminary design
DVL East Dam Power Line Realignment	4,474,257	2018	Begin construction
Hollywood Tunnel North Portal Equipment Upgrades	1,574,267	2019	Complete preliminary design
Lake Skinner Area Distribution System Valve Replacement	444,475	2019	Begin preliminary design
Middle Feeder Blow-off Valve Replacement Sta. 782+53.16	1,067,123	2017	Complete construction
Middle Feeder Relocation for SCE Mesa Substation	3,383,606	2018	Begin construction
OC-76 Turnout Relocation at the Allen-McColloch Pipeline	545,252	2020	Begin preliminary design
Orange County Area Distribution System Valve Replacement	835,000	2018	Begin preliminary design
Orange County C&D Team Support Facility	10,347,420	2019	Begin construction
Orange County Distribution System - Conduit Replacement at 9 Structures	753,975	2019	Complete construction
Red Mountain Hydro Electric Plant Emergency Generator Replacement	619,500	2019	Begin design
San Dimas Power Plant Emergency Standby Generator	661,273	2019	Begin design
Santa Monica Feeder Cathodic Protection	810,999	2020	Begin preliminary design
Sepulveda Canyon Control Facility Bypass Project	48,208,393	2019	Complete final design
Service Connections CB-12 & CB-16 Turnout Valve Replacement and Electrical Upgrade	1,244,030	2018	Begin preliminary design
Skinner Bypass #1, Bypass #3, and Effluent Conduit #1 Cathodic Protection	996,274	2020	Begin preliminary design
West OC Feeder Valve Replacement	544,060	2018	Begin preliminary design
West Orange County Feeder Cathodic Protection	1,684,178	2020	Begin preliminary design
Lakeview Pipeline Repairs	126,171,723	2023	Complete final design

CRA - Conveyance Reliability**15373**

Total Appropriation Estimate:	\$186,000,000	Total Projected Through June 30, 2016:	\$89,500,000
Appropriated Amount:	\$99,558,000	Estimated Percent Complete:	48%
Biennial Estimate:	\$12,098,100	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct Conveyance System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct.

Accomplishments Through FY 2015/16

Through FY 2015/16, twelve projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA - Sand Trap Equipment & Traveling Crane Rehabilitation -- Began construction

Copper Basin and Gene Dam Discharge Valve Rehab – Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA - Sand Trap Equipment & Traveling Crane Rehab	12,640,515	2018	Complete construction
Copper Basin and Gene Dam Discharge Valve Rehab	6,267,239	2020	Begin construction

CRA - Discharge Containment

15385

Total Appropriation Estimate:	\$19,800,000	Total Projected Through June 30, 2016:	\$6,400,000
Appropriated Amount:	\$7,864,000	Estimated Percent Complete:	32%
Biennial Estimate:	\$6,066,600	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct. The common driver for many of the projects in this appropriation is regulatory compliance.

Purpose

To decrease risk of discharging chemicals and waste to the environment and violating regulations.

Accomplishments Through FY 2015/16

Through FY 2015/16, four projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Pumping Plant Wastewater System - Hinds & Eagle - Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Pumping Plant Wastewater System - Gene & Iron	8,310,955	2019	Begin construction
CRA Pumping Plant Wastewater System - Intake	1,646,740	2019	Begin final design

CRA - Electrical/Power Systems Reliability**15384**

Total Appropriation Estimate:	\$48,600,000	Total Projected Through June 30, 2016:	\$20,000,000
Appropriated Amount:	\$22,725,000	Estimated Percent Complete:	41%
Biennial Estimate:	\$8,889,000	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct's electrical and power systems. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure reliability of the power systems along the Colorado River Aqueduct by repairing or replacing aging and/or deteriorated electrical equipment/parts.

Accomplishments Through FY 2015/16

Through FY 2015/16, nine projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

CRA Power Cable Replacement - Completed preliminary design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Bank Transformer Reliability	12,669,477	2023	Begin preliminary design
CRA Over-Current Relay Replacement	814,707	2017	Begin construction
CRA Pumping Plant - Auxiliary Power System Rehabilitate/Upgrades	3,520,300	2020	Begin preliminary design
CRA Power Cable Replacement	11,759,448	2019	Complete final design

CRA - Pumping Plant Reliability

15374

Total Appropriation Estimate:	\$25,500,000	Total Projected Through June 30, 2016:	\$23,600,000
Appropriated Amount:	\$24,467,000	Estimated Percent Complete:	93%
Biennial Estimate:	\$1,613,300	Estimated Completion Date:	2019

Scope

This appropriation was established to plan and implement multiple projects at the five Colorado River Aqueduct pumping plants. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To rehabilitate and/or replace aging equipment at the pumping plants to ensure reliability.

Accomplishments Through FY 2015/16

Through FY 2015/16, fifteen projects have been completed.

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Delivery Line Expansion Joint Refurbishment	2,779,470	2019	Complete final design

CRA - Reliability for FY2006/07 through FY2011/12

15438

Total Appropriation Estimate:	\$110,200,000	Total Projected Through June 30, 2016:	\$56,400,000
Appropriated Amount:	\$62,944,000	Estimated Percent Complete:	51%
Biennial Estimate:	\$28,324,400	Estimated Completion Date:	2022

Scope

This appropriation was established to continue to implement multiple projects throughout the Colorado River Aqueduct system. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct and related facilities and equipment.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed

Major project milestones in FY 2016/17 and FY 2017/18:

CRA Intake Plant - Power & Communication Line Replacement - Continued final design

CRA Seismic Upgrade of 6.9kV Switch House Seismic Retrofit - Began final design

CRA Pump Plant Flow Meter Replacement - Continued construction

CRA Pump Plant Sump System Rehabilitation - Began final design

CRA Canal Improvements - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Canal Improvements	20,677,793	2017	Complete construction
CRA Intake Plant - Power & Communication Line Replacement	2,104,536	2018	Complete final design
CRA Mile 12 Flow and Chlorine Monitoring Station Upgrades	1,312,741	2018	Complete final design
CRA Pump Plant Flow Meter Replacement	1,652,000	2017	Complete construction
CRA Pump Plant Sump System Rehabilitation	21,641,242	2019	Complete final design
CRA Seismic Upgrade of 6.9kV Switch House Seismic Retrofit	12,407,032	2019	Begin construction
Eagle Pump Plant Reservoir Spillway Gate Rehab	1,438,983	2017	Begin construction
Gene Pumping Plant - 2.4 kV Standby Diesel Engine Generator Replacement	3,016,062	2020	Complete final design
Intake Pumping Plant - 2.4 kV Standby Diesel Engine Generator Replacement	1,753,927	2020	Complete final design
Iron Mountain - 2.4 kV Standby Diesel Engine Generator Replacement	3,540,091	2019	Complete final design

CRA - Reliability for FY2012/13 through FY2017/18 15483

Total Appropriation Estimate:	\$67,600,000	Total Projected Through June 30, 2016:	\$5,200,000
Appropriated Amount:	\$4,460,000	Estimated Percent Complete:	8%
Biennial Estimate:	\$12,936,700	Estimated Completion Date:	2025

Scope

This appropriation was established to implement multiple projects throughout the Colorado River Aqueduct system. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct and related facilities and equipment.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Pumping Plants Water Treatment Systems Replacement - Began design

CRA Protective Slabs - Began design

CRA Delivery Line At-Risk Expansion Joint Repairs - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Cut and Cover Erosion Control Upgrade	3,161,944	2019	Begin final design
CRA Delivery Line At-Risk Expansion Joint Repairs	2,146,355	2017	Begin construction
CRA Domestic Water Main Distribution Replacement	10,374,784	2023	Begin final design
CRA Protective Slabs	6,104,998	2019	Begin construction
CRA Pumping Plant Delivery Line Re-Lining	6,694,562	2019	Begin construction
CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain and Iron Mountain	6,071,937	2021	Complete final design
CRA Pumping Plants Water Treatment Systems Replacement	6,456,471	2019	Begin construction
Whitewater Tunnel No. 2 Seismic Upgrade	4,154,501	2020	Begin design

CRA Main Pump Reliability

15481

Total Appropriation Estimate:	\$177,200,000	Total Projected Through June 30, 2016:	\$765,000
Appropriated Amount:	\$950,000	Estimated Percent Complete:	0.5%
Biennial Estimate:	\$12,949,400	Estimated Completion Date:	2033

Scope

This appropriation was established to continue to implement multiple projects throughout the Colorado River Aqueduct Pumping plants. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To complete rehabilitation work necessary to ensure reliability and operation performance, provide operational flexibility and prolong the useful life for the pumping plants.

Accomplishments Through FY 2015/16

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Main Pumping Plant Discharge Line Isolation Bulkhead Coupling - Began final design

CRA Pumping Plants Crane Improvements – Began design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Main Pump & Motor Refurbishment	75,509,991	2033	Define scope
CRA Main Pump Discharge Valve Refurbishment	40,360,006	2028	Define scope
CRA Main Pumping Plant Discharge Line Isolation Bulkhead Coupling	12,602,499	2021	Begin construction
CRA Pump Plants Circulation Water Systems	14,469,998	2027	Define scope
CRA Pumping Plants Crane Improvements	7,054,999	2019	Begin Construction

Dam Rehabilitation & Safety Improvements

15419

Total Appropriation Estimate:	\$8,900,000	Total Projected Through June 30, 2016:	\$5,000,000
Appropriated Amount:	\$4,600,000	Estimated Percent Complete:	56%
Biennial Estimate:	\$1,100,500	Estimated Completion Date:	2021

Scope

This appropriation was established to review the adequacy of Metropolitan’s dams, evaluate risks, and identify alternative solutions to minimize risks. Under this appropriation, the seismic adequacy of dams and their appurtenant structures are being assessed, and the hydraulic adequacy of dams’ spillway and hydraulic structures under up-to-date hydrologic conditions are being evaluated.

Purpose

To implement multiple projects that will facilitate monitoring, and assess stability, risks, and capacities of Metropolitan's dams and reservoirs.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
DVL Dam Monitoring System Upgrade	1,263,027	2018	Begin construction

Demonstration-Scale Recycled Water Treatment Plant 15493

Total Appropriation Estimate:	\$15,000,000	Total Projected Through June 30, 2016:	\$ 690,000
Appropriated Amount:	\$15,000,000	Estimated Percent Complete:	5%
Biennial Estimate:	\$9,895,000	Estimated Completion Date:	2020

Scope

This appropriation was established to plan and implement a demonstration-scale recycled water treatment plant and to establish the framework of terms and conditions for development of a regional recycled water supply program.

Purpose

To enhance water supply reliability by providing a new resource that would help maintain groundwater recharge and storage for Metropolitan's service area.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Water Purification Demonstration Project - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Water Purification Demonstration Project	15,000,000	2020	Begin construction

Diemer Water Treatment Plant - Improvements

15380

Total Appropriation Estimate: \$238,000,000 Total Projected Through June 30, 2016: \$136,000,000

Appropriated Amount: \$159,996,600 Estimated Percent Complete: 57%

Biennial Estimate: \$24,611,100 Estimated Completion Date: 2025

Scope

This appropriation was established to plan and implement multiple projects within the Diemer Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, sixteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Diemer Basin Rehabilitation - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Electrical Improvements Stage 2	21,215,810	2017	Complete construction
Diemer Filter Outlet Conduit Seismic Upgrade	14,670,441	2020	Complete final design
Diemer Basin Rehabilitation	57,931,061	2021	Continue construction

Diemer Water Treatment Plant - Improvements for FY2006/07 through FY2011/12

15436

Total Appropriation Estimate:	\$79,500,000	Total Projected Through June 30, 2016:	\$40,100,000
Appropriated Amount:	\$46,719,000	Estimated Percent Complete:	50%
Biennial Estimate:	\$17,066,100	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Diemer Water Treatment Plant. The common driver for many projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, ten projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Diemer Filter Buildings Upgrades - Began East Building construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Administration Building Seismic Upgrade	5,952,449	2018	Begin construction
Diemer Filter Buildings Seismic Upgrade	28,595,794	2020	Complete East Building construction
Diemer Filter Valve Replacement	13,617,837	2019	Complete East Building construction

Diemer Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 15478

Total Appropriation Estimate:	\$10,400,000	Total Projected Through June 30, 2016:	\$350,000
Appropriated Amount:	\$375,000	Estimated Percent Complete:	3%
Biennial Estimate:	\$598,900	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Diemer Water Treatment Plant. The common driver for many projects is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Slope Erosion Rehabilitation	1,787,510	2019	Begin preliminary design

Diemer Water Treatment Plant - Oxidation Retrofit

15389

Total Appropriation Estimate:	\$370,192,400	Total Projected Through June 30, 2016:	\$345,000,000
Appropriated Amount:	\$370,192,400	Estimated Percent Complete:	93%
Biennial Estimate:	\$112,800	Estimated Completion Date:	2020

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems into the existing plant operations at the Diemer Water Treatment Plant.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Diemer plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, all projects have been completed with exception of preparation of record drawings for the new ozonation facilities and completion activities.

Major project milestone in FY 2014/15 and FY 2015/16:

Diemer Southern Slope Fire Management and Landscaping - Began construction

Diemer Ozonation Facilities – Completed construction, testing, and start-up

Objectives for 2016/17 and 2017/18

Continue follow-on activities.

DVL Recreation Facilities

15334

Total Appropriation Estimate:	\$92,800,000	Total Projected Through June 30, 2016:	\$68,200,000
Appropriated Amount:	\$71,727,100	Estimated Percent Complete:	73%
Biennial Estimate:	\$372,300	Estimated Completion Date:	2017

Scope

This appropriation was established to begin transformation of the Diamond Valley Lake property to incorporate revenue enhancement to extract value from the property while ensuring that Metropolitan’s core business is protected. Current spending is aimed at completing current commitments required by the ground leases and at encouraging future development opportunities within the DVL properties, in a cost-effective manner, consistent with board-approved objectives.

Purpose

To fully implement the Metropolitan’s Board directives on recreation and associated development at DVL.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diamond Valley Lake (DVL) East Marina Restroom Facility	426,912	2017	Complete construction

Enhanced Bromate Control

15472

Total Appropriation Estimate:	\$13,300,000	Total Projected Through June 30, 2016:	\$3,000,000
Appropriated Amount:	\$10,240,000	Estimated Percent Complete:	23%
Biennial Estimate:	\$5,817,900	Estimated Completion Date:	2021

Scope

This appropriation was established to determine the feasibility, study, preliminary design, and construct necessary facilities for the ammonia-chlorine bromate control process at the Diemer, Jensen, Mills, Skinner, and Weymouth plants.

Purpose

To control the formation of bromate, which is a regulated disinfection by-product, during the ozonation process, and reduce chemical costs.

Accomplishments Through FY 2015/16

Through FY 2015/15, no projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Weymouth Bromate Control Facilities - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Bromate Control Facilities	7,945,460	2019	Complete construction

Hydroelectric Power Plant Improvements

15458

Total Appropriation Estimate:	\$39,300,000	Total Projected Through June 30, 2016:	\$7,500,000
Appropriated Amount:	\$8,677,000	Estimated Percent Complete:	19%
Biennial Estimate:	\$3,121,300	Estimated Completion Date:	2023

Scope

This appropriation was established to implement a comprehensive rehabilitation plan that will enhance infrastructure reliability, ensure compliance with regulatory requirements, improve plant efficiency, and reduce maintenance on all hydroelectric power (HEP) plants.

Purpose

To ensure reliability of Metropolitan's hydroelectric power plants.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Foothill HEP Rehab	4,630,149	2019	Begin construction

Information Technology System - Infrastructure

15376

Total Appropriation Estimate:	\$48,541,000	Total Projected Through June 30, 2016:	\$41,000,000
Appropriated Amount:	\$48,541,000	Estimated Percent Complete:	84%
Biennial Estimate:	\$2,733,800	Estimated Completion Date:	2017

Scope

This appropriation was established to implement multiple projects to ensure the reliability and efficiency of the Information Technology Infrastructure in support of Metropolitan's operational and business applications.

Purpose

To ensure reliability of IT infrastructure for critical business applications.

Accomplishments Through FY 2015/16

Through FY 2015/16, fifteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Communication Infrastructure Reliability Upgrade – Began deployment

Emergency Radio Communications System Upgrade - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Communication Infrastructure Reliability Upgrade	5,714,074	2017	Complete deployment
Emergency Radio Communications System Upgrade Phase III	10,239,903	2017	Complete construction
IT Disaster Recovery Facility Environmental Upgrade	2,007,342	2017	Begin construction

Information Technology System - Security

15378

Total Appropriation Estimate:	\$7,000,000	Total Projected Through June 30, 2016:	\$5,600,000
Appropriated Amount:	\$5,906,000	Estimated Percent Complete:	80%
Biennial Estimate:	\$1,400,000	Estimated Completion Date:	2018

Scope

This appropriation was established to enhance and upgrade the functionality, reliability, security and to protect against cyber threats of Metropolitan's business and SCADA systems.

Purpose

To implement technologies that provide most cost-effective and threat reducing benefits to Metropolitan with public safety and security represented at all levels.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Cyber Security Assessment and Remediation	1,400,000	2018	Begin deployment

Infrastructure Reliability Information System

14502

Total Appropriation Estimate:	\$7,700,000	Total Projected Through June 30, 2016:	\$ 0
Appropriated Amount:	\$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	\$ 2,773,000	Estimated Completion Date:	2021

Scope

This appropriation is established to update and integrate equipment maintenance reporting tools to enhance management and tracking of assets, improve maintenance and engineering work planning, and track equipment performance data by integrating data from several information systems to support condition-based equipment maintenance and improved selection of replacement equipment.

Purpose

To improve data and information flow and processing, and provide decision making tools related to Metropolitan's major Infrastructure Reliability and Asset Maintenance initiatives.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Energy Management System Upgrade	482,000	2019	Begin deployment
Fuel Management System Upgrade	1,355,000	2018	Begin deployment
Maximo Mobile Computing Upgrade	502,532	2019	Begin deployment
Maximo Upgrade and Improvements	530,900	2018	Begin deployment

IT Infrastructure Reliability

15487

Total Appropriation Estimate:	\$18,100,000	Total Projected Through June 30, 2016:	\$7,000,000
Appropriated Amount:	\$9,080,000	Estimated Percent Complete:	39%
Biennial Estimate:	\$4,587,500	Estimated Completion Date:	2020

Scope

This appropriation was established to implement multiple projects to ensure the reliability and efficiency of the Information Technology Infrastructure in support of Metropolitan's operational and business applications.

Purpose

To ensure reliability of IT infrastructure for critical business applications.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Enterprise IT Emergency Power Upgrade Project	1,455,000	2019	Begin preliminary design
Enterprise Wireless Network Upgrade (Phase One of Three)	3,555,000	2020	Begin preliminary design

Jensen Water Treatment Plant - Improvements

15371

Total Appropriation Estimate:	\$75,100,000	Total Projected Through June 30, 2016:	\$44,200,000
Appropriated Amount:	\$47,352,000	Estimated Percent Complete:	59%
Biennial Estimate:	\$1,978,000	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects within the Jensen Water Treatment Plant. The common driver for many of the projects in this program is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, eleven projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Jensen Treatment Plant Module 1 Filter Valve Replacement - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen T. P. - Module 1 Filter Valve Replacement	10,276,611	2017	Complete construction

Jensen Water Treatment Plant - Improvements for FY2012/13 through FY2017/18

15486

Total Appropriation Estimate:	\$16,300,000	Total Projected Through June 30, 2016:	\$1,200,000
Appropriated Amount:	\$1,375,000	Estimated Percent Complete:	7%
Biennial Estimate:	\$6,464,736	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Jensen plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen plant.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Finished Water Reservoir No. 1 Cover Rehab	4,096,885	2019	Begin construction
Jensen Finished Water Reservoir No. 2 Floating Cover	4,092,489	2020	Begin preliminary design
Jensen Inlet Water Quality Enclosure	1,088,176	2018	Begin construction
Jensen Ozone Generator PLC Control & Communication Equipment Upgrade	4,784,004	2021	Begin preliminary design

Jensen Water Treatment Plant - Improvements Program for FY2006/07 through FY2011/12 15442

Total Appropriation Estimate:	\$146,000,000	Total Projected Through June 30, 2016:	\$28,000,000
Appropriated Amount:	\$53,476,000	Estimated Percent Complete:	19%
Biennial Estimate:	\$21,270,730	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects at the Jensen Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen water treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Jensen Electrical Upgrade - Began Stage 1 construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Electrical Upgrade	69,398,000	2025	Continue Stage 1 construction

LaVerne Shop Facilities Upgrade

15395

Total Appropriation Estimate:	\$60,900,000	Total Projected Through June 30, 2016:	\$39,000,000
Appropriated Amount:	\$42,180,000	Estimated Percent Complete:	64%
Biennial Estimate:	\$6,489,008	Estimated Completion Date:	2022

Scope

This appropriation was established to modernize the Maintenance Support Unit facilities at La Verne and will evaluate, recommend, design and build new or remodel shop building facilities, and upgrade through refurbishment or replacement aging shop equipment.

Purpose

To modernize the machine, coatings, and fabrication shops so that they can continue to provide emergency response service, support routine maintenance throughout the District, and perform fee-for-service work for member agencies and the California Department of Water Resources (DWR).

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

La Verne Shop - Stage 4 Shop Buildings Completion and Stage 5 Shop Equipment Upgrade - Began preliminary design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
La Verne Shop - Stage 4 Shop Buildings Completion and Stage 5 Shop Equipment Upgrade	9,572,250	2020	Begin procurement & construction

Mills Water Treatment Plant - Improvements

15381

Total Appropriation Estimate:	\$8,200,000	Total Projected Through June 30, 2016:	\$5,300,000
Appropriated Amount:	\$5,695,000	Estimated Percent Complete:	65%
Biennial Estimate:	\$ 452,661	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects within the Mills Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills Water Treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, eight projects have been completed.

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills Basin Solids Removal Improvements	2,906,476	2021	Begin final design

Mills Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 15479

Total Appropriation Estimate:	\$36,500,000	Total Projected Through June 30, 2016:	\$2,300,000
Appropriated Amount:	\$2,580,000	Estimated Percent Complete:	6%
Biennial Estimate:	\$1,073,600	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects at the Mills plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills plant.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills Finished Water Reservoir Improvement	10,283,000	2021	Begin preliminary design

Mills Water Treatment Plant - Improvements FY2006/07 through FY2011/12 15452

Total Appropriation Estimate:	\$27,500,000	Total Projected Through June 30, 2016:	\$13,200,000
Appropriated Amount:	\$14,019,000	Estimated Percent Complete:	48%
Biennial Estimate:	\$875,251	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects at the Mills Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills water treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Mills Industrial Wastewater Handling Facilities Improvements - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills - Module Influent Flash Mix Chemical Containment	951,700	2018	Begin final design
Mills Industrial Wastewater Handling Facilities Improvements	4,578,495	2017	Complete construction

Operations Support Facilities Improvement 15495

Total Appropriation Estimate:	\$35,100,000	Total Projected Through June 30, 2016:	\$800,000
Appropriated Amount:	\$500,000	Estimated Percent Complete:	2%
Biennial Estimate:	\$6,723,126	Estimated Completion Date:	2027

Scope

This appropriation was established to plan and construct site improvements at Lake Mathews, housing facilities at CRA, and seismic upgrades to operations support buildings at Metropolitan's LaVerne facility.

Purpose

To replace and/or expand support facilities to meet current and future operations and maintenance needs.

Accomplishments Through FY 2015/16

No major milestones were achieved.

CRA Housing Rehabilitation – Began assessment and design for eight new houses

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Housing Rehabilitation	14,596,500	2027	Begin construction
Lake Mathews Sewer Improvements	2,932,000	2018	Complete final design

PCCP Rehabilitation and Replacement

15471

Total Appropriation Estimate:	\$59,600,000	Total Projected Through June 30, 2016:	\$36,000,000
Appropriated Amount:	\$72,360,000*	Estimated Percent Complete:	60%
Biennial Estimate:	\$3,971,000	Estimated Completion Date:	2030

**All previously appropriated funds and expenditures for the Second Lower Feeder PCCP Rehabilitation under this Appropriation are to be transferred to Appropriation 16701.*

Scope

This appropriation was established to plan and implement reliability projects throughout the Conveyance and Distribution System which will include structural engineering evaluation of all 163 miles of Prestressed Concrete Cylinder Pipe (PCCP), conduct pilot testing installation of fiber optic acoustic monitoring system, prepare programmatic CEQA documents to cover PCCP Rehabilitation and to initiate refurbishment and replacement projects for at-risk pipelines.

Purpose

To identify pipelines whose age, location and condition warrant refurbishment/ replacement to insure long-term reliability of Metropolitan's PCCP lines water delivery.

Accomplishments Through FY 2015/16

Through FY 2015/16, six projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Electromagnetic Inspections of PCCP Lines – Successfully inspected a portion of the Sepulveda Feeder utilizing new system that eliminated dewatering. Completed standard electromagnetic inspections on 8 other PCCP feeders.

Second Lower Feeder PCCP Rehabilitation - Began final design

Second Lower Feeder PCCP Pipe Procurement - Began final design

Second Lower Feeder PCCP Valve Procurement - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Electromagnetic Inspections of PCCP Lines	11,059,246	2024	Continue inspections
PCCP Rehabilitation - Program CEQA	2,227,515	2023	Complete development
PCCP Rehabilitation - Program Management	15,622,980	2030	Continue development

Pipeline Rehabilitation and Replacement

15482

Total Appropriation Estimate:	\$94,000,000	Total Projected Through June 30, 2016:	\$37,000
Appropriated Amount:	\$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	\$500,000	Estimated Completion Date:	2040

Scope

This appropriation is established to plan and implement multiple projects throughout the Conveyance and Distribution System for the all non-prestressed concrete cylinder pipe (PCCP) lines. The projects will rehabilitate and replace at-risk pipelines, and update the appropriation estimate annually based on rehabilitation and replacement options. The common driver for all projects in this appropriation is infrastructure reliability.

Purpose

To identify pipelines whose age, location, and condition warrant rehabilitation/replacement to enhance long-term water delivery reliability.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Reinforced Concrete and Metal Pipe Assessment	94,000,000	2040	Define scope

Power Reliability and Energy Conservation

15391

Total Appropriation Estimate:	\$54,900,000	Total Projected Through June 30, 2016:	\$ 37,400,000
Appropriated Amount:	\$48,897,000	Estimated Percent Complete:	68%
Biennial Estimate:	\$4,780,000	Estimated Completion Date:	2018

Scope

This appropriation was established to implement multiple power and energy related projects throughout Metropolitan's system. Since its inception, several projects have been incorporated into this program and completed, including the OC-88 Energy Savings Modifications Project which modified the pump station to reduce the energy required for pumping and provides significant energy savings, and the one Megawatt (1 MW) Skinner Solar Power Facility project.

Purpose

To reduce purchased electrical energy and costs, provide sufficient and reliable power, and reduce carbon-based emissions.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Solar Power Facility - Completed construction

Jensen Solar Power Facility - Completed final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Solar Power Facility	5,449,243	2018	Begin construction

Project Controls and Reporting System

15490

Total Appropriation Estimate:	\$4,300,000	Total Projected Through June 30, 2016:	\$1,100,000
Appropriated Amount:	\$1,330,000	Estimated Percent Complete:	26%
Biennial Estimate:	\$3,040,000	Estimated Completion Date:	2019

Scope

This appropriation was established to replace outdated project reporting systems. Some of the tools in use today lack key fundamental capabilities, such as earned value and resource utilization reporting, and, due to the upgrades of other applications, have lost the former integration impacting timely reporting. Currently, the primary deliverable of this appropriation is the implementation of an enterprise-wide Project Controls System to provide schedule and resource management and replace the Project Management Information System (PMIS).

Purpose

To ensure the accuracy, efficiency and effectiveness for enterprise-wide project controls, scheduling, budgeting, resource management, and management reporting.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Project Controls System Replacement - Completed functional design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Project Controls System Replacement	4,252,074	2019	Begin deployment

Reservoir Cover and Replacement

15417

Total Appropriation Estimate:	\$41,500,000	Total Projected Through June 30, 2016:	\$11,400,000
Appropriated Amount:	\$41,830,000	Estimated Percent Complete:	27%
Biennial Estimate:	\$29,552,820	Estimated Completion Date:	2019

Scope

This appropriation was established to perform studies, prepare design and construction documents, and coordinate with California Department of Public Health and Division of Safety of Dams for the replacement of floating reservoir covers at multiple locations. The scope includes remove existing covers, repair reservoir gunite lining, modify structures and protective grillages on reservoir bottoms, install underdrain leakage collection systems, install new geocomposite drainage course, install new Hypalon flexible membrane liners and floating covers, and upgrade reservoir electrical systems and surface drainage to accommodate new cover dewatering pumps.

Purpose

To replace reservoir floating covers that have exceeded their useful life and are increasingly difficult to repair.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Palos Verdes Floating Cover Replacement – Began Construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Palos Verdes Floating Cover Replacement	35,480,609	2019	Complete construction

Right of Way and Infrastructure Protection

15474

Total Appropriation Estimate:	\$71,200,000	Total Projected Through June 30, 2016:	\$15,300,000
Appropriated Amount:	\$20,700,000	Estimated Percent Complete:	21%
Biennial Estimate:	\$13,230,000	Estimated Completion Date:	2022

Scope

This appropriation is established to protect Metropolitan's investment in its rights-of-way by securing and rehabilitating rights of way in a manner that will complement aesthetic qualities of communities and neighborhoods, provide adequate access and buffer area, install security measures (e.g., fencing and signage) to boundaries and restricted areas, and correct or evict encroachments and trespassers.

Purpose

To assess and resolve the known encroachments and rights-of-way gaps, develop best management practices, and install security measures.

Accomplishments Through FY 2015/16

Through FY 2015/16, no projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

ROWIPP Programmatic Environmental Documentation for the Orange County Operating Region - Completed development

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Detailed Reliability Improvements of the Los Angeles County Operating Region	9,131,387	2022	Complete design
Detailed Reliability Improvements of the Orange County Operating Region	19,183,523	2020	Begin construction
Detailed Reliability Improvements of the Riverside & San Diego County Operating Region	18,738,558	2022	Complete design
Detailed Reliability Improvements of the Western San Bernardino County Operating Region	9,825,600	2021	Begin construction
Environmental Regulatory Agreements	690,394	2020	Begin development
ROWIPP Programmatic Environmental Documentation for the Los Angeles Co. Operating Region	950,000	2018	Complete development
ROWIPP Programmatic Environmental Documentation for the Riverside/San Diego Co. Operating Region	958,326	2018	Complete development
ROWIPP Programmatic Environmental Documentation for the Western San Bernardino County Operating Region	1,112,413	2017	Complete development
Right of Way Survey and Mapping	3,003,319	2020	Continue development

Second Lower Feeder PCCP Rehab

16701

Total Appropriation Estimate: \$606,400,000 Total Projected Through June 30, 2016: \$4,200,000

Appropriated Amount: \$0* Estimated Percent Complete: 0%

Biennial Estimate: \$28,995,425 Estimated Completion Date: 2025

**All previously appropriated funds and expenditures for the Second Lower Feeder PCCP Rehabilitation under Appropriation 15471 are to be transferred to this Appropriation.*

Scope

This appropriation was established to plan and implement projects to rehabilitate PCCP portions of the Second Lower Feeder. The common driver for the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the Second Lower Feeder through specific PCCP repair and rehabilitation projects.

Accomplishments Through FY 2015/16

This is a new appropriation for all Second Lower Feeder PCCP Rehabilitation. Funds and expenditures previously appropriated and spent under Appn. 15471 are to be transferred to this Appropriation

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Second Lower Feeder PCCP Rehabilitation	10,791,527	2017	Continue final design
Second Lower Feeder PCCP Rehabilitation - Package 1	52,635,819	2020	Begin construction
Second Lower Feeder PCCP Rehabilitation - Package 2	34,175,630	2021	Continue final design
Second Lower Feeder PCCP Rehabilitation - Package 3	63,045,253	2022	Continue final design
Second Lower Feeder PCCP Rehabilitation - Pipe Procurement	3,966,135	2018	Begin procurement
Second Lower Feeder PCCP Rehabilitation - Right of Way Acquisition	5,383,996	2022	Continue acquisition planning
Second Lower Feeder PCCP Rehabilitation - Valve Procurement	11,804,559	2023	Begin procurement

Sepulveda Feeder PCCP Rehab

15496

Total Appropriation Estimate: \$754,200,000 Total Projected Through June 30, 2016: \$ 15,900,000

Appropriated Amount: \$0 Estimated Percent Complete: 3%

Biennial Estimate: \$6,000,000 Estimated Completion Date: 2031

Scope

This appropriation was established to plan and implement projects to rehabilitate PCCP portions of the Sepulveda Feeder. The common driver for the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the Sepulveda Feeder through specific PCCP repair and rehabilitation projects.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Sepulveda Feeder PCCP 2016 Urgent Repairs - Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Sepulveda Pipeline PCCP Rehabilitation	738,348,989	2031	Begin final design

Skinner Water Treatment Plant - Oxidation Retrofit

15388

Total Appropriation Estimate:	\$245,500,000	Total Projected Through June 30, 2016:	\$244,300,000
Appropriated Amount:	\$245,492,000	Estimated Percent Complete:	99%
Biennial Estimate:	\$856,500	Estimated Completion Date:	2018

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems into the existing plant operations.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Skinner plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Skinner Contactor Roof Elastomeric Coating	856,500	2018	Begin construction

Termination of Center for Water Education Ground Lease 15449

Total Appropriation Estimate:	\$4,673,000	Total Projected Through June 30, 2016:	\$4,100,000
Appropriated Amount:	\$4,673,000	Estimated Percent Complete:	88%
Biennial Estimate:	\$21,280	Estimated Completion Date:	2017

Scope

This appropriation was established to plan and implement multiple projects at the Diamond Valley Lake (DVL) Visitor’s Center, formerly known as “The Center for Water Education.”

Purpose

To maintain the DVL campus by developing and constructing projects that enhance revenue for Metropolitan’s Real Property Development and Management Group, as well as provide assistance and support for WSO staff stationed at DVL.

Accomplishments Through FY 2015/16

DVL Visitor’s Center Improvements – Completed design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
DVL Visitor’s Center Improvements	391,000	2017	Complete construction

Union Station Headquarters Improvements

15473

Total Appropriation Estimate:	\$42,200,000	Total Projected Through June 30, 2016:	\$4,600,000
Appropriated Amount:	\$5,320,000	Estimated Percent Complete:	11%
Biennial Estimate:	\$15,100,000	Estimated Completion Date:	2020

Scope

This appropriation was established to implement seismic modifications to Metropolitan's Headquarters Building at Union Station in Los Angeles. Planned preliminary design activities include the following: review of code and permit requirements; preparation of a preliminary design scaled testing of structural components; detailed structural analyses and evaluation; preparation of a preliminary design report and environmental documentation; and development of a preliminary construction cost estimate. Repair plans will be developed for areas which would likely be damaged in a major earthquake.

Purpose

To implement seismic modifications to Metropolitan's Headquarters Building which would likely be damaged in a major earthquake.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Headquarters Building Seismic Assessment/Upgrade	41,887,088	2020	Begin construction

Verbena Property Acquisition

15492

Total Appropriation Estimate:	\$264,000,000	Total Projected Through June 30, 2016:	\$256,600,000
Appropriated Amount:	\$264,000,000	Estimated Percent Complete:	97%
Biennial Estimate:	\$2,600,000	Estimated Completion Date:	2021

Scope

This appropriation was established to acquire various properties in Riverside and Imperial Counties.

Purpose

To enhance supply reliability.

Accomplishments Through FY 2015/16

Verbena Land Acquisition 1- Completed property acquisition

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Verbena Land Acquisition 1	158,915,538	2021	Survey and Property Recordation

Water Delivery System Improvements

15488

Total Appropriation Estimate:	\$40,500,000	Total Projected Through June 30, 2016:	\$25,000,000
Appropriated Amount:	\$28,200,000	Estimated Percent Complete:	62%
Biennial Estimate:	\$5,351,000	Estimated Completion Date:	2019

Scope

This appropriation was established to provide flexibility to distribute Colorado River water portions of the service area that currently rely exclusively on deliveries from the State Water Project.

Purpose

To improve the reliability and flexibility of delivering Colorado River water during drought or other State Water Project delivery constraints.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Inland Feeder – Lakeview Pipeline Intertie – Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Greg Avenue Pump Station Improvements	17,818,528	2019	Complete design

Water Operations Control

15467

Total Appropriation Estimate:	\$119,300,000	Total Projected Through June 30, 2016:	\$10,000,000
Appropriated Amount:	\$15,010,000	Estimated Percent Complete:	8%
Biennial Estimate:	\$23,900,000	Estimated Completion Date:	2026

Scope

This appropriation is established to further coordinate the capabilities of Metropolitan's control system, Supervisory Control and Data Acquisition (SCADA) with operational and business needs. The appropriation will focus on maintaining system reliability, system integration, and improving operational and business capabilities and efficiencies.

Purpose

Maintain the reliability and integrity of Metropolitan's Control system.

Accomplishments Through FY 2015/16

Through FY 2015/15, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Wadsworth Pumping Plant Control & Protection Upgrades – Began initial phase of construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
AMR System RTUs and Radio Modem Upgrade Project	5,181,495	2019	Begin deployment
RTU CPU and OS Replacement	4,361,999	2019	Begin deployment
SCADA System & Communication Network Upgrade Planning (Phase 1)	3,189,500	2019	Define scope
Wadsworth Control Upgrade Phase IV	14,909,997	2019	Begin construction
Wadsworth Pumping Plant Control & Protection Upgrades	10,789,800	2017	Complete initial phase of construction

Weymouth Water Treatment Plant - Improvements

15369

Total Appropriation Estimate:	\$240,700,000	Total Projected Through June 30, 2016:	\$175,200,000
Appropriated Amount:	\$178,039,800	Estimated Percent Complete:	73%
Biennial Estimate:	\$4,900,000	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects at the Weymouth Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, fifteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Basin Drop Gate Replacement – Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Administration and Control Building Seismic Upgrades	10,728,000	2021	Begin final design
Weymouth Filter Valve Replacement	22,574,773	2023	Begin construction

Weymouth Water Treatment Plant - Improvements for FY2006/07 through FY2011/12 15440

Total Appropriation Estimate:	\$57,000,000	Total Projected Through June 30, 2016:	\$15,300,000
Appropriated Amount:	\$17,438,000	Estimated Percent Complete:	27%
Biennial Estimate:	\$660,900	Estimated Completion Date:	2022

Scope

This appropriation was established to implement multiple rehabilitation projects at the Weymouth plant. The common driver for many of these projects is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Weymouth Finished Water Reservoir Gate Replacement – Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Basin 5-8 Refurbishment	39,870,689	2022	Begin final design

Weymouth Water Treatment Plant - Improvements for 15477 FY2012/13 through FY2017/18

Total Appropriation Estimate:	\$81,000,000	Total Projected Through June 30, 2016:	\$30,800,000
Appropriated Amount:	\$50,687,000	Estimated Percent Complete:	38%
Biennial Estimate:	\$20,100,00	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects at the Weymouth Water Treatment Plant. The common driver for many of the projects in the appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Domestic and Fire Water System Improvements – Completed final design

Weymouth Filter Rehabilitation – Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Basin Gate Improvements	8,657,099	2022	Begin final design
Weymouth Chlorine System Upgrade	3,592,009	2021	Complete final design
Weymouth East Washwater Tank Pumps Replacement	1,509,048	2017	Complete construction
Weymouth Filter Rehabilitation	41,062,048	2018	Complete construction
Weymouth Oxidation Demonstration Rehabilitation Project	3,461,203	2020	Begin final design
Weymouth Solids Handling Facility Rehabilitation	929,000	2020	Begin preliminary design

Weymouth Water Treatment Plant - Oxidation Retrofit

15392

Total Appropriation Estimate:	\$270,000,000	Total Projected Through June 30, 2016:	\$226,700,000
Appropriated Amount:	\$246,892,000	Estimated Percent Complete:	84%
Biennial Estimate:	\$28,423,000	Estimated Completion Date:	2019

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems and facilities into the existing plant operations.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Weymouth plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Hypochlorite Feed Facilities – Began construction

Weymouth Ozonation Facilities (Construction, start-up & commissioning) – Completed major tie-ins of newly constructed facilities

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Hypochlorite Feed Facilities	14,413,707	2018	Complete construction
Weymouth ORP - Ozone Equipment Procurement	2,573,580	2018	Complete construction
Weymouth Ozonation Facilities (Start-up & commissioning)	169,249,471	2018	Complete testing and start-up

Whitewater Siphon Protection

15341

Total Appropriation Estimate:	\$15,300,000	Total Projected Through June 30, 2016:	\$2,900,000
Appropriated Amount:	\$2,835,000	Estimated Percent Complete:	19%
Biennial Estimate:	\$5,000,000	Estimated Completion Date:	2019

Scope

This appropriation was established to design and construct a protective barrier for the Whitewater siphons to prevent further erosion of streambed from undermining the siphons, and remediate the Whitewater Mining Pit in accordance with State regulations and prevent head-cutting of the mining pit from undermining the siphons in the event of a major flood.

Purpose

To prevent damage to the Whitewater Siphon due to storm flows on the Whitewater River and to ensure deliveries of CRA water.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Whitewater Siphon Protection Improvements	12,895,750	2019	Begin construction

SERVICE AREA ECONOMY

Metropolitan Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies.

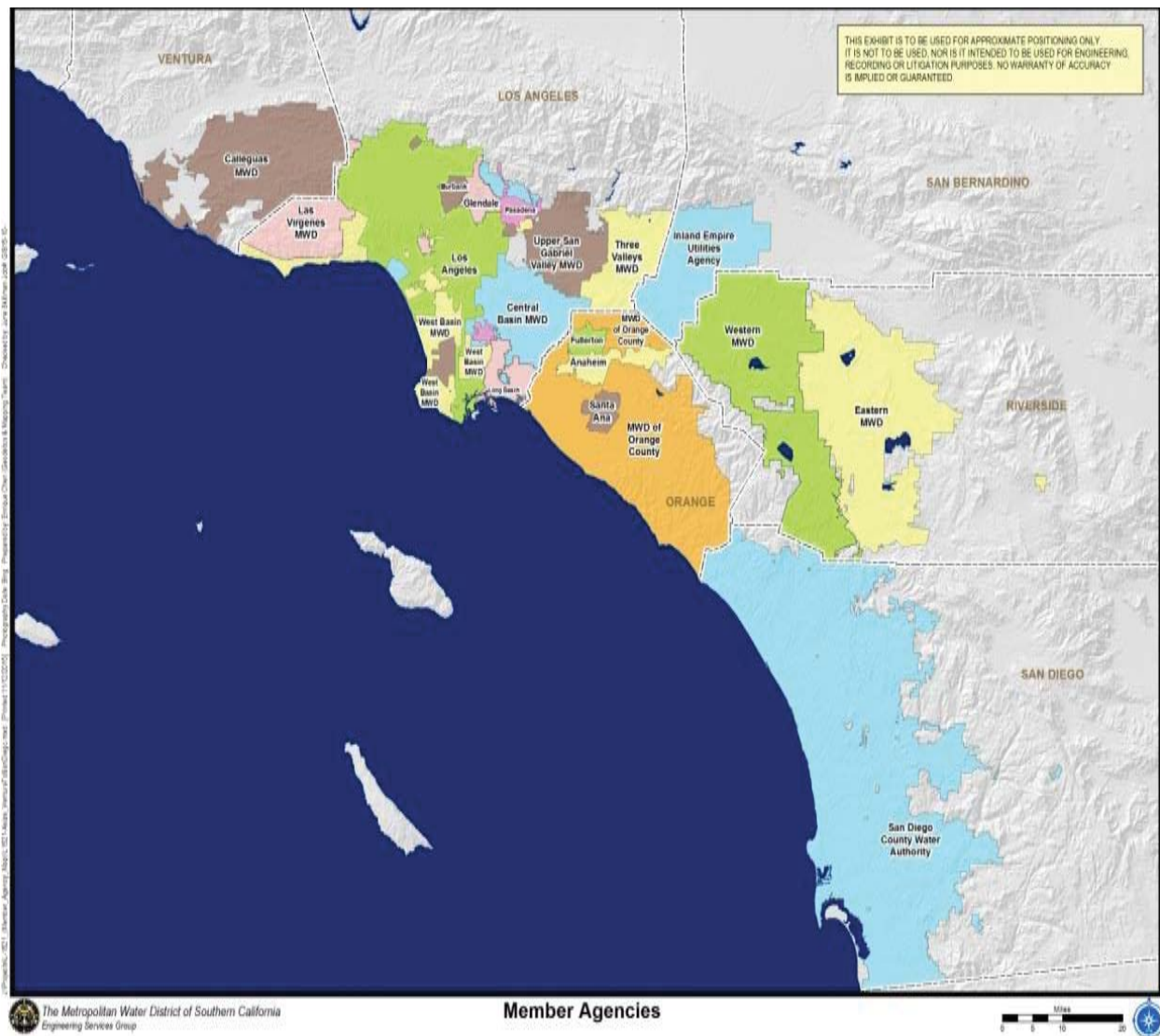
Metropolitan estimates that approximately 18.5 million people lived in Metropolitan's service area in 2014, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Population projections prepared by SCAG in 2012 and SANDAG in 2010, as part of their planning process to update regional transportation and land use plans, show expected population growth of about 18 percent in Metropolitan's service area between 2010 and 2035. The 2010 Census population estimates are incorporated into SCAG's 2012 projections. The 2010 SANDAG regional growth projections do not incorporate the 2010 Census population estimates. The economy of Metropolitan's service area is exceptionally diverse. In 2014, the economy of the six counties which contain Metropolitan's service area had a gross domestic product larger than all but fifteen nations of the world. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area.

The climate in Metropolitan's service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year has historically been approximately 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

Service Area Map

The map below shows the area served by Metropolitan. It includes parts of six of the ten counties that comprise Southern California. The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California.

The economy of the area served by Metropolitan is generally described in terms of data for the six-county area (Six County Area) consisting of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Although these counties comprise Metropolitan's service area, Metropolitan's territory does not encompass all of the area within each of the six counties. In 2014, the economy of the Six County Area was larger than all but fifteen nations of the world. The Six County Area economy ranked between Mexico (\$1.28 trillion) and Indonesia (\$888 billion), with an estimated gross domestic product (GDP) of just over \$1.25 trillion. The Six County Area's gross domestic product in 2014 was larger than all states except California, Texas, and New York.



Selected Demographic and Economic Information for Metropolitan's Service Area

The map above shows the area served by Metropolitan. It includes parts of six of the ten counties that comprise Southern California. The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California.

The economy of the area served by Metropolitan is generally described in terms of data for the six-county area (Six County Area) consisting of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Although these counties comprise Metropolitan's service area, Metropolitan's territory does not encompass all of the area within each of the six counties. In 2014, the economy of the Six County Area was larger than all but fifteen nations of the world. The Six County Area economy ranked between Mexico (\$1.28 trillion) and Indonesia (\$888 billion), with an estimated gross domestic product (GDP) of just over \$1.25 trillion. The Six County Area's gross domestic product in 2014 was larger than all states except California, Texas, and New York.

Table 14. Ranking of Areas by Gross Domestic Product*

Country	(Dollars in Billions) 2014
United States	17,348
China	10,360
Japan	4,601
Germany	3,853
United Kingdom	2,942
France	2,829
Brazil	2,346
California	2,312
Italy	2,144
India	2,067
Russian Federation	1,861
Canada	1,787
Texas	1,648
Australia	1,454
South Korea	1,410
New York	1,404
Spain	1,404
Mexico	1,283
Six County Area	1,254
Indonesia	888

* Source: Countries – World Bank; U.S – Bureau of Economic Analysis; California and Six County Area – U.S. Department of Commerce

Summary of Recent Trends and Outlook for the Six County Area Economy

The national economy has expanded since 2009 although at growth rates below the historical average for economic recoveries. Private sector nonfarm wage and salary job levels in August 2015 were nearly 4.3 million above the pre-recession peak level, including a gain of over 850,000 manufacturing jobs and 734,000 construction jobs since the recession low. The unemployment rate in the nation has declined from near 9.8% in November 2010 to 5.1% in August 2015.

Housing starts and new permits have rebounded as the number of foreclosures has declined and housing prices have risen in most parts of the country, although the pace of housing recovery has slowed in recent months. Consumer price increases remain well below 2% annually aided by the decline in oil prices. The Six County Area has regained all the jobs lost during the recession and more. Revised job estimates released in March 2015 show that job gains in 2013 and 2014 were much larger than previously reported and higher than the national growth rate. Year-over-year job gains continued in 2015 and between August 2014 and

August 2015 job growth for the entire Six County Area was 214,200 jobs or a gain of 2.5% compared to a 2.1% increase in jobs for the nation.

Unemployment rates in the Six County Area have declined sharply between 2010 and August 2015. In August 2015 unemployment rates ranged from a low of 5.1% in Orange County to a high of 7.0% in Riverside and Los Angeles counties. Income, taxable sales, assessed valuation and housing prices rose in 2013 and 2014. Residential building permits rebounded in 2013 and 2014 and were up 22% for the first seven months of 2015. Nonresidential permit levels reached a record \$12.3 billion in 2014 were down 5% in the first seven months of 2015.

The Six County Area is experiencing growth in both domestic and foreign visitors. Hotel rates and occupancy are increasing in the Six County Area and the same is true for employment in the hotel and amusement park sectors. In 2014 Los Angeles County set tourism records in visitors (44.2 million), hotel occupancy rates (78.9%) and average daily rate (\$147.30). Foreign travel to the region is outpacing domestic travel with large gains in visitors from China of +20.4% in 2014 to 686,000 visitors. Air passenger travel in the Six County Area reached a record level in 2014 was up again in 2015.

Population growth in the Six County Area since 2010 has exceeded the national average according to both the California Department of Finance ("DOF") estimates and those published by the Census Bureau. However, population growth in California and the Six County Area has been slowing since 2000 compared with previous decades. The Six County Area added an average of 230,000 residents per year between 2000 and 2005 but only an additional 154,000 residents per year in the next nine years although gains in the past three years have averaged 190,000 residents per year.

Long-term job growth is driven by the Six County Area's economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by the Center for Continuing Study of the California Economy (CCSCE), the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG) report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Tourism and Entertainment and Health Care.

The recent growth in taxable sales, assessed valuation and hotel occupancy in the Six County Area has led to higher revenue growth for cities and counties and allowed them to rehire some of the local government and school employees who were laid off during the recession.

Recent Six County Area Job Growth Trends

The Six County Area has regained all the jobs lost during the recession and more. Revised job estimates released in March 2015 show that job gains in 2013 and 2014 were much larger than previously reported. Year-over-year job gains (see the table below) are continuing into 2015 and between August 2014 and August 2015 ranged from a high of 3.5% in Riverside-San Bernardino metro area to a low of 0.9% in Ventura County. Job growth for the entire Six County Area was 214,200 jobs or a gain of 2.5% compared to a 2.1% increase in jobs for the nation.

Job growth was aided by gains in foreign trade, tourism and professional services as well as a rebound in construction and related sectors and continuing growth in health care and food services.

Table 15. Recent Employment Trends (Non-Farm Wage and Salary Jobs in Thousands)

County	2007	2010	2013	2014	Aug 2014	Aug 2015	Aug 14-15 % Change
Los Angeles	4,227.4	3,888.4	4,129.8	4,226.4	4,213.0	4,289.3	1.8%
Orange	1,521.0	1,366.0	1,459.4	1,495.9	1,492.4	1,540.9	3.2
Riverside-San Bernardino	1,286.0	1,144.2	1,231.9	1,285.1	1,280.0	1,324.5	3.5
San Diego	1,319.7	1,236.4	1,317.8	1,348.0	1,349.0	1,391.4	3.1
Ventura	297.8	274.6	287.9	293.0	291.9	294.4	0.9
Total Six County Area	8,651.9	7,909.6	8,426.8	8,648.4	8,626.3	8,840.5	2.5

Source: California Employment Development Department

The large job losses in 2008 and 2009 resulted in a sharp rise in unemployment rates throughout the Six County Area between 2006 and 2010. Unemployment rates in the Six County Area have declined sharply between 2010 and August 2015. In August 2015 unemployment rates ranged from a low of 4.5% in Orange County to a high of 7.0% in Riverside and Los Angeles counties. Unemployment rates for the counties are not seasonally adjusted and peak in the summer months. All counties in the Six County Area experienced a substantial decline in unemployment rates between August 2014 and August 2015.

The Six County Area moved from substantial job losses on a monthly basis to a period of stability in job levels and finally accelerating job growth over the past 4 years. (See the figure below.) The Six County Area is outpacing the nation in job growth since the beginning of 2013 although unemployment rates have not fully recovered to the pre-recession levels. By August 2015 job levels were 225,600 above the pre-recession peak level in July 2007.

Table 16. Unemployment Rates

	2000	2006	2010	2013	2014	Aug 14	Aug 15
Los Angeles County	5.4%	4.8%	12.5%	9.8%	8.3%	8.6%	7.0%
Orange County	3.5	3.4	9.7	6.5	5.5	5.8	4.5
Riverside County	5.4	5.0	14.5	10.3	8.2	8.8	7.0
San Bernardino County	4.8	4.8	14.2	10.3	8.0	8.3	6.5
San Diego County	3.9	4.0	10.7	7.8	6.4	6.6	5.1
Ventura County	4.5	4.3	10.8	7.9	6.7	7.0	5.8
United States	4.0	4.6	9.6	7.4	6.2	6.1	5.1
State of California	4.9	4.9	12.2	8.9	7.5	7.4	6.1

Source: U.S. Bureau of Labor Statistics and EDD; U.S. and California estimates for March are seasonally adjusted.

The Six County Area moved from substantial job losses on a monthly basis to a period of stability in job levels and finally accelerating job growth over the past 4 years (Table 16). The Six County Area is outpacing the

nation in job growth since the beginning of 2013 although unemployment rates have not fully recovered to the pre-recession levels. By August 2015 job levels were 225,600 above the pre-recession peak level in July 2007.

Construction Activity

Residential building permit levels in the Six County Area declined sharply after 2004. Between 2004 and 2009, permit levels fell by 84 percent from 108,322 to 17,932 units. Permit levels have rebounded since 2009 reaching 46,906 in 2014. Permit levels increased by 22% for the first seven months of 2015 with most of the growth in multi-family unit permits. Since 2011 more than half of all new permits have been for multi-family residential buildings with more than 2/3 in 2014. Projected long-term job and population growth will support a much higher level of residential construction than is currently occurring.

Table 17. Residential Building Permits

	2004	2009	2013	2014	Jan-Jul 2014	Jan-Jul 2015	Jan-Jul % Chg 2014-15
Los Angeles County	26,395	5,653	16,895	18,728	11,520	13,783	20%
Orange County	9,322	2,200	10,453	10,568	6,034	7,447	23%
Riverside County	34,226	4,190	6,220	6,843	3,876	3,831	-1%
San Bernardino County	18,470	2,495	3,313	3,230	1,802	2,539	41%
San Diego County	17,306	2,990	8,382	6,583	4,084	6,058	48%
Ventura County	2,603	404	1,048	954	824	783	-5%
Total Six County Area	108,322	17,932	46,311	46,906	28,140	34,441	22%

Source: Construction Industry Research Board and California Homebuilding Foundation

Housing Trends in the Six County Area Economy

The housing market recovery that began in 2012 has continued and strengthened in 2013, 2014, and the first seven months of 2015 in the Six County Area. Housing prices increased, the number of new residential building permits rose and the number of new foreclosure filings declined. Mortgage rates remain near historic lows and the number of homes in the unsold inventory is low by historic standards according to the California Association of Realtors ("CAR"). These signs combined with expected job growth point to a continued strengthening in the housing market in 2015 and beyond.

Median resale housing prices in Six County Area markets were near 2003 levels at the lowest recent levels in March 2009. Median prices fluctuated in a narrow range until the summer of 2012 and then began a rebound that has continued into 2015. In July 2015 median prices throughout the Six County Area were at the top of the recent range with increases of between 49% and 78% since March 2012. CAR reported that the share of distressed properties declined from 37% of total sales in September 2012 to 7% statewide in July 2015. The Case Shiller home price index, which eliminates the effect of changes in the mix of housing, increased for the Los Angeles and San Diego regional markets over the three years ending in June 2015 gaining 42% in the Los Angeles market area and 38% in the San Diego market area during this period.

Nonresidential Construction

Nonresidential construction permit levels reached a record \$12.3 billion in 2014. For the first seven months of 2015 permit levels are down 5% from the 2014 record year. Nonresidential construction throughout the Six County Area peaked at \$11.3 billion in 2007. Between 2007 and 2009, nonresidential construction declined by more than 50% to a 2009 level of \$5.1 billion. The Six County Area is experiencing a rebound in nonresidential permit levels since 2009. The increase in residential and nonresidential building is supporting job growth in construction and related industries.

Table 18. Total Nonresidential Construction Permit Valuation (Dollars in Billions)

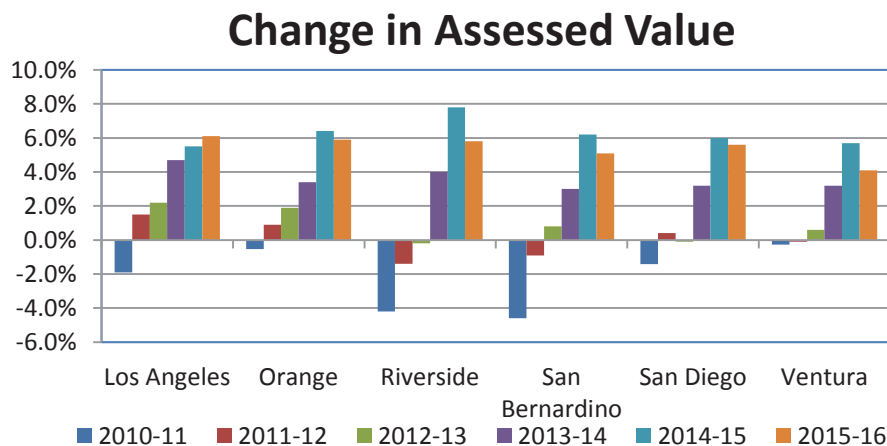
	2007	2009	2013	2014	Jan-Jul 2014	Jan-Jul 2015	Jan-Jul % Chg 2014-15
Los Angeles County	\$4.7	\$2.7	\$4.3	\$6.6	\$3.8	\$3.4	-11%
Orange County	2.0	1.0	1.6	2.0	1.2	1.1	-8%
Riverside County	1.5	0.4	0.8	0.8	0.5	0.5	0
San Bernardino County	1.4	0.3	0.7	0.9	0.4	0.6	50%
San Diego County	1.4	0.6	1.4	1.9	1.2	1.1	-8%
Ventura County	0.3	0.2	0.1	0.1	0.1	0.1	11%
Total Six County Area	\$11.3	\$5.1	\$8.9	\$12.3	\$7.2	\$6.8	-5%

Source: Construction Industry Research Board and California Homebuilding Foundation Assessed Valuation

Assessed Valuation

Assessed valuation in the Six County Area has rebounded and outpaced inflation in recent years after a long downturn during the last recession that was another source of fiscal pressure on local communities throughout the Six County Area. Assessed values increased again for the 2015-16 fiscal year with gains ranging from 4.1% in Ventura County to 6.1% in Los Angeles County. For three years in a row assessed valuation growth has outpaced inflation in each county in the Six County Area.

Figure 19. Changed in Assessed Valuations

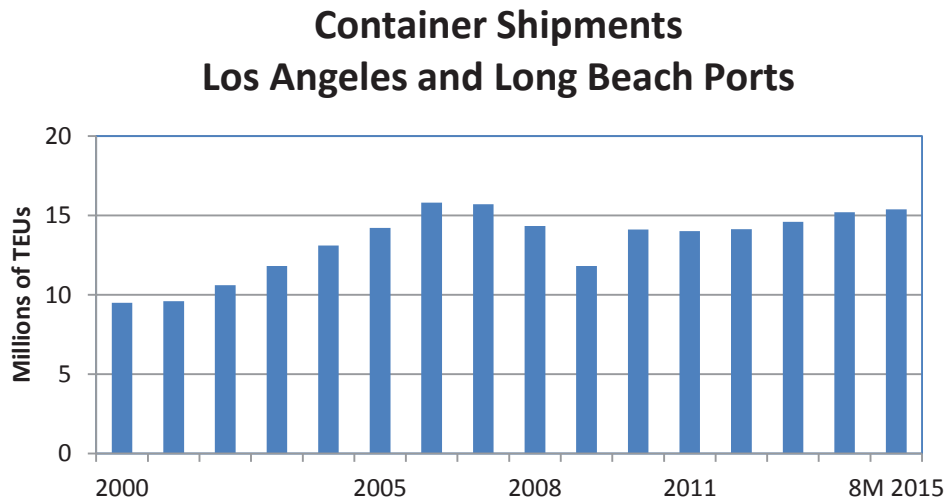


Source: County Assessor's Offices

International Trade

The recession led to a decline in the dollar volume and physical volume of international trade in the Six County Area in 2008 and 2009. Container volumes have recovered since 2009 and neared pre-recession levels in 2014. Container volumes in 2015 have been volatile as a result of strikes with a strong recovery in recent months after sharp declines in January and February and are up 1% through August.

Figure 20. Container Shipments (Los Angeles and Long Beach Ports)



Source: Ports of Los Angeles and Long Beach

Over the longer term, international trade has been a leading growth sector in the Six County Area. Container volume rose 60% between 2000 and 2014 despite the large drop in 2008 and 2009. Trade volume increased by 0.5% in 2014 to \$416.6 billion leading all U.S. ports. This growth supports jobs and economic activity in the transportation, wholesale trade and warehousing industries as the Six County Area is a gateway for U.S. trade with Pacific Rim countries. For example, the Riverside-San Bernardino metro area, where many imports are stored and shipped from, saw an increase in warehousing jobs from 18,300 to 36,500 between April 2010 and July 2015 along with 19,900 jobs added in trucking and wholesale trade with all three sectors exceeding pre-recession job levels.

The Los Angeles and Long Beach ports are the nation's leading port complex in terms of trade volume. The area's ports handle 50% of the nation's trade with China. China is by far the largest trading partner for these ports with \$176.1 billion in two-way trade in 2014, up 1.8% from 2013, with the dominant portion related to imports from China. The next largest trading partner is Japan (\$40.4 billion) followed by South Korea, Taiwan and Vietnam. Mexico is by far the largest trading partner in the San Diego Customs District.

Long-term growth in the United States and in our trading partners will boost international trade levels of activity in the coming years as will new trade agreements. The Six County Area's largest trading partners include some of the world's fastest growing economies such as China, South Korea and Mexico. The Los Angeles County Economic Development Corporation (LAEDC) forecasts that trade volume will be flat in 2015 and increase by 5.5% in 2016 in a report issued before the recent turmoil in the Chinese economy and stock market.

The LAEDC International Trade report in May 2015 cited progress on a number of infrastructure projects to expand port capacity with more than \$6 billion being invested in current upgrades at ports, airports and

supporting land transportation infrastructure. The report also cited long-term challenges including competition from the Panama Canal expansion and from other east and west-coast ports.

Income and Wages

Counties in the Six County Area have income and wage levels that range from below the national average to above the national average. Orange and Ventura counties have the highest household income levels within the Six County Area. Los Angeles and Orange counties have the highest wage levels, well above the national average. San Diego County income and wage levels are also above the national average. Riverside and San Bernardino counties have per capita income and wage levels that are below the national average. Median household income is above the national average in each of the counties in the Six County Area except San Bernardino County.

Per capita income and median household income measures are affected by demographic trends. Per capita income measures in the region are pushed downward by the above average percent of children in the Six County Area population compared to the national average while median household income measures are pushed upward by the above average number of wage earners per household in the Six County Area. Income and wage trends in the Six County Area have been comparable to national trends since 2000.

Per capita income is based on total personal income divided by population while median household income is based on money income, which is lower than total personal income.

The table below shows median household income and wage levels for each of the counties in the Six County Area, as well as for California and the United States, in 2014. The latest per capita income data is for 2013.

Table 19. Income and Wages

	Per Capita Income (2013)	Median Household Income (2014)	Average Wage (2014)
Los Angeles County	\$46,530	\$55,746	\$56,657
Orange County	54,519	76,306	56,771
Riverside County	33,278	57,006	40,363
San Bernardino County	52,747	52,041	42,043
San Diego County	51,384	66,192	56,561
Ventura County	50,507	75,449	51,886
California	48,434	61,933	59,042
United States	44,765	53,657	51,364

Source: Per Capita Income—U.S. Department of Commerce and CCSCE; Median Household Income—U.S. Census Bureau (American Community Survey); Average Wage—U.S. Bureau of Labor Statistics

Population

Population growth in California and the Six County Area has been slowing since 2000 compared with previous decades. Population growth averaged 174,100 per year between 2000 and 2010 compared to 219,300 between 1990 and 2000. The Six County Area added nearly 1.2 million residents between 2000 and 2005 but only an additional 588,000 residents in the next five years. Population growth slowed after 2005 as

high housing prices and large job losses contributed to larger levels of out-migration to other areas of California and other states.

Population growth continued at a historically slow pace between 2010 and 2014 according to the DOF estimates, averaging 161,000 per year. The Six County Area had 21.6 million residents in 2014, approximately 56% of the State's population.

Table 20. Six County Area Population (in Thousands)

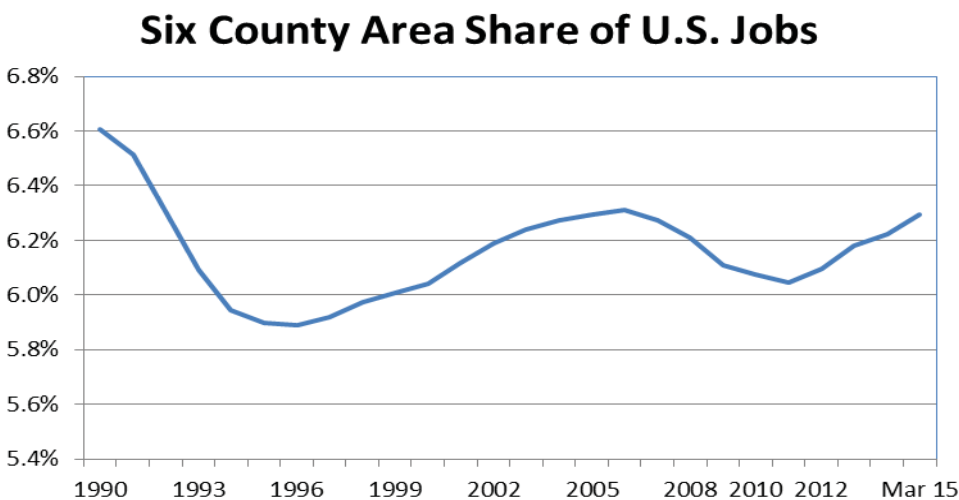
	1990	2000	2005	2010	2012	2013	2014
Los Angeles County	8,860	9,544	9,810	9,825	9,945	10,013	10,069
Orange County	2,412	2,854	2,957	3,017	3,074	3,100	3,133
Riverside County	1,188	1,557	1,935	2,192	2,249	2,265	2,295
San Bernardino County	1,432	1,719	1,943	2,039	2,064	2,074	2,092
San Diego County	2,505	2,828	2,970	3,103	3,153	3,177	3,212
Ventura County	669	757	797	825	833	839	844
Total Six County Area	17,066	19,259	20,412	21,001	21,318	21,468	21,645

Source: California Department of Finance as of July 1

Economic Structure of the Six County Area and Long-Term Prospects

The Six County Area has now recovered all of the losses in the area's share of national jobs that occurred during the recession after 2007. In March 2015 the Six County Area accounted for 6.3% of the nation's non-farm wage and salary jobs, the highest share since 1991. The pattern of larger percentage job losses compared to the nation during a recession mirrors the experience of the early 1990s when aerospace jobs declined sharply and the Six County Area share of U.S. non-farm wage and salary jobs fell from 6.6% to a low of 5.9%. As in the economic growth period after 1994, the Six County Area's share of national jobs has grown steadily during the current expansion period.

Figure 21. Six County Share of US Jobs



Sources: EDD, Bureau of Labor Statistics, U.S. Dept. of Labor, CCSCE

In 2014 Education and Health Services was the largest major industry sector in the Six County Area measured by jobs, with just fewer than 1.4 million jobs or almost 16% of the Six County Area total (see the table on the following page).

The next largest sectors in 2014 were Professional and Business Services and Government followed by Leisure and Hospitality, Retail Trade and Manufacturing. Two sectors accounted for most of the job growth since 2000: Educational and Health Services and Leisure and Hospitality. Six County Area job levels in 2014 were nearly identical to 2007 levels despite large losses in Construction and Manufacturing. Between 2010 and 2014 the Six County Area added more than 830,000 jobs.

Since 2010 most sectors have seen job growth and Construction jobs have rebounded but are still below pre-recession levels. There was strong growth in Professional and Business Services reversing all of the recession job losses. Wholesale Trade activity also rebounded along with port traffic and the growing economy.

Table 21. Six County Area Employment by Major Sector (Jobs in Thousands)

	2000	2007	2010	2014	Change 2000- 2014	Change 2007- 2014
Farm	67.7	63.8	59.8	58.0	-9.7	-5.8
Natural Resources and Mining	6.3	7.8	7.3	8.4	2.1	0.6
Construction	373.8	479.0	298.9	356.4	-17.4	-122.6
Manufacturing	1,113.3	888.6	733.6	740.8	-372.5	-147.8
Wholesale Trade	385.2	429.2	382.4	421.1	35.9	-8.1
Retail Trade	834.5	948.5	849.5	915.1	80.6	-33.4
Transportation, Warehousing and Utilities	286.8	298.9	275.7	309.6	22.8	10.7
Information	343.3	293.5	262.5	263.8	-79.5	-29.7
Financial Activities	448.3	524.3	441.6	455.7	7.4	-68.6
Professional and Business Services	1,171.9	1,285.5	1,138.2	1,288.5	116.6	3.0
Educational and Health Services	828.1	1,060.2	1,151.2	1,359.8	531.7	299.6
Leisure and Hospitality	740.4	897.2	861.0	1,014.2	273.8	117.0
Other Services	271.0	293.9	272.4	304.8	33.8	10.9
Government	1,170.9	1,245.8	1,240.9	1,213.1	42.2	-32.7
Total Wage and Salary Jobs	8,041.5	8,716.2	7,975.0	8,709.3	667.8	-6.9

Source: California Employment Development Department (EDD)

Long-term job growth is driven by the Six County Area's economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by CCSCE, SCAG and SANDAG report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Information and the tourism component of Leisure and Hospitality.

The Six County Area economy has an economic base that is diversified and well positioned to participate in U.S. and world economic growth over the next ten years. Job levels are expected to grow in the high-wage and fast-growing professional, scientific, technical and information services sectors, which include architecture, design, computer, research and development, advertising, legal, accounting, and Internet-related and management services. Other fast-growing sectors over the next ten years include entertainment and tourism industries and health care.

The Six County Area has an above-average share of four additional fast-growing sectors—Wholesale Trade and Transportation, tied to the area’s projected growth in foreign trade; Information, which includes motion pictures; and the tourism component of Leisure and Hospitality, tied to growth in disposable income in the U.S. and worldwide.

The diversity of the Six County Area economy has led to GDP growth since 2001 that matches the national average despite the fact that the area had below average growth during the recession. Average GDP growth in nominal dollars (see the table on the following page) was 3.8% per year compared to 3.8% for the nation and 4.0% for the state between 2001 and 2014.

FINANCIAL POWERS (MWD ACT)

THE METROPOLITAN WATER DISTRICT ACT

Sec. 18. [Fiscal Year]

The fiscal year of any metropolitan water district shall commence on the first day of July of each year and shall continue until the close of the 30th day of June of the year following.

Sec. 123. [Borrowing, Limitation]

A district may borrow money and incur indebtedness and issue bonds or other evidence of such indebtedness, except that no district shall incur indebtedness which, in the aggregate, shall exceed 15 percent of the assessed valuation of all the taxable property included within the district, as shown by the assessment records of the county or counties.¹

CASE NOTE

A contract between the State and a metropolitan water district for a water supply from the State Water Resources Development System was a contract for the furnishing of continued water service in the future, payments by the district being contingent upon performance of contractual duties by the State and not incurred at the outset, so the district did not incur an indebtedness in excess of that permitted by former Section 5(7) of the Metropolitan Water District Act (now Sec. 123).

Metropolitan Water District v. Marquardt, 59 Cal.2d 159, 28 Cal. Rptr. 724 (1963)

Sec. 124. [Taxes, Levy and Limitation]

A district may levy and collect taxes on all property within the district for the purposes of carrying on the operations and paying the obligations of the district, except that such taxes, exclusive of any tax levied to meet the bonded indebtedness of such district and the interest thereon, exclusive of any tax levied to meet any obligation to the United States of America or to any board, department or agency thereof, and exclusive of any tax levied to meet any obligation to the state pursuant to Section 11652 of the Water Code, shall not exceed five cents (\$0.05) on each such one hundred dollars (\$100) of assessed valuation. The term "tax levied to meet the bonded indebtedness of such district and the interest thereon" as used in this section shall also include, but shall not be limited to, any tax levied pursuant to Section 287 to pay the principal of, or interest on, bond anticipation notes and any tax levied under the provisions of any resolution or ordinance providing for the issuance of bonds of the district to pay, as the same shall become due, the principal of any term bonds which under the provisions of such resolution or ordinance are to be paid and retired by call or purchase before maturity with moneys set aside for that purpose.

Amended by Stats. 1969, ch. 441

¹ The assessed valuation of all taxable property as of June 30, 2011 used in calculating the ad valorem tax limitation was more than \$2 trillion (\$2,050,497,523,732), fifteen percent of this amount is \$307.6 billion (\$307,574,628,560).

CASE NOTE

An article in a contract between the State and a metropolitan water district for a water supply from the State Water Resources Development System which article is based upon Water Code Section 11652, requiring the district to levy a tax to provide for all payments due under the contract, does not contravene former Section 5(8) of the Metropolitan Water District Act, imposing a limit on taxation, as Section 11652 is a special provision relating only to taxation to meet obligations from water contracts with state agencies, whereas said Section 5(8) is a general provision relating to taxation by a district for all purposes and the special provision controls the general provision.

Metropolitan Water District v. Marquardt, 59 Cal.2d 159, 28 Cal. Rptr. 724 (1963).

Sec. 124.5. [Ad valorem Tax Limitation]

Subject only to the exception in this section and notwithstanding any other provision of law, commencing with the 1990-91 fiscal year any ad valorem property tax levied by a district on taxable property in the district, other than special taxes levied and collected pursuant to annexation proceedings pursuant to Articles 1 (commencing with Section 350), 2 (commencing with Section 360), 3 (commencing with Section 370), and 6 (commencing with Section 405) of Chapter 1 of Part 7, shall not exceed the composite amount required to pay (1) the principal and interest on general obligation bonded indebtedness of the district and (2) that portion of the district's payment obligation under a water service contract with the state which is reasonably allocable, as determined by the district, to the payment by the state of principal and interest on bonds issued pursuant to the California Water Resources Development Bond Act as of the effective date of this section and used to finance construction of facilities for the benefit of the district. The restrictions contained in this section do not apply if the board of directors of the district, following a hearing held to consider that issue, finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district, and written notice of the hearing is filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate at least 10 days prior to that date of the hearing.

Added by Stats. 1984, ch. 271.

Sec. 134. [Adequacy of Water Rates; Uniformity of Rates]

The Board, so far as practicable, shall fix such rate or rates for water as will result in revenue which, together with revenue from any water stand-by or availability service charge or assessment, will pay the operating expenses of the district, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by the district, and provide for the payment of the interest and principal of the bonded debt subject to the applicable provisions of this act authorizing the issuance and retirement of the bonds. Those rates, subject to the provisions of this chapter, shall be uniform for like classes of service throughout the district.

Amended by Stats. 1984, ch. 271

Sec. 239.2. [Limitation on Amount of Revenue Bonds]

No revenue bonds shall be issued under this chapter, except for refunding, unless the amount of equity of the district, as shown on its balance sheet as of the end of the last fiscal year prior to the issuance of such bonds, equals at least 100 percent of the aggregate amount of revenue bonds to be outstanding following the issuance of such bonds.

Added by Stats. 1972, ch. 169

FINANCIAL POLICIES (MWD ADMINISTRATIVE CODE)

FINANCIAL POLICIES

§. 5107. Biennial Budget Process.

(a) There shall be prepared each even-numbered year, under the direction of the General Manager, a proposed biennial budget covering District operations for the following two fiscal years. The proposed biennial budget shall be submitted to the Board no later than the date of the regular Board meeting in June immediately preceding the first fiscal year of the biennium to which the budget applies. The proposed biennial budget shall indicate by fund all anticipated expenses and required reserves and the source of revenues to be used to meet such expenses and provide such reserves. The proposed biennial budget will at a minimum include a five-year financial forecast. At least one Board Workshop on the proposed biennial budget will be conducted prior to submission of the proposed biennial budget for Board approval. The Finance and Insurance Committee shall review the proposed biennial budget in its entirety, together with the recommendations from the Board workshop, and report its recommendations to the Board.

(b) After considering the proposed biennial budget and making any revisions thereto that it may deem advisable, the Board shall adopt the biennial budget before the beginning of the biennial period to which the budget applies. The amounts provided in the adopted budget for the biennial period for total expenses for operations and maintenance, including minimum and variable operations and maintenance charges under water or power contracts with the State, for capital charges under such contracts, and for debt service shall be deemed to be appropriated from the funds indicated in the budget.

(c) The adoption of the budget shall have no effect upon appropriations for capital projects and continuing expenditures not susceptible to immediate direct allocation, as described in Section 5108 hereof, and shall not establish any limitations on expenditures for such purposes.

(d) The total operations and maintenance budget shall be measured against the regional rate of inflation as measured by the five-year rolling average change in the Consumer Price Index (CPI) for the Los Angeles-Riverside-range County area, not seasonally adjusted, for all items as reported by the U. S. Bureau of Labor Statistics. The budget will include explanations of increases greater than the CPI due to unique conditions, growth or expansion of services.

Ords. 127 and 129; repealed by Ord. 146; Section 471.8 added, as amended, by M.I. 32690 - April 10, 1979; amended by M.I. 36110 - June 10, 1986. Section 471.8 repealed and Section 5107 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; paragraph (a) amended by M.I. 36535 - March 10, 1987; paragraph (a) amended by M.I. 40231 - May 11, 1993; paragraph (a) amended by M.I. 41755 - February 13, 1996; paragraphs (a) and (b) amended by M.I. 42060 - September 10, 1996; paragraph (a) amended by M.I. 42193 - December 10, 1996; paragraph (a) amended by M. I. 44095 - July 11, 2000; paragraph (a) amended by M. I. 44582 - August 20, 2001; paragraph (a) amended and paragraph (d) added by M. I. 45904 - September 14, 2004; paragraph (a) amended by M. I. 46064 - January 11, 2005; paragraph (a) amended by M.I. 46148 - March 8, 2005; paragraph (a) amended by M.I. 46983 - February 13, 2007; paragraph (a) amended by M.I. 48534-

January 11, 2011; section title and paragraphs (a)-(b) amended by M.I. 48800 – September 13, 2011; paragraphs (a), (b), and (d) amended by M.I. 49187 - September 11, 2012

The District operates as a single enterprise fund for financial statements and budgeting purposes. Through its administrative code the District identifies a number of accounts, which are referred to as funds, to separately track uses of monies for specific purposes.

§. 5200. Funds Established.

To provide for accountability of public moneys in accordance with applicable federal and state law and regulations and Board policies, the following funds active or prospectively active have been established in the Treasury of the District:

(a) General Fund (Fund No. 1001, established 1929). Moneys not specifically allocated or appropriated may be placed in this fund and used for general purposes of the District. Expenditures for reimbursable work and water conservation capital and indirect costs under the contract with Imperial Irrigation District are paid from this fund.

(b) Replacement and Refurbishment Fund (Fund No. 5001, established 1988). Used to finance certain capital program expenditures from current revenues in accordance with Section 5109, subject to the conditions contained in Section 5202(b).

(c) State Contract Fund (Fund No. 5701, established 1960). Used for the payment of capital charges under the State Water Contract, including the capital charges for off-aqueduct power facilities, subject to the conditions contained in Section 5201(d).

(d) Special Tax Fund (Fund No. 5702, established 1951). Annexation fees (cash payments and special tax collections) are deposited in this fund and transferred to the State Contract Fund to pay a portion of State Water Contract capital charges.

(e) Water Revenue Fund (Fund No. 1002, established 1975). Receipts from water sales are deposited in this fund and are transferred to various other funds in accordance with revenue bond covenants and Board resolutions to pay in order of priority:

- (1) Operation and maintenance expenditures;
- (2) Principal of, premium, if any, and interest on the Prior Lien Waterworks Revenue Bonds and any required deposits into any reserve funds or accounts therefore;
- (3) The interest on and bond obligation of Subordinate Lien Water Revenue Bonds and Parity Obligations issued pursuant to Master Resolution 8329 (the Master Resolution) adopted by the Board on July 9, 1991 and any Supplemental Resolutions thereto;
- (4) All other payments required for compliance with the Master Resolution, and any Supplemental Resolutions;
- (5) Principal of and interest on Commercial Paper Notes and other amounts due a provider of a liquidity facility;
- (6) Deposits into the Water Standby Charge Fund in accordance with resolutions imposing such charges; and

(7) Any other obligations which are charges, liens, or encumbrances upon or payable from net operating revenues.

Moneys remaining at the end of each month, after the foregoing transfers, are transferred to the Revenue Remainder Fund.

(f) Operation and Maintenance Fund (Fund No. 1003, established 1975). Used to pay all operation and maintenance expenditures, including State Water Contract operation, maintenance, power and replacement charges, subject to the conditions contained in Section 5201(f).

(g) Revenue Remainder Fund (Fund No. 1004, established 1975). Used to maintain working capital and may be used for any lawful purpose by the District, subject to the conditions contained in Section 5202.

(h) Water Rate Stabilization Fund (Fund No. 5501, established 1987). Used to reduce future water revenue requirements or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.

(i) Water Treatment Surcharge Stabilization Fund (Fund No. 5502, established 1988). Used to mitigate required increases in the surcharge for water treatment or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.

(j) Revolving Construction Fund (Fund No. 5003, established 1988). Capital expenditures made from this fund are to be reimbursed from proceeds of security sales to the extent such expenditures are authorized uses of debt proceeds under the Act, subject to the conditions and restrictions contained in Section 5201(g).

(k) Employee Deferred Compensation Fund (Fund No. 6003, established 1976). Compensation deferred by employees under Section 457 of the Internal Revenue Code of 1986, as amended, is deposited in this fund and is withdrawn in accordance with Articles 2 and 3 of Chapter 7 of Division VI of this Administrative Code.

(l) Iron Mountain Landfill Closure/Postclosure Maintenance Trust Fund (Fund No. 6005, established 1990). Used as a trust fund to maintain moneys sufficient to cover the costs of closure and postclosure maintenance of the District's solid waste landfill facility at Iron Mountain, in accordance with regulations of the California Integrated Waste Management Board, and subject to the conditions contained in Section 5201(l).

(m) Water Standby Charge Fund (Fund No. 1005, established 1992). Used to separately hold revenues attributable to water standby charges; amounts deposited in this fund are used exclusively for the purpose for which the water standby charge was authorized.

(n) Water Transfer Fund (Fund No. 1007, established 1995). Used for moneys set aside for the purchase of water through transfers or similar arrangements, and for the costs of filling the Eastside Reservoir Project.

(o) Self-Insured Retention fund (Fund No. 1008, established 1999). Used to separately hold amounts set aside for emergency repairs and claims against the District as provided in Section 5201(o).

(p) Lake Mathews Multi Species Reserve Trust fund (Fund 6101, established 1997.) Used as set forth in agreement between Metropolitan and the Riverside County Habitat Conservation Agency for the Multi Species Reserve.

(q) There shall be established in the Treasury of the District such funds and accounts as are required pursuant to bond covenants, tax and non-arbitrage certificates, bond counsel letters of instruction and related documents, to provide for accountability of District funds and compliance with applicable federal and state law and regulations. Such funds and accounts shall be established for each issue of bonds, notes or other obligations of the district as required in the respective bond or note resolution and closing documents.

(r) Water Stewardship Fund (Fund No. 1009 established 2005). Used to collect revenue from the Water Stewardship Rate and to pay costs associated with water recycling, seawater desalination, conservation, brackish water desalination, or other demand management programs. These funds can also be used to fund administrative costs associated with these programs. Funds may be used as directed by the Board, for other lawful purposes, in accordance with Section 5201(p) and Section 5202(d).

38241 - May 8, 1990; amended and paragraph (bb) added by M.I. 38305 - June 12, 1990; paragraphs (cc), (dd) and (ee) added by M.I. 38999 - June 11, 1991; amended and paragraphs (ff), (gg), (hh) and (ii) added by M.I. 39171 - August 20, 1991; paragraphs (jj), (kk), and (ll) added by M.I. 39785 - August 20, 1992; paragraph (k)(6) added, paragraph (jj) added, paragraphs (kk) - (mm) renumbered by M.I. 39925 - November 10, 1992; new paragraphs (nn) through (uu) added by M.I. 40272 - June 15, 1993; paragraph (bb) amended by M.I. 40273 - June 15, 1993; paragraphs (vv) through (bbb) added by M.I. 40388 - August 24, 1993; paragraphs (i) and (q) amended, paragraph (r) deleted and remainder of section renumbered by M.I. 40443 - September 21, 1993; paragraph (q) amended by M.I. 40976 - August 19, 1994; paragraph (bbb) added by M.I. 41581 - September 12, 1995; paragraphs (a) through (bbb) amended and new paragraphs (bbb) through (sss) added by M.I. 42817 - February 10, 1998; paragraphs (ttt) through (aaaa) added April 1998, by authority granted to the General Counsel by M.I. 42817 - February 10, 1998; paragraphs (bbbb) through (jjjj) added September 1998, by authority granted to the General Counsel by M.I. 42817 - February 10, 1998; paragraph (kkkk) added by M.I. 43434 - March 9, 1999; paragraph (a) amended, old paragraphs (c), (g)-(j), (m), (n), (p), (q), (u)-(x), (z), (bb)-(hh), (jj)-(aaa), and (ccc)-(jjjj) deleted, remaining paragraphs renumbered, and new paragraphs (q) and (r) added by M. I. 45249 - March 11, 2003; paragraph (b) amended, paragraph (e) repealed and paragraphs (f) - (r) renumbered by M. I. 45904 - September 14, 2004; new paragraph (r) added by M. I. 46266 - June 14, 2005; paragraph (g) amended by M. I. 46838 - October 10 2006.

§. 5201. Restricted Funds.

Cash and securities to be held in the various ledger funds shall be as follows:

(a) General Obligation Bond Interest and Principal Funds and the Waterworks General Obligation Refunding Bonds Interest and Principal Funds, the cash and securities in each as of June 30, shall be at least equal to the debt service for the ensuing 18 months, less revenues anticipated to be derived from the next succeeding tax levy specifically for such debt service.

(b) For the Waterworks Revenue Bonds Interest and Principal Funds, the Water Revenue Bonds Reserve Funds, the Water Revenue Refunding Bonds Interest and Principal Funds and the Water Revenue Refunding Reserve Bonds, the cash and securities in each shall be at least equal to the minimums required by the resolutions of issuance for such bonds.

(c) For the Bond Construction Funds there shall be no minimum requirements; provided that any cash and securities in such funds shall be restricted to use for the purposes such finances were required.

(d) For the State Contract Fund, cash and securities on hand June 30 and December 31 shall equal the capital payments to the State Department of Water Resources that are due on July 1 of the same year and January 1 of the following year, respectively.

(e) For the Special Tax Fund, there shall be no minimum requirement.

(f) For the Operation and Maintenance Fund, cash and securities shall be at least equal to the minimum required by the resolutions of issuance for revenue bonds.

(g) For the Revolving Construction Fund, there shall be no minimum requirement. Cash and securities in this fund, unless restricted as to use by resolution of the Board, shall be available for transfer to the Water Rate Stabilization Fund and the Water Treatment Surcharge Stabilization Fund at the discretion of the Board.

(h) For the Commercial Paper, Series A, Note Payment Fund, and the Commercial Paper, Series B, Note Payment Fund, the District shall deposit amounts sufficient to pay principal of, and interest on, such Commercial Paper Notes in an amount at least equal to one-half of the projected interest payments due on such notes in the subsequent fiscal year.

(i) For the Water Standby Charge Fund, there shall be no minimum requirement; provided that any cash and securities in such fund shall be restricted to use for the purposes such moneys were authorized.

(j) For the General Obligation Bond Excess Earnings Funds, the Waterworks General Obligation Refunding Bond Excess Earnings funds, the Water Revenue Bond Excess Earnings Funds and the Water Revenue Refunding Bond Excess Earnings Funds, the minimum requirement shall be the amounts deposited into this fund in accordance with the provisions of the Tax and Nonarbitrage Certificates and Resolutions for the Bonds.

(k) For the Waterworks General Obligation Refunding Bonds, 1993 Series A1 and A2, Escrow Account Fund, the minimum requirement shall be the amounts necessary to pay the principal, if any, and the interest on the Series A1 and A2 Bonds to the crossover date, and to defease certain maturities of outstanding prior general obligation bonds.

(l) For the Iron Mountain Landfill Closure/Postclosure Maintenance Trust Fund, cash and securities as of June 30, shall be at least equal to the Chief Executive Officer's latest estimates of closure and postclosure maintenance costs.

(m) For the Optional General Obligation Bond Redemption Fund and the Optional Revenue Bond Redemption Fund, the minimum requirement shall be the amount necessary to redeem such untendered, refunded bonds which have been called for redemption.

(n) For the Water Transfer Fund, all amounts budgeted or pledged for purchase of water through transfers or similar arrangements, and for the costs of filling the Eastside Reservoir Project, shall be set aside in such fund and used solely for such purpose.

(o) For the Self-Insured Retention fund, all amounts in such fund shall be set aside and used solely for emergency repairs and claims against the District. The minimum cash and securities to be held in such fund as of June 30 of each year shall be \$25 million.

(p) For the Water Stewardship Fund, there shall be no minimum requirement; all amounts in such fund shall be used to fund the Conservation Credit Program, Local Resources Program, seawater desalination, brackish water desalination, and similar demand management programs, including the departmental operations and maintenance costs for administering these programs.

Section 331.1 - M.I. 32735 - May 8, 1979, effective July 1, 1979 [Supersedes M.I. 30984 - August 19, 1975; M.I. 31826 - June 14, 1977 and M.I. 32292 - June 13, 1978]; paragraph (f) [formerly Section 331.1.6] added by M.I. 35309 - September 11, 1984. Section 331.1 repealed and Section 5200 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; amended by M.I. 36676 - June 9, 1987; paragraph (g) added by M.I. 37449 - December 13, 1988; renumbered to Section 5201 and paragraphs (a) and (c) amended by M.I. 38241 - May 8, 1990; paragraph (c) amended and paragraph (h) added by M.I. 38999 - June 11, 1991; paragraphs (b) and (c) amended by M.I. 39171 - August 20, 1991; paragraphs (b) and (c) amended by M.I. 39785 - August 20, 1992; paragraph (i) added by M.I. 39925 - November 10, 1992; paragraphs (a)(b)(c) amended and paragraph (j)(k) added by M.I. 40272 - June 15, 1993; paragraph (h) amended and paragraph (l) added by M.I. 40273 - June 15, 1993; paragraphs (a), (b), and (j) amended by M.I. 40388 - August 24, 1993; paragraph (j) amended and paragraph (m) added by M.I. 40443 - September 21, 1993; paragraph (n) added by M.I. 41581 - September 12, 1995; paragraphs (b)(c)(h)(j)(k)(l)(n) amended by M.I. 42817-- February 10, 1998; paragraphs (b), (c), and (j) amended April 1998 by authority granted the General Counsel by M.I. 42817 - February 10, 1998; paragraph (o) added by M.I. 43434 - March 9, 1999; paragraphs (a)-(c), and (j) amended by M. I. 45249 - March 11, 2003; paragraph (n) amended by M. I. 45775 - June 8, 2004; paragraph (p) added by M. I. 46266 - June 14, 2005.

§. 5202. Fund Parameters.

The minimum cash and securities to be held in the various ledger funds as of June 30 of each year shall be as follows:

(a) For the Revenue Remainder Fund cash and securities on hand of June 30 of each year shall be equal to the portion of fixed costs of the District estimated to be recovered by water sales revenues for the eighteen months beginning with the immediately succeeding July. Such funds are to be used in the event that revenues are insufficient to pay the costs of the District.

(b) For the Replacement and Refurbishment Fund, any unexpended monies shall remain in the Fund for purposes defined in Section 5109, or as otherwise determined by the Board. The end-of-year fund balance may not exceed \$95 million. Available monies in excess of \$95 million at June 30 shall be transferred to the Water Rate Stabilization Fund, unless otherwise determined by the Board.

(c) Amounts remaining in the Revenue Remainder on June 30 of each year after meeting the requirements set forth in Section 5202(a) shall be transferred to the Water Rate Stabilization Fund and to the extent required under Section 5202(d), to the Water Treatment Surcharge Stabilization Fund.

(d) After making the transfer of funds as set forth in Section 5202(c), a determination shall be made to substantially identify the portion, if any, of such transferred funds attributable to collections of treatment surcharge revenue in excess of water treatment cost and to collections of water stewardship rate revenue in excess of costs of the Conservation Credits Program, Local Resources Program seawater desalination and similar demand management programs, including the departmental operations and maintenance costs of administering these programs.. Such funds shall be transferred to the Water Treatment Surcharge Stabilization Fund and the Water Stewardship Fund, respectively, to be available for the principal purpose of mitigating required increases in the treatment surcharge and water stewardship rates. If such determination indicates a deficiency in treatment surcharge or water stewardship rate revenue occurred during the fiscal year, a transfer of funds shall be made from the Water Treatment Surcharge Stabilization Fund or the Water Stewardship Fund, as needed and appropriate, to reimburse funds used for the deficiency. Notwithstanding the principal purpose of the Water Treatment Surcharge Stabilization Fund and the Water

Stewardship Fund, amounts assigned to these fund shall be available for any other lawful purpose of the District.

(e) Amounts in the Water Rate Stabilization Fund shall be held for the principal purpose of maintaining stable and predictable water rates and charges. The amount to be held in the Water Rate Stabilization fund shall be targeted to be equal to the portion of the fixed costs of the District estimated to be recovered by water sales revenues during the two years immediately following the eighteen-month period referenced in Section 5202(a). Funds in excess of such targeted amount shall be utilized for capital expenditures of the District in lieu of the issuance of additional debt, or for the redemption, defeasance or purchase of outstanding bonds or commercial paper of the District as determined by the Board. Provided that the District's fixed charge coverage ratio is at or above 1.2 amounts in the Water Rate Stabilization Fund may be expended for any lawful purpose of the District, as determined by the Board of Directors, provided that any funds distributed to member agencies shall be allocated on the basis of all water sales during the previous fiscal year, such sales to include sales under the Interim Agricultural Water Program, Replenishment Service Program and all Full Service water sales.

Notwithstanding the fund parameters set forth in this Section 5202, including, but not limited to, any minimum fund balances or specified uses and purposes, all amounts held in the foregoing funds shall be available to pay interest on and Bond Obligation (including Mandatory Sinking Account Payments) of Water Revenue Bonds issued pursuant to Resolution 8329 adopted by the Board on July 9, 1991, as amended and supplemented (the Master Resolution), and Parity obligations. Capitalized terms not defined in this paragraph shall have the meanings assigned to such terms in the Master Resolution.

Section 331.2 - M.I. 32735 - May 8, 1979, effective July 1, 1979 [Supersedes M.I. 30984 - August 19, 1975; M.I. 31826 - June 14, 1977 and M.I. 32292 - June 13, 1978]; amended by M.I. 35309 - September 11, 1984; amended by M.I. 35730 - July 9, 1985. Section 331.2 repealed and Section 5201 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; paragraph (a) amended and paragraph (b) added by M.I. 36676 - June 9, 1987; paragraph (a) amended by M.I. 36731 - July 14, 1987; paragraph (b) amended and paragraph (c) added by M.I. 37007 - February 9, 1988; amended by M.I. 37449 - December 13, 1988; paragraph (a) amended by M.I. 37679 - May 9, 1989; renumbered to Section 5202 by M.I. 38241 - May 8, 1990; paragraphs (c) and (d) amended by M. I. 38304 - June 12, 1990; paragraph (a) amended by M.I. 39794 - August 20, 1992; paragraph (e) added by M.I. 41581 - September 12, 1995; Section renamed and paragraphs (a)-(c) and (e) amended by M.I.43434 - March 9, 1999; paragraph (e) amended by M.I. 43587 - June 8, 1999; paragraph (b), (c) and (e) amended by M. I. 44907 - June 11, 2002; paragraph (b) amended by M. I. 45904 - September 14, 2004; paragraph (d) amended by M. I. 46266 - June 14, 2005; paragraph (e) amended by M. I. 46838 - October 10, 2006; final paragraph added by M.I. 47286 - November 20, 2007.

§. 5203. Indirect Credit of District.

The Chief Executive Officer may negotiate with the Department of Water Resources on the basis of using the indirect credit of the District to finance State Revenue Bonds so long as the obligation of the District thereunder does not exceed the obligation required under the State Contract.

Section 331.2 renumbered 331.3. Section 331.3 repealed and Section 5202 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; renumbered to Section 5203 by M.I. 38241 - May 8, 1990.

§. 5204. Compliance with Fund Requirements and Bond Indenture Provisions.

As of June 30 of each year, the Chief Executive Officer shall make a review to determine whether the minimum fund requirements outlined in this Chapter have been met and whether the District has complied with the provisions of the articles and covenants contained in the resolutions of issuance for all outstanding District bond issues during the preceding fiscal year. The Chief Executive Officer, after consulting with the General Counsel, shall report the results of his review in writing to the Board of Directors annually.

Section 331.4 - M.I. 34190 - April 13, 1982. Section 331.4 repealed and Section 5203 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; amended by M.I. 36676 - June 9, 1987; renumbered to Section 5204 by M.I. 38241 - May 8, 1990

§ 5101. Investment of Surplus Funds.

(a) Pursuant to Government Code Section 53607, this Board shall delegate to the Treasurer of the District annually the authority to invest or to reinvest funds of the District subject to the terms and conditions set forth in this Section 5101. The Treasurer shall report each month transactions made pursuant to this delegation.

(b) The terms and conditions of this delegation to the Treasurer are as follows:

(1) The Treasurer shall assume full responsibility for all transactions hereby delegated.

(2) The Treasurer may invest such portion of any money in any sinking fund of the District, or any surplus moneys in the District's treasury not required for the immediate necessities of the District, as the Treasurer deems wise or expedient, in any of the securities authorized for investment by local agencies pursuant to Government Code Section 53601 or any successor statute; provided that such investments meet the requirements of the most current Statement of Investment Policy approved by the Board, pursuant to Section 5114 below.

(3) The Treasurer may make any investment by direct purchase of any issue of the specified securities at their original sale or after they have been issued.

(4) The available cash amount and maximum period for any such investment by the Treasurer shall be determined by the General Manager. The Treasurer shall not liquidate any such investment except:

(i) To meet the District's cash requirements, which shall be determined by the General Manager; or

(ii) To generate cash for reinvestment whenever the General Manager determines that such reinvestment is in the District's interest.

The Treasurer shall not exchange any such investment unless the General Manager determines that such exchange is in the District's interest.

Subject to the above provisions of this subsection 5101(b)(4), the Treasurer may enter into a reverse repurchase agreement, so long as the proceeds of the reverse repurchase agreement are invested solely to supplement the income normally received from the securities involved in the agreement.

(5) The General Counsel shall review monthly and, if appropriate, approve as to eligibility the securities invested in by the Treasurer in the preceding month and report the determinations to the Board.

(6) Investment of Deferred Compensation Fund.

(i) The Treasurer may invest funds held by the District pursuant to the District's deferred compensation plan in accordance with this Section 5101, and may liquidate such investments to comply with the provisions of the plan in accordance with the determinations of the General Manager.

(ii) The Treasurer may also deposit for purposes of investment funds held by the District, pursuant to the District's deferred compensation plans, in the Metropolitan Water District Federal Credit Union to the limit insured by the National Credit Union Share Insurance Fund.

(c) The Treasurer is authorized to enter into safekeeping agreements, in form approved by the General Counsel, and thereafter may deposit for safekeeping the bonds, notes, bills, debentures, obligations, certificates of indebtedness, warrants or other evidences of indebtedness in which the money of the District is invested pursuant to the terms and conditions of this Section 5101 with any state or national bank with which there is a safekeeping agreement and which has sufficient security, as required by law, to secure the amount of any collections. All net collections which may be made by the bank from time to time pursuant to said safekeeping agreement shall immediately be deposited in a deposit account held by a state or national bank within this state which is supported by sufficient security, as required by law, to secure the amount of such collections. The Treasurer shall take from such bank a receipt for securities so deposited either in definitive form in such bank or held in book-entry form on the books of the Federal Reserve Bank. All securities purchased shall be held in safekeeping under such agreements and shall only be released from safekeeping pursuant to such agreements.

Res. 7695 - December 7, 1976; Section 471.2 amended by M.I. 33083 - January 15, 1980; paragraph (b)(6) [formerly Section 471.2.2.6] amended by M.I. 33208 - April 18, 1980; paragraph (b)(2)(vi) [formerly Section 471.2.2.2.6] added by M.I. 34811 - August 17, 1983; paragraph (b)(2) [formerly Section 471.2.2.2] amended by M.I. 35122 - May 8, 1984; paragraph (b)(5) [formerly Section 471.2.2.5] amended by M.I. 35462 - January 8, 1985; paragraphs (b)(2)(vii) and (b)(2)(viii) [formerly Sections 471.2.2.2.7 and 471.2.2.2.8] and paragraph (b)(6)(ii) [formerly Section 471.2.2.6.2] added and paragraph (b)(6) renumbered by M.I. 35555 - March 12, 1985; paragraph (b)(2)(iv) [formerly Section 471.2.2.2.4] amended and paragraph (b)(2)(ix) [formerly Section 471.2.2.2.9] added by M.I. 36272 - September 9, 1986. Section 471.2 repealed and Section 5101 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; paragraph (b)(2)(vii) amended by M.I. 36492 - February 10, 1987 and by M.I. 36761 - August 18, 1987; amended by M.I. 36811 - September 22, 1987; amended by M.I. 38234 - May 8, 1990; paragraph (B)(2) amended by M.I. 38577 - November 20, 1990; paragraph (B)(2) amended by M.I. 39171 - August 20, 1991; paragraph (B)(2)(vi) amended by M.I. 39497 and (B)(2)(x) added by M.I. 39496 - March 10, 1992; paragraph (B)(2) amended by M.I. 39785 - August 20, 1992; paragraph (b)(2) amended and subparagraphs of (b)(2)(i) through (x) repealed by M.I. 40682 - February 8, 1994; paragraph (a) amended by M.I. 42275 - February 11, 1997; paragraph (c) amended by M.I. 42559 - August 19, 1997.

OPERATING POLICIES

O.P. NUMBER	TITLE	ISSUE DATE	REVISION DATE
F-01	Operating, Expensed and Capital Equipment	3/17/97	5/29/02

SUMMARY

This policy relates to the purchase, assignment, tracking, maintenance, and retirement of operating, expensed and capital (OEC) equipment.

SUPERSESION

This Operating Policy supersedes Operating Policy F-01 dated March 17, 1997.

AUTHORITY

The Chief Executive Officer (CEO) delegates the authority to establish and maintain OEC equipment policies and procedures to the Chief Financial Officer and Business Services Section, respectively.

DEFINITIONS

Operating Equipment: a discrete piece of equipment that is not a component part of a fixed asset or stationary facility. The equipment must have:

- An original purchase cost equal to or greater than \$5,000. The capitalized amount includes the cost of the equipment, tax, transportation, delivery, third-party installation, and other acquisition costs.
- A useful life of at least five years from the date of acquisition (four years for vehicles).

Expensed Equipment: a discrete piece of equipment that is not a component part of a fixed asset or stationary facility and has an original purchase cost of less than \$5,000. Attachments and improvements to expensed equipment are also expensed.

- **Trackable:** expensed equipment that must be tracked because it is loss prone or incurs monthly charges. Items that incur monthly charges, such as cell phones, are tracked by their coordinators.

- **Nontrackable:** those pieces of expensed equipment that do not meet the criteria stated above.

Capital Equipment: equipment that is charged to capital projects and entered at zero cost in the Oracle Asset Tracking System (OATS).

POLICIES

1. Operating equipment is purchased through the operating equipment appropriation and general fund. Operating equipment is capitalized and depreciated.
2. Expensed equipment is acquired through the Operations and Maintenance (O&M) budget fund under the Equipment Expensed account. Expensed equipment is not capitalized.
3. Capital equipment is charged to the appropriate capital project. Operating equipment purchased to support a capital project or contract is depreciated against the life of the project. When the equipment is sold, the net proceeds are credited against the project cost.
4. Metropolitan assets classified as OEC equipment are purchased, received, tracked, and retired in the operating equipment database (OATS). Access to the OATS database is granted only to regular employees.
 - OEC equipment is assigned only to regular employees by their managers or supervisors.
 - Upon receipt, OEC equipment is barcoded by designated site receivers or their alternates.
5. Operating equipment upgrades extend the life or increase the functional capability of major pieces of operating equipment and are capitalized, provided the upgrade meets the following criteria:
 - Cost exceeds \$5,000
 - Cost is greater than 50% of the original total purchase price of the equipment
 - Upgrade extends the estimated life of the equipment by at least three years

O.P. NUMBER	TITLE	ISSUE DATE	REVISION DATE
F-07	Capitalization & Retirement of Plant Assets	3/6/02	3/12/0

SUMMARY

This document establishes the policies governing the capitalization and retirement of plant assets.

SUPERSESION

This Operating Policy supersedes Operating Policy F-07 originally issued September 23, 1998; revised March 6, 2002.

AUTHORITY

The General Manager delegates the authority to establish and maintain policies regulating the capitalization and retirement of plant assets to the Chief Financial Officer/Assistant General Manager or designee.

DEFINITIONS

Component Equipment — equipment considered to be part of a plant, usually determined when the item is permanently affixed in one location (as opposed to operating equipment as defined in Operating Policy F-01, Operating, Expensed and Capital Equipment).

Plant Assets — a new facility, betterment, replacement/refurbishment, or equipment which is a component part of a plant and that has both:

- A total cost of at least \$50,000
- A useful life of at least five years

Replacement/Refurbishment — the substitution/repair of a new facility or component of an existing facility. A replacement always involves a replacement of facilities or component, and a refurbishment may involve the replacement of facilities or component.

Retirement — the result of the replacement of existing facilities with new facilities designed to accomplish the same function, or as the result of the sale or abandonment of facilities that are no longer of economic use.

Service Connection — a pipeline, with its appurtenances, that branches off or connects the water distribution system to customer facilities.

Integrated Software — computer software that is integrated into and necessary to operate general plant and equipment (e.g., Supervisory Control and Data Acquisition system [SCADA], telephone system, and computer-operated lathes), rather than perform an application.

POLICIES

1. Any item of cost that conforms to the criteria of plant assets shall be capitalized as a plant asset; otherwise the cost is charged to operations and maintenance expense.
2. When multiple components of a plant asset are acquired or built, and the components have individual costs of less than \$50,000, the cost of these items is an operations and maintenance expense. If the components have useful lives of five years or more, they are capitalized when:
 - The aggregate total costs exceed \$50,000, and
 - The components are added simultaneously or within a planned short period of time.
3. Service connections are capitalized as plant assets and are not subject to the \$50,000 cost criterion. Customers pay the cost of acquiring and installing service connections. The customer contribution is recorded as contributed capital.
4. Integrated software is considered part of the plant and equipment of which it is an integral part and capitalized and depreciated accordingly. The aggregate cost of the hardware and software is used to determine whether to capitalize or expense the costs.
5. Replacement or refurbishment costs are charged to operations and maintenance expense provided such costs do not exceed the capital cost and useful life criteria for the assets involved.
6. Plant assets replaced, sold or abandoned are removed from accounting records. The Engineering Services Section notifies the Controller of plant assets to be retired.
7. Costs of replacement plant assets are accumulated under separate and identifiable project numbers. Project descriptions identify, to the extent practicable, the plant assets being retired.

STATEMENT OF INVESTMENT POLICY (June 09, 2015)

I. INVESTMENT AUTHORITY

In accordance with Section 53600 et seq. of the Government Code of the state of California, the authority to invest public funds is expressly delegated to the Board of Directors for subsequent re-delegation to the Treasurer. Investments by the Treasurer pursuant to the delegation hereby made by this Statement of Investment Policy are limited to those instruments specified by the Board in Section 5101 of the Metropolitan Water District Administrative Code, and as further defined in this Statement of Investment Policy.

II. STATEMENT OF OBJECTIVES

Per Section 53600.5 of the California Government Code, the primary objective of the Treasurer shall be to safeguard the principal of the funds under his control when investing public funds.

The secondary objective shall be to meet all liquidity requirements and the third objective shall be to achieve a return on the funds under his control.

In order of priority, three fundamental criteria shall be followed in the investment program:

1. Safety of Principal - Investments shall be undertaken in a manner which first seeks to ensure the preservation of principal in the portfolio. Each investment transaction shall be entered into after taking into consideration the quality of the issuer, the underlying security or collateral, and diversification of the portfolio. Cash flow analysis will be conducted and utilized to avoid the need to sell securities prior to maturity and to reduce market risk.
2. Liquidity - In an effort to ensure that Metropolitan's portfolio will be sufficiently liquid to meet current and anticipated operating requirements, a cash flow analysis will be performed on an ongoing basis. Investments shall be made so that the maturity date is compatible with cash flow needs and safety of principal.
3. Return on Investment - Investments shall be undertaken to produce an acceptable rate of return after first considering safety of principal and liquidity and the prudent investor standard.

The Investment Strategy is subordinate to the Statement of Objectives, i.e., implementing the investment strategies listed below is not intended to supersede the objectives of Safety, Liquidity and Return.

Investment Programs - The portfolio is divided into long-term, short-term and bond reserves segments. The long-term segment of the portfolio will be actively managed, and performance measured against the Bank of America Merrill Lynch, Corporate and Government, 1 to 5 years, A Rated and above index or other index determined by the Finance and Insurance Committee. The duration of the long-term segment will be limited to the duration of the index plus or minus 1.5.

The short-term segment of the portfolio will be managed to meet Metropolitan's cash flow needs. The total return of the short-term segment of the portfolio will be measured against the total return of the Bank of America Merrill Lynch 3-Month Treasury Bill index, or other index determined by the Finance and Insurance Committee. The duration of the short-term segment is limited to the duration of the index plus or minus 0.2. Also, for purposes of the duration calculation, Local Agency (e.g., a California municipality), securities that provide Metropolitan the

right to redeem the security at par on a daily, weekly, or monthly basis will be considered to have a maturity of no more than 30 days.

The bond reserves segment shall be invested in high quality securities, with the goal of earning a return that minimizes any potential negative arbitrage experienced by each bond reserve fund. The bond reserve funds may be invested in securities issued by a Local Agency including securities issued by Metropolitan. Bond reserve funds may also be invested in money market and fixed income investments.

All investment activity shall be consistent with the prudent investor standard.

III. **PRUDENT INVESTOR STANDARD**

As applicable to Metropolitan and its fiduciaries, the prudent investor standard is a standard of conduct whereby any person authorized to make investment decisions on behalf of Metropolitan acts with care, skill, prudence and diligence under the circumstances then prevailing, including but not limited to, the general economic conditions and the anticipated needs of Metropolitan, that a prudent person acting in like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and meet the liquidity needs of Metropolitan.

IV. **PORTFOLIO**

Any reference to the portfolio shall mean the total of Metropolitan's cash and securities under management by the Treasurer, excluding cash and securities held in escrow or trust on behalf of Metropolitan. The Treasurer may invest in any security authorized for investment under the state law, subject to the limitations described herein:

1. Maturity Limitations

- a. The Treasurer is authorized to invest special trust funds in investments with a term to maximum maturity in excess of five years. These funds include, but are not limited, to the following:

Water Revenue Bond Reserve Funds

Escrow Funds

Debt Service
Funds

Iron Mountain Landfill Closure

Post closure Maintenance Fund

Lake Mathews Conservancy

- b. For certain instruments, the term of the investment is limited by market convention or as otherwise prescribed herein.
- c. The Short-Term portfolio may be invested in United States Treasury, Federal Agency and California Local Agency securities (including securities issued by Metropolitan) with stated maturities in excess of five years. All other securities held in the short-term portfolio are

limited to maximum maturities of 5 years or as otherwise specified in Section V, Authorized Securities.

- d. The Long-Term portfolio may be invested in United States Treasury and Federal Agency securities with maturities in excess of five years.

2. Investment Transactions

- a. Information concerning investment opportunities and market developments will be gained by maintaining contact with the financial community.
- b. Confirmations of all investment transactions will be sent directly to the Controller for audit.
- c. Annually the Treasurer shall transmit a copy of the current Statement of Investment Policy to all approved dealers. Each dealer is required to return a signed statement indicating receipt and understanding of Metropolitan's investment policies.
- d. When practical, the Treasurer shall solicit more than one quotation on each trade. All investment trades will be awarded on a competitive bid basis.
- e. Each day's listing of market indices and quotations shall be recorded and retained by the Treasurer for a period of five years.

3. Sale of Securities

- a. Securities may be sold to provide needed liquidity, to restructure the portfolio to reduce risk or to increase the expected return of the portfolio. In no instance shall a sale of securities be used for speculative purposes.

4. Prohibited Investments

- a. Prohibited investments include inverse floaters, range notes, interest only strips derived from a pool of mortgages (Collateralized Mortgage Obligations), and any security that could result in zero interest accrual if held to maturity. (Zero interest accrual means the security has the potential to realize zero earnings depending upon the structure of the security. Zero coupon bonds and similar investments that start at a level below the face value are legal because their value increases.)

5. Portfolio Adjustments

- a. Portfolio percentage limitations for each category of investment are applicable only at the date of purchase. Should an investment percentage of portfolio limitation be exceeded due to an incident such as a fluctuation in portfolio size, the portfolio manager is not required to sell the affected securities.
- b. Should a security held in the portfolio be downgraded below the minimum criteria included in this Statement of Investment Policy, the Treasurer or investment manager shall sell such security in such a manner to minimize losses on the sale of such security. If the security is downgraded to a level that is less than investment grade, the Treasurer or investment manager shall sell such affected security immediately; however, if immediate liquidation of the security is not in the best interests of Metropolitan, the Treasurer or investment manager, in consultation with an ad hoc committee made up of the Chairman of the Board, the Chairman of the Finance and Insurance Committee and the General Manager, and with the concurrence of the General Counsel, may dispose of the security in an orderly and prudent manner

considering the circumstances, under terms and conditions approved by a majority of the members of such ad hoc committee. If the security matures within 60 days of the rating change, the Treasurer or investment manager may choose not to sell the security. The Treasurer shall include a description of any securities that have been downgraded below investment grade and the status of their disposition in his monthly report.

6. Safekeeping

- a. All securities transactions, including collateral for repurchase agreements entered into by Metropolitan shall be conducted on a delivery versus payment (DVP) basis.
- b. Securities will be held by an independent custodian designated by the Treasurer and held in safekeeping pursuant to a safekeeping agreement.
- c. All financial institutions that provide safekeeping services for Metropolitan shall be required to provide reports or safekeeping receipts directly to the Controller to verify securities taken into their possession.

V. **AUTHORIZED INVESTMENTS**

Money market securities described in this section must be of prime quality of the highest letter and number rating (A1, P1, F1 or higher) as provided by a nationally recognized statistical rating organization (NRSRO). NRSRO for the purpose of this section are Moody's Investors Service, Standard and Poor's Ratings Services, and Fitch Ratings. Money market securities include Bankers' Acceptances, Commercial Paper, Negotiable Certificates of Deposit, and Time Deposits.

1. U.S. Government and Agencies

- a. Investments in individual U.S. Treasury and Federal Agency securities shall not be subject to any maturity limitations, provided that the duration of the portfolio managed by any manager in which such investments are held does not exceed the applicable limitation described under "STATEMENT OF OBJECTIVES – Investment Strategy" above.
- b. Investments in Treasury or Federal Agency obligations shall not exceed 100 percent of all investments.
- c. United States Treasury securities consist of notes, bonds, bills or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest.
- d. Federal Agency securities consist of obligations, participations, or other instruments issued by United States federal agencies or government-sponsored enterprises, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises.

2. Banker s' Acceptances

Restrictions are as follows:

- a. Investments in prime bankers' acceptances may not exceed 40 percent of the portfolio in effect on the date of purchase of any such investment.

- b. No more than 25 percent of this category of investments may be invested in any one commercial bank's acceptances.
- c. The maximum maturity shall be limited to 180 days.

3. Negotiable Certificates of Deposit

Restrictions are as follows:

- a. Investments in negotiable certificates of deposit may not exceed 30 percent of the total portfolio in effect on the date of purchase of any such investment.
- b. The total investment in an eligible financial institution shall not exceed 25 percent of the total portfolio available for investment in this investment category.
- c. To be eligible, a negotiable certificate of deposit must be issued by a nationally or state-chartered bank, a state or federal savings and loan association or savings bank, or by a state-licensed branch of a foreign bank.
- d. The investment shall not exceed the shareholders' equity of any depository bank. For the purpose of this constraint, shareholders' equity shall be deemed to include capital notes and debentures.
- e. The investment shall not exceed the total of the net worth of any depository savings and loan association, except that investments up to a total of \$500,000 may be made to a savings and loan association without regard to the net worth of that depository, if such investments are insured or secured as required by law.
- f. The maximum maturity shall be limited to two years.

4. Commercial Paper

Restrictions are as follows:

- a. Investments in commercial paper shall not exceed 25 percent of the portfolio in effect on the date of purchase of any such investment.
- b. Each investment shall not exceed 270 days maturity.
- c. No more than 10 percent of the outstanding commercial paper of an issuing corporation may be purchased. In addition, the entity that issues the commercial paper shall meet the following conditions in Option 1 or Option 2:

Option 1:

- a. Is organized and operating in the United States as a general corporation and has total assets in excess of \$500 million.
- b. Has debt other than commercial paper, if any, that is rated "A" or higher by a nationally recognized rating agency.

Option 2:

- a. Is organized within the United States as a special purpose corporation, trust or limited liability company.
- b. Has program-wide credit enhancements including, but not limited to, over-collateralization, letters of credit or surety bond.
- c. Has commercial paper that is rated "A-1" or higher by a nationally recognized rating agency.

5. Repurchase Agreements

A repurchase agreement is a purchase of authorized securities (other than commercial paper) with terms including a written agreement by the seller to repurchase the securities on a later specified date for a specified amount. Restrictions are as follows:

- a. The percentage limit for investment in repurchase agreements shall be 50 percent of the total portfolio.
- b. Purchases of repurchase agreements will be limited to a maximum maturity of one year.
- c. Repurchase agreements shall be made only with primary dealers in government securities or financial institutions with a Moody's Investors Service, Inc., or equivalent, rating of A or better.
- d. Such investments shall provide for purchased securities with a market value at least 102 percent of the amount of the invested funds. Value shall be adjusted not less than quarterly.
- e. Purchased securities are limited to Treasury bills, bonds and notes, or other investments that are direct obligations of or fully guaranteed as to principal and interest by the United States or any agency thereof; negotiable certificates of deposit; and bankers' acceptances eligible for acceptance under Federal Reserve rules. Zero coupon and stripped coupon instruments are not acceptable.
- f. Such investments shall provide for transfer of ownership and possession of the purchased securities either to Metropolitan directly or to a custodian depository institution which shall take record title and shall establish and maintain a sub-account in its financial records for the securities in Metropolitan's name, and such custodian shall not be the dealer from which the securities were purchased.
- g. Each repurchase agreement shall provide a contractual right to liquidation of the purchased securities upon the bankruptcy, insolvency or other default of the counterparty.
- h. Purchased securities shall have maturities within 60 months of the date of investment.

6. Reverse Repurchase Agreements

A reverse repurchase agreement is a sale by the Treasurer of securities in the portfolio with terms including a written agreement to repurchase the securities on or before a specified date for a specified amount.

- a. Subject to the approval of the Board of Directors, the Treasurer may enter into a reverse repurchase agreement provided that the proceeds are invested solely to supplement the income normally received from the securities involved in the agreement. These agreements shall only be performed with primary dealers of the Federal Reserve Bank of New York.
- b. Reverse repurchases may be entered into to meet temporary liquidity needs and not for leverage.
- c. Investments in reverse repurchase agreements are limited to 20 percent of the base value of the portfolio. For the purpose of this constraint, base value of the portfolio shall be the total of Metropolitan's cash and securities under management by the Treasurer, excluding any amounts obtained through selling securities by reverse purchase agreements, securities lending agreements, or similar borrowing methods.
- d. The investment purchased with the proceeds of a reverse repurchase agreement must match or closely approximate the maturity of the reverse repurchase agreement(s).
- e. Purchases of securities with proceeds from reverse repurchase agreements may not be subject to a reverse repurchase agreement.
- f. Reverse repurchase agreements will be limited to a maximum maturity of 92 days.
- g. Securities used to make reverse repurchase agreements must be paid for and held for a minimum of 30 days prior to the transaction.

7. Time Deposits

For purposes of this policy, collateralized time deposits shall be considered investments.

The following criteria will be used in evaluating financial institutions and the form of collateral to determine eligibility for deposits:

- a. The financial institution must have been in existence for at least five years.
- b. Credit requirements may be waived for the maximum deposit amount that is insured by the Federal Deposit Insurance Corporation.
- c. The deposit shall not exceed the shareholders' equity of any depository bank. For the purposes of this constraint, shareholders' equity shall be deemed to include capital notes and debentures.
- d. The deposit shall not exceed the total of the net worth of any depository savings and loan association, except that deposits not exceeding a total of five hundred thousand

dollars (\$500,000) may be made to a savings and loan association without regard to the net worth of that depository, if such deposits are insured or secured as required by law.

- e. The total deposits shall not exceed the shareholders' equity of any depository bank.
- f. In order to secure such deposits, the financial institution shall maintain in the collateral pool, securities having a market value of at least 10 percent in excess of the total amount deposited.
- g. Promissory notes secured by real estate mortgages or deeds of trust may not be accepted as collateral.
- h. When other factors are equal, appropriate consideration will be given to a financial institution that either individually or as a member of a syndicate bids on or makes a substantial investment in Metropolitan's bonds; contributes service to Metropolitan or a member public agency; or offers significant assistance to Metropolitan, in order to provide for distribution of total deposits among eligible financial institutions.
- i. Purchased time deposits will be limited to a maximum maturity of one year.

8. Medium-Term Notes

Restrictions are as follows:

- a. Investment in medium-term notes are limited to corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.
- b. Notes eligible for investment shall be rated in a rating category of at least "A" or its equivalent or better by a nationally recognized rating service.
- c. Purchases of medium-term notes may not exceed 30 percent of the portfolio.
- d. Purchases of medium-term notes will be limited to a maximum maturity of five years.
- e. The total investment in the medium-term notes of an issuer shall not exceed 25 percent of the total portfolio available for investment in this investment category.

9. Mortgage Obligations and Asset Backed Securities

This category of investments includes any mortgage pass-through security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable pass-through certificate, or consumer receivable-backed bond.

Restrictions are as follows:

- a. Mortgage pass-through, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, and consumer receivable pass-through certificate are subject to a maximum maturity of five years.

- b. Securities eligible for investment shall be issued by an issuer having an “A” or higher rating for the issuer’s debt as provided by a nationally recognized rating service and rated in a rating category of “AAA” by a nationally recognized rating service.
- c. Purchase of securities authorized by this subdivision may not exceed 20 percent of the portfolio.
- d. The total investment in the mortgage-backed or asset-backed securities of an issuer shall not exceed 25 percent of the total portfolio available for investment in this category.

10. Local Agency Investment Fund Deposits

Deposits for the purpose of investment in the Local Agency Investment Fund of the State of California may be made up to the maximum amount permitted.

11. Shares of Beneficial Interest

The Treasurer may invest in shares of beneficial interest issued by eligible diversified management companies that (1) invest in authorized securities such as United States Treasury notes, bonds, bills; registered state warrants or treasury notes and bonds for the State of California, obligations of local agencies; commercial paper; negotiable certificates of deposit; repurchase agreements or reverse repurchase agreements and medium term notes or (2) are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940. These companies must meet the following criteria:

- a. Attain the highest ranking of the highest letter and numerical rating provided by not less than two nationally recognized statistical rating agencies.
- b. Retain an investment adviser registered or exempt from registration with the Securities and Exchange Commission with not less than five years’ experience investing in authorized securities and obligations listed above.
- c. Assets under management shall be in excess of \$500 million.
- d. The purchase price of the shares of beneficial interest purchased shall not include any commission that the companies may charge and shall not exceed 20 percent of the Portfolio. However, no more than 10 percent of the Portfolio may be invested in shares of beneficial interest of any one mutual fund described above.

12. Investment Contracts

Funds held by a trustee or fiscal agent and pledged to the payment or security of bonds may be invested in accordance with the statutory provisions governing the issuance of those bonds or other forms of debt. These funds may also be invested in accordance with the ordinance, resolution, indenture or agreement executed by Metropolitan. Other forms of debt include, but are not limited to, the following: (a) obligations under a lease, and (b) an installment sale or other agreements. Eligible investments would consist of the following:

- a. Guaranteed Investment Contracts

- b. Forward Delivery Agreements collateralized with U.S. Treasury or Agency Securities
- c. Other investment contracts collateralized with U.S. Treasury or Agency Securities
- d. These investments may be purchased with maturities in excess of five years as noted in Section IV 1. of this policy.

13. California Local Agency Securities

- a. Investments in California local agency securities, including securities issued by Metropolitan, shall not be subject to any maturity limitations, provided that the duration of the portfolio managed does not exceed the applicable limit described under "STATEMENT OF OBJECTIVES – Investment Strategy."
- b. California local agency securities with a maturity in excess of five years must have a credit rating of at least AA (may be insured) and an underlying credit rating of A or better by a nationally recognized rating service
- c. The purchase of California local agency securities may not exceed 30 percent of the portfolio.
- d. The total investment in California local agency securities of an issuer shall not exceed 25 percent of the total portfolio available for investment in local agency securities. Investments in Metropolitan's tendered bonds may exceed the 25 percent limitation by issuer.
- e. The maximum limit of 30 percent specified in c. of this section is waived to the extent that such investments are for the purpose of purchasing Metropolitan's tendered bonds as a temporary investment. In other words, the investment portfolio may consist of Metropolitan- issued debt in amounts greater than 30 percent, but only Metropolitan securities.

VI. **REPORTING**

In accordance with Administrative Code Section 5114, the Treasurer shall submit a monthly report to the Board Executive Secretary of the Board of Directors via the General Manager indicating the types of investment by fund and date of maturity, and shall provide the current market value of all securities, rates of interest, and expected yield to maturity. The Treasurer shall also submit a monthly summary report to the Board of Directors via the General Manager showing investment activity, including yield and earnings, and the status of cash by depository.

VII. **MONITORING SAFETY AND LIQUIDITY OF DISTRICT FUNDS**

The Treasurer shall monitor or cause to be monitored the extent to which financial institutions with which Metropolitan maintains deposits or investments are consistent with Metropolitan's policies regarding business activities within countries that may jeopardize the safety and liquidity of Metropolitan funds or violate other Metropolitan policies. Such matters shall be reported to the Finance and Insurance Committee as part of the Treasurer's monthly report.

VIII. ADMINISTRATION

The Treasurer may, at any time, establish more restrictive requirements for the securities approved for investment as deemed appropriate in this Statement of Investment Policy. These restrictions may include, but are not limited to, higher credit ratings, lower percentage limits by security type or issuer, shorter maturities and additional collateral for repurchase agreements.

GLOSSARY OF TERMS

20 x 2020 — 2009 Water Conservation Act goal of twenty percent reduction in per capita regional water use by 2020.

ACE — Association of Confidential Employees; an employee bargaining unit at Metropolitan.

Accrual — An accounting method that records revenues when earned and expenses when incurred regardless of the timing of when the cash is actually paid or received.

Acre-Foot — A unit of measure equivalent to 325,851.4 gallons of water and weighs approximately 62.4 pounds, which meets the needs of two average families in and around the home for one year.

ACWA — Association of California Water Agencies.

AFSCME — American Federation of State, County, and Municipal Employees.

Appropriation — Money set aside for a specific purpose. The designation of the use to which a fund of money is to be applied.

Area of Origin — An area where the headwaters of a river or other significant water body originates. The "area" may be a county, region, or other geographic region of the state.

Area of Origin Litigation — Solano County Water Agency v. Department of Water Resources. In this litigation, Solano County Water Agency and other State Water Project Contractors including Butte County, Yuba City, and Napa County Flood Control and Water Conservation District who serve water to northern California communities in the areas of origin filed suit claiming rights to an increased share of the State Water Project water based on the area of origin statutes. The area of origin statutes can be used to prioritize water rights in the area that the water originated.

Assembly Bill 1234 — This bill requires a local agency that provides reimbursement for expenses to members of its legislative body to adopt a written policy on the duties for which legislative body members may receive compensation, other than meetings of the legislative body or an advisory body or attendance at a conference or organized educational activity. The bill requires such a governing body to adopt a written policy concerning what occurrences qualify a member to receive reimbursement of expenses for travel, meals, and lodging and would impose related requirements, including the filing of expense reports, which would be public records.

Assembly Bill 32 — The Global Warming Solutions Act of 2006, is California's landmark global warming legislation. It will reduce California greenhouse gas emissions (GHG's) to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050.

Assembly Bill 72 — This bill changed the date that newly elected Municipal Water Directors begin their term from the first Monday after January to the first Friday in December.

Assembly Bill 803 — (also known as the Water Recycling Act of 2013) – This bill harmonizes recycled water spill reporting requirements and authorizes Regional Water Quality Control Boards to permit the introduction of Advanced Treated Purified Water into conveyance systems prior to comingling with any raw water or other water source.

Assembly Bill 850 — This bill amended the Joint Exercise of Powers Act of the California Government Code to allow Joint Powers Authorities (JPAs) to issue rate reduction bonds which would be used to fund certain capital investments of municipally owned California water utilities.

AWWA — American Water Works Association.

Bay Delta — An environmentally sensitive area of the Sacramento/San Joaquin River Delta through and from which water flows to reach portions of California from the San Francisco Bay Area to San Diego. Moving water across the delta during the high-demand summer months is becoming more difficult as additional water is set aside to mitigate for environmental impacts.

BDCP — Bay Delta Conservation Plan. A long-term conservation strategy that sets forth actions needed for a healthy Delta.

Budget — A report of all anticipated expenditures and required reserves and the source of moneys to be used to meet such expenditures and provide such reserves.

Budgeted Position — A staff position approved by the Board of Directors for the fiscal year.

Business Outreach — This program's intent is to solicit participation in the performance of all construction contracts, professional services contracts, and procurement of supplies and equipment for Metropolitan by all individuals and businesses, including but not limited to small, locally owned, women owned, minority owned, and economically disadvantaged business enterprises.

California WaterFix (CA WaterFix) — The new permitting approach and associated new alternatives to the BDCP that would be implemented under a different Endangered Species Act regulatory permitting process (Section 7 versus Section 10[a]) as proposed by Governor Brown on April 30, 2015. This would fulfill the requirement of the 2009 Delta Reform Act to contribute toward meeting the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem.

CDPH — California Department of Public Health.

Capacity Charge — Recovers the cost of providing peak water service capacity within the distribution system. Member agencies pay the capacity charge based on their maximum daily flow during the summer months.

Capital Investment Plan (CIP) — Metropolitan's CIP is designed to refurbish existing facilities needed to ensure a reliable distribution system, expand treatment facilities to meet current and future water quality regulations, and expand storage and conveyance facilities to meet current and future storage requirements.

Capital Project — A project that results in a new asset (e.g., a facility, betterment, replacement, equipment, etc.) that has a total cost of at least \$50,000 and a useful life of at least five years. Computer software can be capitalized if it costs \$250,000 or more and has a useful life of at least three years.

CARB — California Air Resources Board. This is the "clean air agency", a regulatory department within the California Environmental Protection Agency. The goals of CARB include attaining and maintaining healthy air quality; protecting the public from exposure to toxic air contaminants; and providing innovative approaches for complying with air pollution rules and regulations.

The California Environmental Quality Act (CEQA) — A statute that requires state and local agencies to identify the significant environmental impacts of their actions, and to avoid or mitigate those impacts, if feasible.

Chromium 6 — Occurs naturally in the environment from the erosion of natural chromium deposits and industrial processes. People who use water containing total chromium in excess of the maximum contaminant level (MCL) over many years could experience allergic dermatitis.

Colorado River Aqueduct (CRA) — The 242-mile-long water conveyance system built by Metropolitan to carry water from the Colorado River to its Southern California service area.

Conservation Credits Program (CCP) — A program where Metropolitan provides financial assistance for the development of conservation programs at the local level (e.g. energy efficient washing machines, low flush toilets, etc.).

CUWCC — California Urban Water Conservation Council, a non-profit 501c3 formed as a partnership of water suppliers, environmental groups, and others interested in conserving California's greatest natural resource, water.

DHCCP — Delta Habitat Conservation and Conveyance Program. Formed in 2008 as a result of demands to protect the Delta, prompting studies to assess potential habitat restoration and water conveyance options. DHCCP will conduct an environmental review of the BDCP.

Debt Service — The annual cost of repaying outstanding debt.

Department of Water Resources (DWR) — A department within the California Resources Agency which is responsible for the state's management and regulation of water usage.

Distribution System — Refers to the network of pipelines and canals used for the conveyance of water from Metropolitan's terminal reservoirs to member agency service connections.

DVL — Diamond Valley Lake. A reservoir built by Metropolitan with a capacity of 800,000 AF.

EIR — Environmental Impact Report.

EMS — Energy Management System.

Endangered Species Act (ESA) — An act of the federal government enacted in 1973 that provides for the conservation of species that are endangered or threatened and the conservation of the ecosystems on which they depend. A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future.

Enterprise Fund — To account for operations that are financed and operated where the intent is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

Ethics Program — State law (SB 60) mandates that Metropolitan maintain a program to address and seek to avoid potential ethical abuses relating to business relationships, solicitation and/or receipt of campaign contributions, and public notice and approval procedures for contracts of \$50K or more. This program includes on-going training for board members and employees regarding ethics in the workplace.

FCC — Federal Communications Commission.

FERC — Federal Energy Regulatory Commission.

Fee Property — An estate in land for which Metropolitan has full ownership, generally referred to as fee simple absolute.

Fund — A self-balancing set of accounts recording cash and other financial resources, together with all related liabilities and residual equities or balances, and changes therein, which are segregated for the purpose of carrying on specific activities or attaining certain objective in accordance with special regulations, restrictions, or limitations.

Fund Balance — Created from excess revenues over expenditures. This can be a combination of collections/revenues being higher than budget and actual expenditures being lower than budget.

GFOA — Government Finance Officers Association.

IID/Metropolitan Conservation Agreement — Water conservation agreement with the Imperial Irrigation District (IID) that allows for the development of certain water conservation capital structures by Metropolitan in the Imperial Valley. Metropolitan, in turn, gets the quantity of water conserved during the term of this agreement, four years during construction, and 35 years after completion. It encompasses both the operating and maintenance, indirect, and capital cost of developing and implementing the program. This agreement is renewable.

Information Technology Strategic Plan (ITSP) — A roadmap for investment in IT projects over the next 3 to 5 years.

IRWMP — Integrated Regional Water Management Plan.

Integrated Resources Plan (IRP) — An open and participatory planning process that takes a broad view of all water resource options available to the region and searches for the right combination of investments to achieve water supply objectives in a cost-conscious and environmentally responsible manner.

Local Resources Program (LRP) — A program in which Metropolitan provides financial assistance to its member agencies for the development of local groundwater recycling and groundwater recovery projects.

Member Agency — Refers to any of the 26 cities or public water agencies that comprise the Metropolitan Water District and whose representatives constitute the Board of Directors of Metropolitan.

Metropolitan/Arizona Interim Surplus Guidelines Agreement — This May 23, 2001 agreement between the State of Arizona and Metropolitan was voided when the Quantification Settlement Agreement was not in full force and effect by December 31, 2002. Arizona and California have completed negotiations on a replacement agreement.

MAF (million acre-feet) — A unit measure of water.

Minute 319 — Agreement that amends the 1944 Treaty between Mexico and the United States by establishing new rules in sharing Colorado River water and provides immediate plans to address current challenges. Parties to the agreement include Metropolitan Water District of Southern California, Southern Nevada Water Authority, Central Arizona Water Conservation District. Minute 319 allows Mexico to store water in Lake Mead as Intentionally Created Mexican Apportionment for future delivery and environmental flows. Stored water will be exchanged among the parties to the agreement.

MWDOC — Municipal Water District of Orange County; one of 26 member agencies that comprise Metropolitan.

MOU (Memorandum of Understanding) — Legal agreements entered into between Metropolitan and any of the four employee bargaining units that dictate terms and conditions of employment.

Ocean Plan — California's Ocean Plan contains regulations for ocean brine discharges and intakes, and the State Water Resources Control Board is proposing to add new regulations specifically for seawater desalination projects.

Ocean Protection Council — The Ocean Protection Council develops a five-year Strategic Plan to guide future ocean resource policies for other state agencies and has developed new policy recommendations for seawater desalination development.

Operating Equipment — Any portable equipment costing \$5,000 or more and having a useful life of five years or more.

Operations Maintenance Power & Recovery (OMP&R) — A component of the State Water Contract that is billed to the contracting agencies to maintain the system.

OPEB — Other Post Employment Benefits.

ORP — Oxidation Retrofit Program.

Ozone — Is a faintly blue gas with a pungent odor. It is an unstable form of oxygen composed of three-atom molecules that break down readily to normal oxygen and nascent oxygen. The latter is a powerful oxidizing agent and has germicidal action. Ozone is usually produced with on-site generators by passing high-voltage electricity through dry atmospheric air or pure oxygen between stationary electrodes. This process converts a small percentage of the oxygen in the air into ozone. It is usually injected into the water to be treated in a highly baffled mixing chamber.

PAYGO — The practice of funding construction expenditures from current operating revenues in lieu of using debt proceeds.

PVID — Palo Verde Irrigation District.

Palo Verde Land Management and Water Supply Program — Calls for the development of a flexible water supply of between 25,000 and 111,000 acre-feet per year for 35 years through a land management and crop rotation program to be implemented by participating farmers in the Palo Verde Valley. The maximum water supply that could be developed would be about 3.63 million acre-feet during the 35-year term while the minimum water supply required to be developed would be 1.76 million acre-feet.

Performance Excellence — A long-term effort to implement best practices in day-to-day operations and maintenance activities, emphasizing continuous improvement in operations and maintenance practices.

Performance Measure — An indicator of progress toward completing an initiative, achieving a goal, or implementing a strategy. Performance measures are quantifiable and tracked over time. Measures can indicate problem areas that need attention or be a guide for continual performance improvement through specific initiatives and actions.

PCCP — Pre-stressed Concrete Cylinder Pipe.

PPCP — Pharmaceutical and personal care products.

Power Recovery — Energy generated from the operation of sixteen Metropolitan-owned hydroelectric generating facilities. The term "recovery" derives from the capture of potentially wasted electrical energy from Metropolitan's water distribution system.

Quagga Mussel — A destructive non-native species of mussel from the Ukraine region that could clog pipes and water line.

Quantification Settlement Agreement (QSA) — The Quantification Settlement Agreement (QSA), executed by Coachella Valley Water District (CVWD), Imperial Irrigation District (IID) and Metropolitan in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply arrangements for up to 75 years. The QSA and related agreements provide a framework for Metropolitan to enter into other cooperative Colorado River supply programs and set aside several disputes among California's Colorado River water agencies.

Readiness-To-Serve (RTS) Charge — A charge designed to provide firm revenue for Capital Investment Plan (CIP) debt service to meet the reliability and quality needs of existing and potential users.

RPDM — Real Property Development and Management (group); an organization within Metropolitan that provides real property related services.

Regional Urban Water Management Plan — A document prepared in response to the California Urban Water Management Act, Water Code Sections 10610 through 10656, enacted in 1983. The Act requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare an adopt an urban water management plan that describes and evaluates reasonable, practical, and efficient water uses, recycling, conservation activities, and drought contingency planning. These plans must be updated every five years and filed with the California Department of Water Resources.

Replacement and Refurbishment (R&R) — Capital projects that invest in Metropolitan's aging infrastructure by restoring them to optimal operating status.

Reserves — Funds set aside to comply with bond covenants, working capital policy, or other board policies as part of a prudent financial strategy.

Reserve Transfer — Fund transfers required to maintain a given level of fund balances in accordance with Board policies and bond covenants.

Revenue Remainder Fund — See Financial Policies for description.

SCADA — Supervisory Control and Data Acquisition; automated systems that are used to monitor, operate, and control Metropolitan's water conveyance, treatment, and distribution systems.

SDCWA — San Diego County Water Authority; one of 26 member agencies that make up Metropolitan.

Senate Bill 60 — This bill requires Metropolitan to place increased emphasis on sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures and, commencing February 1, 2001, to prepare and submit to the Legislature a prescribed annual report relating to water conservation.

State Water Contract (SWC) —. State Water Contracts are the basis for all SWP construction and ongoing operations. As the largest of the now 29 contractors, Metropolitan is entitled to slightly less than half of all SWP supplies. Water supplies from the SWP are conveyed to Metropolitan via the SWP's 444-mile California Aqueduct, which was made possible pursuant to Metropolitan's State Water Contract.

State Water Project (SWP) — The SWP is the largest state-built, user-financed water supply and transportation project in the country. The SWP serves urban and agricultural agencies from the San Francisco Bay area to Southern California. Its facilities were constructed with several general types of financing, the repayment of which is made by the 29 agencies and districts that participate in the SWP through long-term contracts (the State Water Contractors). The State Water Contractors also pay for the operations, maintenance, power, and replacement costs of the SWP. .

System Access Rate (SAR) — A volumetric rate that member agencies pay for use of Metropolitan's conveyance and distribution system.

System Overview Study — An analysis of Metropolitan's current delivery and treatment capacities versus projected needs during the planning horizon. The System Overview Study, coupled with the Integrated Area Study, analyzes various portfolios of projects that could be used to meet future demand and then develops a potential CIP. Finally, the System Overview Study analyzes the potential impact to rates from the proposed facilities.

System Power Rate (SPR) — A volumetric rate to recover the cost of pumping water through the Colorado River Aqueduct and the State Water Project.

TAF (thousand acre-feet) — A unit of measure of water.

Tier 1 Supply Rate — A rate applied to recover the cost of maintaining reliable water supplies.

Tier 2 Supply Rate — A rate that reflects the cost of north of the Delta transfers. The Tier 2 Rate is intended to encourage cost-effective water conservation, recycling, groundwater recovery as well as water transfers.

Total Dissolved Solids (TDS) — Refers to the total organic carbon concentration in water. Measurement of TOC removal is used as a surrogate for disinfection by-product precursor removal.

Treatment Plants — Facilities used by Metropolitan for the treatment of water to remove contaminants or total dissolved solids thus ensuring that such water is potable before it is distributed to member agencies.

Treatment Surcharge — Charge to users of treated water to pay the operations, maintenance and capital costs of treating imported water supplies.

U.S. Department of the Interior, Bureau of Reclamation (USBR) — Largest wholesaler of water and second largest supplier of hydroelectric power in the American West. Promotes water conservation, recycling, and reuse.

Vacancy Factor — A calculated reduction to the O&M labor budget that attempts to account for vacancies that occur within organizations throughout the year. Budgeted labor dollars assume that budgeted positions will be filled for the entire fiscal year (2,080 hours). However, positions routinely become vacant throughout Metropolitan for part of the year as staff transfer to other positions or leave employment in the company and time elapses during the recruitment period to refill the vacated positions.

WRSF — Water Rate Stabilization Fund. See Financial Policies for description.

WRM — Water Resource Management (group); an organization within Metropolitan that focuses on water resource planning and management, including conservation.

WSF — Water Stewardship Fund. See Financial Policies for description.

Water Stewardship Rate (WSR) — A volumetric rate to recover the cost of demand management programs including the Conservation Credits Program (CCP) and the Local Resources Program (LRP).

Water Supply Allocation Plan (WSAP) — This plan is intended to be implemented during periods of regional water shortages to promote conservation of scarce water supplies. The WSAP was created to approach limiting supplies in a manner that is regionally fair and minimizes impacts by establishing accurate and fair baselines for each of Metropolitan's twenty-six member agencies.

Water Supply Programs — Water transfer and storage programs that supplement Colorado River and State Water Project supplies.

Water Surplus Drought Management Plan (WSDM Plan) — This plan directs Metropolitan's resource operations to help attain the region's reliability goal. The WSDM Plan recognizes the interdependence of surplus and shortage actions and is a coordinated plan that utilizes all available resources to maximize supply reliability. The overall objective is to ensure that shortage allocation of Metropolitan's imported water supplies is minimized.

Working Capital — A measure of both a company's efficiency and its short-term financial health. The working capital ratio is calculated as:

Working Capital = Current Assets - Current Liabilities.

WSO — Water System Operations (group); an organization within Metropolitan responsible for operating and maintaining Metropolitan's water conveyance, treatment, and distribution system and its appurtenant systems.

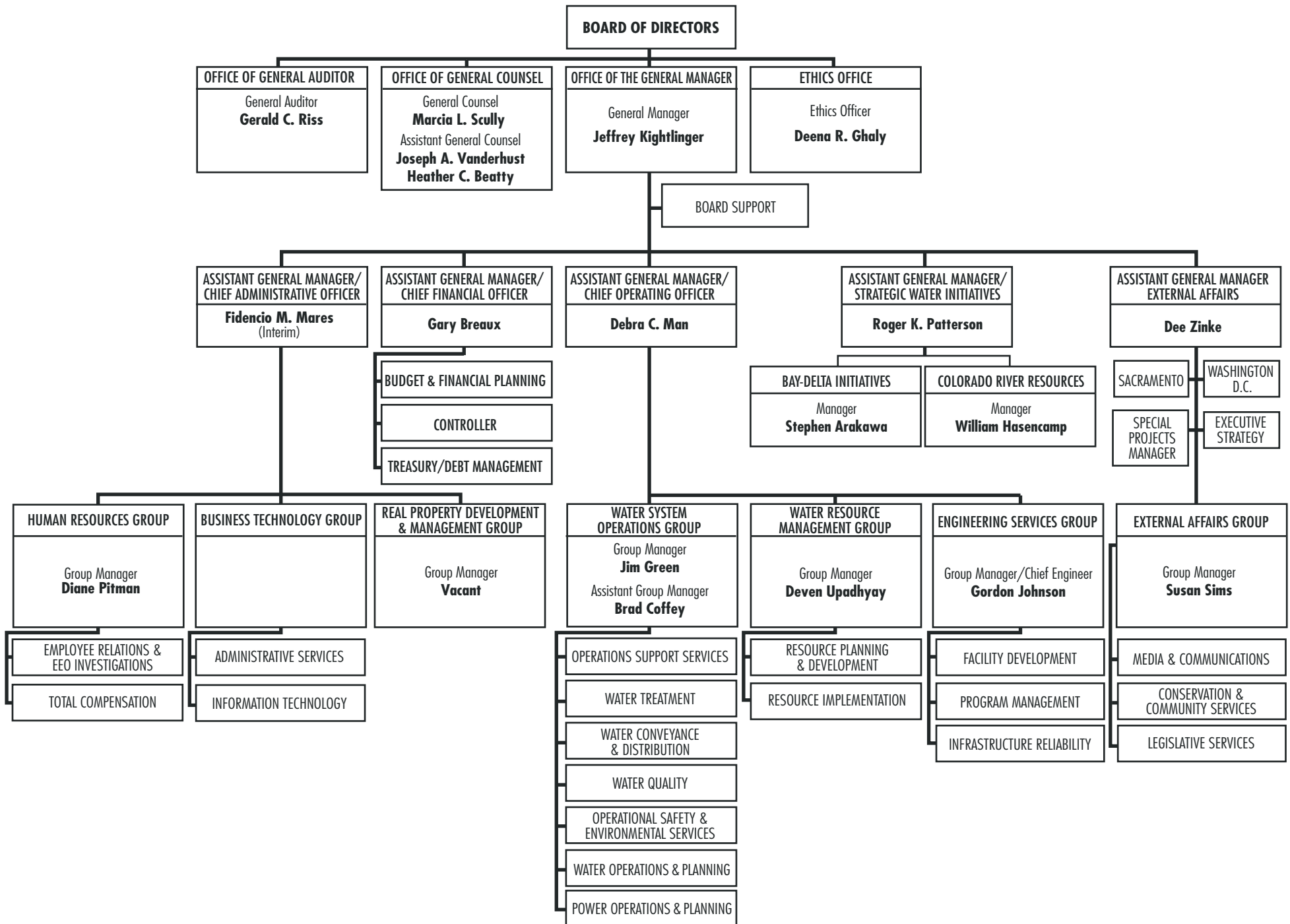
RESOLUTIONS AND ORDINANCES

To be provided in adopted budget document

(Pages 311 thru 321)

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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



Public Hearing Comments

The following members of the public spoke in opposition to the proposed water rates and charges and ad valorem tax:

Godfrey Wochira, City of Pasadena
Jose Pina, City of Bell
Armando Reyes, City of Los Angeles
Jesus Jimenez, City of Los Angeles
Bruce Reznill, Los Angeles Water Keeper
Dennis Cushman, San Diego County Water Authority
Jozi Scholl, Ventura County Waterworks Districts
Tony Stafford, Camrosa Water District
Susan Mulligan, Calleguas Municipal Water District
Brenna Norton, Food and Water Watch Los Angeles
Marty Sabo, Los Angeles Resident Food and Water Watch
Thomas Haberkorn, Beverly Hills Resident
Daryl Gale, City of Los Angeles
Abe Acuna, Los Angeles Resident, ACCE
Ira Thompson, ACCE
Tom Bresnahan, Los Angeles Resident

Letters of opposition were received from the following agencies:

San Diego County Water Authority
San Diego Regional Economic Development Corporation

Metropolitan Water District of Southern California

FISCAL YEARS 2016/17 and 2017/18 COST OF SERVICE FOR PROPOSED WATER RATES AND CHARGES



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EXECUTIVE SUMMARY

Metropolitan's current rate design was adopted by its Board of Directors in October 2001 through a lengthy and open process. The rate structure is designed in accordance with the Rate Structure Action Plan of December 12, 2000; the Composite Rate Structure framework of April 11, 2000; the Strategic Plan Policy Principles of December 14, 1999, and the Strategic Plan Steering Committee Guidelines of January 6, 2000. The Board adopted the rate structure on October 16, 2001. This report describes the rate structure in detail including the cost of service process that supports the proposed rates and charges for calendar years 2017 and 2018, which are based on the Proposed Biennial Budget for Fiscal Years 2016/17 and 2017/18 issued on February 9, 2016 (the "Biennial Budget").

The rate structure supports the strategic planning vision that Metropolitan is a regional provider of services, encourages the development of additional local supplies through programs such as recycling and conservation and accommodates a water transfer market. Through its regional services, Metropolitan ensures a baseline of reliability and quality for imported water deliveries in its service area. By unbundling its full-service water rate, Metropolitan provides transparency regarding its costs and a greater opportunity for member agencies to competitively manage their supplies and demands to meet future needs in a responsible and cost-effective manner.

Objectives

In accordance with the Strategic Plan Policy Principles, the rate structure is designed to accomplish the following:

Accountability. Define the linkage among costs, charges, and benefits through a cost of service approach consistent with industry guidelines.

Regional Provider. Ensure that regional services are provided to meet the existing and growth needs of member agencies.

Equity. Ensure that users, including member agencies and other entities, pay the same rates and charges for like classes of services and provide fair and reasonable allocation of costs through rates and charges.

Environmental Responsibility. Encourage wise environmental stewardship and effective demand management by funding conservation and recycling projects and programs, and using pricing to encourage investments in conservation and recycling and other economical local supplies.

Choice and Competition. Offer choices for services to member agencies and accommodate the development of a water transfer market.

Water Quality. Support source quality improvements and water treatment systems that are required to ensure safe drinking water and the feasibility of water recycling and groundwater management programs.

Financial Integrity. Establish a financial commitment from the member agencies that provides financial security for Metropolitan and does not transfer undue risk to member agencies, individually or as a whole.

DISTRICT OVERVIEW

District Profile

The Metropolitan Water District of Southern California (Metropolitan) is a metropolitan water district created in 1928 under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (the Act)). Metropolitan has 26 member public agencies and its primary purpose is to provide its members with a supplemental wholesale water supply service for domestic and municipal uses. To do so, Metropolitan imports water from the Colorado River and Northern California. Metropolitan also helps its member agencies develop increased water conservation, recycling, storage and other local resource programs.

Metropolitan is authorized to develop, store, and distribute water for domestic and municipal purposes and other beneficial uses if excess water is available, and may provide, generate, and deliver electric power within or without the state for the purpose of developing, storing, and distributing water. All powers, privileges and duties vested in or imposed upon Metropolitan are exercised and performed by and through its Board of Directors. Metropolitan is governed by a 38-member Board of Directors representing the 26 member agencies. Metropolitan directors are selected by their respective member agencies and some of those directors also serve on the governing body of their member agency. Board and committee meetings are open to the public and are broadcast on the Internet through Metropolitan's website, www.mwdh2o.com. A schedule of Board and committee meetings, as well as current and archived Board materials, is available at the same website.

Metropolitan was established to obtain an allotment of Colorado River water and to construct and operate the 242-mile Colorado River Aqueduct (CRA), which runs from an intake at Lake Havasu on the California-Arizona border, to an endpoint at Metropolitan's Lake Mathews reservoir in Riverside County. Metropolitan owns and operates an extensive portfolio of capital facilities including the CRA, 16 hydroelectric facilities, nine reservoirs, 830 miles of large-scale pipes, and five water treatment plants. Four of these treatment plants are among the 10 largest plants in the nation. In fact, Metropolitan is the largest distributor of treated drinking water in the United States.

In 1960, Metropolitan, followed by other public agencies, signed a long-term contract with the state Department of Water Resources (DWR) to participate in the State Water Project (SWP). The SWP is the largest state-built, user-financed water supply and transportation project in the country. Its facilities were constructed with several general types of financing, the repayment of which is made by the 29 agencies and districts that participate in the SWP through long-term contracts (the State Water Contractors). The State Water Contractors also pay for the operations, maintenance, power, and replacement costs of the SWP, as the State Water Contracts are the basis for all SWP construction and ongoing operations and DWR manages and operates the SWP. As the largest of the now 29 contractors, Metropolitan is entitled to slightly less than half of all SWP supplies. Water supplies from the SWP are conveyed to Metropolitan via the SWP's 444-mile California Aqueduct, which was made possible pursuant to Metropolitan's State Water Contract. The SWP serves urban and agricultural agencies from the San Francisco Bay area to Southern California.

To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer arrangements within and outside of its service area. Metropolitan also provides financial incentives to its

member agencies for local investments in water management projects and programs. An increasing percentage of Southern California's water supply comes from these local resources, including conservation, water recycling and recovered groundwater.

To pay for its costs, the Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose charges for water standby and service availability; incur general obligation bonded indebtedness and issue revenue bonds, notes and short-term revenue certificates; execute contracts; and exercise the power of eminent domain for the purpose of acquiring property. In addition, Metropolitan's Board is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan's service area.

District Mission

The mission of Metropolitan is to provide its 5,200-square-mile service area with an adequate and reliable supply of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Periodically the Board has reviewed its policies and mission to ensure they fit with the times. In Fiscal Year (FY) 2016/17, the General Manager intends to embark on a strategic review of Metropolitan's Mission and Programs.

Metropolitan Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area.

The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California. Metropolitan estimates that approximately 18.5 million people lived in Metropolitan's service area in 2014, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Population projections prepared by SCAG in 2012 and SANDAG in 2010, as part of their planning process to update regional transportation and land use plans, show expected population growth of about 18 percent in Metropolitan's service area between 2010 and 2035. The 2010 Census population estimates are incorporated into SCAG's 2012 projections. The 2010 SANDAG regional growth projections do not incorporate the 2010 Census population estimates.

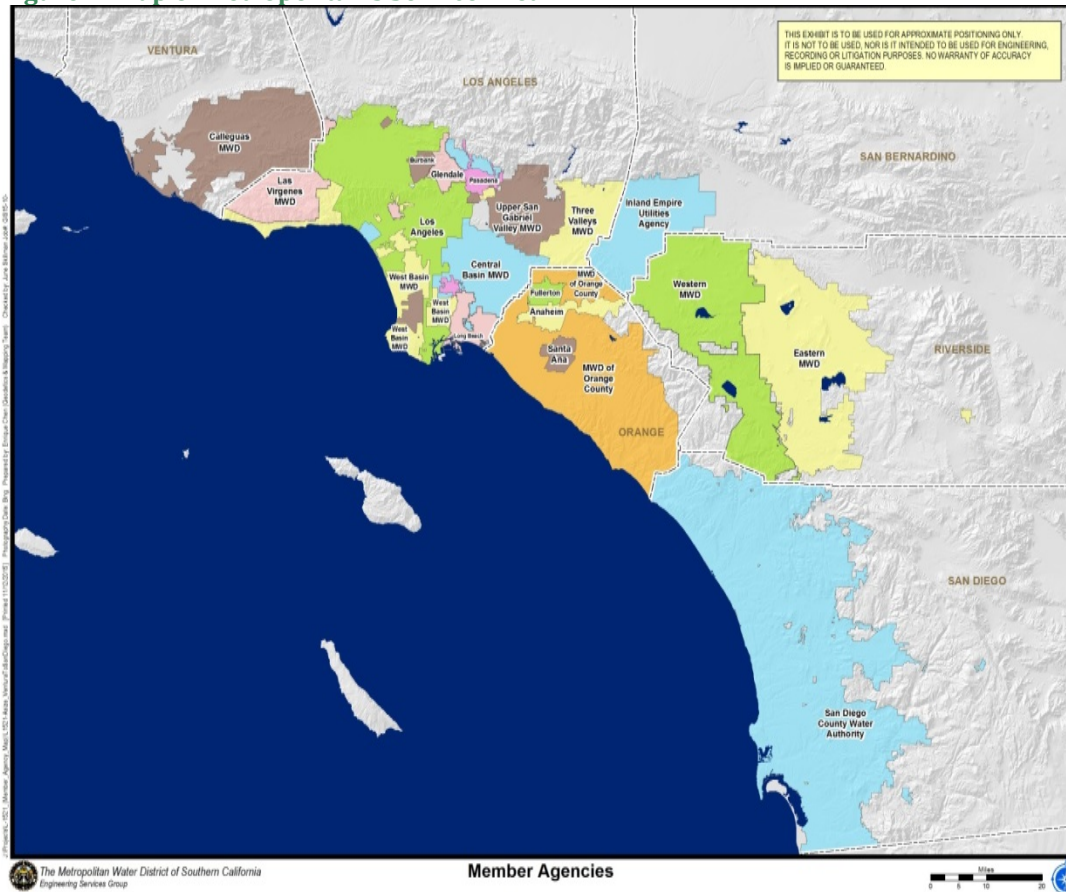
The economy of Metropolitan's service area is exceptionally diverse. In 2014, the economy of the six counties which contain Metropolitan's service area had a gross domestic product larger than all but fifteen nations of the world. The Six County Area economy ranked between Mexico (\$1.28 trillion) and Indonesia (\$888 billion), with an estimated gross domestic product (GDP) of just over \$1.25 trillion. The Six County Area's gross domestic product in 2014 was larger than all states except California, Texas, and New York.

The climate in Metropolitan's service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year has historically been approximately 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

Service Area Map

Figure 1 below shows the area served by Metropolitan. It includes parts of six of the ten counties that comprise Southern California (Six County Area) consisting of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Although these counties comprise Metropolitan's service area, Metropolitan's territory does not encompass all of the area within each of the six counties.

Figure 1: Map of Metropolitan's Service Area



Organization Structure

Board of Directors

Metropolitan is governed by a 38-member Board of Directors. Each member public agency is entitled to have at least one representative on the Board, plus an additional representative for each full five percent of the total assessed valuation of property in Metropolitan's service area that is within the member public agency. Changes in relative assessed valuation do not terminate any director's term. Accordingly, the Board may, from time to time, have more or less than 38 directors.

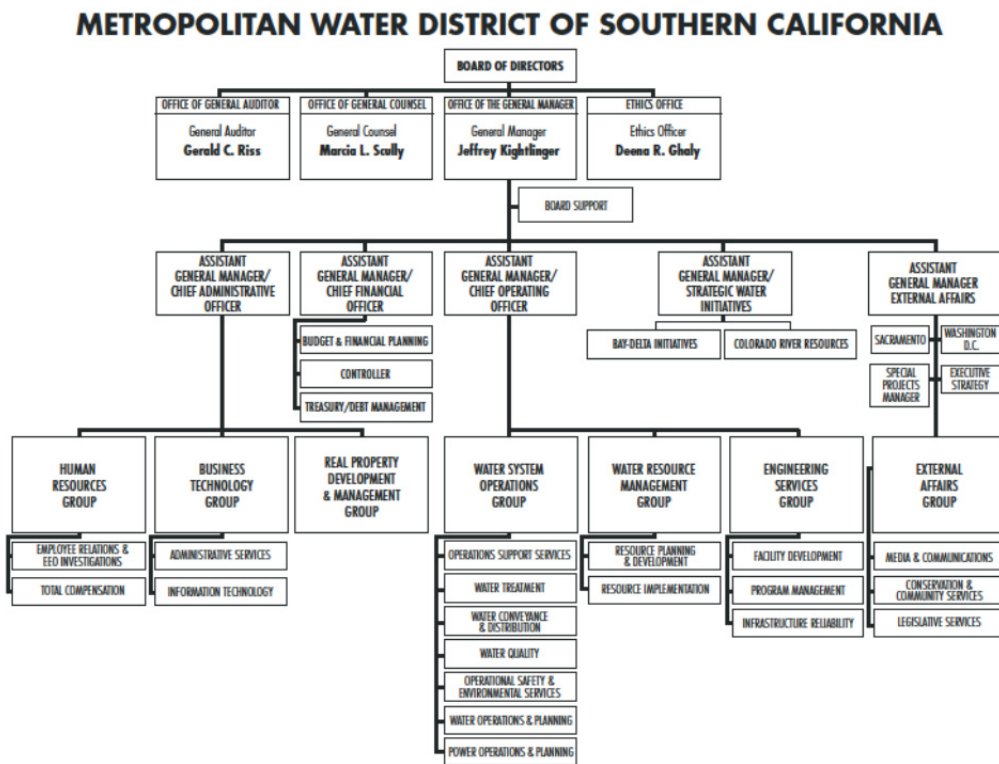
The Board includes business, professional and civic leaders. Directors serve on the Board without compensation from Metropolitan. Voting is based on assessed valuation, with each member agency being entitled to cast one vote for each \$10 million or major fractional part of \$10 million of assessed valuation of property within the member agency, as shown by the assessment records of the county in which the member agency is located. The Board administers its policies through the Metropolitan Water District Administrative

Code (the Administrative Code), which the Board adopted in 1977. The Board periodically amends the Administrative Code to reflect new policies or changes in existing policies that occur from time to time.

Metropolitan’s day-to-day management is under the direction of its General Manager, who serves at the pleasure of the Board, as do Metropolitan’s General Counsel, General Auditor, and Ethics Officer.

Metropolitan’s organization chart is shown in Figure 2; Table 1 provides a listing of Metropolitan’s Senior Management.

Figure 2: Metropolitan Organization Chart



As of March 3, 2016

Table 1: Metropolitan Senior Management

Jeffrey Kightlinger	General Manager
Marcia Scully	General Counsel
Gerald Riss	General Auditor
Deena Ghaly	Ethics Officer
Gary Breaux	Assistant General Manager/Chief Financial Officer
Debra Man	Assistant General Manager/Chief Operating Officer
Roger Patterson	Assistant General Manager/Strategic Water Initiatives
Dee Zinke	Assistant General Manager/External Affairs
Fidencio Mares	Interim Assistant General Manager/Chief Administrative Officer
Dawn Chin	Board Executive Secretary

Member Agencies

Table 2 lists the 26 member agencies of Metropolitan which include 11 municipal water districts, 14 cities and one county water authority.

Table 2: Metropolitan Member Agencies

Municipal Water Districts	Cities	County Water Authority
Calleguas	Anaheim	San Diego
Central Basin	Beverly Hills	
Eastern	Burbank	
Foothill	Compton	
Inland Empire Utilities Agency	Fullerton	
Upper San Gabriel Valley	Glendale	
Western of Riverside County	Long Beach	
Las Virgenes	Los Angeles	
Orange County	Pasadena	
Three Valleys	San Fernando	
West Basin	San Marino	
	Santa Ana	
	Santa Monica	
	Torrance	

Metropolitan's Water Sales to Member Agencies

Due to Metropolitan's role as a supplemental supplier of imported water, Metropolitan's water sales are highly variable and unpredictable from year to year. In the past 20 years, water sales have been as high as 2.43 million acre-feet in FY 2003/04 and as low as 1.51 million acre-feet in FY 1997/98, as shown in Figure 3. Figure 3 includes total sales by fiscal year, including both untreated and treated water sales and SDCWA Exchange Water volumes. Variation occurs for many reasons. The demand for supplemental supplies is dependent on water use at the retail consumer level and the amount of local water supplies available to member agencies. Consumer demand and locally supplied water vary from year to year, resulting in variability in Metropolitan's water sales. Both economic growth and recessions can also lead to increases and decreases in demand. Weather also affects demands. Wet cool weather not only increases the availability of local supplies, it also decreases retail demands. Conversely, hot and dry weather results in significant increases in retail demand. In recent years, demands have been affected by drought, water use restrictions, economic conditions, and weather conditions. Member agencies also rely on Metropolitan during times of operational emergencies. Examples include: power outages, when member agencies need gravity-fed supplies to replace energy-dependent operations; water quality issues, such as when contaminants in groundwater force member agencies to shut down wells; and fires, when member agencies rely on Metropolitan for increased flows.

Based on the variability of supplemental wholesale water sales and unpredictability of future hydrologic conditions, sales projections are based on long-term average forecasts consistent with Metropolitan’s latest Board-adopted Integrated Resources Plan (2015 IRP Update).

Figure 3: Historic Water Sales FY 1995-2015

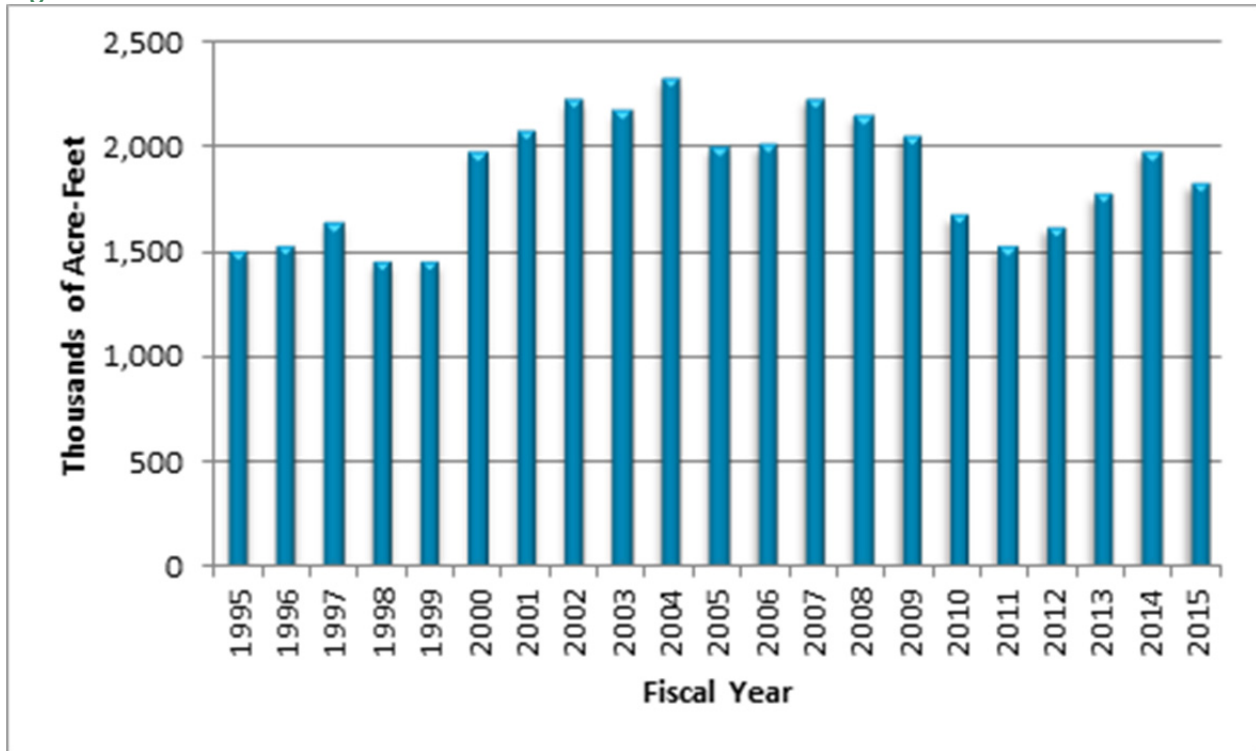


Table 3 identifies the amounts paid by member agency, including fixed charges and water sales, as well as the volume of water purchased by Metropolitan member agencies for FY 2015. Water sales includes treated, untreated, and SDCWA Exchange Water volumes.

Table 3: Metropolitan Water Sales to Member Agencies, Year Ended June 30, 2015

(Accrual Basis, Dollars in Thousands)*

Agency	Revenues				Water Sales	
	Fixed Charges (\$ thousands)	Water Sales (\$ thousands)	Total (\$ thousands)	Percent of Total	AF	Percent of Total
Anaheim	\$ 2,489	\$ 11,991	\$ 14,480	0.92%	17,945	0.94%
Beverly Hills	1,399	10,039	11,439	0.72%	11,092	0.58%
Burbank	1,375	10,577	11,953	0.76%	14,252	0.75%
Calleguas	12,417	87,860	100,277	6.34%	97,103	5.10%
Central Basin	6,124	36,229	42,353	2.68%	45,360	2.38%
Compton	271	0	271	0.02%	0	0.00%
Eastern	11,455	71,886	83,341	5.27%	89,737	4.71%
Foothill	1,171	7,519	8,690	0.55%	8,338	0.44%
Fullerton	1,238	7,508	8,745	0.55%	8,298	0.44%
Glendale	2,400	15,362	17,762	1.12%	16,954	0.89%
Inland Empire	6,999	34,744	41,743	2.64%	58,908	3.09%
Las Virgenes	2,533	20,433	22,965	1.45%	22,063	1.16%
Long Beach	3,832	41,689	45,520	2.88%	46,045	2.42%
Los Angeles	33,201	236,879	270,080	17.07%	355,368	18.66%
MWDOC	24,655	182,402	207,057	13.09%	227,482	11.94%
Pasadena	2,553	15,858	18,411	1.16%	17,820	0.94%
San Diego	47,194	323,540	370,734	23.44%	540,141	28.36%
San Fernando	57	89	146	0.01%	100	0.01%
San Marino	148	661	809	0.05%	731	0.04%
Santa Ana	1,447	7,936	9,383	0.59%	10,538	0.55%
Santa Monica	1,281	3,850	5,132	0.32%	4,258	0.22%
Three Valleys	7,962	46,650	54,612	3.45%	58,053	3.05%
Torrance	2,150	14,670	16,820	1.06%	16,205	0.85%
Upper San Gabriel	1,818	36,073	37,891	2.40%	56,410	2.96%
West Basin	14,485	102,221	116,706	7.38%	112,893	5.93%
Western	8,811	55,634	64,445	4.07%	68,386	3.59%
Total	\$ 199,465	\$ 1,382,301	\$ 1,581,766	100.00%	1,904,480	100.00%

* Includes treated, untreated, and SDCWA Exchange Water volumes.

Due to differences in local supply resources and demand characteristics, usage profiles differ significantly among the member agencies. Table 4 summarizes the usage characteristics of the member agencies for the ten fiscal years ended 2014. As can be seen from this exhibit, individual agency purchases vary substantially from year to year, and the Metropolitan system accommodates usage behavior that varies widely among member agencies. The table shows that Metropolitan's sales can vary as much as ± 30 percent from average. This range of variability is not typical for a retail water utility, but does demonstrate the degree to which Metropolitan's commitments to meet supplemental demands can impact operations.

Table 4: Member Agency Water Usage Profiles

Calendar Years 2005-2014**

Agency	Average (AF)	Maximum (AF)	Minimum (AF)	Peak Day* (CFS)	Peak Day to Average Day
Anaheim	23,018	32,766	18,219	60.0	1.9
Beverly Hills	11,421	12,463	10,184	33.9	2.1
Burbank	14,499	18,121	9,814	36.1	1.8
Calleguas	115,191	131,073	95,335	263.8	1.7
Central Basin	60,796	113,536	30,394	130.7	1.6
Compton	2,292	3,066	943	7.7	2.4
Eastern	99,391	122,008	83,789	303.8	2.2
Foothill	10,075	12,261	7,827	25.4	1.8
Fullerton	11,501	19,676	8,450	37.4	2.4
Glendale	19,742	22,748	15,799	57.0	2.1
Inland Empire	70,633	86,883	56,827	176.2	1.8
Las Virgenes	22,678	26,738	20,065	56.0	1.8
Long Beach	37,515	50,364	26,980	72.9	1.4
Los Angeles	305,884	439,278	119,381	821.9	1.9
MWDOC	248,115	302,767	206,737	489.5	1.4
Pasadena	21,186	25,123	17,676	66.9	2.3
San Diego	531,485	677,665	406,975	1,177.5	1.6
San Fernando	206	901	0	6.5	23.0
San Marino	935	1,823	309	8.3	6.4
Santa Ana	14,715	21,811	10,826	30.7	1.5
Santa Monica	9,654	13,169	5,139	27.8	2.1
Three Valleys	67,234	74,439	61,799	178.6	1.9
Torrance	18,303	21,273	16,506	42.8	1.7
Upper San Gabriel	33,248	60,958	5,891	63.8	1.4
West Basin	127,018	145,075	111,867	276.5	1.6
Western	88,312	119,684	72,485	290.2	2.4
Total	1,965,048	2,555,669	1,420,216	4,742.0	1.7

*Peak Day from May 1 through September 30, excluding replenishment.

**Includes treated, untreated, and SDCWA Exchange Water volumes.

Metropolitan's Water Resources and Facilities

Metropolitan's total water system has been built over time to meet the widely differing needs of its member agencies and the sources of water available to Metropolitan. Some agencies have no local water resources and rely on Metropolitan for 100 percent of their annual water needs. Other agencies have adequate local surface supplies and storage and/or groundwater basins that provide them with the majority of their water supplies during wet and average years. However, during dry periods these agencies rely on Metropolitan to make up any shortfalls in local water supplies. Similar coordination challenges arise in managing water available from the SWP, the Colorado River, and water supply projects of Metropolitan.

Metropolitan's water delivery system is comprised of three basic conveyance and delivery components:

- SWP;
- CRA; and
- Distribution System.

The CRA and the California Aqueduct of the SWP convey imported water into the Metropolitan service area. This water is then delivered to Metropolitan's member agencies via a regional network of canals, pipelines, and appurtenant facilities, which constitute the Distribution System. Supply, treatment, and storage facilities augment the Distribution System.

Water Conveyance System

For purposes of this report, components of the conveyance system are considered to include only those major trunk facilities that transport water from primary supply sources to either regional storage facilities or feeder lines linked to the primary conveyance facilities. All other water transport facilities, including pipelines, feeders, laterals, canals and aqueducts, are considered to be distribution facilities. Distribution facilities can be further identified in that they generally have at least one connection to a member agency's local distribution system. Existing regional conveyance facilities include both the CRA and SWP facilities. Metropolitan's largest conveyance facility is the CRA. The CRA transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. SWP facilities transport water from the Sacramento-San Joaquin Delta southward through a series of pumps, aqueducts, siphons, and tunnels that comprise the California Aqueduct. Conveyance facilities in or near Metropolitan's service area include the East Branch and West Branch of the California Aqueduct, the San Bernardino Tunnel, the Devil Canyon Power Plant, and the Santa Ana Valley Pipeline, which constitute the terminus of the reaches of the SWP facilities used and allocable to Metropolitan under its State Water Contract. A summary of conveyance facilities are presented in Table 5.

Table 5: Components of Metropolitan's Water Conveyance System

Facility Name	Design Capacity (cfs)
East Branch SWP to Devil Canyon (a)	1,500
West Branch SWP (a)	1,490
Santa Ana Valley Pipeline (a)	420
Colorado River Aqueduct	1,605
Inland Feeder	1,000

(a) The availability of additional capacity is dependent on the needs of other SWP Contractors.

Metropolitan's conveyance facilities deliver available water to meet regional supplemental water demands either through direct deliveries or through deliveries to storage for later use. The two most important factors considered in evaluating water conveyance needs are:

- Availability of water supplies; and
- Supplemental water demands, including both:
 - Consumptive demands; and
 - Deliveries to storage during water surplus periods.

Additional factors that are considered in modeling operational needs and planning for additional water conveyance facilities include:

- Water quality blend requirements,
- System reliability in an emergency or unusual supply year; and
- System flexibility under other-than-normal operating conditions.

Conveyance system planning and operational needs are evaluated using both (1) computer simulation models, which indicate how much imported water is available during a given year, and (2) a distribution system mass balance model, which indicates system capacity constraints. These models use available imported supplies based on historical hydrology, and then map these supplies over projected supplemental water demands on a monthly basis. Modeling results are analyzed to determine if shortages occur because of supply conveyance constraints or water supply constraints under various wet, dry, and normal conditions. The need for additional supply conveyance facilities is governed by the most restrictive of the conveyance constraints.

State Water Project (SWP)¹

One of Metropolitan's two major sources of water is the SWP. The SWP is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife. The SWP provides irrigation water to 750,000 acres of farmland, primarily in the San Joaquin Valley, and provides municipal and industrial water to approximately 25 million of California's estimated 37 million residents.

The SWP consists of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. SWP water consists of water from rainfall and snowmelt runoff that is captured and stored in SWP conservation facilities and then delivered through SWP transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. Metropolitan receives water from the SWP through the California Aqueduct, which is 444 miles long, and at four delivery points near the northern and eastern boundaries of Metropolitan's service area. The SWP facilities are shown in Figure 4.

The capacity of the SWP to deliver water decreases with distance from the Banks Pumping Plant, located in the Sacramento-San Joaquin Delta, as water is delivered to Contractors through the South Bay Aqueduct and the Coastal Branch Aqueduct, and to turnouts in the San Joaquin Valley and Southern California. The design pumping capacity at Banks Pumping Plant is 10,670 cubic feet-per-second (cfs) but only 4,480 cfs at the Edmonston Pumping Plant, located at the base of the Tehachapi Mountains².

In addition to the supply of SWP water, the SWP is also used to convey transfers of SWP water and non-SWP water. SWP operations are closely coordinated and integrated with the federal Central Valley Project (CVP) and the San Luis Reservoir and San Luis Canal section of the California Aqueduct are shared SWP/CVP facilities. The SWP is also connected to other water sources upstream of the Sacramento-San Joaquin Delta, and along the California Aqueduct as it passes through Central Valley.

¹ For historical and current information regarding the SWP, refer to Bulletin 132, published periodically by DWR since 1963. The most recently published Bulletin is Bulletin 132-14 dated November 2015 and titled "Management of the California State Water Project".

² <http://www.water.ca.gov/swp/swptoday.cfm>

Figure 4: Facilities of the State Water Project



In 1960, Metropolitan signed the first water supply contract (as amended, the State Water Contract) with DWR. Metropolitan is one of 29 agencies that are participants in the SWP through long-term contracts for water service from DWR, and is the largest agency in terms of the number of people in its service area (approximately 18.5 million), the share of SWP water that it is entitled to pursuant to the State Water Contract (approximately 46 percent), and the percentage of total annual payments made to DWR by agencies with State Water Contracts (approximately 54 percent for 2014). Upon expiration of the State Water Contract term (currently in 2035), Metropolitan has the option to continue participation under

substantially the same terms and conditions. Metropolitan and other agencies with state water supply contracts are currently in negotiations with DWR to extend the State Water Contract. In June 2014, DWR and the State Water Contractors reached an Agreement in Principle (AIP) to extend the contract to 2085 and to make certain changes related to financial management of the SWP in the future. The AIP will serve as the "proposed project" for purposes of environmental review under the California Environmental Quality Act (CEQA). DWR issued a Notice of Preparation of an Environmental Impact Report (EIR) for the proposed project on September 14, 2014. Following CEQA review, a SWP amendment will be prepared. Such amendment will be subject to review by the Legislature.

State Water Contractors have contracted for delivery of water conserved and stored by the SWP and are each entitled to a portion of that total supply. Each year, DWR determines the percentage of the total contracted amount it estimates will be available to the State Water Contractors (the DWR allocation). Under a 100 percent allocation, Metropolitan would receive 1,911,500 acre-feet of SWP water. Late each year, DWR announces an initial allocation estimate for the upcoming year, but may revise the estimate throughout the year if warranted by developing precipitation and water supply conditions. In addition to SWP water, Metropolitan also obtains water from water transfers, groundwater banking and exchange programs delivered through the California Aqueduct. From calendar years 2004 through 2014, the total amount of water received by Metropolitan from the SWP varied from a low of 607,000 acre-feet in calendar year 2014 to a high of 1,800,000 acre-feet in 2004.

In calendar year 2013, DWR's allocation to State Water Contractors was 35 percent of contracted amounts, or 669,000 acre-feet of Metropolitan's 1,911,500 acre-foot contractual amount. In addition, Metropolitan began 2013 with approximately 281,000 acre-feet of carryover supplies from prior years. In calendar year 2014, DWR's allocation to SWP Contractors was five percent of contracted amounts, or 95,575 acre-feet. Metropolitan used all of its 223,000 acre-feet of carryover supplies from prior years, but was able to carry over 36,000 acre-feet of unused 2014 SWP supplies which were available for use in 2015.

For calendar year 2015, DWR's initial allocation estimate to SWP Contractors was announced on December 1, 2014, as 10 percent of contracted amounts. Due to December 2014 and February 2015 storm runoff and storage in the State's major reservoirs, this allocation was increased on January 15, 2015 to 15 percent of contracted amounts, and increased again on March 2, 2015 to 20 percent, or 382,000 acre-feet. On February 24, 2016, DWR announced that the initial allocation estimate for 2016 is 30 percent of contracted amounts, or 573,450 acre-feet. This allocation reflects low storage levels in the State's major reservoirs and federally mandated environmental restrictions which have been imposed upon water deliveries from the Bay Delta, including the biological opinions as discussed below. The final allocation for 2016 may yet be revised upward depending on precipitation and snowpack in the Northern Sierras.

DWR has altered the operations of the SWP to accommodate species of fish listed under the federal or California Endangered Species Acts (respectively, the Federal ESA and the California ESA and, collectively, the ESAs) and to comply with State Water Resources Control Board (SWRCB) regulations and decisions. These changes in project operations have adversely affected SWP deliveries.

SWP operational requirements may be further modified under new biological opinions for listed species under the Federal ESA or by the California Department of Fish and Game's issuance of incidental take authorizations under the California ESA. Additionally, new litigation, listings of additional species or new regulatory requirements could further adversely affect SWP operations in the future by requiring additional export reductions, releases of additional water from storage or other operational changes impacting water supply operations. Operational constraints likely will continue until long-term solutions to the problems in the Bay-Delta are identified and implemented. Metropolitan cannot predict the ultimate outcome of any of the litigation or regulatory processes but believes they could have a materially adverse impact on the operation of SWP pumps, Metropolitan's SWP supplies and Metropolitan's water reserves.

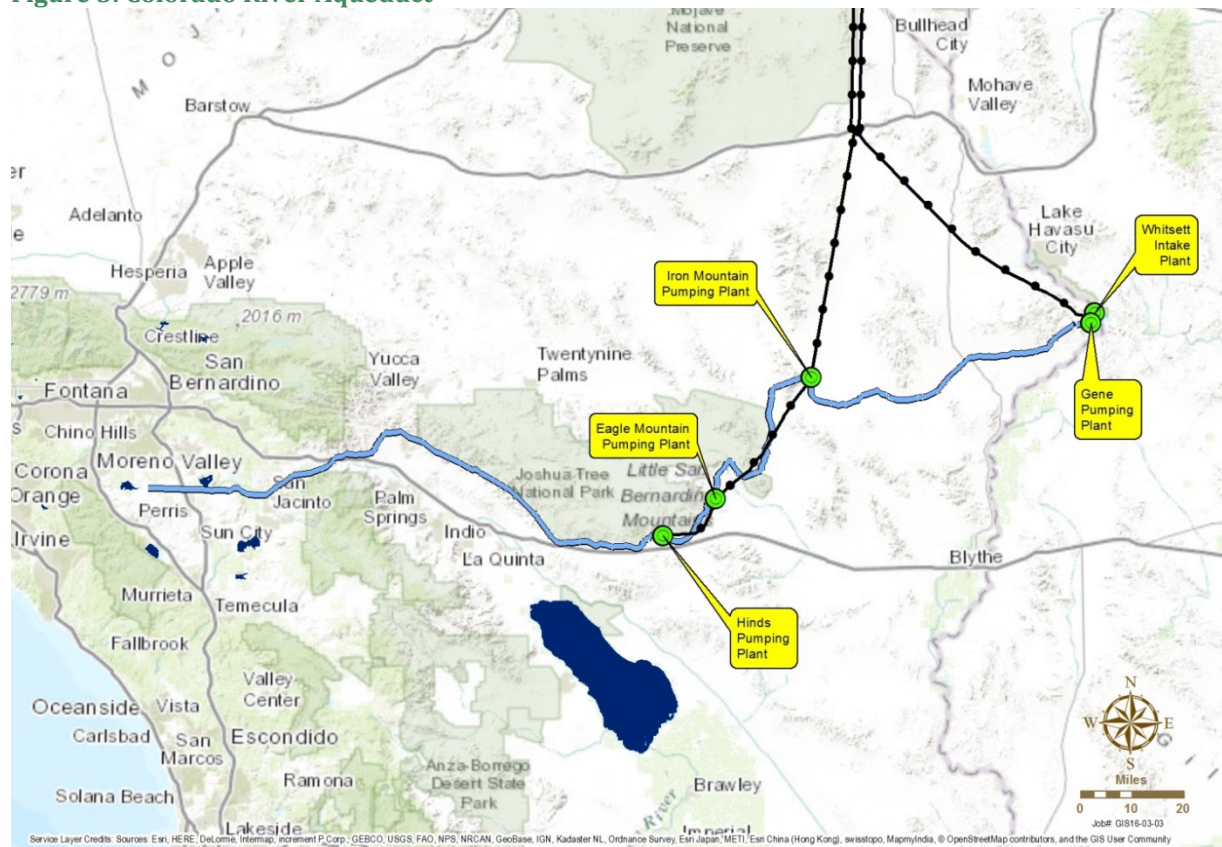
Colorado River Aqueduct (CRA)

The other major source of water for Metropolitan is the Colorado River and Colorado River Aqueduct (CRA). Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the CRA. The CRA consists of 5 pumping plants, 450 miles of high voltage power lines, 1 electric substation, 4 regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County.

The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. Water from the Colorado River and its tributaries is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (the Colorado River Basin States), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has an allotment of 1.5 million acre-feet of Colorado River water annually except in the event of extraordinary drought or serious accident to the delivery system in the United States, in which event the water allotted to Mexico would be curtailed. Mexico also can schedule delivery of an additional 200,000 acre-feet of Colorado River water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

The CRA, which is directly owned and operated by Metropolitan, transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. The CRA is shown in Figure 5. Up to 1.25 million acre-feet of water per year may be conveyed through the CRA to Metropolitan's member agencies, subject to availability of Colorado River water for delivery to Metropolitan as described below.

Figure 5: Colorado River Aqueduct



California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada. Under the 1931 priority system that has formed the basis for the distribution of Colorado River water made available to California, Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California's basic apportionment. In addition, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment. Until 2003, Metropolitan had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and water apportioned to Arizona and Nevada that was not needed by those states. However, during the 1990s Arizona and Nevada increased their use of water from the Colorado River, and by 2002 no unused apportionment was available for California. In addition, a severe drought in the Colorado River Basin reduced storage in system reservoirs, ending the availability of surplus deliveries to Metropolitan. As a result, California has been limited to 4.4 million acre-feet since 2003. Prior to 2003, Metropolitan could divert over 1.25 million acre-feet in any year, but since that time, Metropolitan's net diversions of Colorado River water have ranged from a low of nearly 633,000 acre-feet in 2006 to a high of approximately 1,176,000 acre-feet in 2014. Metropolitan has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water.

The Quantification Settlement Agreement (QSA), executed by CVWD, IID and Metropolitan in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply arrangements for up to 75 years. The QSA and related agreements provide a framework for Metropolitan to enter into other cooperative Colorado River supply programs and set aside several disputes among California's Colorado River water agencies.

Specific programs under the QSA and related agreements include lining portions of the All-American and Coachella Canals, which conserve approximately 96,000 acre-feet annually. As a result, about 80,000 acre-feet of conserved canal lining water is delivered to the San Diego County Water Authority (SDCWA) by exchange with Metropolitan. Metropolitan also takes delivery of 16,000 acre-feet annually that will be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido and the Vista Irrigation District, upon completion of a water rights settlement. Also included under the QSA is the delivery and exchange agreement between Metropolitan and CVWD that provides for Metropolitan, when requested, to deliver annually up to 35,000 acre-feet of Metropolitan's SWP contractual water to CVWD by exchange with Metropolitan's available Colorado River supplies. Metropolitan and CVWD also share in 105,000 acre-feet annually of water conserved by IID, with Metropolitan receiving no less than 85,000 acre-feet. In 2021, the transfer of water conserved annually by IID to SDCWA is expected to reach 205,000 acre-feet. With full implementation of the programs identified in the QSA, at times when California is limited to its basic apportionment of 4.4 million acre-feet per year, Metropolitan expects to be able to annually divert to its service area approximately 900,000 acre-feet of Colorado River water plus water from other water augmentation programs it develops, including the Palo Verde Irrigation District (PVID) program, which provides up to approximately 133,000 acre-feet of water per year.

Distribution System

All water transport facilities not specifically identified as part of the regional conveyance system are considered to be distribution facilities (Distribution System). While conveyance and aqueduct system components are regional in nature and do not link directly to local agency distribution systems, Distribution System facilities do ultimately connect to local agency systems. As a result, these facilities rely on conveyance and aqueduct facilities to import water from regional supply sources. The Distribution System is a complex network of facilities which routes water from the CRA and SWP to the member agencies. Beginning at the terminal delivery points of the CRA and SWP, Metropolitan's Distribution System includes approximately 775 miles of pipelines, feeders, and canals. The Distribution System includes components dating from the

1930's up to the present day, as shown in Figure 6. Distribution System operations are coordinated from the Operations Control Center in Eagle Rock. The control center plans, schedules, and balances daily water operations in response to member agency demands and the operational limits of the system as a whole. Metropolitan's storage and treatment facilities augment the Distribution System. Metropolitan operates and maintains separate untreated and treated distribution facilities.

Figure 6: Metropolitan's Distribution System



Storage Facilities

Existing imported water storage available to the region consists of Metropolitan's raw water reservoirs, a share of the SWP's raw water reservoirs in and near the service area, and the portion of the groundwater basins used for conjunctive-use storage. Figure 7 shows the geographical location of Metropolitan's major storage facilities. Table 6 lists surface water storage facilities owned and operated by Metropolitan. With some limitations, these reservoirs can be used to help meet the region's water storage requirements. Total storage capacity currently available to Metropolitan in these existing reservoirs is about 1,041,830 acre-feet. Metropolitan's water storage is divided into three categories: emergency, regulatory, and drought carryover storage. Emergency storage capacity is intended to provide the Metropolitan service area with a 6 month supply of water (assuming typical hydrologic conditions) in the event of a major regional catastrophe isolating Southern California from its imported water supplies.

Regulatory storage requirements are based on historical reservoir cycling and known cycling targets intended to meet the delivery schedules of the member agencies. Drought carryover storage is intended to prevent water shortages during dry years and is evaluated using the computer simulation models, incorporating historic hydrologic data, projections of future demand, and information on currently available storage levels.

Figure 7: Metropolitan’s Major Distribution System Storage Facilities



Table 6: Capacity of Metropolitan’s Distribution System Storage Facilities

Storage Facilities	Capacity (Acre-feet)
Etiwanda Reservoir	400
Garvey Reservoir	1,610
Orange County Reservoir	212
Palos Verdes Reservoir	1,108
Live Oak Reservoir	2,500
Lake Mathews	182,000
Lake Skinner	44,000
Diamond Valley Lake	810,000
Total Storage Capacity	1,041,830

In addition to the storage facilities shown above, DWR owns and operates four major reservoirs in or near Metropolitan's service area as part of the SWP. Castaic Lake and Pyramid Lake are located on the West Branch of the California Aqueduct. Silverwood Lake and Lake Perris are on the East Branch of the California Aqueduct. Metropolitan pays for about 650,000 acre-feet of the total storage in these four DWR reservoirs.

Within these reservoirs, up to 220,000 acre-feet of additional storage is provided for by the Monterey Amendment to the State Water Contract³.

Under a conjunctive-use groundwater program, groundwater basins are used to store imported supplies during years when water is abundant. The stored water is then used during shortages and emergencies, reducing demand on imported supplies. Consequently, groundwater conjunctive use enables member agencies to better capture surplus surface flows from the SWP and the CRA and reduce demand that would otherwise be placed on Metropolitan's system during dry periods.

Treatment Plants

In addition to raw water supply, Metropolitan provides treated water to supplement the potable water needs of its member agencies. Table 3 identifies Metropolitan's water treatment plants and related design capacities.

Metropolitan's Water Treatment Plants

Table 7: Water Treatment Plants

Water Treatment Plants	Design Capacity (cfs)
Diemer Filtration Plant	803
Jensen Filtration Plant	1,163
Mills Filtration Plant	248
Skinner Filtration Plant	930
Weymouth Filtration Plant	803
Total	3,947

Metropolitan's water treatment plants are listed in Table 7 and shown geographically in Figure 8. More than 60% of Metropolitan's demand for supplemental treated water is located in a region of the service area referred to as the "Central Pool". Agencies located partially or entirely within the Central Pool include Los Angeles, Orange, and Ventura Counties. Three existing Metropolitan treatment plants serve the Central Pool's treated water needs:

- The Jensen plant in Granada Hills;
- The Weymouth plant in La Verne; and
- The Diemer plant in Yorba Linda.

While some areas of the Central Pool are served by one plant, the three plants together also jointly serve a common area of the Central Pool referred to as the "Common Pool". The Mills plant and the Skinner plant do not serve the Common Pool, but serve areas in the eastern part of Metropolitan's service area.

³ The Monterey Amendment is explained in further detail at Service Function Costs, Conveyance and Aqueduct: SWP.

Figure 8: Metropolitan's Treatment Plants' Geographical Location



Table 8 shows Metropolitan's treated and untreated water sales by member agency for FY 2014/15. Approximately 47 percent of Metropolitan's water sales in FY 2014/15 were treated.

Table 8: Treated and Untreated Water Sales by Member Agency, FY 2015
Acre-Feet*

Agency	Treated (AF)	Untreated (AF)	Total (AF)
Anaheim	4,287	12,556	16,842
Beverly Hills	11,092		11,092
Burbank	6,901	7,350	14,252
Calleguas	96,608		96,608
Central Basin	30,345	15,015	45,360
Compton	0		0
Eastern	57,837	26,947	84,784
Foothill	8,104		8,104
Fullerton	8,298		8,298
Glendale	17,046		17,046
Inland Empire		58,908	58,908
Las Virgenes	22,064		22,064
Long Beach	46,045		46,045
Los Angeles	66,362	289,005	355,367
MWDOC	153,461	72,908	226,369
Pasadena	18,724		18,724
San Diego	105,649	434,492	540,141
San Fernando	100		100
San Marino	731		731
Santa Ana	5,353	4,952	10,305
Santa Monica	4,258		4,258
Three Valleys	39,799	19,049	58,847
Torrance	16,205		16,205
Upper San Gabriel	9,069	47,341	56,410
West Basin	112,893		112,893
Western	51,610	19,190	70,800
Total	892,841	1,007,711	1,900,552

* Includes treated, untreated, and SDCWA Exchange Water volumes.

Hydroelectric Facilities

Metropolitan's Distribution System has 16 small hydroelectric plants located throughout the service area. The plants are located in Los Angeles, Orange, Riverside, and San Diego Counties as shown in Figure 9. The combined generating capacity of these plants and the generating capacity at Diamond Valley Lake (DVL) are approximately 131 megawatts. Depending upon annual water deliveries, projected annual income for the next several years is expected to range between \$12 million and \$15 million.

Power from ten of the plants is sold to the DWR at a contract rate. Power from four plants is sold to the Southern California Public Power Authority based on a contract rate. Power generation from the Sepulveda Canyon Plant is sold to the Los Angeles Department of Water and Power based on a contract rate. Power

from the Etiwanda Power Plant has been sold to the Pacific Gas and Electric based on contract rates. Power generated by DVL is sold into the wholesale market.

Electricity generated by Metropolitan hydroelectric facilities is sold rather than used internally because of the costs and inefficiencies that would be associated with building an internal electric distribution network for transmitting the electricity throughout the Metropolitan system. The costs associated with contracting for such transmission services from others would be similarly prohibitive.

Figure 9: Metropolitan's Hydroelectric Facilities



CHALLENGES

Metropolitan faces a number of challenges in providing adequate, reliable and high quality supplemental water supplies for Southern California. These include, among others: (1) population growth within the service area; (2) increased competition for low-cost water supplies; (3) variable weather conditions; (4) increased environmental regulations; and (5) climate change. Metropolitan's resources and strategies for meeting these long-term challenges are set forth in its 2015 IRP Update, as updated from time to time. In addition, Metropolitan manages water supplies in response to the prevailing hydrologic conditions by implementing its Water Surplus and Drought Management (WSDM) Plan, and in times of prolonged or severe shortages, the Water Supply Allocation Plan.

Hydrologic conditions can have a significant impact on Metropolitan's imported water supply sources. For Metropolitan's SWP supplies, precipitation in California's northern Sierra Nevada during the fall and winter helps replenish storage levels in Lake Oroville, a key SWP facility. The subsequent runoff from the spring snowmelt helps satisfy regulatory requirements in the San Francisco Bay/Sacramento-San Joaquin River Delta (Bay-Delta) bolstering water supply reliability in the same year. The source of Metropolitan's Colorado River supplies is primarily the watersheds of the Upper Colorado River basin in the states of Colorado, Utah, and Wyoming. Although precipitation is primarily observed in the winter and spring, summer storms are common and can affect water supply conditions.

In 2015, California snowpack peaked in January at 17 percent of normal. This was the earliest peak and lowest snowpack in recorded history, resulting in the fourth year of drought in California. Storage levels in State reservoirs remain below normal, including storage levels in Lake Oroville, the principal SWP reservoir, and San Luis Reservoir, a critical reservoir south of the Bay-Delta. Consequently, the northern Sierra Nevada runoff for water year 2014/15 (October 1 – September 30) was 51 percent of normal. For calendar year 2015, the final SWP allocation for 2015 was 20 percent of contracted amounts. On February 24, 2016, DWR announced that the allocation estimate for 2016 is 30 percent of contracted amounts, or 573,450 acre-feet. DWR may increase or decrease allocations if warranted by the year's developing hydrologic and water supply conditions.

In 2015, the Upper Colorado River Basin snowpack peaked in March at 76 percent of normal. However, the Upper Colorado River Basin runoff measured 94 percent of normal due to above normal precipitation in the basin in May, June and July, which will avert Colorado River shortage conditions in 2016 and allowed Metropolitan to implement new water management programs in 2015.

The sea surface temperatures in 2015 signaled a very strong El Niño for 2016. Despite a dry February, hydrologic conditions are normal. As of mid-February 2016, storage levels in Lake Mead and Lake Powell are higher than 2015 and the snowpack in the Upper Colorado River Basin is 100 percent of normal.

Uncertainties from potential future temperature and precipitation changes in a climate driven by increased concentrations of atmospheric carbon dioxide also present challenges. Areas of concern to California water planners identified by researchers include: reduction in Sierra Nevada and Colorado Basin snowpack; increased intensity and frequency of extreme weather events; and rising sea levels resulting in increased risk of damage from storms, high-tide events, and the erosion of levees and potential cutbacks of deliveries of imported water. While potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its planning processes.

Drought Response Actions

To offset reductions in SWP supplies and mitigate impacts of the California drought, Metropolitan has utilized supplies from the Colorado River and storage reserves, and is also encouraging responsible and efficient water use to lower demands.

Metropolitan is prepared to meet water demands in its service area through calendar year 2016 using a combination of SWP and CRA deliveries, storage reserves and supplemental water transfers and purchases. In 2015, the CRA was operated near capacity. Operations to distribute Colorado River supplies into areas normally served by SWP supplies began in 2014. These measures have offset the low 2015 SWP supply allocation. Approximately 120,000 acre-feet were withdrawn from dry-year storage reserves in the first six months of 2015, leaving 1.72 million acre-feet in storage reserves as of July 1, 2015. Metropolitan staff currently calculates that the overall storage reserve level as of December 31, 2015 was about 1.4 million acre-feet.

On April 1, 2015, Governor Brown issued an Executive Order (Order) calling for a 25 percent reduction in consumer water use in response to the historically dry conditions throughout the State of California. On February 2, 2016, the State Water Resources Control Board extended the reduction through October 2016. As a wholesale water agency providing a supplemental water supply to its member agencies, Metropolitan is not subject to the requirements of the Governor's Order, which applies to retail water agencies. However, Metropolitan's member agencies will need to reduce their water sales in order to comply with the Order. Metropolitan also relies upon its WSDM Plan to identify resource actions in times of shortage and its Water Supply Allocation Plan (WSAP) for equitable distribution of available water supplies in case of extreme shortages. On April 14, 2015, the Board declared the implementation of the WSAP at a Level 3 Regional Shortage Level for the allocation year, effective July 1, 2015 through June 30, 2016. Implementation of the WSAP at a Level 3 Regional Shortage Level and the Governor's Order are anticipated to reduce supplies delivered by Metropolitan to Metropolitan's member agencies in fiscal year 2015/16 to approximately 1.6 million acre-feet.

In addition, since Governor Brown's initial drought emergency proclamation in January 2014, Metropolitan has worked proactively with its member agencies to conserve water supplies in its service area. In February 2014, Metropolitan declared a Water Supply Alert, calling upon local cities and water agencies to immediately implement extraordinary conservation measures and institute local drought ordinances, and significantly expanded its water conservation and outreach programs and increased funding for conservation incentive programs by \$60 million, for a total of \$100 million for fiscal years 2014/15 and 2015/16. Metropolitan has also increased incentives for large landscape customers to convert from potable water to recycled water for irrigation. In May 2015, due to the strong response to the water conservation incentive programs, especially the turf replacement program, Metropolitan increased funding for these programs by \$350 million, for total funding of \$450 million over fiscal years 2014/15 and 2015/16. On May 26, 2015, Metropolitan's Board approved the funding for this increase from the remaining balance in the Water Management Fund of \$140 million, the projected amounts over target financial reserve levels for fiscal year 2014/15 of \$160 million, and the remaining balance in the Water Stewardship Fund of \$50 million. This was a one-time only increase to the conservation incentive program, and it was expected to result in 172 million square feet of turf removed and water savings of 800,000 acre-feet over the next ten years. Funding of this program in future years will be determined by the Board as part of the biennial budget and rates setting process.

California WaterFix

Within the region's water portfolio, supplies from the SWP remain an essential baseline supply for Southern California. Water from Northern California delivered through the SWP has provided key supplies in wet years

to manage against dry years, and it is the only imported supply that can physically reach significant portions of Metropolitan's service area. These supplies face uncertainties in a changing climate and due to operational constraints in the ecologically struggling Sacramento-San Joaquin Delta. In calendar year 2014, Metropolitan and other State Water Contractors received only 5 percent of their contracted amounts. This was by far the lowest allocation ever delivered by the SWP and posed unprecedented challenges to Metropolitan's planning and operations.

In 2007, facing reliability challenges with its SWP supplies, Metropolitan established six benchmarks on what a long-term solution must achieve. The benchmarks are an instructive way to evaluate proposals that seek to provide water supplies and restore the Delta. The benchmarks in summary:

- Restore and protect SWP deliveries
- Improve export water quality
- Promote flexible pumping operations in a dynamic Delta environment
- Enhance Delta ecosystem fishery habitat
- Reduce seismic risks
- Reduce climate change risk

In April 2015, the Brown and Obama administrations proposed a revised path to protecting water supplies that are imported from Northern California while restoring the declining ecosystem of the Sacramento-San Joaquin Delta. The state- federal proposal identifies a new, preferred alternative within the Delta environmental review process that advances water system improvements as a stand-alone project while phasing in habitat restoration in a separate, but coordinated fashion.

Under the new proposal, state and federal agencies continue to work on a proposal to build three new water intakes on the Sacramento River. The water supply would be protected by construction of a modern 34-mile pipeline system transporting water from the intakes to the existing state and federal aqueducts in the southern Delta. Under the previous plan, the Bay Delta Conservation Plan (BDCP), this modernization project would have been permitted in conjunction with habitat restoration (Endangered Species Act, Section 10). Under the new state-federal proposal, California WaterFix and California EcoRestore, these water improvements would proceed as a stand-alone project under the same permitting mechanism as for the existing SWP and CVP (ESA, Section 7). Participating public water agencies would underwrite habitat restoration connected to construction mitigation. Scientific uncertainty about the future Delta and the impacts of climate change are the primary rationales to propose separate, but coordinated paths for water system and ecosystem improvements.

State and federal agencies recirculated modifications of the environmental documents for public review and comment in 2015.

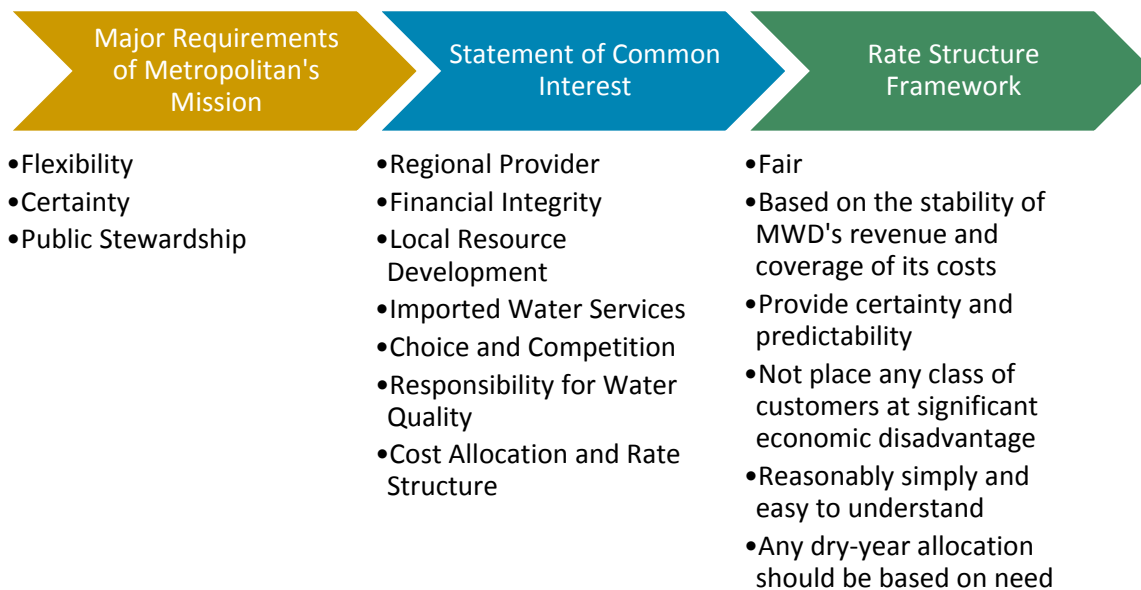
The public comment period ended on October 30, 2015. The final planning documents are expected to be completed in the fall of 2016.

RATE STRUCTURE

Framework

The Rate Structure Framework evolved through a comprehensive strategic planning process initiated in 1998. As depicted in the following figure, the first step of the process was to identify the “Major Requirements of Metropolitan’s Mission,” which was reflected in the Strategic Plan Policy Principles. The Statement of Common Interests formed the basis of Metropolitan’s strategic plan to address these mission requirements. One of the most important common interests was “Cost Allocation and Rate Structure.” In determining the most appropriate cost-of-service (COS) and rate structure, a set of pricing objectives, or guiding rate principles, was developed. These guiding rate principles defined Metropolitan’s Rate Structure Framework by which various COS and rate-setting methodologies could be evaluated.

Development of the Rate Structure Framework



The strategic planning process which established the foundation of the Rate Structure Framework is discussed below.

Major Requirements of Metropolitan’s Mission

As one of the first steps in the strategic planning process in 1998, the Board developed a list of three mission requirements in its Metropolitan vision statement – flexibility, certainty, and public stewardship:

- **Flexibility.** Metropolitan is aware of the legislative and economic pressures which make flexibility in providing water services for a changing demand and in a competitive water market paramount. Fair

compensation for wheeling through Metropolitan's conveyance systems is an essential element of Southern California's developing market.

- **Certainty.** The certainty that Metropolitan's water supply is reliable and that the COS is appropriate is of utmost importance to member agencies and their retailers who are endeavoring to provide not only water, but value to the residents in their service area.
- **Public Stewardship.** As public stewards of much of Southern California's water supply, Metropolitan and its member agencies are responsible for making certain that the water is provided in a cost-effective and environmentally sound manner.

Statement of Common Interests

From the strategic planning mission requirements, the Board developed a list of seven areas of common interest that formed the major focus elements of the Metropolitan strategic plan:

- **Regional provider.** This area includes the concerns of protecting regional infrastructure and providing service during drought periods. Regional water must be provided to meet the needs of the member agencies, and water supplies must be equitably allocated during drought periods based on the Water Surplus and Drought Management Plan principles.
- **Financial integrity.** It is a common interest of the members for Metropolitan to assure the financial integrity of the agency in all aspects of its operations.
- **Local resource development.** Metropolitan supports local resources development by working in partnership with its member agencies and by providing member agencies with financial incentives for water conservation and for local projects.
- **Imported water service.** Metropolitan is responsible for providing imported water to meet the committed needs of its member agencies.
- **Choice and competition.** After Metropolitan provides imported water for the member agencies' committed demands, a member agency can choose the most cost-effective additional water supplies for its customers. These choices include either Metropolitan, local resource development, market transfers, or some combination of these secondary options. Metropolitan and its member agencies can decide how to provide these additional supplies collaboratively while balancing local, imported, and market opportunities with affordability.
- **Responsibility for water quality.** Metropolitan must advocate source water quality and implement in-basin water quality for the imported water it supplies. This is necessary to guarantee compliance with primary drinking water standards and to meet the water quality requirements for water recycling and ground water replenishment.
- **Cost allocation and rate structure.** The framework for a revised rate structure will be established to address allocation of costs, financial commitment, unbundling of services, and fair compensation for services including wheeling, peaking, growth, and others.

Rate Structure Framework

A major element of common interest was "*Cost Allocation and Rate Structure.*" In addressing this element a set of pricing objectives, or guiding rate principles, had to be developed to evaluate alternative COS and rate setting approaches, or methodologies. As a result, the Board adopted a set of rate principles which was defined as the *Rate Structure Framework*. The Rate Structure Framework provided the principles for the

Strategic Planning Steering Committee to develop a preferred rate structure. The Rate Structure Framework includes the following principles:

- The rate structure should be *fair*;
- It should be based on the *stability* of Metropolitan's revenue and coverage of its costs;
- It should provide certainty and predictability;
- It should not place any class of customers at *significant economic disadvantage*;
- It should be reasonably *simple and easy to understand*; and
- Any dry-year allocation should be *based on need*.

The 2001 COS and rate structure was adopted by the Board to address the Rate Structure Framework.

Rate Structure Design

The elements of the rate structure, and the rates and charges for calendar year 2016, are summarized in Table 9 below:

Table 9: Rate Elements, Calendar Year 2016

Rate Design Elements	Functional Costs Recovered	Type of Charge	Rate or charge effective January 1, 2016
Tier 1 Supply Rate	Supply	Volumetric (\$/af)	\$156
Tier 2 Supply Rate	Supply	Volumetric (\$/af)	\$290
System Access Rate	Conveyance/Distribution (Average Capacity)	Volumetric (\$/af)	\$259
Water Stewardship Rate	Demand Management	Volumetric (\$/af)	\$41
System Power Rate	Power	Volumetric (\$/af)	\$138
Treatment Surcharge	Treatment	Volumetric (\$/af)	\$348
Capacity Charge	Peak Distribution Capacity	Fixed (\$/cfs)	\$10,900
Readiness-to-Serve Charge	Conv./Distr./Emergency Storage (Standby Capacity)	Fixed (\$M)	\$153

System Access Rate (SAR)

Purpose

The SAR recovers the cost of the Conveyance and Distribution System that is used on an average annual basis through a uniform, volumetric rate. All users (member agencies and third parties) pay the SAR for access to conveyance and distribution capacity in the Metropolitan system.

Implementation

The SAR is charged for each acre-foot of water transported by Metropolitan, regardless of the ownership of the water being transported. All users (member agencies and third-party wheelers) using the Metropolitan system to transport water pay the same SAR for the use of the system conveyance and distribution capacity used to meet average annual demands.

Water Stewardship Rate (WSR)

Purpose

The WSR provides a dedicated source of funding for conservation and local resources development through a uniform, volumetric rate. The WSR supports past and future conservation and local resources projects. Because of the uniform benefits conferred on all system users by investments in conservation and local resources, all users of Metropolitan's conveyance and distribution system pay the WSR.

Implementation

The WSR is charged to each acre-foot of water delivered by Metropolitan, regardless of the water being transported. All users (member agencies and third-party wheelers) benefit from the system capacity made available by investments in Demand Management Programs like Metropolitan's Conservation Credits Program and Local Resources Program. Therefore, all users pay the WSR.

System Power Rate (SPR)

Purpose

The SPR recovers the costs of energy required to pump water to Southern California through the SWP and CRA. The cost of power is recovered through a uniform, volumetric rate.

Implementation

The SPR is applied to all deliveries of Metropolitan water to member agencies. Wheeling parties pay for actual cost (not system average) of power needed to move the water. Member agencies engaging in wheeling transaction of up to one year pay the wheeling rate (consisting of the actual cost of power, SAR, WSR, and an administrative fee). Other wheeling transactions are pursuant to individual contracts. For example, a party wheeling water through the California Aqueduct would pay the variable power cost associated with using the SWP transportation facilities.

Treatment Surcharge

Purpose

The Treatment Surcharge recovers all of the costs of providing treatment capacity and operations through a uniform, volumetric rate per acre-foot of treated water sales.

Implementation

The Treatment Surcharge is charged to all treated water sales.

Capacity Charge

Purpose

The Capacity Charge provides a price signal to encourage agencies to reduce peak demands on the Distribution System and to shift demands that occur during the May 1 through September 30 period into the October 1 through April 30 period, resulting in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs.

Implementation

Each member agency will pay the Capacity Charge per cfs based on a three-year trailing maximum peak day demand. Each member agency's peak day is likely to occur on different days; therefore this measure approximates peak week demands on Metropolitan.

Readiness-To-Serve Charge (RTS)

Purpose

The RTS recovers the cost of the portion of system that is available to provide emergency service and available capacity during outages and hydrologic variability.

Implementation

The RTS is a fixed charge that is allocated among the member agencies based on a ten-fiscal-year rolling average of firm demands. Water transfers and exchanges are included for purposes of calculating the ten-year rolling average⁴. The Standby Charge will continue to be collected at the request of the member agency and applied as a direct offset to the member agency's RTS obligation.

Supply Rates

Purpose

The rate structure recovers supply costs through a two-tiered price structure. The Tier 1 Supply Rate is set to recover supply costs not recovered through the Tier 2 Supply Rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not recovered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales. The Tier 2 Supply Rate reflects Metropolitan's cost of procuring north of Delta water transfers. The Tier 2 Supply Rate encourages the member agencies and their customers to maintain existing local supplies and develop cost-effective local supply resources and conservation. The Tier 2 Supply Rate is charged to member agencies that have demands from Metropolitan that exceed their Tier 1 maximum. Both the Tier 1 Supply Rate and the Tier 1 Supply Rate are uniform, volumetric rates.

Implementation

Because the Tier 1 maximum is set at a total member agency level and not at a meter level, all system water delivered will be billed at the Tier 1 Supply Rate. Any water delivered that exceeds the Tier 1 maximum will be billed an additional amount equivalent to the difference between the Tier 2 and Tier 1 Supply Rates.

For member agencies without purchase orders and member agencies with purchase orders that accrue a cumulative Tier 2 obligation at the end of year five of the purchase order, the Tier 2 Supply Rate will be applied in the month where the Tier 1 maximum is surpassed on all applicable deliveries. Otherwise, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any purchase order commitment obligation.

Purchase Order Option

Purpose

Purchase Orders were developed to establish a financial commitment from the member agency to Metropolitan in exchange for the ability to purchase more water at the lower Tier 1 Supply Rate. In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024. Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the Purchase Order Commitment).

⁴ The SDCWA Exchange Water amounts are excluded from the calculation of the ten-year rolling average per the terms of the Amended and Restated Agreement Between the Metropolitan Water District of Southern California and the San Diego County Water Authority for the Exchange of Water.

There is no annual minimum or maximum purchase commitment required by the Purchase Order. A member agency has the full ten-year term to fulfill the Purchase Order Commitment. In exchange for this commitment, the member agency can purchase an amount of firm water supply equal to 90 percent of its cumulative Base Period Demand over the full ten years at the lower Tier 1 Supply Rate. An agency that determines that a Purchase Order is not in its best interest may purchase up to 60 percent of its Revised Base Firm Demand annually at the lower Tier 1 Supply Rate. The terms and conditions of the Purchase Order are uniform for all member agencies.

Implementation

The Base Period Demand was established for each member agency. Member agencies chose a base amount of (1) the member agency's Revised Base Firm Demand which is the highest fiscal year purchases during the 13-year period of fiscal year 1990 through fiscal year 2002, or (2) the highest year purchases in the most recent 12-year period of fiscal year 2003 through fiscal year 2014.

At the end of the Purchase Order Term, if the member agency has not purchased enough firm supply to meet its Purchase Order Commitment, it will be billed for the remaining balance of the Purchase Order Commitment at the average of the Tier 1 Supply Rate in effect during the Term. This payment may be prorated with interest evenly over the next 12 invoices.

If a member agency fulfills its Purchase Order Commitment prior to the end of the Purchase Order Term (e.g. purchased ten times 60 percent of the Initial Base Period Demand), then the member agency has met its obligation under the Purchase Order. The member agency may continue to purchase up to 90 percent of its cumulative Base Period Demand over the Term at the Tier 1 Supply Rate for the duration of the Purchase Order Term.

Although the maximum amount of water that can be purchased at the Tier 1 Supply Rate may increase over time if the agency's Base Period Demand increases, the Purchase Order Commitment is fixed for the entire Purchase Order Term and does not increase.

Water billed at the following rates or certified under the below programs will be counted toward the Purchase Order Commitment:

- Tier 1 Supply Rate
- Tier 2 Supply Rate
- Conjunctive Use sales.

The current bundled full service costs are shown in Table 10.

Table 10: Bundled Full Service Costs⁵

Rate Type	Type of Charge	Rate or charge effective January 1, 2016
Tier 1 Full Service Untreated Cost	Volumetric (\$/af)	\$594
Tier 2 Full Service Untreated Cost	Volumetric (\$/af)	\$728
Tier 1 Full Service Treated Cost	Volumetric (\$/af)	\$942
Tier 2 Full Service Treated Cost	Volumetric (\$/af)	\$1,076

⁵ Nineteen of Metropolitan's member agencies have invoices prepared using bundled rates; seven of Metropolitan's member agencies have invoices prepared using the unbundled rate elements.

The Tier 1 Full Service Untreated Cost consists of the following rate elements: The Tier 1 Supply Rate, the System Access Rate, the System Power Rate, and the Water Stewardship Rate.

The Tier 2 Full Service Untreated Cost consists of the following rate elements: The Tier 2 Supply Rate, the System Access Rate, the System Power Rate, and the Water Stewardship Rate.

The Tier 1 Full Service Treated Cost consists of the following rate elements: The Tier 1 Supply Rate, the System Access Rate, the System Power Rate, the Water Stewardship Rate, and the Treatment Surcharge.

The Tier 2 Full Service Treated Cost consists of the following rate elements: The Tier 2 Supply Rate, the System Access Rate, the System Power Rate, the Water Stewardship Rate, and the Treatment Surcharge.

COST OF SERVICE

A Cost of Service (COS) study is a method to equitably allocate the revenue requirements of a utility between the various users of service. Costs of operating a utility are not accounted for on a specific user or service basis. Many costs are incurred for the joint benefit of all users, while other costs may benefit only the users of certain services. Metropolitan uses the COS methodology to functionalize, allocate and distribute costs to services provided. The unbundled rate structure is used to collect revenue based on the services provided to different member agencies.

AWWA Guidelines

The American Water Works Association (AWWA) is the professional association which, among other functions, identifies water industry standards for financial management and rate-setting practices. AWWA publishes a document on these topics in its Manual of Water Supply Practices series, which is the AWWA's M1, Principles of Water Rates, Fees and Charges, Sixth Edition.

AWWA manual M1 Sixth Edition delineates a number of guidelines and principles that are intended to be observed in the broad development of cost of service and rate setting steps⁶. The COS process reflects the M1 Sixth Edition guidelines and principles, which were carefully considered in the conceptual design of the Metropolitan COS. Major AWWA guidelines and principles considered in the proposed COS approach are outlined below.

- One of the most effective methods used to accommodate the impact of rapidly increasing costs on rate design is the use of a "forward looking" or prospective rate period. This procedure is frequently used by government-owned utilities in determining COS. The COS follows this approach by incorporating budget data for upcoming fiscal years, using projected debt service and State Water Contract payment obligation data, and applying annual escalation factors to operations and maintenance costs.
- The purpose of performing functional assignment of costs is to express the utility's cost of service in terms that make it possible to allocate and then distribute costs to services in accordance with the costs of serving each class of customer, or in Metropolitan's case, each function type. In keeping with AWWA recommendations, the functional assignment and commodity/demand allocation modules of the COS allow identification of functional cost components at a level that allows the unbundling of Metropolitan's rates.
- The cash-needs approach to identifying revenue requirements is one of two methodologies endorsed by AWWA principles and is frequently used by government-owned utilities. The COS's revenue requirements module is consistent with this approach.
- In areas where seasonal usage patterns impose significant demands on the utility, consideration may be given to separate charges for such use. System costs associated with accommodating seasonal use may be

⁶ The majority of the M1 Sixth Edition is written for utilities providing retail service or combined retail and wholesale service. The distinction in practices for wholesale-only utilities is indirect; care must be taken to be attuned to these distinctions such that the guidelines are not incorrectly applied or misrepresented.

recovered either through rates applied to separate metering for such services or through charges applied based on seasonal use. This principle is consistent with the conceptual design of the COS's allocation module.

General principles for establishing charges state that:

- Beneficiaries of a service should pay for that service.
- The level of service charges should be related to the cost of providing service.
- The price of services may be used to change user behavior and demand for the good or service.

The proposed COS process is consistent with these principles.

AWWA's M1 Sixth Edition provides rate-setting objectives as a basis for evaluating water utility rate designs. These objectives have all been considered in the development of the proposed COS process and resulting rates, fees and charges for service⁷.

- Effectiveness in yielding total revenue requirements (full cost recovery).
- Revenue stability and predictability.
- Stability and predictability of the rates themselves from unexpected or adverse changes.
- Promotion of efficient resource use (conservation and efficient use).
- Fairness in the apportionment of total costs of service among the different ratepayers.
- Avoidance of undue discrimination (subsidies) within the rates.
- Dynamic efficiency in responding to changing supply and demand patterns.
- Freedom from controversies as to proper interpretation of the rates.
- Simple and easy to understand.
- Simple to administer.
- Legal and defensible.

It should be noted that there are circumstances in which some of these objectives can be in conflict with each other. For example, competing objectives could be conservation and revenue stability. To incentivize conservation, a utility might develop a rate structure that was 100 percent volumetric. To provide revenue stability, the same utility might develop a rate structure that was 100 percent fixed. Because of such conflict potential, all of the AWWA pricing objectives must be carefully balanced when selecting a preferred COS and rate setting approach.

Cost of Service

Prior to discussing the specific rates and charges that make up the rate structure, it is important to understand the cost of service process that supports the rates and charges. The AWWA M1 Sixth Edition renamed the steps in the COS process to: (1) identify which costs should be recovered through rates and charges (the revenue requirement); (2) organize costs into service functions (functionalize); (3) allocate

⁷ Manual of Water Supply Practices, M1, Principles of Water Rates, Fees and Charges, American Water Works Association, Sixth Edition, pg.4

service function costs on the basis for which the cost was incurred (allocate); and (4) distribute costs to rate elements (distribute). The process acronym is FAD: functionalize, allocate, distribute. The balance of this report uses this nomenclature, while tailoring the process to Metropolitan's unique service obligations and member agency needs.

The purpose of sorting Metropolitan's costs in a manner that reflects the type of function (e.g., supply vs. conveyance), the characteristics of the cost (e.g., fixed or variable) and the reason why the cost was incurred (e.g., to meet peak or average demand) is to create logical cost of service "building blocks". The building blocks can then be arranged to design rates and charges with a reasonable nexus between costs and benefits.

Cost of Service Process

The general cost of service process involves the four basic steps outlined below.

Step 1 - Development of Revenue Requirements

In the revenue requirement step, the costs that Metropolitan must recover through rates and charges, after consideration of revenue offsets, are identified. The cash-needs approach, an accepted industry practice for government-owned utilities, has historically been used in identifying Metropolitan's revenue requirements⁸. Although the utility approach would be acceptable under AWWA guidelines, the cash-needs approach was applied for the purposes of this report. All of Metropolitan's costs fall under the broad categories of either Departmental Costs or General District Requirements. Departmental Costs include budgeted items identified with specific departments within Metropolitan. General District Requirements primarily consist of requirements associated with the CRA, SWP, Supply Programs, Demand Management Programs, and capital financing costs. General District Requirements also include reserve fund transfers required by bond covenants and Metropolitan's Administrative Code. Under the cash needs approach, revenue requirements include operating costs and annual requirements for meeting financed capital items (debt service and funding of the CIP from operating revenues).

Step 2 - Functionalization of Costs

To allow for the development of rates that properly reflect the costs of providing different service types (full service treated, full service untreated, and wheeling), revenue requirements should be categorized based on the operational functions served by each cost. In the functional assignment step, revenue requirements are assigned to different categories based on the operational functions served by each cost. The functional categories are identified in such a way as to allow the development of logical assignment bases. The functional categories used in the cost of service process include:

- Supply
- Conveyance and Aqueduct
- Storage
- Treatment
- Distribution
- Demand Management

⁸ The primary difference between the two methods is how capital-related costs are approached. The cash-needs approach uses debt service on bonds and capital funded from rates; the utility approach uses depreciation and a return on Rate Base or Investment.

- Administrative and General
- Hydroelectric

These functional assignments reflect the unique services that Metropolitan provides and enable the ultimate unbundling of services consistent with the Strategic Plan Policy Principles. In order to provide more finite functional assignment, many of these functional categories are subdivided into more detailed sub-functions in the COS process. For example, costs for the Supply and Conveyance and Aqueduct functions are further subdivided into the sub-functions SWP, CRA, and Other. Similarly, costs in the Storage function are broken down into the sub-functions Emergency Storage, Drought Carryover Storage, and Regulatory Storage.

Step 3 - Allocation of Costs

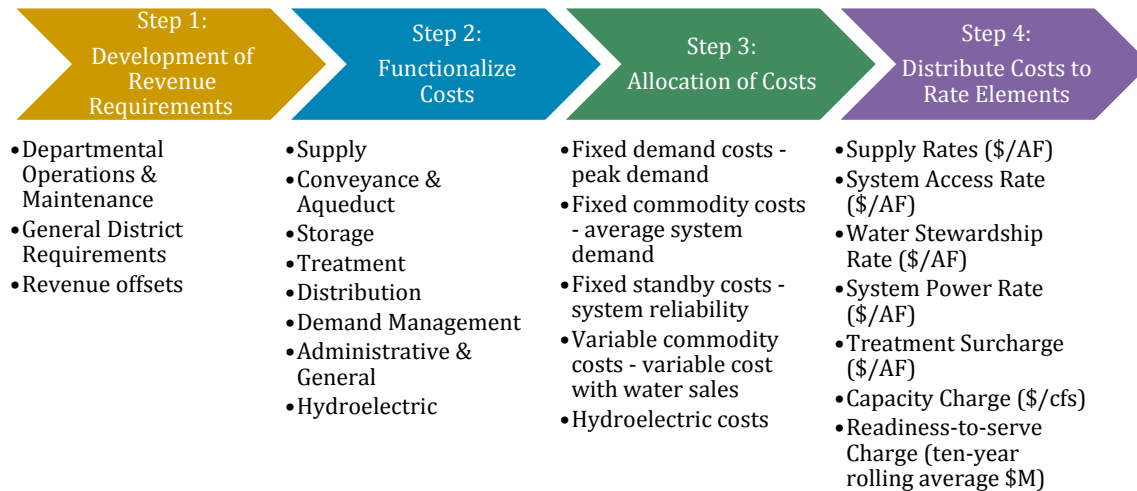
In the cost allocation step, functionalized costs are separated into categories according to their causes and behavioral characteristics. Proper cost allocation is critical in developing a rate structure that recovers costs in a manner consistent with the causes and behaviors of those costs. Under AWWA guidelines, cost allocation may be done using either the Base/Extra-Capacity approach or the Commodity/Demand approach. In the simplest sense, these approaches offer alternative means of distinguishing between utility costs incurred to meet average or base demands and costs incurred to meet peak demands. The Commodity/Demand approach was selected because it: (1) is best suited for systems where design criteria are focused on peaking patterns within a long-term time frame, such as maximum month and maximum week, (2) it works well in situations where complex cost relationships exist in the service area and attempting to allocate costs to maximum day and maximum hour functions would be complicated and often impractical, and (3) it allows for the development of the most appropriate COS classification bases because of the way Metropolitan's financial and operational data is organized. The Commodity/Demand approach was modified for its application to Metropolitan's rate structure by adding a separate cost allocation for costs related to Metropolitan's standby function. Analysis of system operating data indicated that a modified Commodity/Demand approach was most appropriate for developing Metropolitan's cost of service allocation bases.

Step 4 - Distribution to Rate Elements

The distribution of costs to the rate design elements depends on the purpose for which the cost was incurred and the manner in which the member agencies use the Metropolitan system. For example, costs incurred to meet average system demands are typically recovered by dollar per acre-foot rates and are distributed based on the volume of water purchased by each agency. Rates that are levied on the amount or volume of water delivered are commonly referred to as volumetric rates as the customer's costs vary with the volume of water purchased. Costs incurred to meet peak distribution demands (referred to in this report as demand costs) are recovered through a peaking charge (the Capacity Charge) and are distributed to agencies based on their peak summer demand behavior. Costs incurred to provide system reliability in the event of an emergency, major outage or hydrologic variability (referred to in this report as standby costs) are recovered through a Readiness-To-Serve Charge. Differentiating between costs for average, peak, and standby is just one example of how the COS process allows for the design of rates and charges to achieve overall customer equity and efficiency.

With regard to treatment-related costs, all costs, whether for average, peak, or standby, are recovered by dollar per acre-foot rates and are distributed based on the volume of treated water purchased. The following figure summarizes the Metropolitan COS process.

Cost of Service Process



Revenue Requirements

The estimated revenue requirements presented in this report are for FY 2016/17 and FY 2017/18. Throughout the report, the fiscal years are used as the “test years” to demonstrate the application of the cost of service process. Schedule 1 and Schedule 2 summarize the FY 2016/17 and FY 2017/18 revenue requirements, respectively, by the major budget line items used in Metropolitan’s budgeting process.

Current estimates indicate Metropolitan’s annual expenditures (including capital financing costs, but not construction outlays financed with bond proceeds) will total approximately \$1.68 billion in FY 2016/17 and \$1.70 billion in FY 2017/18. These expenditures support sales of 1.7 million-acre-feet (MAF) in each fiscal year, which are average demands based on the 2015 IRP Update, and assume a 50 percent allocation on the SWP, consistent with the ten-year average ending Calendar Year 2014, and approximately 1.0 MAF of diversions on the CRA.

The rates and charges do not have to cover this entire amount. Metropolitan generates a significant amount of revenue from interest income, hydroelectric power sales and miscellaneous income. These internally generated revenues are referred to as revenue offsets and are expected to generate about \$41 million in FY 2016/17 and \$46 million in FY 2017/18. It is expected that Metropolitan will also generate about \$98 million in ad valorem property tax revenues (assuming that ad valorem tax rates are maintained at 0.0035 percent of assessed valuation) in FY 2016/17 and \$100 million in FY 2017/18. Property tax revenues are used to pay for a portion of Metropolitan’s general obligation bond debt service, and a portion of Metropolitan’s obligation to pay for debt service on bonds issued to fund the SWP, and other SWP costs. The total revenue offsets are estimated to be about \$139 million in FY 2016/17 and \$146 million in FY 2017/18. Therefore, the revenue required from rates and charges is the difference between the total costs and the revenue offsets, or \$1.58 billion in FY 2016/17 and \$1.58 billion in FY 2017/18. Given an effective date of January 1, 2017 and January 1, 2018, respectively, the rates and charges recommended in this report, combined with rates and charges effective through December 31, 2016 will generate a total of \$1.49 billion in FY 2016/17 and \$1.55 billion in FY 2017/18.

All of Metropolitan's costs fall under the broad categories of Departmental Costs or General District Requirements. Departmental Costs include budgeted items identified with specific organizational groups. General District Requirements consist of requirements associated with the CRA, SWP, Supply Programs, Demand Management Programs, and capital financing costs associated with the Capital Investment Plan (CIP). General District Requirements also include reserve fund transfers required by bond covenants and Metropolitan's Administrative Code.

Schedule 1: Revenue Requirements (by budget line item), FY 2016/17:

	Fiscal Year Ending 2017	% of Revenue Requirements (1)
Departmental Operations & Maintenance		
Office of the General Manager & Human Resources	\$ 26,461,457	1.4%
External Affairs	16,779,558	0.9%
Water System Operations	212,359,971	11.5%
Chief Financial Officer	8,607,631	0.5%
Business Technology & Engineering Services	81,169,260	4.4%
Real Property Development & Mgmt	5,025,496	0.3%
Water Resource Management	15,606,840	0.8%
Ethics Department	1,277,212	0.1%
General Counsel	12,707,666	0.7%
Audit Department	2,918,005	0.2%
Total	382,913,096	20.7%
General District Requirements		
State Water Project	582,252,181	31.4%
Colorado River Aqueduct Power	46,604,698	2.5%
Supply Programs	78,687,589	4.2%
Demand Management	75,129,611	4.1%
Capital Financing Program	448,450,410	24.2%
Operating Equipment and Leases	34,745,389	1.9%
Increase (Decrease) in Required Reserves	65,100,000	3.5%
Total	1,330,969,879	71.8%
Revenue Offsets	(138,853,153)	7.5%
Net Revenue Requirements	\$ 1,575,029,822	100.0%

(1) Given as a percentage of the absolute values of total dollars apportioned
Totals may not foot due to rounding

Schedule 2: Revenue Requirements (by budget line item), FY 2017/18:

	Fiscal Year Ending 2018	% of Revenue Requirements (1)
Departmental Operations & Maintenance		
Office of the General Manager & Human Resources	\$ 26,449,350	1.4%
External Affairs	17,108,397	0.9%
Water System Operations	215,162,129	11.5%
Chief Financial Officer	8,719,501	0.5%
Business Technology & Engineering Services	77,341,996	4.1%
Real Property Development & Mgmt	5,099,621	0.3%
Water Resource Management	15,753,342	0.8%
Ethics Department	1,285,225	0.1%
General Counsel	12,865,168	0.7%
Audit Department	2,916,325	0.2%
Total	382,701,054	20.5%
General District Requirements		
State Water Project	599,405,919	32.1%
Colorado River Aqueduct Power	54,377,965	2.9%
Supply Programs	81,726,492	4.4%
Demand Management	75,943,062	4.1%
Capital Financing Program	464,100,066	24.9%
Operating Equipment and Leases	37,059,183	2.0%
Increase (Decrease) in Required Reserves	25,400,000	1.4%
Total	1,338,012,686	71.7%
Revenue Offsets	(146,398,220)	7.8%
Net Revenue Requirements	\$ 1,574,315,520	100.0%

(1) Given as a percentage of the absolute values of total dollars apportioned
Totals may not foot due to rounding

Explanation of Departmental Costs

Departmental costs consist of salary and benefits, chemicals, and power, outside services, materials and supplies, association dues, insurance expenses, leases, property taxes, and operating equipment budgeted by the General Manager's Department, as well as the General Counsel, General Auditor, and Ethics Officer.

The FY 2016/17 Operations and Maintenance (O&M), or Departmental, budget, including operating equipment purchases, is \$417.7 million. This is \$0.9 million, or 0.2 percent, lower than the FY 2015/16 budget of \$418.5 million. The FY 2017/18 O&M budget is \$419.8 million, an increase of \$2.1 million, or 0.5 percent, over the FY 2016/17 budget.

The proposed FY 2016/17 O&M budget includes \$417.7 million for labor and benefits, water treatment chemicals, power, and solids handling, materials and supplies, professional services, and operating equipment purchases. This is \$0.9 million, or 0.2 percent, lower than the FY 2015/16 budget of \$418.5 million due primarily to an effort to control labor costs and equipment expenditures in an environment of lower water sales. Variable treatment costs are also lower due to less treated water sales. The total authorized personnel complement for the FY 2016/17 budget is 1,912 authorized positions, including 26 agency and district temporary full-time equivalents (FTEs), and reflects an increase of 1 net

full-time position from the FY 2015/16 budget. Incorporating unfunded positions and positions that are planned to be vacant for portions of the year, the total funded positions are 1,840 FTEs.

The proposed FY 2017/18 O&M budget is \$419.8 million, an increase of \$2.1 million, or 0.5 percent, compared to the FY 2016/17 budget. This increase is primarily due to merit increases for qualified employees, an increase in labor additive costs, and slight increase in chemical and power costs to operate the treatment plants due to slightly higher treated water sales. The total authorized personnel complement for FY 2017/18 is reduced by 2 FTEs to 1,910 positions, due to a decrease in temporary labor. Incorporating unfunded positions and positions that are planned to be vacant for portions of the year, the total funded positions are 1,841 FTEs.

The Departmental Budget is described in detail in the Biennial Budget document.

Explanation of General District Revenue Requirements

General District Requirements include costs for the SWP, CRA power, Supply Programs, Demand Management Programs, and the Capital Financing costs. Each of these areas is described in the following.

State Water Project

All costs of the State Water Contract capital expenditures and costs of the operations, maintenance, power and replacement (OMPR) associated with water conservation (supply) and transportation (delivery) are paid by the 29 State Water Contractors. Metropolitan recovers the costs associated with the State Water Contract through ad valorem property taxes, the System Access Rate, the System Power Rate, and the Readiness-to-Serve Charge.

Articles 22 through 26 of the State Water Contract provide that all costs DWR might incur to conserve and transport water to Metropolitan will be recovered from Metropolitan. Metropolitan is responsible for paying the costs necessary to conserve and transport SWP water regardless of whether Metropolitan receives any water at all. Only the Transportation Variable, which recovers power costs for pumping through SWP transportation facilities to Metropolitan, varies depending on the amount of water delivered to Metropolitan. In the event Metropolitan does not pay DWR, DWR can require Metropolitan to recover its SWP costs through property taxes. DWR has no recourse to go to the State General Fund to pay SWP costs. DWR has no exposure whatsoever for any revenue shortfall, cost changes, or the cost impacts of operational limitations; these risks are solely the Contractors risks.

Annually, the DWR reviews and redetermines the water supply and financial aspects of the SWP as required by the State Water Contract. The review and redetermination results in the annual Statement of Charges to the Contractors for each calendar year. The information that supports the Statement of Charges is published by the DWR as Appendix B to the appropriate Bulletin 132 (i.e., the Statement of Charges for Calendar Year 2016 is supported by Appendix B to Bulletin 132-15). DWR does not charge rates for water service. It does not develop a revenue requirement and then develop rates based on projected billing determinants for a calendar year. Rather, DWR apportions its costs to the Contractors based on their proportionate share of conservation (supply) costs (the Delta Water Charge) and transportation (delivery) costs (the Transportation Charge).

For FY 2016/17, budgeted State Water Contract costs are \$582.3 million. For FY 2017/18, budgeted State Water Contract costs are \$599.4 million. The expenditures for the SWP are described in detail in the Biennial Budget document.

Colorado River Aqueduct

Metropolitan owns, operates, and manages the CRA. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA's five pumping stations.

In fiscal years 2016/17 and 2017/18, it is projected Metropolitan will receive annual CRA water diversions of approximately 1.0 MAF. The budgeted power costs for the CRA are \$46.6 million in FY 2016/17 and \$54.4 million in FY 2017/18.

The CRA costs for delivery and supply are reflected in the Departmental costs and in the costs of the appropriate service functions. The expenditures for CRA power are described in detail in the Biennial Budget document.

Supply Programs: SWP

Since adoption of the 1996 Integrated Resources Plan (1996 IRP) and subsequent updates, Metropolitan has developed and actively managed a portfolio of supplies to convey through the California Aqueduct, as shown in Figure 10. The geographical locations of the projects are indicated by the green dots; Metropolitan's service area is designated by the yellow highlighted area. Metropolitan submits delivery schedules to DWR for these supplies, and alters these schedules throughout the year based on changes in the availability of SWP and Colorado River water. The portfolio of supplies that Metropolitan has developed to be conveyed through the SWP since adoption of the Monterey Amendments and the 1996 IRP extend from north of the Delta to Southern California.

Since the Monterey Amendments, Metropolitan has secured one-year water transfer supplies through Metropolitan-only purchases, buyer coalition-purchases, and Governor Drought Water Banks. The most recent years in which these one-year transactions occurred were 2008 through 2010, and 2013. No purchases were made in 2011 or 2012 due to favorable water supply conditions. Most of the sellers were Sacramento Valley water users who are not Contractors. Other Contractors obtained one-year water transfers during this timeframe as well.

In addition to the above one-year water transfers, Metropolitan purchases long-term water transfer supplies through the Yuba Accord. The Yuba Accord has provided water to enhance SWP and CVP water supply reliability by offsetting Delta export reductions and providing dry year water supplies for participating SWP and CVP contractors. This water is Yuba River water developed by Yuba County Water Agency (YCWA) making reservoir releases or by YCWA's member units substituting groundwater for their surface water supplies; it is not SWP water.

Figure 10: California Aqueduct Portfolio of Supplies



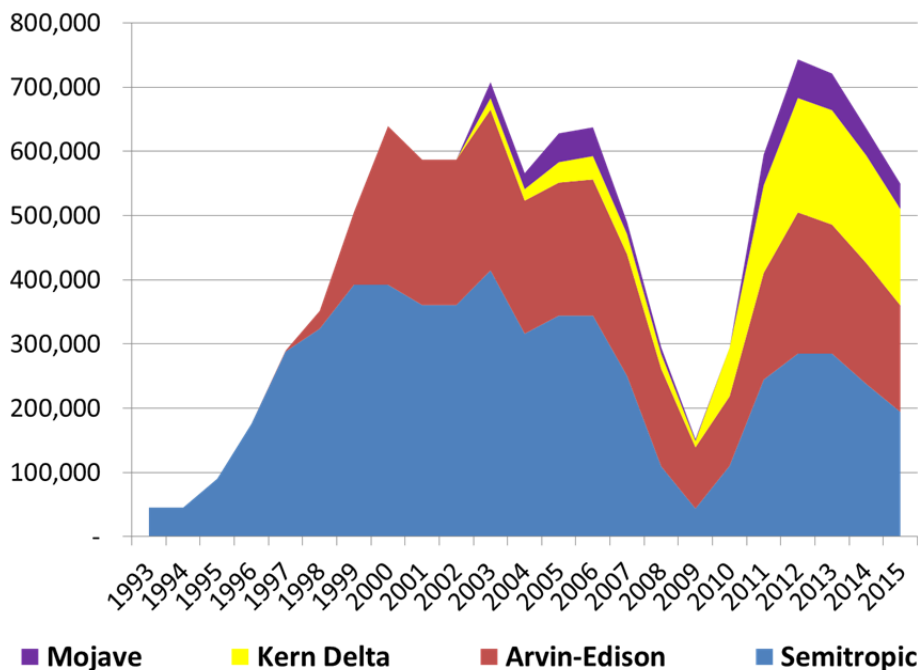
In addition to one-year transfers, and the Yuba Accord water, Metropolitan has developed groundwater storage agreements that allow Metropolitan to store available supplies in the Central Valley for return later. Metropolitan enters into point of delivery agreements with DWR to deliver water supplies from the SWP facilities to these storage programs. Metropolitan enters into introduction of local supplies agreements to return these water supplies to the SWP system for delivery to Metropolitan. Metropolitan's storage activities are shown in Figure 11, and demonstrate that a significant amount of water, which is not SWP Table A water in the year it is delivered, is managed by Metropolitan in these storage programs.

- **Arvin-Edison Storage Program:** under the agreement, Arvin-Edison Water Storage District stores water on behalf of Metropolitan. Up to 350,000 acre-feet can be stored; Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The water is returned by direct groundwater pump-in and exchange of SWP supplies.
- **Semitropic Storage Program:** under the agreement, Metropolitan stores water in the groundwater basin underlying land within the Semitropic Water Storage District. The maximum storage capacity is 350,000 acre-feet. As of December 2014, the minimum annual yield to Metropolitan is 34,700 acre-feet, and the maximum annual yield is 236,200 acre-feet depending on the available unused capacity and the SWP allocation. The water is returned by direct groundwater pump-in and exchange of SWP supplies.
- **Kern Delta Storage Program:** under the agreement, Kern Delta Water District provides groundwater banking and exchange transfer to allow Metropolitan to store up to 250,000 acre-feet of SWP water in

wet years and take up to 50,000 acre-feet annually during droughts. The water is returned by direct groundwater pump-in or by exchange of surface water supplies.

- **Mojave Storage Program:** under the agreement, Mojave Water Agency provides groundwater banking and exchange transfers to allow Metropolitan to store up to 390,000 acre-feet for later return. The agreement allows Metropolitan to annually withdraw Mojave Water Agency’s SWP contractual amounts, after accounting for local needs.
- **Antelope Valley East Kern (AVEK) Storage and Exchange Program:** under the agreement, AVEK provides at least 30,000 acre-feet over ten years of its unused SWP Table A amount to Metropolitan and Metropolitan, at its discretion, would return half of the exchange water to AVEK at the Banks pumping plant. Under the Storage Program, Metropolitan, at its discretion, could store at least 30,000 acre-feet of its SWP Table A amount or other supplies in the Antelope Valley Groundwater Basin in an account designated for Metropolitan.

Figure 11: SWP Groundwater Storage Programs, acre-feet



Metropolitan has developed exchanges and transfers with other Contractors to enhance supply flexibility. Some of these agencies have extensive groundwater supplies and are willing to exchange their SWP supplies.

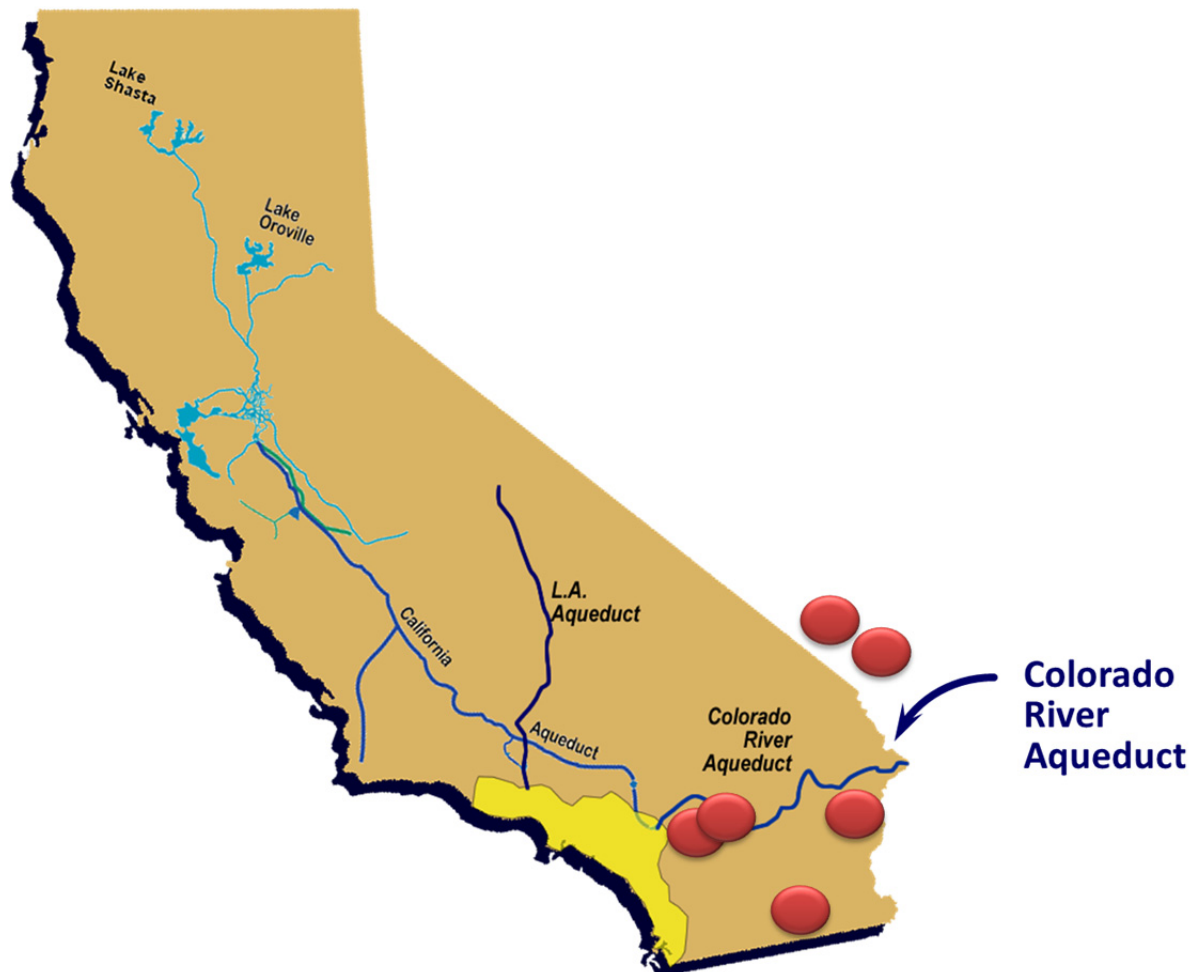
- **San Bernardino Valley Municipal Water District:** under the agreement, Metropolitan can exchange up to 11,000 acre-feet on an annual basis with the return negotiated.
- **San Gabriel Valley Water District:** under this agreement, Metropolitan delivers treated water to a San Gabriel Valley Water District subagency in exchange for twice as much untreated SWP supplies delivered into the groundwater basin that supplies this agency and Metropolitan subagencies. Metropolitan can purchase at least 5,000 acre-feet per year, in excess of the unbalanced exchange amount. There are no fees to put water into storage, or take water out of the storage account. This program has the potential to increase Metropolitan’s reliability by providing 115,000 acre-feet through 2035.

- Desert Water Agency/Coachella Valley Water District Advance Delivery Program:** under this program, Metropolitan delivers Colorado River water to the Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) in advance of the exchange for their SWP Contract Table A allocations. In addition to their Table A supplies, the agencies can take delivery of SWP supplies available under Article 21 and the Turn-back Pool Program, and non-SWP supplies separately acquired by each agency. These non-SWP supplies have included Yuba Accord water, drought water bank water, and San Joaquin Valley water. By delivering enough water in advance to cover Metropolitan's exchange obligations, Metropolitan is able to receive DWA and CVWD's available SWP supplies in years in which Metropolitan's supplies are insufficient without having to deliver an equivalent amount of Colorado River water.

Supply Programs: CRA

Since adoption of the 1996 IRP and subsequent updates, Metropolitan has developed and actively manages a portfolio of supplies to convey through the CRA. Metropolitan determines the delivery schedule of those resources throughout the year based on changes in the availability of SWP and of Colorado River water. Figure 12 shows the geographic location of the portfolio of additional CRA supplies, designated by the red dots, which Metropolitan has developed for diversion into the CRA since adoption of the 1996 IRP. These resources extend from Lake Mead to Southern California and provide supply to Metropolitan's service area, which is shown in the yellow highlighted area.

Figure 12: Colorado River Aqueduct Portfolio of Supplies



- Imperial Irrigation District/Metropolitan Conservation Program: Under a 1988 Conservation Agreement, Metropolitan has funded water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for the right to divert the water conserved by those investments. Metropolitan provided funding for IID to construct and operate a number of conservation projects that have conserved up to 109,460 acre-feet of water per year that is then available to Metropolitan. In 2015, 107,820 acre-feet of conserved water is being conserved by IID and made available to Metropolitan. Execution of the Quantification Settlement Agreement (QSA) and other agreement amendments resulted in changes in the availability of water under the program. As a result of a 2014 IID-Metropolitan letter agreement, the amount of water conserved by IID has been quantified at 105,000 acre-feet per year beginning in 2016. Metropolitan is guaranteed at least 85,000 acre-feet per year, with the remainder of the conserved water being made available to the Coachella Valley Water District (CVWD), if needed under the 1989 Approval Agreement as amended.
- Palo Verde Land Management, Crop Rotation, and Water Supply Program: Under this program, participating landowners in the PVID are paid to reduce water use by not irrigating a portion of their land. A maximum of 35 percent of the participating lands within the Palo Verde Valley can be fallowed in any given year. This program saves up to 133,000 acre-feet of water in certain years, and a minimum of 33,000 acre-feet per year. The term of the program is 35 years. Fallowing began in 2005. In March 2009, Metropolitan and PVID entered into a supplemental emergency fallowing program within PVID that provided for the fallowing of additional acreage in 2009 and 2010. Since 2005, approximately 1 million acre-feet total of Colorado River water has been conserved. The volume of water that becomes available to Metropolitan is governed by the QSA and the Colorado River Water Delivery Agreement. Under these agreements:
 - Metropolitan must reduce its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is greater than 420,000 acre-feet in a calendar year, or
 - Metropolitan may increase its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is less than 420,000 acre-feet in a calendar year.

In both cases, each acre-foot of reduced consumptive use by PVID is an additional acre-foot that becomes available to Metropolitan.

- All-American and Coachella Canal Lining Projects: Metropolitan takes delivery of 16,000 acre-feet of water annually as a result of the All-American and Coachella Canal Lining Projects. Under federal law, that water will be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, pursuant to a pending settlement of their water rights claims in the San Luis River located in San Diego County.
- Southern Nevada Water Authority and Metropolitan Storage and Interstate Release Agreement: Under this 2004 agreement and a related Operational Agreement, the Southern Nevada Water Authority (SNWA) may offer a portion of its Colorado River water supplies to Metropolitan when there is space available in the CRA to receive the water. SNWA may call for return of the water in a future year, in which Metropolitan would reduce its Colorado River water order to return this water. In 2009, 2012, and 2015, Metropolitan, the Colorado River Commission of Nevada, and SNWA amended the related Operational Agreement dealing with volumes of water that may be stored or called at various times. The agreements can be terminated upon 90 days' notice following the return of the water stored by Metropolitan.
- Lower Colorado Water Supply Project: This project develops additional water supplies by pumping groundwater into the All-American Canal for delivery to IID. An equal volume of Colorado River

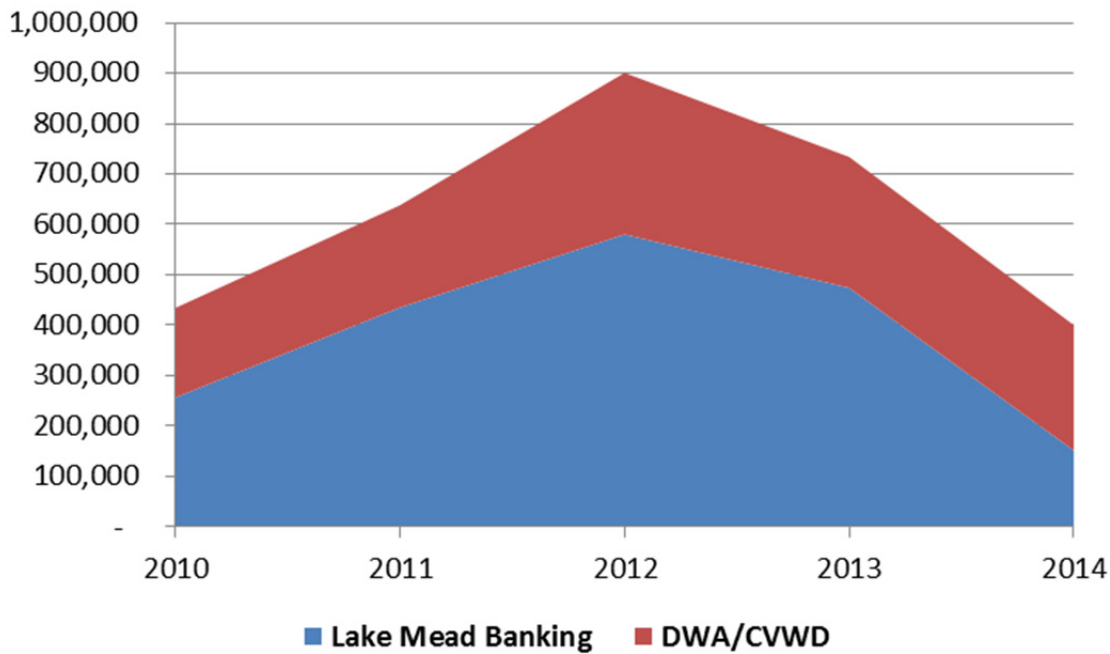
water is then made available for other water users along the river. Under a contract among Metropolitan, the City of Needles, and the United States Bureau of Reclamation, Metropolitan receives any excess unused water developed by the project. Metropolitan makes payments to a trust fund to develop a replacement project or to desalt the groundwater should the groundwater become too saline for discharge into the All-American Canal.

- Lake Mead Storage Program: In December 2007, Metropolitan entered into agreements to set forth the guidelines under which Intentionally Created Surplus (ICS) water is developed, and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead must be created through extraordinary conservation, system efficiency, or tributary conservation methods. ICS is available for delivery in a subsequent year, with extraordinary conservation ICS subject to a one-time deduction to benefit the river system and annual evaporation losses. Extraordinary conservation methods used by Metropolitan to date are water saved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, and groundwater desalination. "System Efficiency ICS" can be created through the development and funding of system efficiency projects that save water that would otherwise be lost from the Colorado River. Metropolitan has participated in two projects to create System Efficiency ICS, and a third project to create ICS by conservation in Mexico:
 - Drop 2 (Warren H. Brock) Reservoir: Metropolitan contributed funds toward the Bureau of Reclamation's construction of an 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County. This reservoir conserves about 70,000 acre-feet of water per year by capturing and storing otherwise non-storable flow. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead, and has the ability to take delivery of up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the new reservoir adds to the flexibility of Colorado River operations.
 - Yuma Desalting Plant: Metropolitan contributed to a one-year pilot operation of the Plant at one-third capacity to provide data regarding the long-term operation of the Plant. Metropolitan's yield from the pilot run of the project was 24,397 acre-feet.
 - In November 2012, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply between 2013 and 2017 through an international pilot project in Mexico. Metropolitan's total share of costs will be \$5 million for 47,500 acre-feet of project supplies. The costs will be paid between 2015 and 2017, and the conserved water will be credited to Metropolitan's intentionally-created surplus water account no later than 2017. In December 2013, Metropolitan and IID executed an agreement under which IID will pay half of Metropolitan's program costs, or \$2.5 million, in return for half of the project supplies, 23,750 acre-feet.
- Hayfield Groundwater Storage Program: This program will allow Metropolitan to store Colorado River water in the Hayfield Groundwater Basin in eastern Riverside County for future withdrawal and delivery to the CRA. As of 2010, there was over 75,000 acre-feet in storage. Drought conditions in the Colorado River watershed have resulted in a lack of surplus supplies for storage. When water supplies become more plentiful, Metropolitan may pursue this program and develop storage capacity of about 400,000 acre-feet.
- Desert Water Agency/Coachella Valley Water District/Metropolitan Water Exchange and Advance Delivery Programs: Under these programs, Metropolitan delivers Colorado River water to the DWA and CVWD, in exchange for future deliveries by DWA and CVWD of an equal volume of their SWP supplies.

By delivering enough water in advance to cover Metropolitan’s exchange obligations, Metropolitan is able to receive DWA and CVWD’s available SWP supplies in years in which Metropolitan’s supplies are insufficient to deliver an equivalent amount of Colorado River water⁹.

Figure 13 shows the year-end balance in Metropolitan’s Colorado River storage programs. The combined capacity of the Lake Mead Storage program and the DWA/CVWD advance delivery program is 2,300,000 acre-feet, plus the amount of water in storage in Lake Mead as a result of the Drop 2 Reservoir and Yuma Desalting Plant system efficiency projects.

Figure 13: Colorado River Storage Programs, acre-feet



In addition to the supply programs developed by Metropolitan, Metropolitan entered into an exchange agreement with the San Diego County Water Authority (SDCWA). On April 29, 1998, SDCWA and IID executed an agreement (the “IID-SDCWA Transfer Agreement”) for SDCWA’s purchase from IID of Colorado River water that is conserved within IID. An amendment to the IID-SDCWA Transfer Agreement, executed as one of the QSA related agreements, set the maximum transfer amount at 205,000 acre-feet in 2021, with the transfer gradually ramping up to that amount over an 18 year period, then stabilizing at 200,000 acre-feet per year beginning in 2023.

No facilities currently exist to deliver water directly from IID to SDCWA. Accordingly, in 1998, SDCWA entered into an exchange agreement with Metropolitan, pursuant to which SDCWA would have made

⁹ DWA has a SWP Table A contract right of 55,750 acre-feet per year and CVWD has a SWP Table A contract right of 138,350 acre-feet per year, for a total of 194,100 acre-feet per year. In addition to their Table A supplies, DWA and CVWD, subject to Metropolitan’s written consent may by exchange take delivery of SWP supplies available under Article 21 of their SWP Contracts, the Turn-back Pool Program, and non-SWP supplies they may acquire and convey through SWP facilities. Under the Metropolitan-CVWD Delivery and Exchange Agreement for 35,000 acre-feet, up to 35,000 acre-feet of Metropolitan’s SWP Table A supply can be requested annually by CVWD for delivery by exchange.

available to Metropolitan at Lake Havasu on the Colorado River the conserved IID Colorado River water acquired by SDCWA from IID. Metropolitan would have delivered to SDCWA an equal volume of water from Metropolitan's supplies. The 1998 SDCWA-Metropolitan Exchange Agreement was conditioned upon the State Legislature's appropriation of \$235 million to Metropolitan for lining the earthen All-American and Coachella Valley Canals to conserve water that would otherwise seep into the soil. Upon completion of the canal lining, Metropolitan had the rights to the estimated 77,700 acre-feet per year of conserved water for 110 years (Canal Lining Water).

In 2003, SDCWA and Metropolitan amended their exchange agreement, pursuant to which Metropolitan assigned the rights to the Canal Lining Water for 110 years and the \$235 million in state funding to SDCWA in exchange for SDCWA's agreement to pay for deliveries of water exchanged for the Canal Lining Water and IID transfer water based on the conveyance rates charged to Metropolitan's member agencies.

The budget for the Supply Programs is \$78.7 million in FY 2016/17 and \$81.7 million in FY 2017/18. The expenditures for the Supply Programs are described in detail in the Biennial Budget document.

Demand Management Programs

Demand Management costs are Metropolitan's expenditures for funding local water resource development programs and water conservation programs. These Demand Management Programs incentivize the development of local water supplies and the conservation of water to reduce the need to import water to deliver to Metropolitan's member agencies. These programs are implemented below the delivery points between Metropolitan's and its member agencies' distribution systems and, as such, do not add any water to Metropolitan's supplies. Rather, the effect of these downstream programs is to produce a local supply of water for the local agencies and to reduce demands by member agencies for water imported through Metropolitan's system.

Demand Management Programs reduce the use of and burden on Metropolitan's distribution and conveyance system, which, in turn, helps reduce the capital, operating, maintenance and improvement costs associated with these facilities. For example, local water resource development and conservation has deferred the need to build additional infrastructure such as the Central Pool Augmentation Project tunnel and pipeline, completion of San Diego Pipeline No. 6, the West Valley Interconnection, and the completion of the SWP East Branch expansion. Overall, the decrease in demand resulting from these projects is estimated to defer the need for projects between four and twenty-five years at a savings of approximately \$2.7 billion in 2015 dollars. The programs also free up capacity in Metropolitan's system to convey both Metropolitan water, and water from other non-MWD sources.

In addition to reducing Metropolitan's costs for operating the distribution and conveyance system, Metropolitan also pursues conservation and local water resource development because it has uniquely been directed to do so by the state Legislature. In 1999, then Governor Davis signed SB 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase conservation and local resource development. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

Metropolitan's Demand Management programs also support the region's compliance with the requirements of SB X7-7. In 2009, the state Legislature passed SB X7-7, which was enacted to reduce urban per capita water use by 20 percent by December 31, 2020. Urban retail water suppliers are not eligible for state water grants or loans unless they comply with the water conservation requirements of the legislation. Demand Management programs help the region achieve urban per capita water use reductions.

Demand Management costs also support the Strategic Plan Policy Principles approved by Metropolitan's Board on December 14, 1999. These principles represent the Board's vision that Metropolitan is a regional provider of wholesale water services. In this capacity, Metropolitan is the steward of regional infrastructure

and the regional planner responsible for coordinated drought management and the collaborative development of additional supply reliability and necessary capacity expansion. Through these regional services, Metropolitan ensures a baseline level of reliability and quality for service in its service area.

The expenditures for the Demand Management Program are \$75.1 million in FY 2016/17 and \$75.9 million in FY 2017/18, and are described in more detail in the Biennial Budget document.

Capital Financing Costs

Capital financing costs are Metropolitan's expenditures for Revenue Bond debt service, General Obligation bond debt service, debt administration costs, the funding of capital expenditures from current operating revenues, or Pay-As-You-Go (PAYGo), and State Revolving Fund (SRF) Loan payments.

Budgeted amounts for Capital Financing represent the expenditures for existing and future debt service, anticipated debt administration costs to support the debt portfolio, and lower PAYGo amounts to support a lower Capital Investment Plan. Metropolitan generally incurs long-term debt to finance projects or purchase assets which will have useful lives equal to or greater than the related debt. Revenue supported debt can be authorized by Metropolitan's Board of Directors.

- **Revenue Bond Debt Service:** Includes the annual principal and interest payments for Metropolitan's outstanding and estimated future Revenue Bond debt service costs. Revenue bonds are used to finance the majority of Metropolitan's CIP. Long-term interest rates are assumed to be 4.5 percent for fixed bonds.
- **G.O. Bond Debt Service:** Includes Metropolitan's currently outstanding General Obligation (GO) bond interest and principal payments. In the long-term, it is assumed that no additional GO debt is issued to finance the CIP.
- **Debt administration costs:** Includes liquidity, remarketing, and broker-dealer fees.
- **PAYGo from Annual Operating Revenues:** Current policy calls for 60 percent of Metropolitan's capital costs to be funded from current revenues. The PAYGo program is projected to generate \$120 million per year through the service class rates for this purpose over the next two fiscal years. As the annual capital expenditures increase over the next ten years, PAYGo will increase, debt service costs will decrease as outstanding debt is paid down, thereby making room within the cost structure to absorb the increased costs associated with the California WaterFix, if applicable.

Expenditures for Capital Financing are \$448.5 million in FY 2016/17 and \$464.1 million in FY 2017/18. The Capital Financing costs are described in more detail in the Biennial Budget document.

Required Reserves

Metropolitan's Administrative Code and provisions of the revenue bond covenants require that reserves be held in certain funds at certain times. Therefore, as costs increase, reserves also increase to meet the Administrative Code and revenue bond covenants requirements. This line item reflects current policy requiring O&M fund and SWC contract fund balances at the beginning of each year. The increase in Required Reserves is \$65.1 million in FY 2016/17 and \$25.4 million in FY 2017/18.

Functional Costs

Several major functions result in the delivery of full service water to Metropolitan's member agencies. These include the supply itself, the conveyance capacity and energy used to move the supply, storage of water,

distribution of supplies within Metropolitan's system, and treatment of these supplies. Metropolitan's rate structure recovers the majority of the cost of these functions through rates and charges.

The functional categories developed for Metropolitan's cost of service process are consistent with the AWWA rate setting guidelines. A standard chart of accounts for utilities is provided in the AWWA publication "Financial Management for Water Utilities: Principles of Finance, Accounting, and Management Controls." Figure 5-2, page 46, lists Operation and Maintenance (O&M) Expense Accounts. As noted, these are Expense Accounts, which provide the means by which O&M and capital financing costs are functionalized for COS. Because all water utilities are not identical, the functional categories used in the COS reflect, as they should, Metropolitan's unique physical, financial, and institutional characteristics, as permitted under the AWWA guidelines. Metropolitan has modified these functional categories as follows:

Pumping: Metropolitan functionalizes its pumping costs for the SWP and the CRA to a Conveyance and Aqueduct subaccount.

Customer Accounts, Customer Service and Sales Promotion: These are not applicable as Metropolitan is not a retail utility.

Storage: Metropolitan provides significant emergency storage, dry-year supply and regulatory services, and functionalizes costs to Storage to reflect Metropolitan's unique physical and operational reliability services.

Demand Management: Metropolitan incurs expenditures to support its Demand Management program, as described throughout this document.

Hydroelectric: Metropolitan has developed recovery generation facilities throughout its distribution system and recovers the costs and revenues from this investment in its COS.

A key goal of functional allocation is to maximize the degree to which rates and charges reflect the costs of providing different types of service. For functional allocation to be of maximum benefit, two criteria must be kept in mind when establishing functional categories.

- The categories should correlate charges for different types of service functions with the costs of providing those different types of functions; and
- Each function should include reasonable allocation bases by which costs may be allocated.

Each of the functions developed for the cost of service process is described below.

Supply

This function includes costs for those SWP and CRA facilities and programs that relate to maintaining and developing supplies to meet the member agencies' demands.

Metropolitan has a contractual right to a proportionate share of the project water that DWR determines is available for allocation to the Contractors. This determination is made each year based on existing supplies in storage, forecasted hydrology, and other factors. Available project water is then allocated to the Contractors in proportion to the amounts set forth in Table A of their State Water Contracts (Table A Allocation). The costs of the SWP supply are paid pursuant to Metropolitan's State Water Contract.

DWR's Delta Water Charge recovers the Capital and Minimum Operation, Maintenance, Power and Replacement (OMP&R) costs for the facilities that conserve and create the actual water supply of the SWP. The Delta Water Charge is based on Contractors' cumulative Table A Allocations, which is approximately 46 percent for Metropolitan, regardless of whether it receives any Table A water in a year.

Under its contract with the federal government, Metropolitan has a fourth priority to 550,000 acre-feet per year of Colorado River water, less certain use by higher priority holders and Indian tribes in California.

Metropolitan also holds a fifth priority for an additional 662,000 acre-feet per year that exceeds California's 4.4 million acre-foot normal year basic apportionment, 38,000 acre-feet under the sixth priority during the term of the Colorado River Water Delivery Agreement, and another 180,000 acre-feet per year when surplus flows are available. Metropolitan can obtain water under the fourth, fifth, and sixth priorities from:

- Water unused by the California holders of priorities 1 through 3;
- Water saved by extraordinary conservation and crop rotation programs; or,
- When the U.S. Secretary of the Interior makes available:
 - Surplus water, Intentionally Created Surplus water, and/or
 - Water apportioned to, but unused by, Arizona and Nevada.

In fiscal years 2016/17 and 2017/18 it is projected that Metropolitan will receive annual CRA water diversions of approximately 1.0 MAF.

The costs of the CRA supply portfolio developed by Metropolitan are paid by Metropolitan. The CRA supply portfolio is supported by Water Resource Management labor, materials and supplies, outside services and professional services. The CRA supply portfolio activities benefit from Water Resource Management support services and management supervision, as well as Administrative and General activities of Metropolitan.

Metropolitan's supply related costs include investments in the Conservation Agreement with the IID, the PVID Program, and other CRA supply programs previously described. SWP programs include the Kern Delta Program, Semitropic Water Storage Program, Yuba Accord Program, Arvin-Edison Water Storage Program, Mojave Storage Program, AVEK Transfer and Storage Program, and others as previously described. Costs for programs within Metropolitan's service area, such as Conjunctive Use Programs, are also included.

Metropolitan finances past, current and future capital improvements associated with the supply portfolio capital assets and capitalizes investments IID/Metropolitan Conservation Program, the PVID Land Management, Crop Rotation, and Water Supply Program, the Kern Delta Storage Program, Semitropic Storage Program, and the Arvin-Edison Storage Program as Participation Rights.

Conveyance and Aqueduct

This function includes the capital, operations, maintenance, and overhead costs for SWP and CRA facilities that convey water to Metropolitan's internal distribution system. Variable power costs for the SWP and CRA are also considered to be Conveyance and Aqueduct costs but are separately reported under a "power" sub-function. Conveyance and Aqueduct facilities can be distinguished from Metropolitan's other facilities primarily by the fact that they do not typically include direct connections to the member agencies. For purposes of this study, the Inland Feeder Project functions as an extension of the SWP East Branch and is therefore considered a Conveyance and Aqueduct facility as well.

Conveyance and Aqueduct: SWP¹⁰

Contractors are participants in the SWP through long-term contracts with DWR. The State Water Contractors participate in the SWP system in exchange for payments made according to their maximum

¹⁰ For historical and current information regarding the SWP, refer to Bulletin 132, published periodically by DWR since 1963. The most recently published Bulletin is Bulletin 132-14, dated November 2015 and titled, "Management of the California State Water Project."

annual water entitlements, whether or not that water is actually made available, and the portions of the SWP system required for delivering water to each Contractor. Thus, in addition to water supply, the SWP is also used to convey transfer supplies between: Contractors, Contractors and non-SWP entities, or between non-SWP entities. SWP operations are closely coordinated and integrated with CVP. San Luis Reservoir and the San Luis Canal section of the California Aqueduct are shared SWP/CVP facilities. The SWP is also connected to other water sources upstream of the Sacramento-San Joaquin Delta, and along the California Aqueduct as it passes through the Central Valley.

The capacity of the SWP to deliver water decreases with distance from the Banks Pumping Plant, located in the Sacramento-San Joaquin Delta, as water is delivered to Contractors through the South Bay Aqueduct and the Coastal Branch Aqueduct, and to turnouts in the San Joaquin Valley and Southern California. The design pumping capacity at Banks Pumping Plant is 10,670 cubic feet-per-second (cfs) but only 4,480 cfs at the Edmonston Pumping Plant, located at the base of the Tehachapi Mountains.

Since inception, the State Water Contract provided Contractors the ability to use the SWP to convey non-SWP water under certain circumstances. Specifically, Article 18(c)(2) of the original SWC addressed situations where there is a shortage in the supply of water made available under the contract and stated, “[T]he District, at its option, shall have the right to use any of the project transportation facilities which by reason of such permanent shortage in the supply of project water to be made available to the District are not required for delivery of project water to the District, to transport water procured by it from any other source: [p]rovided, [t]hat such use shall be within the limits of the capacities provided in the project transportation facilities for service to the District under this contract”. However, Article 18(c)(2) only applied in the event a permanent shortage was declared by DWR and it was unclear how costs would be charged for using SWP facilities to transport non-project water. In 1994, the Contractors and DWR negotiated the Monterey Amendments to the State Water Contract, including Article 55, which made explicit the Contractors’ rights to use the portion of the SWP conveyance system necessary to deliver water to them (their “reaches”) also includes the right to convey non-SWP water at no additional cost as long as capacity exists. Power is charged at the SWP average power rate. The Monterey Amendments also expanded the ability to carryover SWP water in SWP storage facilities, allowed Contractors to store water in groundwater storage facilities outside a Contractor’s service area for later use, and permitted certain Contractors to borrow water from terminal reservoirs. These amendments, approved by Metropolitan’s Board in 1995, provide the means for individual Contractors to increase supply reliability through water transfers and storage outside their service areas.

The impact of the Monterey Amendments on SWP operations is shown in Tables 11 and 12 below, which are based on information supplied by DWR¹¹. In the 5 calendar years ending in 2014, only 57.5 percent of the SWP deliveries to Metropolitan were Table A water delivered in the year it is paid for. Fully 42.5 percent of the deliveries were for non-Table A water. Non-SWP water comprised 12 percent of Metropolitan’s deliveries from the SWP. For the other Contractors, 48 percent of the SWP deliveries were what one would consider “supply”, or Table A water delivered in the year it is paid for; 52 percent of the deliveries are for non-Table A water. Non-SWP water transported by the other Contractors comprised 23.5 percent of their deliveries from the SWP. Non-Contractors using the SWP to wheel transfer supplies comprised 3 percent of all deliveries through the SWP. Fully 21 percent of the deliveries on the SWP were for non-SWP water.

¹¹ DWR, Water Deliveries Section, State Water Project Analysis Office, September 29, 2015.

Table 11: State Water Project Water Management Activities, CY 2010 through 2014, Acre-Feet

	SWP Deliveries--Acre-feet								Non-SWC Agencies	Total Deliveries ⁴	
	Metropolitan				Other SWP Contractors						
	(a)	(b)	(c)	(d) = (a) + (b) + (c)	(e)	(f)	(g)	(h) = (e) + (f) + (g)			(i) = (d) + (h)
Table A ¹	Other SWP ²	Non-SWP ³	Total MWD	Table A ¹	Other SWP ²	Non-SWP ³	SWC	Total SWC	Non-SWP		
2010	639,537	352,831	265,720	1,258,088	687,734	361,796	353,346	1,402,876	2,660,964	148,982	2,809,946
2011	857,794	596,204	145,907	1,599,905	1,220,286	596,713	179,850	1,996,849	3,596,754	49,731	3,646,485
2012	906,009	302,488	10,010	1,218,507	934,470	454,249	245,202	1,633,921	2,852,428	82,473	2,934,901
2013	613,271	145,147	113,469	871,887	471,421	392,336	372,772	1,236,529	2,108,416	68,083	2,176,499
2014	59,181	223,675	114,032	396,888	25,418	170,325	485,811	681,554	1,078,442	62,097	1,140,539
Total	3,075,792	1,620,345	649,138	5,345,275	3,339,329	1,975,419	1,636,981	6,951,729	12,297,004	411,366	12,708,370

¹ Table A delivered and not exchanged or transferred or stored

² Other SWP = SWP Exchanges, Transfers, Carryover Storage, Flexible Storage, Article 21, Pool A/B, settlement

³ Non-SWP = banking, non-SWP transfers and exchanges, Dry Year Purchase Program, local water, general conveyance water, operations exchange

⁴ Does not include "Local non-SWP Water Supply Contractors", i.e. Feather River parties with senior water rights

Table 12: State Water Project Water Management Activities, CY 2010 through 2014, percentages

	SWP Deliveries--Percentages							
	Metropolitan		Other SWP Contractors		Other Contractors		Non-SWC to Total non-SWP to	
	$\frac{(a)}{(d)}$	$\frac{((b) + (c))}{(d)}$	$\frac{(c)}{(d)}$	$\frac{(e)}{(h)}$	$\frac{((f) + (g))}{(h)}$	$\frac{(g)}{(h)}$	$\frac{(j)}{(k)}$	$\frac{((c) + (g) + (j))}{(k)}$
Table A	MWD Non-Table A	MWD Non-SWP	Table A	Other Contractors Non-Table A	Other Contractors Non-SWP	Non-SWC to Total	Non-SWP to Total	
2010	50.8%	49.2%	21.1%	49.0%	51.0%	25.2%	27.3%	
2011	53.6%	46.4%	9.1%	61.1%	38.9%	9.0%	10.3%	
2012	74.4%	25.6%	0.8%	57.2%	42.8%	15.0%	11.5%	
2013	70.3%	29.7%	13.0%	38.1%	61.9%	30.1%	25.5%	
2014	14.9%	85.1%	28.7%	3.7%	96.3%	71.3%	58.0%	
Total	57.5%	42.5%	12.1%	48.0%	52.0%	23.5%	21.2%	

The SWP has transformed from being a transporter of SWP water to a transporter of other water sources as well for Metropolitan, other State Water Contractors, and non-Contractors. The reason for this is quite simple: the SWP has allocated only 41 percent on average of the water due to State Water Contractors in the 5 calendar years ending 2014, and only 49 percent on average in the 10 years ending 2014. The State Water Contractors have a significant investment in the costs of operating, maintaining and financing the SWP, and have developed creative programs to develop additional supplies and improved supply reliability by using the SWP as a transportation system. Specifically, during times of shortage or low SWP supply allocations, Metropolitan uses the SWP facilities to transport non-SWP water, which is water it has acquired through use of non-SWP sources, to its service area. When Metropolitan conveys non-project water, it is using the SWP transportation facilities in transactions that have nothing to do with SWP water supply. The ability to move non-SWP water through the SWP facilities, either as a result of purchases of non-SWP water or withdrawals from banking programs, enhances Metropolitan’s operational flexibility and contributes to regional system reliability from which all member agencies benefit.

In addition, Metropolitan has, from time to time, used its capacity in the SWP to wheel non-Metropolitan water to its member agencies. Examples include water delivered to Santa Margarita Water District (1,665.2 acre-feet net in 1998-2000) and Irvine Ranch Water District (1,000 acre-feet in 2015), sub-agencies of the Municipal Water District of Orange County, and for the San Diego County Water Authority (23,077 acre-feet in 2008 and 15,520 acre-feet net in 2009).

The costs of the SWP conveyance facilities are paid pursuant to Metropolitan’s State Water Contract. DWR’s Transportation Charge recovers the costs associated with the various aqueduct reaches that deliver project

water to the Contractors. The Capital and fixed OMP&R portions of the SWP Transportation Charge recover costs from the Contractors based on the accumulation of allocated costs for each aqueduct reach to each Contractor. Unlike the Delta Water Charge, which is uniform for a unit of Table A water, the allocation of these portions of the Transportation Charge will vary based on the aqueduct segments needed to deliver water to a specific Contractor. The further a Contractor is from the Delta and the greater its capacity in the transportation facilities, the greater its allocation of the Capital and fixed OMP&R Transportation Charges. Payment of the Transportation Charge entitles Contractors to the right to use their capacity in the SWP facilities for transportation of SWP or non-SWP water, on a space available basis, under the SWC. A Contractor that participates in the repayment of a particular reach, or segment of the SWP, has already paid the costs of using that reach for the conveyance of water supplies through the Transportation Charge. On average, Metropolitan pays approximately 63 percent of the total transportation costs, both capital and OMP&R, of the SWP.

Conveyance and Aqueduct: CRA

The CRA has also transformed from being mainly a “supply” source to a provider of delivery service. Specifically, Metropolitan uses the CRA to:

- transport water made available as a result of cooperative programs implemented through agreements with other water agencies, either in the year made available or in a subsequent year as intentionally-created surplus from Lake Mead storage to its service area;
- recharge water in a groundwater basin so that it can subsequently plan to recover it for delivery to Metropolitan’s service area; and
- exchange water with and deliver water in advance to other water agencies.

When Metropolitan conveys water made available as a result of cooperative programs implemented through agreements with other water agencies, to recharge water and subsequently recover it, or to exchange water with or deliver water in advance to other agencies, it is by definition using the CRA as a transportation facility. The ability to convey such water through the CRA facilities enhances Metropolitan’s operational flexibility and contributes to regional system reliability for the benefit of all member agencies. Metropolitan’s total calendar year CRA water management activities from 2010 through 2014 are shown in Table 13.

Table 13: CRA Water Management Activities in Acre-Feet, CY 2010 through 2014

	(a)	(b)	(c)	(d)	(e)	(f)	(g) = (a) / (f)	= ((f) - (a)) / (f)
	Priority 4 & 5	IID/MWD	PVID	Other, including Storage (to)/from	MWD Exchange w SDCWA	Total Net Diversions	Priority 4 & 5 to Total	Non Priority 4 and 5 to Total
2010	815,525	97,000	148,600	(113,571)	151,507	1,099,061	74.2%	25.8%
2011	485,178	99,940	122,200	(151,571)	143,243	698,990	69.4%	30.6%
2012	467,166	93,677	73,700	(85,285)	186,861	736,119	63.5%	36.5%
2013	545,087	98,307	32,750	156,315	180,256	1,012,715	53.8%	46.2%
2014	484,937	84,305	43,010	383,959	180,123	1,176,334	41.2%	58.8%
Total	2,797,893	473,229	420,260	189,847	841,990	4,723,219	59.2%	40.8%

(a) Use by holders of Indian Miscellaneous present perfected rights and use by holders of Priorities 1, 2, and 3b above 420,000 acre-feet absent the Metropolitan-PVID Land Management, Crop Rotation, and Water Supply Program have been deducted from the Priority 4 supply of 550,000 acre-feet.

In the 5 calendar years ending 2014, approximately 59 percent of the CRA diversions to Metropolitan represent Metropolitan’s entitlements under the Seven Party Agreement system. The remaining 41 percent represents volumes of Colorado River water moved through other programs. Metropolitan periodically transports water for Tijuana, Mexico through the CRA. Recent amounts are 5,482 acre-feet in calendar year 2008, 5,152 acre-feet in calendar year 2009, and 102 acre-feet in calendar year 2012.

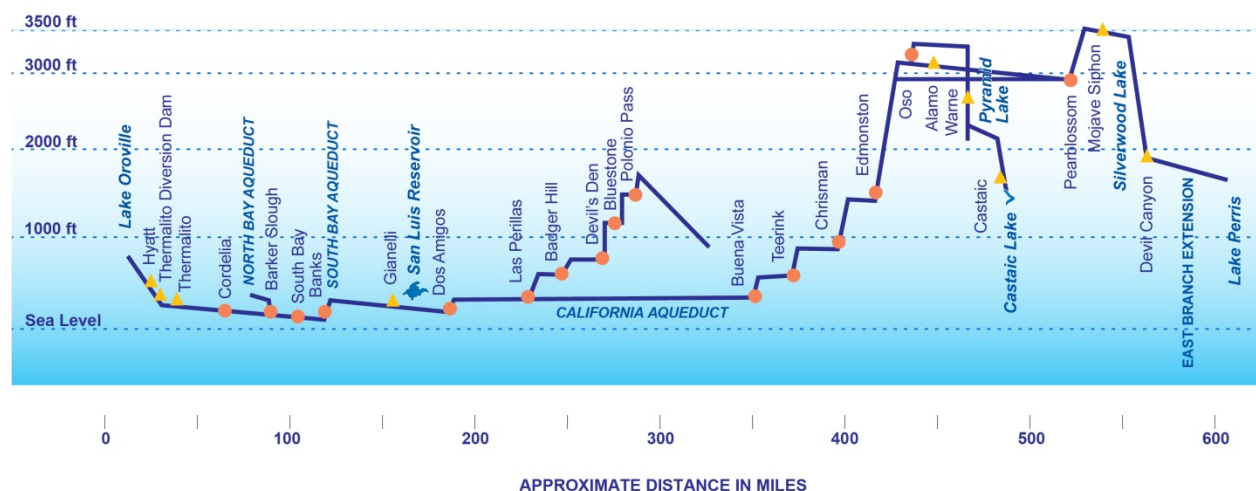
With regard to use as a transportation facility, the CRA differs from the SWP’s California Aqueduct in that the capacity of the CRA is uniform through its entire length. The CRA was designed to move a relatively uniform volume of water through its entire length, and Metropolitan relies on the entire length to move water. There are no “reaches”, or segments of the aqueduct, that are associated with deliveries to take-out points. The 4 regulating reservoirs are small, so water cannot be “batched” like the SWP, where pumps are cycled on and off to take advantage of cheaper time periods of the day to use electricity. Unlike the SWP, each CRA pump is uniformly sized at 225 cfs; none are variable speed pumps. This means the pumps are either operating at 225 cfs of capacity or are off at 0 cfs.

The costs of the CRA itself are paid by Metropolitan directly, as it operates the CRA. Metropolitan incurs capital and operations and maintenance expenditures to support the CRA activities. The costs of the CRA activities include labor, materials and supplies, outside services to provide repair and maintenance, and professional services. The CRA activities benefit from Water System Operations support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements on the CRA, and capitalizes those improvements as assets. The costs of Metropolitan’s capital financing activities are apportioned to service functions, such as the CRA. Over the next 5 years, approximately 17 percent of the CIP is for CRA capital projects.

Conveyance and Aqueduct: SWP Power

In addition to the charges for supply (the Delta Water Charge capital and OMP&R) and Transportation (Transportation Capital and OMP&R), DWR also charges for the power needed to deliver project water throughout the system. Two charges recover these power costs: the variable OPMR portion of the Transportation Charge (Variable Charge) and the Off Aqueduct Power Facilities (OAPF) charge. Because the State Water Contracts are cost recovery contracts, DWR invoices Contractors on an estimated basis for any calendar year, and then provides credits in later years once cost true-ups are finished.

Figure 14: Pumping Lift and Recovery Generation Facilities, SWP



The Variable Charge includes the annually estimated cost of purchased power including capacity and energy, cost of SWP power generation facilities, program costs to offset annual fish losses at the Banks Pumping Plant, purchased transmission services, and credits for sales of ancillary services and excess SWP system power

sales. The various lifts and recovery generation facilities of the SWP are shown in Figure 14; the orange circles indicate pumps to lift water, and the yellow triangles indicate recovery generation facilities.

The Variable Charge is calculated on the basis of the energy required to pump an acre-foot of water to its take-out point multiplied by the system energy rate, less energy from the recovery generation plants. The system energy rate is a system-wide average rate calculated as the net cost of energy--total costs less revenues--divided by the net energy required to pump all water. That rate is applied to each acre-foot of water delivered to SWP customer based on the power required to pump the water to designated delivery points on the system. DWR can adjust the system energy rate as the calendar year progresses in order to reflect actual costs.

The OAPF charge recovers the debt service and environmental remediation costs of power generation facilities not on the aqueduct, namely Reid Gardner Unit 4 and debt service associated with the South Geysers and Bottle Rock geothermal plants. The OAPF rate is calculated as the total annual estimated costs divided by the total energy required to pump all water. Recovery energy is not considered in this calculation. Each Contractor's charge is the OAPF rate times the energy required to pump the Contractor's water order.

The SWP uses low-cost hydroelectric and recovery generation resources, but they only provide about 50 percent of the SWP energy needs in an average water year. The SWP relies on the wholesale market and contractual resources with exposure to market price volatility for as much as 30 to 35 percent of its needs, using other contractual resources to fill in the difference.

The SWP energy required to move water to Metropolitan is related to the transportation on the East Branch through Devil Canyon and on the West Branch through Castaic. Because Metropolitan moves the largest amount of water on the SWP and Metropolitan's delivery points on the East and West Branch are at or near the southern extreme of the SWP, Metropolitan pays approximately 70 percent of the SWP power costs. The cost of power per acre-foot to Metropolitan's delivery points on the East and West Branches are shown in Table 14.

Table 14: Cost of SWP Power for Metropolitan Terminal Delivery Points, \$ per Acre-Foot

	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016 Initial
East Branch	\$197.34	\$224.27	\$230.27	\$280.07	\$241.16	\$267.57
West Branch	\$170.79	\$210.93	\$215.61	270.03	\$226.58	\$257.02

The SWP energy costs are impacted by the energy policies of the state of California. The SWP is acquiring renewable resources, primarily solar to date, to meet its obligation to reduce greenhouse gas emissions. The SWP energy costs are also impacted by the increasing cost of using the California Independent System Operator's (CAISO) grid to deliver power from its generating sources and the wholesale power market to its pumping loads. The SWP does not own high voltage transmission facilities and must use the CAISO grid to move power; the SWP is the largest payer of the CAISO transmission access rates. Finally, the SWP has an obligation to acquire and surrender emissions allowances for the generating facilities the SWP owns, primarily the Lodi Energy Center.

Conveyance and Aqueduct: CRA Power

Metropolitan operates five pumping plants on the CRA, which are shown in Figure 15.

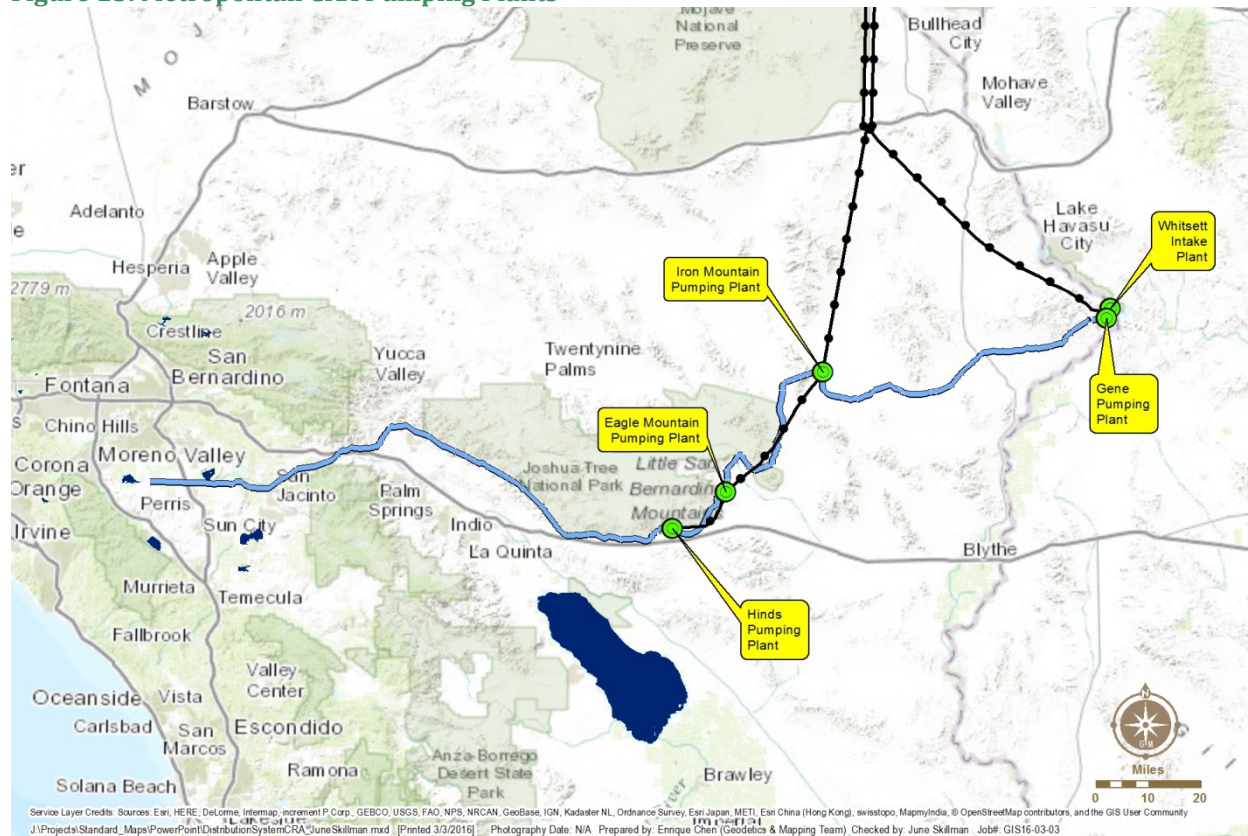
Water enters the aqueduct system from Lake Havasu at the Whitsett Intake Pumping Plant (Intake). It is then pumped to its highest elevation of 1,807 feet above sea level at the Hinds Pumping Plant (Hinds), which is about 126 miles west of Intake. Five pumping plants lift the water a total of 1,617 feet to the Hinds Pumping Plant. From Hinds, the water flows 116 miles by gravity to Lake Mathews.

Metropolitan currently has four basic sources of power available to meet CRA energy requirements: Hoover Power, Parker Power, Benefit Energy from Southern California Edison (SCE), and wholesale purchases from entities in the Western United States.

Under a contract between the United States, Department of Energy, Western Area Power Administration, and Metropolitan, Metropolitan currently has a right to an annual firm energy entitlement of 1,291,000 megawatt-hours (MWh) generated at the Hoover Dam power plant. This contract expires in 2017; a follow-on contract is in the process of negotiations. The cost charged to Metropolitan for Hoover power is based on the revenue required by the Bureau of Reclamation to operate and maintain the power plant. This source of power has historically been at a lower cost than power purchased at market rates.

Metropolitan funded the total cost of construction of Parker Dam and incidental facilities, and 50 percent of the construction cost of the Parker Power plant. In consideration for this funding, Metropolitan is entitled in perpetuity to 50 percent of the capacity and energy of the four Parker generating units, which is approximately 54 MW of capacity. Parker power is also cost-based.

Figure 15: Metropolitan CRA Pumping Plants



Metropolitan has a Service and Interchange Agreement (SCE Agreement) with SCE that provides services and benefits to both parties. The SCE Agreement expires in 2017. Under the SCE Agreement, SCE can dispatch Metropolitan's Hoover Dam and Parker Dam power entitlements and utilize excess transmission capacity on Metropolitan's CRA transmission system. SCE in return must meet Metropolitan's CRA energy and reliability requirements on a continuous basis. SCE must also provide Benefit Energy.

Benefit Energy is the energy SCE provides to Metropolitan in consideration of the benefits SCE receives under the SCE Agreement. There is no charge for this energy. The amount of Benefit Energy available annually depends on the amount of water diverted through the CRA, and thereby the amount of energy used. Because SCE is obligated to meet the energy and reliability requirements of the CRA, SCE benefits if the CRA is not

operating at full capacity. The relationship between the amount of Benefit Energy provided and pumping load is inverse: the more Metropolitan pumps, the less Benefit Energy SCE provides. Therefore, under a high diversion scenario, Metropolitan receives slightly less Benefit Energy to meet pumping loads than would be realized under a lower diversion scenario. The minimum amount of Benefit Energy provided annually by SCE is 200,000 MWh. The SCE Agreement sets maximum and minimum amounts of Benefit Energy that can be allocated monthly. Benefit Energy can only be used to meet off-peak energy requirements. A follow-on contract to the SCE Agreement is in the process of negotiations.

Metropolitan's current basic energy resource mix is very cost effective but is not sufficient to pump Metropolitan's Colorado River water supplies in all years. The current energy resource mix is sufficient to pump approximately 600 thousand-acre-feet (TAF) to 750 TAF of Colorado River water through the length of the CRA annually. For that reason, Metropolitan is required to purchase supplemental power to transport Colorado River water supplies in some years.

Metropolitan requires any party seeking to wheel non-Metropolitan water through its CRA to purchase, or arrange for Metropolitan to purchase, the power supplies required to pump that water. The additional pumping reduces the amount of Benefit Energy available to Metropolitan under the SCE Agreement. To compensate for this loss of Benefit Energy to Metropolitan, an additional 317 kilowatt-hours per acre-foot of water pumped must be provided to Metropolitan. Furthermore, any Colorado River water that is pumped through Metropolitan's CRA is diverted above Parker Dam and cannot generate energy for Metropolitan's use at the Parker Dam Power plant. To compensate for this loss, an additional 32 kilowatt-hours per acre-foot are required to make Metropolitan whole for undertaking to pump non-Metropolitan water through the CRA that would otherwise have flowed through the Parker Power plant. In total, 2,349 kilowatt-hours (or 2.349 MWh) of energy must be provided to Metropolitan to convey each acre-foot of non-Metropolitan water supplies through the CRA.

Supplemental power can be purchased to pump non-Metropolitan water through the CRA. The market rate for electric energy prices is regularly tracked and published for various regions in California. Metropolitan uses the Platt's Market Report index and the California Independent System Operator (CAISO) Open Access Same-time Information System (OASIS) Day Ahead Locational Marginal Price as reflective of the supplemental power costs for electric energy used for its pumping plants on the CRA. The regional index applicable to energy sold for use on the CRA is designated as "South-of-Path 15", or SP15.

Any party seeking to pump non-Metropolitan water through the CRA would have to purchase, or arrange for Metropolitan to purchase on its behalf, supplemental power. The market costs for purchases of power for the CRA are reflected in the SP15 index published by Platt's Market Report or the CAISO OASIS Day Ahead Locational Marginal Price. Because Metropolitan utilizes the pumping capacity on the CRA for its own water supplies during off-peak hours to minimize its costs, the pumping of non-Metropolitan wheeled water would occur during on-peak hours and the on-peak price index published in Platt's Market Report or the CAISO OASIS Day Ahead Locational Marginal Price is indicative of the price that would be paid to pump non-Metropolitan water.

Table 15: Cost of CRA Power Sources, \$ per Megawatt-hour (MWh)

	FY 2010/11	FY 2011/12	FY 2012/13	FY 2013/14	FY 2014/15
Hoover ¹	\$16.81	\$17.26	\$18.60	\$29.74	\$15.84
Parker ¹	\$20.13	\$17.27	\$9.33	\$12.41	\$13.55
SP15, off-peak ²	\$23.73	\$23.44	\$33.15	\$40.24	\$33.15
SP15, on-peak ³	\$37.53	\$33.45	\$45.38	\$50.90	\$40.68

¹Information from Annual Reports for years 2011, 2012, 2013, 2014, and 2015

²SP15, off-peak is used to determine the market value of Benefit Energy. Benefit Energy is available to Metropolitan for use only during off-peak hours. Thus, to the extent Benefit Energy is not available to meet Metropolitan's off-peak energy needs, Metropolitan must purchase off-peak power.

³SP15, on-peak is used to determine the market value of Metropolitan sales of excess energy, if any. SP15, on-peak is also used to determine the pumping costs associated with pumping non-Metropolitan water.

Metropolitan from time to time sells excess energy into the wholesale market and realizes revenues, which offset the total cost of energy as reflected in the System Power Rate. If Metropolitan were to deliver additional water through the CRA, these sales become a lost opportunity. The on-peak price index published in Platt's Market Report or the CAISO OASIS Day Ahead Locational Marginal Price is indicative of the price that Metropolitan could realize by selling excess energy.

Table 16: South-of-Path 15 On-Peak Energy Prices

	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
January	\$ 37.13	\$ 28.73	\$ 46.15	\$ 49.53	\$ 35.70
February	\$ 38.13	\$ 29.05	\$ 46.45	\$ 71.85	\$ 31.88
March	\$ 32.72	\$ 24.85	\$ 51.39	\$ 52.06	\$ 30.73
April	\$ 36.01	\$ 29.33	\$ 56.34	\$ 51.19	\$ 29.03
May	\$ 34.91	\$ 31.36	\$ 51.49	\$ 51.85	\$ 28.11
June	\$ 36.98	\$ 31.43	\$ 47.77	\$ 50.90	\$ 37.01
July	\$ 41.20	\$ 36.46	\$ 51.74	\$ 53.18	\$ 39.27
August	\$ 42.25	\$ 44.32	\$ 45.44	\$ 50.47	\$ 39.02
September	\$ 41.53	\$ 41.99	\$ 48.91	\$ 51.49	\$ 38.00
October	\$ 34.78	\$ 42.81	\$ 42.82	\$ 49.06	\$ 35.55
November	\$ 34.49	\$ 39.84	\$ 44.13	\$ 49.28	\$ 30.22
December	\$ 32.59	\$ 38.77	\$ 52.14	\$ 41.80	\$ 29.83

MWh = megawatt-hour, or 1,000 kilowatt-hours

As key contracts expire in 2017, namely Hoover and the SCE Agreement, Metropolitan's resource mix and costs will likely change. Metropolitan has an obligation to acquire and surrender emissions allowances for the energy generated out-of-state and imported into California. As these factors continue to develop, Metropolitan may face increased exposure to both on- and off-peak wholesale energy prices.

Storage

Storage costs include the capital financing, operating, maintenance, and overhead costs for Diamond Valley Lake, Lake Mathews, Lake Skinner, and five smaller regulatory reservoirs within the Distribution System. Metropolitan's larger storage facilities are operated to provide: (1) emergency storage in the event of an earthquake or similar system outage; (2) drought storage that produces additional supplies during times of shortage; and (3) regulatory storage to balance system demands and supplies and provide for operating flexibility. To reasonably allocate the costs of storage capacity among member agencies, the storage function is categorized into sub-functions of emergency, drought, and regulatory storage.

Table 17: Functional Allocation of Metropolitan Storage Facilities

Storage Facilities	Functional Allocations		
	Emergency	Drought	Regulatory
Diamond Valley Lake	50%	45%	5%
Other Regulatory			100%
Lake Skinner	77%		23%
Lake Mathews	44%		56%
Semi-Tropic		100%	
Arvin-Edison		100%	
CRA Off-Stream		100%	
Groundwater Conjunctive Use		100%	

(a) DVL allocations are based on modeled changes in year-end reservoir levels (2004-2009) as relative to capacity and emergency storage criteria

(b) Lake Skinner and Lake Mathews allocation percentages are derived from Southern California's Integrated Water Resources Plan, March 1996, Volume 2 "Metropolitan's System Overview", Section 4, p. 10, Table 4-3.

Treatment

This function includes capital financing, operating, maintenance, and overhead costs for Metropolitan's five treatment plants and is considered separately from other costs so that the treatment function may be priced separately.

Distribution

This function includes capital financing, operating, maintenance, and overhead costs for the Distribution System of feeders, canals, pipelines, laterals, and other appurtenant works. The Distribution System facilities are distinguished from Conveyance and Aqueduct facilities at the point of connection to the SWP, Lake Mathews (CRA), and other major turnouts along the CRA facilities. Examples include the Rialto Pipeline; the Etiwanda Pipeline; the Foothill Feeder; the Sepulveda Feeder; the Santa Monica Feeder; the Upper, Middle, and Lower Feeders; and the San Diego Pipelines No.1, No. 2, No. 3, No. 4, and No. 5.

Demand Management

A separate demand management service function has been used to clearly identify the cost of Metropolitan's incentives in local resources like conservation, recycling, and desalination.

Metropolitan increased the emphasis on Demand Management programs after the devastating drought of the early 1990's. Metropolitan's 1996 Integrated Resources Plan identified the Preferred Resource Mix as the resource plan that achieved the region's reliability goal of providing the full capability to meet all retail-level demands during foreseeable hydrologic events, represented the least-cost sustainable resources plan, met the region's water quality objectives, was balanced and diversified and minimized risks, and was flexible, allowing for adjustments should future conditions change.

The Preferred Resource Mix included locally developed water supplies and conservation, and recognized that regional participation was important to achieve their development. Additional imported supplies frequently have relatively lower development costs, but can create a large cost commitment for regional infrastructure to transport and store those imported supplies. On the other hand, local projects, like those designed to recycle water or increase groundwater production, may have higher development costs but require little or no additional infrastructure to distribute water supplies to customers. This trade-off between relatively lower-cost imported supplies requiring large regional infrastructure investments and relatively higher-cost local supply development requiring less additional local infrastructure was an important consideration in the development of the Preferred Resource Mix. A strategy of aggressively investing in imported water supply would lead to higher costs for the region because of the larger investments required in infrastructure.

Demand Management Programs decrease and avoid operating and capital maintenance and improvement costs, such as costs for repair of and construction of additional or expanded water conveyance, distribution, and storage facilities. Investments in demand side management programs like conservation, water recycling, and groundwater recovery help defer the need for additional conveyance, distribution, and storage facilities. The programs also free up capacity in Metropolitan's system to convey both Metropolitan water, and water from other non-Metropolitan sources.

Metropolitan's 1996 Integrated Resource Plan included an analysis of future demand scenarios and their effect on infrastructure requirements. A comparison of capital infrastructure costs with and without Demand Management Programs showed a difference of around \$2 billion. In other words, the ability to meet demand through local Demand Management Programs resulted in an anticipated \$2 billion in capital cost savings. A sensitivity analysis further showed that a 5% increase or decrease in demand had a correlative effect on when Metropolitan would need to incur capital infrastructure costs. Since then, Metropolitan has seen the benefits materialize. Metropolitan has been able to defer the need to build additional infrastructure such as the Central Pool Augmentation Project tunnel and pipeline, completion of San Diego Pipeline No. 6, the West Valley Interconnection, and the completion of the SWP East Branch expansion. Overall, the decrease in demand resulting from these projects is estimated to defer the need for projects between four and twenty-five years at a savings of approximately \$2.7 billion in 2015 dollars.

Since 1996, the Integrated Resources Plan has been updated three times, in 2004, 2010, and 2015, reaffirming long-term sustainability of the region's water supply through implementation of conservation and local resource development.

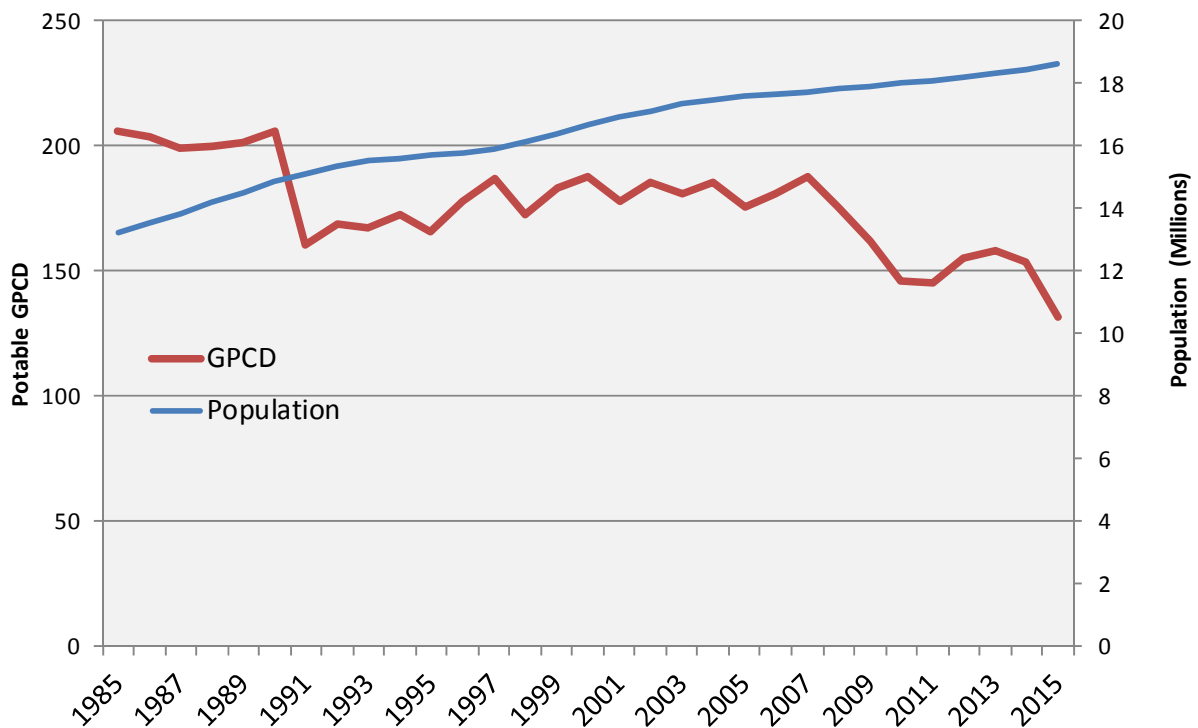
Demand management is an important part of Metropolitan's resource management efforts. Metropolitan's incentives in these areas contribute to savings for all users of the system in terms of lower capital costs that would otherwise have been required to expand and maintain the system.

Demand Management: SB-60

In September 1999, Governor Gray Davis signed SB 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase "sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures." SB 60 also requires Metropolitan to hold an annual public hearing to review its urban water management plan for adequacy in achieving an increased emphasis on cost-effective conservation and local water resource development, and to invite knowledgeable persons from the water conservation and sustainability fields to these hearings. Finally, Metropolitan is required to annually prepare and submit to the Legislature a report on its progress in achieving the goals of SB 60. SB 60 specifically indicated that no reimbursement was required by legislation because Metropolitan, as a local agency, has the authority to levy service charges, fees or assessments sufficient to pay for the program or level of service mandated by SB 60. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

In fiscal year 2014/15 alone, Metropolitan’s service area achieved 1.5 million acre-feet of water savings from conservation, recycled water and groundwater recovery programs. Figure 16 below compares population in millions on the right axis and gallons per capita daily (GPCD) water use on the left axis. While the population has increased to approximately 18.5 million, GPCD water use has decreased to approximately 125 GPCD. These reductions derived from programs for which Metropolitan paid incentives, as well as code-based conservation achieved through legislation, building and plumbing codes and ordinances, and reduced consumption resulting from changes in water pricing. Cumulatively, since 1990 Metropolitan has invested almost \$1 billion and Metropolitan’s service area has achieved 17.9 million acre-feet of water savings. These water savings reduce per capita water demands, allowing Metropolitan to serve a growing population with existing supplies and without constructing additional facilities for imported water.

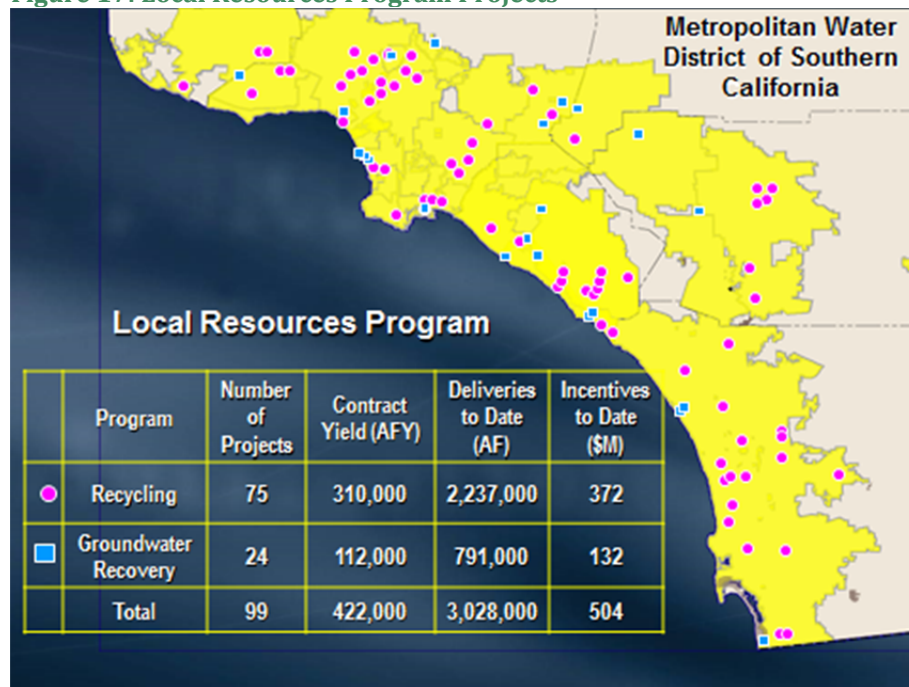
Figure 16: Population and Per Capita Daily Water Use



Metropolitan’s Conservation Credits Program provides incentives to residents and businesses for use of water-efficient products and qualified water-saving activities. Rebates have been provided to residential customers for turf removal and purchasing of high-efficiency clothes washers and toilets. Rebates are also provided to businesses and institutions for water-saving devices. In fiscal year 2014/15, the Conservation Credits Program achieved 944,000 acre-feet of saved water through new and existing conservation initiatives funded with incentives and maintained through plumbing codes. Cumulatively, through fiscal year 2014/15 the Conservation Credits Program has achieved over 2.2 million acre-feet of water savings.

Metropolitan provides financial incentives through its Local Resources Program for the development and use of recycled water and recovered groundwater for the participants. The Local Resources Program consists of 75 recycling projects and 24 groundwater recovery projects located throughout Metropolitan’s service area, of which 85 projects are in operation, as shown in Figure 17. From the Local Resources Program’s inception in 1982 through FY 2014/15, Metropolitan has paid out about \$372 million in incentives to produce about 2.2 million acre-feet of recycled water. Metropolitan also provided approximately \$132 million to produce 791,000 acre-feet of recovered degraded groundwater for municipal use.

Figure 17: Local Resources Program Projects



Demand Management: SB X7-7

SB X7-7 mandated a new requirement to lower urban per capita water use 20 percent by December 31, 2020. Enacted by the state Legislature and signed into law by Governor Schwarzenegger as part of a historic package of water reforms in November 2009, the “20x2020” plan gave local communities flexibility in meeting this target while accounting for previous efforts in conservation and recycling. The Legislature found that reducing water use through conservation and regional water resources management would result in protecting and restoring fish and wildlife habitats, reducing dependence on water through the Delta, and providing significant energy and environmental benefits. Metropolitan coordinates closely with its member agencies to achieve these targets both at a retail agency level in compliance with legislative requirements, and as a region in achieving a true 20 percent reduction in per-capita water use.

Metropolitan provides incentives under both the Conservation Credits Program and the Local Resources Program. The incentives developed were based on the benefits of the programs. The financial benefits of these programs to Metropolitan continue to be the reduction in capital investments due to a deferral and/or downsizing of *regional* infrastructure to import water, and the reduction in Operations and Maintenance expenditures needed to distribute, store and treat imported water. These benefits occur year-round regardless of hydrologic conditions because once a large capital project is deferred, the savings are permanent. Additional benefits of local water management programs are realized during droughts or emergencies when imported supplies are scarcer. The greatest economic benefit associated with developing local resources is the downsizing of Metropolitan’s regional capital investment plan needed to deliver additional imported water to member agencies.

Projects that have been deferred or downsized due to the conservation and local resource development include the Central Pool Augmentation Project tunnel and pipeline, completion of San Diego Pipeline No. 6, the West Valley Interconnection, and the completion of the SWP East Branch expansion.

The incentives must be adequate to cause member agencies to construct local resource development. The Local Resources Program was conceived in 1982. The easiest, most cost-effective projects have already been

implemented. Future projects are more difficult to site and are more costly to develop. Member agencies have indicated that cost is the predominant constraint and that financial assistance is needed, especially in early years. In 2014, the Metropolitan Board increased the Local Resources Program incentives to account for the impact of inflation and the increase in the average unit cost of projects since the Local Resources Program was approved.

Administrative and General (A&G)

These costs occur in each of the Groups' departmental budgets and reflect overhead costs that cannot be directly functionalized. The COS process allocates A&G costs to the service functions based on the labor costs of non-A&G dollars allocated to each function.

Hydroelectric

Hydroelectric costs include the capital financing, operating, maintenance, and overhead costs incurred to operate the 16 small hydroelectric plants located throughout the water distribution system.

Functional Assignment Bases

The functional assignment bases are used to assign costs that make up the Revenue Requirement into the various service functions. The primary functional assignment bases used in the cost-of-service process are listed below.

- Direct assignment
- Net Book Value plus Work-In-Progress
- Prorating in proportion to other allocations
- Manager analysis
- Prior year results

Schedule 3 summarizes the total dollar amounts assigned, including the absolute value of Revenue Offsets (rather than showing Revenue Offsets as a reduction to costs), using each of the above types of assignment bases, for FY 2016/17 and FY 2017/18. It assigns both total Revenue Requirements before Revenue Offsets and Revenue Offsets by summing the items before assigning dollars to the primary functional assignment bases.

To ensure the correct amount has been assigned, the Revenue Requirement is restated at the bottom portion of each fiscal year chart.

Schedule 3: Summary of Functional Assignments by Type of Assignment Basis, FY 2016/17 and FY 2017/18

Primary Functional Assignment Bases	Estimated for FY 2017	% of Assigned Dollars
Direct Assignment	\$ 1,101,685,506	59.5%
Net Book Value/Work in Progress	491,757,203	26.5%
Prorating	70,234,689	3.8%
Manager Analysis	33,342,998	1.8%
Prior-Year Results	77,028,144	4.2%
Other	78,687,589	4.2%
Total Dollars Allocated	\$ 1,852,736,129	100.0%
Portion of Above Assignment Relating to:		
Revenue Requirements before Offsets	1,713,882,976	
Revenue Offsets	138,853,153	
Total Dollars Assigned	\$ 1,852,736,129	
Net Revenue Requirements		
Revenue Requirements before Offsets	1,713,882,976	
Revenue Offsets	(138,853,153)	
Net Revenue Requirements	\$ 1,575,029,822	

Totals may not foot due to rounding

Primary Functional Assignment Bases	Estimated for FY 2018	% of Assigned Dollars
Direct Assignment	\$ 1,100,005,274	58.9%
Net Book Value/Work in Progress	503,990,274	27.0%
Prorating	69,491,964	3.7%
Manager Analysis	33,726,719	1.8%
Prior-Year Results	78,171,238	4.2%
Other	81,726,492	4.4%
Total Dollars Allocated	\$ 1,867,111,961	100.0%
Portion of Above Assignment Relating to:		
Revenue Requirements before Offsets	1,720,713,740	
Revenue Offsets	146,398,220	
Total Dollars Assigned	\$ 1,867,111,961	
Net Revenue Requirements		
Revenue Requirements before Offsets	1,720,713,740	
Revenue Offsets	(146,398,220)	
Net Revenue Requirements	\$ 1,574,315,520	

Totals may not foot due to rounding

Each of the primary assignment bases is discussed in detail in the remainder of this section. Discussion of each assignment basis includes examples of costs assigned using that particular basis.

(a) Direct assignment

Direct assignment makes use of a clear and direct connection between a revenue requirement and the function being served by that revenue requirement. Directly assigned costs typically include: costs associated with specific treatment plants; purely administrative costs; and certain distribution and conveyance departmental costs. Examples of costs that are directly assigned to specific functional categories are given below.

- Water System Operations Group departmental costs for treatment plants are directly assigned to treatment.
- Transportation Capital and OMP&R charges for State Water Contract are directly assigned to conveyance SWP.

(b) Net Book Value Plus Work-In-Progress

Capital financing costs, including debt service and funding replacements and refurbishments from operating revenues, comprise about 28 percent in FY 2016/17 and 29 percent in FY 2017/18 of Metropolitan's annual revenue requirements. One approach would be to assign payments on each debt issue in direct proportion to specific project expenditures made using bond proceeds and assign PAYGo expenditures in a similar fashion. But, this approach would result in a high degree of volatility in relative capital cost assignments from year to year.

The approach used in this analysis is one widely used in water industry cost of service studies. Capital and debt-related costs PAYGo are allocated on the basis of the net book values of fixed assets plus work in progress for assets under construction within each functional category. This approach produces capital cost assignments that are consistent with the functional distribution of assets. Also, since the assignment basis is tied to fixed asset records rather than debt payment records, the resulting assignments are more reflective of the true useful lives of assets. Use of net book values as an assignment basis provides an improved matching of functional costs with asset lives. A listing of fixed asset net book values summarized by asset function is shown in Schedule 4 for FY 2016/17 and FY 2017/18.

Schedule 4: Net Book Value and Work in Progress Assignment Base, FY 2016/17 and FY 2017/18

Functional Categories	NBV for FY 2017	% of Total NBV
Source of Supply	\$ 26,837,790	0.3%
Conveyance & Aqueduct	1,718,481,988	21.1%
Storage	2,005,190,993	24.7%
Treatment	2,541,457,418	31.3%
Distribution	1,399,091,907	17.2%
Administrative & General	323,680,017	4.0%
Hydroelectric	117,923,624	1.5%
Total Fixed Assets Net Book Value	\$ 8,132,663,738	100.0%

Totals may not foot due to rounding

Functional Categories	NBV for FY 2018	% of Total NBV
Source of Supply	\$ 26,956,288	0.3%
Conveyance & Aqueduct	1,721,625,421	21.1%
Storage	1,974,847,640	24.2%
Treatment	2,542,059,665	31.1%
Distribution	1,468,515,134	18.0%
Administrative & General	321,024,887	3.9%
Hydroelectric	113,543,153	1.4%
Total Fixed Assets Net Book Value	\$ 8,168,572,190	100.0%

Totals may not foot due to rounding

In most instances, the cost-of-service process uses net book value plus work-in-progress to develop assignment bases for debt and capital costs. Examples of revenue requirements assignments using these net book value and work-in-progress assignments follow.

- Revenue Bond Debt Service: assigned using Net Book Value plus Work In Progress.
- Annual deposit of operating revenue to replacement and refurbishment fund: assigned using Net Book Value plus Work In Progress.

To calculate the relative percentage of fixed assets in each functional category, Metropolitan staff conducted a detailed analysis of historical accounting records and built a database of fixed asset accounts that contains records for all facilities currently in service and under construction. Each facility was sorted into the major service function that best represented the facilities primary purpose and was then further categorized into the appropriate sub-functions described earlier.

(c) Pro-rating in proportion to other assignments

Utility COS studies frequently contain line items for which it would be difficult to identify an assignment basis specific to that line item. In these cases, the most logical assignment basis is often a pro-rata blend of assignment results calculated for other revenue requirements in the same departmental group, or general category. Reasonable pro-rata allocations are based on a logical nexus between a cost and the purpose which it serves. For example: Human Resources Section costs are allocated using all labor costs, since Human Resources spends its time and resources attending to the labor force.

(d) Manager analyses

The functional interrelationships of some organizational units are developed with extensive input from the organization's managers. In these cases, managers use their firsthand knowledge of the organization's internal operations to generate a functional analysis of departmental costs. For example, Fleet Services Unit costs are assigned to treatment, storage, conveyance, and distribution based on vehicle count by location.

(e) Prior year results

If available, accounting data for the prior fiscal year by appropriation are used to functionalize Departmental O&M costs for several units or sections. Many of the appropriations parallel the service functions used in the COS. For example, Conveyance and Distribution Section costs are assigned to distribution, hydroelectric, and conveyance functions based on the prior year accounting data by appropriation.

A summary of the functional assignment results is shown in Schedules 5 through 8. Schedules 5 and 6 provide a breakdown of the revenue requirement for FY 2016/17 and FY 2017/18, respectively, into the major service functions and sub-functions prior to the redistribution of administrative and general costs. Schedules 7 and 8 serve as a cross-reference summarizing how the budget line items are distributed among the service functions for FY 2016/17 and FY 2017/18, respectively. The largest functional component of Metropolitan's revenue requirement is the Conveyance and Aqueduct function, which constitutes approximately 36 percent of the assigned revenue requirement in FY 2016/17 and 38 percent in FY 2017/18. Schedule 9 summarizes the budget line items distributed among the service functions by sub-function for both FY 2016/17 and FY 2017/18.

Schedule 5: Revenue Requirement (by function), FY 2016/17

Functional Categories	Fiscal Year Ending 2017	% of Assigned Dollars (1)
Source of Supply		
CRA	\$ 59,158,087	3.7%
SWP	151,268,474	9.5%
Other Supply	16,575,328	1.0%
Total	227,001,889	14.3%
Conveyance & Aqueduct		
CRA		
<i>CRA Power (net of sales)</i>	57,409,334	3.6%
<i>CRA All Other</i>	48,398,382	3.1%
SWP		
<i>SWP Power</i>	156,238,002	9.9%
<i>SWP All Other</i>	229,643,078	14.5%
Other Conveyance & Aqueduct	81,077,617	5.1%
Total	572,766,412	36.2%
Storage		
Storage Costs Other Than Power		
<i>Emergency</i>	57,458,007	3.6%
<i>Drought</i>	48,158,095	3.0%
<i>Regulatory</i>	16,529,265	1.0%
Wadsworth plant pumping/generation	(542,600)	0.0%
Total	121,602,768	7.7%
Treatment		
Jensen	47,324,980	3.0%
Weymouth	50,550,130	3.2%
Diemer	55,062,596	3.5%
Mills	28,346,951	1.8%
Skinner	55,251,424	3.5%
Total	236,536,081	14.9%
Distribution	158,960,785	10.0%
Demand Management	79,046,520	5.0%
Hydroelectric	(4,052,964)	0.3%
Administrative & General	183,168,331	11.6%
Total Functional Assignment:	\$ 1,575,029,822	100.0%

(1) Given as a percentage of the absolute values of total dollars Assigned.

Totals may not foot due to rounding

Schedule 6: Revenue Requirement (by function), FY 2017/18

Functional Categories	Fiscal Year Ending 2018	% of Assigned Dollars (1)
Source of Supply		
CRA	\$ 59,365,455	3.7%
SWP	154,376,944	9.7%
Other Supply	16,830,737	1.1%
Total	230,573,135	14.5%
Conveyance & Aqueduct		
CRA		
<i>CRA Power (net of sales)</i>	62,979,105	4.0%
<i>CRA All Other</i>	49,868,619	3.1%
SWP		
<i>SWP Power</i>	160,918,681	10.1%
<i>SWP All Other</i>	235,725,928	14.8%
Other Conveyance & Aqueduct	82,293,001	5.2%
Total	591,785,334	37.2%
Storage		
Storage Costs Other Than Power		
<i>Emergency</i>	58,299,540	3.7%
<i>Drought</i>	48,867,269	3.1%
<i>Regulatory</i>	16,727,132	1.1%
Wadsworth plant pumping/generation	(568,925)	0.0%
Total	123,325,016	7.8%
Treatment		
Jensen	48,160,664	3.0%
Weymouth	53,513,910	3.4%
Diemer	55,934,669	3.5%
Mills	28,941,284	1.8%
Skinner	55,695,778	3.5%
Total	242,246,305	15.2%
Distribution	166,878,331	10.5%
Demand Management	82,391,648	5.2%
Hydroelectric	(7,243,142)	0.5%
Administrative & General	144,358,893	9.1%
Total Functional Assignment:	\$ 1,574,315,520	100.0%

(1) Given as a percentage of the absolute values of total dollars Assigned.

Totals may not foot due to rounding

Schedule 7: Functional Revenue Requirements (by budget line item), FY 2016/17

Fiscal Year Ending 2017	Source of Supply	Conveyance & Aqueduct	Storage	Treatment	Distribution	Demand Management	Hydro Electric	Administrative & General	Total \$ Assigned
Departmental Operations & Maintenance									
Office of the General Manager & Human Resources	\$ 1,204,442	\$ 9,723,918	\$ 769,484	\$ 3,996,370	\$ 3,579,839	\$ 359,188	\$ 193,155	\$ 6,635,060	\$ 26,461,457
External Affairs	-	-	-	-	-	2,649,786	-	14,129,772	16,779,558
Water System Operations	12,136,560	40,808,676	3,156,126	83,095,984	68,827,104	7,714	3,525,049	802,758	212,359,971
Chief Financial Officer	-	-	-	-	-	-	-	8,607,631	8,607,631
Business Technology & Engineering Services	2,332,907	10,828,107	9,039,465	17,052,973	11,943,620	665,327	805,565	28,501,294	81,169,280
Real Property Development & Mgmt	-	-	5,025,496	-	-	-	-	-	5,025,496
Water Resource Management	8,927,081	-	-	-	1,554,868	5,124,892	-	-	15,606,840
Ethics Department	-	-	-	-	-	-	-	1,277,212	1,277,212
General Counsel	-	-	-	-	-	-	-	12,707,666	12,707,666
Audit Department	-	-	-	-	-	-	-	2,918,005	2,918,005
Total Departmental O&M	24,600,990	61,360,701	17,990,571	104,145,327	85,905,431	8,806,907	4,523,769	75,579,399	382,913,096
General District Requirements									
State Water Project	141,310,716	440,941,465	-	-	-	-	-	-	-
Colorado River Aqueduct Power	-	46,604,698	-	-	-	-	-	-	582,252,181
Supply Programs	78,687,589	-	-	-	-	-	-	-	46,604,698
Demand Management	-	-	-	-	-	70,727,111	-	-	70,727,111
Capital Financing Program	1,403,087	89,842,676	104,831,896	140,140,753	89,144,846	-	6,165,077	16,922,074	448,450,410
Other Operating Costs	4,995,561	914,641	273,412	1,419,984	1,271,983	127,626	68,632	25,673,551	34,745,389
Increase (Decrease) in Required Reserves	-	-	-	-	-	-	-	65,100,000	65,100,000
Total General District Requirements	226,396,953	578,303,480	105,105,308	141,560,737	90,416,829	70,854,737	6,233,709	112,098,125	1,330,989,879
Revenue Offsets									
	(23,996,054)	(66,897,769)	(1,493,111)	(9,169,984)	(17,361,475)	(615,125)	(14,810,443)	(4,509,193)	(138,853,153)
Net Revenue Requirements	\$ 227,001,889	\$ 572,766,412	\$ 121,602,768	\$ 236,536,081	\$ 158,960,785	\$ 79,046,520	\$ (4,052,964)	\$ 183,168,531	\$ 1,575,029,822

Totals may not foot due to rounding

Schedule 8: Service Function Revenue Requirements (by budget line item), FY 2017/18

Fiscal Year Ending 2018	Source of Supply	Conveyance & Aqueduct	Storage	Treatment	Distribution	Demand Management	Hydro Electric	Administrative & General	Total \$ Assigned
Departmental Operations & Maintenance									
Office of the General Manager & Human Resources	\$ 1,197,895	\$ 9,739,941	\$ 740,052	\$ 3,970,387	\$ 3,592,476	\$ 358,928	\$ 192,263	\$ 6,657,409	\$ 26,449,350
External Affairs	-	-	-	-	-	2,691,414	-	14,416,983	17,108,397
Water System Operations	12,250,590	41,209,427	3,196,007	84,137,658	69,958,213	7,806	3,587,004	815,425	215,162,129
Chief Financial Officer	-	-	-	-	-	-	-	8,719,501	8,719,501
Business Technology & Engineering Services	2,344,674	9,921,627	7,782,556	15,704,969	11,520,264	676,414	729,596	28,661,896	77,341,996
Real Property Development & Mgmt	-	-	5,099,621	-	-	-	-	-	5,099,621
Water Resource Management	9,010,168	-	-	-	1,565,005	5,178,170	-	-	15,753,342
Ethics Department	-	-	-	-	-	-	-	1,285,225	1,285,225
General Counsel	-	-	-	-	-	-	-	12,865,168	12,865,168
Audit Department	-	-	-	-	-	-	-	2,916,325	2,916,325
Total Departmental O&M	24,803,327	60,870,994	16,818,237	103,813,014	86,635,956	8,912,731	4,508,863	76,337,930	382,701,054
General District Requirements									
Slate Water Project	144,768,424	454,637,495	-	-	-	-	-	-	599,405,919
Colorado River Aqueduct Power	-	54,377,965	-	-	-	-	-	-	54,377,965
Supply Programs	81,726,492	-	-	-	-	-	-	-	81,726,492
Demand Management	-	-	-	-	-	73,915,312	-	-	73,915,312
Capital Financing Program	1,469,405	93,846,939	107,650,249	144,427,940	93,016,942	-	6,189,312	17,499,279	464,100,066
Other Operating Costs	5,147,274	1,043,942	301,714	1,618,700	1,464,628	146,332	78,384	27,258,209	37,059,183
Increase (Decrease) in Required Reserves	-	-	-	-	-	-	-	25,400,000	25,400,000
Total General District Requirements	233,111,595	603,906,340	107,951,963	146,046,640	94,481,570	74,061,644	6,267,696	72,185,238	1,338,012,686
Revenue Offsets	(27,341,786)	(72,992,001)	(1,445,184)	(7,613,349)	(14,239,197)	(582,727)	(18,019,701)	(4,164,275)	(146,398,220)
Net Revenue Requirements	\$ 230,573,135	\$ 591,785,334	\$ 123,325,016	\$ 242,246,305	\$ 166,878,331	\$ 82,391,648	\$ (7,243,142)	\$ 144,358,893	\$ 1,574,315,520

Totals may not foot due to rounding

Schedule 9: Revenue Requirement by sub-function and budget line item, FY 2016/17 and FY 2017/18

Fiscal Year Ending 2017	Supply		Conveyance & Aqueduct		Storage		Treatment	Distribution	Demand Mgt.	Hydro	Total
	CRA	Other	CRA power	SWP power	Emergency	Drought					
Dept. Operations & Maintenance	6,957,017	8,651,419	4,123,884	39,572,259	7,408,681	8,423,231	104,145,327	85,905,431	8,606,907	4,523,769	307,333,699
General District Requirements											
State Water Project	-	-	-	-	-	-	-	-	-	-	-
Capital	-	39,221,127	-	(183,272)	-	-	-	-	-	-	145,136,704
OM	-	102,069,589	-	157,637,067	-	-	-	-	-	-	437,115,387
Colorado River Aqueduct Power	-	-	46,604,698	-	-	-	-	-	-	-	46,604,698
Supply Programs	52,541,393	24,563,916	-	-	-	-	-	-	-	-	76,667,989
Demand Management	-	-	-	-	-	-	-	-	-	-	70,727,111
Capital Financing Program	-	1,403,087	7,067,950	8,588,530	74,196,136	49,347,865	140,140,753	89,144,846	70,727,111	6,165,077	431,528,336
Other Operating Costs	120,043	149,133	69,539	614,160	103,731	126,049	1,419,964	1,271,963	127,626	68,632	9,071,638
Revenue Offsets	(460,357)	(23,406,711)	(446,748)	(376,627)	(1,125,814)	(447,127)	(9,169,964)	(17,361,475)	(615,125)	(14,810,443)	(134,343,961)
Admin. & General	8,780,126	22,450,967	5,386,943	7,019,855	10,584,684	6,503,091	29,698,786	21,817,011	11,731,928	1,694,709	183,168,331
Net Revenue Requirement	67,938,213	173,719,442	62,796,277	55,418,237	168,819,630	63,961,099	266,234,866	180,777,796	90,778,448	(2,358,259)	1,575,029,622

Totals may not foot due to rounding

Fiscal Year Ending 2018	Supply		Conveyance & Aqueduct		Storage		Treatment	Distribution	Demand Mgt.	Hydro	Total
	CRA	Other	CRA power	SWP power	Emergency	Drought					
Dept. Operations & Maintenance	7,021,375	8,732,283	4,141,501	39,895,070	6,506,798	7,879,535	103,813,014	86,635,959	8,912,731	4,508,863	306,363,123
General District Requirements											
State Water Project	-	-	-	-	-	-	-	-	-	-	-
Capital	-	39,427,340	-	(264,940)	-	-	-	-	-	-	147,712,419
OM	-	105,341,085	-	162,321,743	-	-	-	-	-	-	451,693,500
Colorado River Aqueduct Power	-	-	54,377,965	-	-	-	-	-	-	-	54,377,965
Supply Programs	52,626,936	27,508,939	-	-	-	-	-	-	-	-	81,726,492
Demand Management	-	-	-	-	-	-	-	-	-	-	73,915,312
Capital Financing Program	-	1,469,405	7,970,409	9,617,924	76,288,605	50,690,985	144,427,940	93,016,942	73,915,312	6,189,312	446,600,797
Other Operating Costs	137,016	170,154	79,789	708,329	109,628	141,352	1,618,700	1,464,628	146,332	76,384	9,800,974
Revenue Offsets	(419,871)	(26,802,877)	(3,980,559)	(352,703)	(1,138,122)	(412,332)	(7,613,349)	(14,239,197)	(582,727)	(18,019,701)	(42,233,945)
Admin. & General	7,206,196	18,739,353	4,023,215	5,601,415	7,948,961	4,212,770	22,273,424	17,615,948	10,001,279	1,493,901	144,358,693
Net Revenue Requirement	66,571,662	173,116,307	67,002,320	55,670,034	166,977,069	62,512,310	264,519,729	184,494,279	92,392,927	(5,749,241)	1,574,315,520

Totals may not foot due to rounding

Allocated Costs

In the cost allocation step, functionalized costs are further categorized based on the causes and behavioral characteristics of these costs. An important part of the allocation process is identifying which costs are incurred to meet average demands versus peak demands and which costs are incurred for standby. As with the functional assignment process, the proposed allocation process is consistent with AWWA guidelines, but has been tailored to meet Metropolitan's specific operational structure and service environment.

Two methods are discussed in the AWWA M1 Manual, Principles of Water Rates, Fees and Charges. These two methods are the Commodity/Demand method and the Base/Extra Capacity method.

In the simplest sense, these approaches offer alternative means of distinguishing between utility costs incurred to meet average or base demands and costs incurred to meet peak demands. The Commodity/Demand method allocates costs that vary with the amount of water produced to the commodity category with all other costs associated with water production allocated to the demand category. In the Base/Extra Capacity method, costs related to average demand conditions are allocated to the base category, and capacity costs associated with meeting above average demand conditions are allocated to the extra capacity category.

The Commodity/Demand approach was modified for its application to Metropolitan's rate structure by adding a separate cost allocation for costs related to standby. Analysis of system operating data indicated that a modified Commodity/Demand approach was most appropriate for developing Metropolitan's cost of service allocation bases.

A modified Commodity/Demand approach is the most appropriate for Metropolitan's cost of service needs because this approach is best suited for systems that are not designed to meet maximum-day or maximum-hour demands or provide flows for fire-fighting requirements. Metropolitan's system is designed to meet weekly demand peaks rather than daily or hourly peaks. It is also designed to provide available capacity to meet operation flexibility and reliability for emergencies, outages, and hydrologic variability.

Allocation categories used in the analysis include:

- Fixed Demand costs
- Fixed Commodity costs
- Fixed Standby costs
- Variable Commodity costs
- Hydroelectric costs

Fixed Demand costs are incurred to meet peak demands. Only the *direct* capital financing costs were included in the Fixed Demand allocation category. A portion of capital financing costs was included in the Fixed Demand allocation category because in order to meet peak demands additional physical capacity is designed into the system and, therefore, additional capital costs are incurred.

Variable Commodity costs vary with the amount of water produced, and include costs of chemicals, most power costs, and other O&M cost components that increase or decrease in relation to the volume of water supplied. Fixed Commodity costs include fixed operations and maintenance, and comprise the balance of Metropolitan's O&M expenses. Fixed Commodity costs also include capital financing costs associated with meeting average demands. Fixed Commodity costs do not vary with the amount of water produced.

Fixed standby costs relate to Metropolitan's role in ensuring system reliability during emergencies such as an earthquake, an outage of a major facility like the CRA, and hydrologic variability due to weather variances locally or in the two major supply basins Metropolitan relies on. Only the *direct* capital financing costs were

included in the Fixed Standby allocation category. The Fixed Standby costs identified include the emergency storage capacity within the system, and the available capacity within the conveyance and distribution systems.

An additional component used in Metropolitan's cost allocation process is the Hydroelectric component. While not a part of most water utilities' cost allocation procedures, the Hydroelectric allocation component is necessary to segregate revenue requirements carried from the hydroelectric function established in the functional assignment process. Hydroelectric revenue requirements are ultimately recovered in the distribution system portion of the System Access Rate. Any net revenues generated by the hydroelectric operations offset the distribution costs and reduce the System Access Rate. All users of the distribution system benefit proportionately from the revenue offset provided by the sale of hydroelectric energy.

Schedules 10 and 11 provide the allocation percentages used to distribute the capital financing service function costs into Fixed Demand, Fixed Commodity and Fixed Standby service allocation categories for FY 2016/17 and FY 2017/18, respectively.

All of the capital financing costs functionalized to Supply are allocated as Fixed Commodity costs. Because these particular supply costs have been incurred to provide an amount of annual reliable system yield and not to provide peak demand delivery capability or standby service, they are reasonably treated as Fixed Commodity costs.

Costs for the Conveyance and Aqueduct (C&A) service function are allocated into Fixed Commodity, Fixed Demand and Fixed Standby categories. Because the capital costs for C&A were incurred to meet all three allocation categories, an analysis of C&A capacity usage for the test year was used to determine that 52 percent of the available conveyance capacity varies with the quantity of water produced, and is allocated to Fixed Commodity. A system peak factor¹² of 1.3 was applied to the annual usage to determine that 15 percent of available capacity is used to meet peak monthly deliveries to the member agencies, and is allocated to Fixed Demand. The remaining portion of C&A, about 33 percent, is allocated to Fixed Standby. The same allocation percentages are applied to the CRA, SWP, and Other (Inland Feeder) Conveyance and Aqueduct sub-functions. The allocation shares reflect the system average use of conveyance capacity and not the usage of individual facilities. All of the Conveyance and Aqueduct energy costs for pumping water to Southern California are allocated as Variable Commodity costs and, therefore, are not shown in Schedule 6 because they carry through the allocation step.

Storage service function costs for emergency, drought and regulatory storage are also distributed to the allocation categories based on the type of service provided. Emergency storage costs are allocated as 100 percent Fixed Standby. Emergency storage is a prime example of a cost Metropolitan incurs to ensure the reliability of deliveries to the member agencies. In effect, through the emergency storage capacity in the system, Metropolitan is "standing by" with available capacity and water supply to provide service in the event of a catastrophe such as a major earthquake that disrupts regional conveyance capacity for an extended period of time. Drought carryover storage serves to provide reliable supplies by carrying over surplus supplies from periods of above normal precipitation and snow pack to drought periods when supplies decrease. Drought storage creates supply and is one component of the portfolio of resources that result in a reliable amount of annual system supplies. As a result, drought storage is allocated as a Fixed Commodity cost, in the same manner as Metropolitan's supply costs. Regulatory storage within the Metropolitan system provides operational flexibility in meeting peak demands and flow requirements, essentially increasing the

¹² Peak monthly deliveries to the member agencies average about 28 percent more than the average monthly deliveries.

physical distribution capacity. Therefore, regulatory storage is allocated in the same manner as Distribution costs.

Distribution service function costs were allocated as Fixed Commodity by using projected sales data for the test year. During this period, 43 percent of the system distribution capacity is associated with the quantity of water delivered, and is allocated to Fixed Commodity. Distribution service function costs were allocated to Fixed Demand by using three years of recorded non-coincident peaks. The difference between the three-year average non-coincident peak and the fixed commodity flows divided by the system capacity, or 36 percent of the distribution capacity, was used to meet non-coincident peak day demands, and is allocated to Fixed Demand. Although the Metropolitan Distribution System has a great deal of operational flexibility, the total amount of distribution capacity was limited to the historical peak non-coincident¹³ peak day flow of all the member agencies. The remaining 21 percent of distribution capacity is associated with Standby service, and is allocated to Fixed Standby.

Treatment service function costs were allocated to Fixed Commodity by using projected treated deliveries to the member agencies for the test year. The Treatment Fixed Demand calculation uses the system non-coincident peak factor applied to the test year usage; the remaining capacity is associated with Fixed Standby service. Total treated water capacity of 3,947 cfs, which is the total design capacity of all the treatment plants, was used in the calculation. General and Administrative costs have been assigned to the allocation categories by service function based on the ratio of allocated non-A&G service function costs to total non-A&G service function costs.

¹³ The term "non-coincident" means that the peak day for each agency may or may not coincide with the peak day for the system. A non-coincident approach is used in the rate design to capture the different operating characteristics of the member agencies. The sum of the member agency peak day demands is used as a proxy for peak week.

Schedule 10: Allocation Percentages, FY 2016/17

Fiscal year ending 2017 Function	Allocation Percentages				Total % Allocated	Comments
	Fixed	Fixed	Fixed	Fixed		
	Commodity	Demand	Standby	Standby		
Source of Supply Colorado River Aqueduct State Water Project	100%	0%	0%	0%	100%	Supply costs allocated as fixed commodity Supply costs allocated as fixed commodity
Conveyance & Aqueduct Colorado River Aqueduct	52%	15%	33%		100%	Demand percentage represents amount of system conveyance capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of water delivered. Standby percentage is the remaining conveyance capacity. SWP, CRA, and Other are treated the same due to the use of a uniform system-wide System Access Rate.
State Water Project Other	52%	15%	33%	33%	100%	
Storage Emergency Drought Regulatory	0%	0%	100%		100%	Allocated as Standby (recovered by RTS) Allocated as fixed commodity (recovered by Supply Rates) Allocated the same way as distribution.
Treatment	29%	28%	44%		100%	Demand percentage represents amount of system treatment capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of treated water delivered. Standby percentage is the remaining treatment capacity. The same allocations is applied to all five treatment plants due to the use of a uniform system-wide Treatment Surcharge.
Distribution	43%	36%	21%		100%	Demand percentage represents amount of system distribution capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of water delivered. Standby percentage is the remaining distribution capacity. The same allocations is applied to all distribution facilities due to the use of a uniform system-wide System Access Rate.

Totals may not foot due to rounding

Schedule 11: Allocation Percentages, FY 2017/18

Fiscal year ending 2018 Function	Allocation Percentages				Total % Allocated	Comments
	Fixed Commodity	Fixed Demand	Fixed Standby			
Source of Supply Colorado River Aqueduct State Water Project	100% 100%	0% 0%	0% 0%		100% 100%	Supply costs allocated as fixed commodity Supply costs allocated as fixed commodity
Conveyance & Aqueduct						
Colorado River Aqueduct	52%	15%	33%		100%	Demand percentage represents amount of system conveyance capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of water delivered. Standby percentage is the remaining conveyance capacity. SWP, CRA, and Other are treated the same due to the use of a uniform system-wide System Access Rate.
State Water Project Other	52% 52%	15% 15%	33% 33%		100% 100%	
Storage Emergency Drought Regulatory	0% 100% 43%	0% 0% 36%	100% 0% 21%		100% 100% 100%	Allocated as Standby (recovered by RTS) Allocated as fixed commodity (recovered by Supply Rates) Allocated the same way as distribution.
Treatment	29%	28%	43%		100%	Demand percentage represents amount of system treatment capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of treated water delivered. Standby percentage is the remaining treatment capacity. The same allocations is applied to all five treatment plants due to the use of a uniform system-wide Treatment Surcharge.
Distribution	43%	36%	21%		100%	Demand percentage represents amount of system distribution capacity used to meet peak demands. Commodity percentage represents amount of capacity that is a function of the amount of water delivered. Standby percentage is the remaining distribution capacity. The same allocations is applied to all distribution facilities due to the use of a uniform system-wide System Access Rate.

Totals may not foot due to rounding

FY 2016/17 Service Function Revenue Requirements (by allocation category)

A summary of cost allocation results for FY 2016/17 is shown in Schedules 12 and 13. The allocation of the service function costs results in about 6 percent, or \$97 million of the total revenue requirements, being allocated to the Fixed Demand allocation category. This amount represents a reasonable estimate of the annual fixed capital financing costs incurred to meet peak demands (plus the allocated administrative and general costs). A portion of Metropolitan's property tax revenue is allocated to C&A Fixed Demand costs and is used to pay for the general obligation bond debt service allocated to the C&A costs, and other SWP costs. This revenue offsets the amount that needs to be recovered through rates.

About 67 percent of the revenue requirement (\$1,059 million) is allocated as Fixed Commodity. These fixed capital and operating costs are incurred by Metropolitan to meet annual average service needs and are typically recovered by a combination of fixed charges and volumetric rates. Fixed capital costs allocated to the Fixed Standby category total about \$179 million and account for about 11 percent of the revenue requirements. Standby service costs are commonly recovered by a fixed charge allocated on a reasonable representation of a customer's need for standby service. The Variable Commodity costs for power on the conveyance and aqueduct systems, and power, chemicals and solids handling at the treatment plants change with the amount of water delivered to the member agencies. These costs are allocated as Variable Commodity costs, total about \$243 million, and account for about 15 percent of the total revenue requirement. Because of the variable nature of these costs, it is appropriate to recover them through volumetric rates.

FY 2017/18 Service Function Revenue Requirement (by allocation category)

A summary of cost allocation results for FY 2017/18 is shown in Schedule 14 and 15. The allocation of the service function costs results in about 6 percent, or \$98 million of the total revenue requirements, being allocated to the Fixed Demand allocation category. This amount represents a reasonable estimate of the annual fixed capital financing costs incurred to meet peak demands (plus the allocated administrative and general costs). A portion of Metropolitan's property tax revenue is allocated to C&A Fixed Demand costs and is used to pay for the general obligation bond debt service allocated to the C&A costs, and other SWP costs. This revenue offsets the amount that needs to be recovered through rates.

About 67 percent of the revenue requirement (\$1,057 million) is allocated as Fixed Commodity. These fixed capital and operating costs are incurred by Metropolitan to meet annual average service needs and are typically recovered by a combination of fixed charges and volumetric rates. Fixed capital costs allocated to the Fixed Standby category total about \$179 million and account for about 11 percent of the revenue requirements. Standby service costs are commonly recovered by a fixed charge allocated on a reasonable representation of a customer's need for standby service. The Variable Commodity costs for power on the conveyance and aqueduct systems, and power, chemicals and solids handling at the treatment plants change with the amount of water delivered to the member agencies. These costs are allocated as Variable Commodity costs, total about \$246 million, and account for about 16 percent of the total revenue requirement. Because of the variable nature of these costs, it is appropriate to recover them through volumetric rates.

Schedule 12: Revenue Requirements by sub-function and allocation category, FY 2016/17

Fiscal Year Ending 2017	Supply		Conveyance & Aqueduct				Storage			Treatment	Distribution	Demand Mgt.	Hydro	Total	
	CRA	SWP	CRA power	CRA other	SWP power	SWP other	Other C&A	Emergency	Drought						Regulatory
Fixed Demand engineering factors															
SWP Capital			14.7%	14.7%	14.7%	14.7%				36.3%				15,566,984	
Capital Financing			1,260,130	1,260,130	15,566,984	10,896,160			5,219,786	32,377,975				88,451,009	
A&G less Offsets			71,893	(8,775,246)	451,321				550,853	(3,007,663)				(7,202,457)	
Total fixed demand			1,332,023	6,791,738	11,337,482				5,770,638	29,370,312				96,825,536	
Fixed Commodity engineering factors															
Capital Financing			100.0%	100.0%	52.4%	52.4%			100.0%	42.6%				177,396,517	
SWP Capital			1,403,067	1,403,067	4,500,464	38,879,144			41,112,637	6,124,321				94,817,609	
SWP O&M			39,221,127	102,069,589	55,596,372	177,388,711								279,478,300	
Debt O&M			8,992,554	8,992,554	10,255,867	7,408,881			8,429,231	2,252,628				278,479,566	
Supply Programs			1,582,200	1,582,200										78,697,589	
Other Management			47,26,384	69,539	127,211	103,731								70,727,111	
Other Operating Costs			1,669,698	6,405,693	(2,530,268)	6,865,343			1,123,001	6,772,772				9,003,306	
A&G less Offsets			2,331,091	(95,743)					1,100,598	1,419,984				70,727,111	
Total fixed commodity			173,719,442	193,035,405	12,921,292	51,882,576	240,837,074	53,276,899	9,660,281	55,305,624	9,511,407			1,056,623,165	
Fixed Standby engineering factors															
SWP Capital			32.9%	32.9%	32.9%	32.9%			100.0%	21.1%				34,935,583	
Capital Financing			2,827,996	2,827,996	34,935,583	24,430,831			49,347,855	3,027,298				159,505,733	
A&G less Offsets			165,642	(19,671,574)	2,617,070				4,532,963	(324,289)				(15,774,489)	
Total fixed standby			2,993,638	15,264,009	27,047,901	54,280,818				17,058,278				178,666,626	
Variable Commodity															
SWP Power					157,453,815									157,453,815	
CRA Power			46,604,698											46,604,698	
Variable Treatment														24,330,273	
A&G less Offsets			3,270,287		11,365,815					833,357				24,330,273	
Total variable commodity			49,874,985		168,819,630					25,163,630				243,271,850	
Hydroelectric															
A&G less Offsets														10,757,478	
Total hydroelectric														(13,115,733)	
Total Costs															
			67,938,213	173,719,442	193,035,405	62,796,277	55,418,237	168,819,630	262,893,422	91,662,281	63,961,099	55,305,624	18,633,632	266,234,866	1,575,029,822

Totals may not foot due to rounding

Schedule 13: Service Function Revenue Requirements (by allocation category), FY 2016/17

Fiscal year ending 2017 Functional categories (by sub-Function)	Fixed Demand	Fixed Commodity	Fixed Standby	Variable Commodity	Hydroelectric	Total allocated
Source of Supply						
CRA	\$ -	\$ 67,938,213	\$ -	\$ -	\$ -	\$ 67,938,213
SWP	-	173,719,442	-	-	-	173,719,442
Other Supply	-	19,035,405	-	-	-	19,035,405
Subtotal: Source of Supply		260,693,060				260,693,060
Conveyance & Aqueduct						
CRA	-	-	-	-	-	-
CRA Power	-	12,921,292	-	49,874,985	-	62,796,277
CRA All Other	1,332,023	51,092,576	2,993,638	-	-	55,418,237
SWP	-	-	-	-	-	-
SWP Power	-	-	-	168,819,630	-	168,819,630
SWP All Other	6,791,738	240,837,674	15,264,009	-	-	262,893,422
Other Conveyance & Aqueduct	11,337,482	53,276,899	27,047,901	-	-	91,662,281
Subtotal: Conveyance & Aqueduct	19,461,243	358,128,441	45,305,548	218,694,615		641,589,847
Storage						
Storage Costs Other Than Power	-	-	-	-	-	-
Emergency	-	9,680,281	54,280,818	-	-	63,961,099
Drought	-	55,305,624	-	-	-	55,305,624
Regulatory	5,770,638	9,511,407	3,351,587	(586,295)	-	18,633,632
Storage Power	-	-	-	-	(586,295)	(586,295)
Subtotal: Storage	5,770,638	74,497,312	57,632,405	(586,295)		137,314,060
Water Quality						
CRA	-	-	-	-	-	-
SWP	-	-	-	-	-	-
Other	-	-	-	-	-	-
Subtotal: Water Quality						
Treatment						
	42,223,343	140,177,298	58,670,596	25,163,630	-	266,234,866
Distribution						
	29,370,312	134,349,206	17,058,278	-	-	180,777,796
Demand Management						
	-	90,778,448	-	-	-	90,778,448
Hydroelectric						
	-	-	-	-	(2,358,255)	(2,358,255)
Total Costs Allocated	\$ 96,825,536	\$ 1,058,623,765	\$ 178,666,826	\$ 243,271,950	\$ (2,358,255)	\$ 1,575,029,822

Totals may not foot due to rounding

6.1% 67.2% 11.3% 15.4% -0.1% 100.0%

Schedule 14: Revenue Requirements by sub-function and allocation category, FY 2017/18

Fiscal Year Ending 2018	CRA		Supply		Other		Conveyance & Aqueduct		CRA power		CRA other		Other CRA		Emergency		Storage		Regulatory		Power		Treatment	Distribution	Demand Mgt.	Hydro	Total
	CRA	SWP	SWP	Other	CRA power	CRA other	SWP power	SWP other	SWP other	Other CRA	Emergency	Drought	Regulatory	Regulatory	Power												
Fixed Demand																											
engineering factors																											
SWP Capital																											
Capital Financing																											
A&G less Offsets																											
Total fixed demand																											
Fixed Commodity																											
engineering factors																											
Capital Financing																											
SWP Capital																											
SWP O&M																											
Dept. O&M																											
Supply Programs																											
Demand Management																											
Other Operating Costs																											
A&G less Offsets																											
Total fixed commodity																											
Fixed Standby																											
engineering factors																											
SWP Capital																											
Capital Financing																											
A&G less Offsets																											
Total fixed standby																											
Variable Commodity																											
SWP Power																											
CRA Power																											
Variable Treatment																											
A&G less Offsets																											
Total variable commodity																											
Hydroelectric																											
A&G less Offsets																											
Total hydroelectric																											
Total Costs																											

Totals may not foot due to rounding

Schedule 15: Service Function Revenue Requirements (by allocation category), FY 2017/18

Functional categories (by sub-Function)	Fixed Demand	Fixed Commodity	Fixed Standby	Variable Commodity	Hydroelectric	Total allocated
Source of Supply						
CRA	\$ -	66,571,652	\$ -	\$ -	\$ -	66,571,652
SWP	-	173,116,307	-	-	-	173,116,307
Other Supply	-	18,873,770	-	-	-	18,873,770
Subtotal: Source of Supply		258,561,729				258,561,729
Conveyance & Aqueduct						
CRA	-	-	-	-	-	-
CRA Power	-	13,671,613	-	53,330,707	-	67,002,320
CRA All Other	1,445,726	50,976,484	3,247,824	-	-	55,670,034
SWP	-	-	-	168,977,069	-	168,977,069
SWP All Other	6,432,109	242,337,049	14,449,730	-	-	263,218,888
Other Conveyance & Aqueduct	11,280,252	52,230,075	26,731,634	-	-	90,241,961
Subtotal: Conveyance & Aqueduct	19,158,088	359,215,221	44,429,188	222,307,776		645,110,272
Storage						
Storage Costs Other Than Power	-	-	-	-	-	-
Emergency	-	-	-	-	-	-
Drought	-	8,836,009	53,676,301	-	-	62,512,310
Regulatory	-	54,799,122	-	-	-	54,799,122
Storage Power	5,687,713	9,282,048	3,302,045	(597,415)	-	18,271,806
Subtotal: Storage	5,687,713	72,917,179	56,978,346	(597,415)		134,985,824
Water Quality						
CRA	-	-	-	-	-	-
SWP	-	-	-	-	-	-
Other	-	-	-	-	-	-
Subtotal: Water Quality						
Treatment						
	42,118,036	138,371,279	59,571,838	24,458,576	-	264,519,729
Distribution						
Demand Management	30,920,764	135,622,232	17,951,283	-	-	184,494,279
Hydroelectric	-	92,392,927	-	-	(5,749,241)	92,392,927
Total Costs Allocated	\$ 97,884,602	\$ 1,057,080,569	\$ 178,930,654	\$ 246,168,936	\$ (5,749,241)	\$ 1,574,315,520

Totals may not foot due to rounding

6.2% 67.1% 11.4% 15.6% -0.4% 100.0%

Distribution of Costs: Rates and Charges

Use of System-Wide (Postage Stamp) Rates

Metropolitan's rate structure consists of unbundled rate elements designed to provide transparency regarding the cost of specific functions to member agencies (system access, untreated water supplies, water treatment, etc.). The rates for each of these unbundled rate elements are uniform across Metropolitan's entire regional service area; they do not vary by member agency and they do not vary by geographic zone or distance.

In the utility industry, system-wide rates that are the same for all customers are referred to as "postage stamp" rates. Under a postage stamp rate design approach, every customer pays the same average rate for a service regardless of whether the cost caused by, or the benefit derived by, a customer for a given transaction varies from the average. The postage stamp rate design approach stands in contrast to alternative rate design approaches such as distance sensitive pricing schemes that attempt to develop rates applicable to specific geographic zones.

Metropolitan's system is not a point-to-point service, but an interconnected regional system. In order to balance the local concerns within the region, Metropolitan has long maintained postage stamp rates. In fact, Metropolitan has used uniform postage stamp rates since it started delivering water in 1942. Under the postage stamp approach, an agency develops an average rate for a service, as opposed to a point-to-point rate based on each customer's specific use, and all customers receiving that service pay the average rate. This allows the agency to establish non-discriminatory rates that match the cost of providing the service to a customer class. A postage stamp approach is especially appropriate for an interconnected regional system because it allows the agency to develop reliable alternatives to point-to-point service. Metropolitan's uniform, postage stamp rate structure has allowed it to develop an interconnected regional conveyance and distribution system with the ability to deliver supplies from the SWP, the CRA, and its storage portfolio throughout its vast and diverse service area. Metropolitan's conveyance and distribution system can deliver water from both the SWP and CRA to almost every member agency. This flexibility benefits all member agencies. Uniform, postage stamp rates provide a region-wide funding mechanism to recover the costs of Metropolitan's integrated system, help ensure economies of scale, and result in lower costs for all of Metropolitan's member agencies. Given Metropolitan's integrated system, it is not logical to do otherwise.

Metropolitan's system draws on diverse supply sources, transports water across a large part of the State, distributes water in six counties, and serves an area home to 18.5 million residents. The 2007 Integrated Area Study (IAS), emphasized regional system flexibility as a key component of overall reliability.¹⁴ Metropolitan must maintain operational flexibility—the ability to respond to short-term changes in regional water supply, water quality, treatment requirements, and member agency demands. And it must maintain delivery flexibility—the ability to maintain partial to full water supply deliveries during planned and unplanned facility outages. Metropolitan is also required by state statute to have the objective, to the extent determined to be reasonable and practical, to deliver a blend of water constituting at least 50 percent of SWP water. (MWD Act, Sec. 136.) Each of

¹⁴ 2007 Integrated Area Study, Report No. 1317, pg. 2-10.

Metropolitan's integrated conveyance, distribution and storage assets contributes to regional system reliability. It is fair and reasonable, therefore, to expect member agencies to share the cost of developing and maintaining these assets because all member agencies benefit from regional system reliability.

Operational flexibility has been achieved by creating an interconnected regional delivery network integrating the SWP and the CRA conveyance systems with the Distribution System. This integrated network allows Metropolitan to incorporate supply from the SWP and the CRA with a diverse portfolio of geographically dispersed storage programs, including the Central Valley groundwater storage programs, carryover storage in San Luis Reservoir, flexible storage capacity in Castaic Lake and Lake Perris, Lake Mead storage, the DWCV Advanced Delivery account, in-basin surface storage in DVL and Lake Mathews, and in-basin groundwater Conjunctive Use Programs. This integrated, regional network allows Metropolitan to move supplies throughout the system in response to service demands, supply availability and operational needs, and is shown in Figure 18.

Figure 18: Metropolitan Facilities, Supplies and Storage Portfolio



System flexibility and integration is easily demonstrated. In a year with a high SWP allocation, SWP supplies can be moved from the West Branch down into the Central Pool as far as western Orange County; on the East Branch, moving SWP supplies results in high SWP blends for eastern areas all the way into south San Diego County, with relatively little Colorado River water delivered to the Skinner area. In a year with a low SWP allocation, Colorado River water will dominate; this impact is mitigated by blending Colorado River water with SWP supplies stored in DVL. Under normal operations these CRA supplies can be pushed as far west as the Santa Monica Feeder.

Figure 19: Operating Flexibility and Regional System Reliability: SWP Integration

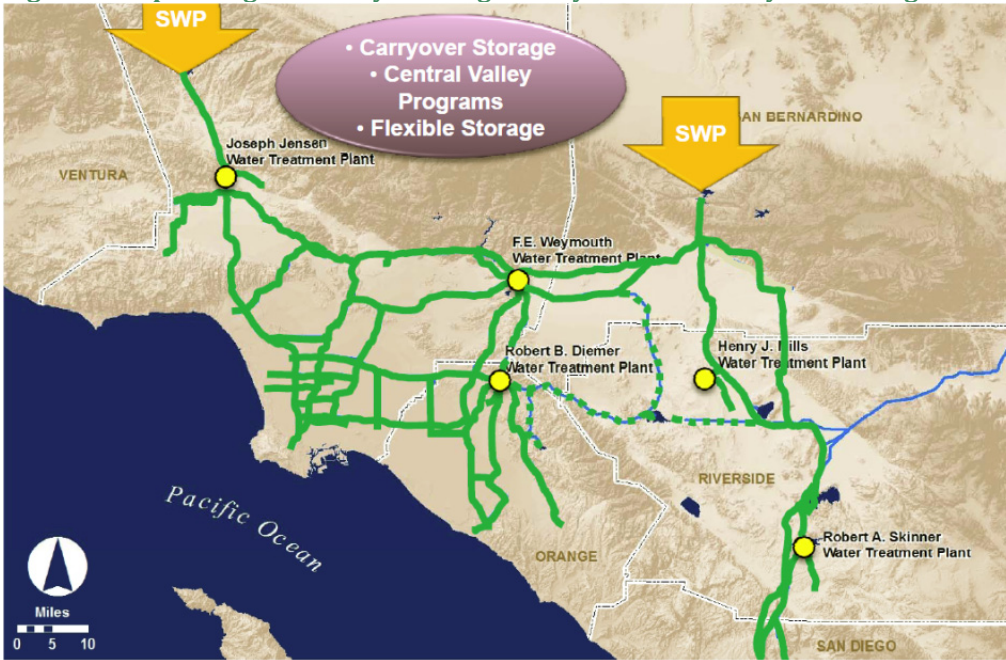


Figure 19 shows the portion of the Metropolitan service area served by SWP supplies and storage programs highlighted in green. Figure 20, Operating Flexibility and Regional System Reliability: CRA Integration, shows the portion of the Metropolitan service area served by CRA supplies and storage programs highlighted in blue for a normal year.

Figure 20: Operating Flexibility and Regional System Reliability: CRA Integration



The integrated conveyance and distribution network that Metropolitan has developed to serve the member agencies enables water supplies from multiple sources to be delivered throughout its service area to provide regional reliability. In 2014, the SWP allocation was a historically low 5 percent. Metropolitan re-operated its system to move CRA water all the way west to deliver to the areas south, west and east of the Jensen treatment plant, which are normally served with SWP water.

Metropolitan's operational flexibility developed over time to where Metropolitan now has substantial operational flexibility to accommodate short-term changes in water supply, treatment, and demands. This is the result of having multiple water supplies and the ability to blend the supplies, robust treatment processes, and large storage capacities in multiple treated and untreated water reservoirs.

Delivery flexibility helps mitigate the impacts of regional facility outages. Metropolitan's delivery flexibility also developed over time. The 2007 IAS reported that 260 of 344 service connections, or 76 percent, had full back-up capability for single failures within Metropolitan's Distribution System. In the event of a treatment plant outage, 299 of 344 service connections, or 87 percent, had full back-up capability¹⁵.

The same flexibility principles inform development and operation of Metropolitan's storage functionality. Metropolitan's ability to shift among resources in its storage portfolio in order to enhance the regional reliability of Metropolitan's imported water service in the face of so many changing conditions is the result of its integrated, flexible operating system, consisting of the entitlement to use the SWP conveyance and the CRA and the Distribution System. Metropolitan is able to accomplish system reliability and operational flexibility while accommodating outages, managing to water quality goals, minimizing the risk of invasive species infestation and maintaining emergency storage reserves.

Metropolitan's integrated, flexible system directly benefits all agencies as to all services, including wheeling and exchange services. Wheeling and exchange transactions benefit from a robust and flexible system, including Metropolitan's right to use SWP facilities. Metropolitan's integrated, flexible system makes deliveries of wheeled and exchanged water possible as Metropolitan delivers this water from whatever source or sources and by whatever delivery path is determined by Metropolitan. Given the operating flexibility of Metropolitan's system, Metropolitan allocates costs in a way that allows it to develop and maintain such a flexible system. And every member agency is served by this system flexibility.

The vast majority of utilities operate under an implicit regulatory compact, which provides the exclusive service area in exchange for the obligation to serve. Metropolitan's system is a wholesale system and provides only "supplemental" supplies. Metropolitan is a wholesaler that has no exclusive right to serve in its service area. To the degree a member agency has local resources, develops local resources, implements conservation, or otherwise reduces demands, that member agency does not require Metropolitan's services. Moreover, member agencies are free to acquire supplies from other sources. Indeed, Metropolitan's Board has adopted the concept of "direct access", or customer choice for supplier, to accommodate a water transfer market.¹⁶ Unbundled,

¹⁵ 2007 Integrated Area Study, Report No. 1317, pp. 2-10 and 2-11.

¹⁶The Metropolitan Board adopted Strategic Plan Policy Principles on December 14, 1999, consisting of seven principles, presented on page 5.

postage stamp rates ensure that agencies that use Metropolitan's system to move non-Metropolitan water pay a fair and reasonable share of the relevant system costs, including the cost of facilities, power and conservation programs that help ensure capacity.

Metropolitan maintains an unbundled rate structure based on types of functions creating the costs, which provides transparency. Member agencies pay rates based on the services they use (full service treated, full service untreated, or wheeling), and agencies that use the same service pay the same rate. Agencies that purchase full service water pay for supply, whereas agencies that do not purchase full service water pay no supply costs. Agencies that take treated full service water cover treatment costs, whereas agencies that take untreated full service water pay no treatment costs. An agency that wheels a third party's water through Metropolitan's system pays wheeling costs, but no supply costs. In fact, Metropolitan provides incentives for conservation and local resource development so member agencies do not have to take full service or wheeling services from Metropolitan. Agencies that use a combination of services pay costs based *only* on the specific services they use.

This is an important distinction in the context of not having an exclusive service area. A water agency with an exclusive service area has more certainty in its revenues because it has no competition for its services. Metropolitan does have competition for its services. Therefore Metropolitan has developed its unbundled rate structure in a fair and reasonable manner to ensure that system users pay for the services they use and the benefits they enjoy. Fair and reasonable rates that reflect applicable costs avoid negatively impacting the rates and charges paid by member agencies who do not acquire their own supplies to move through Metropolitan's interconnected delivery network. This is particularly true with regard to member agencies exercising choice of supplier. Compared to other water systems, Metropolitan's system is used to move significant amounts of non-Metropolitan supplies.

Customer Class

Metropolitan, a wholesaler, serves one class of customers: its member agencies. These wholesale customers use Metropolitan's facilities differently and, therefore, receive different services from Metropolitan. These services are used to provide raw water, treated water, or wheeling services. Therefore, Metropolitan's service types are full service treated water service, full service untreated water service, and wheeling service, and the level of rate unbundling is appropriate given Metropolitan's mission to act regionally. By ensuring that charges recover only for functions involved in the applicable service, no cross-subsidy of costs exists. Metropolitan's COS process and resulting unbundled rate structure ensures that its wholesale customers pay for only those services they elect to receive.

Distributed Costs to Services

Schedules 16 and 17 provide a cross-reference between the allocated function costs and their distribution to the rate design elements for FY 2016/17 and FY 2017/18, respectively. The specifics of each rate design element are discussed in detail in the following section.

Schedule 16: Allocated Service Function Revenue Requirements (Distributed to rate design element): FY 2016/17

Service Function by Allocation Category	Rate Design Elements										Total Costs				
	Supply Rates	System Access Rate	Water Stewardship Rate	System Power Rate	Capacity Charge	Readiness-to-Serve Charge	Treatment Surcharge								
Supply	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			
Fixed Demand	260,693,060	-	-	-	-	-	-	-	-	-	-	260,693,060			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	-	-	-	-	-	-	-	-	-	-	-			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Supply	260,693,060											260,693,060			
Conveyance and Aqueduct															
Fixed Demand	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	358,128,441	-	-	-	19,461,243	-	-	-	-	-	19,461,243			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	218,694,615	-	45,305,548	-	-	-	-	-	45,305,548			
Subtotal: Conveyance and Aqueduct		358,128,441		218,694,615		64,766,791						641,589,847			
Storage															
Fixed Demand	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	19,191,688	-	-	5,770,638	-	-	-	-	-	-	5,770,638			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Storage	54,719,330	19,191,688			5,770,638	57,632,405						137,314,060			
Treatment															
Fixed Demand	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	-	-	-	-	-	-	-	-	-	-	-			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Treatment															
Distribution															
Fixed Demand	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	134,349,206	-	-	29,370,312	-	-	-	-	-	-	29,370,312			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Distribution		131,990,951			29,370,312	17,058,278						266,234,866			
Demand Management															
Fixed Demand	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Fixed Standby	-	-	90,778,448	-	-	-	-	-	-	-	-	90,778,448			
Variable Commodity	-	-	-	-	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-	-	-	-	-			
Subtotal: Demand Management			90,778,448									90,778,448			
Total															
Fixed Demand	315,998,684	-	-	-	35,140,950	19,461,243	-	-	-	-	-	96,825,636			
Fixed Commodity	-	511,669,335	-	-	-	-	-	-	-	-	-	1,058,623,765			
Fixed Standby	-	-	90,778,448	-	-	-	-	-	-	-	-	178,666,826			
Variable Commodity	(586,295)	-	-	218,694,615	-	119,996,230	-	-	-	-	-	243,271,950			
Hydroelectric	-	(2,358,255)	-	-	-	-	-	-	-	-	-	(2,358,255)			
Total	\$ 315,412,389	\$ 509,311,080	\$ 90,778,448	\$ 218,694,615	\$ 35,140,950	\$ 139,457,473	\$ 266,234,866	\$ 1,575,029,822							
										20.0%	13.9%	2.2%	8.9%	16.9%	100.0%

Totals may not foot due to rounding

Schedule 17: Allocated Service Function Revenue Requirements (Distributed to rate design element): FY 2017/18

		Rate Design Elements									
Service Function by Allocation Category	Supply Rates	System Access Rate	Water Stewardship Rate	System Power Rate	Capacity Charge	Readiness-to-Serve Charge	Treatment Surcharge	Total Costs			
Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Fixed Demand	258,561,729	-	-	-	-	-	-	258,561,729			
Fixed Commodity	-	-	-	-	-	-	-	-			
Fixed Standby	-	-	-	-	-	-	-	-			
Variable Commodity	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-			
Subtotal: Supply	258,561,729							258,561,729			
Conveyance and Aqueduct											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	-	359,215,221	-	-	-	19,158,088	-	19,158,088			
Fixed Standby	-	-	-	-	-	-	-	-			
Variable Commodity	-	-	-	222,307,776	-	44,429,188	-	44,429,188			
Hydroelectric	-	-	-	-	-	-	-	-			
Subtotal: Conveyance and Aqueduct		359,215,221		222,307,776		63,587,275		645,110,272			
Storage											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	5,687,713	-	-	5,687,713			
Fixed Standby	54,799,122	18,118,057	-	-	-	-	-	72,917,179			
Variable Commodity	(597,415)	-	-	-	-	56,978,346	-	56,978,346			
Hydroelectric	-	-	-	-	-	-	-	(597,415)			
Subtotal: Storage	54,201,707	18,118,057			5,687,713	56,978,346		134,985,824			
Treatment											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	-	-	42,118,036	42,118,036			
Fixed Standby	-	-	-	-	-	-	138,371,279	138,371,279			
Variable Commodity	-	-	-	-	-	-	59,571,838	59,571,838			
Hydroelectric	-	-	-	-	-	-	24,458,576	24,458,576			
Subtotal: Treatment							264,519,729	264,519,729			
Distribution											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	-	-	30,920,764	-	-	30,920,764			
Fixed Standby	-	135,622,232	-	-	-	-	-	135,622,232			
Variable Commodity	-	-	-	-	-	17,951,283	-	17,951,283			
Hydroelectric	-	(5,749,241)	-	-	-	-	-	(5,749,241)			
Subtotal: Distribution		129,872,991			30,920,764	17,951,283		178,745,038			
Demand Management											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	-	-	92,392,927	-	-	-	-	92,392,927			
Fixed Standby	-	-	-	-	-	-	-	-			
Variable Commodity	-	-	-	-	-	-	-	-			
Hydroelectric	-	-	-	-	-	-	-	-			
Subtotal: Demand Management			92,392,927					92,392,927			
Total											
Fixed Demand	-	-	-	-	-	-	-	-			
Fixed Commodity	313,360,852	512,955,510	92,392,927	-	36,608,478	19,158,088	42,118,036	97,884,602			
Fixed Standby	-	-	-	-	-	-	138,371,279	1,057,080,569			
Variable Commodity	(597,415)	(5,749,241)	-	222,307,776	-	119,368,816	59,571,838	178,930,654			
Hydroelectric	-	(5,749,241)	-	-	-	-	24,458,576	246,168,936			
Total	\$ 312,763,436	\$ 507,206,269	\$ 92,392,927	\$ 222,307,776	\$ 36,608,478	\$ 138,516,904	\$ 264,519,729	\$ 1,574,315,520			
Totals may not foot due to rounding									19.9%	32.2%	
									5.9%	14.1%	
									2.3%	8.8%	
									16.8%	100.0%	

Proof of Revenue

FY 2016/17

Schedule 18 shows the Proof of Revenue for FY 2016/17. Based on expected sales of 1.70 MAF, the expected revenues would be about \$52.9 million lower than the total revenue requirement, if the rates and charges were in effect the entire test year period. The cost-of-service allocation assuming a full twelve months of revenue is used to allocate costs among the various rate elements, but should not be interpreted as over- or under-collection during a given fiscal year. However, because the recommended rates do not take effect until January 1, 2017, the expected revenues for FY 2016/17 will be about \$87.5 million lower than the total revenue requirement in FY 2016/17. The total revenue requirement includes a \$41.8 million increase in the required reserves for the Revenue Remainder Fund. Deposits to the Treatment Surcharge Stabilization Fund are \$6.7 million in FY 2016/17. Accounting for these adjustments, the required draw from reserves is about \$52.4 million in FY 2016/17.

FY 2017/18

Schedule 19 shows the Proof of Revenue for FY 2017/18. Based on expected sales of 1.70 MAF the expected revenues would be about \$7.5 million higher than the total revenue requirement, if the rates and charges were in effect the entire test year period. The cost-of-service allocation assuming a full twelve months of revenue is used to allocate costs among the various rate elements, but should not be interpreted as over- or under-collection during a given fiscal year. However, because the recommended rates do not take effect until January 1, 2018, the expected revenues for FY 2017/18 will be about \$26.1 million lower than the total revenue requirement in FY 2017/18. The total revenue requirement includes a \$10.1 million increase in the required reserves for the Revenue Remainder Fund. Draws from the Treatment Surcharge Stabilization Fund are \$3.2 million in FY 2017/18. Accounting for these adjustments, the required draw from reserves is about \$12.9 million in FY 2017/18.

Schedule 20 summarizes the rates and charges that would be effective on January 1, 2017 and January 1, 2018 using the assumptions and methodology of this report. Member agency impacts will vary depending upon an agency's RTS allocation, capacity charge and relative proportions of treated and untreated Tier 1 and Tier 2 purchases.

Schedule 18: FY 2016/17 Proof of Revenue (\$ millions)**Proof of Revenue FY2017 if Rates Effective for Full Test Year**

Rate Elements	Revenue Requirements	% Over (Under) Collected		Revenues if Rates Effective July 1st	Billing Determinant	Unit Rate
	\$M	\$M	%	\$M	MAF	\$/AF
Supply	315.4	(9.9)	-3%	305.5	1.52	201.0
System Access Rate	509.3	(18.0)	-4%	491.3	1.70	289.0
Water Stewardship Rate	90.8	(2.4)	-3%	88.4	1.70	52.0
System Power Rate	218.7	(7.9)	-4%	210.8	1.70	124.0
Treatment Surcharge	266.2	(8.8)	-3%	257.4	0.82	313.0
Readiness-to-serve Charge	139.5	(4.5)	-3%	135.0		
Capacity Charge	35.1	(1.4)	-4%	33.7		
Total	1,575.0	(52.9)	-3%	1,522.1		

Totals may not foot due to rounding

Proof of Revenue FY2017 if Rates Effective January 1st

Rate Elements	Revenue Requirements	% Over (Under) Collected		Revenues if Rates Effective Jan 1st
	\$M	\$M	%	\$M
Supply	315.4	(48.2)	-15%	267.2
System Access Rate	509.3	(46.2)	-9%	463.1
Water Stewardship Rate	90.8	(12.7)	-14%	78.1
System Power Rate	218.7	5.3	2%	224.0
Treatment Surcharge	266.2	6.7	3%	272.9
Readiness-to-serve Charge	139.5	4.5	3%	144.0
Capacity Charge	35.1	3.2	9%	38.3
Total	1,575.0	(87.5)	-6%	1,487.5

Totals may not foot due to rounding

Schedule 19: FY 2017/18 Proof of Revenue (\$ millions)**Proof of Revenue FY2018 if Rates Effective for Full Test Year**

Rate Elements	Revenue Requirements	% Over (Under) Collected		Revenues if Rates Effective July 1st	Billing Determinant	Unit Rate
	\$M	\$M	%	\$M	MAF	\$/AF
Supply	312.8	1.8	1%	314.5	1.50	209.0
System Access Rate	507.2	1.1	0%	508.3	1.70	299.0
Water Stewardship Rate	92.4	1.1	1%	93.5	1.70	55.0
System Power Rate	222.3	2.1	1%	224.4	1.70	132.0
Treatment Surcharge	264.5	(0.1)	0%	264.4	0.83	320.0
Readiness-to-serve Charge	138.5	1.5	1%	140.0		
Capacity Charge	36.6	0.0	0%	36.6		
Total	1,574.3	7.5	0%	1,581.8		

Totals may not foot due to rounding

Proof of Revenue FY2018 if Rates Effective January 1st

Rate Elements	Revenue Requirements	% Over (Under) Collected		Revenues if Rates Effective Jan 1st
	\$M	\$M	%	\$M
Supply	312.8	(5.0)	-2%	307.7
System Access Rate	507.2	(8.3)	-2%	498.9
Water Stewardship Rate	92.4	(1.7)	-2%	90.7
System Power Rate	222.3	(5.4)	-2%	216.9
Treatment Surcharge	264.5	(3.2)	-1%	261.3
Readiness-to-serve Charge	138.5	(1.0)	-1%	137.5
Capacity Charge	36.6	(1.4)	-4%	35.2
Total	1,574.3	(26.2)	-2%	1,548.1

Totals may not foot due to rounding

Schedule 20: Rates and Charges Summary

Effective January 1st	2016	2017	2018
Tier 1 Supply Rate (\$/AF)	\$156	\$201	\$209
Tier 2 Supply Rate (\$/AF)	\$290	\$295	\$295
System Access Rate (\$/AF)	\$259	\$289	\$299
Water Stewardship Rate (\$/AF)	\$41	\$52	\$55
System Power Rate (\$/AF)	\$138	\$124	\$132
Full Service Untreated Volumetric Cost (\$/AF)			
Tier 1	\$594	\$666	\$695
Tier 2	\$728	\$760	\$781
Treatment Surcharge (\$/AF)	\$348	\$313	\$320
Full Service Treated Volumetric Cost (\$/AF)			
Tier 1	\$942	\$979	\$1,015
Tier 2	\$1,076	\$1,073	\$1,101
Readiness-to-Serve Charge (\$M)	\$153	\$135	\$140
Capacity Charge (\$/cfs)	\$10,900	\$8,000	\$8,700

System Access Rate (SAR)

The SAR is a volumetric¹⁷ system-wide rate charged on each acre-foot of water that is conveyed through Metropolitan's interconnected regional delivery network, including Metropolitan's right to use SWP facilities for conveyance of SWP and non-SWP water. All system users (member agency or third party) pay the SAR to use Metropolitan's interconnected regional delivery network. The SAR would increase to \$289 per acre-foot in 2017 primarily due to increased State Water Contract Transportation (conveyance) costs and \$299 per acre-foot in 2018, primarily due to lower draws from Reserves. The SAR recovers the cost of providing conveyance and distribution capacity to meet average annual demands.

The SAR recovers, among other costs, the capital, operating, maintenance, and overhead costs associated with the interconnected regional delivery network necessary to deliver water to meet member agencies' average annual demands, which include the costs of conveyance facilities (facilities outside of Metropolitan's service area) and distribution facilities (facilities within Metropolitan's Distribution System).

Metropolitan's delivery network costs are treated the same whether they were incurred for the SWP or the CRA. The fact that, unlike the CRA, Metropolitan does not hold legal title to the SWP facilities and

¹⁷ A volumetric rate is a charge applied to the actual amount of water delivered.

does not operate the SWP facilities is immaterial for purposes of cost functionalization for the COS and rate determination process.

Metropolitan, like the other State Water Contractors, is obligated to pay all operating expenses and capital costs incurred by the SWP to provide the contractual supply and transportation services. The expenses include all unexpected expenses resulting from operational issues and changes in regulations. DWR charges Metropolitan based on estimated expenses and has the right to charge Metropolitan for any expenses beyond the estimates. The State Water Contractors carry all of the financial risk, and must pay any costs without any regard for Metropolitan's own cash flows. By allocating costs, DWR does not bear any of these risks; the risks fall to the State Water Contractors. Metropolitan was even responsible for paying for the SWP costs during the extended original construction period, years before Metropolitan received any SWP water. This is also not something typical of a supply contract and hence supportive of Metropolitan's cost functionalization process.

Metropolitan is also responsible for managing its SWP supply and transportation resources. Metropolitan determines what water to store and deliver in any year from its resource portfolio. On October 1 prior to the beginning of the Calendar Year, Metropolitan must provide its initial water order, plus any variations requested by DWR. The planning for this water order begins as early as the preceding July. A considerable amount of strategy goes in to determining which resource Metropolitan will dispatch when and deliver where to maximize resources. Examples of issues that Metropolitan must consider when managing SWP resources include:

- the level of the Table A allocation, and the amount of Table A supply available to Metropolitan, Desert Water Agency (DWA) and Coachella Valley Water District CVWD;
- shaping deliveries to the order to accommodate Article 21 (surplus water), turnback pool water (Table A allocation not needed by a Contractor) or Article 56 (b) water (water rescheduled due to system outages) if available;
- the amount of Carryover water in San Luis Reservoir, and the timing and location of need;
- the maximum input and withdrawal capacities of the Central Valley Storage programs, depending on whether Metropolitan is storing or withdrawing from these programs, and considering the level of water stored;
- the availability or need to refill Flexible Storage in Castaic and Perris Reservoirs;
- the availability of water transfer supplies; and,
- the supply conditions on the Colorado River.

Metropolitan, not DWR, is responsible for determining how, when or where to deliver any of the supply sources Metropolitan has that can be conveyed on the SWP. As a result of the execution of Monterey Amendments, the SWP can convey SWP water and non-SWP water, and can be used by non-State Water Contractors; it is, therefore, appropriate to consider the SWP as part of Metropolitan's interconnected regional delivery network. The volume of water delivered under arrangements, other than the contracts for delivery of water with the DWR, is also not determinative of the cost treatment; the ability to move *any* volume is what is relevant to the functionalization of Metropolitan's costs.

Like the SWP costs, Metropolitan fully pays the operating and capital costs of the CRA maintenance, operations and supply portfolio and the risks fall on Metropolitan.

Metropolitan uses the CRA for the conveyance of its multiple CRA resources. It is responsible for determining what water to store and deliver in any year from its resource portfolio. Prior to the beginning of the calendar year, Metropolitan must provide its Plan for the Creation of Extraordinary Conservation ICS to the Bureau of Reclamation in June and its best estimate of monthly diversion requirements in September. The amount of Extraordinary Conservation ICS which Metropolitan plans to create is deducted from the total supply available for diversion. In October or November, Reclamation staff conducts a consultation with Metropolitan prior to Reclamation's Regional Director making an annual determination of Metropolitan's estimated water requirements for the ensuing calendar year to the end that deliveries of Colorado River water to Metropolitan will not exceed those reasonably required for beneficial use. Reclamation provides Metropolitan with a notice of the Regional Director's determination regarding Metropolitan's proposed diversion and beneficial use of Colorado River water for the calendar year. A considerable amount of strategy is employed to determine which resources Metropolitan will dispatch and deliver to maximize use of the resources. Examples of issues that Metropolitan must consider when managing CRA resources include:

- the magnitude of the SWP Table A allocation, and the amount of Table A supply available to Metropolitan, DWA and CVWD;
- the amount of SWP surplus, turnback pool, and carryover water;
- the amount of ICS water that can be accessed;
- the amount of water in the DWA/CVWD advance delivery account; and,
- the Colorado River supply conditions and the projection of the likelihood of Lake Mead shortage, normal, and surplus conditions in future years.

Metropolitan is responsible for determining how, when and where to deliver any of the supply sources Metropolitan has that can be transported by the CRA. Metropolitan also uses the CRA to convey non-Metropolitan water to non-member agencies: the temporary emergency wheeling of Mexican Treaty Waters of the Colorado River for Tijuana. Given that the CRA can deliver water as a result of the execution of agreements apart from Metropolitan's 1930 contract for delivery of water, 1931 supplementary contract for delivery of water, 1946 contract merging the rights of the City of San Diego and Metropolitan, and 1987 contract for delivery of surplus flows from the Colorado River with the Department of the Interior, and that it is capable of delivering water to other water agencies, it is appropriate to consider the CRA as part of Metropolitan's interconnected regional delivery network. The volume of water delivered under arrangements, other than the contracts for delivery of water with the Department of the Interior, is also not determinative of the cost treatment; the ability to move *any* volume is what is relevant to the functionalization of Metropolitan's costs.

Metropolitan's Conveyance and Aqueduct and Distribution System form a single integrated system for all imported water, which is available to Metropolitan for the conveyance of SWP and CRA water, as well as water supply obtained from supply programs and other water transfers. Metropolitan's rights and ownership of the facilities create regional system flexibility to maintain operating flexibility and delivery flexibility and meet Metropolitan's mission as a public steward of water resources. Metropolitan's member agencies and all residents of Metropolitan's service area benefit from the integration of the SWP and CRA as Metropolitan's Conveyance and Aqueduct facilities, as it allows Metropolitan to meet varying regional demands, accommodate outages, manage water quality goals, maintain emergency storage reserves, and minimize the risk of invasive species infestation.

The treatment of Metropolitan's Conveyance and Aqueduct facilities as one integrated system for purposes of rate-setting is not uncommon or novel. The Federal Energy Regulatory Commission (FERC), for example, recognizes the practice of rolling the costs of transmission facilities into a single rate when the facilities are part of an integrated system. The practice is recognized regardless of legal ownership of (or entitlements in) a particular facility.

Benefits

The SAR benefits include: (1) support of a regional approach; (2) accommodates a water transfer market that does not unfairly advantage one user over another; (3) provides a clear linkage between costs and benefits; and (4) establishes a simple approach to recovering the costs of conveyance and distribution functions.

The SAR supports a regional approach through the uniform, postage stamp rate. This region-wide funding mechanism helps ensure economies of scale and low costs for all of Metropolitan's member agencies.

The SAR is a cost-based rate. By providing a non-discriminatory rate to all parties that wish to use available system capacity to move water anywhere in the Metropolitan service area, the uniform SAR creates the opportunity for a fair and efficient water transfer market to develop. In keeping with the spirit of a regional provider approach, the SAR is uniform throughout the service area. Member agencies that receive full service water from Metropolitan will pay the exact same cost for access to the system as a customer that obtains supply from another supply source.

Metropolitan charges member agencies receiving full service water from Metropolitan the same costs for system access as it charges a party receiving wheeling service. Charging all users the same price for access to essential facilities is a basic principle of regulatory economics. The SAR provides a clear linkage between costs and benefits. The cost of service process clearly identifies the costs that are recovered by the SAR. The service function revenue requirements for conveyance and aqueduct and distribution are identified and then allocated into commodity (average use), demand (peak use), and standby (emergency and available capacity) related costs.

Only commodity-related costs are allocated to the SAR. The SAR is an easily understood approach. The SAR is a uniform, volumetric per acre-foot rate and is straightforward for both Metropolitan and the member agencies to implement and administer.

Water Stewardship Rate (WSR)

The WSR is a volumetric, system-wide rate charged on each acre-foot of water that moves through the Metropolitan system. The WSR will increase to \$52 per acre-foot in 2017 primarily due to higher Demand Management Programs costs and no funds in the Water Stewardship Fund to use to mitigate the rate impact. The WSR increases to \$55 per acre-foot in 2018, primarily due to higher Demand Management costs and lower draws from Reserves. The WSR recovers the costs of providing financial incentives for existing and future investments in local resources including conservation and recycled water. These incentive payments are identified as the Demand Management service function in the cost of service process. Demand management costs are allocated as 100 percent fixed commodity costs. All system users (member agency or third parties) will pay the same proportional costs for existing and future conservation and recycling investments.

Benefits

The WSR provides significant benefits including (1) support of a regional approach, and (2) providing a dedicated source of funding for the development of local resources.

Investments in conservation, recycling, and groundwater recovery reduce and defer system capacity expansion and maintenance costs; create available space in Metropolitan's networked conveyance system to be used to complete water transfers; decrease the region's overall dependence on imported water supplies from environmentally sensitive areas like the Bay-Delta; and increase the overall level of water supply reliability in Southern California. Because conservation measures and local resource investments reduce the overall level of dependence on the imported water system, more capacity is available in existing facilities for a longer period of time. The space in the system made available by conservation and recycling is open to all system users. The deferral and reduction of facility expansion costs made possible by investments in conservation, recycling and groundwater recovery benefit all users of conveyance and distribution capacity in the same proportion through a lower uniform System Access Rate. Similar to the public benefit charges implemented in the electric and natural gas industries in California after "open access" (customer choice of supplier) was implemented, the regional and statewide benefits of demand management are assessed to all users of the Metropolitan system, regardless of the source of the imported water supply.

The benefits of Demand Management Programs are recognized by section 130.5 of the MWD Act, enacted by SB 60 (Stats. 1999, ch. 414), which requires Metropolitan to "place increased emphasis on sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures." Because Metropolitan is mandated under SB 60 to fund Demand Management Programs like conservation and recycling, it is appropriate to recover the costs of supporting these programs on all water moved through the system.

Demand Management Program costs are not supply costs. Supply costs reflect Metropolitan's costs of supplies, facilities and programs that develop supplies that Metropolitan is then able to move through its conveyance and Distribution System and sell to its member agencies to generate revenue. Examples include the Delta Water Charge on the SWP (both Capital and Operations and Maintenance costs), Metropolitan's Central Valley Storage Programs, water transfers, and projects and programs to create Intentionally Created Surplus on the Colorado River. Demand Management Programs do not produce supplies that Metropolitan is able to move through its conveyance and Distribution System and sell to generate revenue. In fact, Metropolitan's Demand Management Programs result in a reduction in demand for imported water supplies. It is this reduced demand that defers or avoids capital costs to build, expand, or maintain conveyance and distribution facilities. Notably, although Metropolitan has been able to defer the need to build additional conveyance and distribution facilities as a result of Demand Management Programs, it has not reduced the water *supply* Metropolitan receives from either the SWP or the CRA. Metropolitan continues to take delivery of the full amounts of imported water supplies available, and in years when supplies exceed demands Metropolitan maintains storage programs to retain its full available entitlements for future dry years.

Without investments in Demand Management Programs such as conservation and recycling, Metropolitan would have to build and maintain additional system capacity and charge a higher System Access Rate to recover the cost of this additional capacity. If Metropolitan did not levy the Water Stewardship Rate on all system users, Metropolitan would be sending a signal that encourages local agencies to seek out third party water transfers to avoid the cost of investments in conservation and local resources. Such a signal would have the perverse result of encouraging greater dependence on imported

water supplies, which is the very outcome that legislative mandates have sought to avoid. In addition, greater dependence on imported water supplies could move forward the need to expand system capacity, thereby increasing costs to all member agencies purchasing imported water.

Because of the regional benefits conferred on all system users by investments in conservation and local resources, all users of Metropolitan's conveyance and distribution system pay the Water Stewardship Rate. The reliability benefits provided by regional investments in conservation and local resources are shared by all member agencies. The benefits of a reliable supply produced by the local resource investment are shared among all the member agencies by reducing member agency demands for imported water which can then be stored for use during other years when supplies may be low, demands are high, or emergencies or events impinge on operations.

System Power Rate (SPR)

The SPR is a volumetric, system-wide rate charged on each acre-foot of Metropolitan supplies moving through the Metropolitan system. SPR would decrease to \$124 per acre-foot in 2017, primarily due to lower State Water Contract power costs as the result of favorable wholesale market prices for natural gas to run natural gas-fired generation and a favorable market for renewable power contracts. The SPR would then increase to \$132 per acre-foot in 2018, due to higher State Water Contract power costs and higher CRA supplemental power purchases. The SPR is a volumetric rate that recovers the costs of pumping water to Southern California. The SPR recovers the cost of power for both the SWP and CRA.

Wheeling parties pay for actual cost (not system average) of power needed to move the water. Member agencies engaging in wheeling transaction of up to one year pay the wheeling rate. Other wheeling transactions are pursuant to individual contracts. For example, water wheeled through the California Aqueduct would pay the variable power cost associated with using the SWP transportation facilities.

Benefits

The primary benefit of the SPR is that it clearly identifies Metropolitan's average cost of power.

Treatment Surcharge

The Treatment Surcharge is a system-wide volumetric rate charged on water treated by Metropolitan. The Treatment Surcharge recovers the cost of providing treated water service, including commodity, demand and standby-related costs as determined in the COS for all five treatment plants. The Treatment Surcharge would decrease to \$313 per acre-foot in 2017, due to lower PAYGo to fund the CIP and lower capital and O&M costs attributed to treatment through more accurate functionalization of costs. The Treatment Surcharge would then increase to \$320 per acre-foot in FY 2018, due to lower draws from Reserves.

Treatment Fixed Charge Option

A proposal for a fixed Treatment charge has been provided to the Board. The proposal is COS-based, as it uses the information from Metropolitan's COS to identify the costs allocated to Fixed Demand and Fixed Standby that could be recovered through a fixed charge. The proposal aligns the fixed charge with the service commitment and investment Metropolitan has made in the capacity and treatment processes at

its five treatment plants. A fixed charge would ensure that a portion of Metropolitan's treatment costs, of which 91 percent are fixed, were covered regardless of volumes sold, improving revenue stability.

The proposed fixed treatment charge would recover the Fixed Demand and Fixed Standby costs, which are approximately 38 percent of the Treatment Revenue Requirement in FY 2016/17 and FY 2017/18, or \$97.5 million and \$101.7 million in total, respectively.

The remaining Treatment Revenue Requirement, approximately 62 percent, would be recovered through a volumetric rate of \$195 per acre-foot effective January 1, 2017 and \$197 per acre-foot effective January 1, 2018.

Options for developing fixed charges include:

- Two fixed charges. The first is apportioned to member agencies based on the average treated water sales by member agency for the most recent ten fiscal years (ten-year rolling average) and recovers the Fixed Standby allocated costs. The second is apportioned to member agencies based on the maximum summer day treated demand on the treatment plants between May 1 and September 30 for a three-calendar year period, calculated for each member agency, and recovers the Fixed Demand allocated costs. The calculation is non-coincident, meaning the peak day will differ for each member agency.
- A fixed charge that is apportioned to member agencies based on the higher of the average treated water sales by member agency for fiscal years 1998 through 2007, or the most recent ten fiscal years (ten-year rolling average). This proposal would maintain a minimum amount for each member agency on a go-forward basis. This fixed charge would recover the combined Fixed Standby allocated costs and Fixed Demand allocated costs in one fixed charge.

The consultant report supporting the methodology to address a treated water fixed charge is included in Attachment 1.

Benefits

There are several primary benefits provided by the treatment surcharge. First, only treated water users pay for the costs of treatment. Second, by averaging the costs of providing treated water service over the entire system the regional economies of scale are preserved.

Capacity Charge

The Capacity Charge would decrease to \$8,000 per cubic-foot-second of capacity during calendar year 2017. The decrease is due to the decrease in PAYGo funding of the CIP and lower peak demands on the system. The Capacity Charge would increase to \$8,700 per cubic-foot-second of capacity during calendar year 2018, due to lower draws on Reserves. The Capacity Charge is charged on the maximum summer day demand placed on the distribution system between May 1 and September 30 for a three-calendar year period, calculated for each member agency. The calculation is non-coincident, meaning the peak day will differ for each member agency. The sum of the member agency non-coincident peak day is a proxy for peak week demands, which is the design criteria for the Metropolitan Distribution system. The three-year period ending December 31, 2015 is used to charge the Capacity Charge effective January 1, 2017 through December 31, 2017. Demands measured for the purposes of billing the Capacity Charge include all firm demands including wheeling service and exchange.

The Capacity Charge is intended to pay for the cost of peaking capacity on Metropolitan's Distribution System, while providing an incentive for local agencies to decrease their use of the Metropolitan system to meet peak demands and to shift demands into lower use time periods particularly October through April. Over time, a member agency will benefit from local supply investments and operational strategies that reduce its peak demand on the system in the form of a lower total Capacity Charge. The estimated Capacity Charge to be paid by each member agency in calendar year 2017 is included in Schedule 19.

Benefits

The Capacity Charge provides several benefits including: (1) increasing the overall efficiency of water use; (2) improving the fair allocation of costs among member agencies based upon the demand imposed by each agency; and (3) providing a source of fixed revenue.

The Capacity Charge will improve the overall efficiency of water use by encouraging local agencies to invest in cost effective local storage and resources to avoid using the Metropolitan system to meet peak day demands. In addition, significant regional savings can be realized through the deferral of expensive capacity expansion.

Schedule 21: Capacity Charge (by member agency)

Calendar Year 2017 Capacity Charge					
AGENCY	Peak Day Demand (cfs) (May 1 through September 30)				Rate (\$/cfs): \$8,000
	Calendar Year				
	2013	2014	2015	3-Year Peak	Calendar Year 2017 Capacity Charge
Anaheim	31.3	34.0	33.7	34.0	\$272,000
Beverly Hills	30.8	30.6	25.5	30.8	\$246,400
Burbank	19.7	22.6	10.0	22.6	\$180,800
Calleguas	228.7	240.8	175.5	240.8	\$1,926,400
Central Basin	73.6	61.0	51.4	73.6	\$588,800
Compton	2.9	0.0	0.1	2.9	\$23,200
Eastern	262.1	239.4	177.2	262.1	\$2,096,800
Foothill	18.9	19.9	14.9	19.9	\$159,200
Fullerton	20.0	22.2	15.3	22.2	\$177,600
Glendale	44.9	43.7	33.2	44.9	\$359,200
Inland Empire	153.9	144.0	94.8	153.9	\$1,231,200
Las Virgenes	43.2	46.1	42.8	46.1	\$368,800
Long Beach	66.9	67.8	61.3	67.8	\$542,400
Los Angeles	767.1	782.5	600.9	782.5	\$6,260,000
MWDOC	379.4	443.1	293.0	443.1	\$3,544,800
Pasadena	52.5	48.5	36.9	52.5	\$420,000
San Diego CWA	967.4	1138.2	960.7	1,138.2	\$9,105,600
San Fernando	4.9	0.0		4.9	\$39,200
San Marino	6.1	7.3	4.7	7.3	\$58,400
Santa Ana	19.6	17.5	15.6	19.6	\$156,800
Santa Monica	22.7	15.2	11.7	22.7	\$181,600
Three Valleys	178.6	152.8	108.1	178.6	\$1,428,800
Torrance	34.1	33.5	28.2	34.1	\$272,800
Upper San Gabriel	16.1	40.4	79.1	79.1	\$632,800
West Basin	230.2	217.5	178.5	230.2	\$1,841,600
Western MWD	197.7	179.7	137.7	197.7	\$1,581,600
Total	3,873.3	4,048.3	3,190.8	4,212.1	\$33,696,800

Totals may not foot due to rounding

The Capacity Charge also improves the equitable distribution of costs among the member agencies. Agencies that have relatively high peak to average ratios will bear a greater share of the costs of providing peak distribution capacity. The Capacity Charge also increases the portion of Metropolitan's fixed costs that are recovered by fixed charges.

Readiness-to-Serve Charge

The RTS recovers the costs providing emergency storage capacity and available capacity to meet outages and hydrologic variability. The RTS will decrease by \$18 million to \$135 million in calendar year 2017, due primarily to lower PAYGo which outweighs the increase in State Water Contract Transportation (conveyance) costs recovered by the RTS. The RTS increases to \$140 million in calendar year 2018 due to lower draws from Reserves.

The RTS is allocated to the member agencies based on each agency's proportional share of a ten-year rolling average of all firm demands, including water transfers and exchanges that use Metropolitan system capacity. A ten-year rolling average leads to a relatively stable RTS allocation that reasonably represents an agency's potential long-term need for available capacity under different hydrologic conditions. Member agencies that so choose may have a portion of their total RTS obligation offset by Standby Charge collections collected by Metropolitan on behalf of the member agency. The estimated RTS for each member agency for calendar year 2015 is shown in Schedule 22.

Benefits

The RTS provides two major benefits. These include: (1) a better matching of costs and benefits; and (2) a SAR that recovers only those costs associated with providing average annual service.

The proposed RTS matches costs and benefits in two ways. First, the RTS will recover the amount of emergency storage and available capacity costs needed to maintain reliable deliveries during outages and service interruptions and during periods of hydrologic variability, as identified in the COS, that is not paid for by ad valorem property tax revenues. Second, the proposed RTS allocates the emergency storage and available capacity costs among the member agencies in a manner that better represents each agency's potential need for standby service. The RTS uses a ten-year rolling average of demands. A long-term rolling average like the ten-year measure is a simple and reasonable representation of an agency's potential need for available capacity under a range of hydrologic conditions.

Schedule 22: Readiness-to-Serve Charge (by member agency)

Calendar year 2017 RTS charge			
Water rate \$78.74/acre-foot			
Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2005/06 - FY2014/15	RTS Share	12 months @ \$135 million per year (1/17-12/17)
Anaheim	20,890	1.22%	\$ 1,644,773
Beverly Hills	11,386	0.66%	896,470
Burbank	12,817	0.75%	1,009,197
Calleguas MWD	109,124	6.36%	8,592,062
Central Basin MWD	51,539	3.01%	4,058,007
Compton	1,924	0.11%	151,513
Eastern MWD	98,628	5.75%	7,765,612
Foothill MWD	9,790	0.57%	770,791
Fullerton	9,668	0.56%	761,240
Glendale	19,594	1.14%	1,542,739
Inland Empire Utilities Agency	60,811	3.55%	4,788,020
Las Virgenes MWD	22,750	1.33%	1,791,215
Long Beach	34,316	2.00%	2,701,881
Los Angeles	312,096	18.20%	24,573,320
Municipal Water District of Orange County	221,545	12.92%	17,443,662
Pasadena	21,181	1.24%	1,667,686
San Diego County Water Authority	367,123	21.41%	28,905,959
San Fernando	82	0.00%	6,480
San Marino	931	0.05%	73,288
Santa Ana	12,605	0.74%	992,442
Santa Monica	9,252	0.54%	728,501
Three Valleys MWD	65,261	3.81%	5,138,444
Torrance	18,130	1.06%	1,427,500
Upper San Gabriel Valley MWD	22,143	1.29%	1,743,477
West Basin MWD	125,379	7.31%	9,871,876
Western MWD	75,617	4.41%	5,953,847
MWD Total	1,714,580	100.00%	\$ 135,000,000

Totals may not foot due to rounding

Purchase Order

Purchase Orders were developed to establish a financial commitment from the member agency to Metropolitan in exchange for the ability to purchase more water at the lower Tier 1 Supply Rate. In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024. Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the Purchase Order Commitment) over a ten-year period.

There is no annual minimum or maximum purchase commitment required by the Purchase Order. A member agency has the full ten-year term to fulfill the Purchase Order Commitment. In exchange for this commitment, the member agency can purchase an amount of firm water supply equal to 90 percent of its cumulative Base Period Demand over the full ten years at the lower Tier 1 Supply Rate. An agency that determined that a Purchase Order is not in its best interest may purchase up to 60 percent of its Revised Base Firm Demand annually at the lower Tier 1 Supply Rate. The terms and conditions of the Purchase Order are uniform for all member agencies.

The Base Period Demand was established for each member agency. Member agencies chose a base amount of (1) the member agency's Revised Base Firm Demand which is the highest fiscal year purchases during the 13-year period of fiscal year 1990 through fiscal year 2002, or (2) the highest year purchases in the most recent 12-year period of fiscal year 2003 through fiscal year 2014.

At the end of the Purchase Order Term, if the member agency has not purchased enough firm supply to meet its Purchase Order Commitment, it will be billed for the remaining balance of the Purchase Order Commitment at the average of the Tier 1 Supply Rate in effect during the Term. This payment may be prorated with interest evenly over the next 12 invoices.

If a member agency fulfills its Purchase Order Commitment prior to the end of the Purchase Order Term, (e.g. purchased ten times 60 percent of the Initial Base Period Demand) then the member agency has met its obligation under the Purchase Order. The member agency may continue to purchase up to 90 percent of its cumulative Base Period Demand over the Term at the Tier 1 Supply Rate for the duration of the Purchase Order Term.

Although the maximum amount of water that can be purchased at the Tier 1 Supply Rate may increase over time if the agency's Base Period Demand increases, the Purchase Order Commitment is fixed for the entire Purchase Order Term and does not increase.

Tier 1 Supply Rate

The Tier 1 Supply Rate is a volumetric rate charged on Metropolitan water sales that are within a member agency's Tier 1 maximum. The Tier 1 Supply Rate would increase to \$201 per acre-foot in 2017, due to increasing State Water Contract Delta Charges and increased Supply Program costs. The Tier 1 Supply Rate would increase to \$209 per acre-foot in 2018, due to increasing State Water Contract Delta Charges and increased Supply Program costs. The Tier 1 Supply Rate supports a regional approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not recovered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales.

Tier 2 Supply Rate

The Tier 2 Supply Rate is a volumetric rate that reflects Metropolitan's cost of purchasing water transfers north of the Delta. The Tier 2 Supply Rate is charged on Metropolitan water sales that exceed a member agency's Tier 1 maximum. The Tier 2 Supply Rate encourages the member agencies and their customers to maintain existing local supplies and develop cost-effective local supply resources and conservation. The Tier 2 Supply Rate would increase to \$295 per acre-foot in 2017 and remain at \$295 per acre-foot in 2018. At an expected average sales level of 1.7 million acre-feet in both fiscal years, it is estimated that no supply will be sold at the Tier 2 Supply Rate in either fiscal year.

Benefits

The use of the Tier 2 Supply Rate provides several benefits including, efficient resource management and clear price signals to accommodate a water transfer market. By pricing supplies that exceed 90 percent of a member agency's Base demand at a price reflecting Metropolitan's supply cost, a price incentive exists to encourage efficient regional resource management. Member agencies will be encouraged to invest in cost-effective conservation measures and local resources like water recycling. Metropolitan has

historically set its water rates with the primary objective of recovering cost. The Tier 2 Supply Rate is a pricing tool designed specifically for the purpose of creating a greater incentive for member agencies to make economic resource management decisions.

The Tier 2 Supply Rate will reflect Metropolitan's cost of acquiring transfers from north of the Delta. In so doing, Metropolitan will be competing in the water transfer market along with other providers of imported water supplies. If other providers of imported supply can develop additional supply at a lower cost than Metropolitan's Tier 2 Supply Rate, the water transfer market will expand to meet the region's increasing demands. All users of the Metropolitan system will pay the same for access to conveyance and distribution capacity through the SAR and for the benefits of the regional Demand Management Programs through the WSR.

Sales

Staff estimates of water sales used for developing the rate recommendation were based on current member agency demands and information and an expectation that demands will trend to levels expected under normal weather conditions. Table 18 summarizes projected water sales by service type for FY 2016/17 and FY 2017/18.

Table 18: FY Sales, by Type

Fiscal Year Ending	2017	2018
Sales and Exchange by Treatment Type		
Treated Firm Sales	822	826
Untreated Firm Sales	698	679
Untreated Exchange	180	195
Total Sales and Exchange	1,700	1,700
Firm Sales by Type		
Tier 1	1,520	1,505
Tier 2	-	-
Total Firm Sales	1,520	1,505

ATTACHMENT 1: Treated Water Fixed Charge Technical Paper



METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Treated Water Cost Recovery Alternatives

March 14, 2016

March 14, 2016

Ms. June Skillman
Budget and Financial Planning Manager
Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, CA 90012 - 2944

Subject: Treated Water Cost Recovery Alternatives

Dear Ms. Skillman,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this report detailing our study of and recommendations for treated water cost recovery and for alternatives to the current treated water surcharge used by the Metropolitan Water District of Southern California (Metropolitan).

This report summarizes RFC's key findings and discusses the methodologies we utilized to develop our recommendations. It has been a pleasure working with you and other members of the Metropolitan Staff. Thank you for the support provided during the course of this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.



Richard D. Giardina, CPA
Executive Vice President



John Wright, CPA
Senior Consultant

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ATTACHMENT A: PRESENTATIONS

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ANALYZED BY RFC**

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SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE CONSULTING ENGAGEMENT

On October 26, 2015, the Metropolitan Water District of Southern California (Metropolitan) engaged Raftelis Financial Consultants, Inc. (RFC) to develop potential alternatives and recommend, as appropriate, changes to Metropolitan's existing treated water surcharge which is currently assessed as a 100% volumetric rate per acre foot (AF) of treated water purchases by a member agency. The primary objective of the study was to identify and analyze alternative treated water cost recovery mechanisms that:

- » Comply with industry standard cost of service principles
- » Better align treated water cost recovery from member agencies with service commitments and treated water infrastructure capital investments made by Metropolitan
- » Achieve a level of fixed revenue recovery that does not vary with treated water sales

1.2 BOARD/MEMBER AGENCY PRESENTATIONS

RFC made three separate presentations at Metropolitan on potential modifications to the treated water rate design. These presentations were made at the:

- » Member Agency Manager's Meeting: January 15, 2016
- » Finance and Insurance Committee Meeting: February 23, 2016
- » Finance and Insurance Committee Meeting: March 7, 2016

Copies of the presentation materials are included in Attachment A to this report.

SECTION 2: EXISTING TREATED WATER SURCHARGE

2.1 TREATED WATER SURCHARGE REVENUE REQUIREMENT

The existing structure of the treated water surcharge, along with all of Metropolitan's existing rates, was first implemented in January 2003, after an extensive strategic planning process that culminated in the development of Rate Structure Framework. Metropolitan's treatment function cost includes capital financing, operating, maintenance and overhead costs for its five treatment plants and is considered separately from other system or functional costs so that separate rates for treated water service may be developed. The fiscal year (FY) 2016-2017 treated water net revenue requirement is \$257 million as shown in Table 1.

Table 1: FY 2016-2017 Treated Water Revenue Requirement Components (\$ Millions)

Cost	Revenue Requirement	Percent of Total
Direct O&M at Water Treatment Plants	\$59	23%
Indirect O&M (Water System Operations, IT, Eng., HR)	46	18%
Administrative and General (Legal, Finance, Audit, Ethics)	30	12%
Capital Costs (Debt Service, PAYGO Capital)	140	54%
LESS: Revenue Offsets / Decline in Reserves	-18	-7%
Total Net Revenue Requirement	\$257	100%

2.2 TREATED WATER SURCHARGE COST ALLOCATIONS

The cost components presented in Table 1 above are allocated to specific cost parameters as part of Metropolitan's comprehensive cost of service study process. These specific cost parameters are:

- » **Fixed Demand Costs** are fixed capital costs associated with debt service and rate-financed capital investments incurred to provide treatment capacity available to meet treated water peak demands.
- » **Fixed Standby Costs** are fixed capital costs associated with debt service and rate-financed capital investments incurred to provide standby treatment services.
- » **Fixed Commodity Costs** include treated water operations and maintenance and capital financing costs that are not related to meeting peak demands or standby service costs.

- » **Variable Commodity Costs** are costs such as chemicals and electric power costs that tend to vary directly with the volume of water supplied.

Table 2 presents the actual allocation of the FY 2016-2017 treatment revenue requirement to each specific cost parameter.

**Table 2: FY 2016-2017 Treated Water Cost Allocations
(\$ Millions)**

Cost Parameter	Revenue Requirement	% of Total
Fixed Commodity Costs	\$135	53%
Fixed Capital Costs		
<i>Fixed Demand</i>	41	16%
<i>Fixed Standby</i>	<u>57</u>	<u>22%</u>
Total Fixed Capital Costs	<u>98</u>	<u>38%</u>
Total Fixed Costs	233	91%
Variable Costs	<u>24</u>	<u>9%</u>
Total Net Revenue Requirement	\$257	100%

2.3 TREATED WATER SURCHARGE RATE DESIGN

The cost allocation process shown in Table 2 notwithstanding, Metropolitan recovers its entire treatment revenue requirement via a volumetric rate per AF. The units of service used in the rate calculation are the forecasted test-year (FY 2016 – 2017) treated water sales to member agencies, expressed on an AF basis – 822,000 AF. The forecasted test-year water sales of 822,000 AF was allocated to each member agency based on the percentage of actual water purchases by member agencies for FY 2014 – 2015. Table 3 illustrates the Treated Water Surcharge calculation for the FY 2016 - 2017 test year – \$313 per AF.

Table 3: FY 2016-2017 Treated Water Surcharge Rate Calculation

Description	Amount
Treated Water Net Revenue Requirement	\$257,479,354
Forecasted Treated Water Sales (AF)	<u>822,000</u>
Treated Water Surcharge (\$/AF)	\$313

Table 4 shows the hypothetical treated water surcharge for each Metropolitan member agency for test-year FY 2016-2017 under the existing treatment surcharge (referred to as “Status Quo” in Table 4 and throughout the balance of this report). These revenue requirement estimates have been termed as being “hypothetical” because the illustrated revenue requirement outcomes are based on estimates of member agency treated water purchases. Actual FY 2016-2017 treated water purchases may differ from those shown in Table 4.

Table 4: FY 2016-2017 Member Agency Treated Water Revenue Requirement

FY 2016/17 Status Quo Treatment Surcharge (100% Volumetric) (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test Year Treated Water Sales		x	Total Revenue Requirement	=	Member Agency Revenue Requirement
	AF	%				
Anaheim	3,947	0.48%	x	\$257,479,354	=	\$1,236,208
Beverly Hills	10,212	1.24%	x	257,479,354	=	3,198,735
Burbank	6,354	0.77%	x	257,479,354	=	1,990,241
Calleguas	88,943	10.82%	x	257,479,354	=	27,860,023
Central Basin	27,937	3.40%	x	257,479,354	=	8,750,956
Compton	0	0.00%	x	257,479,354	=	87
Eastern	53,248	6.48%	x	257,479,354	=	16,679,159
Foothill	7,461	0.91%	x	257,479,354	=	2,337,078
Fullerton	7,639	0.93%	x	257,479,354	=	2,392,937
Glendale	15,693	1.91%	x	257,479,354	=	4,915,618
Inland Empire	0	0.00%	x	257,479,354	=	0
Las Virgenes	20,314	2.47%	x	257,479,354	=	6,362,979
Long Beach	42,391	5.16%	x	257,479,354	=	13,278,470
Los Angeles	61,097	7.43%	x	257,479,354	=	19,137,588
MWDOC	141,285	17.19%	x	257,479,354	=	44,255,500
Pasadena	17,238	2.10%	x	257,479,354	=	5,399,667
San Diego CWA	97,266	11.83%	x	257,479,354	=	30,467,286
San Fernando	92	0.01%	x	257,479,354	=	28,723
San Marino	673	0.08%	x	257,479,354	=	210,923
Santa Ana	4,929	0.60%	x	257,479,354	=	1,543,796
Santa Monica	3,920	0.48%	x	257,479,354	=	1,227,816
Three Valleys	36,641	4.46%	x	257,479,354	=	11,477,206
Torrance	14,919	1.81%	x	257,479,354	=	4,673,233
Upper San Gabriel	8,350	1.02%	x	257,479,354	=	2,615,453
West Basin	103,936	12.64%	x	257,479,354	=	32,556,355
Western MWD	47,515	5.78%	x	\$257,479,354	=	\$14,883,317
TOTAL	822,000	100.00%				\$257,479,354
				Unit Cost per AF		\$313

2.4 DECLINING WATER SALES AND THE EXISTING SURCHARGE

As part of Metropolitan's fundamental mission, it must stand ready to meet the treated water base load, peak load, and emergency standby demands of its 26 member agencies. This includes member agencies who, due to a variety of reasons including the development of their own local treated water supplies, have significantly reduced their annual treated water purchases from Metropolitan. To fulfill this mission Metropolitan in fact made significant investments in treatment capacity based on the actual demands of the member agencies. As shown in Figure 1, Metropolitan

increased its installed water treatment capacity from approximately 3,000 cubic feet per second (cfs) in 1995 to 4,000 cfs in 1997. This increase in water treatment plant capacity was entirely appropriate given that member agency annual non-coincident peak demands during the period of approximately 2003 - 2007 equaled or exceeded 3,000 cfs.

Metropolitan has invested in the water treatment capacity to serve the demands of all member agencies regardless of the amount of treated water they purchase in any given year. Unfortunately, due to the 100% volumetric nature of the existing treated water surcharge, many member agencies do not necessarily pay their proportionate share of Metropolitan water treatment costs. In a retail service arrangement the customer base is largely if not entirely "captive", i.e., without service provider options. Such a service relationship (retail service) is less likely to result in the magnitude of under-utilized capacity that Metropolitan has experienced.

In Metropolitan's situation many member agencies have treated water alternatives and have exercised these options. This, in combination with a 100% volumetric treated water cost recovery mechanism, results in the current misalignment in the service provided and revenues collected across the 26 member agencies. If this situation persists, Metropolitan may have no option but to reduce the treated water service commitment it provides to member agencies from the perspective of both peak demand and emergency standby capacity. This could potentially entail the decommissioning of significant amounts of "stranded" water treatment assets. This will raise even more complex questions regarding how the unrecovered costs of stranded water treatment assets should be apportioned among member agencies.

A simple example for a hypothetical member agency illustrates this cost recovery dilemma. Assume that Metropolitan invested in additional treatment plant capacity in 2006 based, at least in part, on a demand forecast from a member agency indicating that their treated water purchases would increase from 50,000 AF in 2006 to 100,000 AF in 2017 and that Metropolitan invests in treatment capacity to meet this demand. If the member agency's demand forecast was perfectly accurate and they purchase 100,000 AF of treated water in 2017, the member agency will make a proportionate contribution to the recovery of the Metropolitan's water treatment costs.

Now assume that after Metropolitan has invested in capacity, the member agency purchases only 50,000 AF from Metropolitan in 2017. In this situation, the member agency would not be making a proportionate contribution to the recovery of the costs Metropolitan incurs to maintain 100,000 AF of water treatment capacity for the member agency. The resulting cost recovery shortfall must be borne by other member agencies who continue to purchase all, or at least the vast majority, of their required treated water supplies from Metropolitan.

This situation creates a misalignment between the recovery of costs from member agencies and the investments in treated water capacity made by Metropolitan to maintain the service commitment embodied in its organizational mission (i.e., to stand ready to meet the base load, peak load, and emergency standby demands of member agencies). Under the existing 100% volumetric treated water surcharge, as the number of member agencies bypass the Metropolitan treated water system

this misalignment will only worsen. Specifically, the cost of water treatment capacity built to serve all member agencies will increasingly and disproportionately be borne by the limited number of member agencies who remain on Metropolitan's treated water system.

The magnitude of the long-term decline in Metropolitan's treated water demands is shown in Figure 1. This figure compares actual member agency treated water purchases from Metropolitan, expressed on an annual average and summer non-coincident peak day basis, to projected treated water peak demands developed in Metropolitan's 1996 Integrated Resource Plan (IRP). As shown in Figure 1, actual member agency treated water purchases have declined significantly since approximately 2007 and are far below the forecast treated water sales in Metropolitan's 1996 IRP.

Figure 1: Comparison of Forecast vs. Actual Treated Water Sales

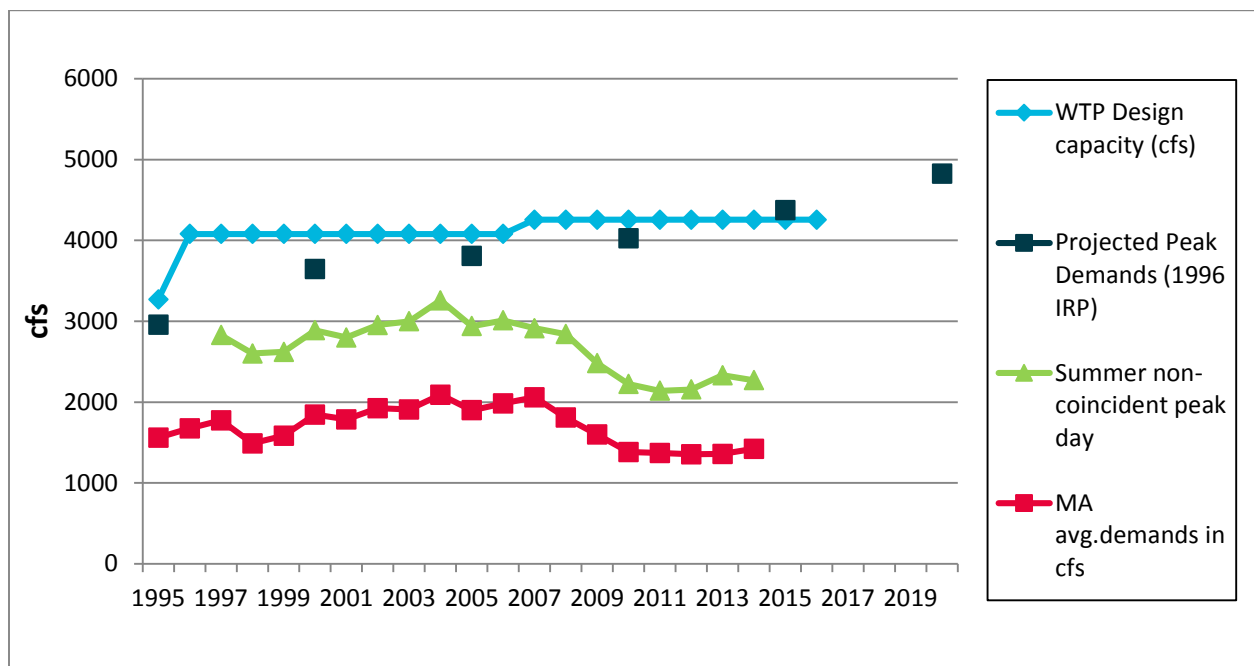
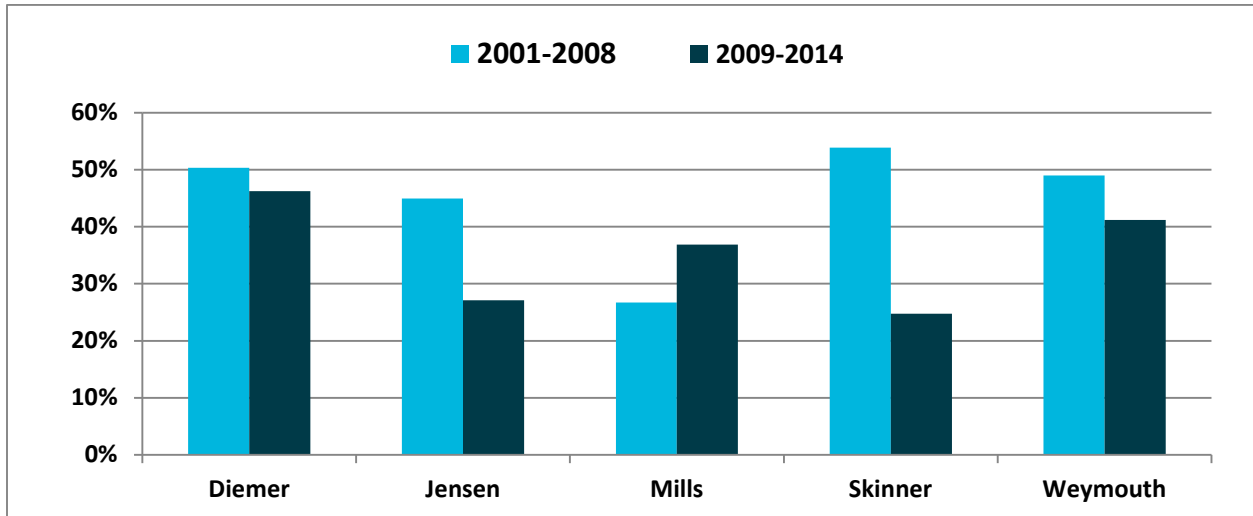


Figure 2 demonstrates the level of excess capacity at Metropolitan's existing water treatment plants due to the long-term decline in Metropolitan treated water sales. The figure compares the Metropolitan treatment plant capacity factors, expressed as the ratio of actual demand to installed capacity, during the period 2001 - 2008 vs. the period 2009 - 2014. As shown in Figure 2, capacity factors at Metropolitan's Jensen and Skinner water treatment plants fell significantly during the period 2009 - 2014.

Figure 2: Water Treatment Plant Capacity Factors



SECTION 3: PROPOSED TREATED WATER SURCHARGE MODIFICATIONS

3.1 FIXED REVENUE RECOVERY VIA A MINIMUM CHARGE

As noted in Section 1.1., the primary objective of this project was to analyze potential alternative treated water rate designs featuring a minimum charge cost recovery mechanism that:

- » Comply with industry standard cost of service principles
- » Better align treated water cost recovery from member agencies with service commitments and treated water infrastructure capital investments made by Metropolitan
- » Achieve a level of fixed revenue recovery that does not vary with treated water sales

RFC recommends the implementation of a treated water surcharge featuring the use of a minimum charge intended to achieve the above objectives. From a conceptual perspective, minimum charges are designed to ensure that the providers of wholesale utility services receive a level of fixed cost recovery to compensate them for the investments they make to construct and maintain a specific level of system capacity *regardless of the actual demands imposed by customers in any given year*. For example, the implementation of a minimum charge as part of Metropolitan's treated water surcharge would allow Metropolitan to receive a level of fixed cost recovery even as treated water sales decline from year-to-year. Stated differently, the use of a minimum charge can serve to have those member agencies for whom treatment capacity was built, pay for that capacity whether or not they use it.

Minimum charges can be implemented in a variety of ways. Perhaps the most common approach is through the use of “take-or-pay” contracts that require the customers of wholesale utility service providers to pay for a specific minimum level of service regardless of their actual water demands. Essentially minimum and take-or-pay approaches are used to ensure that the customer pays for the capacity that was specifically built to serve them. In this way, costs are recovered in a proportional and fully equitable manner from all customers. Specifically, both the current demand-related variable costs customers impose on the wholesale provider's system are recovered. Also recovered are the long-term fixed costs they cause the wholesale service provider to incur through the construction of capacity-related assets specifically designed to meet their actual and/or forecast demands.

As part of this consulting engagement RFC surveyed the wholesale service providers listed in Table 5. Each of these service providers featured the use of some form of fixed revenue recovery as part of their wholesale rate structures as do, in RFC's experience, most wholesale providers. Metropolitan with its 100% volumetric treated water surcharge, is certainly an exception in how it recovers its fixed capacity-related costs from the member agencies.

Table 5: Wholesale Water Service Providers Surveyed by RFC

Massachusetts Water Resource Authority, MA	Great Lakes Water Authority, MI
North Texas Municipal Water District, TX	Jordon Valley Water Conservancy District, UT
Upper Trinity Regional Water District, TX	Dallas Water Utilities, TX
San Francisco Public Utilities Commission, CA	Portland Water Bureau, OR

3.2 KEY INPUTS: MINIMUM CHARGE RATE DESIGN PROCESS

To develop a minimum charge-based rate design, two key inputs must be determined. They are the units of service associated with the minimum charge and specific cost components and/or the level of fixed revenue recovery to be obtained from the minimum charge.

Determination of Minimum Charge Units of Demand: The first critical rate design input is the determination of the units of demand for the minimum purchase amount. RFC believes the appropriate method for establishing this minimum purchase amount for Metropolitan's revised treated water surcharge is to compare the average of actual direct treated water sales made to each member agency during the 10-year period 1998 - 2007 to the most recent 10-year rolling average of treated water sales (TYRA). The *greater* of these two amounts is then selected to establish the units of service used in the determination of the fixed charge.

RFC selected the 10-year period 1998 - 2007 as part of the minimum charge units of service determination because in 2007, Metropolitan made its last significant investment in water treatment plant capacity. This addition of 110 MGD for module 7 at the Skinner water treatment plant was made by Metropolitan in response to both the actual demands of the member agencies and the demand forecasts developed as part of 1996 IRP process (see Figure 1). It is clear from Figure 1 that up to approximately 2007 there was a strong link or connection between member agency water purchases and Metropolitan's capacity to meet those demands.

As noted previously, Figure 1 clearly shows that Metropolitan increased its installed water treatment capacity from approximately 3,000 cfs in 1995 to 4,000 cfs in 1997. This increase in water treatment plant capacity was clearly appropriate given that member agency annual non-coincident peak demands during the period of approximately 2003 - 2007 equaled or exceeded 3,000 cfs. The 1996 IRP demand forecasts could not have anticipated the widespread development of local treated water supplies by member agencies and other factors that may have contributed to the reduction in treated water sales to member agencies. As a result, they (the demand forecasts) provide a direct rationale for why Metropolitan made investments to construct and maintain its existing level of water treatment plant capacity.

Figure 3 summarizes the 2-part test recommended by RFC to determine the minimum units of service needed for RFC's recommended treated water minimum methodology.

Figure 3: Determining Minimum Charge Units of Service

**2-Part Test for Determining Fixed Charge Minimum Units of Demand
for Each Member Agency**

Greater of average annual AF:

1. Most recent or current TYRA of Treated Water Sales *OR*
2. Average of 1998 – 2007 Treated Water Sales*

*2007 was the last significant Metropolitan treatment plant capacity addition

Determination of the Amount of Fixed Revenue Recovery: The second critical rate design input in the determination of a minimum charge is the amount of fixed revenue recovery to be obtained via the minimum charge. RFC believes the appropriate level of fixed revenue recovery to be obtained from a treated water minimum charge is the sum of water treatment fixed demand and fixed standby costs. As noted in Section 2.2, these two cost parameters reflect the fixed capital associated with debt service and rate-financed capital investments incurred to meet Metropolitan's peak demand and standby capital cost requirements. For FY 2016-2017, they total approximately \$98 million, or 38% of Metropolitan's total \$257 million treated water revenue requirement (see Table 2 in Section 2.2).

Under RFC's proposal, the net remaining treated water revenue requirement of approximately \$160 million, or approximately 62% will continue to be recovered based on the current volumetric \$/AF rate based on the forecast of member agency test-year direct treated water sales. Figure 4 illustrates this proposed cost recovery split.

Figure 4: Proposed Treated Water Revenue Recovery Percentages

» **Volumetric Revenue Recovery = 62%**

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$

» **Fixed Revenue Recovery = 38%**

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{ Annual Fixed Charge}$$

3.3 DETAILED CALCULATION OF RFC'S PROPOSED MINIMUM CHARGE

Table 6 shows the calculation of the current 100% volumetric treated water surcharge (the Status Quo Surcharge) followed by the revised components under RFC's proposal to incorporate a fixed charge/minimum charge.

Table 6: Calculation of RFC's Proposed Treated Water Surcharge

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$257,479,354
Forecast Treated Water Sales (AF) - See Table 4 in Section 2.3	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313
Treatment Fixed Annual Charge (\$/AF) - 38% Revenue Recovery	
Fixed Demand	\$40,822,844
Fixed Standby	56,724,561
Total Fixed Charge Revenue Requirement	\$97,547,405
% of Total Revenue Requirement	37.9%
Fixed Charge Units of Service (AF) - See Table 7	<u>1,341,701</u>
Annual Fixed Charge (\$/AF)	\$73
Treatment Volumetric Rate (\$/AF) - 62% Revenue Recovery	
Net Remaining Revenue Requirement	\$159,931,949
% of Total Revenue Requirement	62.1%
Forecast Treated Water Sales (AF) - See Table 4 in Section 2.3	<u>822,000</u>
Volumetric Rate (\$/AF)	\$195

Table 7 shows the member agency revenue requirement impacts associated with RFC's proposed minimum charge calculation and the units of demand referenced in Table 6 above. On Table 7 RFC has highlighted in yellow the acre-feet value (the units of service) that is used in the determination of each member agency's proportionate share of the Fixed Charge Revenue Requirement.

Table 7: Minimum Charge Revenue Requirement

FY 2016/2017 Member Agency Fixed Charge Revenue Requirement (38% Revenue Recovery)							
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)							
Member Agency	Average 1998 - 2007 Treated Water Sales (AF)	TYRA 2006 - 2015 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement =	Member Agency Annual Fixed Revenue Requirement
Anaheim	13,134	12,126	13,134	0.98%	X	\$97,547,405 =	\$954,911
Beverly Hills	13,008	11,386	13,008	0.97%	x	97,547,405 =	945,725
Burbank	12,816	10,089	12,816	0.96%	x	97,547,405 =	931,758
Calleguas	112,585	114,712	114,712	8.55%	x	97,547,405 =	8,340,091
Central Basin	67,191	46,198	67,191	5.01%	x	97,547,405 =	4,885,071
Compton	3,514	1,924	3,514	0.26%	x	97,547,405 =	255,451
Eastern	73,423	73,323	73,423	5.47%	x	97,547,405 =	5,338,173
Foothill	11,623	9,933	11,623	0.87%	x	97,547,405 =	845,074
Fullerton	11,513	11,072	11,513	0.86%	x	97,547,405 =	837,031
Glendale	25,094	19,585	25,094	1.87%	x	97,547,405 =	1,824,421
Inland Empire	0	0	0	0.00%	x	97,547,405 =	0
Las Virgenes	22,106	22,810	22,810	1.70%	x	97,547,405 =	1,658,376
Long Beach	44,267	36,397	44,267	3.30%	x	97,547,405 =	3,218,416
Los Angeles	79,762	87,950	87,950	6.56%	x	97,547,405 =	6,394,377
MWDOC	244,203	204,975	244,203	18.20%	x	97,547,405 =	17,754,580
Pasadena	21,779	21,181	21,779	1.62%	x	97,547,405 =	1,583,398
San Diego CWA	251,381	156,458	251,381	18.74%	x	97,547,405 =	18,276,450
San Fernando	387	206	387	0.03%	x	97,547,405 =	28,135
San Marino	1,041	931	1,041	0.08%	x	97,547,405 =	75,664
Santa Ana	15,788	13,331	15,788	1.18%	x	97,547,405 =	1,147,853
Santa Monica	12,627	9,252	12,627	0.94%	x	97,547,405 =	918,014
Three Valleys	49,467	41,833	49,467	3.69%	x	97,547,405 =	3,596,498
Torrance	21,052	18,130	21,052	1.57%	x	97,547,405 =	1,530,565
Upper San Gabriel	13,963	7,346	13,963	1.04%	x	97,547,405 =	1,015,173
West Basin	145,421	125,668	145,421	10.84%	x	97,547,405 =	10,572,734
Western MWD	61,511	63,538	63,538	4.74%	x	\$97,547,405 =	4,619,464
TOTAL	1,328,654	1,120,354	1,341,701	100.00%			\$97,547,405
						Annual Fixed Charge (\$/AF)	\$73

Table 8 calculates the estimate change in each member agency's revenue requirement under RFC's proposed minimum charge treated water surcharge with fixed revenue recovery and the existing 100% volumetric treated water surcharge (referred to as "Status Quo" in Table 8).

Table 8: Member Agency Revenue Requirement Comparison

Summary of FY 2016/2017 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design			\$ Difference From Status Quo	% Difference From Status Quo
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement		
Anaheim	\$1,236,208	\$954,911	\$767,864	\$1,722,775	\$486,567	39%
Beverly Hills	3,198,735	945,725	1,986,877	2,932,602	(266,132)	-8%
Burbank	1,990,241	931,758	1,236,228	2,167,985	177,745	9%
Calleguas	27,860,023	8,340,091	17,305,107	25,645,198	(2,214,825)	-8%
Central Basin	8,750,956	4,885,071	5,435,611	10,320,681	1,569,725	18%
Compton	87	255,451	54	255,505	255,418	> 100%
Eastern	16,679,159	5,338,173	10,360,172	15,698,345	(980,813)	-6%
Foothill	2,337,078	845,074	1,451,664	2,296,738	(40,340)	-2%
Fullerton	2,392,937	837,031	1,486,361	2,323,392	(69,545)	-3%
Glendale	4,915,618	1,824,421	3,053,310	4,877,732	(37,886)	-1%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	6,362,979	1,658,376	3,952,331	5,610,707	(752,272)	-12%
Long Beach	13,278,470	3,218,416	8,247,852	11,466,268	(1,812,202)	-14%
Los Angeles	19,137,588	6,394,377	11,887,212	18,281,589	(855,999)	-4%
MWDOC	44,255,500	17,754,580	27,489,072	45,243,652	988,152	2%
Pasadena	5,399,667	1,583,398	3,353,975	4,937,373	(462,295)	-9%
San Diego CWA	30,467,286	18,276,450	18,924,595	37,201,045	6,733,759	22%
San Fernando	28,723	28,135	17,841	45,976	17,253	60%
San Marino	210,923	75,664	131,014	206,678	(4,245)	-2%
Santa Ana	1,543,796	1,147,853	958,921	2,106,774	562,978	36%
Santa Monica	1,227,816	918,014	762,651	1,680,665	452,849	37%
Three Valleys	11,477,206	3,596,498	7,129,006	10,725,505	(751,701)	-7%
Torrance	4,673,233	1,530,565	2,902,754	4,433,319	(239,914)	-5%
Upper San Gabriel	2,615,453	1,015,173	1,624,575	2,639,748	24,295	1%
West Basin	32,556,355	10,572,734	20,222,209	30,794,944	(1,761,412)	-5%
Western MWD	14,883,317	4,619,464	9,244,694	13,864,158	(1,019,159)	-7%
TOTAL	\$257,479,354	\$97,547,405	\$159,931,949	\$257,479,354	\$0	0%

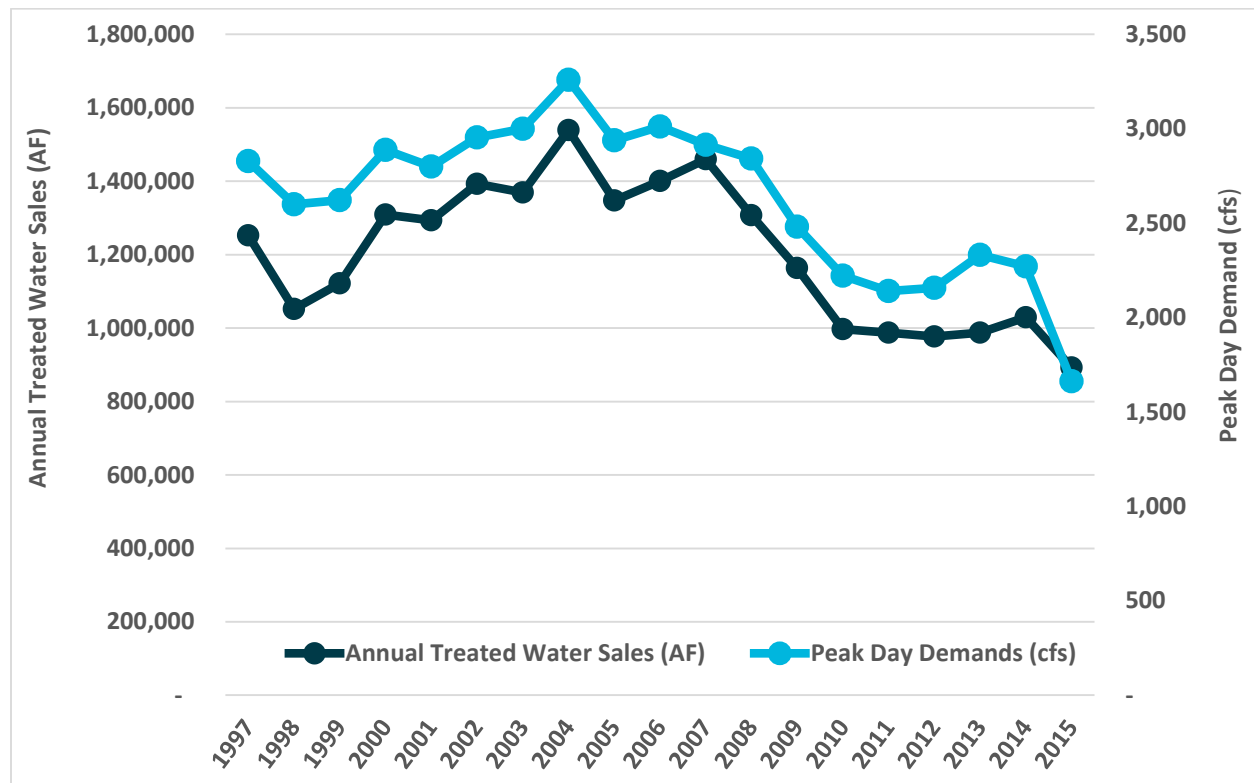
3.4 QUESTIONS REGARDING RFC'S PROPOSED TREATED WATER SURCHARGE

RFC's presented its proposed treated water surcharge at the Member Agency Manager's Meeting on January 15, 2016. At this meeting, RFC was asked two specific questions regarding its proposal and these questions are discussed below.

Why Doesn't RFC Include Peak Demands in its Minimum Charge Calculation? As discussed previously, RFC's proposed treated water surcharge compares member agency average annual direct treated water purchases during the period 1998 - 2007 against their most recent TYRA and uses the greater of the two values. RFC believes that peak demands are incorporated within these two metrics because member agency's non-coincident peak demands contribute to their annual treated water purchases. To confirm this hypothesis, Metropolitan Staff conducted an analysis of the mathematical correlation between member agency annual direct treated water purchases to their non-coincident peak demands. The result of this analysis produced a statistically significant

correlation coefficient of 0.95 which confirms RFC's hypothesis that the use of average annual direct treated water sales within the minimum charge calculation does effectively reflect member agency peak water usage characteristics. Figure 5 provides a graphical representation of the Metropolitan Staff analysis.

Figure 5: Correlation between Annual Water Purchases and Peak Water Demand



Notwithstanding Figure 5's demonstration of the strong correlation between member agency annual treated water purchase volumes and their non-coincident peak day demands, some members of the Board have expressed continuing interest in minimum charge rate that includes a peaking component. This alternative to RFC's recommended treated water surcharge rate design with a minimum is discussed more fully below.

Do Member Agencies Ever Stop Paying RFC's Proposed Minimum Charge? Under RFC's proposal, member agencies will continue to pay a minimum charge as long as Metropolitan continues to have an annual treated water revenue requirement AND for as long as Metropolitan is obligated to provide demand and standby service to a member agency. Thus, absent an "agreement" to discontinue the provision of demand and standby service, each member agency will continue to pay the minimum charge on a perpetual basis. Going forward with the RFC recommended minimum charge proposal or the alternative described below, Metropolitan and the member agencies should work cooperatively to assess current and future water treatment capacity in light of member agency decisions to continue to pursue development of local treated water supplies.

However, and in response to member agency concerns that the minimum charge does not end, RFC developed an alternative calculation based on the use of both the current TYRA of member agency direct treated water purchases and the maximum peak day demands of each member agency over the most recent three-year period without any minimum purchase requirement. This alternative has been labelled the “TYRA with Peaking and No Minimum” alternative.

Under this approach member agencies could avoid paying the treated water surcharge if they have no purchase volumes for a period of ten years. While this is not RFC’s preferred approach it certainly can be considered a middle ground or compromise between the current 100% volumetric method and the RFC minimum method. Nonetheless, this is not RFC's preferred alternative because, while member agencies would be required to contribute in a fixed manner for the next ten years, it does not solve the dilemma of the misalignment between the recovery of costs from member agencies and the investments in treated water capacity made by Metropolitan to maintain the service commitment embodied in its organizational mission (i.e., to stand ready to meet the base load, peak load, and emergency standby demands of member agencies).

Specifically, cost recovery for the treated water revenue requirement will continue to be increasingly and disproportionately borne by the limited number of member agencies who remain on Metropolitan’s treated water system. However, the “TYRA with Peaking and No Minimum” alternative would still provide member agencies with an incentive to pursue local treated water investments while providing Metropolitan some measure of fixed charge revenue as Metropolitan considers the potential for “right-sizing” its treated water capacity and the associated service commitment it makes to member agencies. In this regard, the “TYRA with Peaking and No Minimum” is somewhat of an analog of Metropolitan's current Readiness-To-Service charge which is based on a TYRA with no minimum.

Table 9 shows the member agency revenue requirement impacts associated with the use of the current Status Quo method, the RFC recommended treated water surcharge rate design with a minimum, and the “TYRA with Peaking and No Minimum” alternatives. The “TYRA with Peaking and No Minimum” alternative is based on member agency average annual treated water sales for the period FY 2005 - 2006 through FY 2014 - 2015 and the maximum member agency average non-coincident peak day treated water demand recorded during the most recent three-year period FY 2012 - 2013 through FY 2014 - 2015.

Table 9: Revenue Requirement Summary by Alternative

FY 2016/2017 Member Agency Revenue Requirement Impacts			
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)			
Member Agency	Status Quo Treated Water Surcharge	Minimum: > of 1998-2007 OR 2006-2015 TYRA	2006 - 2015 TYRA and 2013 - 2015 Max Day Peak (NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$1,938,655
Beverly Hills	3,198,735	2,932,602	3,082,526
Burbank	1,990,241	2,167,985	2,127,710
Calleguas	27,860,023	25,645,198	27,227,242
Central Basin	8,750,956	10,320,681	9,013,566
Compton	87	255,505	146,555
Eastern	16,679,159	15,698,345	17,477,333
Foothill	2,337,078	2,296,738	2,289,889
Fullerton	2,392,937	2,323,392	2,420,474
Glendale	4,915,618	4,877,732	4,800,440
Inland Empire	0	0	0
Las Virgenes	6,362,979	5,610,707	5,989,741
Long Beach	13,278,470	11,466,268	11,231,573
Los Angeles	19,137,588	18,281,589	19,904,000
MWDOC	44,255,500	45,243,652	44,140,525
Pasadena	5,399,667	4,937,373	5,310,949
San Diego CWA	30,467,286	37,201,045	32,672,978
San Fernando	28,723	45,976	110,708
San Marino	210,923	206,678	300,429
Santa Ana	1,543,796	2,106,774	1,964,334
Santa Monica	1,227,816	1,680,665	1,613,329
Three Valleys	11,477,206	10,725,505	11,399,499
Torrance	4,673,233	4,433,319	4,395,266
Upper San Gabriel	2,615,453	2,639,748	2,351,389
West Basin	32,556,355	30,794,944	30,460,636
Western MWD	14,883,317	13,864,158	15,109,607
Total	\$257,479,354	\$257,479,354	\$257,479,354

3.5 OTHER OPTIONS ANALYZED BY RFC

As discussed above, RFC calculated several alternative treated water surcharge methodologies – all having some fixed revenue component. The first, which is fully developed in Section 3.3 is RFC's recommended treated water surcharge featuring a minimum charge. The second, as discussed in Section 3.4, is a treated water surcharge based on the current TYRA of member agency direct treated water purchases without a minimum. In addition to these alternatives, RFC also analyzed, and presented to the Board, the member agency revenue requirement impacts of other treated water proposals including a minimum charge that reflected a member agencies non-coincident peak demands and a 20-year rolling average without a minimum charge. The results of these options are summarized in Attachment B.

ATTACHMENT A:
PRESENTATIONS



MWD Manager's Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

January 15, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability

Treatment Fixed Charge Concept

- 39% of total Treatment revenue requirements
 - Cost of Service Based: Sum of Treatment Demand and Standby costs
 - Used to develop fixed or demand charge



3



Fixed Cost Recovery - An Industry Perspective

- Cost-of-service considerations – What is the cost of providing standby service; on-demand service?
- Declining water use driving trend to increase in fixed cost recovery – fixed revenues



4



Align Charges with Service Commitment/Investment

- MWD is the treated water service provider for Member Agencies
- MWD service obligation – be capable of meeting average and peak day treated water demands of Member Agencies
- Investment in treatment capacity designed to meet the needs of Member Agencies
- Meet average and peak day demands AND provide standby and on-demand capacity





Treatment Fixed Charge Concept (\$ millions)

FY 2014/15 Treatment Revenue Requirement	
Direct O&M at WTPs	\$70
Indirect O&M (WSO, IT, Eng., HR)	49
A&G (Legal, Finance, Audit, Ethics)	24
Capital Costs (Debt, PAYGO)	177
LESS: Revenue Offsets (Prop. Tax, Interest)	-10
TOTAL Net Revenue Requirement	\$310





Treatment Fixed Charge Concept (\$ millions)

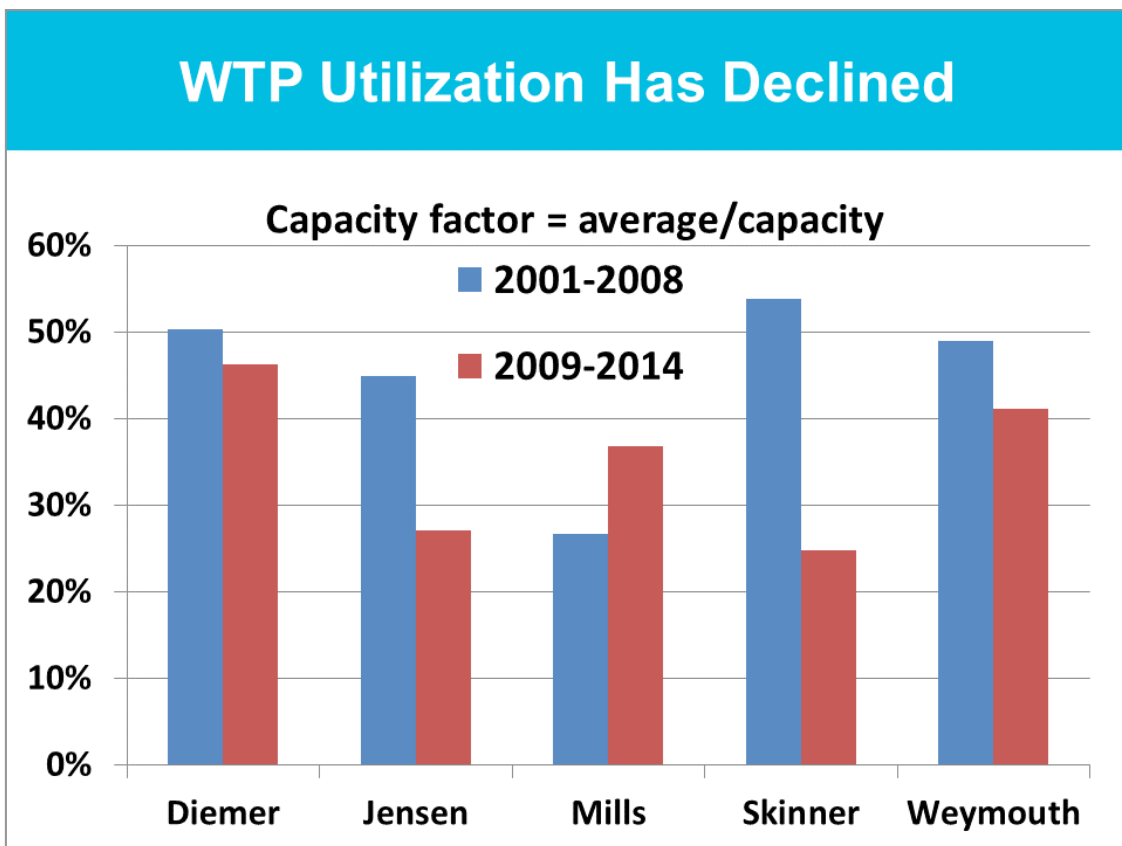
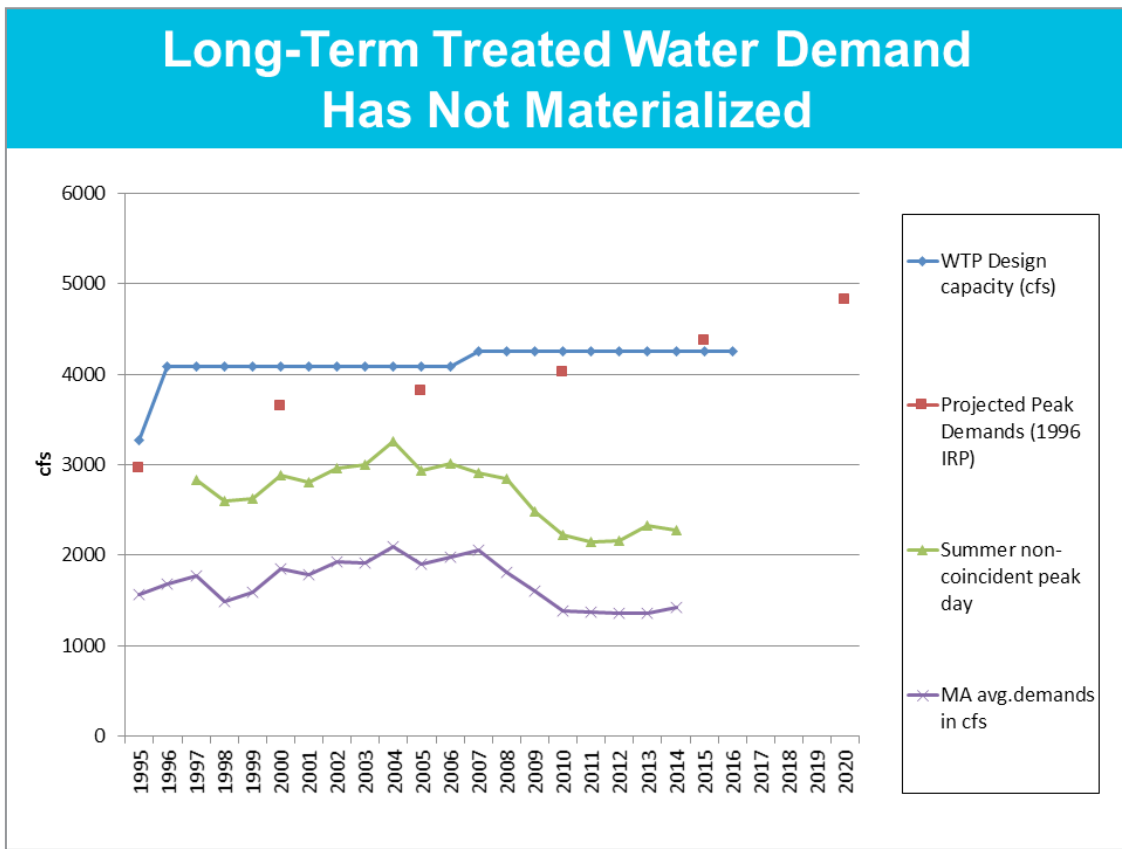
FY 2014/15 Treatment Revenue Requirement		\$310 (100%)
Variable		\$30 (10%)
Fixed		\$280 (90%)
Commodity	\$160	
Demand	\$54	39% of Total
Standby	\$66	


7


Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Standby and Demand-related costs
 - MWD retains the obligation to serve Member Agencies


8




Align Charges with Service Commitment/Investment

Cost of Service principles, i.e., pay for the service provided:

Member Agencies pay only when taking treated water and in effect require all system users to bear the cost burden for standby or on-demand capacity.

MWD has invested in treatment capacity to serve the Member Agencies, but today does not require the beneficiaries of standby or on-demand capacity to pay anything for the cost of this dedicated capacity.



11



Fixed Cost Recovery Cost-of-Service Perspective

- Standby or on-Demand service – “...rate charged should reflect the cost of having capacity reserved and available for the customer.”(1)
 - Fixed Demand Charge – reflect peaking costs and demands
 - Consumption Rate

(1) AWWA M1 Principles of Water Rates, Fees, and Charges, Sixth Edition



12



Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Massachusetts Water Resource Authority, MA	Customers are assessed a <u>fixed annual amount based on their proportional share of the previous year's demand</u> . FY 2015 assessment = \$3,239 per million gallons. Fixed revenue recovery = 100%.
North Texas Municipal Water District, TX	Customers pay on a volumetric basis. Fixed costs are recovered under <u>take-or-pay contracts based on the higher of estimated test-year demand or the maximum volume of water used in any previous year</u> . FY 2016 fixed charge = \$1.88 per kgal. Estimated fixed revenue recovery = 85%.
Upper Trinity Regional Water District, TX	Customers pay their proportionate share of demand costs under <u>take-or-pay contracts based on a minimum daily volume equal to 18% of their highest peak day demand in the preceding five-year period</u> . FY 2015 annual demand charge = \$388,110 per MGD. Estimated fixed revenue recovery under minimum take-or-pay contracts = 78%.
San Francisco Public Utilities Commission, CA	4 wholesale customers are subject to a <u>take-or-pay requirement specifying a minimum annual volume</u> they must purchase. Estimated fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 24%.

Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Great Lakes Water Authority, MI	<u>60% of the annual revenue requirement is estimated to be recovered through a fixed demand charge</u> ; 40% recovered through volumetric rates.
Jordon Valley Water Conservancy District, UT	Each wholesale customer has a <u>contracted take-or-pay minimum purchase volume</u> . Estimated fixed revenue recovery from wholesale customers under minimum take-or-pay contracts = 100%.
Dallas Water Utilities, TX	Wholesale customers pay a <u>fixed demand charge</u> and a volumetric rate. The demand charge is based on the higher of current year demand or the average of the previous five years. Demand charge is \$243,453 per mgd per year and the volumetric rate is \$0.4305 per kgal. Estimated fixed charge revenue from wholesale customers = 60%.
Portland Water Bureau, OR	Wholesale customers specify a <u>minimum annual "guaranteed purchase quantity"</u> as well as seasonal and daily peaking factor. If actual peaking factors exceed those specified, customers must pay a surcharge. Fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 100%

Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Standby and Demand-related costs
 - MWD retains the obligation to serve Member Agencies



FY 2014/15 Treatment Revenue Requirement (Hypothetical Pro Forma – For Example Only)

Status Quo Treated Surcharge (\$/AF)	
Test-Year Treatment Revenue Requirement	\$310,084,182
Forecast Test-Year Treated Water Sales (AF)	910,000
Treated Surcharge (\$/AF)	\$341



FY 2014/15 Status Quo Treatment Surcharge (100% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test-Year Treated Water Sales (AF)	% of Projected Test-Year Treated Water Sales	x	Total Revenue Requirement	=	Member Agency Revenue Requirement
Anaheim	1,394	0.15%	x	310,084,182	=	\$475,123
Beverly Hills	10,287	1.13%	x	310,084,182	=	3,505,190
Burbank	7,797	0.86%	x	310,084,182	=	2,656,917
Calleguas	103,189	11.34%	x	310,084,182	=	35,161,981
Central Basin	30,024	3.30%	x	310,084,182	=	10,230,683
Compton	38	0.00%	x	310,084,182	=	13,108
Eastern	61,274	6.73%	x	310,084,182	=	20,879,356
Foothill	8,662	0.95%	x	310,084,182	=	2,951,477
Fullerton	7,761	0.85%	x	310,084,182	=	2,644,683
Glendale	17,988	1.98%	x	310,084,182	=	6,129,593
Inland Empire	0	0.00%	x	310,084,182	=	0
Las Virgenes	21,012	2.31%	x	310,084,182	=	7,159,725
Long Beach	32,137	3.53%	x	310,084,182	=	10,950,676
Los Angeles	94,789	10.42%	x	310,084,182	=	32,299,550
MWDOC	157,070	17.26%	x	310,084,182	=	53,522,042
Pasadena	20,425	2.24%	x	310,084,182	=	6,959,936
San Diego CWA	101,073	11.11%	x	310,084,182	=	34,440,783
San Fernando	54	0.01%	x	310,084,182	=	18,502
San Marino	1,400	0.15%	x	310,084,182	=	476,901
Santa Ana	9,147	1.01%	x	310,084,182	=	3,116,883
Santa Monica	5,218	0.57%	x	310,084,182	=	1,777,998
Three Valleys	43,866	4.82%	x	310,084,182	=	14,947,472
Torrance	15,219	1.67%	x	310,084,182	=	5,185,916
Upper San Gabriel	3,087	0.34%	x	310,084,182	=	1,051,768
West Basin	106,930	11.75%	x	310,084,182	=	36,436,440
Western MWD	50,158	5.51%	x	310,084,182	=	17,091,478
Total	910,000	100.00%				\$310,084,182
				Unit Cost per AF		\$341

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

- Volumetric Revenue Recovery = 61%

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/\text{AF Volumetric Rate}$$

- Fixed Revenue Recovery = 39%

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{Annual Fixed Charge}$$

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Greater of:

1. TYRA of Treated Water Sales OR
2. Average of 1998 – 2007 Treated Water Sales

2007 was the last significant treatment
plant capacity addition



FY 2014/15 Treatment Revenue Requirement

Hypothetical Pro Forma
For Example Only

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$310,084,182
Forecast Treated Water Sales (AF)	910,000
Treated Surcharge (\$/AF)	\$341
Treatment Fixed Annual Charge (\$/AF)	
Fixed Demand	\$53,774,185
Fixed Standby	65,975,221
Total Fixed Charge Revenue Requirement	\$119,749,406
% of Total Revenue Requirement	38.6%
Fixed Charge Units of Service (AF)	1,370,672
Annual Fixed Charge (\$/AF)	\$87
Treatment Volumetric Rate (\$/AF)	
Net Remaining Revenue Requirement	\$190,334,776
% of Total Revenue Requirement	61.4%
Forecast Treated Water Sales (AF)	910,000
Volumetric Rate (\$/AF)	\$209



FY 2014/2015 Member Agency Fixed Charge Revenue Requirement (39% Revenue Recovery)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	AVG. 1998 - 2007 Treated Water Sales (AF)	TYRA 2004 - 2013 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement = Annual Fixed Revenue Requirement
Anaheim	13,134	15,048	15,048	1.10%	X	\$119,749,406 = \$1,314,649
Beverly Hills	13,008	11,524	13,008	0.95%	x	119,749,406 = 1,136,435
Burbank	12,816	11,349	12,816	0.93%	x	119,749,406 = 1,119,651
Calleguas	120,052	119,878	120,052	8.76%	x	119,749,406 = 10,488,423
Central Basin	67,191	52,462	67,191	4.90%	x	119,749,406 = 5,870,169
Compton	3,628	2,653	3,628	0.26%	x	119,749,406 = 316,958
Eastern	79,560	76,095	79,560	5.80%	x	119,749,406 = 6,950,756
Foothill	11,763	10,904	11,763	0.86%	x	119,749,406 = 1,027,643
Fullerton	11,513	12,534	12,534	0.91%	x	119,749,406 = 1,095,037
Glendale	25,094	20,503	25,094	1.83%	x	119,749,406 = 2,192,327
Inland Empire	0	0	0	0.00%	x	119,749,406 = 0
Las Virgenes	22,106	22,889	22,889	1.67%	x	119,749,406 = 1,999,727
Long Beach	45,747	38,621	45,747	3.34%	x	119,749,406 = 3,996,727
Los Angeles	78,265	88,977	88,977	6.49%	x	119,749,406 = 7,773,525
MWDOC	251,567	231,004	251,567	18.35%	x	119,749,406 = 21,978,241
Pasadena	21,742	21,669	21,742	1.59%	x	119,749,406 = 1,899,477
San Diego CWA	251,298	186,827	251,298	18.33%	x	119,749,406 = 21,954,763
San Fernando	310	291	310	0.02%	x	119,749,406 = 27,047
San Marino	1,041	1,002	1,041	0.08%	x	119,749,406 = 90,922
Santa Ana	15,788	15,677	15,788	1.15%	x	119,749,406 = 1,379,323
Santa Monica	12,627	11,001	12,627	0.92%	x	119,749,406 = 1,103,136
Three Valleys	50,214	45,208	50,214	3.66%	x	119,749,406 = 4,386,930
Torrance	21,052	18,845	21,052	1.54%	x	119,749,406 = 1,839,211
Upper San Gabriel	13,963	10,147	13,963	1.02%	x	119,749,406 = 1,219,888
West Basin	145,424	131,404	145,424	10.61%	x	119,749,406 = 12,705,079
Western MWD	55,888	67,342	67,342	4.91%	x	119,749,406 = 5,883,360
Total	1,344,787	1,223,851	1,370,672	100.00%		\$119,749,406
Annual Fixed Charge (\$/AF)						\$87

FY 2014/2015 Member Agency Volumetric Revenue Requirement (61% Volumetric)					
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)					
Member Agency	Projected Test-Year Treated Water Sales (AF)	% of Projected Test-Year Treated Water Sales	x	Total Revenue Requirement =	Revenue Requirement
Anaheim	1,394	0.15%	X	\$190,334,776	= \$291,638
Beverly Hills	10,287	1.13%	x	190,334,776	= 2,151,543
Burbank	7,797	0.86%	x	190,334,776	= 1,630,860
Calleguas	103,189	11.34%	x	190,334,776	= 21,583,003
Central Basin	30,024	3.30%	x	190,334,776	= 6,279,762
Compton	38	0.00%	x	190,334,776	= 8,046
Eastern	61,274	6.73%	x	190,334,776	= 12,816,092
Foothill	8,662	0.95%	x	190,334,776	= 1,811,665
Fullerton	7,761	0.85%	x	190,334,776	= 1,623,350
Glendale	17,988	1.98%	x	190,334,776	= 3,762,445
Inland Empire	0	0.00%	x	190,334,776	= 0
Las Virgenes	21,012	2.31%	x	190,334,776	= 4,394,757
Long Beach	32,137	3.53%	x	190,334,776	= 6,721,705
Los Angeles	94,789	10.42%	x	190,334,776	= 19,825,995
MWDOC	157,070	17.26%	x	190,334,776	= 32,852,710
Pasadena	20,425	2.24%	x	190,334,776	= 4,272,123
San Diego CWA	101,073	11.11%	x	190,334,776	= 21,140,320
San Fernando	54	0.01%	x	190,334,776	= 11,357
San Marino	1,400	0.15%	x	190,334,776	= 292,730
Santa Ana	9,147	1.01%	x	190,334,776	= 1,913,194
Santa Monica	5,218	0.57%	x	190,334,776	= 1,091,364
Three Valleys	43,866	4.82%	x	190,334,776	= 9,175,005
Torrance	15,219	1.67%	x	190,334,776	= 3,183,200
Upper San Gabriel	3,087	0.34%	x	190,334,776	= 645,593
West Basin	106,930	11.75%	x	190,334,776	= 22,365,286
Western MWD	50,158	5.51%	x	190,334,776	= 10,491,031
Total	910,000	100.00%		\$190,334,776	\$209
Volumetric \$/AF					\$209

Summary of FY 2014/2015 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design				% Difference From Status Quo
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement	\$ Difference From Status Quo	
Anaheim	\$475,123	\$1,314,649	\$291,638	\$1,606,288	\$1,131,165	238%
Beverly Hills	3,505,190	1,136,435	2,151,543	3,287,979	(217,211)	-6%
Burbank	2,656,917	1,119,651	1,630,860	2,750,511	93,594	4%
Calleguas	35,161,981	10,488,423	21,583,003	32,071,426	(3,090,555)	-9%
Central Basin	10,230,683	5,870,169	6,279,762	12,149,931	1,919,248	19%
Compton	13,108	316,958	8,046	325,005	311,896	2379%
Eastern	20,879,356	6,950,756	12,816,092	19,766,848	(1,112,507)	-5%
Foothill	2,951,477	1,027,643	1,811,665	2,839,309	(112,169)	-4%
Fullerton	2,644,683	1,095,037	1,623,350	2,718,387	73,704	3%
Glendale	6,129,593	2,192,327	3,762,445	5,954,772	(174,820)	-3%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	7,159,725	1,999,727	4,394,757	6,394,483	(765,241)	-11%
Long Beach	10,950,676	3,996,727	6,721,705	10,718,432	(232,244)	-2%
Los Angeles	32,299,550	7,773,525	19,825,995	27,599,520	(4,700,030)	-15%
MWDOC	53,522,042	21,978,241	32,852,710	54,830,952	1,308,910	2%
Pasadena	6,959,936	1,899,477	4,272,123	6,171,601	(788,335)	-11%
San Diego CWA	34,440,783	21,954,763	21,140,320	43,095,083	8,654,299	25%
San Fernando	18,502	27,047	11,357	38,404	19,901	108%
San Marino	476,901	90,922	292,730	383,652	(93,249)	-20%
Santa Ana	3,116,883	1,379,323	1,913,194	3,292,518	175,635	6%
Santa Monica	1,777,998	1,103,136	1,091,364	2,194,500	416,502	23%
Three Valleys	14,947,472	4,386,930	9,175,005	13,561,934	(1,385,538)	-9%
Torrance	5,185,916	1,839,211	3,183,200	5,022,411	(163,504)	-3%
Upper San Gabriel	1,051,768	1,219,888	645,593	1,865,480	813,712	77%
West Basin	36,436,440	12,705,079	22,365,286	35,070,366	(1,366,074)	-4%
Western MWD	17,091,478	5,883,360	10,491,031	16,374,390	(717,088)	-4%
TOTAL	\$310,084,182	\$119,749,406	\$190,334,776	\$310,084,182	\$0	0%

Summary

- Recommended Fixed-Minimum and Volume Method
 - Acknowledge treatment cost of service to serve Member Agencies - Standby and Demand-related costs
 - Reflect shift in MWD's role from a 100% baseload to a combination of baseload/standby demand
 - Extend current Readiness-to-Serve Concept to treatment
 - Enhance treatment and total system fixed revenue recovery to the benefit of Member Agencies





Finance and Insurance Committee Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

February 23, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability



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Treatment Fixed Charge Concept

- 38% of total Treatment revenue requirements
 - Cost of Service based: sum of Treatment Demand and Standby costs
 - Used to develop fixed or demand charge

Fixed Cost Recovery - An Industry Perspective

- Cost-of-service considerations – What is the cost of providing on-demand service and standby service;?
- Declining water use driving trend to increase fixed cost recovery – fixed revenues

Align Charges with Service Commitment/Investment

- MWD is the treated water service provider for Member Agencies
- MWD service obligation – be capable of meeting average and peak week treated water demands of Member Agencies
- Investment in treatment capacity designed to meet the needs of Member Agencies
- Meet average and peak week demands AND provide on-demand and standby capacity





Treatment Fixed Charge Concept (\$ millions)

FY 2016/17 Treatment Revenue Requirement	
Direct O&M at WTPs	\$59
Indirect O&M (WSO, IT, Eng., HR)	46
A&G (Legal, Finance, Audit, Ethics)	30
Capital Costs (Debt, PAYGO) 54% of Total	140
LESS: Revenue Offsets / Decline in Reserves	<u>-18</u>
TOTAL Net Revenue Requirement	\$257





Treatment Fixed Charge Concept (\$ millions)

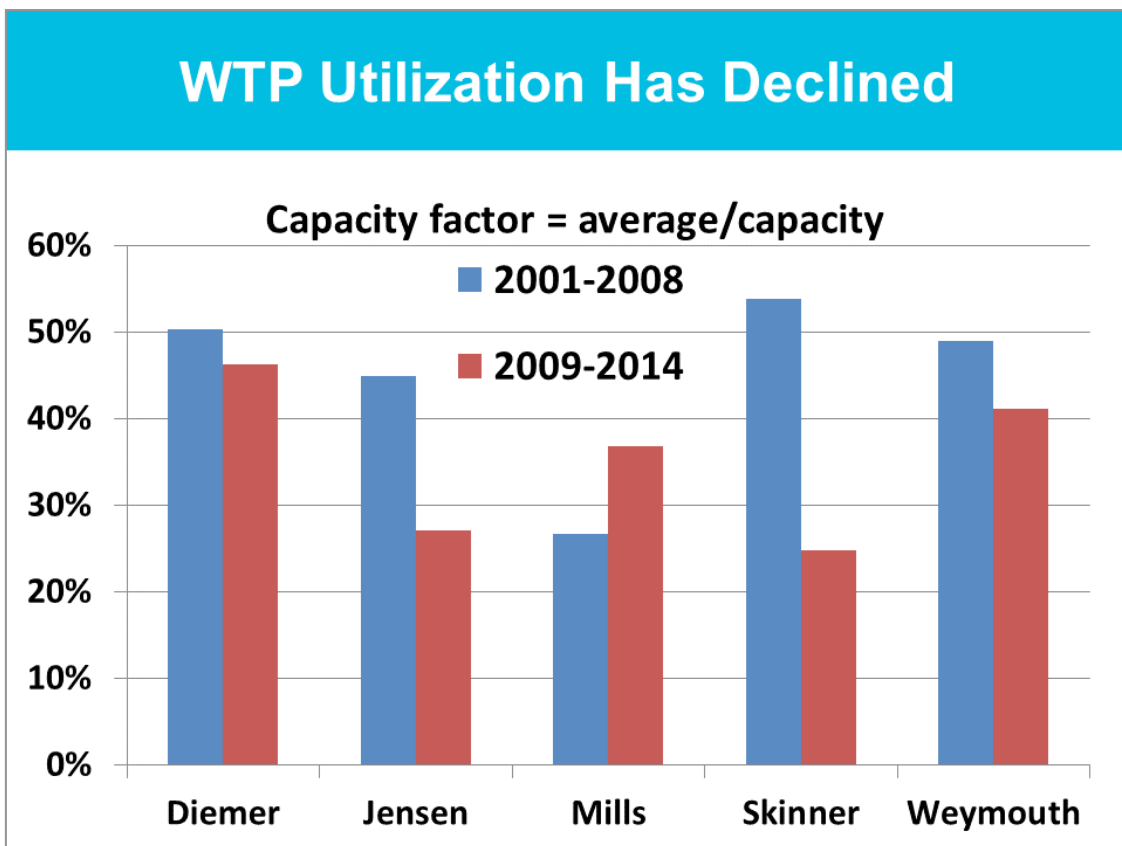
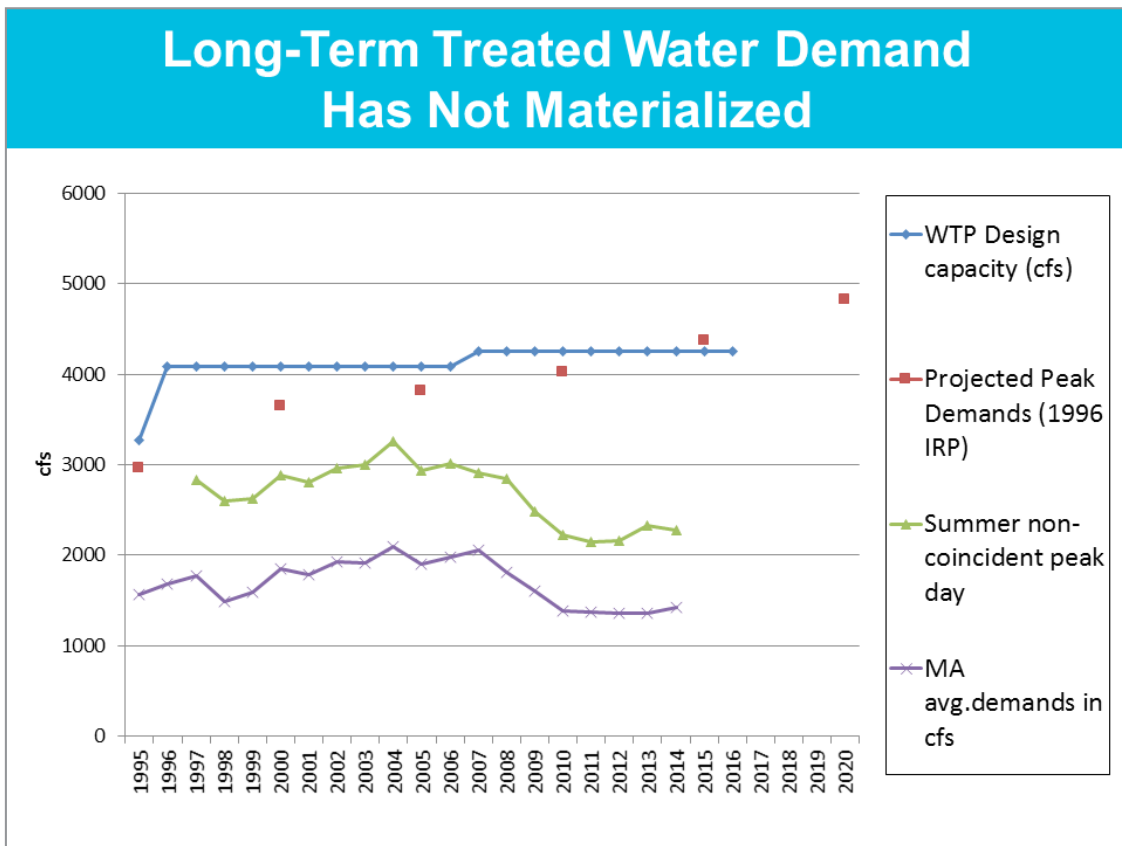
FY 2016/17 Treatment Revenue Requirement		\$257 (100%)
Variable		\$24 (9%)
Fixed		\$233 (91%)
Commodity	\$135	
Demand	\$41	38% of Total
Standby	\$57	


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Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Demand and Standby-related costs
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Align Charges with Service Commitment/Investment

Cost of Service principles, i.e., pay for the service provided:

Member Agencies pay only when taking treated water and in effect require all system users to bear the cost burden for demand or standby capacity

MWD has invested in treatment capacity to serve the Member Agencies, but today does not require the beneficiaries of demand or standby capacity to pay anything for the cost of this dedicated capacity; for the cost of this service



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Fixed Cost Recovery Cost-of-Service Perspective

- Demand or standby service – “...rate charged should reflect the cost of having capacity reserved and available for the customer.”(1)
 - Fixed Demand Charge – reflect peaking costs and demands
 - Consumption Rate

(1) AWWA M1 Principles of Water Rates, Fees, and Charges, Sixth Edition



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Fixed Revenue Recovery is Common

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Massachusetts Water Resource Authority, MA	Customers are assessed a <u>fixed annual amount based on their proportional share of the previous year's demand</u> . FY 2015 assessment = \$3,239 per million gallons. Fixed revenue recovery = 100%.
North Texas Municipal Water District, TX	Customers pay on a volumetric basis. Fixed costs are recovered under <u>take-or-pay contracts based on the higher of estimated test-year demand or the maximum volume of water used in any previous year</u> . FY 2016 fixed charge = \$1.88 per kgal. Estimated fixed revenue recovery = 85%.
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Current Treatment Surcharge: 100% Volumetric Cost Recovery

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 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Demand and Standby-related costs
 - MWD retains the obligation to serve Member Agencies



FY 2016/17 Treatment Revenue Requirement (Hypothetical Pro Forma – For Example Only)

Status Quo Treated Surcharge (\$/AF)	
Treatment Revenue Requirement	\$257,479,354
Forecasted Treated Water Sales (AF)	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313



FY 2016/17 Status Quo Treatment Surcharge (100% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test Year AF	Treated Water Sales %	x	Total Revenue Requirement	=	Member Agency Revenue Requirement
Anaheim	3,947	0.48%	x	\$257,479,354	=	\$1,236,208
Beverly Hills	10,212	1.24%	x	257,479,354	=	3,198,735
Burbank	6,354	0.77%	x	257,479,354	=	1,990,241
Calleguas	88,943	10.82%	x	257,479,354	=	27,860,023
Central Basin	27,937	3.40%	x	257,479,354	=	8,750,956
Compton	0	0.00%	x	257,479,354	=	87
Eastern	53,248	6.48%	x	257,479,354	=	16,679,159
Foothill	7,461	0.91%	x	257,479,354	=	2,337,078
Fullerton	7,639	0.93%	x	257,479,354	=	2,392,937
Glendale	15,693	1.91%	x	257,479,354	=	4,915,618
Inland Empire	0	0.00%	x	257,479,354	=	0
Las Virgenes	20,314	2.47%	x	257,479,354	=	6,362,979
Long Beach	42,391	5.16%	x	257,479,354	=	13,278,470
Los Angeles	61,097	7.43%	x	257,479,354	=	19,137,588
MWDOC	141,285	17.19%	x	257,479,354	=	44,255,500
Pasadena	17,238	2.10%	x	257,479,354	=	5,399,667
San Diego CWA	97,266	11.83%	x	257,479,354	=	30,467,286
San Fernando	92	0.01%	x	257,479,354	=	28,723
San Marino	673	0.08%	x	257,479,354	=	210,923
Santa Ana	4,929	0.60%	x	257,479,354	=	1,543,796
Santa Monica	3,920	0.48%	x	257,479,354	=	1,227,816
Three Valleys	36,641	4.46%	x	257,479,354	=	11,477,206
Torrance	14,919	1.81%	x	257,479,354	=	4,673,233
Upper San Gabriel	8,350	1.02%	x	257,479,354	=	2,615,453
West Basin	103,936	12.64%	x	257,479,354	=	32,556,355
Western MWD	47,515	5.78%	x	\$257,479,354	=	14,883,317
TOTAL	822,000	100.00%				\$257,479,354
				Unit Cost per AF		\$313

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

- Volumetric Revenue Recovery = 62%

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/\text{AF Volumetric Rate}$$

- Fixed Revenue Recovery = 38%

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{Annual Fixed Charge}$$

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Greater of:

1. TYRA of Treated Water Sales OR
2. Average of 1998 – 2007 Treated Water Sales

2007 was the last significant treatment
plant capacity addition



FY 2016/17 Treatment Revenue Requirement

Hypothetical Pro Forma
For Example Only

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$257,479,354
Forecast Treated Water Sales (AF)	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313
Treatment Fixed Annual Charge (\$/AF)	
Fixed Demand	\$40,822,844
Fixed Standby	56,724,561
Total Fixed Charge Revenue Requirement	\$97,547,405
% of Total Revenue Requirement	37.9%
Fixed Charge Units of Service (AF)	<u>1,341,701</u>
Annual Fixed Charge (\$/AF)	\$73
Treatment Volumetric Rate (\$/AF)	
Net Remaining Revenue Requirement	\$159,931,949
% of Total Revenue Requirement	62.1%
Forecast Treated Water Sales (AF)	<u>822,000</u>
Volumetric Rate (\$/AF)	\$195



FY 2016/2017 Member Agency Fixed Charge Revenue Requirement (38% Revenue Recovery)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	AVG. 1998 - 2007 Treated Water Sales (AF)	TYRA 2006 - 2015 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement = Member Agency Annual Fixed Revenue Requirement
Anaheim	13,134	12,126	13,134	0.98%	X	\$97,547,405 = \$954,911
Beverly Hills	13,008	11,386	13,008	0.97%	x	97,547,405 = 945,725
Burbank	12,816	10,089	12,816	0.96%	x	97,547,405 = 931,758
Calleguas	112,585	114,712	114,712	8.55%	x	97,547,405 = 8,340,091
Central Basin	67,191	46,198	67,191	5.01%	x	97,547,405 = 4,885,071
Compton	3,514	1,924	3,514	0.26%	x	97,547,405 = 255,451
Eastern	73,423	73,323	73,423	5.47%	x	97,547,405 = 5,338,173
Foothill	11,623	9,933	11,623	0.87%	x	97,547,405 = 845,074
Fullerton	11,513	11,072	11,513	0.86%	x	97,547,405 = 837,031
Glendale	25,094	19,585	25,094	1.87%	x	97,547,405 = 1,824,421
Inland Empire	0	0	0	0.00%	x	97,547,405 = 0
Las Virgenes	22,106	22,810	22,810	1.70%	x	97,547,405 = 1,658,376
Long Beach	44,267	36,397	44,267	3.30%	x	97,547,405 = 3,218,416
Los Angeles	79,762	87,950	87,950	6.56%	x	97,547,405 = 6,394,377
MWDOC	244,203	204,975	244,203	18.20%	x	97,547,405 = 17,754,580
Pasadena	21,779	21,181	21,779	1.62%	x	97,547,405 = 1,583,398
San Diego CWA	251,381	156,458	251,381	18.74%	x	97,547,405 = 18,276,450
San Fernando	387	206	387	0.03%	x	97,547,405 = 28,135
San Marino	1,041	931	1,041	0.08%	x	97,547,405 = 75,664
Santa Ana	15,788	13,331	15,788	1.18%	x	97,547,405 = 1,147,853
Santa Monica	12,627	9,252	12,627	0.94%	x	97,547,405 = 918,014
Three Valleys	49,467	41,833	49,467	3.69%	x	97,547,405 = 3,596,498
Torrance	21,052	18,130	21,052	1.57%	x	97,547,405 = 1,530,565
Upper San Gabriel	13,963	7,346	13,963	1.04%	x	97,547,405 = 1,015,173
West Basin	145,421	125,668	145,421	10.84%	x	97,547,405 = 10,572,734
Western MWD	61,511	63,538	63,538	4.74%	x	97,547,405 = 4,619,464
TOTAL	1,328,654	1,120,354	1,341,701	100.00%		\$97,547,405
Annual Fixed Charge (\$/AF)						\$73

FY 2016/2017 Member Agency Volumetric Revenue Requirement (62% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test-Year Treated Water Sales		x	Total Revenue Requirement =	Member Agency Revenue Requirement	
	AF	%				
Anaheim	3,947	0.48%	X	\$159,931,949 =		\$767,864
Beverly Hills	10,212	1.24%	x	159,931,949 =		1,986,877
Burbank	6,354	0.77%	x	159,931,949 =		1,236,228
Calleguas	88,943	10.82%	x	159,931,949 =		17,305,107
Central Basin	27,937	3.40%	x	159,931,949 =		5,435,611
Compton	0	0.00%	x	159,931,949 =		54
Eastern	53,248	6.48%	x	159,931,949 =		10,360,172
Foothill	7,461	0.91%	x	159,931,949 =		1,451,664
Fullerton	7,639	0.93%	x	159,931,949 =		1,486,361
Glendale	15,693	1.91%	x	159,931,949 =		3,053,310
Inland Empire	0	0.00%	x	159,931,949 =		0
Las Virgenes	20,314	2.47%	x	159,931,949 =		3,952,331
Long Beach	42,391	5.16%	x	159,931,949 =		8,247,852
Los Angeles	61,097	7.43%	x	159,931,949 =		11,887,212
MWDOC	141,285	17.19%	x	159,931,949 =		27,489,072
Pasadena	17,238	2.10%	x	159,931,949 =		3,353,975
San Diego CWA	97,266	11.83%	x	159,931,949 =		18,924,595
San Fernando	92	0.01%	x	159,931,949 =		17,841
San Marino	673	0.08%	x	159,931,949 =		131,014
Santa Ana	4,929	0.60%	x	159,931,949 =		958,921
Santa Monica	3,920	0.48%	x	159,931,949 =		762,651
Three Valleys	36,641	4.46%	x	159,931,949 =		7,129,006
Torrance	14,919	1.81%	x	159,931,949 =		2,902,754
Upper San Gabriel	8,350	1.02%	x	159,931,949 =		1,624,575
West Basin	103,936	12.64%	x	159,931,949 =		20,222,209
Western MWD	47,515	5.78%	x	\$159,931,949 =		9,244,694
TOTAL	822,000	100.00%				\$159,931,949
Volumetric \$/AF						\$195

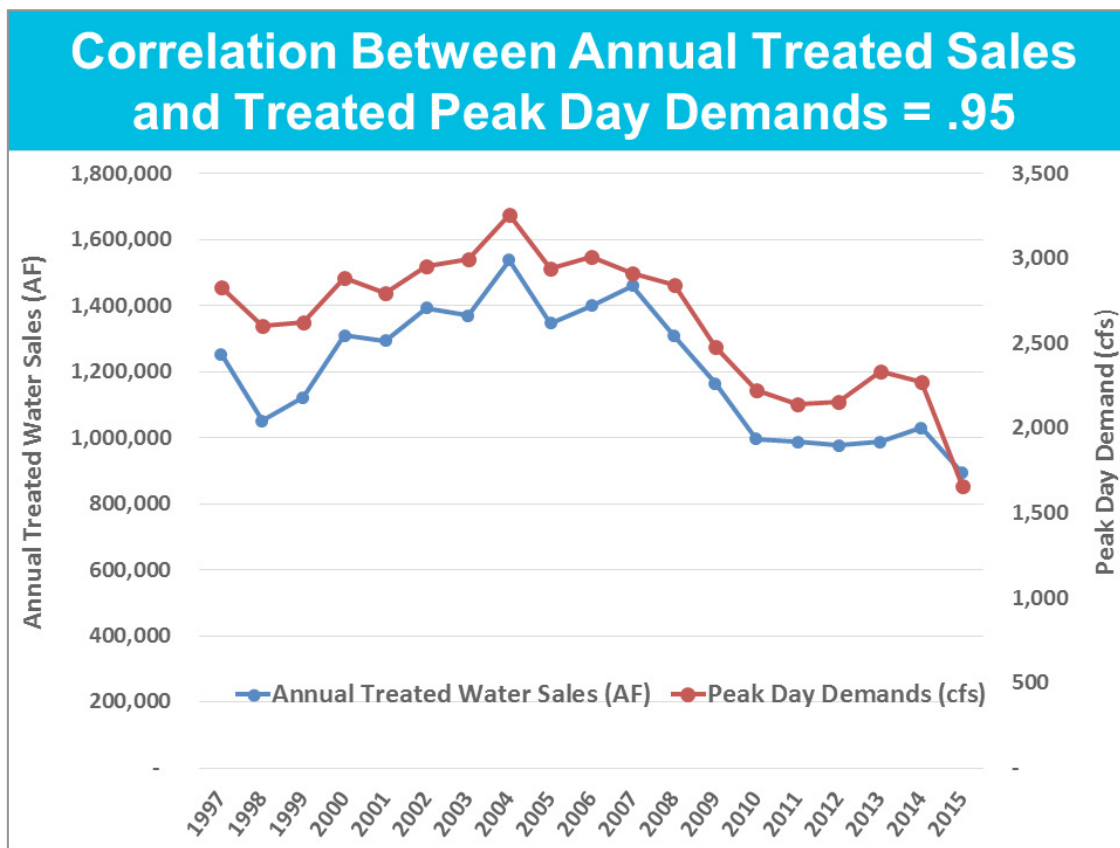
Summary of FY 2016/2017 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design				
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement	\$ Difference From Status Quo	% Difference From Status Quo
Anaheim	\$1,236,208	\$954,911	\$767,864	\$1,722,775	\$486,567	39%
Beverly Hills	3,198,735	945,725	1,986,877	2,932,602	(266,132)	-8%
Burbank	1,990,241	931,758	1,236,228	2,167,985	177,745	9%
Calleguas	27,860,023	8,340,091	17,305,107	25,645,198	(2,214,825)	-8%
Central Basin	8,750,956	4,885,071	5,435,611	10,320,681	1,569,725	18%
Compton	87	255,451	54	255,505	255,418	> 100%
Eastern	16,679,159	5,338,173	10,360,172	15,698,345	(980,813)	-6%
Foothill	2,337,078	845,074	1,451,664	2,296,738	(40,340)	-2%
Fullerton	2,392,937	837,031	1,486,361	2,323,392	(69,545)	-3%
Glendale	4,915,618	1,824,421	3,053,310	4,877,732	(37,886)	-1%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	6,362,979	1,658,376	3,952,331	5,610,707	(752,272)	-12%
Long Beach	13,278,470	3,218,416	8,247,852	11,466,268	(1,812,202)	-14%
Los Angeles	19,137,588	6,394,377	11,887,212	18,281,589	(855,999)	-4%
MWDOC	44,255,500	17,754,580	27,489,072	45,243,652	988,152	2%
Pasadena	5,399,667	1,583,398	3,353,975	4,937,373	(462,295)	-9%
San Diego CWA	30,467,286	18,276,450	18,924,595	37,201,045	6,733,759	22%
San Fernando	28,723	28,135	17,841	45,976	17,253	60%
San Marino	210,923	75,664	131,014	206,678	(4,245)	-2%
Santa Ana	1,543,796	1,147,853	958,921	2,106,774	562,978	36%
Santa Monica	1,227,816	918,014	762,651	1,680,665	452,849	37%
Three Valleys	11,477,206	3,596,498	7,129,006	10,725,505	(751,701)	-7%
Torrance	4,673,233	1,530,565	2,902,754	4,433,319	(239,914)	-5%
Upper San Gabriel	2,615,453	1,015,173	1,624,575	2,639,748	24,295	1%
West Basin	32,556,355	10,572,734	20,222,209	30,794,944	(1,761,412)	-5%
Western MWD	14,883,317	4,619,464	9,244,694	13,864,158	(1,019,159)	-7%
TOTAL	\$257,479,354	\$97,547,405	\$159,931,949	\$257,479,354	\$0	0%

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Questions – Concerns from 1-15-16 Manager’s Meeting:

1. How are peak demands captured?
2. Minimum forever?



Revenue Requirement Impacts of Peaking Factors in the Minimum Charge				
Member Agency	Minimum: > of 1998-2007 OR 2006 - 2015 TYRA	Minimum: > of 1998 - 2007 OR 2006 - 2015 TYRA AND 2013 - 2015 Peaking	\$ Difference	% Difference
Anaheim	\$1,722,775	\$1,880,003	\$157,228	9%
Beverly Hills	2,932,602	3,056,005	123,402	4%
Burbank	2,167,985	2,158,712	(9,274)	0%
Calleguas	25,645,198	26,269,066	623,868	2%
Central Basin	10,320,681	9,515,216	(805,465)	-8%
Compton	255,505	197,671	(57,833)	-23%
Eastern	15,698,345	16,869,107	1,170,761	7%
Foothill	2,296,738	2,278,411	(18,326)	-1%
Fullerton	2,323,392	2,346,647	23,255	1%
Glendale	4,877,732	4,869,738	(7,994)	0%
Inland Empire	0	0	0	---
Las Virgenes	5,610,707	5,799,214	188,506	3%
Long Beach	11,466,268	11,260,314	(205,954)	-2%
Los Angeles	18,281,589	19,169,363	887,774	5%
MWDOC	45,243,652	44,086,858	(1,156,794)	-3%
Pasadena	4,937,373	5,159,315	221,942	4%
San Diego CWA	37,201,045	35,379,254	(1,821,791)	-5%
San Fernando	45,976	116,636	70,660	154%
San Marino	206,678	297,300	90,623	44%
Santa Ana	2,106,774	1,956,865	(149,909)	-7%
Santa Monica	1,680,665	1,678,702	(1,963)	0%
Three Valleys	10,725,505	11,372,852	647,347	6%
Torrance	4,433,319	4,367,355	(65,964)	-1%
Upper San Gabriel	2,639,748	2,569,783	(69,965)	-3%
West Basin	30,794,944	30,246,079	(548,865)	-2%
Western MWD	13,864,158	14,578,887	714,729	5%
TOTAL	\$257,479,354	\$257,479,354	\$0	0%

FY 2016/2017 Member Agency Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)					
Member Agency	Status Quo Treated Water Surcharge	Option #1	Option #2	Dollar Difference from Status Quo	
		Minimum: > of 1998- 2007 OR 2006-2015 TYRA	Minimum > of 1998-2007 OR 2006-2015 TYRA AND 2013-2015 PEAKING	Option #1	Option #2
Anaheim	\$1,236,208	\$1,722,775	\$1,880,003	\$486,567	\$643,795
Beverly Hills	3,198,735	2,932,602	3,056,005	(266,132)	(142,730)
Burbank	1,990,241	2,167,985	2,158,712	177,745	168,471
Calleguas	27,860,023	25,645,198	26,269,066	(2,214,825)	(1,590,957)
Central Basin	8,750,956	10,320,681	9,515,216	1,569,725	764,260
Compton	87	255,505	197,671	255,418	197,585
Eastern	16,679,159	15,698,345	16,869,107	(980,813)	189,948
Foothill	2,337,078	2,296,738	2,278,411	(40,340)	(58,666)
Fullerton	2,392,937	2,323,392	2,346,647	(69,545)	(46,290)
Glendale	4,915,618	4,877,732	4,869,738	(37,886)	(45,880)
Inland Empire	0	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,799,214	(752,272)	(563,765)
Long Beach	13,278,470	11,466,268	11,260,314	(1,812,202)	(2,018,156)
Los Angeles	19,137,588	18,281,589	19,169,363	(855,999)	31,776
MWDOC	44,255,500	45,243,652	44,086,858	988,152	(168,642)
Pasadena	5,399,667	4,937,373	5,159,315	(462,295)	(240,353)
San Diego CWA	30,467,286	37,201,045	35,379,254	6,733,759	4,911,968
San Fernando	28,723	45,976	116,636	17,253	87,913
San Marino	210,923	206,678	297,300	(4,245)	86,378
Santa Ana	1,543,796	2,106,774	1,956,865	562,978	413,069
Santa Monica	1,227,816	1,680,665	1,678,702	452,849	450,887
Three Valleys	11,477,206	10,725,505	11,372,852	(751,701)	(104,354)
Torrance	4,673,233	4,433,319	4,367,355	(239,914)	(305,878)
Upper San Gabriel	2,615,453	2,639,748	2,569,783	24,295	(45,670)
West Basin	32,556,355	30,794,944	30,246,079	(1,761,412)	(2,310,277)
Western MWD	14,883,317	13,864,158	14,578,887	(1,019,159)	(304,430)
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$0	\$0

Minimum Forever?

- Under Status Quo and All Approaches, service levels should be re-defined in conjunction with treatment plant capacity decisions

Recommended Approach

- Volume Rate and Fixed Charge Based on a Minimum
 - Appropriate assignment of demand and standby capacity costs
- Peaking Could be Considered as Part of the Fixed Charge Determination



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Status Quo

- Maintain Current 100% Volumetric Treatment Cost Recovery



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Summary

- Recommended Fixed-Minimum and Volume Method
 - Acknowledge treatment cost of service – Demand and Standby-related costs
 - Enhance treatment and total system fixed revenue recovery



Finance and Insurance Committee Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

March 7, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

Requests for other options:

1. Consider Option with 10-Year Rolling Average (TYRA) without minimum
2. Consider Option with 20-Year Rolling Average without minimum



FY 2016/2017 Member Agency Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)				
Member Agency	Status Quo Treated Water Surcharge	Option #1 (Recommended)	Option #2	Option #3
		Minimum: 1998-2007 or 2006-2015 TYRA	10-Year Rolling Average (NO PEAKING AND NO MINIMUM)	20-Year Rolling Average (NO PEAKING AND NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$2,786,746	\$2,495,432
Beverly Hills	3,198,735	2,932,602	2,616,652	2,629,901
Burbank	1,990,241	2,167,985	2,318,683	2,448,567
Calleguas	27,860,023	25,645,198	26,363,194	23,767,709
Central Basin	8,750,956	10,320,681	10,617,247	12,437,723
Compton	87	255,505	442,249	585,364
Eastern	16,679,159	15,698,345	16,851,081	14,829,949
Foothill	2,337,078	2,296,738	2,282,696	2,274,101
Fullerton	2,392,937	2,323,392	2,544,479	2,210,902
Glendale	4,915,618	4,877,732	4,501,063	4,879,318
Inland Empire	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,242,161	4,725,845
Long Beach	13,278,470	11,466,268	8,364,652	8,803,533
Los Angeles	19,137,588	18,281,589	20,212,754	17,529,276
MWDOC	44,255,500	45,243,652	47,107,360	47,182,284
Pasadena	5,399,667	4,937,373	4,867,711	4,461,015
San Diego CWA	30,467,286	37,201,045	35,957,147	42,941,871
San Fernando	28,723	45,976	47,357	52,031
San Marino	210,923	206,678	213,919	211,602
Santa Ana	1,543,796	2,106,774	3,063,695	2,946,052
Santa Monica	1,227,816	1,680,665	2,126,389	2,241,734
Three Valleys	11,477,206	10,725,505	9,614,021	9,755,570
Torrance	4,673,233	4,433,319	4,166,662	4,227,608
Upper San Gabriel	2,615,453	2,639,748	1,688,265	2,149,456
West Basin	32,556,355	30,794,944	28,880,956	29,031,907
Western MWD	14,883,317	13,864,158	14,602,217	12,660,604
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$257,479,354

Recommended Approach

- Volume Rate and Fixed Charge Based on a Minimum
- Appropriate assignment of demand and standby capacity costs



Status Quo

- Maintain Current 100% Volumetric Treatment Cost Recovery



Summary

- Recommended Fixed-Minimum and Volume Method
- Option – 10-Year Rolling Average
- Option – 20-Year Rolling Average

ATTACHMENT B:
**OTHER TREATMENT
SURCHARGE RATE DESIGN
OPTIONS ANALYZED BY RFC**

FY 2016/2017 Member Agency Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Option #1	Option #2	Dollar Difference from Status Quo		
		Minimum: > of 1998-2007 OR 2006-2015 TYRA	Minimum > of 1998-2007 OR 2006-2015 TYRA AND 2013-2015 PEAKING	Option #1	Option #2	
Anaheim	\$1,236,208	\$1,722,775	\$1,880,003	\$486,567	\$643,795	
Beverly Hills	3,198,735	2,932,602	3,056,005	(266,132)	(142,730)	
Burbank	1,990,241	2,167,985	2,158,712	177,745	168,471	
Calleguas	27,860,023	25,645,198	26,269,066	(2,214,825)	(1,590,957)	
Central Basin	8,750,956	10,320,681	9,515,216	1,569,725	764,260	
Compton	87	255,505	197,671	255,418	197,585	
Eastern	16,679,159	15,698,345	16,869,107	(980,813)	189,948	
Foothill	2,337,078	2,296,738	2,278,411	(40,340)	(58,666)	
Fullerton	2,392,937	2,323,392	2,346,647	(69,545)	(46,290)	
Glendale	4,915,618	4,877,732	4,869,738	(37,886)	(45,880)	
Inland Empire	0	0	0	0	0	
Las Virgenes	6,362,979	5,610,707	5,799,214	(752,272)	(563,765)	
Long Beach	13,278,470	11,466,268	11,260,314	(1,812,202)	(2,018,156)	
Los Angeles	19,137,588	18,281,589	19,169,363	(855,999)	31,776	
MWDOC	44,255,500	45,243,652	44,086,858	988,152	(168,642)	
Pasadena	5,399,667	4,937,373	5,159,315	(462,295)	(240,353)	
San Diego CWA	30,467,286	37,201,045	35,379,254	6,733,759	4,911,968	
San Fernando	28,723	45,976	116,636	17,253	87,913	
San Marino	210,923	206,678	297,300	(4,245)	86,378	
Santa Ana	1,543,796	2,106,774	1,956,865	562,978	413,069	
Santa Monica	1,227,816	1,680,665	1,678,702	452,849	450,887	
Three Valleys	11,477,206	10,725,505	11,372,852	(751,701)	(104,354)	
Torrance	4,673,233	4,433,319	4,367,355	(239,914)	(305,878)	
Upper San Gabriel	2,615,453	2,639,748	2,569,783	24,295	(45,670)	
West Basin	32,556,355	30,794,944	30,246,079	(1,761,412)	(2,310,277)	
Western Metropolitan	14,883,317	13,864,158	14,578,887	(1,019,159)	(304,430)	
TOTAL	\$257,479,354	\$257,479,354	\$257,479,354	\$0	\$0	

FY 2016/2017 Member Agency Revenue Requirement Impacts				
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)				
Member Agency	Status Quo Treated Water Surcharge	Option #1 (Recommended) Minimum: > of 1998-2007 OR 2006-2015 TYRA	Option #2 10-Year Rolling Average (NO PEAKING AND NO MINIMUM)	Option #3 20-Year Rolling Average (NO PEAKING AND NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$2,786,746	\$2,495,432
Beverly Hills	3,198,735	2,932,602	2,616,652	2,629,901
Burbank	1,990,241	2,167,985	2,318,683	2,448,567
Calleguas	27,860,023	25,645,198	26,363,194	23,767,709
Central Basin	8,750,956	10,320,681	10,617,247	12,437,723
Compton	87	255,505	442,249	585,364
Eastern	16,679,159	15,698,345	16,851,081	14,829,949
Foothill	2,337,078	2,296,738	2,282,696	2,274,101
Fullerton	2,392,937	2,323,392	2,544,479	2,210,902
Glendale	4,915,618	4,877,732	4,501,063	4,879,318
Inland Empire	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,242,161	4,725,845
Long Beach	13,278,470	11,466,268	8,364,652	8,803,533
Los Angeles	19,137,588	18,281,589	20,212,754	17,529,276
MWDOC	44,255,500	45,243,652	47,107,360	47,182,284
Pasadena	5,399,667	4,937,373	4,867,711	4,461,015
San Diego CWA	30,467,286	37,201,045	35,957,147	42,941,871
San Fernando	28,723	45,976	47,357	52,031
San Marino	210,923	206,678	213,919	211,602
Santa Ana	1,543,796	2,106,774	3,063,695	2,946,052
Santa Monica	1,227,816	1,680,665	2,126,389	2,241,734
Three Valleys	11,477,206	10,725,505	9,614,021	9,755,570
Torrance	4,673,233	4,433,319	4,166,662	4,227,608
Upper San Gabriel	2,615,453	2,639,748	1,688,265	2,149,456
West Basin	32,556,355	30,794,944	28,880,956	29,031,907
Western MWD	14,883,317	13,864,158	14,602,217	12,660,604
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$257,479,354

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION _____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING WATER RATES
TO BE EFFECTIVE JANUARY 1, 2017 AND 2018**

WHEREAS, the Board of Directors (“Board”) of The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the “Act”), is authorized to fix such rate or rates for water that, so far as practicable, will result in revenue which, together with revenue from any water standby or availability service charge or assessment, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt; and

WHEREAS, on October 16, 2001, the Board approved a rate structure proposal described in Board Letter 9-6 dated October 16, 2001.

WHEREAS, on March 12, 2002, the Board adopted Resolution 8805, “Resolution Of The Board Of Directors Of The Metropolitan Water District Of Southern California Fixing And Adopting Rates And Charges For Fiscal Year 2002/03 And To Direct Further Actions In Connection Therewith”, adopting a new structure for Metropolitan’s water rates and charges in order to enhance Metropolitan’s fiscal stability and ability to ensure the region’s long-term water supply while reasonably and fairly allocating the cost of providing service to its member agencies; and

WHEREAS, the rate structure adopted by Resolution 8805 was the product of a three-year process that included a strategic planning process commenced by the Board in July 1998, discussions with member agencies, retail agencies and other stakeholders and numerous meetings of Metropolitan’s Board, Audit, Budget and Finance Committee, Budget, Finance and Investment Committee and Subcommittee on Rate Structure Implementation; and

WHEREAS, development of the rate structure adopted by Resolution 8805 included Strategic Plan Policy Principles adopted by the Board on December 14, 1999 to provide a framework for the development of a revised rate structure; a Composite Rate Structure Framework adopted by the Board on April 11, 2000 (the “Rate Structure Framework”); a Rate Structure Action Plan adopted by the Board on December 12, 2000; and study of (i) a detailed rate design proposal presented in December 2000 (the “December 2000 Proposal”) developed

from the Rate Structure Framework and (ii) an alternative rate structure proposal presented in September 2001 (the "Proposal") that addressed concerns which were raised about the December 2000 Proposal; and

WHEREAS, by Resolution 8774, "Resolution Of The Board Of Directors Of The Metropolitan Water District Of Southern California To Approve Rate Structure Proposal And To Direct Further Actions In Connection Therewith," adopted October 16, 2001, the Board approved the Proposal, which unbundled water rates and charges to reflect the different service functions provided by Metropolitan, and determined that the Proposal (i) was consistent with the Board's Strategic Plan Policy Principles, (ii) addressed issues raised during the consideration of the December 2000 Proposal, (iii) furthered Metropolitan's strategic objectives of ensuring the region's long term water supply reliability through encouragement of sound and efficient water resources management, water conservation, and accommodating a water transfer market, and (iv) enhanced the fiscal stability of Metropolitan; and

WHEREAS, by Resolution 8774, the Board directed the General Manager to (i) prepare a report on the Proposal describing each of the rates and charges and the cost of service process used to develop the rates and charges and (ii) utilize the Proposal as the basis for determining Metropolitan's revenue requirements and recommending rates to become effective January 1, 2003, in accordance with Metropolitan's annual rate-setting procedure under the Administrative Code; and

WHEREAS, on January 7, 2002, the General Manager presented to the Budget, Finance and Investment Committee (formerly the Audit, Budget and Finance Committee and today, the Finance and Insurance Committee) a detailed report describing each of the rates and charges and the supporting cost of service process, dated December 2001 (the "Cost of Service Report"), that (i) described the rate structure process and design; (ii) identified revenue requirements; (iii) showed the costs of major service functions that Metropolitan provides to its member agencies, (iv) classified these service function costs based on the use of and benefit from the Metropolitan system to create a logical nexus between the costs and the revenues required from each of the rates and charges; and (iv) set forth the rates and charges necessary to defray such costs; and

WHEREAS, by Resolution 8805 the Board found and determined that the cost of service process reasonably and fairly: (i) identified revenue requirements; (ii) allocated costs to the service functions that Metropolitan provides to its member agencies; (iii) classified service function costs based upon use of and benefit from Metropolitan's system, and (iv) allocated costs to rates and charges based upon customary water industry standards; and

WHEREAS, by Resolution 8805 the Board found and determined that the water rates and charges were supported by the cost of service process and that such rates and charges reasonably and fairly allocated the costs of providing service of Metropolitan's water system to its member agencies and third-party transporters of water, if any; and

WHEREAS, the Board received the Final Report on Rates and Charges, dated June 28, 2002, that (i) described the rate structure process and design; (ii) identified revenue requirements; (iii) showed the costs of major service functions that Metropolitan provides to its member agencies, (iv) classified these service function costs based on the use of and benefit of

the Metropolitan system to create a logical nexus between the costs and the revenues required from each of the rates and charges; and (iv) set forth the rates and charges necessary to defray such costs; and

WHEREAS, Metropolitan's water rates approved by the Board thereafter (on March 11, 2003, March 9, 2004, March 8, 2005, March 14, 2006, April 10, 2007, March 11, 2008, April 14, 2009, April 13, 2010, April 10, 2012, and April 8, 2014) have utilized the unbundled water rate elements in the rate structure approved by Resolution 8774 and implemented by Resolution 8805; and

WHEREAS, the cost of service process supporting Metropolitan's water rates approved by the Board on March 11, 2003 and in following years is consistent with the cost of service process described in the Cost of Service Report. Raftelis Financial Consultants, Inc. ("RFC"), the firm engaged in 1998 to perform a comprehensive cost of service study and assist in the development of the rate structure, confirmed to the Board in a report dated April 6, 2010, that the fiscal year 2010/11 cost of service report presented to the Board in January 2010 was accurate and consistent with the Cost of Service Report and that the fiscal year 2010/11 cost of service report and rate methodology was consistent with water industry best practices and complies with cost of service and rate guidelines in the American Water Works Association's Manual M-1, *Principles of Water Rates, Fees and Charges*; and

WHEREAS, in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, San Francisco Superior Court Case Nos. CPF-10-510830 and CPF-12-512466 (the "2010 and 2012 Cases," collectively), the San Diego County Water Authority challenged Metropolitan's water rates adopted on April 13, 2010 and April 10, 2012, and Metropolitan is defending such challenges; and

WHEREAS, Metropolitan maintains that its rate structure and such rates are appropriate. The trial court entered a judgment on November 18, 2015 in both cases, which Metropolitan is currently appealing in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, First District, California Court of Appeal, Case No. A146901. Metropolitan does not anticipate a final decision by the Court of Appeal in the near term; and

WHEREAS, San Diego County Water Authority filed a lawsuit also challenging Metropolitan's water rates adopted on April 8, 2014, also titled *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, San Francisco Superior Court Case No. CPF-14-514004, and the Court has ordered the case stayed pending the appeal of the 2010 and 2012 Cases; and

WHEREAS, on January 28, 2016, the General Manager and Chief Financial Officer provided to the Board and the public a board letter describing the proposed biennial budget for fiscal years 2016/17 and 2017/18, identifying key assumptions, addressing key circumstances such as current state water supply conditions, use of projected water rate stabilization reserves over the reserve target and continued suspension of the ad valorem rate restrictions under Section 124.5 of the MWD Act to allow Metropolitan to maintain the current ad valorem tax rate, incorporating a ten-year financial forecast, determining anticipated total revenues and revenues anticipated to be derived from water sales and firm revenue sources required during fiscal years

2016/17 and 2017/18, identifying revenue requirements for that period and recommending rates and charges consistent with cost of service principles to be effective January 1, 2017 and January 1, 2018, and explaining that costs and revenues may be at variance with forecasts and variations will be addressed, for example by contributions to, or withdraws from, financial reserves maintained for this purpose; and

WHEREAS, the recommended rates were developed using the same unbundled water rate elements in the rate structure approved by Resolution 8774 and implemented by Resolution 8805; and

WHEREAS, the January 28, 2016, board letter included a summary of the proposed biennial budget for fiscal years 2016/17 and 2017/18, a ten-year financial forecast, estimated revenue requirements for fiscal years 2016/17 and 2017/18 to support the proposed biennial budget, and provided estimated rates and charges, developed using Metropolitan's existing cost of service methodology, and set forth the estimated rates and charges necessary to defray such costs; and

WHEREAS, the detailed proposed departmental biennial budget for fiscal years 2016/17 and 2017/18 was distributed to the Board and the public on January 28, 2016; and

WHEREAS, on February 5, 2016, the capital investment plan appendix to the detailed proposed departmental biennial budget for fiscal years 2016/17 and 2017/18 was provided to the Board and the public, providing detailed information on proposed capital projects and capital improvement costs; and

WHEREAS, on February 8, 2016, the Chief Financial Officer presented to the Finance and Insurance Committee of Metropolitan's Board the proposed biennial budget for fiscal years 2016/17 and 2017/18, ten-year financial forecast, determination of anticipated total revenues and of revenues anticipated to be derived from water sales and firm revenue sources required during fiscal years 2016/17 and 2017/18, and his recommended rates to be effective January 1, 2017 and January 1, 2018, and charges for fiscal years 2016/17 and 2017/18; and

WHEREAS, Board workshops and discussions regarding the proposed budget and future water rates and charges were held on February 8, 2016 and March 7, 2016 at the regularly scheduled Finance and Insurance Committee meetings, and on February 23, 2016 and March 22, 2016 at the Finance and Insurance Committee; and

WHEREAS, on February 23, 2016, the Chief Financial Officer presented to the Finance and Insurance Committee further detail regarding the estimated revenue requirements in the proposed biennial budget, provided an overview of Metropolitan's existing rate structure and the process of determining rate components under Metropolitan's existing rate structure, and addressed questions previously raised by the Board. A presentation was also made to the Committee by Raftelis Financial Consultants, Inc., an independent financial and rate consultant, presenting alternatives to the current 100% volumetric Treatment Surcharge, consisting of a partial fixed charge; and

WHEREAS, on March 7, 2016, the Chief Financial Officer proposed water rates and charges, consistent with the estimated rates and charges recommended on January 28, 2016, and made a presentation addressing further questions from the Board. Raftelis also made a presentation to the Committee addressing questions raised by the Board regarding the partial fixed charge alternatives to the 100% volumetric Treatment Surcharge; and

WHEREAS, on March 22, 2016, the Chief Financial Officer presented to the Finance and Insurance Committee a summary of the proposed Capital Investment Plan budget, updated on March 16, 2016, an overview of the cost of service report provided to the Board on March 16, 2016, and addressed additional questions raised by the Board. Raftelis also provided a presentation to the Committee summarizing the options for the partial fixed charge alternatives to the 100% volumetric Treatment Surcharge; and

WHEREAS, the Board conducted a public hearing at its regular meeting on March 8, 2016, at which interested parties were given the opportunity to present their views regarding the proposed water rates and charges; and

WHEREAS, notice of the public hearing was published prior to the hearing in various newspapers of general circulation within Metropolitan's service area; and

WHEREAS, Metropolitan received oral and written comments regarding the proposed water rates and charges, which have been provided to the Board and made available to the public; and

WHEREAS, on March 16, 2016 the Chief Financial Officer provided to the Board and the public the cost of service report for the proposed rates and charges to be effective January 1, 2017 and January 1, 2018, which (i) describes the rate structure process and design, (ii) identifies revenue requirements; (iii) shows the costs of major service functions that Metropolitan provides to its member agencies, (iv) allocates these service function costs based on the use of and benefit from the Metropolitan system to create a logical nexus between the costs and the revenues required from each of the rates and charges, and (v) sets forth the specific rates and charges necessary to defray such costs; and on March 30, 2016 the Chief Financial Officer provided to the Board and the public an updated cost of service report with minor revisions; and

WHEREAS, on March 30, 2016, the General Manager and Chief Financial Officer provided to the Board and the public a board letter describing the recommendations for the biennial budget for fiscal years 2016/17 and 2017/18; determination of total revenues and of revenues to be derived from water sales and firm revenue sources required during fiscal years 2016/17 and 2017/18, and recommended rates to be effective January 1, 2017 and January 1, 2018, and charges to be imposed in fiscal years 2016/17 and 2017/18; and

WHEREAS, the March 30, 2016 board letter also described two proposed options for a fixed charge alternative to the 100 percent volumetric Treatment Surcharge to recover treated water costs to be effective January 1, 2017 and January 1, 2018; and

WHEREAS, the March 30, 2016 board letter included the biennial budget summary, ten-year financial forecast and detailed cost of service report on the rates and charges; and

WHEREAS, on April 11, 2016, the Chief Financial Officer presented to the Finance and Insurance Committee of Metropolitan's Board the proposed biennial budget for fiscal years 2016/17 and 2017/18 and ten-year financial forecast, determination of total revenues and of revenues to be derived from water sales and firm revenue sources required during fiscal years 2016/17 and 2017/18, and the recommended rates to be effective January 1, 2017 and January 1, 2018, and charges to be imposed in fiscal years 2016/17 and 2017/18, explaining that actual revenues and expenses may vary from budgeted amounts for a variety of reasons, and that Administrative Code Section 5202(e) contemplates variation in actuals to budget and provides policy guidance to the Board, and that Metropolitan's financial obligations may include liabilities and future commitments, such as retiree obligations and debt service, that are not reflected in the budget but that can be addressed in a fiscally prudent manner to reduce future obligations and keep future rate increases reasonable within the policy guidance provided by Administrative Code Section 5202(e); and

WHEREAS, each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout; and

WHEREAS, all board letters, reports, presentations and other documents referred to in this Resolution may be viewed by Board members and the public on Metropolitan's web page at <http://www.mwdh2o.com> or in the office of the Board Executive Secretary;

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California does hereby resolve, determine and order as follows:

Section 1. That the Board of Directors of The Metropolitan Water District of Southern California hereby fixes and adopts Option #__ of the following options for water rates and charges, to be effective on January 1, 2017 and January 1, 2018 as shown in the table below, in order to enhance Metropolitan's fiscal stability and ability to ensure the region's long-term water supply while reasonably and fairly allocating the cost of providing service to its member agencies and other users of Metropolitan's system:

Table 1. Rates and Charges by Option

Rates and Charges Effective January 1st	2016	Option #1a		Option #1b		Option #2	
		2017	2018	2017	2018	2017	2018
Tier 1 Supply Rates (\$/AF)	\$156	\$201	\$209	\$201	\$209	\$201	\$209
Tier 2 Supply Rate (\$/AF)	\$290	\$295	\$295	\$295	\$295	\$295	\$295
System Access Rate (\$/AF)	\$259	\$289	\$299	\$289	\$299	\$289	\$299
Water Stewardship Rate (\$/AF)	\$41	\$52	\$55	\$52	\$55	\$52	\$55
System Power Rate (\$/AF)	\$138	\$124	\$132	\$124	\$132	\$124	\$132
Full Service Untreated Volumetric Cost (\$/AF)							
Tier 1	\$594	\$666	\$695	\$666	\$695	\$666	\$695
Tier 2	\$728	\$760	\$781	\$760	\$781	\$760	\$781
Treatment Surcharge (\$/AF)	\$348	\$195	\$197	\$195	\$197	\$313	\$320
Full Service Treated Volumetric Cost (\$/AF)							
Tier 1	\$942	\$861	\$892	\$861	\$892	\$979	\$1,015
Tier 2	\$1,076	\$955	\$978	\$955	\$978	\$1,073	\$1,101
Readiness-to-Serve Charge (\$M)	\$153	\$135	\$140	\$135	\$140	\$135	\$140
Capacity Charge (\$/cfs)	\$10,900	\$8,000	\$8,700	\$8,000	\$8,700	\$8,000	\$8,700
Treated Water Fixed Charge (\$M)		\$98	\$102	\$98	\$102		

Section 2. The Board finds and determines that the rates specified in Section 1 utilize the unbundled water rate and charge elements of the rate structure approved by Resolution 8774 and implemented by Resolution 8805, and that the cost of service process supporting the rates and charges specified in Section 1 is the cost of service process described in the FY 2016/17 and 2017/18 cost of service report.

Section 3. The Board finds and determines that the cost of service process reasonably, fairly and proportionately: (i) identifies revenue requirements; (ii) shows the costs of major service functions that Metropolitan provides to its member agencies, (iii) assigns costs to the service functions that Metropolitan provides to its member agencies and other users of Metropolitan's system; (iv) allocates service function costs based upon use of and benefit from Metropolitan's system, and (v) distributes costs to rates and charges based upon customary water industry standards. Accordingly, the Board finds that the cost of service process supports the rates and charges by creating a logical nexus between the costs and the revenues required and the rates and charges necessary to defray Metropolitan's costs of providing its services and for use of its water system.

Section 4. The Board finds and determines that the rates specified in Section 1 are fixed by the Board pursuant to Sections 133 and 134 of the Act, and, so far as practicable, will result in revenue which, together with revenue from water standby or availability service charges or assessments, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt. Actual revenues and expenses may vary from budgeted amounts for a variety of reasons, and Administrative Code Section 5202(e) contemplates variation in actuals

to budget and provides policy guidance to the Board, and the Board finds and determines that Metropolitan's financial obligations may include liabilities and future commitments, such as retiree obligations and debt service, that are not reflected in the budget but that can be addressed in a fiscally prudent manner to reduce future obligations and keep future rate increases reasonable within the policy guidance provided by Administrative Code Section 5202(e).

Section 5. The Board finds and determines that each of the rates specified in Section 1 does not exceed the reasonable and necessary cost of providing the product or service for which the rate is charged and that the per-acre-foot rates fairly apportion such costs among member agencies and other users of Metropolitan's system according to their burden on or benefit from Metropolitan's water system.

Section 6. The Board finds and determines that the respective per-acre-foot rates specified in Section 1 are paid for the corresponding products or services and use of its water system, that Metropolitan provides such products or services directly to the member agencies or other users of Metropolitan's system that pay such rates, and that such products or services are not provided to those not charged.

Section 7. The Board finds and determines that each of the rates specified in Section 1 is imposed for the purpose of paying said cost of service and is not levied for general revenue purposes.

Section 8. The General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 9. This Board finds that approval of the rates and charges as provided in this Resolution is not defined as a Project under the California Environmental Quality Act (CEQA), because they involve continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed actions are not subject to CEQA because they involve the creation of government funding mechanisms or other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

Section 10. If any provision of this is held invalid, that invalidity shall not affect other provisions of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2016.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION ____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING
A READINESS-TO-SERVE CHARGE EFFECTIVE JANUARY 1, 2017**

WHEREAS, at its meeting on October 16, 2001, the Board of Directors (“Board”) of The Metropolitan Water District of Southern California (“Metropolitan”) approved a rate structure proposal described in Board Letter 9-6 dated October 16, 2001, including a Readiness-To-Serve (“RTS”) Charge; and

WHEREAS, providing firm revenue sources is a goal of such rate structure; and

WHEREAS, the amount of revenue to be raised by the RTS Charge shall be as determined by the Board and allocation of the RTS Charge among member public agencies shall be in accordance with the method established by the Board; and

WHEREAS, the RTS Charge is a charge fixed and adopted by Metropolitan and charged to its member agencies, and is not a fee or charge imposed upon real property or upon persons as an incident of property ownership; and

WHEREAS, Metropolitan has legal authority to fix and adopt such RTS Charge as a water rate pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the “Act”), and to fix it as an availability of service charge pursuant to Section 134.5 of the Act; and

WHEREAS, under authority of Sections 133 and 134 of the Act, the Board has the authority to fix the rate or rates for water as will result in revenue which, together with other revenues, will pay Metropolitan’s operating expenses and provide for payment of other costs, including payment of the interest and principal of Metropolitan’s non-tax funded bonded debt; and

WHEREAS, pursuant to Resolution 8329, adopted by the Board on July 9, 1991, as amended and supplemented, proceeds of the RTS Charge and other revenues from the sale or availability of water are pledged to the payment of Metropolitan’s outstanding revenue bonds and revenue bonds to be issued pursuant to Resolution 8329; and

WHEREAS, under authority of Section 134.5 of the Act, a RTS Charge levied as an availability of service charge may be collected from the member public agencies within Metropolitan, or may continue to be collected as a standby charge against individual parcels within Metropolitan’s service area; and

WHEREAS, certain member public agencies of Metropolitan have opted in prior fiscal years to provide collection of all or a portion of their RTS Charge obligation through a Metropolitan water standby charge (“Standby Charge”) levied on parcels within those member agencies; and

WHEREAS, under authority of Section 134.5 of the Act, the Standby Charge may continue to be levied on each acre of land or each parcel of land less than an acre within Metropolitan to which water is made available for any purpose by Metropolitan, whether the water is actually used or not; and

WHEREAS, Metropolitan is willing to comply with the requests of member public agencies opting to have Metropolitan continue to levy the Standby Charge within their respective territories, on the terms and subject to the conditions contained herein; and

WHEREAS, on February 8, 2016, the General Manager presented to the Finance and Insurance Committee of Metropolitan's Board his proposed biennial budget for fiscal years 2016/17 and 2017/18, determination of total revenues and of revenues to be derived from water sales and firm revenue sources required during the fiscal years 2016/17 and 2017/18; and

WHEREAS, Board workshops and discussions regarding the proposed biennial budget for fiscal years 2016/17 and 2017/18 and water rates and charges for 2017 and 2018 were held on February 8, 2016 and March 7, 2016 at the regularly scheduled Finance and Insurance Committee meetings, and on February 23, 2016 and March 22, 2016 at the Finance and Insurance Committee; and

WHEREAS, the Board conducted a public hearing on its proposed rates and charges for 2017 and 2018 at its regular meeting on March 8, 2016, at which interested parties were given the opportunity to present their views regarding the proposed rates and charges; and

WHEREAS, notice of the public hearing on the proposed rates and charges was published prior to the hearing in various newspapers of general circulation within Metropolitan's service area; and

WHEREAS, written notice of intention of Metropolitan's Board to consider and take action at its regular meeting to be held April 12, 2016, to adopt Metropolitan's RTS Charge for calendar year 2017 was given to each of Metropolitan's member public agencies; and

WHEREAS, based on the feedback received from board workshops held on February 8, 2016, February 23, 2016, March 7, 2016, and March 22, 2016, and at the public hearing on March 8, 2016, the General Manager proposed rates and charges on April 12, 2016; and

WHEREAS, the supporting cost of service report was provided to the Board on March 16, 2016, was discussed with the Board on March 22, 2016, and an updated cost of service report with minor revisions was provided to the Board on March 30, 2016; and

WHEREAS, on April 12, 2016, the Board considered the rates and charges presented by the General Manager and approved the biennial budget for fiscal years 2016/17 and 2017/18 and adopted recommended water rates and charges for 2017 and 2018; and

WHEREAS, in adopting the rates and charges on April 12, 2016, the Board determined the amount of revenue to be raised by the RTS Charge in 2017 to be \$135,000,000; and

WHEREAS, the RTS Charge applicable to each member public agency, the method of its calculation, and the specific data used in its determination are as specified in the Engineer's Report dated April 2016 (the "Engineer's Report"); and

WHEREAS, the Engineer's Report reflects costs provided in the cost of service report; and

WHEREAS, each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout;

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California does hereby resolve, determine and order as follows:

Section 1. That the Board of Directors of Metropolitan hereby fixes and adopts an RTS Charge for the period from January 1, 2017 through December 31, 2017.

Section 2. That said RTS Charge shall be in an amount sufficient to provide for payment of debt service and other appropriately allocated costs, for capital expenditures for infrastructure projects needed to provide emergency service and available capacity needs.

Section 3. That such RTS Charge for January 1, 2017 through and including December 31, 2017 shall be based on the water rate as specified in Section 5 for the rate option selected by the Board, which shall be charged on a historic basis for each acre-foot of water, excluding water used for purposes of replenishing local storage and agriculture as defined by the Administrative Code, included in Metropolitan's average water deliveries to its member agencies for the applicable ten-year period identified in Section 6 below. The aggregate RTS Charge for the period from January 1, 2017 through and including December 31, 2017 shall be as specified in Section 6.

Section 4. That the RTS Charge specified in Table 1 does not exceed the reasonable and necessary cost of providing the service for which the charge, or conferring the benefit provided, is made and is fairly apportioned to each member agency as specified in Section 6 below. Accordingly, the Board finds and determines that the RTS Charge is a reasonable fee charged according to the burden on or benefit from the use of emergency service and available capacity.

Section 5. That in the alternative, and without duplication, the RTS Charge shall be an availability of service charge pursuant to Section 134.5 of the Act.

Section 6. That the RTS Charge for January 1, 2017 through December 31, 2017 shall be allocated among the member public agencies in proportion to the average of deliveries through Metropolitan's system (in acre-feet) to each member public agency during the ten-year period ending June 30, 2015. Metropolitan sales of reclaimed water under the Local Projects Program, groundwater under the Groundwater Recovery Program, and deliveries under the Replenishment and Interim Agricultural Water Service Programs are not included in the RTS Charge water sales calculation. The allocation of the RTS Charge among member agencies is based on sales data recorded by Metropolitan and shall be conclusive in the absence of manifest error.

The amount of the RTS Charge to be charged to each member public agency effective January 1, 2017, is as follows:

Table 1
Calendar Year 2017 Readiness-To-Serve Charge

Water rate \$78.74/acre-foot			
Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2005/06 - FY2014/15	RTS Share	12 months @ \$135 million per year (1/17-12/17)
Anaheim	20,890	1.22%	\$ 1,644,773
Beverly Hills	11,386	0.66%	896,470
Burbank	12,817	0.75%	1,009,197
Calleguas MWD	109,124	6.36%	8,592,062
Central Basin MWD	51,539	3.01%	4,058,007
Compton	1,924	0.11%	151,513
Eastern MWD	98,628	5.75%	7,765,612
Foothill MWD	9,790	0.57%	770,791
Fullerton	9,668	0.56%	761,240
Glendale	19,594	1.14%	1,542,739
Inland Empire Utilities Agency	60,811	3.55%	4,788,020
Las Virgenes MWD	22,750	1.33%	1,791,215
Long Beach	34,316	2.00%	2,701,881
Los Angeles	312,096	18.20%	24,573,320
Municipal Water District of Orange County	221,545	12.92%	17,443,662
Pasadena	21,181	1.24%	1,667,686
San Diego County Water Authority	367,123	21.41%	28,905,959
San Fernando	82	0.00%	6,480
San Marino	931	0.05%	73,288
Santa Ana	12,605	0.74%	992,442
Santa Monica	9,252	0.54%	728,501
Three Valleys MWD	65,261	3.81%	5,138,444
Torrance	18,130	1.06%	1,427,500
Upper San Gabriel Valley MWD	22,143	1.29%	1,743,477
West Basin MWD	125,379	7.31%	9,871,876
Western MWD	75,617	4.41%	5,953,847
MWD Total	1,714,580	100.00%	\$ 135,000,000
Totals may not foot due to rounding			

Section 7. That the allocation of the RTS Charge among member agencies set forth in Section 6 above is consistent with the per-acre-foot water rates fixed and adopted as set forth in Section 6 above.

Section 8. That water conveyed through Metropolitan's system for the purposes of water transfers, exchanges or other similar arrangements shall be included in the calculation of a member agency's rolling ten-year average firm demands used to allocate the RTS Charge.

Section 9. That the RTS Charge and the amount applicable to each member public agency, the method of its calculation, and the specific data used in its determination are as specified in the adopted option based on the General Manager's three alternative options on rates and charges to be effective January 1, 2017, which forms the basis of the RTS Charge, and the corresponding cost of service report. The adopted option on rates and charges and cost of service reports are on file and available for review by interested parties at Metropolitan's headquarters.

Section 10. That except as provided in Section 12 below with respect to any RTS Charge collected by means of the Standby Charge, the RTS Charge shall be due monthly, quarterly or semiannually as agreed upon by Metropolitan and the member agency.

Section 11. That such RTS Charge may, at the request of any member agency which elected to utilize the Standby Charge as a mechanism for collecting the RTS Charge obligation in FY 1996/97, be collected by continuing the Standby Charge at the same rates levied in FY 1996/97 upon land within Metropolitan's (and such member public agency's) service area to which water is made available by Metropolitan for any purpose, whether such water is used or not.

Section 12. That the Standby Charge shall be collected on the tax rolls, together with the *ad valorem* property taxes which are levied by Metropolitan for the payment of pre-1978 voter-approved indebtedness. Any amounts so collected shall be applied as a credit against the applicable member agency's RTS Charge obligation. After such member agency's RTS Charge allocation is fully satisfied, any additional collections shall be credited to other outstanding obligations of such member agency to Metropolitan or future RTS Charge obligations of such agency or, if crediting against other outstanding obligations of a member agency to Metropolitan proves to be impracticable, may be transmitted to the member agency for application solely to the cost of capital infrastructure projects of benefit to properties within the member agency. Notwithstanding the provisions of Section 10 above, any member agency requesting to have all or a portion of its RTS Charge obligation collected through Standby Charge levies within its territory as provided herein shall pay any portion not collected through net Standby Charge collections to Metropolitan within 50 days after Metropolitan issues an invoice for remaining RTS Charge obligations for such member agency, as provided in Administrative Code Section 4507.

Section 13. That notice is hereby given to the public and to each member public agency of The Metropolitan Water District of Southern California of the intention of Metropolitan's Board to consider and take action at its regular meeting to be held May 10, 2016 (or such other date as the Board shall hold its regular meeting in such month), on the General Manager's recommendation to continue the Standby Charge for FY 2016/17 under authority of Section 134.5 of the Act on land within Metropolitan at the same rates, per acre of land, or per parcel of land less than an acre, levied in FY 1996/97 upon land within Metropolitan's (and such member public agency's) service area. Such Standby Charge will be continued as a means of collecting the RTS Charge.

Section 14. That no failure to collect, and no delay in collecting, any Standby Charge shall excuse or delay payment of any portion of the RTS Charge when due. All amounts collected as water standby charges shall be applied solely as credits to the RTS Charge of the applicable member agency, with any excess

collections being carried forward and credited against other outstanding obligations of such member agency to Metropolitan.

Section 15. That the RTS Charge is fixed and adopted by Metropolitan as a rate or charge on its member agencies, and is not a fee or charge imposed upon real property or upon persons as incidents of property ownership, and the Standby Charge is collected within the respective territories of electing member agencies as a mechanism for collection of the RTS Charge. In the event that the Standby Charge, or any portion thereof, is determined to be an unauthorized or invalid fee, charge or assessment by a final judgment in any proceeding at law or in equity, which judgment is not subject to appeal, or if the collection of the Standby Charge shall be permanently enjoined and appeals of such injunction have been declined or exhausted, or if Metropolitan shall determine to rescind or revoke the Standby Charge, then no further Standby Charge shall be collected within any member agency and each member agency which has requested continuation of the Standby Charge as a means of collecting its RTS Charge obligation shall pay such RTS Charge obligation in full, as if continuation of such Standby Charge had never been sought.

Section 16. That the General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 17 That this Board finds that the RTS Charge and other charges provided in this Resolution are not defined as a project under CEQA because it involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not subject to CEQA because it involves other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

Section 18. That if any provision of this Resolution or the application to any member agency, property or person whatsoever is held invalid, that invalidity shall not affect other provisions or applications of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

Section 19. That the General Manager is hereby authorized and directed to take all necessary action to satisfy relevant statutes requiring notice by mailing or by publication.

Section 20. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member public agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2016.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

**THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
ENGINEER'S REPORT**

**PROGRAM TO LEVY READINESS-TO-SERVE CHARGE,
INCLUDING LOCAL OPTION FOR STANDBY CHARGE,
DURING FISCAL YEAR 2016/17**

April 2016

BACKGROUND

The Metropolitan Water District of Southern California is a public agency with a primary purpose to provide imported water supply for domestic and municipal uses at wholesale rates to its member public agencies. More than 18 million people reside within Metropolitan's service area, which covers over 5,000 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. Metropolitan currently provides over 50 percent of the water used within its service area.

REPORT PURPOSES

As part of its role as an imported water supplier, Metropolitan builds capital facilities and implements water management programs that ensure reliable high quality water supplies throughout its service area. The purpose of this report is to: (1) identify and describe those facilities and programs that will be financed in part by Metropolitan's Readiness-to-Serve (RTS) Charge, and (2) describe the method and basis for levying Metropolitan's Standby Charge for those agencies electing to collect a portion of their RTS obligation through Metropolitan's Standby Charge in fiscal year 2016/17. **Because the Standby Charge is levied and collected on a fiscal year basis the calculations in this report also are for the fiscal year, even though the RTS Charge is levied on a calendar year basis.** The RTS Charge for calendar year 2016 was adopted by Metropolitan's Board on April 14, 2015 and the RTS Charge for 2017 will be considered by the Board on April 12, 2016.

Metropolitan levies the RTS Charge on its member agencies to recover a portion of the debt service on bonds issued to finance capital facilities needed to meet existing demands on Metropolitan's system. The Standby Charge is levied on parcels of land within certain of Metropolitan's member agencies as a method of collecting part or all of such member agency's RTS Charge obligation. The RTS Charge will partially pay for the facilities and programs described in this report. The Standby Charge, if levied, will be utilized solely for capital payments and debt service on the capital facilities identified in this report.

METROPOLITAN'S RESPONSE TO FLUCTUATING WATER DEMANDS

To respond to fluctuating demands for water, Metropolitan and its member agencies collectively examined the available local and imported resource options in order to develop a cost-effective plan that meets the reliability and quality needs of the region. The product of this intensive effort was an Integrated Resources Plan (IRP) for achieving a reliable and affordable water supply for Southern California. The major objective of the IRP was to develop a comprehensive water resources plan that ensures (1) reliability, (2) affordability, (3) water quality, (4) diversity of supply, and (5) adaptability for the region, while recognizing the environmental, institutional, and political constraints to resource development. As these constraints change over time, the IRP is periodically revisited and updated by Metropolitan and the member agencies to reflect current conditions. To meet the water supply needs of existing and future customers within its service area, Metropolitan continues to identify and develop additional water supplies to maintain the reliability of the imported water supply and delivery system. These efforts include the construction of capital facilities and implementation of demand management programs.

Capital Facilities

The capital facilities include the State Water Project (SWP), the Colorado River Aqueduct (CRA), storage facilities including Diamond Valley Lake (DVL), and additional conveyance and distribution system components. The benefits of these capital facilities are both local and system-wide, as the facilities directly contribute to the reliable delivery of water supplies throughout Metropolitan's service area.

State Water Project Benefits

In 1960, Metropolitan contracted with the California Department of Water Resources (DWR) to receive SWP supplies. Under this contract, Metropolitan is obligated to pay its portion of the construction and operation and maintenance costs of the SWP system through at least the year 2035, regardless of the quantities of project water Metropolitan takes. Metropolitan is entitled to 1.9 million acre-feet of the total SWP contract amounts of 4.2 million acre-feet. All Metropolitan member agencies benefit from the SWP supplies, which are distributed to existing customers and are available to future customers throughout Metropolitan's service area. The potential benefit of the SWP allocable to the RTS Charge in fiscal year 2016/17 is shown in Table 1.

System Storage Benefits

The Metropolitan system, for purposes of meeting demands during times of shortage, regulating system flows, and to ensure system reliability in the event of a system outage, provides over 1,000,000 acre-feet of system storage capacity. DVL provides 800,000 acre-feet of storage capacity for water from the Colorado River Aqueduct and SWP, effectively doubling Southern California's previous surface water storage capacity. Water stored in system storage during above average supply conditions (surplus) provides a reserve against shortages when supply sources are limited or disrupted. System storage also preserves Metropolitan's capability to deliver water during scheduled maintenance periods, when conveyance facilities must be removed from service for rehabilitation, repair, or maintenance. The potential benefit of system storage in fiscal year 2016/17 is shown in Table 1.

Conveyance and Distribution System Benefits

Metropolitan has an ongoing commitment, through physical system improvements and the maintenance and rehabilitation of existing facilities, to maintain the reliable delivery of water throughout the entire service area. System improvement projects include additional conveyance and distribution facilities to maintain the dependable delivery of water supplies, provide alternative system delivery capacity, and enhance system operations. Conveyance and distribution system improvement benefits also include projects to upgrade obsolete facilities or equipment, or to rehabilitate or replace facilities or equipment. These projects are needed to enhance system operations, comply with new regulations, and maintain a reliable distribution system. A list of conveyance and distribution system facilities is provided in Table 3 along with the fiscal year 2016/17 estimated conveyance and distribution system benefits.

Demand Management Program Benefits

Demand management programs that could be financed by the RTS Charge and standby charge include Metropolitan's participation in providing financial incentives to local agencies for the construction and development of local resource programs and conservation projects. Investments in demand side management programs like conservation, water recycling and groundwater recovery conserve and produce local supplies, reducing the need to provide additional imported water supplies and reducing demands on Metropolitan's system, thus helping to avoid and defer the need for additional conveyance, distribution, and storage facilities and reducing maintenance of those facilities. A summary of the estimated benefits of the demand management

programs as measured by Metropolitan's anticipated expenditures for these programs in fiscal year 2016/17 is shown in Table 1.

Local Resources Program

In 1982, Metropolitan's Board adopted the Local Resources Program (LRP) with the goal of developing local water resources in a cost-efficient manner. Financial incentives are provided to member agency-sponsored projects that best help the region achieve its local resource production goals of restoring degraded groundwater resources for potable use as well as developing recycled water and seawater desalination supplies. These projects provide new water supplies, which help avoid and defer the need for additional regional conveyance, distribution and storage facilities and reduce maintenance of those facilities.

Combined production from participating recycling and groundwater recovery projects produced approximately 242,000 acre-feet of water in fiscal year 2014/15 with financial incentive payments of about \$38 million. Regional recycling, recovered groundwater, and desalinated seawater production are projected to be about 669,000 acre-feet per year, by year 2025. An estimate of potential benefits as measured by Metropolitan's estimated incentive payments for recycling and groundwater recovery projects is shown in Table 2.

Water Conservation

Metropolitan actively promotes water conservation programs within its service area as a cost-effective strategy for ensuring the long-term reliability of supplies and as a means of reducing the need to expand and maintain system conveyance, distribution and treatment capacity. Through the Conservation Credits Program, Metropolitan reimburses local agencies for a share of their costs of implementing conservation projects. Since fiscal year 1990/91, Metropolitan has spent over \$495 million in financial incentives to support local conservation projects.

In 1991, Metropolitan agreed to implement conservation "Best Management Practices" (BMPs). By signing the California Urban Water Conservation Council's *Memorandum of Understanding Regarding Urban Water Conservation* (amended March 10, 2004), Metropolitan committed to implement proven and reliable water conserving technologies and practices within its jurisdiction. Based on Metropolitan's IRP, the Conservation Credits Program, in conjunction with plumbing codes and other conservation efforts, has saved over 2,222,000 acre-feet since inception through fiscal year 2014/15. In order to comply with the Governor's mandate of reducing demand by 20 percent by the year 2020, Metropolitan is working on increasing its conservation efforts in the next ten years to meet that request. Conservation is a critical element of Metropolitan's demand management program, effectively increasing the reliability of existing water supplies by lessening the need to import additional water while at the same time avoiding and deferring the need to expand system capacity and reducing maintenance of the system. An estimate of the potential benefits of water conservation projects as measured by Metropolitan's incentive payments is given in Table 2.

LONG-RANGE FINANCIAL PLANNING

Metropolitan's major capital facilities are financed largely from the proceeds of revenue bond issues, which are repaid over future years. The principal source of revenue for repayment of these bonds is water sales, which is currently Metropolitan's largest source of revenue. In addition, *ad valorem* property taxes provide an additional limited revenue source, which is used to pay pre-1978 voter-approved indebtedness.

Since the passage of Article XIII A of the California Constitution, Metropolitan has necessarily relied more on water sales revenue than on *ad valorem* property taxes for the payment of debt. Water sales have become the dominant source of revenue, not only for operation and maintenance of the vast network of facilities supplying water to Southern California, but also for replacement and improvement of capital facilities.

The increased reliance on highly variable water sales revenue increases the probability of substantial rate swings from year to year mainly resulting from changing weather patterns. The use of water rates as a primary source of revenue has placed an increasing burden on ratepayers, which might more equitably be paid in part by assessments on land that in part derives its value from the availability of water. In December 1993, Metropolitan's Board approved a revenue structure that included additional charges to establish a commitment to Metropolitan's capital improvement program and provide revenue stability. This revenue structure included the RTS Charge.

Readiness-To-Serve Charge

As noted above, Metropolitan levies the RTS Charge on its member agencies to recover capital costs, including a portion of the debt service on bonds issued to finance capital facilities needed to meet existing demands on Metropolitan's system. The estimated potential benefits that could be paid by an RTS charge in fiscal year 2016/17 exceed \$406 million as shown in Table 1.

Although the RTS Charge could be set to recover the entire potential benefit amount, the General Manager is recommending that the RTS Charge only recover a portion of the total potential benefit. For fiscal year 2016/17, the amount of the total potential benefit to be recovered by the RTS Charge is estimated to be \$144,000,000. These funds, when combined with Metropolitan's overall financial resources, will result in greater water rate stability for all users throughout Metropolitan's service area. Consistent with the rate structure approved by the Board in October of 2001, the RTS Charge for fiscal year 2016/17 is allocated to each member agency on the basis of a ten-year rolling average of historic water purchases from Metropolitan ending June 30, 2015. This average includes all deliveries used to meet firm demand (consumptive municipal industrial demands), including water transfers and exchanges. The estimated fiscal year 2016/17 RTS Charge for each member agency is shown in Table 4.

Standby Charge Option

Metropolitan's Standby Charge is authorized by the State Legislature and has been levied by Metropolitan since fiscal year 1992/93. The Standby Charge recognizes that there are economic benefits to lands that have access to a water supply, whether or not such lands are using it. Utilization of the Standby Charge transfers some of the burden of maintaining Metropolitan's capital infrastructure from water rates and *ad valorem* taxes to all the benefiting properties within the service area. A fraction of the value of this benefit and of the cost of providing it can be effectively recovered, in part, through the levying of a standby charge. The projects to be supported in part by a Standby Charge are capital projects that provide both local and Metropolitan-wide benefit to current landowners as well as existing water users. The estimated potential benefits system-wide are several times the amount to be recovered by means of the Standby Charge.

Metropolitan will levy Standby Charges only within the service areas of the member agencies that request that the standby charge be utilized. The Standby Charge for each acre or parcel of less than an acre will vary from member agency to member agency, as permitted under the legislation establishing Metropolitan's Standby Charge. The water Standby Charge for each member agency will be the same as that levied by Metropolitan in fiscal year 1996/97 and is shown in Table 5.

The proposed Standby Charge includes the re-levying of water standby charges on: (1) parcels on which water standby charges have been levied in fiscal year 1996/97 and annually thereafter ("pre-1997 standby charges") and (2) parcels annexed to Metropolitan and to an electing member agency after January 1997 ("annexation standby charges"). Only land within member agencies which Standby Charges were levied in fiscal year 1996/97 will be subject to the re-levying of pre-1997 Standby Charges for FY 2016/17. Only land annexed to Metropolitan and to an electing member public agency with respect to which standby charges were approved in accordance with the procedures of Article XIID, Section 4 of the California Constitution will be subject to the levying or re-levying,

as applicable, of annexation standby charges for fiscal year 2016/17. Table 6 lists parcels annexed, or to be annexed, to Metropolitan and to electing member agencies during FY 2016/17, such parcels being subject to the annexation standby charge upon annexation. Parcels annexed prior to FY 2016/17 are subject to annexation standby charges as described in the Engineer's Report for the fiscal year of their annexation. These parcels and parcels that are subject to the pre-1997 standby charges are identified in a listing filed with the Executive Secretary.

The estimated potential benefits of Metropolitan's water supply program, which could be paid by a Standby Charge, exceed \$406 million for fiscal year 2016/17, as shown in Table 1. An average total Standby Charge of about \$93.53 per acre of land or per parcel of less than one acre would be necessary to pay for the total potential program benefits. Benefits in this amount will accrue to each acre of property and parcel within Metropolitan, as these properties are eligible to use water from the Metropolitan system. Because only properties located within Metropolitan's boundaries may receive water supplies from Metropolitan (except for certain contractual deliveries as permitted under Section 131 of the Metropolitan Water District Act), any benefit received by the public at large or by properties outside of the proposed area to be annexed is merely incidental.

Table 5 shows that the distribution of Standby Charge revenues from the various member agencies would provide net revenue flow of approximately \$43.6 million for fiscal year 2016/17. This total amount is less than the estimated benefits shown in Table 1. Metropolitan will use other revenue sources, such as water sales revenues, RTS Charge revenues (except to the extent collected through standby charges, as described above), interest income, and revenue from sales of hydroelectric power, to pay for the remaining program benefits. Thus, the benefits of Metropolitan's investments in water conveyance, storage, distribution, and demand management programs far exceed the recommended standby charge.

Equity

The RTS Charge is a firm revenue source. The revenues to be collected through this charge will not vary with sales in the current year. This charge is levied on Metropolitan's member agencies and is not a fee or charge upon real property or upon persons as an incident of property ownership. It ensures that agencies that only occasionally purchase water from Metropolitan but receive the reliability benefits of Metropolitan's system pay an equitable share of the costs to provide that reliability. Within member agencies that elect to pay the RTS Charge through Metropolitan's standby charges, the Standby Charge results in lower water rates than would otherwise be necessary due to the amount of revenue collected from lands which benefit from the availability of Metropolitan's water supply. With the Standby Charge, these properties are now contributing a more appropriate share of the cost of importing water to Southern California and delivering water.

Metropolitan's water supply program increases the availability and reliable delivery of water throughout Metropolitan's service area. Increased water supplies benefit existing consumers and land uses through direct deliveries to consumers and properties, and through the replenishment of groundwater basins and reservoir storage as reserves against shortages due to droughts, natural emergencies, or scheduled facility shutdowns for maintenance. The benefits of reliable water supplies from the SWP, CRA, DVL, and system improvements accrue to more than 250 cities and communities within Metropolitan's six-county service area. Metropolitan's regional water system is interconnected, so water supplies from the SWP and CRA can be used throughout most of the service area and therefore benefit water users and properties system-wide.

Additional Metropolitan deliveries required in the coming fiscal year due to the demands of property development will be reduced by the implementation of demand management projects, including water conservation, water recycling, and groundwater recovery projects. As with the SWP, CRA and DVL and the conveyance and distribution facilities, demand management programs increase the future reliability of water supplies. In addition, demand management programs provide system-wide benefits by effectively decreasing the demand for imported water, which helps to avoid and defer construction of additional system conveyance and distribution capacity and

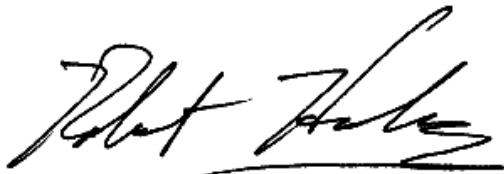
reduce maintenance of the system. However, the abilities of each member agency to implement these projects under Metropolitan’s financial assistance programs vary, depending on local conditions.

A major advantage of a firm revenue source, such as a RTS charge, is that it contributes to revenue stability during times of drought or low water sales. It affords Metropolitan additional security, when borrowing funds, that a portion of the revenue stream will be unaffected by drought or by rainfall. This security will help maintain Metropolitan’s historically high credit rating, which results in lower interest expense to Metropolitan, and therefore, lower overall cost to the residents of its service area.

SUMMARY

The foregoing and the attached tables describe the current benefits provided by the projects listed as mainstays to the water supply system for Metropolitan’s service area. Benefits are provided to both water users and property owners. The projects represented by this report provide both local benefits as well as benefits throughout the entire service area. It is recommended, for fiscal year 2016/17, that the RTS Charge be levied with an option for local agencies to request that a Standby Charge be levied on lands within Metropolitan’s service area as a credit against such member agency’s RTS Charge, up to the Standby Charge per acre or parcel of less than one acre levied by Metropolitan within the applicable member agency for fiscal year 2016/17. The maximum Standby Charge would not exceed \$15 per acre of land or per parcel of less than one acre. The benefits described in this Engineer’s Report exceed the recommended charge. A listing of all parcels in the service area and the proposed 2016/17 Standby Charge for each is available in the office of the Chief Financial Officer.

Prepared Under the Supervision of:



Robert L. Harding, RCE C50185
Unit Manager V
Water Resource Management

Prepared Under the Supervision of:



Gary Breaux
Assistant General Manager/
Chief Financial Officer



TABLE 1

**ESTIMATED DISTRIBUTION OF BENEFITS OF CONVEYANCE, STORAGE, AND DISTRIBUTION INFRASTRUCTURE,
AND DEMAND MANAGEMENT PROGRAMS THAT COULD BE PAID BY RTS CHARGE**

Water Conveyance, Storage, Distribution and Demand Management Programs	Estimated Potential Program Benefits for FY2016/17	Dollars Per Parcel of 1 Acre or Less
Net Capital Payments to State Water Project (less portion paid by property taxes)	\$ 70,246,879	\$16.18
Non Tax Supported Capital Costs for System Storage ¹	\$ 104,831,896	\$24.14
Non Tax Supported Capital Costs for Conveyance and Distribution System ²	\$ 155,929,608	\$35.91
Sub-Total Capital Payments	\$ 331,008,383	\$76.23
less Estimated Standby Charge Revenues	\$ (43,624,493)	(\$10.05)
Remaining capital payments	\$ 287,383,889	\$66.18
Demand Management Programs: Water Recycling, Groundwater Recovery, and Water Conservation Projects	\$ 75,129,611	\$17.30
Sub-Total Capital Financing and Demand Management Programs Costs not Paid by Standby Charge Revenues	\$ 362,513,501	\$83.48
Total Benefits: Capital Financing and Demand Management Programs	\$ 406,137,994	\$93.53

Notes:

[1] System storage includes Diamond Valley Lake, Lake Mathews, Lake Skinner and several other smaller surface reservoirs which provide storage for operational purposes.

[2] Conveyance and Distribution facilities include the Colorado River Aqueduct and the pipelines, laterals, feeders and canals that distribute water throughout the service area.

Totals may not foot due to rounding

TABLE 2	
WATER RECYCLING, GROUNDWATER RECOVERY AND CONSERVATION PROJECTS	
Project Name	FY 2016/17 Payment
Water Recycling Projects	\$32,793,981
Advanced Water Purification Facility Project	
Alamitos Barrier Reclaimed Water Project	
Anaheim Water Recycling Demonstration Project	
Burbank Reclaimed Water System Expansion Proj.	
Burbank Recycled Water System Expansion - Phase 2	
Capistrano Valley Non-Domestic Water System Expansion	
City of Industry Regional Water System - Rowland	
City of Industry Regional Water System - USGVMWD	
City of Industry Regional Water System - walnut	
Development of Non-Domestic Water Sys. Exp. Ladera	
Direct Reuse Project Phase IIA	
Dry Weather Runoff Reclamation Facility	
Eastern Recycled Water Expansion Project	
Eastern Recycled Water Pipeline Reach 16	
Eastern Regional Reclaimed Water System	
El Toro Recycled Water Expansion	
Encina Basin Water Rec. Prog - Phases I and II (5)	
Escondido Regional Reclaimed Water Project	
EVMWD Recycled Water Program	
Glendale Verdugo-Scholl Canyon Recl. Water Proj. (4)	
Glendale Water Reclamation Expansion Project	
Green Acres Reclamation Project - Coastal	
Green Acres Reclamation Project - MWDOC	
Green Acres Reclamation Project - Santa Ana	
Groundwater Replenishment System Talbert Seawater Intrusion Barrier Component	
Hansen Area Water Recycling Project Phase 1	
Hansen Dam Golf Course Water Recycling Project	
Harbor Refineries Recycled Water Project	
Harbor Water Recycling Project	
IEUA Regional Recycled Water Dist. System	
IRWD Recycled Water System Upgrade	
Leo J. Vander Lanz (Alamitos Barrier Expansion)	
Long Beach Reclamation Expansion Phase I	
Los Angeles Taylor Yard Park	
Moulton Niguel Reclamation Project	

TABLE 2 (Continued)	
WATER RECYCLING, GROUNDWATER RECOVERY AND CONSERVATION PROJECTS	
Project Name	FY 2016/17 Payment
Water Recycling Projects (continued)	
North Atwater, Chevy Chase Park, Los Felis Water Recycling Project	
North City Water Reclamation Project	
Oceanside Water Reclamation Project	
Olivenhain Recycled Project - SE Quadrant	
Otay Recycled Water System	
Padre Dam Reclaimed Water System Phase I	
Ramona/Santa Maria Water Reclamation Project	
Rancho California Reclamation Expansion	
Reclaimed Project at Century and Rio Hondo	
San Clemente Recycled Water System Expansion	
San Clemente Water Reclamation Project	
San Elijo Water Reclamation System	
Sepulveda Basin Water Recycling Project Phase IV	
South Griffith Park Recycled Water Project	
Trabuco Canyon Reclamation Expansion Project	
Van Nuys Area Water Recycling Project	
West Basin Water Reclamation Program	
West Basin Water Recycling Phase V Expansion Project	

TABLE 2 (Continued)	
WATER RECYCLING, GROUNDWATER RECOVERY AND CONSERVATION PROJECTS	
Project Name	FY 2016/17 Payment
Groundwater Recovery Projects	\$10,933,130
Beverly Hills Desalter	
Cal Poly Pomona Water Treatment Plant	
Capistrano Beach Desalter	
Chino Basin Desalination Program / IEUA	
Chino Basin Desalination Program / Western	
Irvine Desalter	
IRWD Wells 21 and 22	
Lower Sweetwater Desalter Phase 1	
Madrona Desalter (Goldsworthy)	
Menifee Basin Desalter	
Mesa Consolidated Colored Water Treatment Facility	
Oceanside Desalter Phase I and II (1)	
Pomona Well # 37	
Round Mountain Water Treatment Plant	
San Juan Desalter	
Temescal Basin Desalting Facility	
Future Supply Actions	\$4,402,500
Conservation Projects	\$27,000,000
Regionwide Residential	
Regionwide Commercial	
Member Agency Administered/MWD Funded	
Water Incentive Savings Program	
Grants Programs - Weather Based Irrigation Controllers	
Total Demand Management Programs	\$75,129,611

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description

Storage Facilities

GARVEY RESERVIOR OPERATION & MAINTENANCE CENTER
 102677 - JENSEN, REPAIR COVER OVER RESERVOIR 1
 ALAMEDA CORRIDOR, PIPELINE RELOCATION, PROTECTION
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000-LIVE OAK
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000-MORRIS DAM
 CHINO BASIN GROUNDWATER SERVICE CONNECTION CB-15T
 CHLORINATION AND PH CONTROL FACILITIES- ORANGE COUNTY & GARVEY (50/50)
 CLEARING OF LAKE MATHEWS RESERVOIR AREA
 CONVERSION OF DEFORMATION SURVEY MONITORING AT COPPER BASIN
 COPPER BASIN AND GENE WASH DAM, INSTALL SEEPAGE ALARM (50/50)
 COPPER BASIN RESERVOIR SUPERVISORY CONTROL
 COPPER BASIN SEWER SYSTEM
 CORONA DEL MAR RESERVOIR- REPLENISHMENT
 CORONA DEL MAR RESERVOIR- CHLORINATION STATION
 CRANE - LAKE MATHEWS OUTLET TOWER (ORG CONST)
 DIAMOND VALLEY LAKE, CAL PLAZA CHARGES
 DIAMOND VALLEY LAKE, CONSULTANT COSTS
 DIAMOND VALLEY LAKE, DAM DEFORMATION MONITORING
 DIAMOND VALLEY LAKE, EAST DAM SUMP PUMP ELECTRICAL STUDY
 DIAMOND VALLEY LAKE, GENERAL CONSTRUCTION MGMT, 2000-2001
 DIAMOND VALLEY LAKE, INUNDATION MAPS
 DIAMOND VALLEY LAKE, UNDERGROUND TANK CLOSURE
 DIAMOND VALLEY RECREATION, EAST MARINA
 DIAMOND VALLEY RECREATION, FISHERY
 DIAMOND VALLEY RECREATION, MUSEUM FOUNDATION REHABILITATION
 DIAMOND VALLEY RECREATION, SEARL PARKWAY IMPROVEMENTS, PHASE I
 DIAMOND VALLEY TRAILS PROGRAM, TRAILS
 DISTRICT DESIGN AND INSPECTION - MORRIS DAM
 DISTRICT RESERV. AQUEOUS AMMONIA FEED SYSTEM
 DISTRICT RESERVOIR - LONGTERM CHEMICAL FAC CONTAINMENT
 DOMESTIC WATER SUPPLY - LAKE MATHEWS (ORG CONST)
 DOMESTIC WATER SYSTEM - LAKE MATHEWS (ORG CONST)
 DOMESTIC WATER SYSTEM-PALOS VERDES RESERVOIR (INTERIM CONST)
 DVL - SEARL PARKWAY EXTENSION - PHASE 2
 DVL - SEARL PARKWAY LANDSCAPING
 DVL RECREATION - ALTERNATE ACCESS ROAD
 DVL RECREATION, COMMUNITY PARK AND REGIONAL AQUATIC FACILITY
 DVL SECURITY ENHANCEMENT
 DVL, CONSTRUCTION
 DVL, CONSTRUCTION CLAIMS SUPPORT
 DVL, CONSTRUCTION MANAGEMENT SERVICE
 DVL, CONSTRUCTION SUPERVISION
 DVL, CONSTRUCTION, WEST DAM FOUNDATION
 DVL, DEDICATION CEREMONY
 DVL, DISTURBED
 DVL, DOMENIGONI PARK
 DVL, EAST DAM
 DVL, EAST DAM EMBANKMENT
 DVL, EAST DAM FENCING
 DVL, EAST DAM INLET OUTLET TOWER CONSTRUCTION
 DVL, EAST DAM LANDSCAPE SCREENING
 DVL, EAST DAM NORTH RIM REMEDIATION
 DVL, EAST DAM P-1 FACILITIES
 DVL, EAST DAM SITE COMPLETION
 DVL, EAST DAM STATE STREET IMPROVEMENTS
 DVL, EAST DAM VERTICAL SLEEVE VALVE
 DVL, EAST MARINA, PHASE 2
 DVL, EXCAVATION
 DVL, FIXED CONE, SPHERE
 DVL, GENERAL
 DVL, GRADING OF CONT
 DVL, INSTALL NEW WATERLINE
 DVL, MISC SMALL CONS
 DVL, NORTH HIGH WATER ROAD
 DVL, P-1 PUMPING FACILITY
 DVL, PROCUREMENT
 DVL, SCOTT ROAD EXTENSION
 DVL, SOUTH HIGH WATER ROAD & QUARRY
 DVL, SPILLWAY
 DVL, START UP
 DVL, VALLEY-WIDE SITE ROUGH GRADING
 DVL, WORK PACKAGE
 DVL, WORK PACKAGE 1
 DVL, WORK PACKAGE 10, INLET OUTLET WORK
 DVL, WORK PACKAGE 11, FOREBAY
 DVL, WORK PACKAGE 12, TUNNEL
 DVL, WORK PACKAGE 13, P-1 PUMP OPERATIONS FACILITY
 DVL, WORK PACKAGE 14, PC-1
 DVL, WORK PACKAGE 15, SITE CLEARING
 DVL, WORK PACKAGE 16, GROUNDWATER MONITORING
 DVL, WORK PACKAGE 17, FIELD OFFICE
 DVL, WORK PACKAGE 18, TEMPORARY VISITOR CENTER
 DVL, WORK PACKAGE 19, PERMANENT VISITOR CENTER
 DVL, WORK PACKAGE 2, EASTSIDE PIPELINE
 DVL, WORK PACKAGE 20, EAST DAM EXCAVATION, FOUNDATION
 DVL, WORK PACKAGE 21, WEST DAM EXCAVATION, FOUNDATION
 DVL, WORK PACKAGE 23, WEST RECREATION AREA
 DVL, WORK PACKAGE 24, EAST RECREATION AREA
 DVL, WORK PACKAGE 25, EXCAVATION
 DVL, WORK PACKAGE 26, ELECTRICAL TRANSMISSION LINES
 DVL, WORK PACKAGE 27, MAJOR EQUIPMENT P-1
 DVL, WORK PACKAGE 28, MAJOR EQUIPMENT, GATES
 DVL, WORK PACKAGE 29, MAJOR EQUIPMENT, PC-1
 DVL, WORK PACKAGE 30, INSTRUMENTATION AND CONTROL SYSTEMS
 DVL, WORK PACKAGE 31, GEOGRAPHICAL INFO
 DVL, WORK PACKAGE 32, PERMIT
 DVL, WORK PACKAGE 33, MAJOR EQUIPMENT, VALVES

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Storage Facilities**

DVL, WORK PACKAGE 34, EMERGENCY RELEASE
DVL, WORK PACKAGE 35
DVL, WORK PACKAGE 36, TRANSMISSION LINE TO PC-1
DVL, WORK PACKAGE 38, RUNOFF EROSION
DVL, WORK PACKAGE 39, SADDLE DAM FOUNDATION
DVL, WORK PACKAGE 4, NEWPORT ROAD RELOCATION
DVL, WORK PACKAGE 40
DVL, WORK PACKAGE 42, GEOTECHNICAL
DVL, WORK PACKAGE 43, MOBILIZATION
DVL, WORK PACKAGE 44, SITE DEVELOPMENT
DVL, WORK PACKAGE 47, HAZARDOUS MATERIAL
DVL, WORK PACKAGE 48, GENERAL ADMIN
DVL, WORK PACKAGE 49
DVL, WORK PACKAGE 5, SALT CREEK FLOOD CONTROL
DVL, WORK PACKAGE 52, HISTORY ARCHEOLOGY INVENTORY
DVL, WORK PACKAGE 53, PREHISTORIC ARCHEOLOGY
DVL, WORK PACKAGE 54, PLANTS, WILDLIFE
DVL, WORK PACKAGE 55, AIR QUALITY, NOISE
DVL, WORK PACKAGE 6, SURFACE WATER MITIGATION
DVL, WORK PACKAGE 7, DESIGN WEST DAM ACCESS
DVL, WORK PACKAGE 8, DESIGN EAST DAM ACCESS
DVL, WORK PACKAGE 9, SADDLE DAM
DVL, WORKING INVENTORY, 80,000 ACRE FEET (10% OF CAPACITY)
EAST DAM TUNNELS
EAST MARINA BOAT RAMP EXTENSION
ELECTRICAL SERVICE - LAKE MATHEWS (ORG CONST)
ELECTRICAL SYSTEM - LAKE MATHEWS (ORG CONST)
FIRST SAN DIEGO AQUEDUCT - REPLACE PIPELINE SECTION BOTH BARRELS
FLOATING BOAT HOUSE - LAKE MATHEW
FLOOD RELEASE VALVE, MORRIS DAM & WATER SUPPLY SYSTEM,PV RESER.
FOOTBRIDGE - LAKE MATHEWS (ORG CONST)
FOOTHILL FEEDER- LIVE OAK RESERVOIR- CLAIMS
FOOTHILL FEEDER- LIVE OAK RESERVOIR- RESIDENCE
GARVEY RESERVIOR OPERATION & MAINTENANCE CENTER
GARVEY RESERVIOR OPERATION & MAINTENANCE CENTER (RETIREMENT)
GARVEY RESERVOIR - JUNCTION STRUCTURE,REPLACE VALVE # 1
GARVEY RESERVOIR- EMERGENCY GENERATOR
GARVEY RESERVOIR- FLOATING COVER
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVE #1
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVE #1 - INTEREST
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVES # 4 & 5
GARVEY RESERVOIR- MODIFY DESILTING BASINS
GARVEY RESERVOIR REPAIR
GARVEY RESERVOIR, LOWER ACCESS ROAD, PAVING & DRAINS
GARVEY RESERVOIR, REPLACE VALVE # 4 & 5
GARVEY RESERVOIR, TWO VALVES AT JUNCTION STRUCTURE
GARVEY RESERVOIR: CONT. 565, SPEC.412
GARVEY RESERVOIR: TWO COTTAGES WITH GARAGES
GARVEY RESERVOIR-HYPOCHLORINATION
GARVEY RESERVOIR-HYPOCHLORINE STATION
GARVEY RESERVOIR-INLET AND OUTLET CONDUIT SYSTEM MODIFICATION
GARVEY RESEVOIR-JUNCTION STRUCTURE REPLACE TWO VALVES
GARVEY RSVR REPLACE VENTURI THROAT SECTION
GARVEY RSVR--REPLACE CENETRUI THROAT SECTION
HEADWORKS OF DISTRIBUTION SYSTEM LAKE MATHEWS
HEADWORKS: ADDITIONAL VALVES
HEADWORKS: MOTOR OPERATED SLIDE GATES
HOUSE AND GARAGE AT CORONA DEL MAR RESERVOIR
HOUSE AND GARAGE AT ORANGE COUNTY RESERVOIR
HOUSE AT PALOS VERDES RESERVOIR
HOWELL-BUNGER VALVE OPERATOR, LAKE MATHEWS, 5 VALVES 1939
HOWELL-BUNGER VALVE OPERATOR, LAKE MATHEWS, 5 VALVES 1955
IOC - DIAMOND VALLEY LAKE
IOC - DIEMER, RESERVOIR SEISMIC UPGRADES
IOC - GARVEY RESERVOIR REPAIR
IOC - GARVEY RESERVOIR, HYPOCHLORINATION SYSTEM
IOC - LAKE MATHEWS OUTLET FACILITIES
IOC - LAKE MATHEWS WATERSHED
IOC - LAKE SKINNER BYPASS PIPELINE #2 AND #3
IOC - ORANGE COUNTY RSVR, REPLACE CHLORINATION SYSTEM
IOC - PALOS VERDES RSVR, REPLACE CHLORINATION SYSTEM
LAKE MATHEWS - REPLACE STANDBY GENERATOR
LAKE MATHEWS - ELECTRICAL SYSTEM IMPROVEMENT
LAKE MATHEWS BUILDING
LAKE MATHEWS BUILDINGS 8 & 15, RENOVATION OF ASSEMBLY AREA AND ADMIN. BLDG.
LAKE MATHEWS- CARPENTER AND VEHICLE MAINTENANCE BUILDING
LAKE MATHEWS- CHLORINATION FACILITIES
LAKE MATHEWS CHLORINATION FACILITY- REPLACE CHLORINATION EQPMT.
LAKE MATHEWS CNTRL TOWER-REPL. 45 30-INCH GATE/BUTTERFLY VALVES
LAKE MATHEWS CONTROL TOWER - REPLACE 45 10-INCH GATE VALVE
LAKE MATHEWS DIKE
LAKE MATHEWS DIVERSION TUNNEL
LAKE MATHEWS DIVERSION TUNNEL WALKWAY REPAIR
LAKE MATHEWS- DOCK AND BOAT SHELTER
LAKE MATHEWS DOMESTIC FACILITIES
LAKE MATHEWS- DOMESTIC WATER SYSTEM
LAKE MATHEWS- ELECTRICAL SYSTEM IMPROVEMENT
LAKE MATHEWS- EMERGENCY GENERATOR
LAKE MATHEWS ENLARGEMENT (SPEC NO. 505)
LAKE MATHEWS FOREBAY OUTLET STRCTR-REPL.CONCRETE BLOCK BLDG
LAKE MATHEWS FOREBAY OUTLET, CONCRETE BLDG
LAKE MATHEWS FOREBAY- REPLACE FOOTBRIDGE
LAKE MATHEWS HEADWORKS-INSTALL AIR MTRS,3 HOWELL BNGR VALVE OP.
LAKE MATHEWS- HOUSE AND GARAGE
LAKE MATHEWS- IMPROVE MAIN SUBSTATION
LAKE MATHEWS- IMPROVEMENT OF DOMESTIC WATER & FIRE PROT. SYSTEM
LAKE MATHEWS -LUMBER STORAGE BUILDING

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description

Storage Facilities

LAKE MATHEWS -LUMBER STORAGE BUILDING - INTEREST
 LAKE MATHEWS LUMBER STORAGE ROOF COVER
 LAKE MATHEWS MAIN DAM AND SPILLWAY
 LAKE MATHEWS MAIN DAM SUB DRAIN SYSTEM
 LAKE MATHEWS MAINTENANCE BUILDING
 LAKE MATHEWS MAINTN.FACILITIES-REPLACE 75 KVA TRANSFORMER.SERV.
 LAKE MATHEWS- MODIFY CHLORINATION
 LAKE MATHEWS- MODIFY CHLORINE STORAGE TANK FOUNDATIONS
 LAKE MATHEWS- MODIFY ELECTRICAL SERVICE
 LAKE MATHEWS MULTIPLE SPECIES RESERVE, MANAGER'S OFFICE AND RESIDENCE
 LAKE MATHEWS OFFICE BLDG MODIFICATIONS-AMERICANS W/ DISABILITY
 LAKE MATHEWS OFFICE TRAILER MODIFICATIONS-AMERICANS W/ DISABILITY
 LAKE MATHEWS -OPERATOR RESIDENCE
 LAKE MATHEWS OULET TOWER
 LAKE MATHEWS OULET FACILITIES
 LAKE MATHEWS OULET TOWER- REPLACE CRANES
 LAKE MATHEWS OULET TOWER-REPLACE GATE VALVES
 LAKE MATHEWS OULET TOWER-REPLACE GATE VALVES (RETIREMENT)
 LAKE MATHEWS OULET TUNNEL
 LAKE MATHEWS- PREFABRICATED AIRCRAFT HANGER
 LAKE MATHEWS- PREFABRICATED AIRCRAFT HANGER - INTEREST
 LAKE MATHEWS- PROPANE STORAGE TANK
 LAKE MATHEWS- PROPANE STORAGE TANK - INTEREST
 LAKE MATHEWS- REPLACE HOWELL-BUNGER VALVE OPERATORS
 LAKE MATHEWS- REPLACE VALVES
 LAKE MATHEWS RESERVOIR - RELOCATE SOUTHERLY SECURITY FENCE
 LAKE MATHEWS RESERVOIR-RELOCATE SOUTHERLY SECURITY FENCE
 LAKE MATHEWS RESERVOIR-RELOCATE SOUTHERLY SECURITY FENCE - INTEREST
 LAKE MATHEWS- SEEPAGE ALARMS
 LAKE MATHEWS- SEEPAGE ALARMS - INTEREST
 LAKE MATHEWS- SPRAY PAINT BOOTH
 LAKE MATHEWS WATERSHED, DRAINAGE
 LAKE MATHEWS, HAZEL ROAD
 LAKE MATHEWS, REPLACE CHLORINATION EQUIPMENT
 LAKE MATHEWS,DIKE #1- INSTALL PIEZOMETERS, STAS.55+00 & 85+50
 LAKE MATHEWS: VALVES AND FITTINGS IN HEADWORKS
 LAKE MATHEWS-CONST. CONCR.TRAFFIC BARR. WALL TO PROTECT HQ FACIL.
 LAKE MATHEWS FIRE WATER LINE
 LAKE PERRIS POLLUTION PREVENTION AND SOURCE WATER PROTECTION (CAPITAL PORTION)
 LAKE SKINNER - AERATION SYSTEM
 LAKE SKINNER - CHLORINATION SYSTEM OULET TOWER BYPASS PPLN
 LAKE SKINNER - CHLORINATION SYSTEM OULET TOWER BYPASS PPLN - INTEREST
 LAKE SKINNER - INSTALL OULET CONDUIT FLOWMETER
 LAKE SKINNER (AULD VALLEY RESERVOIR)- CLAIMS
 LAKE SKINNER AERATOR AIR COMPRESSORS REPLACEMENT
 LAKE SKINNER- EQUIPMENT YARD SECURITY
 LAKE SKINNER- EQUIPMENT YARD SECURITY - INTEREST
 LAKE SKINNER FACILITIES
 LAKE SKINNER FACILITIES - EMPLOYEE HOUSING
 LAKE SKINNER FACILITIES - FENCING
 LAKE SKINNER FACILITIES - LANDSCAPING
 LAKE SKINNER FACILITIES - RELOCATE BENTON ROAD
 LAKE SKINNER OULET CONDUIT REPAIR
 LAKE SKINNER- PROPANE STORAGE TANK
 LAKE SKINNER- PROPANE STORAGE TANK - INTEREST
 LIVE OAK RESERVOIR & RESERVOIR BYPASS SCHEDULE 264A
 LIVE OAK RESERVOIR SURFACE REPAIR
 MAINTENANCE FACILITIES, 75KVA TRANSFORMER SERVICE-LAKE MATHEWS (ORG CONST)
 MINOR CAPITAL PROJECTS FOR FY 1989/90 - LAKE MATHEWS
 MINOR CAPITAL PROJECTS FOR FY 1989/90 - PALOS VERDES RESERVOIR
 MINOR CAPITAL PROJECTS-LAKE SKINNER, INLET CANAL ELECTRIC FISH BARRIER
 MINOR CAPITAL PROJECTS-LIVE OAK RESERVOIR, DESILT BASIN IMPROVEMENTS
 MODIFICATION OF THE LAKE MATHEWS SERVICE WATER SYSTEM
 MORRIS DAM COTTAGE
 MORRIS DAM- ENLARGMT. OF SPILLWAY FACLT.& UPPER FDR.VALVE MODF
 MORRIS DAM ROAD IMPROVEMENT
 MORRIS DAM, SEISMIC STABILITY REANALYSIS
 MORRIS DAM-REPLACE EMERGENGY POWER SYSTEM
 MORRIS RESERVOIR- CAPITAL OBLIGATION PAID
 MORRIS RESERVOIR- INTEREST OBLIGATION PAID
 O.C.RESERVOIR - IMPROVE DOMESTIC SYSTEM
 ORANGE COUNTY RESERVOIR -- JUNCTION STRUCTURE,REPLACE VALVE # 1
 ORANGE COUNTY RESERVOIR (SPEC NO. 341)
 ORANGE COUNTY RESERVOIR CHLORINATION STATION
 ORANGE COUNTY RESERVOIR- EMBANKMENT AND SPILLWAY
 ORANGE COUNTY RESERVOIR- EMERGENCY GENERATOR
 ORANGE COUNTY RESERVOIR- FLOATING COVER
 ORANGE COUNTY RESERVOIR- HOUSE
 ORANGE COUNTY RESERVOIR- MODIFY DOMESTIC WATER SYSTEM
 ORANGE COUNTY RESERVOIR- REPLACE RESIDENCE NO. 95D
 ORANGE COUNTY RESERVOIR-MODIFY ELEC. CONTROL CENTER
 ORANGE COUNTY RESERVOIR-REPLACE CHLORINATION EQUIPMENT
 ORANGE COUNTY RESERVOIR-REPLACE CHLORINATION SYSTEM
 P V RESERVOIR-REPLACE CHLORINATION SYSTEM
 PALOS VERDES CHLORINATION STATION AND COTTAGE
 PALOS VERDES RESERVOIR
 PALOS VERDES RESERVOIR - INLET/OUTLET TOWER
 PALOS VERDES RESERVOIR- BY PASS PIPELINES
 PALOS VERDES RESERVOIR- FENCING AROUND
 PALOS VERDES RESERVOIR- REPLACE DOMESTIC WATER SYSTEM PIPING
 PALOS VERDES RESERVOIR,BYPASS PIPELINE RELIEF STRUCTURE MODIFN.
 PALOS VERDES RESERVOIR,COVERING
 PALOS VERDES RESERVOIR,REPLACE ACCESS AND PERIMETER ROADS
 PALOS VERDES RESERVOIR: INCREASING ELEVATION OF SPILLWAY CREST
 PALOS VERDES RESERVOIR-INSTALL VALVE & CHLORINATION NOZZLE,INL.TWR
 PALOS VERDES RESERVOIR-REPLACE CHLORINATION SYSTEM
 PAMO RESERVOIR- WATER STORAGE FEASIBILITY STUDY

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS	
Description	
Storage Facilities	
PAMO RESERVOIR- WATER STORAGE FEASIBILITY STUDY- INTEREST	
RECORD DRAWING RESTORATION PROGRAM, CRA	
REPAIRS TO AZUSA CONDUIT	
REPLACE 32	
REPLACEMENT OF A 30 INCH GATE VALVE P.V.R.	
RESIDENCE # 95-D, ORANGE COUNTY RESERVOIR	
RESIDENCE 45-D - CORONA DEL MAR RESERVOIR	
RESIDENCE 80-D - ORANGE COUNTY RESERVOIR	
RESIDENCE 90-D - LAKE MATHEW	
RESIDENCE 91-D - SAN JACINTO RESERVOIR	
RESIDENCE 93-D - SAN JACINTO RESERVOIR	
ROADS AT LAKE MATHEWS ABOVE FLOODLINE	
SAN DIEGO ACQUEDUCT: COTTAGE AT SAN JACINTO RESERVOIR	
SAN JACINTO RESERVOIR - SAN DIEGO AQUEDUCT	
SECOND OUTLET, PALOS VERDES RESERVOIR (SPEC NO. 597)	
SEEPAGE CONTROL AT LAKE MATHEWS	
TEMPORARY EMPLOYEE LABOR SETTLEMENT	
VALVE - GENE RESERVOIR (REPLACED 201)	
VALVE STRUCTURE MODIFICATIONS-UPPER FDR, SAN GABRIEL CROSSING (INTERIM CONST)	
VALVE, TWO 36	
WADSWORTH PUMP PLANT CONDUIT PROTECTION	
WADSWORTH PUMP PLANT, PUMP MOTOR CONVERSION	
WATER QUALITY PROJECT UPSTREAM	
WATER SUPPLY SYSTEM, OPERATING TOWER, LAKE MATHEWS	
Sub-total Storage facilities benefits	104,831,896

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Conveyance and Aqueduct Facilities**

ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVER REPLACEMENT
 ALL PUMPING PLANTS - 230 KV & 69 KV DISCONNECTS REPLACEMENT
 ALL PUMPING PLANTS - BRIDGE CRANES
 ALL PUMPING PLANTS - TRANSFORMER BANK BRIDGE
 ALLEN MCCOLLOCH PIPELINE - CORROSION INTERFERENCE MITIGATION
 ALLEN MCCOLLOCH PIPELINE - RIGHT OF WAY
 ALLEN MCCOLLOCH PIPELINE - UPDATE / MODIFY ALL BOYLE ENGINEERING DRAWINGS
 AMP VALVE & SERVICE CONNECTION VAULT REPAIR
 AQUEDUCT & PUMPING PLANT ISOLATION / ACCESS FIXTURES - STUDY
 AQUEDUCT & PUMPING PLANT ISOLATION GATES
 ARROWHEAD EAST TUNNEL CONSTRUCTION
 ARROWHEAD TDS REDUCTION
 ARROWHEAD TUNNELS CLAIMS COST
 ARROWHEAD TUNNELS CONNECTOR ROAD
 ARROWHEAD TUNNELS CONSTRUCTION
 ARROWHEAD TUNNELS ENGINEERING
 ARROWHEAD TUNNELS RE-DESIGN
 ARROWHEAD WEST TUNNEL CONSTRUCTION
 AULD VALLEY CONTROL STRUCTURE AREA FACILITIES UPGRADE STUDY
 AUXILIARY POWER SYSTEM REHABILITATION / UPGRADES STUDY
 BACHELOR MOUNTAIN COMMUNICATION SITE ACQUISITION
 BACHELOR MOUNTAIN TELECOM SITE IMPROVEMENTS
 BANK TRANSFORMERS REPLACEMENT STUDY
 BLACK METAL MOUNTAIN - COMMUNICATIONS FACILITY UPGRADE
 BOX SPRINGS FEEDER REHAB PHASE III
 BUDGET ADJUSTMENT
 CABAZON RADIAL GATE FACILITY IMPROVEMENTS
 CAJALCO CREEK MITIGATION FLOWS
 CAST-IRON BLOW OFF REPLACEMENT - PHASE 4
 CATHODIC PROTECTION STUDY - DESIGN AND CONSTRUCTION
 CCRP - BLOW-OFF VALVES PHASE 4 PROJECT
 CCRP - CONTINGENCY
 CCRP - EMERGENCY REPAIR
 CCRP - HEADGATE OPERATORS & CIRCUIT BREAKERS REHAB.
 CCRP - PART 1 & 2
 CCRP - SAND TRAP CLEANING EQUIPMENT & TRAVELING CRANE STUDY
 CCRP - TRANSITION & MAN-WAY ACCESS COVER REPLACEMENT - STUDY & DESIGN
 CCRP - TUNNELS STUDY
 CEPSRP - 230 KV SYSTEM SYNCHRONIZERS
 CEPSRP - ALL PUMPING PLANTS - CONTINGENCY & OTHER CREDITS
 CEPSRP - ALL PUMPING PLANTS - REPLACE 6.9 KV TRANSFORMER BUSHINGS
 CEPSRP - ALL PUMPING PLANTS - REPLACE 230KV , 69 KV & 6.9 KV LIGHTENING ARRESTERS
 CEPSRP - ALL PUMPING PLANTS - REPLACE 230KV TRANSFORMER PROTECTION
 CEPSRP - SWITCHYARDS & HEAD GATES REHABILITATION
 CEPSRP- ALL PUMPING PLANTS - IRON MOUNTAIN - 230KV BREAKER SWITCH. INST.
 COLORADO RIVER AQUEDUCT - PUMPING
 COLORADO RIVER AQUEDUCT - SIPHONS AND RESERVOIR OUTLETS REFURBISHMENT
 COLORADO RIVER AQUEDUCT CONVEYANCE RELIABILITY, PHASE II REPAIRS AND INSTRUMENTATION
 CONTROL SYSTEM DRAWING UPGRADE STUDY (PHASE 1) - STUDY
 COPPER BASIN AND GENE DAM OUTLET WORKS REHABILITATION (STUDY & DESIGN)
 COPPER BASIN INTERIM CHLORINATION SYSTEM
 COPPER BASIN OUTLET GATES RELIABILITY
 COPPER BASIN OUTLET REHABILITATION
 COPPER BASIN OUTLET, AND COPPER BASIN & GENE WASH DAM SLUICWAYS REHABILITATION
 COPPER BASIN POWER & PHONE LINES REPLACEMENT
 COPPER SULFATE STORAGE AT LAKE SKINNER AND LAKE MATHEWS
 CORROSION CONTROL OZONE MATERIAL TEST FACILITY
 COST OF LAND AND RIGHT OF WAY
 CRA - ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVER REPLACEMENT
 CRA - AQUEDUCT AND PUMPING PLANT ISOLATION GATES
 CRA - AQUEDUCT RESERVOIR AND DISCHARGE LINE ISOLATION GATES
 CRA - AUXILIARY POWER SYSTEM REHAB
 CRA - BANK TRANSFORMERS REPLACEMENT STUDY
 CRA - BLOW-OFF VALVES PHASE 4
 CRA - CIRCULATING WATER SYSTEM STRAINER REPLACEMENT
 CRA - CONTROL SYSTEM IMPLEMENTATION PHASE CLOSE OUT
 CRA - CONVEYANCE RELIABILITY PROGRAM PART 1 & PART 2
 CRA - COPPER BASIN OUTLET, AND COPPER BASIN & GENE WASH SLUICWAYS REHABILITATION
 CRA - COPPER BASIN POWER & PHONE LINES REPLACEMENT
 CRA - CUT & COVER FORNAT WASH EXPOSURE STUDY
 CRA - CUT AND COVER FORNAT WASH EXPOSURE STUDY
 CRA - DANBYTOWER FOOTER REPLACEMENT
 CRA - DELIVERY LINE NO. 1 SUPPORTS REHAB - FIVE PUMPING PLANTS
 CRA - DELIVERY LINES 2&3 SUPPORTS REHAB - GENE & INTAKE
 CRA - DELIVERY LINES 2&3 SUPPORTS REHAB - IRON, EAGLE, & HINDS
 CRA - DESERT PUMP PLANT OIL CONTAINMENT
 CRA - DESERT SEWER SYSTEM REHABILITATION
 CRA - DESERT SEWER SYSTEM REHABILITATION PROJECT
 CRA - DESERT WATER TANK ACCESS & SAFETY IMPROVEMENTS
 CRA - DISCHARGE CONTAINMENT PROGRAM - INVESTIGATION
 CRA - DISCHARGE LINE ISOLATION GATES
 CRA - DWCV-4 VALVE REPLACEMENT
 CRA - EAGLE MOUNTAIN SAND TRAPS INFLOW STUDY
 CRA - ELECTRICAL/ POWER SYST REL. PROG. - IRON MTN - 230KV BREAKER SWITC. INST.
 CRA - GENE PUMPING PLANT MAIN TRANSFORMER AREA
 CRA - HINDS PUMP UNIT NO. 8 REFURBISHMENT
 CRA - INTAKE PUMPING PLANT - COOLING AND REJECT WATER DISCHARGE TO LAKE HAVASU
 CRA - INTAKE PUMPING PLANT AUTOMATION PROGRAMMING
 CRA - INVESTIGATION OF SIPHONS AND RESERVOIR OUTLETS
 CRA - IRON MTN. TUNNEL REHABILITATION
 CRA - LAKEVIEW SIPHON FIRST BARREL - REPAIR DETERIORATED JOINTS
 CRA - MAIN PUMP MOTOR EXCITERS
 CRA - MAIN PUMP STUDY
 CRA - MOUNTAIN SIPHONS SEISMIC VULNERABILITY STUDY
 CRA - PUMPING PLANT RELIABILITY PROGRAM CONTINGENCY

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Conveyance and Aqueduct Facilities**

CRA - PUMPING PLANTS VULNERABILITY ASSESSMENT
 CRA - PUMPING WELL CONVERSION
 CRA - QUAGGA MUSSEL BARRIERS
 CRA - REAL PROPERTY - BOUNDARY SURVEYS
 CRA - RELIABILITY PROGRAM 230 KV & 69 KV DISCONNECTS REPLACEMENT STUDY (5 PLANTS)
 CRA - RELIABILITY PROGRAM INVESTIGATION
 CRA - RELIABILITY PROGRAM PHASE 6 (AQUEDUCT PHASE 6 REHAB.) - SPEC 1568
 CRA - RELIABILITY PHASE II CONTINGENCY
 CRA - SAND TRAP CLEANING EQUIPMENT AND TRAVELING CRANE
 CRA - SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE CONSTRUCTION
 CRA - SERVICE CONNECTION DWCV-4 A, B, C, & D PLUG VALVES REPLACEMENT
 CRA - SIPHONS, TRANSITIONS, CANALS, AND TUNNELS REHABILITATION AND IMPROVEMENTS
 CRA - SUCTION & DISCHARGE LINES EXPANSION JOINT REHAB
 CRA - SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM
 CRA - SWITCHYARDS AND HEAD GATES REHAB
 CRA - SWITCHYARDS AND HEAD GATES REHABILITATION
 CRA - TRANSFORMER OIL & CHEMICAL UNLOADING PAD CONTAINMENT
 CRA - TUNNELS VULNERABILITY STUDY - REPAIRS TO TUNNELS
 CRA - WEST PORTAL UPGRADE - REHAB OF STILLING WELL, SLIDE GATE OPERATORS AND RADIAL GATES
 CRA 2.4 KV STANDBY DIESEL ENGINE GENERATORS REPLACEMENT
 CRA 230 KV & 69 KV DISCONNECTS SWITCH REPLACEMENT
 CRA 230 KV SYSTEM INTER-AGENCY OPERABILITY UPGRADES
 CRA 230KV & 69KV PROTECTION PANEL UPGRADE
 CRA 6.9 KV LEAD JACKETED CABLES
 CRA 69KV PANEL UPGRADE
 CRA ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVERS REPLACEMENT
 CRA ALL PUMPING PLANTS - FLOW METER UPGRADES
 CRA AQUEDUCT BLOCKER GATE REPLACEMENT
 CRA AQUEDUCT ISOLATION GATES REPLACEMENT
 CRA BLACK METAL COMMUNICATION SITE II UPGRADE
 CRA CANAL CRACK REHAB AND EVALUATION
 CRA CANAL CRACK REHABILITATION
 CRA CANAL IMPROVEMENTS
 CRA CIRCULATING WATER SYSTEM STRAINER REPLACEMENT
 CRA CONDUIT FORMAT WASH EROSION REPAIRS
 CRA CONVEYANCE RELIABILITY PROGRAM (CCRP) - BLOW-OFF REPAIR
 CRA CONVEYANCE RELIABILITY PROGRAM PART 1 & PART 2
 CRA COPPER BASIN AND GENE WASH DAM SLUICWAYS
 CRA COPPER BASIN OUTLET GATES RELIABILITY STUDY
 CRA DESERT AIRFIELDS IMPROVEMENT
 CRA DISCHARGE CONTAINMENT PROGRAM - CONTINGENCY
 CRA DISCHARGE CONTAINMENT PROGRAM - GENE & IRON DRAIN SYSTEMS
 CRA DISCHARGE CONTAINMENT PROGRAM - INVESTIGATION
 CRA DISCHARGE CONTAINMENT PROGRAM - OIL & CHEMICAL UNLOADING PAD CONTAINMENT
 CRA ELECTRICAL / POWER SYSTEM RELIABILITY PROGRAM (CEPSRP)
 CRA ENERGY EFFICIENCY IMPROVEMENTS
 CRA GENE PUMPING PLANT HEAVY EQUIPMENT SERVICE PIT
 CRA GENE STORAGE WAREHOUSE REPLACEMENT
 CRA HINDS PUMPING PLANT - WASH AREA UPGRADE
 CRA INTAKE PPLANT - POWER & COMMUNICATION LINE REPLACEMENT
 CRA IRON GARAGE HEAVY EQUIPMENT SERVICE PIT REPLACEMENT
 CRA IRON HOUSING REPLACEMENT
 CRA IRON MOUNTAIN SUCTION JOINT REFURBISHMENT PILOT
 CRA MAIN PUMP & MOTOR REFURISHMENT
 CRA MAIN PUMP CONTROLS & INSTRUMENTATION
 CRA MAIN PUMP DISCHARGE VALVE REFURBISHMENT
 CRA MAIN PUMP MOTOR EXCITERS ASSESSMENT
 CRA MAIN PUMP MOTOR EXCITERS REHABILITATION
 CRA MAIN PUMP STUDY
 CRA MAIN PUMP SUCTION AND DISCHARGE LINES, EXPANSION JOINT REPAIRS
 CRA MAIN PUMPING PLANT DISCHARGE LINE ISOLATION BULKHEAD COUPLING CONSTRUCTION
 CRA MAIN PUMPING PLANT UNIT COOLERS & HEAT ESCHANGERS
 CRA MAIN PUMPING PLANTS LUBRICATION SYSTEM
 CRA MAIN PUMPING PLANTS SERVICE WATER & SAND REMOVAL SYSTEM
 CRA MAIN TRANSFORMER REPLACEMENT/REHAB.
 CRA MILE 12 POWER LINE & FLOW MONITORING EQUIP. STUDY
 CRA PROTECTIVE SLABS
 CRA PUMP PLANT FLOW METER UPGRADE
 CRA PUMP PLANT SUMP PIPING REPLACEMENT STUDY
 CRA PUMP PLANT UNINTERRUPTABLE POWER STUDY (UPS) UPGRADE
 CRA PUMP PLANTS 2300KV & 480 V SWITCHRACK REHAB
 CRA PUMP WELLS CONVERSION AND BLOW-OFF REPAIR
 CRA PUMPING PLANT REHABILITATION STUDY
 CRA PUMPING PLANT RELIABILITY PROGRAM - HIGH PRESSURE COMPRESSOR REPLACEMENT
 CRA PUMPING PLANT RELIABILITY PROGRAM - SUCTION & DISCHARGE LINES EXPANSION JOINT STUDY
 CRA PUMPING PLANT SUMP SYSTEM REHABILITATION
 CRA PUMPING PLANT WASTEWATER SYSTEM - GENE & IRON MTN.
 CRA PUMPING PLANT WASTEWATER SYSTEM - INTAKE
 CRA PUMPING PLANT WASTEWATER SYSTEM REPLACEMENT - HINDS & EAGLE MTN.
 CRA PUMPING PLANTS - AUXILIARY POWER SYSTEM REHABILITATE/UPGRADES
 CRA PUMPING PLANTS 230KV & 69K DISCONNECT SWITCH REPLACEMENT
 CRA PUMPING PLANTS ASPHALT REPLACEMENT
 CRA PUMPING PLANTS CRANE IMPROVEMENTS
 CRA PUMPING PLANTS SWITCH HOUSE FAULT CURRENT PROTECTION
 CRA PUMPING PLANTS VULNERABILITY ASSESSMENT
 CRA PUMPING PLANTS WATER TREATMENT SYSTEMS REPLACEMENT
 CRA PUMPING PLT RELIABILITY PROGRAM, DISCHARGE LINE COUPLING INSTALLATION
 CRA PUMPING WELL CONVERSION
 CRA QUAGGA MUSSEL BARRIERS
 CRA RADIAL GATES AND SLIDE GATE REHABILITATION
 CRA RADIAL GATES REPLACEMENT
 CRA RELIABILITY PHASE II - PUMPING PLANTS 230KV & 69KV DISCONNECT SWITCH REPLACEMENT
 CRA RELIABILITY PROGRAM - DISCHARGE VALVE LUBRICATORS
 CRA RELIABILITY PROGRAM - MOTOR BREAKER FAULTY CURRENT STUDY (5 PLANTS)
 CRA RELIABILITY PROGRAM PHASE 6 (AQUEDUCT PHASE 6 REHAB.) - SPEC 1568
 CRA RELIABILITY PHASE II - PUMPING PLANT SWITCH HOUSE FAULT CURRENT PROTECTION
 CRA SAND TRAP EQUIPMENT UPGRADES

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Conveyance and Aqueduct Facilities**

CRA SEISMIC EVALUATION - SWITCH HOUSE AND PUMP ANCHORAGE
 CRA SEISMIC UPGRADE OF 6.9KV SWITCH HOUSES
 CRA SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE CONSTRUCTION
 CRA SERVICE CONNECTION DWCV-4 VALVES REPLACEMENT
 CRA SIPHON REHAB
 CRA SIPHONS, TRANSITIONS, CANALS, AND TUNNELS REHABILITATION AND IMPROVEMENTS
 CRA SWITCHRACKS & ANCILLARY STRUCTURES EROSION CONTROL
 CRA TRANSFORMER OIL AND SODIUM HYPOCHLORITE CONTAINMENT
 CRA TRANSITION STRUCTURE AND MANHOLE COVERS REPLACEMENT
 CRA VILLAGES DOMESTIC WATER MAIN DISTRIBUTION REPLACEMENT STUDY
 CUF DECHLORINATION SYSTEM
 DAM SLUICWAYS AND OUTLETS REHABILITATION
 DANBY TOWER FOOTER REPLACEMENT
 DANBY TOWERS FOUNDATION REHABILITATION
 DESERT FACILITIES FIRE PROTECTION SYSTEMS UPGRADE
 DESERT LAND ACQUISITIONS
 DESERT PUMP PLANT OIL CONTAINMENT
 DESERT ROADWAY IMPROVEMENT
 DESERT SEPTIC SYSTEM
 DESERT SEWER SYSTEM REHABILITATION
 DESERT WATER TANK ACCESS - FIRE WATER, CIRCULATING WATER, DOMESTIC WATER- STUDY
 DISCHARGE LINE ISOLATION BULKHEAD COUPLINGS
 DISTRIBUTION SYSTEM FACILITIES - REHABILITATION PROGRAM
 DISTRIBUTION SYSTEM FACILITIES REHABILITATION PROGRAM - MAINTENANCE & STORAGE SHOP (PC-1)
 DISTRIBUTION SYSTEM RELIABILITY PROGRAM - PHASE 2
 DVL INLET / OUTLET TOWER FISH SCREENS REPLACEMENT
 DVL TO SKINNER TRANSMISSION LINE STUDY
 E. THORNTON IBBETSON GUEST QUARTERS
 EAGLE AND HINDS EQUIPMENT WASH AREA UPGRADE
 EAGLE KITCHEN UPGRADE
 EAGLE MOUNTAIN PUMPING PLANT SCADA SYSTEM
 EAGLE MOUNTAIN SAND TRAPS STUDY
 EAGLE MOUNTAIN SIPHONS SEISMIC VULNERABILITY STUDY
 EAGLE MTN SAND TRAPS STUDY
 EAGLE ROCK ASPHALT REPAIR PROJECT
 EAGLE ROCK MAIN ROOF REPLACEMENT
 ENHANCED VAPOR RECOVERY UPGRADES FOR GASOLINE DISPENSERS
 ENVIRONMENTAL MITIGATION
 ETIWANDA PIPELINE LINER REPAIR
 ETIWANDA RESERVOIR LINER REPAIR
 FUTURE SYSTEM RELIABILITY PROJECTS
 GARVEY RESERVOIR - AUTOMATED DATA ACQUISITION SYSTEM
 GARVEY RESEVOIR AUTOMATED DATA ACQUISITON SYSTEM REPLACEMENT
 GENE & INTAKE P.P. - FREQUENCY PROTECTION RELAY REPLACEMENT
 GENE & INTAKE PUMPING PLANT SURGE CHAMBER OUTLET GATES RE-COATING
 GENE & INTAKE PUMPING PLANTS - REPLACE UNDER FREQUENCY PROTECTION RELAY
 GENE AIR CONDITION
 GENE CAMP STATION SERVICE TRANSFORMER REPLACEMENT
 GENE PUMPING PLANT - AIR STRIP EXTENSION PROJECT
 GENE PUMPING PLANT - HEAVY EQUIPMENT SERVICE PIT
 GENE PUMPING PLANT - PEDDLER SUBSTATION REPLACEMENT
 GENE PUMPING PLANT - SCADA SYSTEM
 GENE PUMPING PLANT EXPANSION JOINT REHABILITATION
 GENE PUMPING PLANT MAIN TRANSFORMER AREA
 GENE PUMPING PLANT STANDBY GENERATOR REPLACEMENT
 GENE STORAGE BUILDING REPLACEMENT
 GENE STORAGE WAREHOUSE REPLACEMENT
 HEADGATE OPERATORS & CIRCUIT BREAKERS REHAB.
 HIGHLAND PIPELINE CONSTRUCTION
 HINDS EAGLE & IRON MOUNTAINS STORAGE BUILDINGS
 HINDS PUMPING PLANT EQUIPMENT WASH AREA UPGRADES
 HINDS PUMPING PLANT SCADA SYSTEM
 HINDS PUMPING PLANT STANDBY GENERATOR REPLACEMENT
 INLAND FDR, ARROWHEAD TUNNELS REDESIGN
 INLAND FDR, ARROWHEAD WEST TUNNEL CONSTRUCTION
 INLAND FDR, CONTRACT 9, CONSTRUCTION OF RIVERSIDE PPLN SOUTH
 INLAND FDR, OWNER CONTROLLED INSURANCE PROGRAM
 INLAND FDR, REACH 4, RUSD PPLN
 INLAND FDR-CNTR #1/DEVIL CYN-WATERMAN RD
 INLAND FDR-CNTR #4-SOFT GRND TNL/SANTA ANA
 INLAND FDR-CONT #8-PIPEL PARALLEL TO DAVIS RD
 INLAND FDR-ENVIRON. MITIG.
 INLAND FEEDER - RIGHT OF WAY AND EASEMENT PROCUREMENT
 INLAND FEEDER CONTINGENCY
 INLAND FEEDER COST OF LAND AND RIGHT OF WAY
 INLAND FEEDER ENVIRONMENTAL MITIGATION
 INLAND FEEDER GROUNDWATER MONITORING
 INLAND FEEDER HIGHLAND PIPELINE CLAIMS COST
 INLAND FEEDER HIGHLAND PIPELINE CONSTRUCTION
 INLAND FEEDER HIGHLAND PIPELINE DESIGN
 INLAND FEEDER MENTONE PIPELINE CONSTRUCTION
 INLAND FEEDER MENTONE PIPELINE DESIGN
 INLAND FEEDER MENTONE PIPELINE RUSD CONSTRUCTION
 INLAND FEEDER OWNER CONTROLLED INSURANCE PROGRAM
 INLAND FEEDER PROGRAM REMAINING BUDGET/CONTINGENCY
 INLAND FEEDER PROJECT MANAGEMENT SUPPORT
 INLAND FEEDER PURCHASE OF LAND AND RIGHT OF WAY
 INLAND FEEDER RAISE BURIED STRUCTURES AND REALIGN DAVIS RD.
 INLAND FEEDER REVERSE OSMOSIS PLANT
 INLAND FEEDER RIVERSIDE BADLANDS TUNNEL CONSTRUCTION
 INLAND FEEDER RIVERSIDE NORTH PIPELINE DESIGN
 INLAND FEEDER RUSD CLAIMS DEFENSE
 INLAND FEEDER STUDIES
 INLAND FEEDER UNDERGROUND STORAGE TANK REMOVAL & ABOVEGROUND STORAGE TANK INSTALLATION
 INLAND FEEDER, ARROWHEAD EAST TUNNEL
 INLAND FEEDER, ARROWHEAD TUNNELS CONSTRUCTION
 INLAND FEEDER, CONTRACT #5, OPAL AVENUE PORTAL / BADLANDS TUNNEL

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Conveyance and Aqueduct Facilities**

INLAND FEEDER, CONTRACT #7, RIVERSIDE NORTH PIPELINE CONSTRUCTION
 INLAND FEEDER, PROGRAM MANAGEMENT
 INLAND FEEDER/SBMWD HIGHLAND INTERTIE BYPASS LINE REHAB
 INSULATION JOINT TEST STATIONS
 INTAKE POWER AND COMMUNICATIONS LINE RELOCATION
 INTAKE PPLANT - POWER & COMMUNICATION LINE REPLACEMENT
 INTAKE PUMPING PLANT - COOLING AND REJECT WATER DISCHARGE TO LAKE HAVASU
 INTAKE PUMPING PLANT AUTOMATION PROGRAMMING
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT & AUTOMATION
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT & AUTOMATION (4 PLANTS)
 INTAKE PUMPING PLANT POWER & COMMUNICATION LINE REPLACEMENT
 INTAKE PUMPING PLANT SCADA SYSTEM
 INTAKE PUMPING PLANT STANDBY GENERATOR REPLACEMENT
 IRON MOUNTAIN GENERATOR REPLACEMENT
 IRON MOUNTAIN PUMPING PLANT
 IRON MOUNTAIN PUMPING PLANT DELIVERY LINE NO. 1 RELINING
 IRON MOUNTAIN PUMPING PLANT HOUSING REPLACEMENT
 IRON MOUNTAIN PUMPING PLANT SCADA SYSTEM
 IRON MOUNTAIN SERVICE PIT REHABILITATION
 JULIAN HINDS PUMPING PLANT DELIVERY PIPE EXPANSION JOINT PHASE 2 REPAIRS
 JULIAN HINDS PUMPING PLANT DELIVERY PIPE EXPANSION JOINT PHASE 1 REPAIR
 LAKE MATHEWS FOREBAY & HEADWORK FACILITY & EQUIPMENT
 LAKE MATHEWS FOREBAY WALKWAY REPAIRS
 LAKE MATHEWS ICS
 LAKE MATHEWS INTERIM CHLORINATION SYSTEM
 LAKE SKINNER - OUTLET CONDUIT FLOWMETER INSTALLATION
 LAKE SKINNER BYPASS PIPELINE NO. 2 CATHODIC PROTECTION
 LAKE SKINNER OUTLET CONDUIT
 LAKEVIEW PIPELINE LEAK REPAIR AT STA. 2510+49
 LAVERNE FACILITIES - EMERGENCY GENERATOR
 LAVERNE FACILITIES - MATERIAL TESTING
 LOWER FEEDER EROSION PROTECTION
 MAGAZINE CANYON - VALVE REPLACEMENT FOR SAN FERNADO TUNNEL (STATION 778+80)
 MAGAZINE CANYON OIL & WATER SEPARATOR
 MAGAZINE CANYON OIL/WATER SEPARATOR
 MAPES LAND ACQUISITION
 MENTONE PPLN, RUSD, DEFENSE OF CLAIM
 MILE 12 FLOW AND CHLORINE MONITORING STATION UPGRADES
 MILE 12 POWER LINE & FLOW MONITORING EQUIPMENT STUDY
 MILLS PLANT SUPPLY PUMP STATION STUDY
 MINOR CAP FY 2011/12
 MOTOR BREAKER FAULTY (5 PPLANTS)
 NEWHALL TUNNEL - REPAIR STEEL LINER
 NEWHALL TUNNEL - UPGRADE LINER SYSTEM
 NITROGEN STORAGE STUDY AT DVL, INLAND FEEDER PC-1, AND LAKE MATHEWS
 OC 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REPAIR
 OC 88 PUMP PLANT FIRE PROTECTION STUDY
 OC-71 SERVICE CONNECTION REPAIRS
 OLINDA PCS FACILITY REHABILITATION AND UPGRADE
 OLINDA PRESSURE CONTROL STRUCTURE FACILITY REHABILITATION AND UPGRADE
 ORANGE COUNTY 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REPAIR
 ORANGE COUNTY 88 PUMP PLANT FIRE PROTECTION STUDY
 OWNER CONTROLLED INSURANCE PROGRAM
 PALO VERDE VALLEY LAND PURCHASE - 16,000 ACRES
 PALOS VERDES FEEDER REHABILITATION OF DOMINGUEZ CHANNEL
 PALOS VERDES RESERVOIR SPILLWAY MODIFICATION
 PROJECT MANAGEMENT SUPPORT
 PUDDINGSTONE RADIAL GATE REHABILITATION
 PURCHASE OF LAND AND RIGHT OF WAY
 QUAGGA MUSSEL STUDY
 R&R FOR CRA
 REPAIR UPPER FEEDER LEAKING EXPANSION JOINT
 REPAIRS TO TUNNELS
 RIALTO FEEDER REPAIR @ STA. 3662+23
 RIALTO FEEDER REPAIR OF ANOMALOUS PIPE SECTION
 RIVERSIDE BADLANDS TUNNEL CONSTRUCTION
 RIVERSIDE BRANCH - ALESSANDRO BLVD. LEFT LAND TURN LANE
 RIVERSIDE BRANCH - CONSTRUCTION OF CONTROL PANEL DISPLAY WALL
 RIVERSIDE NORTH PIPELINE DESIGN & CONSTRUCTION
 RIVERSIDE SOUTH PIPELINE CONSTRUCTION
 SAN DIEGO PIPELINE REPAIR AT STATION 1268+57
 SAN FERNADO TUNNEL STATION 778+80 VALVE REPLACEMENT
 SAN GABRIEL TOWER SEISMIC ASSESSMENT
 SAN GABRIEL TOWER SLIDE GATE REHABILITATION
 SAN JACINTO TUNNEL EAST ADIT REHABILITATION
 SAN JACINTO TUNNEL, WEST PORTAL
 SAN JOAQUIN RESERVOIR - NEW DESIGN
 SAN JOAQUIN RESERVOIR IMPROVEMENT- FLOATING COVER
 SAN JOAQUIN RESERVOIR IMPROVEMENTS
 SAN JOAQUIN RESERVOIR IMPROVEMENTS STUDY
 SAND TRAP CLEANING EQUIPMENT AND TRAVELING CRANE STUDY
 SANTA ANA RIVER BRIGDE SEISMIC RETROFIT
 SANTIAGO TOWER ACCESS ROAD UPGRADE
 SANTIAGO TOWER PATROL ROAD REPAIR
 SD5 REPAIR
 SECOND LOWER FEEDER CARBON FIBER REPAIRS
 SECOND LOWER FEEDER STRAY CURRENT MITIGATION SYSTEMS REFURBISHMENT
 SECURITY FENCING AT OC-88 PUMPING PLANT
 SEISMIC EVALUATION OF CRA STRUCTURES
 SEISMIC PROGRAM
 SEISMIC UPGRADE OF 11 FACILITIES OF THE CONVEYANCE & DISTRIBUTION SYSTEM
 SEPULVEDA FEEDER CORROSION INTERFERENCE MITIGATION
 SEPULVEDA FEEDER REPAIR AT STATION 1099
 SEPULVEDA FEEDER STRAY CURRENT MITIGATION SYSTEM REFURBISHMENT
 SERVICE CONNECTION & EOC #2 METER ACCESS ROAD UPGRADE & BETTERMENT
 SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE CONSTRUCTION

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description

Conveyance and Aqueduct Facilities

- SKINNER BR - IMPROVE CABAZON RADIAL GATE FACILITY
- SKINNER FILTRATION PLANT HELIPAD UPGRADE
- SUCTION & DISCHARGE LINES EXPANSION JOINT STUDY
- SWITCHYARDS AND HEAD GATES REHAB
- TEMESCAL HYDRO-ELECTRIC PLANT ACCESS ROAD UPGRADE
- TEMESCAL POWER PLANT ACCESS ROAD PAVING
- TRANSFORMER OIL & CHEMICAL UNLOADING PAD CONTAINMENT
- TRANSFORMER OIL AND SODIUM HYPOCHLORITE CONTAINMENT PROJECT
- U.S. BUREAU OF LAND MANAGEMENT LAND ACQUISITION
- UPPER FEEDER CATHODIC PROTECTION SYSTEM
- UPPER FEEDER GATES REHABILITATION PROJECTS
- UPPER FEEDER LEAKING EXPANSION JOINT REPAIR
- UPPER FEEDER SCHEDULES 2S
- VALLEY BRANCH - PIPELINE CORROSION TEST STATION
- WEST VALLEY FEEDER #2 CATHODIC PROTECTION SYSTEM REHABILITATION
- WEYMOUTH WATER TREATMENT PLANT - NORTH PERIMETER WALL
- WHITE WATER SIPHON PROTECTION
- WHITewater SIPHON PROTECTION STRUCTURE
- WHITewater SIPHONS EROSION PROTECTION

<i>Sub-total Conveyance and Aqueduct facilities benefits</i>	\$	82,784,726
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TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Distribution Facilities**

104568 - SITE 3 SECOND LOWER FEEDER URGENT REPAIRS - FINAL DESIGN
 42" CONICAL PLUG VALVE REPLACEMENT
 ACCUSONIC FLOW METER UPGRADE
 ACCUSTIC FIBER OPTIC MONITORING OF PCCP LINES
 ALAMEDA CORRIDOR PIPELINE
 ALL FACILITIES - WATER DISCHARGE ELIMINATION
 ALL FACILITIES INSPECTION AND REPLACEMENT OF CRITICAL VACUUM VALVES
 ALL FACILITIES, INSPECTION AND REPLACEMENT OF CRITICAL VACUUM VALVES
 ALL FEEDERS - MANHOLE LOCKING DEVICE RETROFIT
 ALL PUMPING PLANTS - INSTALL HYPOCHLORINATION STATIONS
 ALLEN MCCOLLOCH PIPELINE 2010 REFURBISHMENT
 ALLEN MCCOLLOCH PIPELINE CATHODIC PROTECTION
 ALLEN MCCOLLOCH PIPELINE INTERCONNECTIONS
 ALLEN MCCOLLOCH PIPELINE LOCAL CONTROL MODIFICATIONS
 ALLEN MCCOLLOCH PIPELINE REPAIR
 ALLEN MCCOLLOCH PIPELINE REPAIR - CARBON FIBER LINING REPAIR
 ALLEN MCCOLLOCH PIPELINE REPAIR - SERVICE CONNECTIONS UPGRADES
 ALLEN MCCOLLOCH PIPELINE REPAIR - STATION 276+63
 ALLEN MCCOLLOCH PIPELINE REPAIR - SURGE SUPPRESSION SYSTEM AT OC88A
 ALLEN MCCOLLOCH PIPELINE REPAIR - VALVE ACTUATOR REPLACEMENTS
 ALLEN MCCOLLOCH PIPELINE REPAIR SERVICE CONNECTIONS SIMPLIFICATION
 ALLEN MCCOLLOCH PIPELINE STRUCTURE - ROOF SLAB REPAIRS
 ALLEN MCCOLLOCH PIPELINE VALVE VAULT REPAIRS
 ALLEN-MCCOLLOCH CORROSION/INTERFERENCE MITIGATION, STATION 719+34 TO 1178+02
 ALLEN-MCCOLLOCH PIPELINE
 ALLEN-MCCOLLOCH PIPELINE PCCP REHABILITATION
 ALLEN-MCCOLLOCH PIPELINE REFURBISHMENT - STAGE 2
 ALLEN-MCCOLLOCH PIPELINE VALVE AND SERVICE CONNECTION VAULT REPAIRS
 AMP -SERVICE CONNECTIONS UPGRADES
 AMP -VALVE ACTUATOR REPLACEMENTS
 AMP COMPLETION RESOLUTION RIGHT OF WAY ISSUES
 AMR - RTU UPGRADE - PHASE 2
 ANODE WELL REPLACEMENT FOR ORANGE COUNTY AND RIALTO FEEDERS
 ARROW HIGHWAY PROPERTY DEVELOPMENT
 ASPHALT REPAIRS TO PERIMETER OF SEPULVEDA PCS
 ASSESS THE CONDITION OF METROPOLITAN'S PRESTRESSED CONCRETE CYLINDER PIPE
 ASSESS THE CONDITIONS OF MET'S
 ASSESSMENT OF PRESTRESSED CONCRETE CYLINDER PIPELINES - PHASE 3
 AULD VALLEY CONTROL STRUCTURE AREA FACILITIES
 AUTOMATED RESERVOIR WATER QUALITY MONITORING
 AUTOMATIC METER READING SYSTEM - RTU UPGRADE PHASE 2
 AUTOMATIC METER READING SYSTEM UPGRADE
 AUTOMATION COMMUNICATION UPGRADE
 AUTOMATION DOCUMENTATION SURVEY F/A
 BAR 97- ENHANCED AREA VEHICLE TESTING
 BATTERY MONITORING SYSTEM FOR AUTOMATIC METER READING SYSTEM
 BIXBY VALVE REPLACEMENT
 BLACK METAL MOUNTAIN ELECTRICAL TRANSFORMER
 BOX SPRINGS FEEDER BROKEN BACK REPAIR
 BOX SPRINGS FEEDER BROKEN BACK REPAIR PHASE I
 BOX SPRINGS FEEDER PHASE 3 AND 4 ENVIRONMENTAL MONITORING
 BOX SPRINGS FEEDER REPAIR - PHASE II
 BOX SPRINGS FEEDER REPAIRS PHASE 3 AND PHASE 4
 BUDGET ADJUSTMENT
 C&D CRANE INSTALLATION AT OC-88 PUMPING PLANT
 CAJALCO CREEK DAM MANHOLE COVER RETROFIT
 CAJALCO CREEK DETENTION DAM SPILLWAY ACCESS ROAD
 CALABASAS FEEDER CARBON FIBER /BROKEN BACK REPAIR
 CALABASAS FEEDER INTERFERENCE MITIGATION
 CALABASAS FEEDER PCCP REHABILITATION
 CALABASAS FEEDER REPAIR, STUDY
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000 FOR FY 2010/11
 CAPITAL PROJECTS COSTING LESS THAN \$250,000 FOR FY2008-09
 CASA LOMA AND SAN DIEGO CANAL LINING STUDY - PART 2
 CASA LOMA SIPHON BARREL 1 & 2 DVL AND SD CANAL FLOW METER REPLACEMENT
 CATHODIC PROTECTION FOR THE FOOTHILL FEEDER
 CATHODIC PROTECTION SYSTEM UPGRADES
 CCP-PHASE 2 CONSTRUCTION
 CDSRP - DISCHARGE ELIMINATION
 CDSRP - ENTRAINED AIR IN UPPER FEEDER PIPELINE STUDY
 CDSRP - SEPULVEDA FEEDER REPAIRS
 CDSRP - SEPULVEDA TANKS RECOATING
 CENTRAL POOL AUGMENTATION - TUNNEL AND PIPELINE & RIGHT-OF-WAY ACQUISITION
 CENTRAL POOL AUGMENTATION (CPA) PROGRAM - PIPELINE AND TUNNEL ALIGNMENT
 CENTRAL POOL AUGMENTATION AND WATER QUALITY PROJECT (CPAWQP)
 CHEMICAL INVENTORY AND USAGE REWRITE AND ELECTRICAL SYSTEM LOG
 CHEMICAL UNLOADING FACILITY RETROFIT
 CHEVALIER FALCON MILLING MACHINE
 COASTAL JUNCTION REVERSE FLOW BYPASS
 COASTAL PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
 COLLIS VALVE REPLACEMENT
 COMMUNICATIONS STRUCTURE ALARM MONITORING
 COMPREHENSIVE INFORMATION SECURITY ASSESSMENT PHASE III
 CONSTRUCTION PHASE 2
 CONTRACT & LITIGATION TASKS -CONTRACT # 1396
 CONTROL SYSTEM DATA STORAGE AND REPORTING
 CONTROL SYSTEM DRAWING & DOCUMENTATION UPDATE
 CONTROL SYSTEM ENHANCEMENT PROGRAM (CSEP) - DIGITAL SUBNET STANDARDIZATION
 CONTROL SYSTEMS AUTOMATION COMMUNICATION UPGRADE
 CONTROLS COMMUNICATIONS FRAME RELAY CONVERSION - APPROPRIATED
 CONVERSION OF DEFORMATION SURVEY MONITORING AT GENE WASH, COPPER BASIN, AND DIEMER BASIN 8
 CONVEYANCE AND DISTRIBUTION SYSTEM REHABILITATION PROGRAM (CDSRP) - CURRENT DRAIN STATIONS
 COPPER BASIN ICS
 COPPER BASIN SEWER SYSTEM
 CORONA POWER PLANT REPLACE EMERGENCY GENERATOR
 CORROSION MATERIALS TESTING FACILITY SCADA UPGRADE
 COVINA PRESSURECONTROL FACILITY

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description**Distribution Facilities**

COYOTE CREEK NORTHERN PERIMETER LANDSCAPING
 COYOTE PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
 CPA PIPELINE & TUNNEL ALIGNMENT
 CPA PIPELINE & TUNNEL ALIGNMENT - NON FUNDED PORTION
 CPA PIPELINE & TUNNEL ALIGNMENT - STUDY
 CPA WATER TREATMENT PLANT - NON FUNDED PORTION
 CPA WATER TREATMENT PLANT - RIGHT OF WAY - PHASE 2
 CPA WATER TREATMENT PLANT - STUDY
 CPAWQP - PHASE 2
 CPAWQP - STUDY AND LAND ACQUISITION - CONTINGENCY
 CPAWQP - STUDY AND LAND ACQUISITION - PIPELINE & TUNNEL ALIGNMENT - STUDY
 CPAWQP - STUDY AND LAND ACQUISITION - RIGHT-OF-WAY-ACQUISITION
 CPAWQP - STUDY AND LAND ACQUISITION - WATER TREATMENT PLANT - RIGHT OF WAY - PHASE 2
 CPAWQP - STUDY AND LAND ACQUISITION - WATER TREATMENT PLANT - STUDY
 CRA - PC-1 EFFLUENT OPEN CHANNEL TRASH RACK
 CRA CABAZON & POTRERO SHAFT COVERS
 CRA CONTROL INTEGRATION
 CRA PROTECTIVE SLAB AT STATION 9704+77
 CROSS CONNECTION PREVENTION PROGRAM - PHASE II CONSTRUCTION
 CROSS CONNECTION PREVENTION PROJECT, COMPLETE PRELIMINARY DESIGN AND CEQA DOCUMENTATION
 CSEP - ELECTRONIC SYSTEM LOG (ESL)
 CSEP - ENERGY MANAGEMENT SYSTEM PHASE II
 CSEP - ENHANCED DISTRIBUTION SYSTEM CONTROL PROJECT
 CSEP - IMPLEMENTATION
 CSEP - OPERATIONS & BUSINESS DATA INTEGRATION PILOT
 CSEP - PLANT INFLUENT REDUNDANT FLOW METERING AND SPLITTING
 CSEP - PLC PHASE 2 - LIFE-CYCLE REPLACEMENT
 CSEP - PLC STANDARDIZATION
 CSEP - PLC STANDARDIZATION PHASE II
 CSEP - POWER MANAGEMENT SYSTEM
 CSEP - WATER PLANNING APPLICATION
 CSEP IMPLEMENTATION
 CSEP - SMART OPS (FORMERLY REAL TIME OPERATIONS SIMULATION)
 CURRENT DRAIN STATIONS
 DAM REHABILITATION & SAFETY IMPROVEMENTS ST. JOHN'S CANYON CHANNEL EROSION MITIGATION
 DANBY TOWER FOUNDATION INVESTIGATION AND SHORT TERM MITIGATION
 DEODERA PCS PAVEMENT UPGRADE & BETTERMENT
 DESERT BRANCH - REPLACE STOLEN COPPER GROUND WIRE FOOTINGS/GROUNDING, AND COPPER PIPING
 DESERT BRANCH PUMP PLANT AUXILIARY (STATION SERVICE)
 DESERT BRANCH, PURCHASE & INSTALL 5 PORT VIDEO CONFERENCING
 DESERT FACILITIES DOMESTIC WATER GAC SYSTEM INSTALLATION
 DESERT HIGH VOLTAGE TRANSMISSION TOWERS - REPLACE COPPER GROUND WIRES ON
 DETAIL SEISMIC EVALUATION OF WATER STORAGE TANK
 DFP - ELIMINATE BACKUP GENERATOR TIE-BUS & INSTALL MANUAL TRANSFER SWITCH FOR CHLORINE SCRUBBER
 DIEMER FILTRATION PLANT - SLOPE REPAIR
 DIEMER IRRIGATION RAW WATER CONVERSION TO INDUSTRIAL WATER
 DISCHARGE ELIMINATION
 DIST SYS-AIR RELEASE & VAC VALVE MODS
 DISTRIBUTION SYSTEM - CSCP CONSTRUCTION PACKAGES 9,11,12
 DISTRIBUTION SYSTEM - STANDPIPE STRENGTHENING PROGRAM
 DISTRIBUTION SYSTEM - STATIONARY CORROSION REFERENCE
 DISTRIBUTION SYSTEM - TREATED WATER CROSS CONNECTION PREVENTION PROJECT - FINAL DESIGN & CONSTRUCTION
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF LOS ANGELES COUNTY
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF RIVERSIDE AND SAN DIEGO COUNTY
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF SAN BERNARDINO COUNTY
 DISTRIBUTION SYSTEM CONTROL & EQUIP UPGRADE - ENHANCED DISTRIB. SYSTEM AUTOMATION PHASE I
 DISTRIBUTION SYSTEM EQUIPMENT & INSTRUMENTATION UPGRADES
 DISTRIBUTION SYSTEM INFRASTRUCTURE PROTECTION IMPROVEMENTS FOR ORANGE COUNTY
 DISTRIBUTION SYSTEM REHABILITATION PROGRAM - ASSESS THE STATE OF MWD'S DISTRIBUTION SYSTEM
 DISTRIBUTION SYSTEM REPLACEMENT OF AREA CONTROL SYSTEMS - WILLOWGLEN RTUS ADMINISTRATION
 DISTRIBUTION SYSTEM REPLACEMENT OF AREA CONTROL SYSTEMS (DSRACS)
 DISTRICT WIDE - ENHANCED VAPOR RECOVERY PHASE 2 GASOLINE DISPENSING
 DSRACS - OPERATIONS CONTROL CENTER - CONTRACT #1396
 DSRACS - SKINNER AREA
 DSRACS - SOFTWARE DEVELOPMENT COST
 DSRACS - WEYMOUTH
 DVL & CONTROL SYSTEM REPLACEMENT INVESTIGATION & PREPARATION FOR PRELIMINARY DESIGN
 EAGLE EQUIPMENT WASH AREA UPGRADE
 EAGLE ROCK - ASPHALT REHABILITATION
 EAGLE ROCK - FIRE PROTECTION AT THE WESTERN AREA OF THE EAGLE ROCK CONTROL CENTER PERIMETER GROUNDS
 EAGLE ROCK CONTROL CENTER FIREHYDRANT
 EAGLE ROCK LATERAL INTERCONNECTION REPAIR
 EAGLE ROCK MAIN BUILDING ROOF REPLACEMENT - STUDY
 EAGLE ROCK OCC - REHAB CONTROL ROOM
 EAGLE ROCK OPERATIONS CONTROL CENTER
 EAGLE ROCK RESIDENCE CONVERSION
 EAGLE ROCK TOWER AND PUDDINGSTONE SPILLWAY GATES REHABILITATION
 EAGLE ROCK TOWER SLIDEGATE REHABILITATION
 EAST INFLUENT CHANNEL REPAIR PROJECT
 EAST ORANGE COUNTY FEEDER #2 REPAIR
 EASTERN AND DESERT REGIONS PLUMBING RETROFIT
 EASTERN REGION PCCP JOINT MODIFICATION 2012
 E-DISCOVERY STORAGE MANAGEMENT SYSTEM UPGRADE
 ELECTRIC CURRENT DRAIN STATION INSTALLATIONS
 ELECTROMAGNETIC INSPECTION OF PCCP LINES
 ELECTRONIC SYSTEM LOG (ESL)
 ENERGY MANAGEMENT SYSTEM - PHASE 2
 ENHANCED DISTRIBUTION SYSTEM AUTOMATIC FLOW TRANSFERS SOFTWARE REDEVELOPMENT
 ENHANCED DISTRIBUTION SYSTEM AUTOMATION PHASE I
 ENHANCED DISTRIBUTION SYSTEM AUTOMATION PHASE II
 EQUIPMENT UPGRADE AT THE NORTH PORTAL OF THE HOLLYWOOD TUNNEL
 ETIWANDA / RIALTO PIPELINE INTER-TIE CATHODIC PROTECTION
 ETIWANDA CAVITATION FACILITY INFRASTRUCTURE REHABILITATION
 ETIWANDA CAVITATION TEST FACILITY COMMUNICATION AND CONTROL SYSTEM REPLACEMENT
 ETIWANDA HEP NEEDLE VALVE OPERATORS
 ETIWANDA PIPELINE - LINING REPLACEMENT
 ETIWANDA PIPELINE AND CONTROL FACILITY - RIGHT OF WAY

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description**Distribution Facilities**

ETIWANDA PIPELINE AND CONTROL FACILITY - AS BUILTS
 ETIWANDA PIPELINE AND CONTROL FACILITY - CATHODIC PROTECTION
 ETIWANDA PIPELINE AND CONTROL FACILITY - EMERGENCY DISCHARGE CONDUITS
 ETIWANDA PIPELINE AND CONTROL FACILITY - LANDSCAPING AND IRRIGATION
 ETIWANDA PIPELINE AND CONTROL FACILITY - RESIDENCES
 ETIWANDA PIPELINE AND CONTROL FACILITY - RIALTO FEEDER TO UPPER PIPELINE
 ETIWANDA RESERVOIR - EXTEND OUTLET STRUCTURE
 FACILITY AND PROCESS RELIABILITY ASSESSMENT
 FILTER ISOLATION GATE AND BACKWASH CONTROL WEIR COVERS MODULES 1- 6
 FLOWMETER MODIFICATION - LAKE SKINNER INLET, ETIWANDA EFFLUENT & WADSWORTH CROSS CHANNEL
 FOOTHILL & SEPULVEDA FEEDER PCCP CARBON FIBER JOINT REPAIRS
 FOOTHILL FEEDER ADEN AVE. REHABILITATION
 FOOTHILL FEEDER CARBON FIBER REPAIR
 FOOTHILL FEEDER CATHODIC PROTECTION
 FOOTHILL FEEDER PIPELINE REPLACEMENT PROJECT
 FOOTHILL FEEDER POWER PLANT EXPANSION
 FOOTHILL FEEDER REPAIR @ SANTA CLARITA RIVER
 FOOTHILL FEEDER, CARBON FIBER REPAIRS
 FOOTHILL HYDROELECTRIC RUNNER REPLACEMENT
 FOOTHILL PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
 FOOTHILL PCS FLOOD PUMP INSTALLATION DESIGN DOCUMENTATION
 FOOTHILL PCS INTERNAL VALVE LINERS UPGRADE
 FUTURE SYSTEM RELIABILITY PROGRAM
 GARVEY RESERVOIR - HYPOCHLORITE FEED SYSTEM
 GARVEY RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
 GARVEY RESERVOIR - LOWER ACCESS PAVING ROAD & DRAINS
 GARVEY RESERVOIR HYPOCHLORITE FEED SYSTEM
 GARVEY RESERVOIR SITE DRAINAGE REPAIRS AND MODIFICATIONS
 GENE & IRON POOLS
 GENE AIR CONDITIONING SYSTEM REPLACEMENT
 GENE MESS HALL AIR CONDITIONING UNIT
 GENE SPARE PARTS WAREHOUSE IMPROVEMENTS
 GLENDALE 01 SERVICE CONNECTION REHAB
 GLENDALE-01 SERVICE CONNECION REHABILITATION AND UPGRADE
 GREG AVE PCS FACILITY REHABILITATION
 GREG AVENUE CONTROL STRUCTURE VALVE REPLACEMENT
 GREG AVENUE PCS CONTROL BUILDING INTERIOR REHABILITATION
 HINDS GARAGE ASBESTOS SHEETING REPLACEMENT
 HVAC MODIFICATIONS FOR ELECTRICAL SAFETY AND RELIABILITY
 HYDRAULIC MODELING PROJECT
 HYDROELECTRIC PLANT CARBON DIOXIDE (CO2) FIRE SUPPRESSION SYSTEM MODIFICATIONS
 IAS PROJECTS - CPA
 IAS PROJECTS - DVL-SKINNER
 IAS PROJECTS - MILLS SUPPLY RELIABILITY
 INLAND PCSUST REMOVAL & AST INSTALLATION
 INSTALL MOTION SENSORS IN NEW EXPANSION
 INSTALL TEST LEADS AT FOUR LOCATIONS
 INSULATION JOINT TEST STATIONS
 INTAKE PUMPING PLANT - UNDER FREQUENCY PROTECTION RELAY UPGRADE
 IRON MOUNTAIN - TRANSFORMER OIL TANK RELOCATION
 JENSEN DISTRIBUTION SYSTEM - REPLACEMENT OF AREA CONTROL SYSTEMS - CONTRACT # 1396
 JENSEN FILTRATION PLANT - REPLACE ADMINISTRATION BUILDING AIR CONDITIONING
 JENSEN FILTRATION PLANT - ROAD RECONSTRUCTION
 JENSEN FILTRATION PLANT - SANDBLASTING BOOTH PURCHASE & INSTALLATION
 JENSEN FILTRATION PLANT - TRAVELING BRIDGE RETROFIT MODULE 2 & 3
 LA VERNE FACILITIES - BRIDGEPORT E-2-PATH
 LA VERNE FACILITIES - ENERGY CONSERVATION ECM1 - 10
 LA VERNE FACILITIES - EXPANSION OF THE SANITARY SEWER
 LA VERNE FACILITIES - HAZARDOUS WASTE STORAGE
 LA VERNE FACILITIES - MAIN TRANSFORMERS REPLACEMENT
 LA VERNE FACILITIES - MATERIALS TESTING LABORATORY
 LA VERNE FACILITIES - REPLACEMENT OF FLOCCULATOR STUB SHAFT - BASINS 1 & 2
 LA VERNE MACHINE SHOP - AIR CONDITIONING UNIT REPLACEMENT
 LA VERNE MACHINE SHOP - REPAIR HORIZONTAL BORING MILL
 LA-35 DISCHARGE STRUCTURE REPAIRS
 LAKE MATHEWS - CONSTRUCTION OF BACKUP COMPUTER FACILITIES
 LAKE MATHEWS - DIVERSION TUNNEL WALKWAY REPAIR
 LAKE MATHEWS - FACILITY WIDE EMERGENCY WARNING AND PAGING SYSTEM
 LAKE MATHEWS - FOREBAY MCC ROOF IMPROVEMENT
 LAKE MATHEWS - MAIN DAM TOE SEEPAGE COLLECTION
 LAKE MATHEWS - MULTIPLE SPECIES MANAGER'S OFFICE & RESIDENCE
 LAKE MATHEWS - RENOVATION OF BLDGS. 8 & 15, GENERAL ASSEMBLY & ADMIN. BLDG. OFFICE AREAS
 LAKE MATHEWS - RETROFIT LOWER ENTRANCE GATE SWING ARM
 LAKE MATHEWS FOREBAY MCC ROOF IMPROVEMENT
 LAKE MATHEWS MAIN DAM TOE SEEPAGE COLLECTION
 LAKE MATHEWS RETROFIT LOWER ENTRANCE GATE SWING ARM
 LAKE PERRIS BYPASS PIPELINE EXPLORATION
 LAKE PERRIS EMERGENCY STANDBY GENERATOR AND TRANSFER SWITCH REPLACEMENT
 LAKE SKINNER - AERATOR AIR COMPRESSOR REPLACEMENT
 LAKE SKINNER - OUTLET TOWER VALVE REHABILITATION
 LAKE SKINNER - REPLACEMENT AERATOR RING
 LAKE SKINNER AERATOR AIR COMPRESSOR REPLACEMENT
 LAKE SKINNER DAM ROAD REHAB
 LAKE SKINNER EAST BYPASS SCREENING STRUCTURES
 LAKE SKINNER OUTLET TOWER CHLORINE SYSTEM MODIFICATION
 LAKE SKINNER WEST BYPASS SCREENING STRUCTURE
 LAKE SKINNER WEST BYPASS SCREENING STRUCTURE REHABILITATION
 LAKE VIEW PIPE LINE REPAIRS
 LAKEVIEW PIPELINE - REPLACE VACUUM/AIR RELEASE
 LAKEVIEW PIPELINE CATHODIC PROTECTION SYSTEM
 LOWER FEEDER - CATHODIC PROTECTION
 LOWER FEEDER WR 33 - AREA REPAIR AND REMEDIATION
 MAGAZINE CANYON CANOPY
 MAGAZINE CANYON-ISOLATION GATE JACKING FRAME
 MAPES LAND ACQUISITION
 MICROWAVE COMMUNICATION SITES BUILDING UPGRADE
 MIDDLE CROSS FEEDER CATHODIC PROTECTION

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS

Description**Distribution Facilities**

MIDDLE FEEDER - CATHODIC PROTECTION SYSTEMS
MIDDLE FEEDER - NORTH CATHODIC PROTECTION SYSTEM
MIDDLE FEEDER NORTH CATHODIC PROTECTION SYSTEM
MILLS FILTRATION PLANT - INVESTIGATION TO RELOCATE ACCESS ROAD
MINOR CAP 08/09 PLACEHOLDER
MINOR CAP FY 2009/10
MINOR CAP FY 2012/13
MINOR CAP FY 2014/16
MINOR CAPITAL PROJECTS PROGRAM 07/08 - REMAINING FUNDS
MOUNT OLYMPUS TUNNEL COST RIGHT-OF-WAY (ROW)
MWD ROAD GUARDRAIL
NITROGEN STORAGE COMPLIANCE AT DVL, INLAND FEEDER PCS, AND LAKE MATHEWS
NITROGEN STORAGE STUDY
NON PCCP LINES CONDITION INSPECTION AND ASSESSMENT
NORTH PORTAL OF HOLLYWOOD TUNNEL
NORTH REACH CONSTRUCTION / INSPECTION / CM
NORTH REACH CONSTRUCTION/ASBUILT
NORTH REACH ENVIRONMENTAL - CONSTRUCTION
NORTH REACH FINAL DESIGN & ADV/NTP
NORTH REACH POST DESIGN / ASBUILT
NORTH REACH PROGRAM MANAGEMENT - CONSTRUCTION
NORTHERN PIPELINE ENVIRONMENTAL FINAL DESIGN
NORTHERN PIPELINE RIGHT OF WAY FINAL DESIGN
OAK ST. PCS ROOF REPLACEMENT
OAK STREET PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT - CONSTRUCTION
OC 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REHAB
OC FEEDER STA 1920+78 BLOWOFF STRUCTURE & RIP-RAP REPAIRS
OC RESERVOIR SODIUM HYPOCHLORITE PUMP AND PIPING REPLACEMENT
OC-71 FLOW CONTROL FACILITY
OC-88 - SECURITY FENCING AT PUMP PLANT
OC-88 EMERGENCY STANDBY GENERATOR UPGRADE STUDY
OC-88 PUMP PLANT AIR COMPRESSOR UPGRADE
OC-88 PUMP STATION FLOW METER UPGRADE
OC-88 PUMPING PLANT SURGE TANKS UPGRADES
OLINDA PCS AND SANTIAGO TOWER EMERGENCY GENERATORS
OLINDA PRESSURE CONTROL STRUCTURE
ON-CALL RESOURCES MANAGEMENT APPLICATION
OPERATIONS CONTROL CENTER AT EAGLE ROCK
OPERATIONS CONTROL CENTER UPS REPLACEMENT
OPERATIONS SCOPING STUDY
ORANGE CO FDR, BLOW-OFF STRUCTURE AND ACCESS ROAD REPAIR
ORANGE COUNTY - 88 PUMP PLANT AIR COMPRESSOR UPGRADE
ORANGE COUNTY - 88 SECURITY FENCING AT PUMP PLANT
ORANGE COUNTY C & D ELECTRICAL IMPROVEMENTS - STUDY
ORANGE COUNTY C&D INSTRUMENTATION PANEL IMPROVEMENTS
ORANGE COUNTY CONVEYANCE AND DISTRIBUTION SERVICE CENTER
ORANGE COUNTY FEEDER CATHODIC PROTECTION
ORANGE COUNTY FEEDER EXTENSION LINING REPAIR
ORANGE COUNTY FEEDER INSPECTION
ORANGE COUNTY FEEDER INTERNAL INSPECTION STUDY
ORANGE COUNTY FEEDER LINING REPAIR
ORANGE COUNTY FEEDER PRESSURE CONTROL STRUCTURES
ORANGE COUNTY FEEDER RELOCATION IN FULLERTON
ORANGE COUNTY FEEDER SCHEDULE 37SC CATHODIC PROTECTION
ORANGE COUNTY FEEDER STA 1920+78 BLOWOFF STRUCTURE & RIP-RAP REPAIRS
ORANGE COUNTY RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
ORANGE COUNTY RESERVOIR - PIEZOMETERS & SEEPAGE MONITORING AUTOMATION
OXIDATION DEMONSTRATION PLANT CONTROL SYSTEM REPLACEMENT
PALOS ALTOS FEEDER - 108TH ST.
PALOS VERDES FEEDER PCS - VALVE REPLACEMENT
PALOS VERDES RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
PC-1 EFFLUENT OPEN CHANNEL TRASH RACK
PC-1 EFFLUENT OPEN CHANNEL TRASH RACK PROJECT
PCCP HYDRAULIC ANALYSES
PERIMETER FENCING AT PLACERITA CREEK
PERMANENT LEAK DETECTION/PIPELINE MONITORING SYSTEM
PERRIS PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
PERRIS PCS ROOF REHAB
PERRIS PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
PERRIS PUMPBACK COVER
PERRIS VALLEY PIPELINE - DESIGN-BUILD (EMWD)
PERRIS VALLEY PIPELINE - GENERAL
PERRIS VALLEY PIPELINE - NORTH REACH
PERRIS VALLEY PIPELINE - RESERVED FOR STAGE II DESIGN / BUILD
PERRIS VALLEY PIPELINE - SOUTH REACH
PERRIS VALLEY PIPELINE - STUDY
PERRIS VALLEY PIPELINE - TIE-IN (WMWD)
PERRIS VALLEY PIPELINE - VALVES
PERRIS VALLEY PIPELINE DESIGN-BUILD (EMWD)
PERRIS VALLEY PIPELINE NORTH REACH
PERRIS VALLEY PIPELINE SOUTH REACH
PERRIS VALLEY PIPELINE TIE-IN (WMWD)
PERRIS VALLEY PIPELINE VALVES
PLACENTIA RAILROAD LOWERING PROJECT
PLACERITA CREEK PERIMETER FENCING
PLANT INFLUENT REDUNDANT FLOW METERING AND SPLITTING
PLC REPLACEMENT PHASE II
PRESTRESSED CONCRETE CYLINDER PIPE - PHASE 2
PRESTRESSED CONCRETE CYLINDER PIPE -PHASE 3
PROGRAMATTIC ENVIRONMENTAL DOCUMENTATION OF ORANGE COUNTY
PROGRAMATTIC ENVIRONMENTAL DOCUMENTATION OF SAN BERNARDINO COUNTY
PROGRAMMABLE LOGIC CONTROLLER (PLC) STANDARDIZATION
PUDDINGSTONE SPILLWAY CROSS CONNECTION
PV RESERVOIR HYPOCHLORITE PUMP AND PIPING REPLACEMENT
R&R FOR DISTRIBUTION
RED MOUNTAIN - OCT. 2007 FIRE DAMAGE - COMMUNICATION POWER TOWERS & METER STRUCTURES REPAIR/REPLACE (INCIDENT NO. 2007-1023-0271)
RED MOUNTAIN HEP FLOOD DAMAGE

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description

Distribution Facilities

RED MTN COMM. TOWER & METER STRUCTURE
 REHABILITATION OF THE GREG AVE PCS CONTROL BUILDING INTERIOR
 RELOCATION OF ORANGE COUNTY FEEDER
 RELOCATION OF PORTION OF ORANGE COUNTY FEEDER (MWD'S SHARE)
 REMAINING PORTIONS
 REPAIRS TO THE LA-35 DISCHARGE STRUCTURE
 REPLACE 2 FIRE & DOMESTIC WATER SYSTEM
 REPLACE COMMUNICATION LINE TO THE SAN GABRIEL CONTROL TOWER
 REPLACE COPPER GROUNDWIRES ON DESERT HIGH VOLTAGE TRANSMISSION TOWERS
 REPLACE VALVE POSITION INDICATORS
 REPLACEMENT OF COMMUNICATION LINE AT SAN GABRIEL TOWER
 REPLACEMENT/ RELINE AT-RISK PCCP LINES - STAGE 1
 RIALTO FEEDER BROKEN BACK REPAIR
 RIALTO FEEDER VALVE STRUCTURE
 RIALTO FEEDER, REPAIRS AT SELECT LOCATIONS, STUDY
 RIALTO PIPELINE - CONSTRUCTION PHASE 1
 RIALTO PIPELINE - CONSTRUCTION PHASE 2
 RIALTO PIPELINE IMPROVEMENTS
 RIALTO PIPELINE IMPROVEMENTS - CONSTRUCTION
 RIALTO PIPELINE IMPROVEMENTS - CONSTRUCTION PHASE III
 RIALTO PIPELINE IMPROVEMENTS - DESIGN PHASE 2
 RIALTO PIPELINE IMPROVEMENTS - DESIGN PHASE 3
 RIALTO PIPELINE IMPROVEMENTS - FINAL DESIGN
 RIALTO PIPELINE IMPROVEMENTS - VALVE PROCUREMENT
 RIALTO PIPELINE IMPROVEMENTS PHASE 1 FINAL DESIGN
 RIALTO PIPELINE PCCP REHABILITATION
 RIALTO PIPELINE REPAIR @ STA 3196+44
 RIALTO PIPELINE REPAIR AT THOMPSON CREEK
 RIALTO PIPELINE REPAIRS AT STATION 3198+44
 RIALTO PIPELINE VALVE PROCUREMENT
 ROBERT B. DIEMER FILTRATION PLANT - LAND ACQUISITION
 ROOF REPLACEMENT AT SOTO ST. FACILITY
 SAN DIEGO #3 BLOWOFF TO PUMPWELL CONVERSION
 SAN DIEGO CANAL - EAST & WEST BYPASS SCREENING STRUCTURES STUDY
 SAN DIEGO CANAL - ELECTRICAL VAULT & CONDUCTOR REPLACEMENT
 SAN DIEGO CANAL - FENCING
 SAN DIEGO CANAL - INSTALL ACOUSTIC FLOW METER
 SAN DIEGO CANAL - PIEZOMETER
 SAN DIEGO CANAL - REPLACE SODIUM BISULFATE TANK
 SAN DIEGO CANAL - SEEPAGE STUDY
 SAN DIEGO CANAL BISULFITE TANK REPLACEMENT
 SAN DIEGO CANAL LINER REPAIR
 SAN DIEGO CANAL RADIAL GATE REHAB
 SAN DIEGO CANAL SEEPAGE STUDY
 SAN DIEGO CANAL WEST BYPASS TRASH RACK
 SAN DIEGO PIPELINE #4 VALVE REPLACEMENT
 SAN DIEGO PIPELINE 1 BLOW-OFF VALVE REPLACEMENT
 SAN DIEGO PIPELINE 3 & 5 REMOTE CONTROL OF BYPASS
 SAN DIEGO PIPELINE 4 AND AULD VALLEY PIPELINE CARBON FIBER REPAIRS
 SAN DIEGO PIPELINE 5 & LAKE SKINNER OUTLET REPAIR
 SAN DIEGO PIPELINE 6 - PRESSURE CONTROL STRUCTURE/HYDROELECTRIC PLANT - FEASIBILITY STUDY
 SAN DIEGO PIPELINE 6 NORTH REACH, ENVIRONMENTAL MONITORING DURING CONSTRUCTION
 SAN DIEGO PIPELINE NO. 3 BYPASS
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE BRANCH - ETIWANDA FACILITY/DROP INLET STRUCTURE
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE BRANCH - PLEASANT PEAK, COMMUNICATIONS
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL CONSTRUCTION - AS BUILT
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL COST OF RIGHT OF WAY (OPTIONAL PORTAL SITE)
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL ENVIRONMENTAL CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL PROGRAM MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - CONTRACT NO.1 SAN DIEGO CANAL TO MOUNT OLYMPUS
 SAN DIEGO PIPELINE NO. 6 - CONTRACT NO.2 MOUNT OLYMPUS TUNNEL & PORTALS
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH CONSTRUCTION - AS BUILT
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH ENVIRONMENTAL - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH FINAL DESIGN & ADV/NTP
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH POST DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PROGRAM MANAGEMENT - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PROGRAM MANAGEMENT - DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH RIGHT OF WAY FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTHERN PIPELINE COST OF RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - NORTHERN REACH ENVIRONMENTAL FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - OPERATIONS SCOPING STUDY
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - DESIGN
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - ENVIRONMENTAL
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - PROJECT MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - PROJECT MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH - PROGRAM MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH / TUNNEL STUDY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH CONSTRUCTION / AS BUILT
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH COST OF RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH FINAL DESIGN/ADV
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH RIGHT OF WAY FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH TUNNEL ALIGNMENT ANALYSIS
 SAN DIEGO PIPELINE NO. 6 AREA STUDY
 SAN DIEGO PIPELINE NO. 6 ENVIRONMENTAL MITIGATION

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description**Distribution Facilities**

SAN DIEGO PIPELINE NO.4 & AULD VALLEY PIPELINE CARBON FIBER REPAIR STUDY
 SAN DIEGO PIPELINE NOS. 1AND 3 - VALVE REPLACEMENT
 SAN DIMAS CONTROL STRUCTURE 500 GALLONS DIESEL TANK REPLACEMENT
 SAN DIMAS HEP BATTERY BANK AND GENERATOR BREAKER
 SAN DIMAS PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
 SAN FRANCISQUITO PIPELINE BLOW OFF STRUCTURE, STA 287+70, ACCESS ROAD CONSTRUCTION
 SAN GABRIEL TOWER SEISMIC UPGRADE
 SAN GABRIEL TOWER SLIDE GATE REHABILITATION
 SAN JACINTO #1 AND #2 CASA LOMA FAULT CROSSING STRUCTURE UPGRADE
 SAN JOAQUIN RELIEF STRUCTURE FOR EASTERN ORANGE COUNTY FEEDER #2
 SAN JOAQUIN RELIEF STRUCTURE FOR EASTR OC FDR #2
 SAN JOAQUIN RESERVOIR, INSTALL BULKHEAD
 SANTA ANA RIVER BRIDGE SEISMIC RETROFIT
 SANTA ANA RIVER BRIDGE SEISMIC UPGRADE
 SANTA MONICA FEEDER RELOCATION
 SANTA MONICA FEEDER STATION 495+10 REHABILITATION
 SANTIAGO CONTROL TOWER CATHODIC PROTECTION
 SANTIAGO LATERAL REPLACE MOTOR - OPERATED VALVE
 SANTIAGO LATERAL SECTIONALIZATION VALVE REPLACEMENT
 SANTIAGO LATERAL STA 216+40 BUTTERFLY VALVE REPLACEMENT
 SANTIAGO PRESSURE CONTROL STRUCTURE
 SANTIAGO TOWER ACCESS ROAD IMPROVEMENT
 SCADA COMMUNICATIONS MPLS UPGRADE - AT&T REGION (MINOR CAP)
 SCADA COMMUNICATIONS MPLS UPGRADE - VERIZON REGION (MINOR CAP)
 SCADA SYSTEM HARDWARE UPGRADE
 SCADA SYSTEM NT SOFTWARE UPGRADE
 SCADA SYSTEM SUPPORT PROGRAMS
 SD AND CASA LOMA CANALS LINING
 SD CANAL EAST & WEST BYPASS SCREENING STRUCTURES STUDY
 SD CANAL REPLACE SODIUM BISULFITE TANK
 SD PIPELINE 3 CULVERT ROAD REHAB
 SD PIPELINE 3,4, AND 5 PROTECTIVE COVER
 SD PIPELINE 4 EXPLORATORY EXCAVATION
 SD PIPELINE 5 EXPLORATORY EXCAVATION
 SD PIPELINES 3 AND 5 REMOTE CONTROL BYPASS STRUCTURE GATES AND ISOLATION VALVES
 SECOND LOWER & SEPULVEDA FEEDERS SCI DRAIN STATIONS
 SECOND LOWER CROSS FEEDER - VALVE PROCUREMENT
 SECOND LOWER CROSS FEEDER CONSTRUCTION
 SECOND LOWER CROSS FEEDER FINAL DESIGN
 SECOND LOWER FEEDER - INSTALL LINER
 SECOND LOWER FEEDER CATHODIC PROTECTION SYSTEM
 SECOND LOWER FEEDER CURRENT MITIGATION REFURBISHMENT
 SECOND LOWER FEEDER PCCP REHABILITATION
 SECOND LOWER FEEDER PCCP REPAIRS
 SECOND LOWER FEEDER RELIABILITY AT 3 LOCATIONS - SEISMIC STUDY
 SEISMIC UPGRADE OF 11 FACILITIES ON THE ALLEN MCCOLLOCH PIPELINE
 SELECTED PRESSURE REPLACE VALVE POSITION INDICATORS
 SEPULVEDA CANYON CONTROL FACILITY WATER STORAGE TANKS SEISMIC UPGRADE
 SEPULVEDA CANYON POWER PLANT TAIL RACE COATINGS
 SEPULVEDA CANYON TANKS EXTERIOR AND INTERIOR RECOATING
 SEPULVEDA FEEDER - CARBON FIBER LINER REPAIRS
 SEPULVEDA FEEDER CATHODIC PROTECTION SYSTEM
 SEPULVEDA FEEDER CORROSION/INTERFERENCE MITIGATION, STATION 950+00 TO 1170+00
 SEPULVEDA FEEDER HEP AUTO PILOT
 SEPULVEDA FEEDER REPAIRS AT 3 SITES
 SEPULVEDA FEEDER SOUTH CATHODIC PROTECTION SYSTEM
 SEPULVEDA FEEDER STATION 2002+02 TO 2273+28 STRAY CURRENT INTERFERENCE MITIGATION
 SEPULVEDA FEEDER STRAY CURRENT MITIGATION REFURBISHMENT
 SEPULVEDA PCS - PERIMETER ASPHALT REPAIRS
 SEPULVEDA PIPELINE PCCP REHABILITATION
 SERVICE CONNECTION LV-01 UPGRADES
 SERVICE CONNECTION OC-26 - RELOCATION OF METER CABINET, INSTRUMENT HOUSING & AIR VENT STACK
 SIMULATION AND MODELING APPLICATION FOR REAL TIME OPERATIONS SMART OPS
 SITES 1 & 2 SECOND LOWER FEEDER URGENT REPAIRS - FINAL DESIGN & PIPE FABRICATION
 SKINNER BRANCH - AIR INJECTION MODIFICATIONS TO RED MOUNTAIN POWER PLANT
 SKINNER BRANCH - CASA LOMA CANAL
 SKINNER BRANCH - CASA LOMA SIPHON BARREL ONE
 SKINNER BRANCH - CATWALK FOR TRAVELING MAINTENANCE BRIDGE FOR
 SKINNER BRANCH - FABRICATE & REPLACE THE STEMS, NUTS & KEYS
 SKINNER BRANCH - REPAIR MODULE 1 AND 2 FLOCCULATORS BRIDGES
 SKINNER DAM REMEDIATION
 SKINNER DISTRIBUTION SYSTEM - CONTRACT # 1396
 SKINNER ELECTRICAL BUILDING HVAC UPGRADE
 SKINNER FILTRATION PLANT - ELEVATED SLAB IN SERVICE BLDG 1
 SKINNER HELIPAD REHAB
 SKINNER INSULATING FLANGES AT PLANT 1 BUTTERFLY VALVES
 SKINNER REPLACEMENT FOR WETCELL BATTERY AND INVERTER
 SKINNER SCADA SERVERS RELOCATION
 SMART-OPS (FORMERLY RTOS)
 SOTO STREET FACILITY - BUILDING SEISMIC UPGRADE
 SOTO STREET FACILITY - REPLACE HEATING
 SOTO STREET FACILITY - ROOF REPLACEMENT
 SOUTH COUNTY PIPELINE PROTECTION AT SAN JUAN CREEK CROSSING
 SOUTH REACH / TUNNEL STUDY
 SOUTH REACH CONSTRUCTION/ASBUILT - FUTURE UNAPPROPRIATED
 SOUTH REACH DESIGN - FUTURE/UNAPPROPRIATED
 SOUTH REACH ENVIRONMENTAL - FUTURE/UNAPPROPRIATED
 SOUTH REACH FEASIBILITY STUDY
 SOUTH REACH PROJECT MANAGEMENT - FUTURE/UNAPPROPRIATED
 SOUTH REACH RIGHT OF WAY - FUTURE/UNAPPROPRIATED
 SPECIAL SERVICE BRANCH - REPLACE PLATE BENDING
 ST. JOHN'S CANYON CHANNEL EROSION MITIGATION
 SYSTEM RELIABILITY PROGRAM
 TEMESCAL POWER PLANT REPLACE EMERGENCY GENERATOR
 TREATED WATER CROSS CONNECTION PREVENTION - FINAL DESIGN & CONSTRUCTION
 TREATED WATER CROSS CONNECTION PREVENTION - UNFUNDED WORK
 TWO-WAY RADIO ENHANCEMENT - EMERGENCY SERVICES, FIRE CONTROL, EVACUATION & BLDG. MAINT.

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM BENEFITS**

Description

Distribution Facilities

TWO-WAY RADIO ENHANCEMENT FOR EMERGENCY SERVICES, FIRE CONTROL, EVACUATION AND BLDG. MAINTENANCE
 UNDER GROUND STORAGE TANK DISPENSER SPILL CONTAINMENT & REMEDIATION
 UNION STATION TWO-WAY RADIO ENHANCEMENT FOR EMERGENCY SERVICES, FIRE CONTROL, EVACUATION AND BUILDING MAINTENANCE
 UPGRADE CATHODIC PROTECTION RECTIFIERS
 UPGRADE HOLLYWOOD TUNNEL PORTAL SLEEVE VALVE EQUIPMENT
 UPGRADE SUNSET GARAGE
 UPPER FEEDER - SANTA ANA RIVER BRIDGE REPAIRS
 UPPER FEEDER AIR ENTRAINMENT
 UPPER FEEDER GATE REHABILITATION
 UPPER FEEDER JUNCTION STRUCTURE SEISMIC UPGRADE
 UPPER FEEDER SANTA ANA RIVER DISCHARGE PAD
 UPPER FEEDER SERVICE CONNECTIONS UPGRADES
 UPPER NEWPORT BAY BLOW-OFF STRUCTURE REHABILITATION
 UPS SYSTEMS INSTALLATION AT FOOTHILL PCS
 UPS SYSTEMS INSTALLATION AT PERRIS CONTROL STRUCTURE
 UTILITY BUSINESS ARCHITECTURE (OBJECT MAPPING/MODELING)
 VACUUM AIR RELEASE VALVE RELOCATION PILOT PROGRAM
 VALLEY & LOS ANGELES DISTRIBUTION VALVE POSITION DISPLAY UPGRADE
 VALVE PROCUREMENT
 VIDEO CONFERENCE SYSTEM UPGRADE
 VIDEOCONFERCING UPGRADE
 WADSWORTH PUMPING PLANT - MODIFICATION/REPAIRS OF FIFTY-NINE 6.9KV BREAKERS/CABINETS
 WADSWORTH PUMPING PLANT CONDUIT REPAIR AND PROTECTION
 WADSWORTH PUMPING PLANT FOREBAY GANTRY CRANE UPGRADE
 WADSWORTH PUMPING PLANT RECOATING 144" YARD PIPING
 WADSWORTH PUMPING PLANT STOP LOGS ADDITION - STUDY
 WATER DELIVERY SYSTEM AUTOMATION
 WATER PLANNING APPLICATION
 WATER QUALITY - REMOTE MONITORING
 WATER QUALITY LABORATORY BUILDING EXPANSION
 WATER QUALITY MONITORING AND EVENT DETECTION SYSTEM
 WATER TREATMENT PROCESS OPTIMIZATION
 WEST COAST FEEDER - CATHODIC PROTECTION SYSTEMS
 WEST OC FEEDER VALVE REPLACEMENT
 WEST VALLEY AREA STUDY
 WEST VALLEY FEEDER # 1 STAGE 2 VALVE STRUCTURE MODIFICATIONS - CONSTRUCTION
 WEST VALLEY FEEDER NO. 1 ACCESS ROADS AND STRUCTURES IMPROVEMENTS
 WEST VALLEY FEEDER NO. 1 VALVE STRUCTURE MODIFICATIONS
 WESTERN REGION PLUMBING RETROFIT
 WEYM. PL/TA VERNE FAC-BACKFLO PREV ASSY
 WEYMOUTH - BUILDING NO. 4 - HAND RAIL AND STAIRS ADDITION
 WEYMOUTH - FLAG POLE AREA LANDSCAPE UPGRADE
 WEYMOUTH ASPHALT REHABILITATION
 WEYMOUTH COMPRESSED AIR SYSTEM
 WEYMOUTH DISTRIBUTION SYSTEM - REPLACEMENT OF AREA CONTROL SYSTEMS - CONTRACT #1396
 WFP - ASPHALT REHABILITATION
 WFP - COMPRESSED AIR SYSTEM IMPROVEMENT
 WFP - LAND ACQUISITION
 WFP - PURCHASE OF REAL PROPERTY
 WFP - REPAIR TO BLDG # 1
 WFP - REPLACE ACTUATORS/OPERATORS/ MOTORS FOR EFFLUENT VALVE CONVERSION FILTER BEDS 1-24
 WFP - WASHWATER RECLAMATION (WWRP)
 YORBA LINDA FDR STA 924+11 PORTAL ACCESS
 YORBA LINDA FEEDER - STA 924+11 PORTAL ACCESS
 YORBA LINDA FEEDER BYPASS
 YORBA LINDA PORTAL STRUCTURE ACCESS/TELEGRAPH CREEK BRIDGE

Sub-total Distribution facilities benefits **\$ 73,144,882**

Sub-total Conveyance and Distribution facilities benefits **\$ 155,929,608**

FISCAL YEAR 2016/17 ESTIMATED READINESS-TO-SERVE CHARGE REVENUE							
Member Agency	Rolling Ten- Year Average Firm Deliveries (Acre-Feet) FY2004/05 - FY2013/14	RTS Share	6 months @ \$153 million per year (7/16- 12/16)	Rolling Ten- Year Average Firm Deliveries (Acre-Feet) FY2005/06 - FY2014/15	RTS Share	6 months @ \$135 million per year (1/17- 6/17)	Total RTS Charge FY 2016/17
Anaheim	21,646	1.26%	965,812	20,890	1.22%	822,387	1,788,198
Beverly Hills	11,468	0.67%	511,693	11,386	0.66%	448,235	959,928
Burbank	12,769	0.74%	569,715	12,817	0.75%	504,598	1,074,313
Calleguas MWD	110,216	6.43%	4,917,644	109,124	6.36%	4,296,031	9,213,675
Central Basin MWD	53,106	3.10%	2,369,501	51,539	3.01%	2,029,003	4,398,504
Compton	2,222	0.13%	99,150	1,924	0.11%	75,756	174,907
Eastern MWD	98,854	5.77%	4,410,675	98,628	5.75%	3,882,806	8,293,482
Foothill MWD	9,999	0.58%	446,114	9,790	0.57%	385,395	831,509
Fullerton	9,902	0.58%	441,799	9,668	0.56%	380,620	822,419
Glendale	20,157	1.18%	899,367	19,594	1.14%	771,369	1,670,736
Inland Empire Utilities Agency	60,390	3.52%	2,694,504	60,811	3.55%	2,394,010	5,088,513
Las Virgenes MWD	22,702	1.32%	1,012,933	22,750	1.33%	895,608	1,908,541
Long Beach	33,643	1.96%	1,501,086	34,316	2.00%	1,350,941	2,852,027
Los Angeles	297,705	17.36%	13,283,020	312,096	18.20%	12,286,660	25,569,680
Municipal Water District of Orange County	220,916	12.88%	9,856,838	221,545	12.92%	8,721,831	18,578,669
Pasadena	21,506	1.25%	959,574	21,181	1.24%	833,843	1,793,417
San Diego County Water Authority	377,077	21.99%	16,824,451	367,123	21.41%	14,452,980	31,277,430
San Fernando	122	0.01%	5,457	82	0.00%	3,240	8,697
San Marino	1,000	0.06%	44,614	931	0.05%	36,644	81,258
Santa Ana	13,091	0.76%	584,077	12,605	0.74%	496,221	1,080,298
Santa Monica	10,146	0.59%	452,704	9,252	0.54%	364,251	816,955
Three Valleys MWD	66,509	3.88%	2,967,508	65,261	3.81%	2,569,222	5,536,730
Torrance	18,514	1.08%	826,068	18,130	1.06%	713,750	1,539,818
Upper San Gabriel Valley MWD	18,292	1.07%	816,140	22,143	1.29%	871,739	1,687,879
West Basin MWD	128,160	7.47%	5,718,230	125,379	7.31%	4,935,938	10,654,168
Western MWD	74,439	4.34%	3,321,325	75,617	4.41%	2,976,923	6,298,248
MWD Total	1,714,552	100.00%	\$ 76,500,000	1,714,580	100.00%	\$ 67,500,000	\$ 144,000,000
Totals may not foot due to rounding							

TABLE 5
FISCAL YEAR 2015/16
ESTIMATED STANDBY CHARGE REVENUE

Member Agencies	Total Parcel Charge	Number Of Parcels Or Acres	Gross Revenues (Dollars) ¹
Anaheim	\$ 8.55	68,113	\$ 582,362
Beverly Hills	-	-	-
Burbank	14.20	29,055	412,577
Calleguas MWD	9.58	259,212	2,483,251
Central Basin MWD	10.44	339,675	3,546,211
Compton	8.92	18,091	161,372
Eastern MWD	6.94	398,973	2,768,876
Foothill MWD	10.28	30,335	311,842
Fullerton	10.71	34,708	371,724
Glendale	12.23	44,900	549,130
Inland Empire Utilities Agency	7.59	255,066	1,935,952
Las Virgenes MWD	8.03	55,303	444,082
Long Beach	12.16	91,968	1,118,332
Los Angeles	-	-	-
Municipal Water District of Orange County ²	10.09	718,283	7,378,409
Pasadena	11.73	38,952	456,901
San Diego County Water Authority	11.51	1,104,307	12,710,571
San Fernando	7.87	5,115	40,258
San Marino	8.24	4,968	40,935
Santa Ana	7.88	54,201	427,105
Santa Monica	-	-	-
Three Valleys MWD	12.21	152,015	1,856,103
Torrance	12.23	40,460	494,820
Upper San Gabriel Valley MWD	9.27	211,919	1,964,492
West Basin MWD	-	-	-
Western MWD	9.23	386,694	3,569,189
MWD Total		4,342,313	\$ 43,624,493

(1) Estimates per FY2015/16 applied amounts

(2) Adjusted for inclusion of Coastal MWD

Note: Totals may not foot due to rounding.

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION ____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING
A CAPACITY CHARGE
EFFECTIVE JANUARY 1, 2017**

WHEREAS, the Board of Directors (“Board”) of The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Sections 133, 134 and 134.5 of the Metropolitan Water District Act (the “Act”), is authorized to fix such rate or rates for water as will result in revenue which, together with revenue from any water standby or availability of service charge or assessment, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt; and

WHEREAS, the Capacity Charge is charged (on a dollar per cubic-foot-per-second basis) to member agencies, based upon the amount of capacity used by such member agency that is designed to recover the cost of providing peaking capacity within the distribution system; and

WHEREAS, on February 8, 2016, the General Manager presented to the Finance and Insurance Committee of Metropolitan’s Board his proposed biennial budget for fiscal years 2016/17 and 2017/18, determination of total revenues and of revenues to be derived from water sales and firm revenue sources required during the fiscal years 2016/17 and 2017/18; and

WHEREAS, Board workshops and discussions regarding the proposed biennial budget for fiscal years 2016/17 and 2017/18 and water rates and charges for 2017 and 2018 were held on February 8, 2016 and March 7, 2016 at the regularly scheduled Finance and Insurance Committee meetings, and on February 23, 2016 and March 22, 2016 at the Finance and Insurance Committee; and

WHEREAS, the Board conducted a public hearing on its proposed rates and charges for 2017 and 2018 at its regular meeting on March 8, 2016, at which interested parties were given the opportunity to present their views regarding the proposed rates and charges; and

WHEREAS, notice of the public hearing on the proposed rates and charges was published prior to the hearing in various newspapers of general circulation within Metropolitan’s service area; and

WHEREAS, written notice of intention of Metropolitan’s Board to consider and take action at its regular meeting to be held April 12, 2016, to adopt Metropolitan’s Capacity Charge for calendar year 2017 was given to each of Metropolitan’s member public agencies; and

WHEREAS, based on the feedback received from board workshops held on February 8, 2016, February 23, 2016, March 7, 2016, and March 22, 2016, and at the public hearing on March 8, 2016, the General Manager proposed rates and charges on April 12, 2016; and

WHEREAS, the supporting cost of service report was provided to the Board on March 16, 2016, was discussed with the Board on March 22, 2016, and an updated cost of service report with minor revisions was provided to the Board on March 30, 2016; and

WHEREAS, on April 12, 2016, the board considered the rates and charges presented by the General Manager and approved the biennial budget for fiscal years 2016/17 and 2017/18 and adopted recommended water rates and charges for 2017 and 2018; and

WHEREAS, in adopting the rates and charges on April 12, 2016, the Board determined the amount of revenue to be raised by the Capacity Charge in 2017 to be based on a Capacity Charge in such year of \$8,000 per cubic-foot-per-second; and

WHEREAS, the amount of revenue to be raised by the Capacity Charge shall be as determined by the Board and allocation of such charges among member public agencies shall be in accordance with the method established by the Board; and

WHEREAS, the Capacity Charge is a charge fixed and adopted by Metropolitan and charged to its member agencies, and is not a fee or charge imposed upon real property or upon persons as an incident of property ownership; and

WHEREAS, Metropolitan has legal authority to fix and adopt the Capacity Charge as a water rate pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the "Act"); and

WHEREAS, under authority of Sections 133 and 134 of the Act, the Board has the authority to fix the rate or rates for water as will result in revenue which, together with other revenues, will pay Metropolitan's operating expenses and provide for the payment of other costs, including payment of the interest and principal of Metropolitan's non-tax funded debt; and

WHEREAS, the Capacity Charge is intended to recover the debt service and other appropriately allocated costs to construct, operate and maintain projects needed to meet peak demands on Metropolitan's distribution system, as shown in the cost of service report; and

WHEREAS, in the alternative, under Section 134.5 of the Metropolitan Water District Act, an availability of service charge may be collected from the member public agencies within Metropolitan;

WHEREAS, each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout; and

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California does hereby resolve, determine and order as follows:

Section 1. That the Board of Directors of Metropolitan hereby fixes and adopts a Capacity Charge, as described below, to be effective January 1, 2017.

Section 2. That the Capacity Charge shall be in an amount sufficient to provide for payment of the capital financing costs not paid from ad valorem property taxes, as well as operations, maintenance and overhead costs incurred to provide peaking capacity within Metropolitan's distribution system, which Metropolitan owns or has the right to use.

Section 3. That such Capacity Charge effective January 1, 2017 shall be a charge as specified in Section 6 (set in dollars per cubic-foot-per-second of the peak day capacity) for capacity provided to a member agency.

Section 4. That in the alternative, and without duplication, the Capacity Charge shall be an availability of service charge pursuant to Section 134.5 of the Act.

Section 5. That the Capacity Charge specified in Table 1 does not exceed the reasonable and necessary cost of providing the service for which the charge is made, or conferring the benefit provided, and is fairly apportioned to each member agency in proportion to the peak day capacity utilized by each member agency. Accordingly, the Board finds and determines that the Capacity Charge is a reasonable fee charged according to the burden on or benefit from the use of capacity of Metropolitan's distribution system, which Metropolitan owns or has the right to use.

Section 6. That the Capacity Charge shall be a fixed charge as shown in the following table and collected from each member agency monthly, quarterly or semiannually as agreed to by Metropolitan and the member agency.

Table 1. Calendar Year 2017 Capacity Charge

AGENCY	Peak Day Demand (cfs) (May 1 through September 30)				Rate (\$/cfs): \$8,000
	Calendar Year				
	2013	2014	2015	3-Year Peak	Calendar Year 2017 Capacity Charge
Anaheim	31.3	34.0	33.7	34.0	\$272,000
Beverly Hills	30.8	30.6	25.5	30.8	\$246,400
Burbank	19.7	22.6	10.0	22.6	\$180,800
Calleguas	228.7	240.8	175.5	240.8	\$1,926,400
Central Basin	73.6	61.0	51.4	73.6	\$588,800
Compton	2.9	0.0	0.1	2.9	\$23,200
Eastern	262.1	239.4	177.2	262.1	\$2,096,800
Foothill	18.9	19.9	14.9	19.9	\$159,200
Fullerton	20.0	22.2	15.3	22.2	\$177,600
Glendale	44.9	43.7	33.2	44.9	\$359,200
Inland Empire	153.9	144.0	94.8	153.9	\$1,231,200
Las Virgenes	43.2	46.1	42.8	46.1	\$368,800
Long Beach	66.9	67.8	61.3	67.8	\$542,400
Los Angeles	767.1	782.5	600.9	782.5	\$6,260,000
MWDOC	379.4	443.1	293.0	443.1	\$3,544,800
Pasadena	52.5	48.5	36.9	52.5	\$420,000
San Diego CWA	967.4	1138.2	960.7	1,138.2	\$9,105,600
San Fernando	4.9	0.0		4.9	\$39,200
San Marino	6.1	7.3	4.7	7.3	\$58,400
Santa Ana	19.6	17.5	15.6	19.6	\$156,800
Santa Monica	22.7	15.2	11.7	22.7	\$181,600
Three Valleys	178.6	152.8	108.1	178.6	\$1,428,800
Torrance	34.1	33.5	28.2	34.1	\$272,800
Upper San Gabriel	16.1	40.4	79.1	79.1	\$632,800
West Basin	230.2	217.5	178.5	230.2	\$1,841,600
Western MWD	197.7	179.7	137.7	197.7	\$1,581,600
Total	3,873.3	4,048.3	3,190.8	4,212.1	\$33,696,800

Totals may not foot due to rounding

Section 7. That the Capacity Charge for each member public agency, the method of its calculation, cost allocations and other data used in its determination are as specified in the General Manager's recommendation on rates and charges to be effective January 1, 2017, and the corresponding cost of service report. Such recommendation and cost of service report are on file and available for review by interested parties at Metropolitan's headquarters.

Section 8. That the General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 9. That this Board finds that the proposed capacity charge is not defined as a Project under the California Environmental Quality Act ("CEQA") since it involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition,

the proposed action is not subject to CEQA because it involves the creation of government funding mechanisms or other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

Section 10. That the General Manager is hereby authorized and directed to take all necessary action to satisfy relevant statutes requiring notice by publication.

Section 11. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member public agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2016.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION ____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING
A TREATED WATER CHARGE
EFFECTIVE JANUARY 1, 2017**

WHEREAS, the Board of Directors (“Board”) of The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Sections 133, 134 and 134.5 of the Metropolitan Water District Act (the “Act”), is authorized to fix such rate or rates for water as will result in revenue which, together with revenue from any water standby or availability of service charge or assessment, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt, including payment of the interest and principal of Metropolitan’s non-tax funded debt; and

WHEREAS, in the alternative, under Section 134.5 of the Metropolitan Water District Act, an availability of service charge may be collected from the member public agencies within Metropolitan; and

WHEREAS, Metropolitan currently charges a volumetric treatment surcharge on a dollar per acre-foot basis for treated water service, titled Treatment Surcharge. The Treatment Surcharge is set to recover the cost of providing treated water service, including capital and operating costs; and

WHEREAS, Board workshops and discussions regarding the proposed biennial budget for fiscal years 2016/17 and 2017/18 and water rates and charges for 2017 and 2018 were held on February 8, 2016 and March 7, 2016 at the regularly scheduled Finance and Insurance Committee meetings, and on February 23, 2016 and March 22, 2016 at the Finance and Insurance Committee; and

WHEREAS, at Workshop #2, held on February 23, 2016, a presentation was made to the Committee by Raftelis Financial Consultants, Inc. (“Raftelis”), an independent financial and rate consultant, presenting alternatives to the current 100% volumetric Treatment Surcharge, consisting of a partial fixed charge (a “Treated Water Fixed Charge”); and

WHEREAS, at Workshop #3, held on March 7, 2016, Raftelis made a presentation to the Committee addressing questions raised by the Board regarding the Treated Water Fixed Charge; and

WHEREAS, at Workshop #4, held on March 22, 2016, Raftelis made a presentation to the Committee summarizing the options for the Treated Water Fixed Charge; and

WHEREAS, the Board conducted a public hearing on its proposed rates and charges for 2017 and 2018 at its regular meeting on March 8, 2016, at which interested parties were given the opportunity to present their views regarding the proposed rates and charges; and

WHEREAS, notice of the public hearing on the proposed rates and charges was published prior to the hearing in various newspapers of general circulation within Metropolitan's service area; and

WHEREAS, written notice of intention of Metropolitan's Board to consider and take action at its regular meeting to be held April 12, 2016, to adopt a Treated Water Fixed Charge for calendar year 2017 was given to each of Metropolitan's member public agencies; and

WHEREAS, a supporting cost of service report, FY 2016/17 and 2017/18 Cost of Service for Proposed Water Rates and Charges report ("COS report") was provided to the Board on March 16, 2016, which included a technical report prepared by Raftelis presenting options for a Treated Water Fixed Charge presented to the Board and was discussed on March 22, 2016; and an updated version of the COS report with minor revisions and including the technical report was provided to the Board on March 30, 2016; and

WHEREAS, based on the feedback received from board workshops held on February 8, 2016, February 23, 2016, March 7, 2016, and March 22, 2016, and at the public hearing on March 8, 2016, the General Manager presented the rates and charges for 2017 and 2018 to the Board on April 12, 2016, including two options for a Treated Water Fixed Charge based upon the options presented in the COS report; and

WHEREAS, at its meeting on April 12, 2016, the Board considered the proposed rates and charges, including the two options for the Treated Water Fixed Charge, presented by the General Manager; and

WHEREAS, on April 12, 2016, the Board approved the biennial budget for fiscal years 2016/17 and 2017/18 and adopted the recommended water rates and charges for 2017 and 2018, including the Treated Water Fixed Charge; and

WHEREAS, in adopting the rates and charges on April 12, 2016, the Board determined the amount of revenue to be raised by a Treated Water Fixed Charge in 2017 to be \$97.5 million in total; and

WHEREAS, the Treated Water Fixed Charge is intended to recover the debt service and other appropriately allocated costs to construct, operate and maintain treatment facilities needed to meet availability and peak demands on Metropolitan's water treatment plants, as shown in the COS report; and

WHEREAS, the Treated Water Fixed Charge is a charge fixed and adopted by Metropolitan and charged to its member agencies, and is not a fee or charge imposed upon real property or upon persons as an incident of property ownership; and

WHEREAS, Metropolitan has legal authority to fix and adopt the Treated Water Fixed Charge as a water rate pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the "Act"); and

WHEREAS, each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout; and

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California does hereby resolve, determine and order as follows:

Section 1. That the Board of Directors of Metropolitan hereby fixes and adopts a Treated Water Fixed Charge, as described below, to be effective January 1, 2017.

Section 2. That the Treated Water Fixed Charge shall be in an amount sufficient to provide for payment of the capital financing costs not paid from ad valorem property taxes, as well as operations, maintenance and overhead costs incurred to provide availability and peak demands on Metropolitan's water treatment plants, to be \$97.5 million.

Section 3. That such Treated Water Fixed Charge effective January 1, 2017 shall be a charge as specified in Section 6 for available and peak capacity provided to a member agency for treated water.

Section 4. That in the alternative, and without duplication, the Treated Water Fixed Charge shall be an availability of service charge pursuant to Section 134.5 of the Act.

Section 5. That the Treated Water Fixed Charge specified in Table 1 does not exceed the reasonable and necessary cost of providing the service for which the charge is made, or conferring the benefit provided, and is fairly apportioned to each member agency in proportion to the available and peak capacity utilized by each member agency for treated water. Accordingly, the Board finds and determines that the Treated Water Fixed Charge is a reasonable fee charged according to the burden on or benefit from the use of available and peak capacity of Metropolitan's water treatment plants.

Section 6. That the Treated Water Fixed Charge shall be a fixed charge as shown in the following table and collected from each member agency monthly, quarterly or semiannually as agreed to by Metropolitan and the member agency.

Table 1a. Calendar Year 2017 Treated Water Fixed Charge

Member Agency	TYRA 2006 - 2015 Treated Water Sales		Fixed Availability Charge	2013 - 2015 Maximum Treated Peak (cfs)		Fixed Demand Charge	Total Treated Water Fixed Charge
	AF	% of Total		% of Total	% of Total		
Anaheim	12,126	1.08%	\$613,940	33.1	1.36%	\$556,851	\$1,170,791
Beverly Hills	11,386	1.02%	576,467	30.8	1.27%	519,181	1,095,648
Burbank	10,089	0.90%	510,823	22.6	0.93%	380,660	891,483
Calleguas	114,712	10.24%	5,808,002	244.3	10.08%	4,114,133	9,922,134
Central Basin	46,198	4.12%	2,339,056	73.6	3.03%	1,238,900	3,577,956
Compton	1,924	0.17%	97,431	2.9	0.12%	49,071	146,502
Eastern	73,323	6.54%	3,712,415	202.2	8.34%	3,404,746	7,117,161
Foothill	9,933	0.89%	502,894	19.9	0.82%	335,331	838,225
Fullerton	11,072	0.99%	560,567	22.2	0.92%	373,547	934,114
Glendale	19,585	1.75%	991,617	44.9	1.85%	755,512	1,747,129
Inland Empire	0	0.00%	0	0.0	0.00%	0	0
Las Virgenes	22,810	2.04%	1,154,886	52.4	2.16%	882,524	2,037,410
Long Beach	36,397	3.25%	1,842,793	67.8	2.79%	1,140,928	2,983,722
Los Angeles	87,950	7.85%	4,453,016	211.7	8.73%	3,563,772	8,016,788
MWDOC	204,975	18.30%	10,378,091	372.6	15.37%	6,273,362	16,651,454
Pasadena	21,181	1.89%	1,072,392	52.5	2.17%	884,582	1,956,974
San Diego CWA	156,458	13.97%	7,921,619	346.1	14.27%	5,826,764	13,748,383
San Fernando	206	0.02%	10,433	4.9	0.20%	82,434	92,867
San Marino	931	0.08%	47,128	7.3	0.30%	122,287	169,415
Santa Ana	13,331	1.19%	674,954	19.6	0.81%	330,459	1,005,413
Santa Monica	9,252	0.83%	468,459	22.7	0.94%	382,219	850,678
Three Valleys	41,833	3.73%	2,118,038	127.8	5.27%	2,152,454	4,270,493
Torrance	18,130	1.62%	917,946	34.1	1.41%	574,566	1,492,512
Upper San Gabriel	7,346	0.66%	371,937	21.1	0.87%	354,877	726,814
West Basin	125,668	11.22%	6,362,683	230.2	9.49%	3,875,743	10,238,427
Western MWD	63,538	5.67%	3,216,974	157.3	6.49%	2,647,940	5,864,913
Total	1,120,354	100.00%	\$56,724,561	2,424.5	100.00%	\$40,822,844	\$97,547,405

Table 1b. Calendar Year 2017 Treated Water Fixed Charge

Member Agency	Average 1998 - 2007 Treated Water Sales AF	TYRA 2006 - 2015 Treated Water Sales AF	Greater Of	% of Total	Fixed Availability Charge
Anaheim	13,134	12,126	13,134	0.98%	\$954,911
Beverly Hills	13,008	11,386	13,008	0.97%	945,725
Burbank	12,816	10,089	12,816	0.96%	931,758
Calleguas	112,585	114,712	114,712	8.55%	8,340,091
Central Basin	67,191	46,198	67,191	5.01%	4,885,071
Compton	3,514	1,924	3,514	0.26%	255,451
Eastern	73,423	73,323	73,423	5.47%	5,338,173
Foothill	11,623	9,933	11,623	0.87%	845,074
Fullerton	11,513	11,072	11,513	0.86%	837,031
Glendale	25,094	19,585	25,094	1.87%	1,824,421
Inland Empire	0	0	0	0.00%	0
Las Virgenes	22,106	22,810	22,810	1.70%	1,658,376
Long Beach	44,267	36,397	44,267	3.30%	3,218,416
Los Angeles	79,762	87,950	87,950	6.56%	6,394,377
MWDOC	244,203	204,975	244,203	18.20%	17,754,580
Pasadena	21,779	21,181	21,779	1.62%	1,583,398
San Diego CWA	251,381	156,458	251,381	18.74%	18,276,450
San Fernando	387	206	387	0.03%	28,135
San Marino	1,041	931	1,041	0.08%	75,664
Santa Ana	15,788	13,331	15,788	1.18%	1,147,853
Santa Monica	12,627	9,252	12,627	0.94%	918,014
Three Valleys	49,467	41,833	49,467	3.69%	3,596,498
Torrance	21,052	18,130	21,052	1.57%	1,530,565
Upper San Gabriel	13,963	7,346	13,963	1.04%	1,015,173
West Basin	145,421	125,668	145,421	10.84%	10,572,734
Western MWD	61,511	63,538	63,538	4.74%	4,619,464
Total	1,328,654	1,120,354	1,341,701	100.00%	\$97,547,405

Section 7. That the Treated Water Fixed Charge for each member public agency, the method of its calculation, cost allocations and other data used in its determination are as specified in the General Manager's recommendation on rates and charges to be effective January 1, 2017, and the corresponding COS report. Such recommendation and COS report are on file and available for review by interested parties at Metropolitan's headquarters.

Section 8. That the General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 9. That this Board finds that the proposed Treated Water Fixed Charge is not defined as a Project under the California Environmental Quality Act ("CEQA") since it involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not subject to CEQA because it involves the creation of government funding mechanisms or other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

Section 10. That the General Manager is hereby authorized and directed to take all necessary action to satisfy relevant statutes requiring notice by publication.

Section 11. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member public agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2016.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION _____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FINDING THAT CONTINUING AN AD VALOREM PROPERTY TAX RATE AT THE
RATE LEVIED FOR 2015/16 IS ESSENTIAL TO THE FISCAL INTEGRITY OF THE
DISTRICT AND SUSPENDING THE AD VALOREM TAX RATE RESTRICTION FOR
FISCAL YEARS 2016/17 AND 2017/18**

WHEREAS, The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Section 124 of the Metropolitan Water District Act (the “Act”), is authorized to levy and collect taxes on all property within the district for the purposes of carrying on the operations and paying the obligations of the district; and

WHEREAS, pursuant to Section 307 of the Act, the Board of Directors (“Board”) determines the amount of money necessary to be raised by taxation for district purposes each fiscal year and fixes rates of taxation upon the assessed valuation of property taxable by the district to be levied accordingly; and

WHEREAS, since its inception Metropolitan has levied and collected property taxes; and

WHEREAS, the Board, pursuant to sections 133 and 134 of the Act, is authorized to fix the rate or rates at which water shall be sold. Such rates, so far as practicable, shall result in revenue which, together with revenue from fixed charges or assessments, will pay Metropolitan’s operating expenses, capital costs, debt service and other expenses and obligations; and

WHEREAS, before 1942, all revenues to pay for operations, construction of the Colorado River Aqueduct, other facilities and other Metropolitan obligations came from ad valorem property taxes. After deliveries of Metropolitan water began in fiscal year 1941/42, water sales were an additional source of revenues, but not until 1974 did revenues from water sales equal revenues from ad valorem taxes; and

WHEREAS, on November 4, 1960, Metropolitan entered into its contract with the California Department of Water Resources (the “State Water Contract”) for water service from the State Water Project. Metropolitan’s was the first contract executed and the prototype for the 28 state water contracts that followed; its terms were validated by the California Supreme Court in *Metropolitan Water Dist. v. Marquardt* (1963) 59 Cal.2d 159; and

WHEREAS, under the State Water Contract, Metropolitan is obligated to pay allocable portions of the cost of construction and replacement of the State Water Project system, as well as ongoing operating and maintenance costs, regardless of quantities of water delivered to Metropolitan and regardless of the amounts of water Metropolitan sells to its member agencies. Approximately 75 percent of Metropolitan's State Water Contract obligations are fixed, or unrelated to the quantity of water delivered; and

WHEREAS, Metropolitan's authority to levy a tax or assessment to satisfy State Water Contract obligations was a condition to entering into the State Water Contract, and the California Department of Water Resources only executed state water contracts with agencies that have taxing power; and

WHEREAS, the State Water Contract expressly provides that, if other available funds are not sufficient, Metropolitan must levy a tax or assessment to satisfy its State Water Contract obligations; and

WHEREAS, Metropolitan's outstanding general obligation bonds and State Water Contract obligations are indebtedness approved by the California voters before Article XIII A of the California Constitution (Proposition 13) was adopted; and

WHEREAS, Metropolitan's revenues from water sales and deliveries vary with the quantity of water delivered and water deliveries fluctuate significantly with drought, weather conditions, availability of local supplies, economic conditions and other factors affecting regional demands. During the period from fiscal year 2008/09 through fiscal year 2014/15, Metropolitan's annual deliveries ranged from 1.6 million acre-feet to 2.1 million acre-feet; and

WHEREAS, when fixing taxes and setting rates, the Board and Metropolitan's member agencies evaluate the appropriate mix of property taxes and water rates and charges to promote Metropolitan's fiscal stability and ensure its ability to satisfy the region's long-term water supply needs while reasonably and fairly allocating the cost of providing service to its member agencies and complying with legal requirements; and

WHEREAS, on May 8, 1984, the Board approved proposed amendments to the Act, set forth in Board Letter 6-2 dated April 30, 1984; and

WHEREAS, such amendments were incorporated into Assembly Bill 1445, which was approved by the Legislature and filed with the California Secretary of State on July 3, 1984, and added to the Act as Section 124.5; and

WHEREAS Section 124.5 provides that Metropolitan must limit the ad valorem property tax to collect no more than the amount required to pay for a fraction of voter-approved debt, specifically, the composite amount required to pay (1) the principal and interest on general obligation bonded indebtedness of the district and (2) that portion of the district's payment obligation under a water service contract with the state which is reasonably allocable, as determined by Metropolitan, to the payment by the state of principal and interest on bonds issued pursuant to the California Water Resources Development Bond Act as of the effective date of this section and used to finance construction of facilities for the benefit of the district; and

WHEREAS Section 124.5 further provides that Metropolitan may suspend the ad valorem property tax restriction "if the board of directors of the district, following a hearing held to consider that issue, finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district, and written notice of the hearing is filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate at least 10 days prior to that date of the hearing;" and

WHEREAS, Section 124.5's rate restriction became effective in fiscal year 1990/91; and

WHEREAS, in fiscal years 1990/91 through 1999/2000, the Board maintained Metropolitan's tax levy rate at .0089 percent, a rate that was below the rate then permitted under the restriction clause of Section 124.5; and

WHEREAS, Metropolitan's tax levy rate has declined from .0089 percent in fiscal year 1999/2000 to .0035 percent in fiscal year 2012/13; and

WHEREAS, on June 11, 2013, the Board held a public hearing, with advance notice as required by Section 124.5, to consider Resolution 9156, "A RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA FINDING THAT MAINTAINING THE AD VALOREM TAX RATE FOR FISCAL YEAR 2013/14 IS ESSENTIAL TO THE FISCAL INTEGRITY OF THE DISTRICT";

WHEREAS, at the June 11, 2013 public hearing, the Board received, considered, and evaluated public comments and evidence and all material factors pertaining thereto, including the financial and operating information summarized in Board Letter 8-2 executed by the Chief Financial Officer and General Manager on May 31, 2013; and

WHEREAS, as described in Resolution 9156, the Board found that a tax rate in excess of the restriction set out in Section 124.5 was essential to the fiscal integrity of Metropolitan; and

WHEREAS, by Resolution 9156 the Board resolved and determined that the tax rate restriction in Section 124.5 was suspended for fiscal year 2013/14 and that the Board in its discretion may levy taxes for fiscal year 2013/14 at the tax rate levied for fiscal year 2012/13 (.0035 percent of assessed valuation, excluding annexation levies); and

WHEREAS, on August 20, 2013, the Board adopted Resolution 9157, "A RESOLUTION LEVYING TAXES FOR THE FISCAL YEAR COMMENCING JULY 1, 2013 AND ENDING JUNE 30, 2014 FOR THE PURPOSES OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA", which set the tax rate for fiscal year 2013/14 at .0035 percent; and

WHEREAS, on March 11, 2014, the Board held a public hearing with advance notice as required by Section 124.5, to consider the recommendation to suspend the tax restriction clause of Section 124.5 to maintain the ad valorem tax at current levels, and to give interested parties the opportunity to present their views regarding the recommendation to suspend the tax restriction clause of Section 124.5 to maintain the ad valorem tax at current levels; and

WHEREAS, on August 19, 2014, the Board considered Resolution 9181, “A RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA FINDING THAT MAINTAINING THE AD VALOREM TAX RATE FOR FISCAL YEAR 2013/14 IS ESSENTIAL TO THE FISCAL INTEGRITY OF THE DISTRICT”; and

WHEREAS, at the August 19, 2014 meeting, the Board received, considered, and evaluated public comments and evidence and all material factors pertaining to Resolution 9181, including the financial and operating information summarized in Board Letter 5J-2 executed by the Chief Financial Officer and General Manager; and

WHEREAS, at the August 19, 2014 meeting, the Board adopted Resolution 9181, through which it resolved and determined that the tax rate restriction in Section 124.5 was suspended for fiscal year 2014/15 and that the Board in its discretion may levy taxes for fiscal year 2014/15 at the tax rate levied for fiscal year 2013/14 (.0035 percent of assessed valuation, excluding annexation levies); and

WHEREAS, on August 19, 2014, the Board adopted Resolution 9182, “A RESOLUTION LEVYING TAXES FOR THE FISCAL YEAR COMMENCING JULY 1, 2014 AND ENDING JUNE 30, 2015 FOR THE PURPOSES OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA”, which set the tax rate for fiscal year 2014/15 at .0035 percent; and

WHEREAS, on August 18, 2015, the Board considered Resolution 9194, “A RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA FINDING THAT MAINTAINING THE AD VALOREM TAX RATE FOR FISCAL YEAR 2014/15 IS ESSENTIAL TO THE FISCAL INTEGRITY OF THE DISTRICT”; and

WHEREAS, at the August 18, 2015 meeting, the Board received, considered, and evaluated public comments and evidence and all material factors pertaining to Resolution 9194, including the financial and operating information summarized in Board Letter 5J-2 executed by the Chief Financial Officer and General Manager; and

WHEREAS, at the August 18, 2015 meeting, the Board adopted Resolution 9194, through which it resolved and determined that the tax rate restriction in Section 124.5 was suspended for fiscal year 2015/16 and that the Board in its discretion may levy taxes for fiscal year 2015/16 at the tax rate levied for fiscal year 2014/15 (.0035 percent of assessed valuation, excluding annexation levies); and

WHEREAS, on August 18, 2015, the Board adopted Resolution 9195, “A RESOLUTION LEVYING TAXES FOR THE FISCAL YEAR COMMENCING JULY 1, 2015 AND ENDING JUNE 30, 2016 FOR THE PURPOSES OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA”, which set the tax rate for fiscal year 2015/16 at .0035 percent; and

WHEREAS, on March 8, 2016, the Board held a public hearing with advance notice as required by Section 124.5, to consider the recommendation to suspend the tax restriction clause of Section 124.5 to maintain the ad valorem tax at current levels, and to give interested parties the opportunity to present their views regarding the recommendation to suspend the tax restriction clause of Section 124.5 to maintain the ad valorem tax at current levels; and

WHEREAS, Metropolitan currently utilizes tax revenues solely to pay debt service on its general obligation bonds, approved by the voters in 1966 and presently outstanding in the amount of \$110,420,000 as of December 31, 2015, and a small portion of its State Water Contract obligations; and

WHEREAS, Metropolitan provides, sells and delivers a reliable water supply at wholesale to its member agencies throughout a broad service area; and

WHEREAS, the water supply, conveyance rights and other rights to the State Water Project that Metropolitan receives under the State Water Contract are fundamental to Metropolitan's ability to consistently provide a reliable water supply and delivery at wholesale to its service area and, thus, satisfaction of its State Water Contract obligations is essential to Metropolitan's mission; and

WHEREAS, the State Water Project facilities are over 50 years old and Metropolitan's State Water Contract obligations include increasing costs for repair and replacement of existing facilities that are needed to both maintain the storage and conveyance capacity of the State Water Project facilities and assure continued availability and delivery of supplies from the State Water Project and other sources. These costs and obligations were not foreseen by the Legislature when, in 1984, it established the Section 124.5 tax rate restriction and nothing suggests that the Legislature intended to prohibit the Board from considering such circumstances when deciding whether suspension of the restriction is essential to Metropolitan's fiscal integrity; and

WHEREAS, Metropolitan's State Water Contract obligations also include substantial construction, replacement, operation and maintenance costs for endangered species protection and conservation measures, consistent with state and federal mandates. These obligations must be undertaken to ensure the reliability of the State Water Project, to address ecosystem needs and to secure long-term operating permits consistent with the federal and state endangered species acts. These costs and obligations were not foreseen or considered by the Legislature when, in 1984, it established the Section 124.5 rate restriction and nothing suggests that the Legislature intended to prohibit the Board from considering such circumstances when deciding whether suspension of the restriction is essential to Metropolitan's fiscal integrity; and

WHEREAS, consideration of, and providing for, current and anticipated State Water Contract obligations is essential to Metropolitan's fiscal stability and integrity; and

WHEREAS, availability of diverse financial resources to satisfy Metropolitan's State Water Contract obligations is essential to Metropolitan's fiscal stability and integrity; and

WHEREAS, an appropriate balance of fixed costs and fixed revenue is essential to Metropolitan's long-term fiscal health; and

WHEREAS, the ad valorem tax is essential to the appropriate balance of fixed costs and fixed revenue under current circumstances; and

WHEREAS, continuing an ad valorem property tax rate at the current rate will allow the Board flexibility to fund Metropolitan's State Water Contract obligations fully and fairly in fiscal year 2016/17 and 2017/18 and for the foreseeable future; and

WHEREAS, when it enacted Section 124.5, the Legislature recognized the importance of robust fixed revenue sources. At the same time that it established the rate restriction and safety valve to suspend the restriction, it authorized alternative fixed revenue sources in the form of benefit assessments and standby charges. To the extent such charges would be assessments or property-related fees, they would be governed by additional requirements not in place or contemplated when the Legislature enacted Section 124.5. In the Board's judgment, such charges are not practical fixed revenue sources at this time; and

WHEREAS, in FY 2016/17, approximately 80 percent of Metropolitan's estimated costs are fixed, while approximately 17 percent of Metropolitan's revenues are from fixed sources, including ad valorem property taxes, readiness-to-serve and capacity charges; in FY 2017/18, approximately 80 percent of Metropolitan's estimated costs are fixed, while approximately 16 percent of Metropolitan's revenues are from fixed sources, including ad valorem property taxes, readiness-to-serve and capacity charges. Suspending the rate restriction will allow Metropolitan to sustain ad valorem property tax revenues at 6 percent of overall revenues in fiscal years 2016/17 and 2017/18 and at an estimated 5 percent of overall revenues in fiscal year 2025/26. Absent suspension, it is anticipated that, in fiscal years 2016/17 and 2017/18, ad valorem property tax revenue will drop to approximately 3 percent of overall revenue and, by fiscal year 2025/26, it will be only 0.1 percent of overall revenue; and

WHEREAS, absent maintenance of the tax rate or other changes, fiscal years 2016/17 and 2017/18 fixed revenues as a percentage of total revenues will decline from 17 percent to 14 percent in fiscal year 2016/17 and from 16 percent to 13 percent in fiscal year 2017/18; fixed revenues as a percentage of total revenues will decline from 16 percent to 10 percent in fiscal year 2025/26; and this decline will continue; and

WHEREAS, in light of Metropolitan's significant fixed costs and fluctuating volumetric revenues, robust and diverse fixed revenues are essential to Metropolitan's fiscal well-being for the additional reason that they help Metropolitan maintain creditworthiness. Positive credit ratings are central to fiscal integrity because they reduce the cost of borrowing and provide flexibility by increasing access to credit markets. Access to credit markets is especially important whenever Metropolitan faces supply or demand uncertainties. As set forth above, suspending the tax rate restriction will allow Metropolitan to retain important fixed revenues, whereas, absent suspension, these fixed revenues will be lost; and

WHEREAS, ad valorem taxes are an important component of Metropolitan's fiscal integrity because they help ensure that those for whom costs are incurred help pay those costs. As a wholesale water agency, Metropolitan's customers are its 26 member agencies. Each member agency pays volumetric rates based on the amount of water Metropolitan sells and delivers to it; whereas ad valorem taxes are levied directly on residents and businesses that are property owners within Metropolitan's service area. All property owners within Metropolitan's service area benefit from the water system that allows water to be sold and delivered in Southern California. Ad valorem taxes ensure that residences and businesses pay a share of costs of the system; and

WHEREAS, maintaining the existing ad valorem tax rate advances fiscal integrity because it takes pressure off Metropolitan's volumetric water rates and readiness-to-serve and capacity charges and assist the Board, in its discretion, in maintaining a fair and appropriate balance between fixed costs and fixed revenues and help ensure that all who benefit from Metropolitan's service pay a fair share of the cost of that service; and

WHEREAS, maintaining the existing ad valorem tax rate and preventing the decline in fixed revenues will create a more stable water revenue structure that can better deal with fluctuations in water sales and support drought response measures; and

WHEREAS, Metropolitan's reliance on property taxes is significantly lower than most other agencies that entered into state water contracts. Other state water contractors rely on property taxes to cover up to 100 percent of their state water contract obligations. Even if all Metropolitan's property tax revenue were fully allocated to State Water Contract obligations—and it is not—Metropolitan would cover only 17 percent of its fiscal years 2016/17 and 2017/18 State Water Contract obligations. This percentage is at the far low end for state water contractors; and

WHEREAS, an analysis of fiscal health and stability must consider long-term circumstances, and the full spectrum of facts and circumstances, including the appropriate mix of property taxes and water rates and charges that will best allow Metropolitan to satisfy the region's long-term water supply needs; and

WHEREAS, notices of the public hearing were filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate on February 22, 2016; and

WHEREAS, the Board conducted a public hearing at its regular meeting on March 8, 2016, at which interested parties were given the opportunity to present their views regarding the recommendation to suspend the tax restriction clause of Section 124.5 to maintain the ad valorem tax at current levels; and

WHEREAS, the Board has carefully considered the comments and evidence and all material factors relevant to a finding that suspension of the tax rate restriction is essential to Metropolitan's fiscal integrity; and

WHEREAS, the meeting of the Board was conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which a quorum was present and acting throughout;

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California, after receiving, considering, and evaluating public comments and evidence and all material factors pertaining thereto, including the financial and operating information summarized in Board Letter 8-1 executed by the Chief Financial Officer and General Manager for its April 12, 2016 meeting and in recognition of the facts and considerations set forth in this Resolution, hereby:

1. Finds and determines that a tax rate in excess of the restriction set out in Section 124.5 of the Act is essential to the fiscal integrity of Metropolitan; and
2. Resolves and determines that the tax rate restriction in Section 124.5 of the Act is hereby suspended for the limited purpose of allowing the Board in its discretion to continue the ad valorem property tax rate for fiscal years 2016/17 and 2017/18 at the tax rate levied in fiscal years 2015/16 (.0035 percent of assessed valuation, excluding annexation levies); and
3. Waives compliance with Section 4301(b) of Metropolitan's Administrative Code for any tax levy that utilizes this suspension of Section 124.5 of the Act.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution of the Board of Directors of The Metropolitan Water District of Southern California, adopted at its meeting held April 12, 2016.

Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California