Alternative Rate Structure Analysis

Philadelphia Water Department

STAKEHOLDER MEETING 1 – JULY 30, 2019

BLACK & VEATCH

Agenda

- Welcome & Meeting Overview
- Focus Topic No. 1 – Water Quantity Rate Structure
- Analyzing Proposals & Discussion
- Up Next

Welcome & Meeting Overview

3

What is the purpose of the Alternative Rate Structure Analysis?

PWD's overall mission is to provide safe and reliable drinking water to the City of Philadelphia and its customers as well as protecting the region's water resources.

While the mission has not changed, the Department continues to evolve in order to:

- Improve service;
- Meet current customer needs;
- Address aging infrastructure;
- Comply with regulatory requirements; and
- Face new and future challenges.

As such, PWD is interested in assessing whether its existing rate structure still supports its current mission and goals and helps to meet future objectives.

4

Why are we having these meetings?

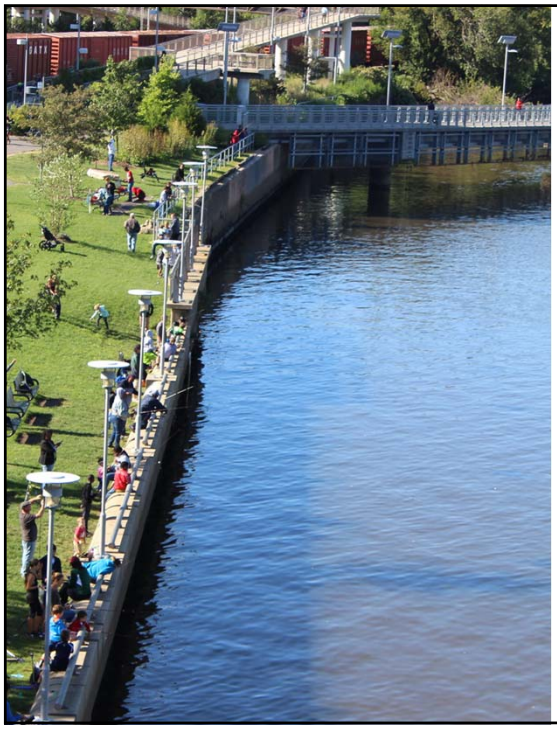
The objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near term and long-term challenges for the Water Department and its customers.

Focus on Three Key Areas:

- Water quantity charges
- Stormwater credits and incentives
- Rider for pension-related expenses

While the above are the immediate areas of focus, this is the beginning of a process that will take several years to complete.

5



Intended Meeting Outcomes

The purpose of the Alternative Rate Structure Stakeholder meetings is to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation

6

Meeting Schedule

A series of **3 meetings** will be held on the following dates:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits and incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

Request written comments be submitted by September 16th

7

What will we do with your feedback?

1. The Consulting Team will develop a summary report detailing the process and feedback received.
2. The draft report will be provided for stakeholder participants' review and feedback.
3. The final report will be issued to the Rate Board and posted to their website.
4. Written comments will be posted to the Rate Board website.

Note – Comments may be provided on a rolling basis (i.e. after each meeting) or all at once. Additional commentary on areas not discussed during this meeting series is also welcomed.

All meeting materials and written comments will be treated as public information.

8

Meeting Overview

- Focus Topic – Water Quantity Charges
- Role of Facilitators
- Meeting Objectives
- Meeting Agenda
- Meeting Ground Rules

30 July 2019 9

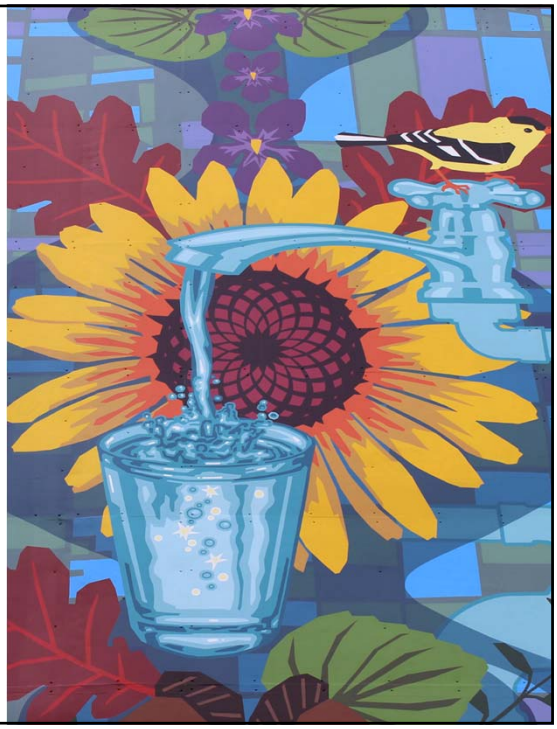
Meeting Objectives

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

30 July 2019

Meeting Agenda
Water Quantity Charges

- Presentation
  - Existing Rate Structure Review – Pros and Cons
  - Benchmarking
  - Potential Alternatives
  - Impact Analysis
- Analyzing Proposals: Small Group Notes
- Large Group Discussion



30 July 2019

Meeting Ground Rules

- Start and end on time.
- Stay on topic.
- It's ok to disagree . . . Respectfully (focus on issues not personalities).
- Listen for understanding . . . Don't interrupt.
- Speak up . . . Everyone contributes.
- Be present . . . Cell phones off or on vibrate.

30 July 2019

12

Focus Topic No. 1: Water Quantity Charges

13

Water Rate Structures

Most Common Rate Structures consist of two components:

- Service Charge
- **Consumption Charge (i.e. Commodity/Quantity/Volumetric)**

QUANTITY CHARGE OPTIONS:

- Uniform
- Declining Block
- Inclining Block
- Seasonal Rates

Considerations:

- Block Sizing (including basic needs)
- Block Pricing
- Blocks by Customer Class or Meter Size

30 July 2019

14

Existing Rate Structure - Review

- Declining Block Quantity Charge
- Intended to reflect:
  1. The way costs are incurred
  2. Lower extra-capacity costs or peak demand costs associated with the larger volume customers vs. smaller volume customers
- Economies of scale in providing water

TIER	DESCRIPTION	RATE ($/MCF)
1	First 2 MCF	$44.85
2	Next 98 MCF	$38.54
3	Next 1,900 MCF	$29.87
4	Over 2,000 MCF	$29.05

Based on the FY 2018 billing data, 98% of residential bills (including senior citizens) fall within the first block

A typical residential customer uses 500 cubic feet (or 0.5 MCF) of water per month.

CCF = hundred cubic feet ~ 748 gallons
MCF = thousand cubic feet ~ 7,480 gallons

30 July 2019

15

Existing Rate Structure
Reasons for Re-evaluation

- Periodic re-evaluation is a recognized best practice
- Increased focus on water resources and sustainability
- Declining consumption
- Advancements in and changes to water supply management approaches
- Affordability

PWD's current water quantity rate structure was initially adopted 40+ years ago

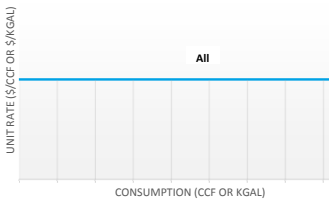
16

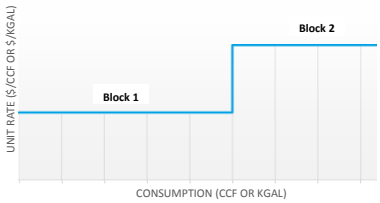
Pros and Cons of Declining Block Rate Structures

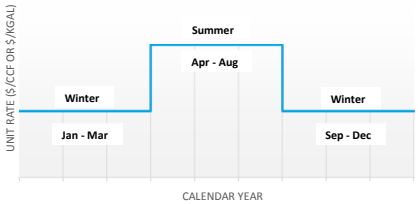
ADVANTAGES	DISADVANTAGES
Easy to implement and maintain within a billing system	More complex to design - requires an analysis of water consumption patterns May be harder for customers to understand why the rate per unit decreases with consumption
Designed to provide equitable cost recovery by customer type	May be perceived by customers as providing a volume discount
Generally provide greater revenue stability for rate structures that have variable component	May create an affordability issue amongst low-volume users
Reflects the economies of scale of the water system	Does not provide water conservation signaling

30 July 2019 17

Potential Alternatives







UNIFORM

- Simplest rate design
- Constant per unit fee ($/Mcf)

INCLINING BLOCK

- Considered a water conservation rate structure
- Blocks increase with usage

SEASONAL RATES

- Increased charges during a set time(s) of year
- Intended to recover incremental variable costs incurred during high-water demand periods

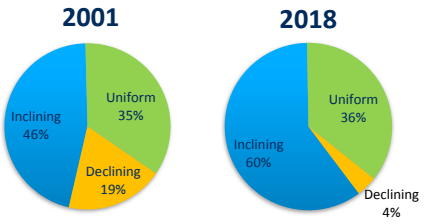
30 July 2019 18

Benchmarking

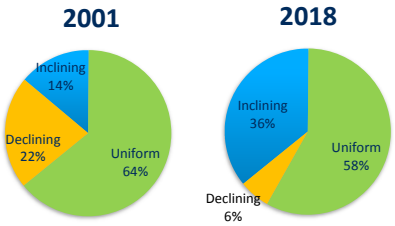
Industry Perspective

- Declining blocks more frequently used in areas with abundant water supply
- Uniform rates are widely used
- Inclining blocks widely used in areas of water scarcity
- Seasonal rates are not commonly used

RESIDENTIAL WATER RATES



NON-RESIDENTIAL WATER RATES



Source: Black & Veatch 50 Largest Cities Rate Survey

Comparable Utilities

UTILITY	2001 RESIDENTIAL	2001 COMMERCIAL	2018 RESIDENTIAL	2018 COMMERCIAL
Baltimore	***Declining***		***Uniform***	
Boston	Inclining		Inclining	
Cincinnati	Declining		Declining	
Columbus	***Declining***		***Inclining***	***Declining***
Indianapolis	***Declining***		***Uniform***	***Declining***
New York City	Uniform		Uniform	
Washington DC	Uniform		Inclining	Uniform
Detroit	***Declining***		***Uniform***	

Typical Reasons for shift away from declining block rate structure:

- Water Conservation
- Increased efficiency within customer classes
- Affordability concerns

Note: ***Bold italics*** font identifies utilities that have shifted from declining block

Uniform Block Alternative

- Constant per unit fee regardless of amount of water consumed

DESCRIPTION	RATE ($/MCF)
All Usage	$40.50

Estimated Uniform Rate based on the FY 2019 Cost of Service per the 2018 Rate Determination

Note: Estimated Uniform Rates are provided for discussion purposes only at this time

Pros and Cons of Uniform Block Rate Structures

ADVANTAGES	DISADVANTAGES
Simple to design, implement and maintain in billing system, and easy to understand for customers	Treats all customers in the same fashion and does not reflect the unique characteristics of different customer types
Considered equitable among all customers as the rate per unit doesn't change with consumption	Might be considered inequitable when there is a significant variation in costs associated with serving different customer types
Provides reasonable revenue stability for rate structures that have variable component	Dependent on consumption and therefore a significant decrease in water demand can result in a decrease in revenue
May send water conservation signaling, specifically to customers transitioning from a flat fee or declining block rate structure	Provides less water conservation signaling relative to inclining block rate structure Customer's incremental cost of consuming more water isn't as significant

Impact Analysis

FY 2019 TYPICAL BILLS (ALL CHARGES)

CUSTOMER TYPE	TYPICAL BILL		% CHANGE
	DECLINING	UNIFORM	
Residential [1]	$66.33	$64.16	-3.3%
Senior Citizen [2]	$38.16	$37.18	-2.6%
Small Business [3]	$111.01	$108.40	-2.4%

[1] 5/8" meter with 500 cubic feet water usage.
[2] 5/8" meter with 300 cubic feet water usage.
[3] 5/8" meter with 600 cubic feet water usage. A parcel with gross area of 5,500 square feet and impervious area of 4,000 square feet.

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019 23

Impact Analysis

FY 2019 – EXAMPLE LARGE USER QUANTITY CHARGES

BILLED VOLUME	QUANTITY CHARGE		% CHANGE
	DECLINING	UNIFORM	
50 Mcf	$1,940	$2,025	4.4%
150 Mcf	$5,360	$6,075	13.3%
5,300 Mcf	$156,487	$214,640	37.2%

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019 24

Impact Analysis

QUANTITY CHARGE IMPACT - DISTRIBUTION OF BILLS

IMPACT	RESIDENTIAL	NON-RESIDENTIAL	TOTAL
↓	86%	72%	85%
NO CHANGE	13%	19%	14%
↑	<1%	9%	1%

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019 25

Impact Analysis – Increased Bills ↑

QUANTITY CHARGE IMPACT – BREAKDOWN OF BILL INCREASES

Roughly 69,000 of the over 6 million bills would see an increase

QUANTITY CHARGE IMPACT	BILLED VOLUME (MCF)	% OF TOTAL BILLS	% OF QUANTITY CHARGES
0.01% - 2.5%	6.5 - 13.0	0.5%	4.0%
2.51% - 5%	13.1 – 101.1	0.5%	16.6%
5.01% - 10%	101.2 – 126.6	< 0.1%	3.5%
10.01% - 20%	126.7 -226.7	0.1%	12.9%
20.01% - 30%	226.8 – 685.7	< 0.1%	6.2%
30.01% - 38.7%	687.8 – 16,768.2	< 0.1%	7.0%
TOTAL		**1.1%**	**50.2%**

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019 26

Uniform Block
Applicability to PWD

- Provides some price signaling to customers compared to the declining block rate structure
- Reasonable revenue stability
- Relatively simple to implement
- Some affordability benefits for residential and small business customers
- May serve as a transition mechanism to incrementally move toward another rate structure

Analyzing Proposals

Small Group Notes Activity

- Purpose: capture all points of views about the pros, cons and questions related to Uniform Block Rate
- Split into 3 groups
- Three rounds of discussion
  - Pros
  - Cons
  - Questions
- Discuss topic as page comes to your group – make notes capturing all points of view

29

5 Minute Break

30

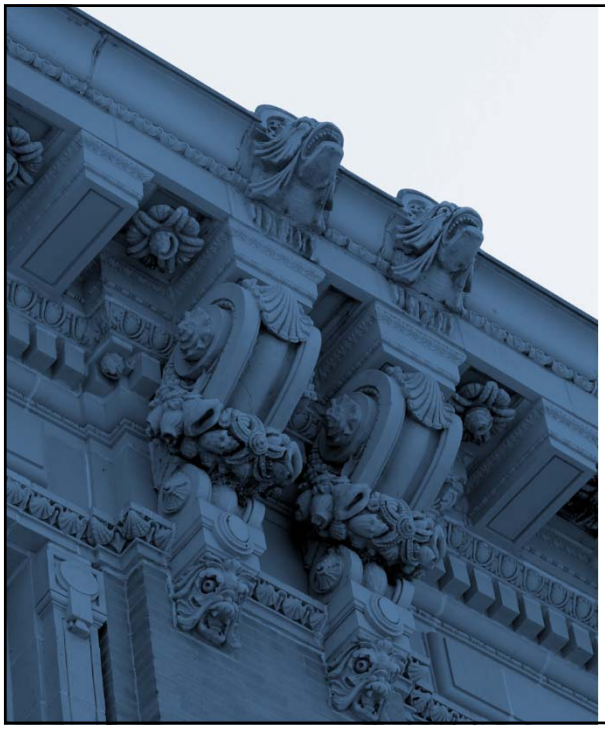
Large Group Discussion

Large Group Discussion

1. Questions
2. Areas of Agreement
3. Areas of Disagreement

Up Next

33



What's Next?

- **Today:** Complete evaluation form
- **Meeting No. 2:**
  - Topic: Stormwater Credits & Incentives
  - Time/Date: 2:30 - 4:30 PM on August 13th
- **Meeting No. 3**:
  - Topic: Pension Rider
  - Time/Date: 2:30 – 4:30 PM on September 5th
- Comments Due on September 16th

34