

**IN THIS ISSUE**

**While Philadelphia Water provides discounted rates to low-income, it collects more revenue faster under its TAP program,**

**NOTE TO READERS**

This document presents the bi-monthly electronic newsletter of Fisher, Sheehan & Colton: *FSC's Law and Economics Insights*. Published every other month since May 1998, previous issues of the newsletter can be obtained from FSC at:

[fsconline.com](http://fsconline.com) (click on "News")

FISHER, SHEEHAN & COLTON  
Public Finance and General Economics  
34 Warwick Road, Belmont, MA 02478  
(voice) 617-484-0597  
(e-mail) [roger@fsconline.com](mailto:roger@fsconline.com)  
[fsconline.com](http://fsconline.com)

*"Committed to the power of concentrated expertise  
widely shared."*

**Philadelphia Water Department  
Improves the Amount and Timeliness of  
Payments under its Low-Income  
TAP Discount.**

In the water sector, providing tiered discounts is what utilities such as the Pittsburgh Water and Sewer Authority, Pennsylvania American Water Company, and Aqua Pennsylvania do in Pennsylvania. The water provider that provides tiered discounts the impacts of which have been studied, however, is the Philadelphia Water Department (PWD).

**An Overview of the Philadelphia TAP**

PWD has implemented a Tiered Assistance Program ("TAP"). Adopted unanimously by the Philadelphia City Council on November 19, 2015, the Philadelphia initiative was legislatively titled the Income-based Water Rate Affordability Program ("IWRAP").<sup>1</sup> IWRAP was implemented on July 1, 2017 and is operationally known as the TAP. In Philadelphia, the City Council legislation directed that: "Monthly [TAP] bills shall be affordable for low-income households, based on a percentage of the household's income. . . ."<sup>2</sup> Each low-income customer's bill shall be "based upon each Customer's actual income" and "shall be charged in lieu of the Department's service,

<sup>1</sup> Bill No. 140607-AA, amending Philadelphia Code, §19-1605, adopted by the City Council on November 19, 2015. Signed by the Mayor on December 1, 2015.

<sup>2</sup> Amended Philadelphia City Code, Section 19-1605(3)(a) (2017).

usage, and stormwater charges.”<sup>3</sup> The following major policy decisions were incorporated into this language:

- Bills “shall be affordable.” The purpose of the Philadelphia legislation was not merely to provide “some” level of discount to low-income customers. Instead, the level of discount must result in an affordable bill for low-income customers. This policy works in two ways. First, if a customer has a lower income (or a higher bill), the amount of assistance should be increased to reflect the increased dollars needed to make the bill affordable. Second, if a customer has an affordable bill without assistance, the customer does not receive a discount merely because they have a low income. The bill assistance should be an amount that is sufficient, but only that amount which is sufficient, to make a bill affordable.
- Affordability is to be “based on a percentage of the household’s income.” As can be seen, affordability was not some generic concept included in the legislation. Instead, Philadelphia specifically mandated that affordability was to be determined as a function of a “percentage of income.”
- Affordability is to be “based upon each Customer’s actual income.” According to the Philadelphia City Council, affordability was not to be determined “on average” or on a city-wide basis. Affordability could not be set, for example, based on median income. Affordability was not to be based on some estimated or imputed income. Rather, pursuant to the legislation,

affordable IWRAP bills in Philadelphia are to be determined based upon “each customer’s actual income.”

Pursuant to Philadelphia’s legislation, the low-income discounted bills were “in lieu of” the water, wastewater and stormwater charges otherwise charged to residential customers.

### **TAP Impacts on Complete Payments.**

The PWD program generated more complete payments on the part of low-income program participants. In looking at the question of “complete” bill payment for TAP participants, the metric used below involves an examination of the percentage of bills paid at different measurement points in time. The comparisons examined involve TAP participants (who, by definition, are low-income) and low-income customer who did *not* participate in TAP (TAP non-participants). The data is set forth in the Table below. TAP data is available for three Fiscal Years (2017, 2018, 2019)

The collection data measures the percentage of billing in a fiscal year that was collected within a specified number of months after the bills were issued. The first measurement point determines the percentage of bills that were collected within the first twelve months after the bills were issued. The second measurement point determine the percentage of bills that were collected within the first 24 months after the bills were issued. The Table below, for example, shows that 72.17% dollars billed in FY 2019 were collected within twelve months from the date they were billed; in addition, 87.90% of the dollars bills in FY 2019 were collected within 24 months from the date those dollars were billed.

The Table shows a substantial improvement in the completeness of collections by program participants (in comparison to low-income non-

---

<sup>3</sup> Amended Philadelphia City Code, Section 19-1605(3)(a) (2017).

participants). The three years of most important comparison in the Table are FY18 (the first year of TAP operation), FY19, and FY20. FY20 is included even though, because of its recent nature, it has collections data only for twelve months.

FY	Ss Bills In	Timeliness of Bill Collection (TAP and Non-TAP Low-Income [LI])			
		Percent Collected within 12 Months of Date of Billing		Percent Collected within 24 Months of Date of Billing	
		TAP	Non-TAP LI	TAP	Non-TAP LI
FY20		72.82%	38.14%	N/A <sup>4</sup>	N/A
FY19		72.17%	33.38%	87.90%	52.59%
FY18		74.51%	27.22%	95.73%	34.30%
FY17		No TAP <sup>5</sup>	36.11%	No TAP	47.80%
FY16		No TAP	39.80%	No TAP	53.33%
FY15		No TAP	39.37%	No TAP	53.32%
FY14		No TAP	40.49%	No TAP	55.04%
FY13		No TAP	42.45%	No TAP	57.06%
FY12		No TAP	39.18%	No TAP	53.26%

A consistency in the improved payment patterns by TAP program participants is seen at both the 12-month and 24-month mark in the Table. For all three years (FY18, FY19, FY20), at the 12-month mark, program participants outperformed the low-income program nonparticipants by 35% to nearly 50%. The proportion of bill paid by program participants at the 12-month mark in FY18, for example, was more than 47% higher than the proportion of bill paid by low-income TAP non-participants (74.51% vs. 27.22% at the same mark). The proportion of bill paid by TAP participants at the 12-month mark in FY20 (72.82%) was 35%

<sup>4</sup> 24 months have not elapsed since FY 2020.

<sup>5</sup> TAP began in July 1, 2017 (Fiscal Year 2018).

higher than the proportion of bill paid by low-income TAP non-participants (72.82% vs. 38.14%) at 12-months.

The improved payment patterns expanded through the second year of collections. In FY19, for example, while 87.9% of TAP participant bills had been paid by the 24-month mark, only 52.59% of low-income TAP non-participant bills had been paid through the same time period (an improved performance by TAP participants of 35.3% over low-income TAP non-participants). An even greater performance difference can be seen in FY18, with the TAP participant payment of 95.73% by Month-24 being more than 61% higher than the low-income TAP non-participant performance (34.30%).

In the Table above, data for TAP non-participants is also included for FY12 through FY17 even though no discount program existed in those years. This pre-TAP data is presented simply for informational purposes. The pre-TAP data shows that the collections of low-income customers who did not have TAP discounts (because TAP had not yet been created) was reasonably consistent with the collections of low-income customers who qualify for TAP, but, for whatever reason, did not enroll in TAP.

### TAP Impacts on Payment Timeliness.

A different way to look at the payment patterns of TAP participants is to begin with the TAP collectability at a point in time and to review the pre-TAP collectability to see how long it took TAP-eligible low-income customers to achieve that same collectability outcome in the years prior to the implementation of TAP. The collectability outcomes that are considered are set forth in the Table below (the data being taken

from the Table immediately above.<sup>6</sup> Collectability presents the percent of billed revenue that was collected. To say that the “1-year collectability” for FY18 was 74.51%, for example, means that 74.51% of the dollars billed in FY18 were collected within one-year of the date of billing.

1-Year Mark		2-Year Mark		
FY18	FY19	FY20	FY18	FY19
74.51%	72.17%	72.82%	95.73%	87.90%

This one-year and two-year collectability for TAP participants can then be compared to TAP-eligible (low-income) customers in years *before* TAP was implemented. The cumulative collectability at annual measuring points is presented in the Table below.

	Percent Bill Collected by Number of Months After Revenue was Billed									
	0-12	13-24	25-36	37-48	49-60	61-72	73-84	85-96	>96	
FY17	36.4	47.8	51.1							
	1%	0%	1%							
FY16	39.8	53.3	58.7	61.0						
	0%	5%	2%	8%						
FY15	39.3	53.3	60.1	64.3	66.2					
	7%	2%	8%	9%	8%					
FY14	40.4	55.0	62.0	67.3	70.6	72.0				
	9%	4%	4%	0%	0%	1%				
FY13	42.4	57.0	63.4	68.6	72.7	75.1	76.3			
	5%	6%	1%	6%	7%	8%	0%			
FY12	39.1	53.2	58.9	63.7	67.8	70.9	72.9	73.7		
	8%	6%	6%	4%	0%	6%	0%	9%		

<sup>6</sup> This data was taken from the 2021 PWD rate case, PWD Exhibit RFC-6.

<sup>7</sup> Shaded cells represent aging buckets for which no data is reported since insufficient time has elapsed since billing to reach that aging bucket. For dollars billed in FY17, by FY19, which is the last year for which data is reported, there have only been 36 months to collect. The 37-48-month bucket, in other words, has not yet been reached.

What can be seen from a comparison of the two Tables is that:

- The two-year TAP collectability of 87.90% (FY19) was never reached in pre-TAP years. The closest was Fiscal Year 2013, in which low-income customers had paid 76.30% of their bills by the end of Month 84 (i.e., after 7 years).
- Similarly, the two-year TAP collectability of 95.73% (FY18) was never reached in pre-TAP years. Again, the closest year was Fiscal Year 2013, in which low-income customers had paid 76.30% of their bills by the end of Month 84 (i.e., after 7 years).
- The one-year TAP collectability for FY18 of 74.51% was only reached by income-eligible customers in Fiscal Year 2013. In FY13, however, it took low-income customers 72 months (i.e., 6 years) to pay the same percentage of their bill that TAP participants had paid in their first year of TAP participation.
- The one-year TAP collectability for FY19 of 72.17% was achieved (or virtually achieved) in two pre-TAP years (FY2013, FY2012). However, for dollars billed in FY13, it took low-income customers 60 months (5 years) to pay the same proportion of their bill that TAP customers paid in their first year. For dollars billed in FY12, it took low-income customers 84 months (7 years) to pay the same proportion of their bill that TAP participants paid in their first year. In the other four years, low-income customers never achieved

the same 72.17% collectability performance.

### **Policy Significance of Improved Payments**

The improved timeliness of payments from low-income customers provides two important benefits to the water utility.

First, improving the timeliness of payments reduces the lag days between the date of billing and the date of payment. As a result, it will reduce the working capital requirement of the utility that contributes to the level of rates charged to all customers.

Second, given that working capital is a capital expenditure, it earns a rate of return for an investor-owned water company, part of which is an equity return. The equity return is the “profit” of the investor-owned utility on which it will pay an income tax. Accordingly, each dollar of reduced working capital will also generate a tax impact. Each \$1 reduction in working capital will generate more than a \$1 reduction in rates. These two impacts are particularly important because they can be realized in one of two ways. On the one hand, reducing the level of unpaid bills will generate a working capital reduction. All else equal, a \$100 arrears will generate a lower working capital requirement than a \$150 arrears. On the other hand, reducing the number of days a bill is unpaid will generate a working capital reduction. All else equal, a \$100 bill that remains unpaid for 60 days will generate a lower working capital requirement than a \$100 bill that remains unpaid for 120 days.

### **Summary**

Data from Philadelphia Water’s TAP program documents that when this water utility provided discounts to its low-income customers, the utility customers substantially improved their

payment patterns. Not only did Philadelphia Water have more low-income customers paying their complete bills, but PWD customers paid their bills in a more timely fashion as well.

Persons interested in receiving a copy of the assessment of TAP payment impacts can do so by writing to:

roger [at] fsconline.com

Fisher, Sheehan and Colton, Public Finance and General Economics (FSC) provides economic, financial and regulatory consulting. The areas in which *FSC* has worked include energy law and economics, fair housing, affordable housing development, local planning and zoning, energy efficiency planning, community economic development, poverty and telecommunications policy, regulatory economics, and public welfare policy.