

Water Rates

Cost of Service Presentation **February 2016**



PHILADELPHIA
WATER
— EST. 1801 —



OVERVIEW

1 Who We Are

- Mission
- Core Services
- Regulatory Requirements

2 What is Cost of Service

- Building Blocks of Rate Setting
- Overview of Rate Concepts

3 Study Results

- Study Objectives
- Key Assumptions
- Cost of Service Results

4 Proposed Rates

- Impact on Bills
- Rate Comparison
- Customer Assistance

1. Who We Are

- ▶ Mission
- ▶ Core Services
- ▶ Regulatory Requirements

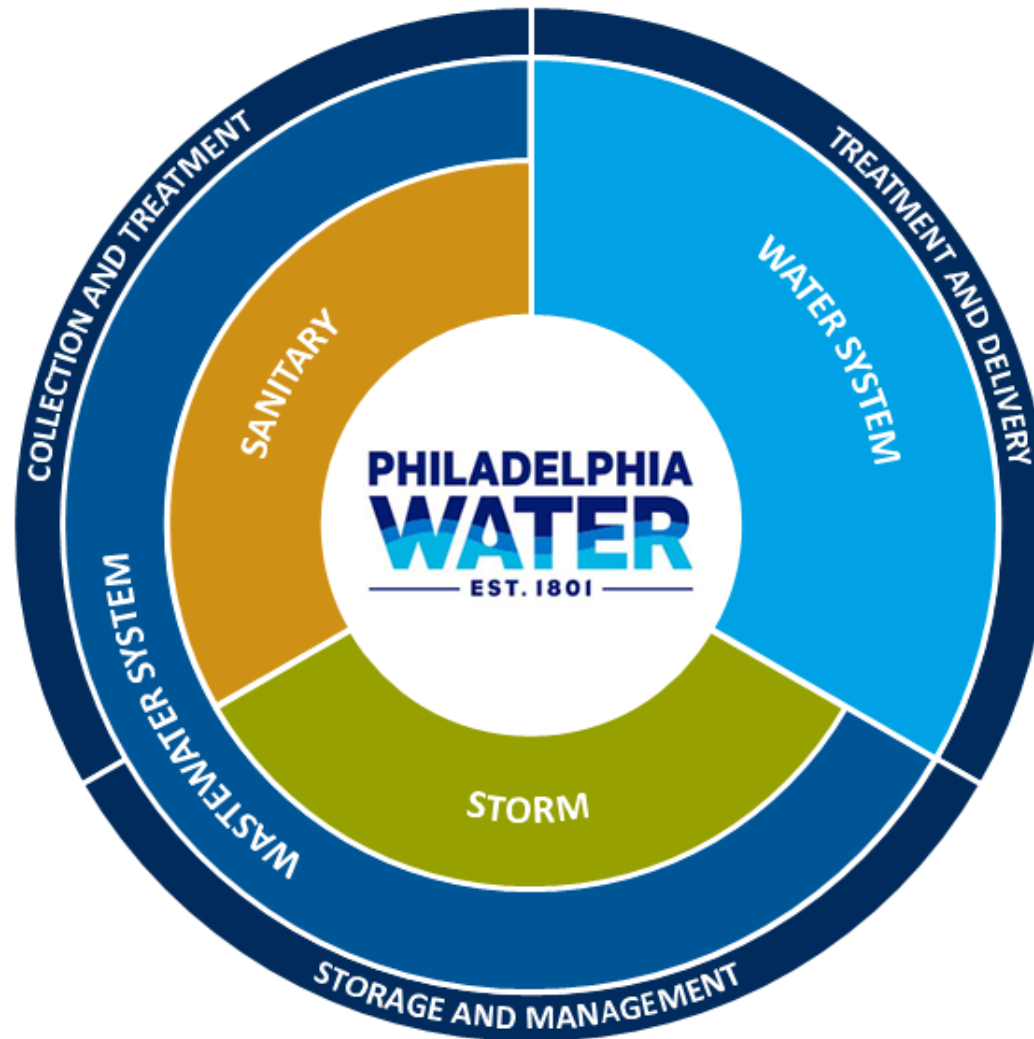
MISSION

We provide the City with integrated water and wastewater services



- ▶ We are one of the City's ten operating departments
- ▶ We serve under a dedicated **Water Fund** established pursuant to the City Charter
- ▶ We operate, maintain, repair and improve the Water and Wastewater Systems
- ▶ We are fully funded by our customers; not taxes
- ▶ Our rates are fixed by a Rate Board
The five members are appointed by the Mayor and confirmed by Council

What Does Philadelphia Water Do?

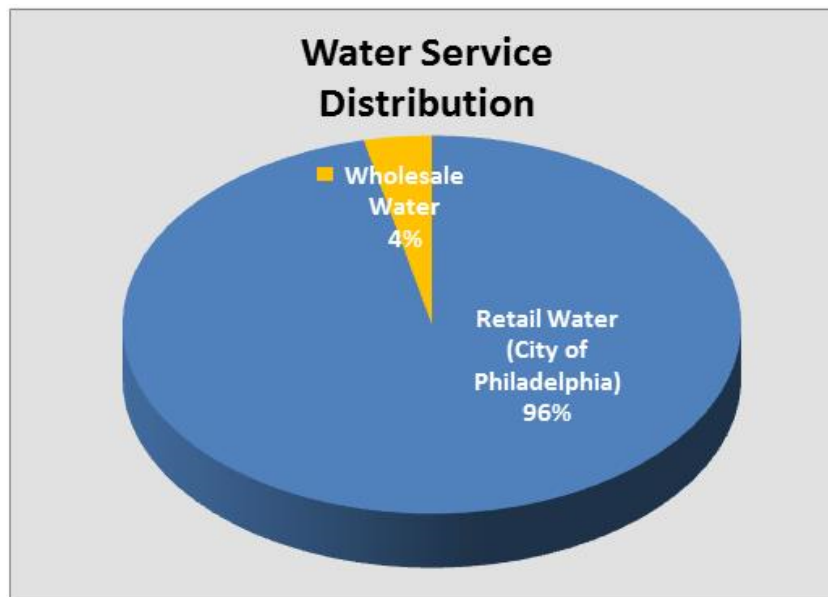


Who Do We Serve?

We predominantly serve the City of Philadelphia, although we have wholesale customers outside of city limits.

Drinking Water

Retail: 1.6 Million People + **Wholesale:** 1 Customer

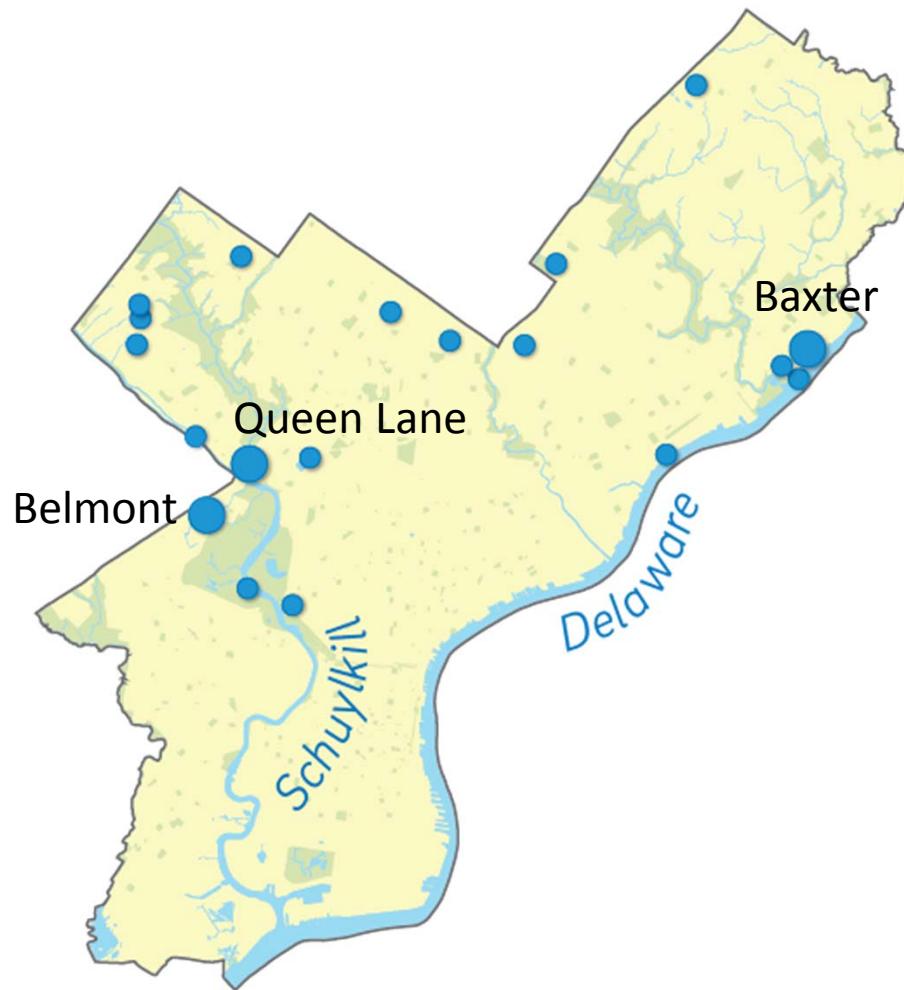


Wastewater

Retail: 1.6 Million People + **Wholesale:** 10 Customers



Drinking Water Service



- ▶ 58% of water comes from the Delaware and 42% from the Schuylkill
- ▶ **3,000** miles of water mains, **25+** pumping stations, **91,000** valves, **25,000** fire hydrants
- ▶ **3** major water treatment facilities: Baxter, Belmont and Queen Lane

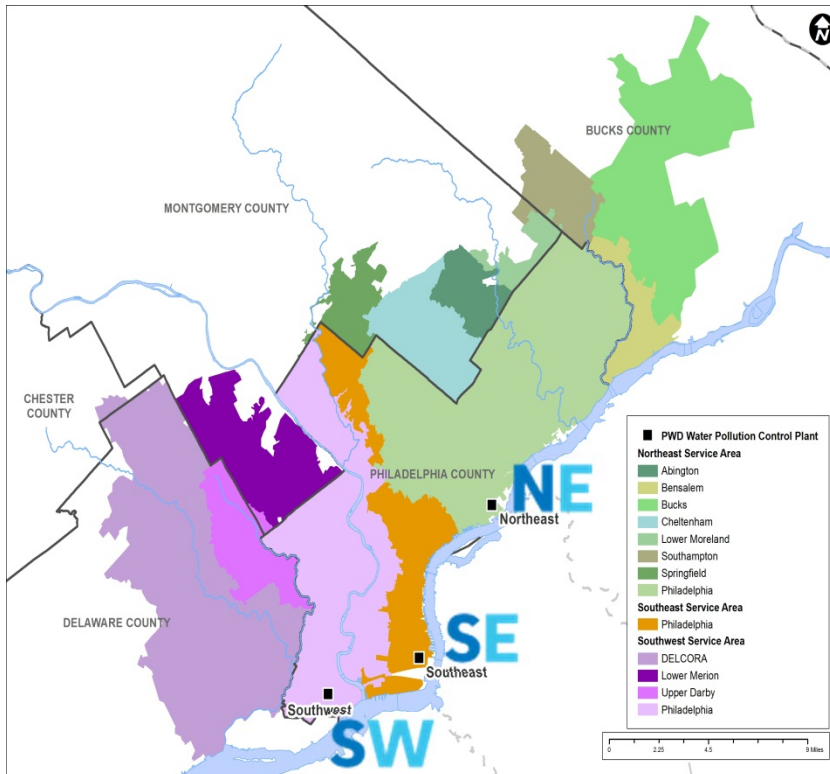
AVERAGE DAILY WATER SUPPLIED*

236

MGD

**Fiscal Year 2015*

Wastewater Service



- ▶ **3,700** miles of sewers,
19 pumping stations
- ▶ Centralized biosolids handling facility
- ▶ **3** water pollution control plants (WPCPs): **Northeast, Southeast and Southwest**

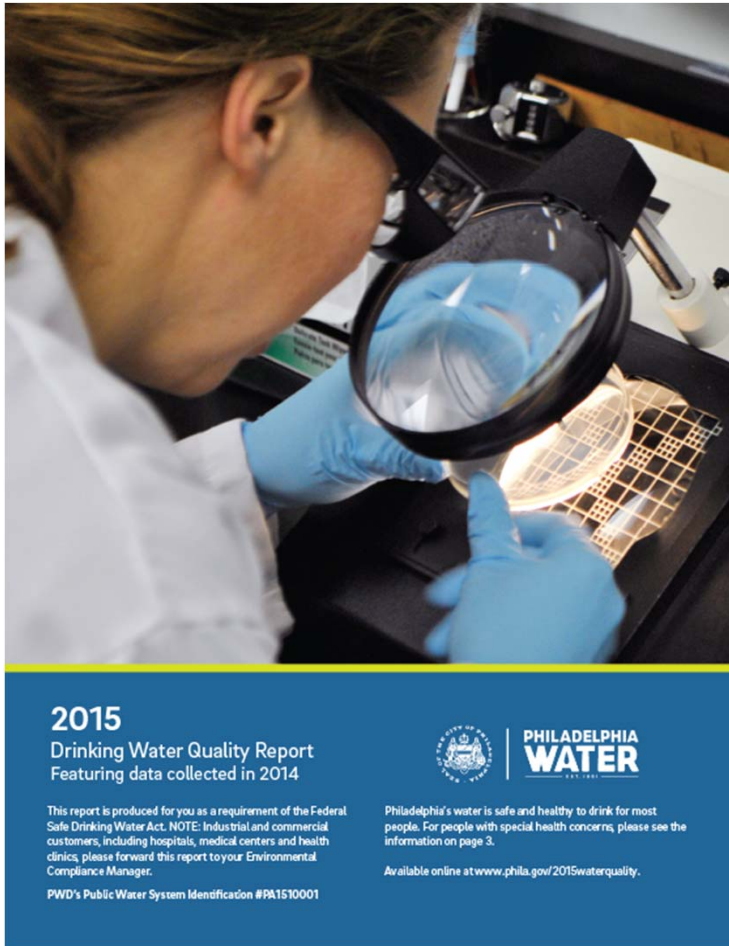
AVERAGE DAILY WASTEWATER TREATED*

397

MGD

**Fiscal Year 2015*

Drinking Water Quality



Directors Award

- ▶ **15-Year Directors Award for Water Treatment Program**
- ▶ **2015 Governor's Award for Environmental Excellence**
- ▶ **Our Drinking Water Quality Exceeds State and Federal Standards**

The Philadelphia Water Department consistently achieves Partnership for Safe Water quality standards that are stricter than State and Federal water quality regulatory requirements. PWD voluntarily adopted these goals, as a member of the Partnership for Safe Water in 1996.

Wastewater Treatment



- ▶ **Highest honors from industry association (NACWA)**
 - ▶ 2 Platinum Awards
 - ▶ 1 Gold Award
- ▶ **Our Wastewater Complies with Local, State and Federal Standards**

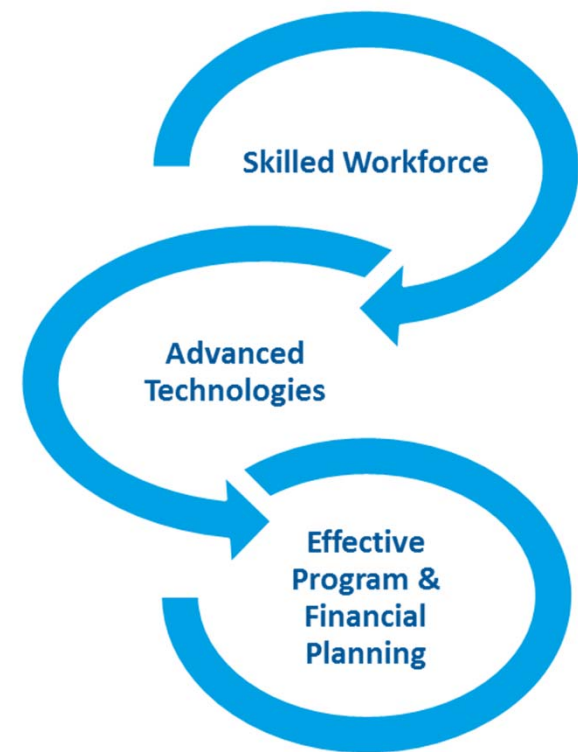
The Philadelphia Water Department consistently achieves 100% compliance with National Pollutant Discharge Elimination System (NPDES) regulatory requirements at our WPCP facilities.

Regulatory Compliance

Committed to full compliance with federal, state and local regulatory standards

- ▶ **Clean Water Act**
 - Consent Order & Agreement
- ▶ **Clean Air Act**
- ▶ **Safe Drinking Water Act**

Our Management Approach

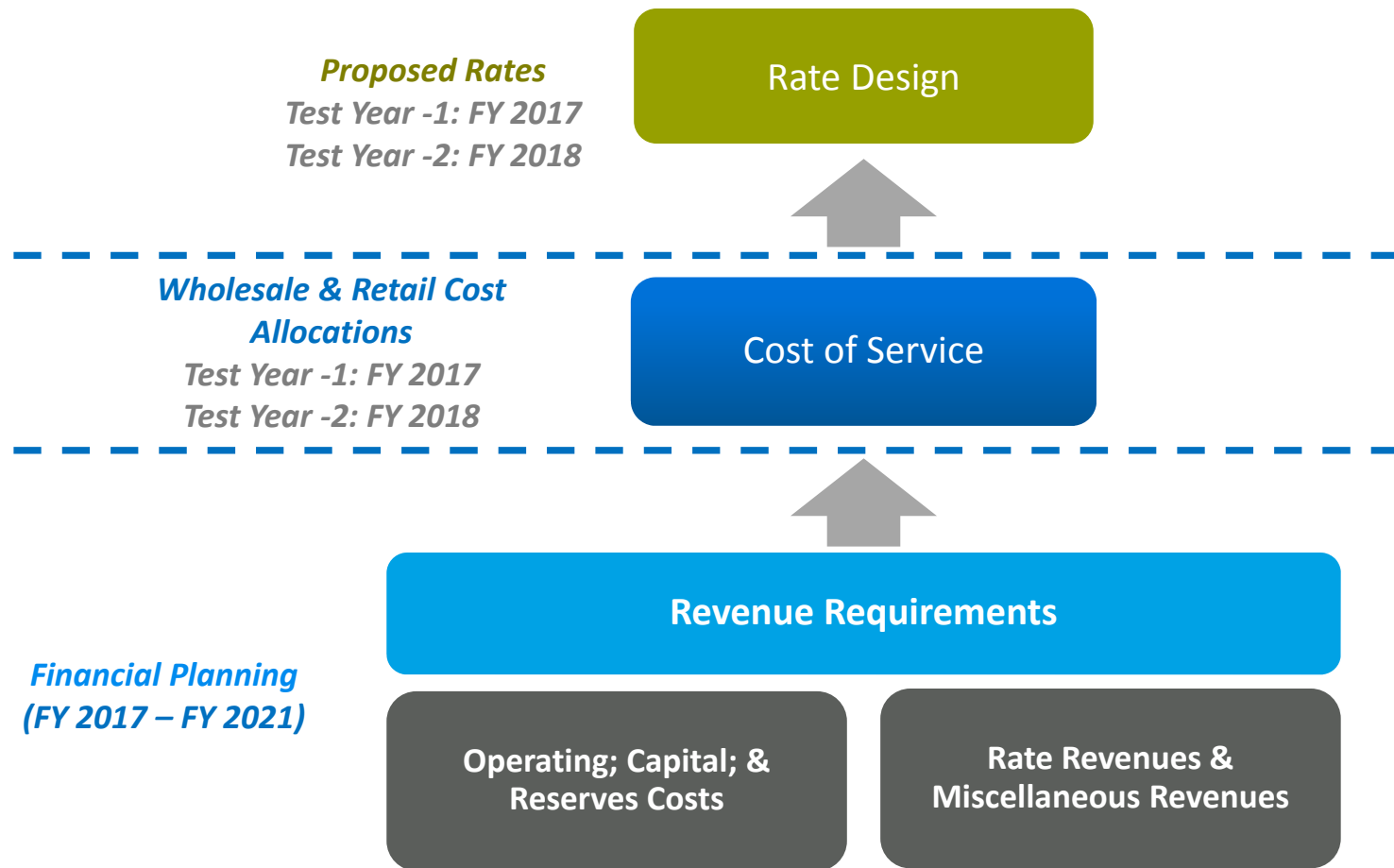


2. What is Cost of Service

- ▶ Building Blocks of Rate Setting
- ▶ Overview of Rate Concepts

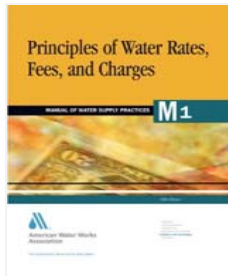
Building Blocks of Rate Setting

Industry Standard Methodology



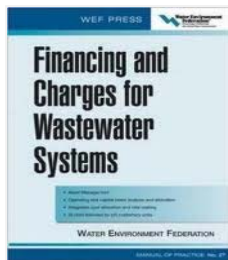
Industry Standards for Municipal Rate Setting

Guidance Manuals



American Water Works Association (AWWA)

Guidelines for Water Cost of Service & Rate Setting



Water Environment Federation (WEF)

Guidelines for Wastewater Cost of Service & Rate Setting



Water Environment Federation (WEF)

Guidelines for Stormwater Cost of Service & Rate Setting

What is Financial Planning?

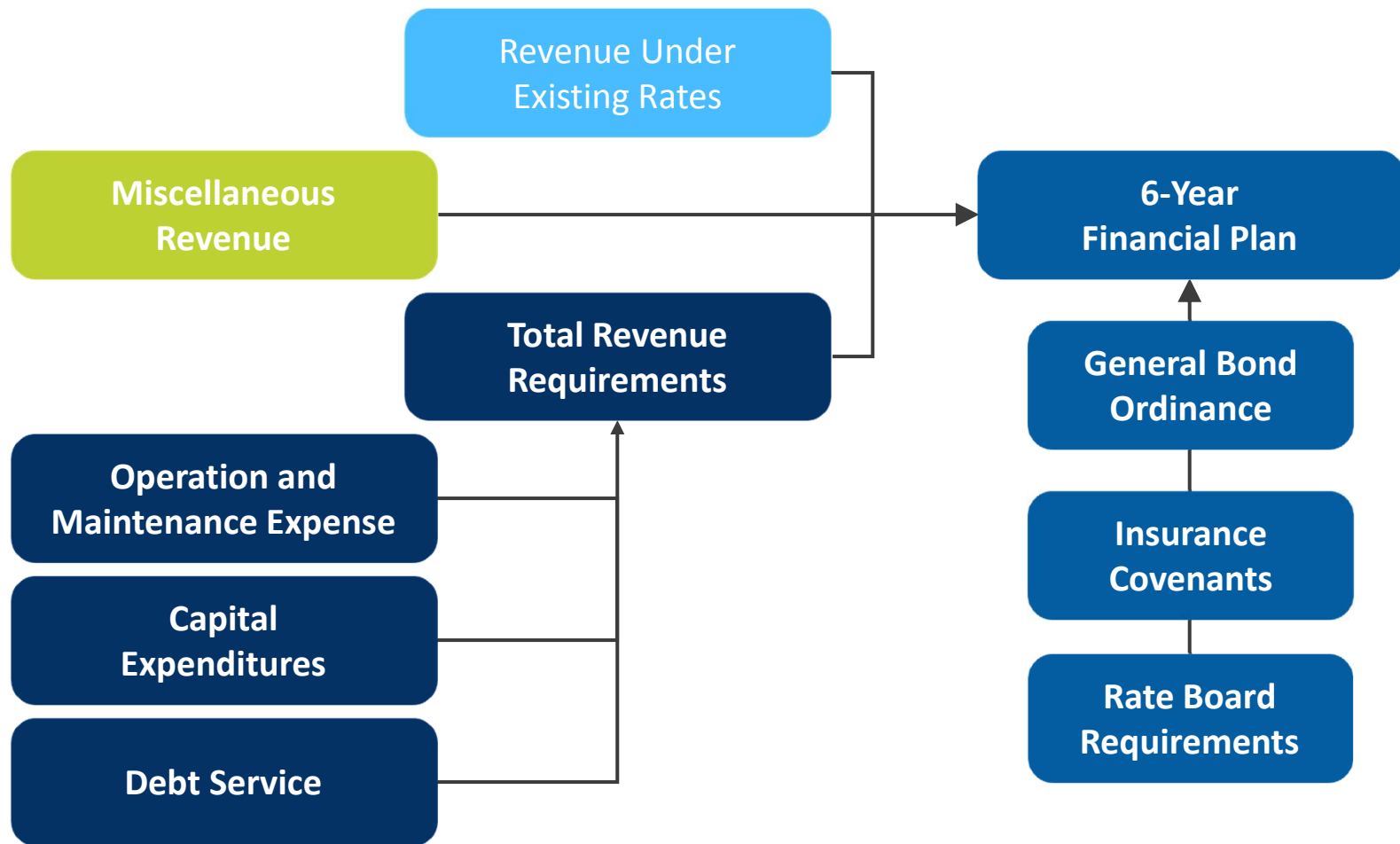
Process of establishing total system revenue requirements for the Water Fund

In municipal rate setting process, financial plan provides a multi-year roadmap based on *reasonable assumptions*

- Builds financial solvency
- Provides bonding capacity
- Helps meet bond and insurance covenant requirements
- Provides rate stability through defining a series of levelized revenue increases

Key Components of a Financial Plan

Financial Plan prepared for a six-year study period



What is Cost of Service?

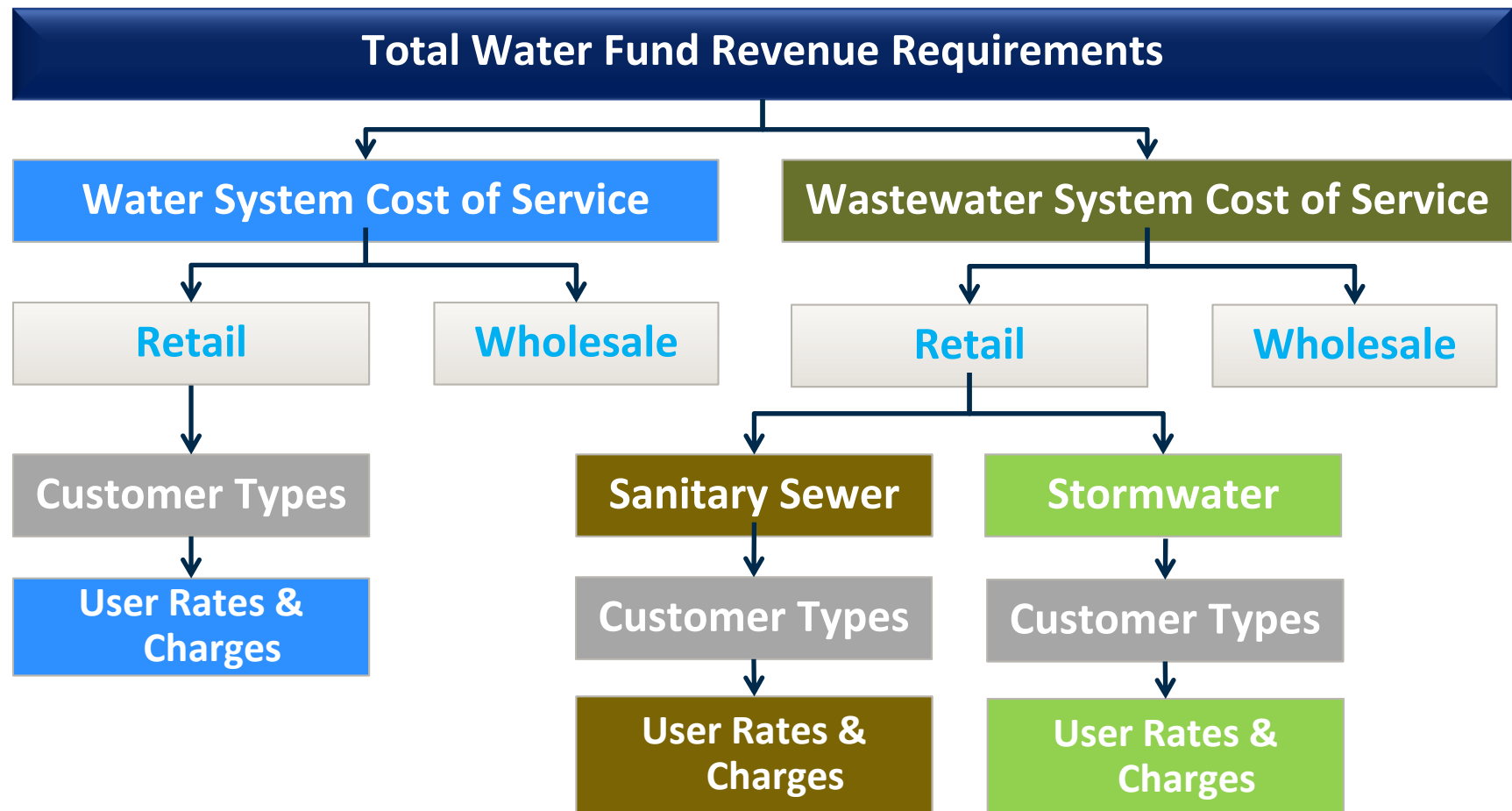
Process by which total system revenue requirements are allocated to users of the system in proportion to services received

Why should costs be allocated?

- Recognize differences in customer characteristics
- Establish *reasonable nexus* between fees charged and costs incurred in providing service
- Meet Regulatory Requirements
 - Federal Grants (User Charge Requirements)
- Establish basis for reasonable and defensible rates

Cost of Service Analysis

Involves Multiple Levels of Cost Allocations



What is the Purpose of Rate Design?

Rate design serves two critical purposes

- Determines the rates and charges that are billed to the customers
- Helps recover the costs of service that are apportioned to the various users of the system

3. Study Results

- ▶ Study Objectives
- ▶ Key Assumptions
- ▶ Cost of Service Results

What is the Study Period?

Financial Plan (FY 2017 – FY 2021)

- FY 2017 and FY 2018: Rate Filing Period
- FY 2019 through FY 2021: Extended outlook (for future planning)

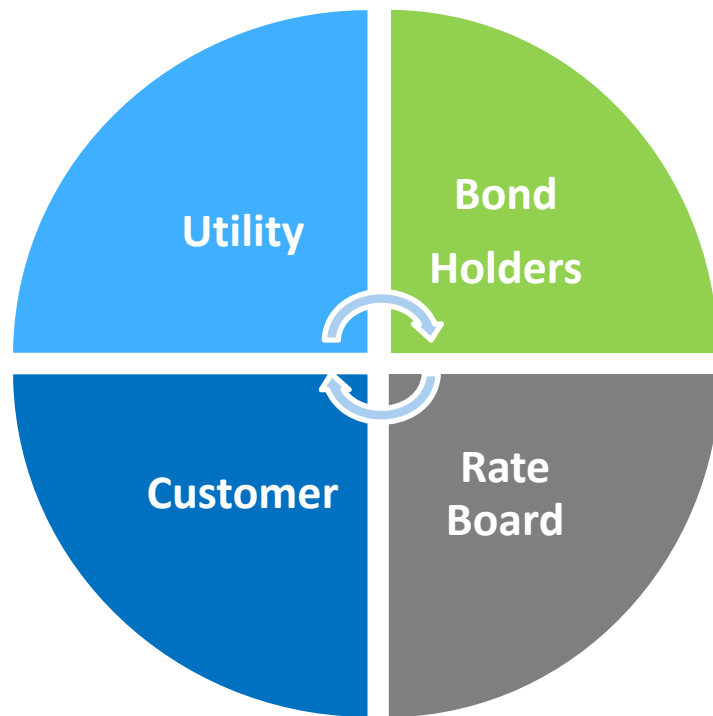
Cost of Service Rates Request

- Cost of service rate increases requested for **FY 2017 & FY 2018** only

FY = Fiscal Year

What are the Key Study Objectives?

Fulfill Multiple Stakeholder Needs, Objectives and Requirements



- Continue to provide reliable and safe service
- Maintain infrastructure integrity
- Meet regulatory compliance standards
- Recover costs equitably
- Assist customers through various programs
- Provide revenue sufficiency to
 - Maintain adequate fund balances
 - Provide adequate capital financing
 - Comply with bond and insurance covenants
 - Senior Debt Coverage: >1.2
 - Total Debt Coverage: >1.0
 - Acknowledge rate board ordinance requirements

Key Principle: General Bond Ordinance requires receipts based revenues

Overview of Key Water Funds

Revenue Fund	Covers operating revenues.
Rate Stabilization Fund	Covers annual expenses when revenues are less than projected and prevents the need for large swings in the water rates year to year.
Construction Fund	Covers bond proceeds, capital account deposit, transfers from the Residual Fund, and capital expenses.
Debt Service Fund	Covers debt service payments.
Residual Fund	Maintains remaining revenues after payment of all operating expenses, debt service obligations, transfers to Rate Stabilization Fund and capital account deposit.

Financial Plan

Proposed Series of Projected Revenue Adjustments

- **Projected cumulative revenue increases needed each year in the Water Fund relative to FY 2016 revenues**
 - FY 2017: \$34.7 Million
 - FY 2018: \$70.9 Million
 - FY 2019: \$103.7 Million
 - FY 2020: \$137.9 Million
 - FY 2021: \$179.6 Million
- **Proposed withdrawals from Rate Stabilization Fund during FY 2016 through FY 2018 to mitigate level of revenue increases**

Financial Plan

Key Assumptions



REVENUE PROJECTIONS

- **Data Sources**
 - Billing determinants and Collection Factors from new reports (RFC Reports)
- **Projected Revenues FY 2016 to FY 2021**
 - Revenues projected on a receipts basis as provided by the General Bond Ordinance
 - Total Retail: Fiscal Year Cash Receipts reflects 96.0% of Fiscal Year Billings
 - Total City: Fiscal Year Cash Receipts reflects 100.0% of Fiscal Year Billings
- **Reduction in water revenues from wholesale water customers**
 - Annual water revenue decrease of **\$7.0 to \$8.0 million** (FY 2017 to FY 2021)
- **Projected annual decrease of 0.6% in water usage volume (FY 2016 to FY 2019)**

Financial Plan

Key Assumptions

New Affordability Program

Revenue

- **Revenue decrease: \$16.1 to \$18.6 million (FY 2018 to FY 2021)**
 - Revenue impact mitigated through discontinuation of WRAP City Grants - **\$2.7 million** (Beginning FY 2018)
 - Net revenue decrease - **\$13.4 million** (FY 2018)

Personnel

- **Increased Personnel Costs: \$1.6 to \$2.4 million (FY 2017 to FY 2021)**
 - Addition of 22 staff positions in Water Revenue Bureau between FY 2017 and FY 2018
 - 9% increase in overall staffing level of 250 personnel
 - Includes associated pension, pension obligation and benefits

Services

- **Additional basis2 support and office space**
 - **\$1.3 million** (FY 2017)
 - **\$0.7 million to \$0.8 million** (FY 2018 to FY 2021)

Financial Plan

Key Assumptions

Operations & Maintenance (O&M)

Personnel

- **Addition of 21 staff positions in PWD (between FY 2017 and FY 2021)**
 - 1% increase in overall staffing level of 2,000 personnel
 - Needed to support new initiatives
- **Addition of associated pension, pension obligation and benefits for increased staffing levels**
- **Average Annual salary increase of 3.0%**
- **Average Annual fringes & benefits increase of 3.0%**

Services

- **Additional Funding for Regulatory Compliance :**
 - Regulatory compliance program grants - \$3.5 million per year
 - Regulatory compliance maintenance costs of \$0.6 million to \$1.0 million (FY 2017 to FY 2021)
- **Mark-out program initiative costs**
 - \$0.6 million to \$0.7 million (FY 2017 to FY 2021)

Financial Plan

Key Assumptions

Operations & Maintenance (O&M)

Power & Chemicals

- **Annual power costs increase of 0.0% in FY 2017**
 - 5.0% annual increase starting in FY 2018 through FY 2021
- **Annual chemicals costs increase of 3.3%**

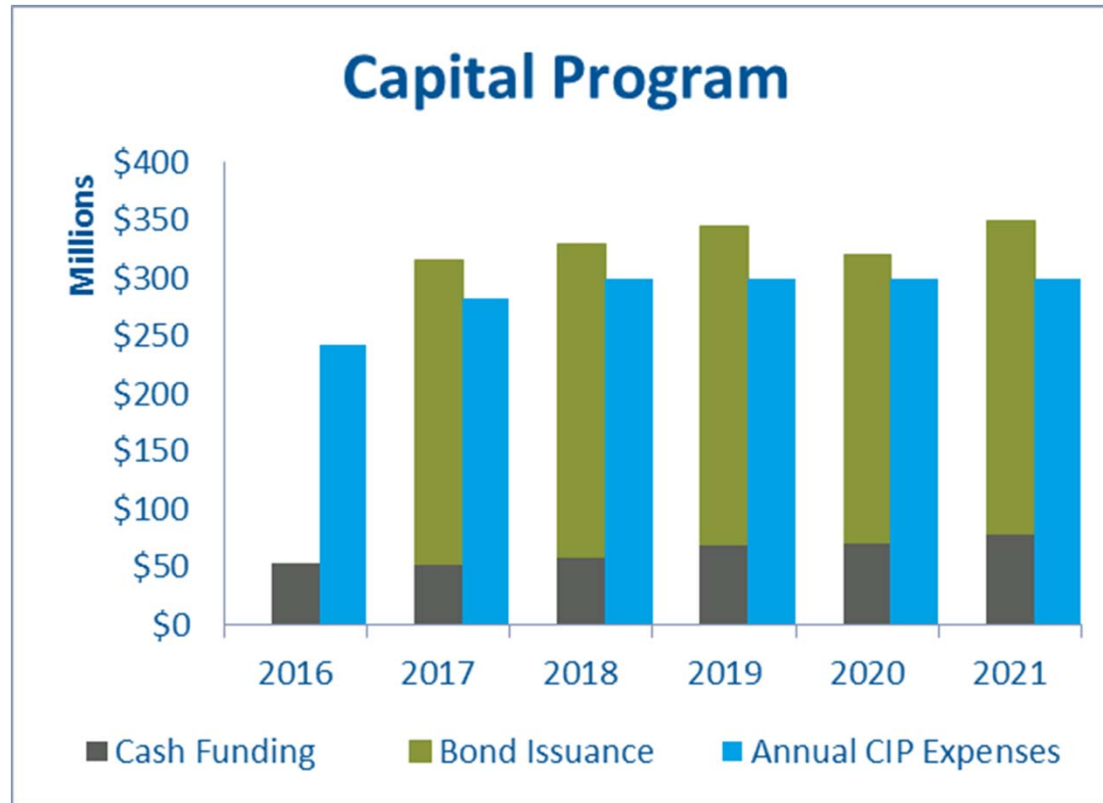
Transfers

- **Reimbursement to General Fund for upfront payment to construct combined sewer outfall.**
 - \$1.8 million in FY 2017 and \$3.5 million in FY 2018
- **Average Annual increase of 3.0% for Water Department Interfund Transfers**
 - Primarily reflects anticipated increase in salary costs for City personnel (non-PWD) which provide services to Water Department

Financial Plan

Key Assumptions

CAPITAL PROGRAM & FINANCING



- *Remaining differential for FY 2016 funded with City of Philadelphia Water/Wastewater Revenue Bonds Series 2015A*
- *Increases cash financing of capital program to achieve goal of 20% to 25% cash funding*

Financial Plan

Key Assumptions



Fund Transfers

- **Cash Funded Capital**

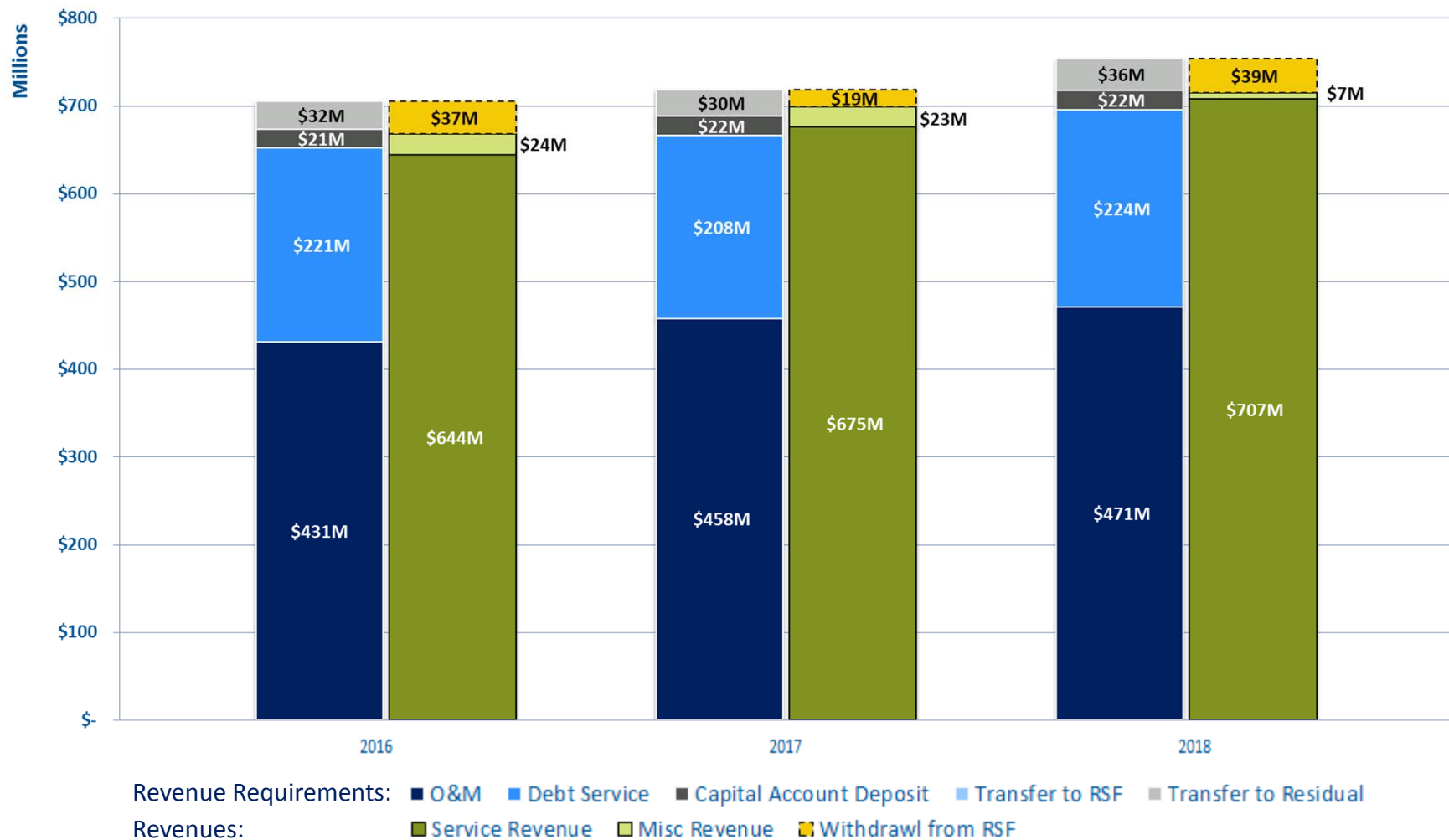
- Target 20% to 25% cash funding for annual CIP spending, including:
 - Required Capital Account Deposit to the Construction Fund per General Bond Ordinance
 - Additional annual transfer from Residual Fund to Construction Fund to achieve goal

- **Rate Stabilization Fund Drawdown**

- Provide for levelized revenue increases to the extent practical
- Maintain minimum annual balance of \$111.0 million to meet unforeseeable or unusual expenses

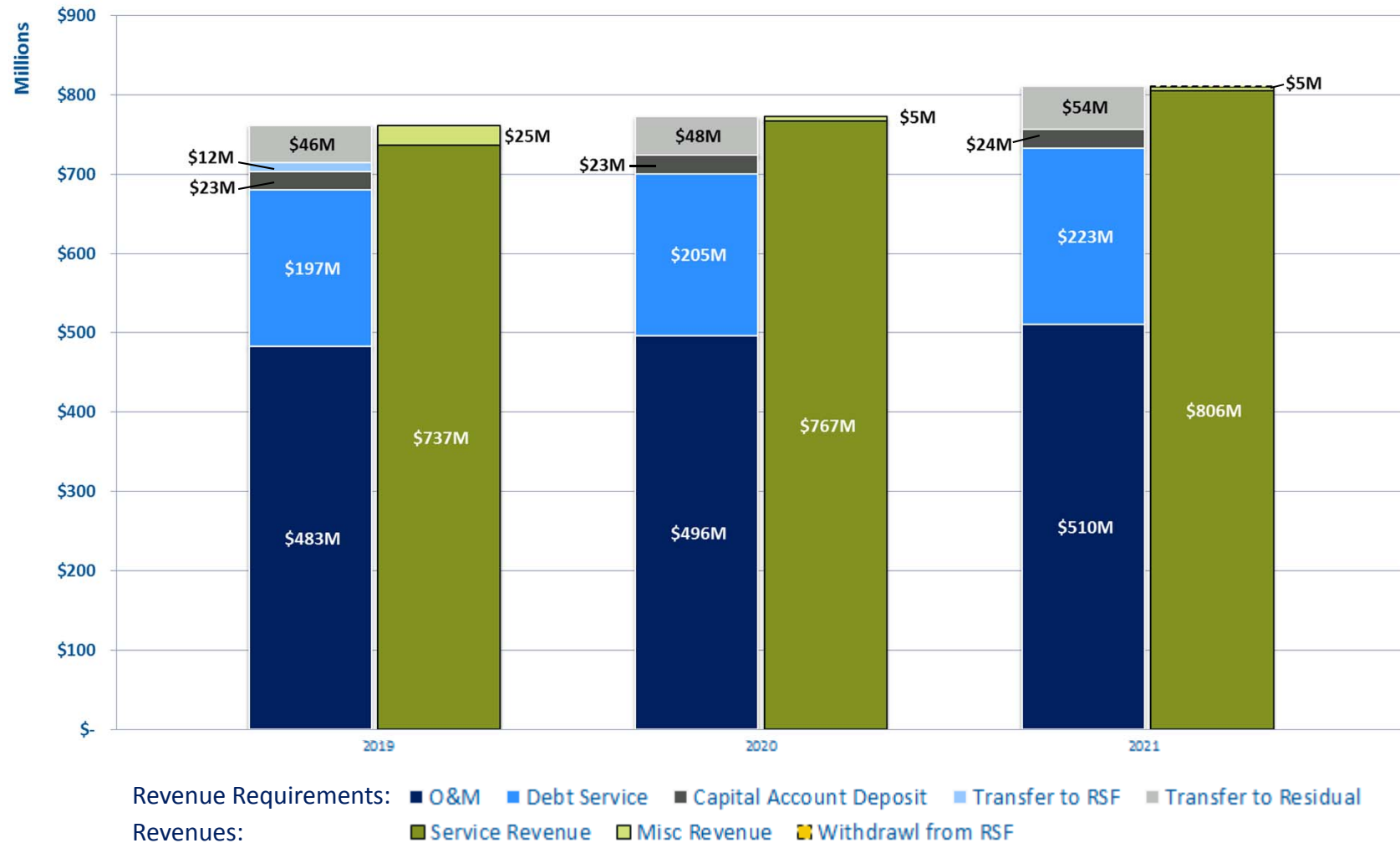
Projected Revenue & Revenue Requirements

Requested Rate Increases in FY 2017 and FY 2018



RSF = Rate Stabilization Fund

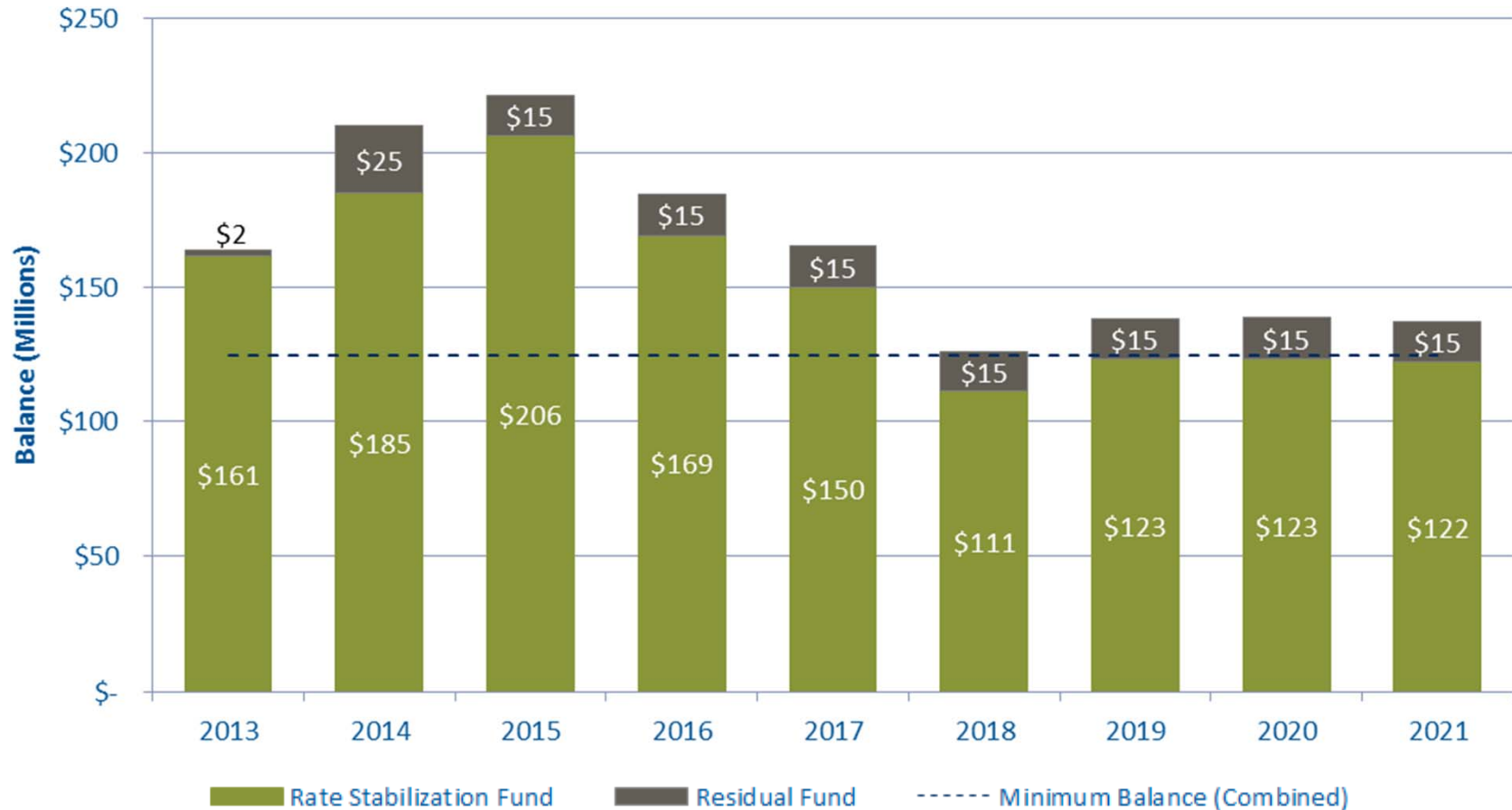
Projected Revenue & Revenue Requirements Extended Outlook FY 2019 – FY 2021



RSF = Rate Stabilization Fund

Projected Fund Balances

Residual & Rate Stabilization Funds (FY 2013 – FY 2021)



Minimum Balances: Rate Stabilization Fund = \$110 million; Residual Fund = \$15 million; Combined = \$125 million

Projected Financial Performance

Bond and Insurance Covenants (FY 2016 – FY 2021)

Description	2016	2017	2018	2019	2020	2021
1989 General Bond Ordinance Covenants						
Senior Debt Coverage	1.24	1.25	1.26	1.35	1.35	1.35
Total Debt Coverage	1.13	1.13	1.15	1.21	1.21	1.22
Insurance Covenants						
Senior Debt Coverage from Current Revenues	1.07	1.15	1.08	1.35	1.35	1.34

Projected Financial Performance

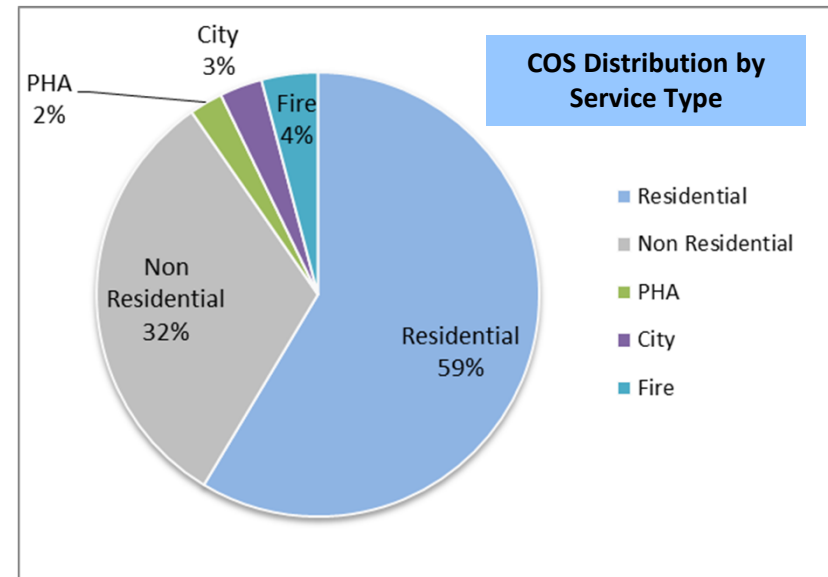
Rate Board Ordinance Requirements (FY 2017 – FY 2018)

Description	2017	2018
Rate Board Ordinance Requirements		
Projected Total Revenues	698,553	714,352
Projected Total Appropriations	776,884	813,732
Ordinance Requirement Compliance	Yes	Yes

Retail Cost of Service Results

WATER (FY 2017)

WATER	Service Type	Cost of Service
	Residential	\$ 155,693
	Non Residential	83,126
	PHA	6,349
	City	8,140
	Fire	10,898
	Total	264,206

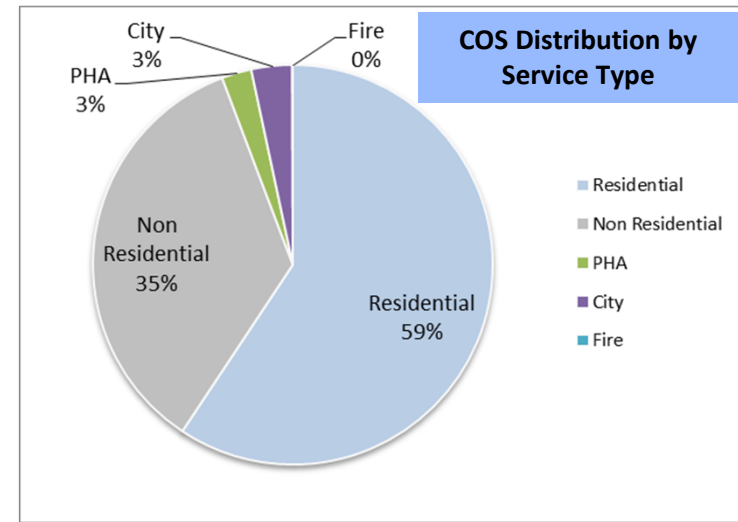


*Water figures exclude wholesale cost of service
Cost of Service presented in \$1,000*

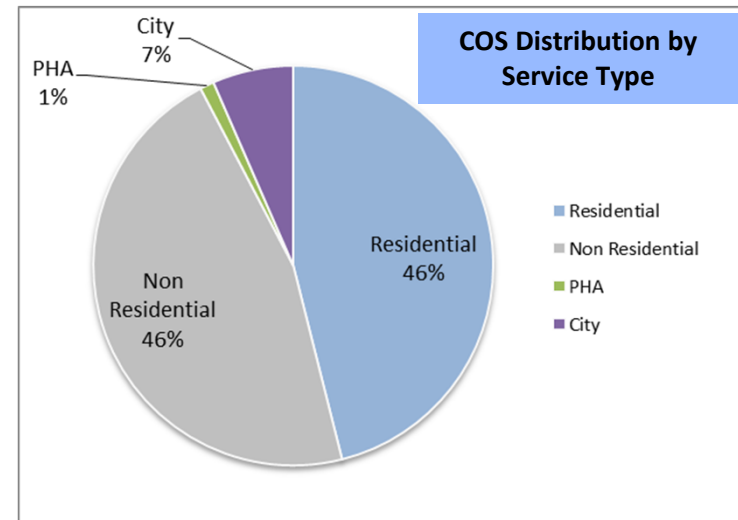
Retail Cost of Service Results

WASTEWATER (FY 2017)

SEWER	Service Type	Cost of Service
	Residential	\$ 128,321
	Non Residential	75,519
	PHA	5,215
	City	7,144
	Fire	96
	Total	216,294



STORMWATER	Service Type	Cost of Service
	Residential	\$ 72,415
	Non Residential	72,671
	PHA	1,788
	City	10,281
	Total	157,155



*Sewer figures exclude wholesale cost of service
Cost of Service presented in \$1,000*

Rate Increase Drivers

The Water Department must fund critical investments in aging infrastructure and meet regulatory requirements.

▼ Declining water usage

- More efficient appliances and fixtures
- Conservation awareness

▲ Aging Infrastructure

- Increase infrastructure reinvestment

▲ Customer Assistance

- Discounts & Grants
- Affordability Program

▲ Environmental Regulations

- State & Federal Requirements
- Safe Drinking Water Act, Clean Water Act and Clean Air Act

▲ Personnel

- Inflationary increase
- New positions to manage new initiatives

▼ = decreased revenue ▲ = increased cost

4. Proposed Rates

- ▶ Impact on Bills
- ▶ Rate Comparison
- ▶ Customer Assistance

Impact of Rate Increase

Based upon a typical residential customer (5/8" meter and monthly usage of 600 cubic feet) bills would generally increase as follows:

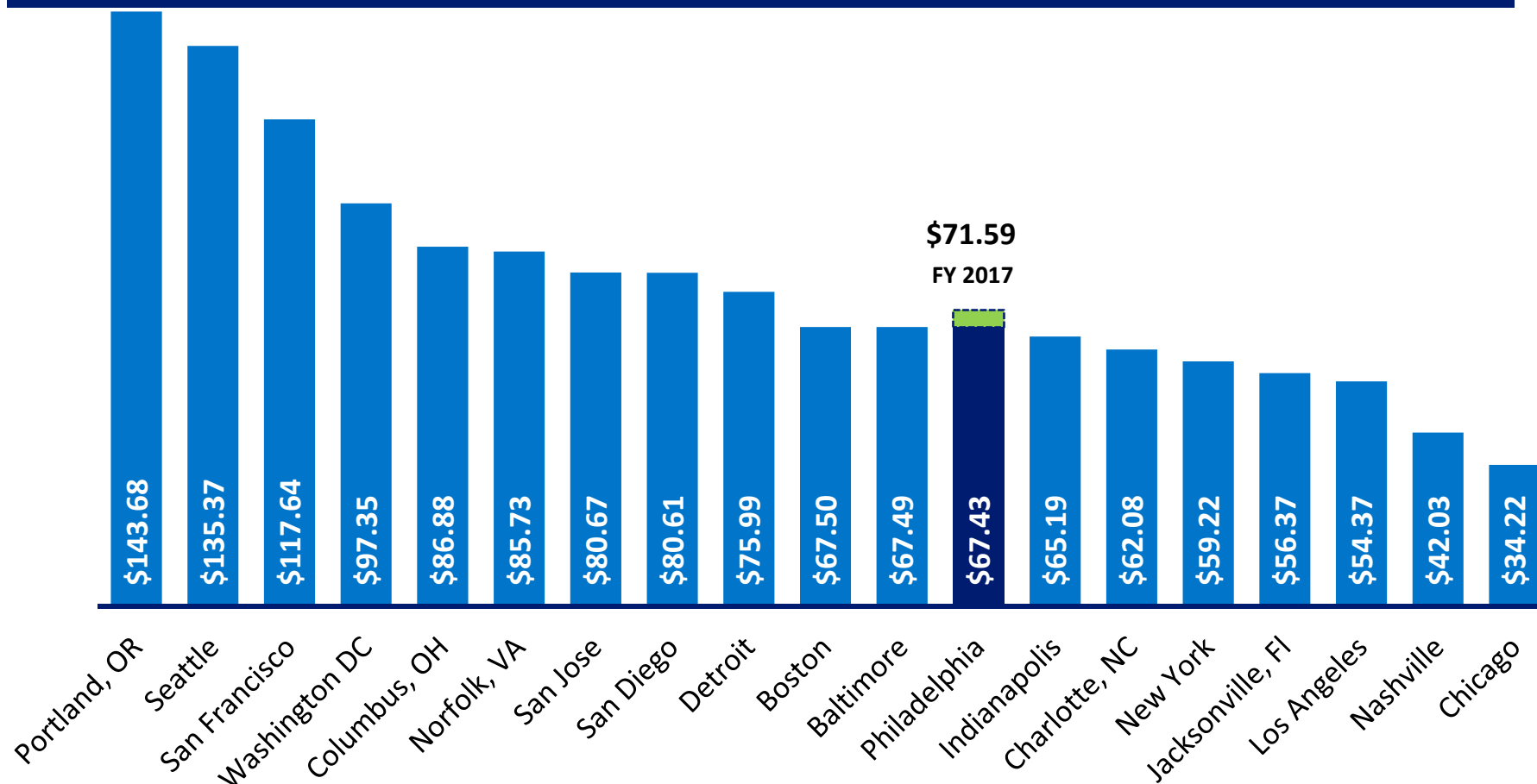
Monthly bill impact ¹				
Fiscal year	Requested increase of monthly bill	Additional monthly water & sewer charge	Typical Residential monthly bill total	Eligible Senior Citizen monthly bill total ²
Current	none	none	\$67.40	\$50.60
FY 2017	6.2%	\$4.20	\$71.60	\$53.70
FY 2018	5.5%	\$3.90	\$75.50	\$56.60

1. Monthly totals are rounded to the nearest ten cents.

2. Reflects 25% senior citizen discount on a typical residential bill. Most Senior Citizens use less than 6 CCF per month.

Philadelphia Compares Favorably Nationally

COMPARABLE MONTHLY WATER, SEWER AND STORMWATER RATES



Source: Rates based on published water, sewer, and stormwater rate schedules available online as of 8/1/15 and assumes 6 CCF or 4,488 gallons of billed water and sewer discharges

Notes: 1) Rate increases were approved for 2016 for the following cities: Seattle and San Francisco.

2) Effective June 2016, Chicago will raise rates whenever the CPI raises.

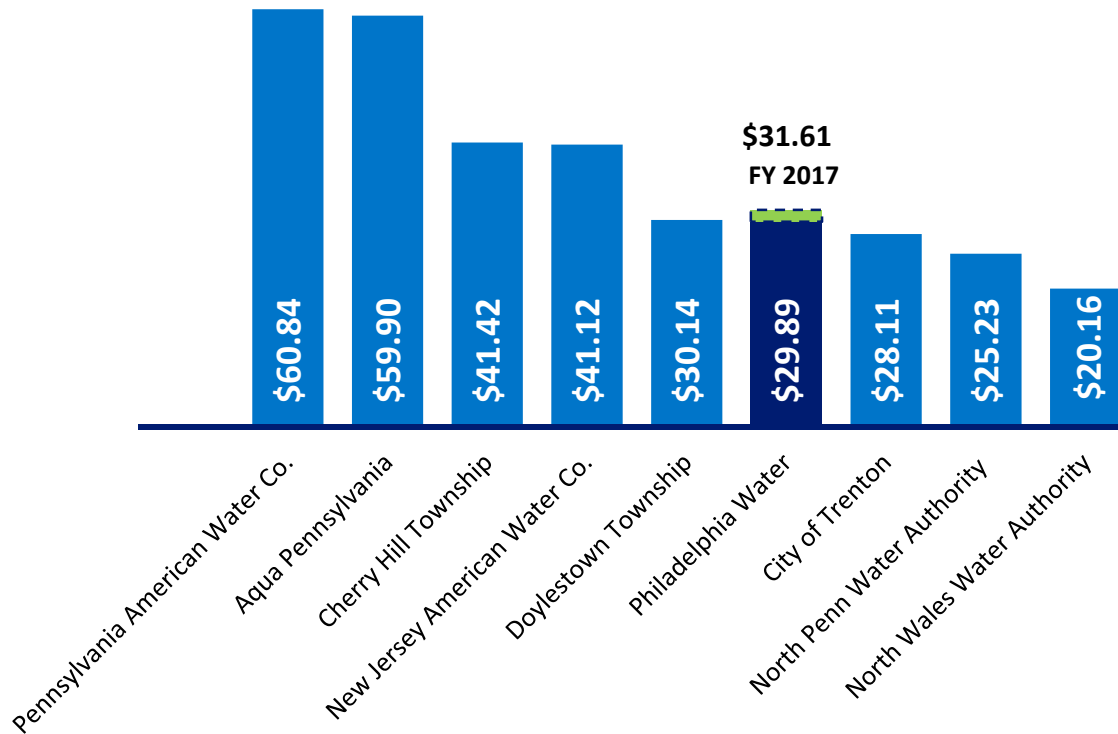
3) Philadelphia: Based upon FY 2015 and FY 2016. Increase based upon proposed rate for 7/1/16.

4) Washington DC includes \$6.00 for DC Water System Replacement Fee.

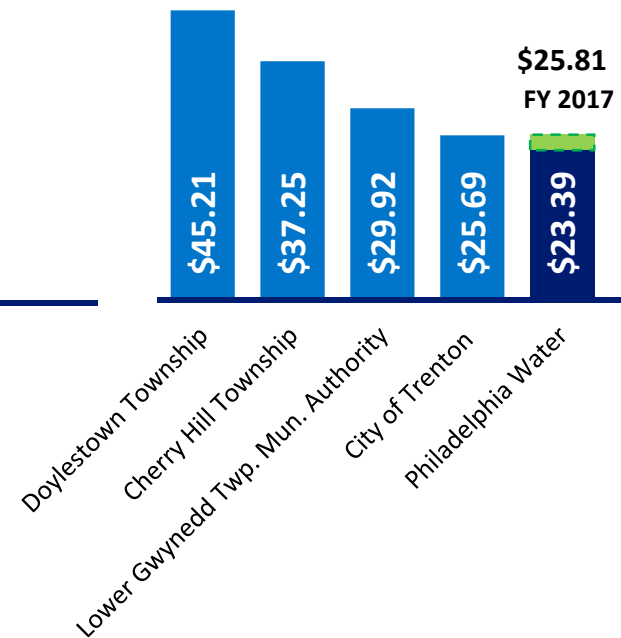
5) Stormwater rates based upon impervious area of 3,000 sf or 1 Equivalent Residential Unit (ERU)

Philadelphia Compares Favorably Regionally

REGIONAL MONTHLY WATER RATES



REGIONAL MONTHLY SEWER RATES



Rates data available as of 12/14/15. Based on a 5/8 inch meter and 600 cubic feet or 4,488 gallons. Stormwater charges are excluded from sewer calculations because many jurisdictions fund such services from other sources of revenue.

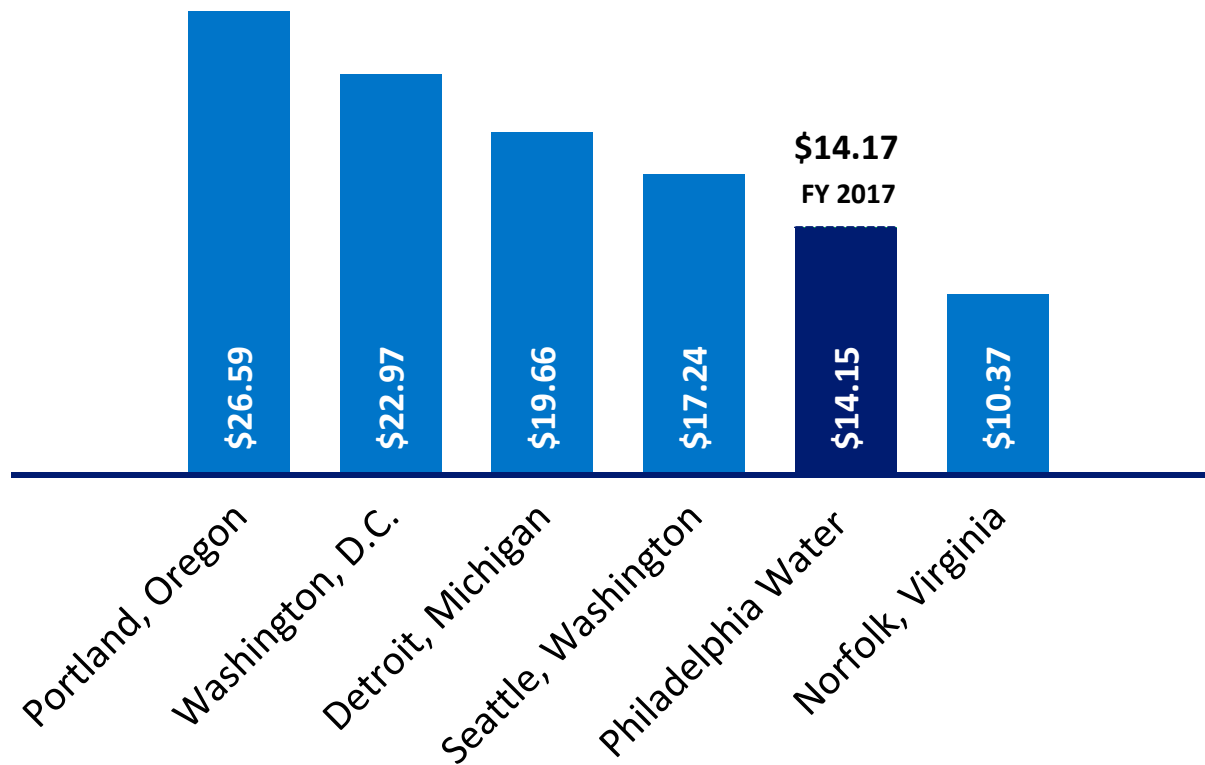
Doylestown: Sewer service provided by Bucks Co. Water & Sewer Authority.

Phil: Excludes stormwater charges (\$14.17) and includes a portion of the service charge (\$7.22).

Trenton: Sewer charges provide for stormwater collection & treatment.

Stormwater Rates Compare Favorably

COMPARISON OF AVERAGE RESIDENTIAL MONTHLY STORMWATER



Rates used are for FY 2016. Portland SW charges are sum of onsite and offsite flat fee per account. DC Water charges are based on 1 ERU. Detroit rates are drainage fee based on meter size. Seattle rates are drainage fee based on parcel size. Philadelphia rates are per parcel and account. Norfolk is a flat rate per account.

Customer Assistance Programs

A **balanced approach** is critical to maintaining a utility's financial solvency while protecting customer affordability. Water Department supports low income customers with the following customer assistance initiatives.

Senior Citizen Discount

Charitable Organization Discount

Water Revenue Assistance Program (WRAP)

Utility Emergency Services Fund (UESF)

Homeowners Emergency Loan Program (HELP)

Conservation Assistance Program (CAP)

Cross Connection Abatement Program

Basement Protection Program (BPP)

In 2015, the Mayor signed a bill passed by City Council that calls for the creation of a new affordability program.

TOTALS OF ALL PROGRAMS: In fiscal year 2015, the Water Fund provided **over \$24 million in assistance** to customers in need.

New Affordability Program for 2018

Program Design (per City Ordinance)

- **Three income tiers based on Federal Poverty Level (FPL)**
 - FPL for an average City household: \$18,260 per year
 - Assistance extends to 150% of FPL
- **Three usage levels based on historic consumption**
 - Low use **0 to 2 ccf** (0 to 1,500 gallons per month)
 - Medium use **2+ to 8 ccf** (1,500 to 6,000 gallons per month)
 - High use **8+ ccf** (above 6,000 gallons per month)
- **Design is consistent with EPA affordability guidelines and industry practices**

New Affordability Program Scope

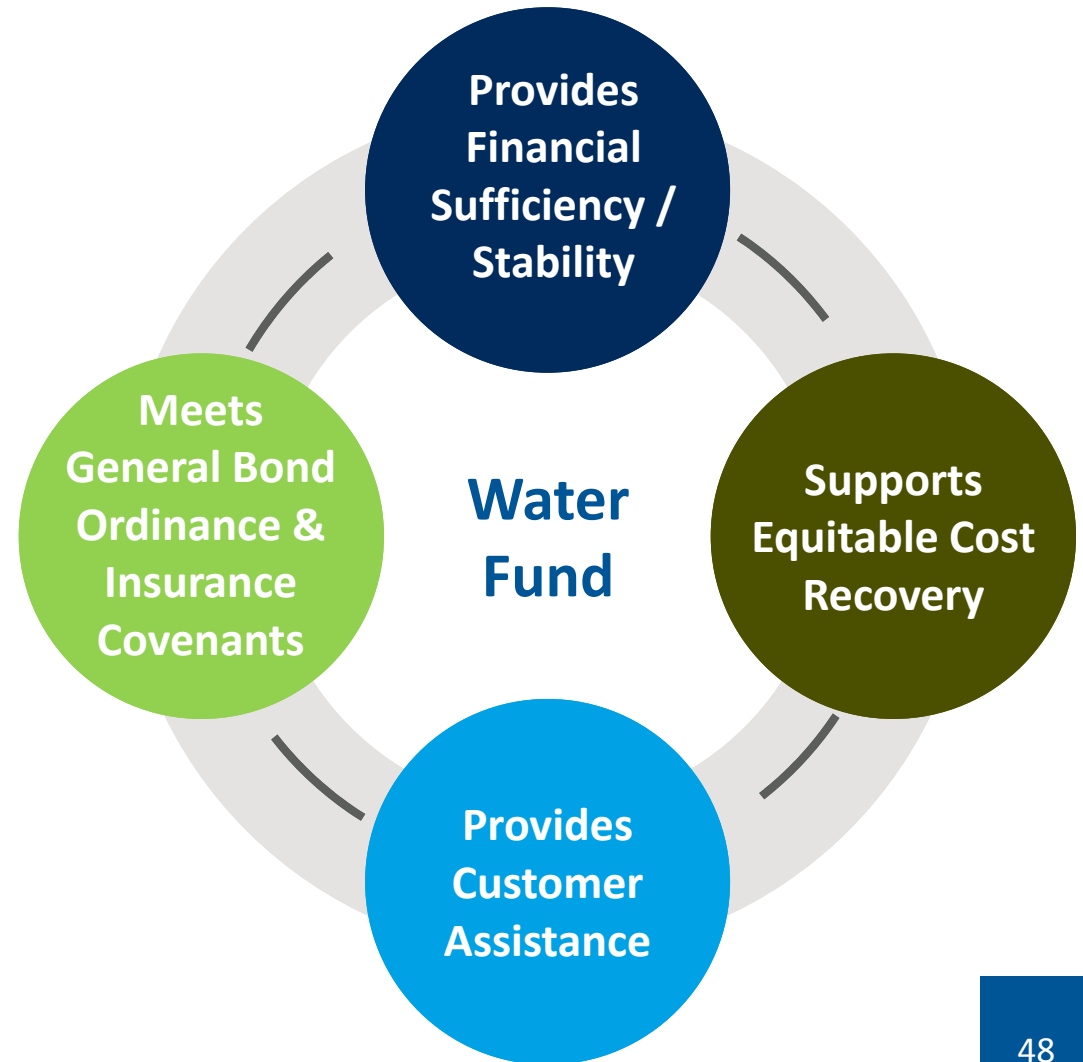
- 56,000 accounts or 13% of the residential account base may qualify for some discounts on current charges
- Additional assistance extends to payment plans for delinquent balances
- Implementation will be consistent with the Rate Board Decision

Income Tier	Usage Level	Usage Level Bounds	Discount Percentage	Minimum Bill Amount (per month)
Tier 1: 0-50% of FPL	Low	0 to 2 Ccf	91%	\$ 12.00
	Medium	2+ to 8 Ccf	95%	\$ 12.00
	High	8+ and above Ccf	97%	\$ 12.00
Tier 2: 51-100% of FPL	Low	0 to 2 Ccf	20%	\$ 12.00
	Medium	2+ to 8 Ccf	57%	\$ 12.00
	High	8+ and above Ccf	75%	\$ 12.00
Tier 3: 101-150% of FPL	Low	0 to 2 Ccf	0%	\$ 12.00
	Medium	2+ to 8 Ccf	25%	\$ 12.00
	High	8+ and above Ccf	56%	\$ 12.00

Discussion

- ▶ Additional Rate Board Questions

The proposed plan and rate request will sustain the Water Department's mission of providing integrated water and wastewater services.



PHILADELPHIA WATER

— EST. 1801 —