BEFORE THE

PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

PHILADELPHIA WATER DEPARTMENT	))	**FY17-2018 RATES**

PUBLIC ADVOCATE

HEARING EXHIBIT __VI__

PWD Response to PA-RDC-70

April 12, 2016

Schumaker & Company

**Draft Report
to the
City of Philadelphia**

**on
Management Support Study
for Philadelphia Water Department
Customer Service**
Opportunity Number: 21130304174809

September 2014

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I. Study Background

A. Philadelphia Water Department Background

The Philadelphia Water Department (PWD) provides water and sewer services to the greater Philadelphia area. The PWD water service area encompasses 135 square miles and serves a population of approximately 1.55 million people. It also provides wholesale water service to adjoining areas totaling 101 square miles and serving approximately 210,000 additional people. PWD also provides wastewater treatment service to the greater Philadelphia area. The Philadelphia area is identical to the area served by the water service. The surrounding area is larger, servicing 230 additional square miles and a total population of approximately 2.3 million people.[1]

Water supply, water treatment, water storage, and wastewater treatment as well as Synagro, the City's biosolids recycling center, were not part of this study. Information relating to these systems is not included in this report. The management and operations relating to the water and wastewater infrastructure described as follows were the subject of this study.

♦ The water infrastructure consists of 3,174 miles of pipe from three inches to 93 inches in diameter. The piping system mostly consists of cast iron, steel, concrete, and ductile iron pipe. There are a total of 91,717 valves and 25,355 hydrants associated with the water system.[2]

♦ The wastewater infrastructure consists of 3,719 miles of collector system piping. The components are 762 miles of sanitary sewer; 762 miles of conduit sewer; 363 miles of force mains, inlet, and vent pipes; 1,856 miles of combined sewers; 94,007 manholes; 74,430 storm water inlets; 19 pumping stations; and 398 various types of chambers.[3]

Organization

The PWD is organized into eight divisions (as shown in *Exhibit I-1*) and is staffed with over 1,900 personnel. In addition, revenue collection activities (including call center operations) are also located in the Water Revenue Bureau organization, which is shown in *Exhibit I-2*.

The focus of this study falls on the divisions headed by the Deputy Commissioner & General Manager Operations, the Public Affairs General Manager, and the Planning and Engineering General Manager. It also reviewed HR & Administrative Services as a support division. More specifically, the study targeted the Construction and Survey unit within Engineering and Planning, the Field Operations unit within Operations, and the Customer Information unit under Public Affairs. All of these areas are shown as grayed boxes in *Exhibit I-1*. Additionally, this study focused on the revenue collections, intake units, and call center operations located in the Water Revenue Bureau as shown in *Exhibit I-2*.

Exhibit I-1
PWD Areas of Review
as of June 30, 2014
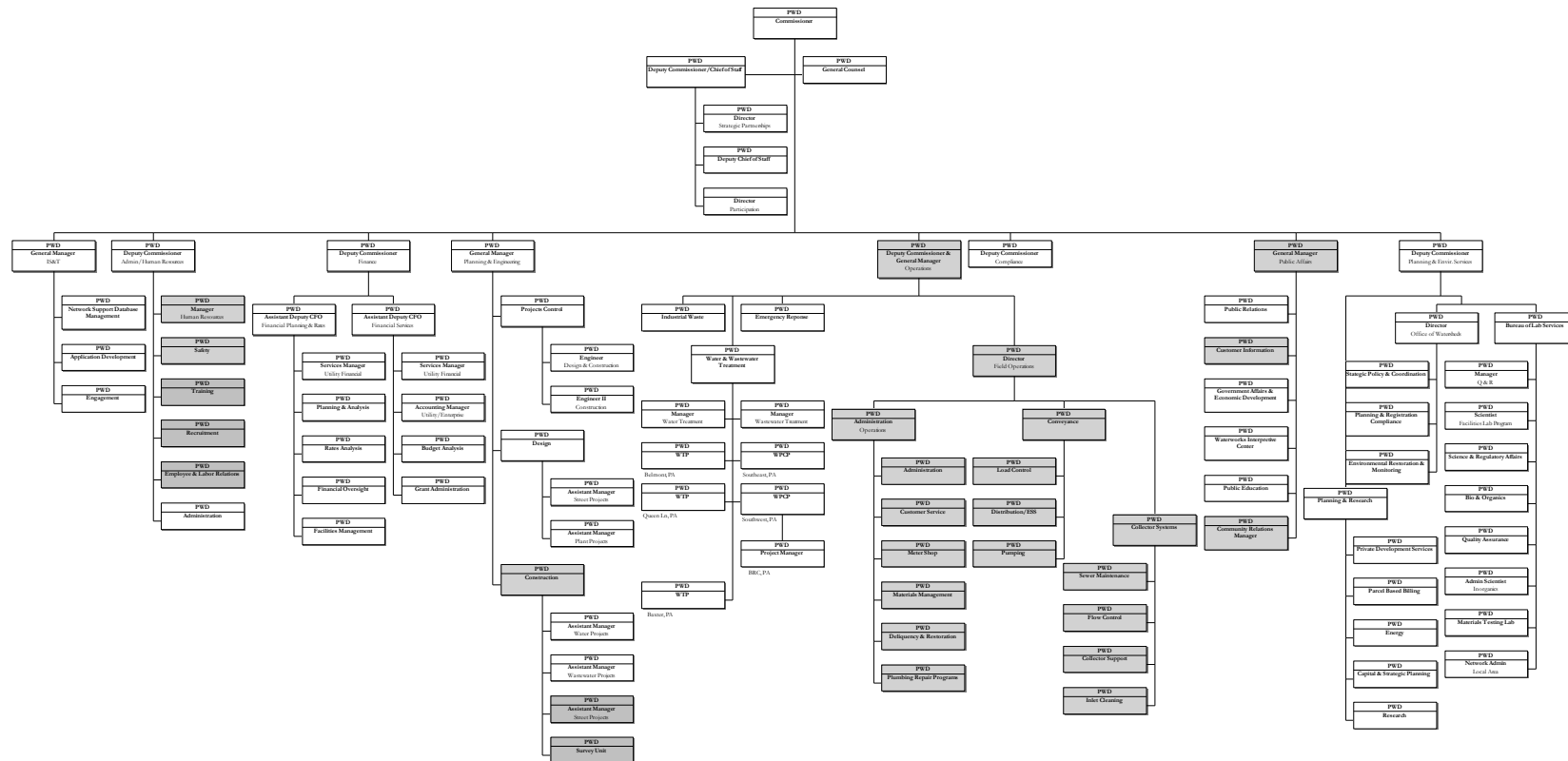
Source: Shared Documents, Latest Organizational Chart

Exhibit I-2
Water Revenue Bureau
as of June 30, 2014

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                          ┌─────────────────────────┐
                          │           WRB           │
                          │  Deputy Commissioner    │
                          └─────────────────────────┘
                                     │
                          ┌─────────────────────────┐
                          │           WRB           │
                          │ Administrative Assistant │
                          └─────────────────────────┘
                                     │
   ┌───────────────┬─────────────────┴──────────────┬───────────────┐
┌──────────────┐ ┌──────────────┐ ┌──────────────────────┐ ┌──────────────┐
│     WRB      │ │     WRB      │ │         WRB          │ │     WRB      │
│   Revenue    │ │  Director of │ │ Revenue Collections  │ │  Meter Read  │
│   Accounts   │ │  Operations  │ │     Officer I        │ │   Manager    │
│   Manager    │ │              │ │     Call Center      │ │              │
└──────────────┘ └──────────────┘ └──────────────────────┘ └──────────────┘
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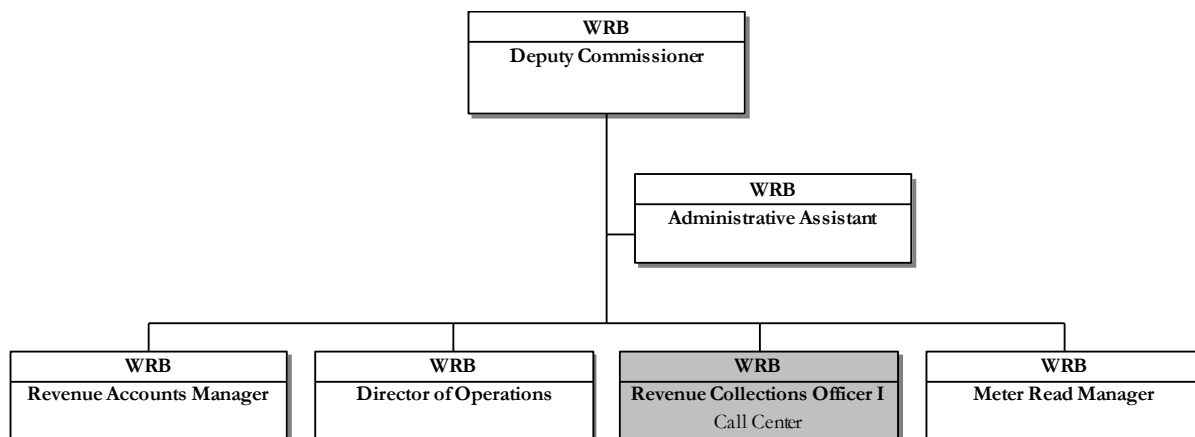
Source: Latest Organizational Chart

B. Objectives and Scope

The City of Philadelphia (City), acting through the Philadelphia Water Department (PWD), hired Schumaker & Company through a request for proposal (RFP) process to provide consulting services related to evaluation of various customer service and field activities for opportunities to optimize operations, including evaluation of its resource utilization so as to ensure that it is cost effective, to improve customer service, and meet its core services and regulatory requirements in a responsible way. Customer service and field operations and related activities represent almost two thirds of the operating budget and over 800 full-time PWD staff. To this end, the purpose of this project is to:

♦ Evaluate and review current organizational structure, staffing levels, and skill requirements and present recommendations for improvement.

♦ Evaluate and review the PWD's ability to hire and maintain an appropriate staff to meet expectations and make recommendations for improvement.

♦ Evaluate and review current policies, procedures, and practices in order to improve customer service, reduce costs, and present recommendations for improvement.

♦ Evaluate and review current performance metrics to determine whether they are appropriate to meet core mission and regulatory requirements and make recommendations for improvement.

♦ Identify any resources or technologies that could be utilized to improve customer service.

♦ Identify benchmarks, metrics, and the cost accounting tools to implement systems to improve customer service.

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♦   Identify and recommend solutions for any internal or external barriers to implementing any recommendations.

This project was designed to help the Philadelphia Water Department (PWD) evaluate and improve its customer service and field operations, and identify operational and organizational changes that can help to improve customer service, level of service, service delivery, and identify opportunities to reduce costs. The focus of this proposed assignment was to perform a detailed field activities review to assess the appropriateness of the current organizational structure, review overall staffing issues, identify opportunities for streamlining services, and develop performance measures and management reporting systems to achieve customer service excellence. Field activities for this task will be limited to customer service activities and units, including Water Revenue Bureau (WRB) and PWD call centers, WRB walk-in billing and permits payment operations, Customer Service, Metering, Shut-offs and Restores, and PWD field activities in the street for conveyance and collectors infrastructure maintenance and repair. This effort did not include evaluation of water and wastewater treatment facilities.

We recognized that the current integration of Cityworks is providing additional tools to capture and manage field activities. Any suggestions for improvements were based on the Cityworks effort, instead of replace or be separate from that program.

PWD currently sees this initiative as comprised of several key steps, including the examination of all of the issues that impede meeting customer expectations and impact field operation performance. PWD objectives for this project include the following:

♦   Improved customer service
♦   Comprehensive level of service benchmarks
♦   Streamlined and efficient operations and procedures
♦   Appropriate and adequate supplies and materials
♦   Qualified, motivated, and well trained staff
♦   Appropriate staffing and staff competencies
♦   Understanding of activity costs to inform decision making
♦   Identification of new tools and technologies to improve service delivery

Schumaker & Company agrees to provide, the services, and/or tangible work products necessary to achieve the objectives of the project that is the subject of this RFP.

We conducted this audit in a three-step review process which has been custom tailored to meet the PWD's objectives. This process provided the Schumaker & Company project team with a structured approach that is comprehensive and logical, as well as interactive and participative with the City and PWD. The process was originally designed to establish and sustain vital, interactive working relationships among City, PWD, and Schumaker & Company representatives during the course of management and operations review projects. We have refined this three-step process over many reviews, audits, and studies conducted with the same team members proposed for this project.

C. Review Standards

Schumaker & Company subscribes to the audit standards set forth by the U.S. Government Accountability Office's "Standards for Audit of Government Organizations, Programs, Activities, and Functions," (commonly referred to as the "Yellow Book"), as applicable to performance audits. Our project documentation system, PMIA, has been specifically developed to meet the requirements of these standards.

D. Project Organization & Staffing

Schumaker & Company will organize the study into two work plan areas. The first work plan area is an examination of the field operations, workforce, and service levels and the second task area comprises key PWD units that support customer service operations, including an examination of their operations, workforce, and contribution to PWD's mission.

Exhibit I-3
Project Organization

| Philadelphia Water Department |
| Sarah Stevenson |
| Project Officer |

Engagement/Project Manager
Dennis J. Schumaker, CMC®, PMP®, MCSE, MCSA

Area 1
Field Operations
Dennis J. Schumaker, CMC®, PMP®, MCSE, Lead Consultant
Joe DeFuria, Senior Consultant

Area 2
Customer Service and Key Support Units
D. Kerry Laycock, CMC®, Lead Consultant
Patricia H. Schumaker, CMC®, PMP®, CPA®, CGMA, Senior Consultant

Technical and Administrative Support

Jaye M. Kain, Project Administrator & Analyst

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The single most important element a consulting firm brings to an assignment is the qualifications of the individual members of the consultant team. A team composed of individuals who have worked together successfully in the past; their talents and expertise complementing one another.

Schumaker & Company's team has a strong working knowledge of utility company operations, as well as current industry issues. Our consultants typically hold advanced degrees and average more than 25 years of professional experience. The educational and professional designations of each proposed consultant are summarized in *Exhibit I-4*.

Exhibit I-4
Consultant Team Experience

Name	Responsibility	Years Exp.	Education and Professional Designations
Dennis J. Schumaker	Engagement/Project Manager & Lead Consultant	30+	BME (Mechanical Engineering), MS (Nuclear Engineering), MBA (Strategic & Corporate Planning), CMC®, PMP®, MCSE, MCSA
D. Kerry Laycock	Lead Consultant	29+	BS (Business Administration and Management), MS (Organizational Development), CMC®
Joseph De Furia	Senior Consultant	40+	BS (Mechanical Engineering), MBA
Patricia H. Schumaker	Senior Consultant	30+	BSBA (Accounting), MBA (Operations Research), CMC®, PMP®, CPA, CGMA,
Jaye M. Kain	Project Administrator & Analyst	22+	BS (Environmental Geoscience), BS (Geology), MS (Geology)

E. Scope of Work

The project will be comprised of the following two key tasks, which Schumaker & Company will perform as part of a three-step approach described further in *Section F* of this chapter with a preliminary work plan provided in *Section E* of this chapter.

- ♦ Evaluation
- ♦ Development of the implementation plan

During this project, Schumaker & Company will review PWD's current operations and maintenance, reviewing all aspects of PWD's current responsibilities for its field operations and customer service functions for potential improvements.

Task 1 - Evaluation

Schumaker & Company will review and/or evaluate:

- ♦ Field activities organization, processes, protocols, work rules

- ♦ Customer service related activities, processes, protocols, work rules

♦ Key customer services "points of contact" and points of failure

♦ Staffing level skill sets

♦ Workloads and responsibilities

♦ Equipment needs

♦ Current departmental use of technology and automation

♦ Core versus non-core activities

♦ Current data collection and the types of performance measures in use (recognizing Cityworks integration)

♦ Management reporting systems including Cityworks utilization

♦ Activity costs

♦ Level of service

♦ Customer service goals and benchmarks.

Upon completion of this task a *Draft Report of Preliminary Findings* (PowerPoint presentation) was presented and several high priority subareas will be chosen for detailed evaluation by PWD based on these findings and conclusions. The consultant team will then conduct the detailed subarea evaluations and provide a *Draft Report of Detailed Priority Area Evaluations* and present it to PWD and City management. We will act as the facilitator in discussing the results with management. The report highlighted the organizational strengths and weaknesses that were identified during the evaluation task and provided a comparison with current industry benchmarks and standards.

Task 2 - Development of the Implementation Plan

Schumaker & Company's project team will facilitate teams of subject matter experts from various functional customer service and field operations units who will be led through a process to determine the most effective manner to achieve customer service goals. It is envisioned that this process would also entail a comparison of Philadelphia Water Department productivity with standards of performance achieved by other comparable utilities and the identification of opportunities for improvement to enhance daily operations, including recognition and incorporation of union input and involvement. A key element of the implementation is the establishment of performance metrics to allow the evaluation of performance for the short and long term. While some measures may be financial, other metrics will provide an indication of effectiveness across operational areas.

Once finalized, the consultant will facilitate a meeting or series of meetings where presentations will be made to the Commissioner, Executive Staff, and first tier level managers and an *Implementation Plan* will be produced. The recommendations contained in the *Implementation Plan* to improve and/or streamline O&M, increase efficiencies, and reduce costs can minimally include:

- Identification and alignment of key performance indicators with the customer service and performance goals.

- Staff assignments: including the number and types of staff assigned to specific tasks.

- The ratio between supervisors and front-line forces, work locations, shift hours and skill-level assignments and tasks.

- Improved scheduling, including optimizing the order of work performed by field forces (e.g., investigation, assignment, repair) and the methodology for dispatching crews.

- Vehicles and equipment assignments and usage.

- Training requirements.

- Technological and data management reporting systems to improve customer service (i.e. field tablets, etc.).

F. Three-Step Project Approach

We are proposing that the project team follow a well-developed, time proven three-step study process designed to achieve the project goals in an efficient and effective manner. Specifically, the three steps are:

- Step I – Project Orientation and Adjust Work Plan as Necessary
- Step II – Evaluation
- Step III – Development of Implementation Plan and Final Report and Presentations

The review methodology for each of these steps is provided on the following pages.

Step I – Project Orientation and Adjust Work Plan as Necessary

Exhibit I-5 illustrates the tools used, activities performed, and results achieved during *Step I.*

Exhibit I-5
Step I – Project Orientation and Final Work Plan

Tools	Activities	Results
Interviews	✓ Project Planning and Administration	Final Work Plan
Site Visits	✓ Orientation Presentation and Interviews	
Preliminary Documents	✓ Adjust Work Plan As Necessary	Initial Interview List
Work Plan	✓ Progress Meeting	Initial Information List
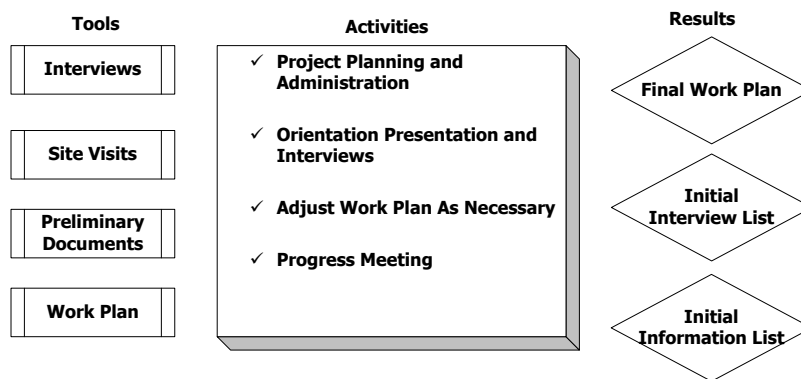
The specific activities we will perform during this step are discussed in detail in the following paragraphs.

Step II – Evaluation (Detailed Reviews and Analyses)

Exhibit I-6 illustrates the tools used, activities performed, and results achieved during *Step II.*

Exhibit I-6
Step II – Evaluation (Detailed Reviews and Analyses)

Tools	Activities	Results
Interviews	➢ Interviews of Key Personnel	Data Analysis
Site Visits	➢ Business Processes Review and Analysis	
Validation Sessions	➢ Site Visits and Observation of Business Processes Being Followed	Findings
Document Review	➢ Data Collection & Analysis – SCHUCO Best Practices	Recommendations
Analysis of Data	➢ Development and Submittal of Task Reports	Task Reports
	➢ Progress Meeting	

Interviews, Documentation, and Data Collection
Reviews and Analyses

The Schumaker & Company consultants will visit PWD's major facilities, conduct interviews and/or *Business Process Design Team* meetings with key PWD personnel (and others, such as unions, as appropriate), and gather a variety of information and documents regarding the specific business processes and associated systems. The interviews with key management personnel typically consist of reviews of the organization and processes for which each employee is responsible and discussions of any areas of particular interest or concern. The need for detailed research or analyses by PWD employees will be identified at this time.

This step will result in the development of preliminary findings and recommendations by the consultants, which will be verbally presented to the PWD *Project Officer, Project Steering Committee,* and others, as appropriate. In overall terms, this step consists of several principal activities: interviews, information and document reviews, and field observations of representative operations. The following paragraphs describe what each process encompasses.

♦ *Interviews/Focus Groups* – Interviews and/or focus groups are conducted with the personnel responsible for processes and activities in each of the issue areas.

♦ *Information and document reviews* – During the course of these interviews, information and documents relevant to the evaluation of each area are identified and collected for analysis.

♦ *Field observations* – We will visit PWD facilities to provide an opportunity for visual inspection of the site, discussions with management and staff personnel, observations of procedures, and other information gathering techniques.

♦ *Data summaries* – Interview notes, results of reviews of relevant documents, and any numerical data collected for the purpose of quantitative analysis is organized and summarized by the project team members who have conducted the initial data collection in each area.

♦ *Development of preliminary findings and recommendations* – Based on the results of the data collection and analysis activities, preliminary findings and recommendations will be formulated that reflect our summary evaluation of the subject practices.

Draft Report of Preliminary Findings Development
Draft Report of Preliminary Findings Review

The input from task briefings are compiled into the draft task reports, for this project referred to as *Draft Report of Preliminary Findings*, which will be submitted to PWD for review and comment. The Schumaker & Company project team will address any concerns raised by the PWD *Project Officer*.

Summary Presentation of Draft Findings and Recommendations
Progress Meeting

Prior to completing our draft report, we will prepare a summary presentation of our findings and conclusions for review with PWD *Project Officer*. Our draft findings and conclusions with input will form

the basis for our draft report preparation. As part of this process, several high priority subareas will be chosen for detailed evaluation based on these findings.

Draft Report of Detailed Priority Area Evaluations
Draft Report of Detailed Priority Area Evaluations Review
Progress Meeting

The Schumaker & Company project team will then perform more in-depth reviews and analyses, as appropriate, for these identified areas. Subsequently, this follow-up work will result in the development of the *Draft Report of Detailed Priority Area Evaluations*, which will be submitted to the PWD *Project Officer* and *Project Steering Committee* for review and comment. The report will highlight the organizational strengths and weaknesses which were identified during the evaluation task and provide a comparison with current industry benchmarks and standards. Schumaker & Company will act as the facilitator in discussing the results with PWD and City representatives.

Step III – Development of Implementation Plan and Final Report and Presentations

Exhibit I-7 illustrates the tools used, activities performed, and results achieved during *Step III*.

Exhibit I-7
Step III – Development of Implementation Plan and Final Report and Preparations

Tools	Activities	Results
Work Plans	➢ **Draft Report Preparation**	Draft Report
Interview Summaries	➢ **Draft Report Submittal**	
Information Responses	➢ **Draft Report Revision**	
Sampling Results	➢ **Final Report Preparation**	
	➢ **Final Report Submittal**	Final Report
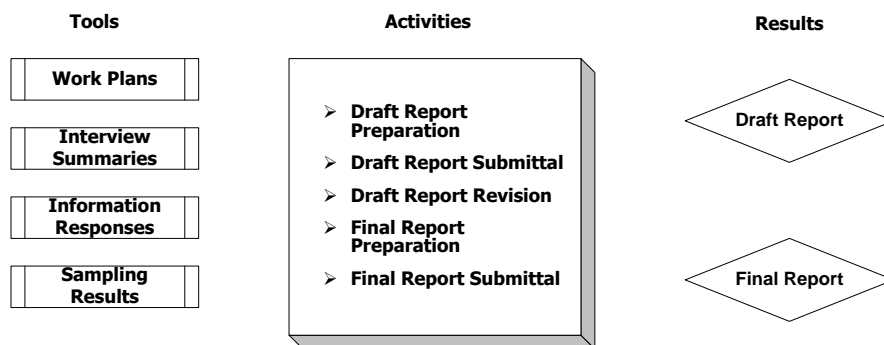
This step will result in the preparation of the draft and final reports and implementation plans, which serve as the final result of the project. A key element of the implementation plan is the establishment of performance metrics to allow the evaluation of performance for the short and long term. While some measures may be financial, other metrics will provide an indication of effectiveness across operational areas. Once the report and implementation plan have been finalized, further presentations will be made. Specifically, Schumaker & Company will facilitate a meeting or series of meetings where presentations will be made to the Commissioner, Executive Staff, and first tier level managers and an *Implementation Plan* will be produced.

The results of our investigations will be summarized in a draft report that will be submitted to PWD for review and comment. The draft report will be indexed to related supporting working papers, and will consist of the following information:

- ♦ Executive summary
- ♦ Brief overview of project
- ♦ Individual chapters for each of the task areas, including:
  - – Background and perspective
  - – Findings and conclusions
  - – Recommendations, including costs and benefits associated with each recommendation

Our report will reflect an objective and balanced appraisal of the PWD's service levels and costs. We will fully document any deficiencies/problems and provide improvement opportunities in the form of practical recommendations, associated estimated quantified costs and benefits, and their implementation priorities. We will also point out the strengths, good practices, and sound procedures associated with the service delivery. We will identify and recommend areas for adoption of industry best practices.

Presentations

Schumaker & Company facilitated various of meetings where presentations will be made to the Commissioner, Executive Staff, and first tier level managers and an *Implementation Plan* was produced.

Implementation Support

Schumaker & Company consultants are available to provide implementation support as needed – although not included in our original pricing in this proposal response. We have provided this type of assistance in the past (specifically on much of our government assignments) and would be willing to provide such support as deemed necessary.

II. Customer Service

The scope of this chapter is limited to Customer Service activities and units, including Water Revenue Bureau (WRB) and Philadelphia Water Department (PWD) call centers, WRB walk-in billing and permits payment operations, customer service, metering, shutoffs, and restores.[4]

Schumaker & Company examined PWD's customer service, billing, and collection functions in detail in this chapter. Among the areas or issues addressed in this examination were:

♦ The reasonableness of PWD's call center staffing levels and the center's overall performance (e.g., call abandonment rate, percentage of calls answered within 30 seconds, etc.) to include validation of telephone access statistics, along with a determination of the adequacy in response and rate of timely resolution of customer concerns/complaints

♦ PWD's customer complaint procedures, including a review of their compliance with required dispute-handling procedures

♦ The trend of PWD's consumer complaint rates, justified complaint rates, and complaint response times

♦ A review of PWD's collection practices, including procedures related to handling of residential customer medical condition certifications and the trends in customer termination rates

♦ A review of field dispatch operations to ensure that customer calls are met in a timely manner

PWD provides an essential service to its customers—and must provide this service in a prompt, accurate, and responsive manner. Planning, organization, procedures, and philosophy are all essential components in delivering appropriate and effective customer service. Effective customer service operations act as a bridge, serving the needs of both the utility's external ratepayers and internal departments.

In performing a diagnostic review in the Customer Service area, we sought answers to the following questions:

♦ Are the customer service center(s) appropriately configured and adequately staffed for the level of telephone inquiries and customer visits they handle?

♦ Do customers who contact PWD with a question, complaint, or request receive a prompt, courteous, consistent, timely, and accurate response?

♦ Are formalized credit and collection procedures in place?

♦ Are special programs for payment-troubled customers available and managed effectively?

♦ Is information from customer complaints collected and used to identify the underlying root causes of customer questions and problems?

♦ Are customer service standards using both quantitative and qualitative established measures?

♦   Is there a visible and formal appeal process through a review officer within PWD for responding to customers who remain dissatisfied after a frontline contact?

This chapter is divided into three segments, as follows, within each of the three chapter areas:

♦   Customer service, complaints, and inquiries (call center)
♦   Credit and collections
♦   Meter management and reading

A. Background & Perspective

Customer Service, Complaints, and Inquiries (Call Center and Intake)

Major Contact Points

Call Centers

PWD customers utilize six telephone contact points, including:

♦   PWD Call Center shown in *Exhibit II-12* (215-685-6300) (M-F 7:00 a.m. to 10:00 p.m.) for water service requests and emergencies, although this group can also take WRB overflow calls for billing questions and issues; also can handle payment agreements without receiving overflow calls.

♦   WRB Call Center shown in *Exhibit II-3* (215-686-6880) (M-F 8:00 a.m. to 5:00 p.m.) for billing questions and issues

♦   WRB Administrative Support/Major Accounts

   –   Administrative Support (215-686-6908 or 215-686-6909) (M-F 8:00 a.m. to 5:00 p.m.) for elevated or title company calls

   –   Major Accounts (215-683-8825) (M-F 8:00 a.m. to 5:00 p.m.) for commercial organization calls, although at least 80% of these calls are really residential calls from callers hitting the interactive voice response (IVR) #3 response

♦   PWD Meter Shop (215-685-3000) (M-F 8:00 a.m. to 5:00 p.m.) for establishing appointments for installing, exchanging, or reading meters

♦   PWD Water Emergency Desk (215-685-9638 or 215-685-9640) (S-S 10:00 p.m. to 7:00 a.m.) for "after hours" water service requests and emergencies

Even though the PWD Water Emergency Desk is essentially a 24x7 dispatching unit and nighttime (10:00 p.m. to 7:00 a.m.) telephone desk, it sometimes also gets telephone calls from customers from 7:00 a.m. to 10:00 p.m., either directly or sometimes when customer calls get transferred by the PWD Call Center to the Water Emergency Desk. Additionally, customers sometimes call other PWD or WRB

locations during regular business hours, because they have obtained these locations' respective telephone numbers in prior situations.

Intake

PWD customers can visit three WRB intake offices in Philadelphia if they are required to or simply wish to meet in person with a city employee regarding various items. These intake offices include downtown Center City Philadelphia at the Municipal Services Building (MSB) plus two satellite offices (at mini City Halls), including one in Northeast Philadelphia and one in North Philadelphia.[5]

Typical reasons customers come into an intake office include:[6]

- ◆ Establishment of residential/commercial accounts
- ◆ Establishment of payment arrangements
- ◆ Payment collections
- ◆ Tenant and rent applications, including verification of tenant/occupant status:
  - – Lease (or notarized document from landlord)
  - – ID
  - – Utility bills
  - – Application
- ◆ Answering of billing inquiries and questions
- ◆ Meter reading disputes
- ◆ Change of ownership
- ◆ Change of billing address
- ◆ Bill printing

In fiscal year (FY) 2014, the number of customers visiting intake offices was approximately 96,196, broken down as follows:[7]

- ◆ Payment arrangements: 25,788
- ◆ Billing inquiries and questions: 23,056
- ◆ Tenant/occupant: 6,612
- ◆ Other expedited activities: 40,740, including billing and payment verification

The satellite intake offices perform roughly 50% to 70% of the activity performed by the Center City intake office.[8]

Water Revenue Bureau Customer Service Functions

The mission of the Water Revenue Bureau is to accurately bill and collect water/sewer charges and fees and to provide equal, courteous, and efficient services to Philadelphia Water Department customers.[9] The Water Revenue Bureau serves the entire City of Philadelphia, with over 500,000 potential accounts. The number of calls received by the WRB typically ranges from 4,000 to 5,500 calls weekly.[10] These calls

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are principally received by 26 call center representatives (CCRs) and 12 positions fielding administrative, corporate accounts, title companies, and elevated calls.[11]

WRB Call Center Division

Types of Calls

The calls handled by the WRB Call Center are predominately related to bill inquiries and payments, enforcement (shutoff), payment agreements, and low-income assistance.[12] The call center provides, on a full-time basis, interpretive and advisory services to the public. During these services, WRB employees answer questions and resolve problems with water/sewer accounts by explaining pertinent city and state regulations, ordinances, laws, and procedures. This function also sends out paperwork to provide PWD customers with help for their bills.[13] According to WRB management, title companies, collections, meter-related problems, and senior citizen discount questions and/or complaints are considerably lower, while bill balance/pay information, payment arrangements, delinquent payments/shutoffs, and disputed bills are over 70% of all call volume received.[14]

Call Volumes

The average daily volume of the WRB Call Center is 1,100 calls handled regarding water revenue billing from the public, businesses, and title companies. Office hours are from 8:00 a.m. to 5:00 p.m. (Mondays to Fridays), with an average distribution of roughly 146 calls per hour, except for early morning, 11:00 a.m. to 1:00 p.m., and 3:00 p.m. to 4:30 p.m. According to WRB management, call volume has been fairly consistent and extremely high throughout the week, with Mondays and the day after holidays being the highest for calls received. December 1 to April 1 each year is a water shutoff moratorium period, during which residential customers go without shutoff even though they may have delinquent payments recorded. These customers typically delay calling in to settle their account, which creates a tremendous peaking pattern in April. The call volume then lowers within four to six weeks, but it does not cease until the next year's moratorium period begins.[15]

The number of calls received, handled, and abandoned for what WRB considers a typical week (November 4–8, 2013) is shown in *Exhibit II-1*.[16]

Exhibit II-1
WRB Management Report
November 4–8, 2013

	Date	Skills - Volume and Service			Agent Overview				Agent Detail					
		Handled	Aband	Ave Speed Of Answer	#Agents	Logged In	FTEs	Hndl/Hour	Total Talk	Total UNA	Total Calls In & Out	Supv Calls	TT/Call	UNA/Call
M	4-Nov	1245	877	60.5	21	11010	21.6	8.8	5855	5066	1336	101	4.4	2.4
T	5-Nov	1073	830	41.6	21	10446	20.5	8.2	5798	4629	1175	78	4.9	2.3
W	6-Nov	1115	690	23.2	24	11491	22.7	8.0	6351	5152	1264	29	5.0	2.4
T	7-Nov	1042	864	63.9	19	9760	19.1	8.2	5210	4518	1097	96	4.7	2.6
F	8-Nov	1037	669	36.9	19	9827	18.7	8.6	5379	4130	1123	72	4.8	2.2
	Total/ Average	5,512	3,930	45.5	20.8	52,534	20.5	8.4	28,593	23,495	5,995	376	4.8	2.4

Source: Information Response 8

During 2013 and the first two months of 2014, the number of calls offered and handled each month are shown in *Exhibit II-2*.[17]

Exhibit II-2
WRB Call Center Calls Offered & Handled
January 2013 to February 2014
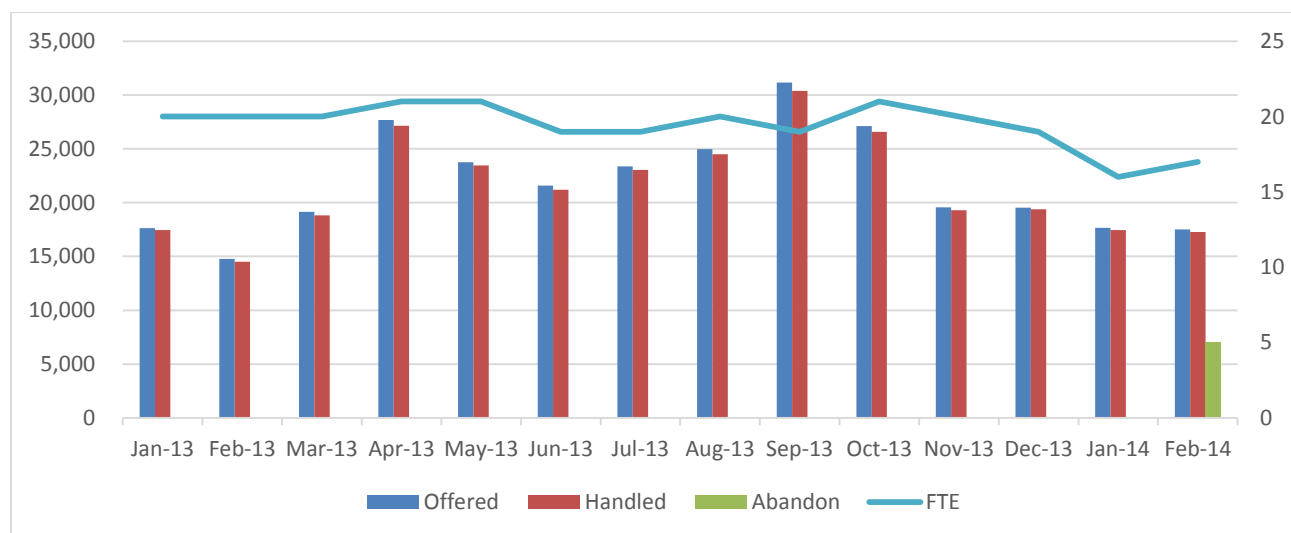
Source: Monthly Commissioner's Report provided during Interview 15

The WRB Call Center is in the process of reviewing call arrival patterns with the new inContact system in place. This review includes no pent-up demand but a huge callback load to ease online holds by customers. According to WRB management, the "optimal" industry goal is to add IVR self-service for bill payment information and to determine the need for additional staff to meet 80% of calls being answered in 30 seconds (versus 30 minutes).[18] (See *Staffing* section for changes made since the beginning of the project.) However, WRB management indicates that there may be systemic issues in the

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discounts programs that is currently in place. These matters tie up center representatives with delayed payments, payment arrangements, frequent on/off shutoffs, etc.[19]

Staffing

Exhibit II-3 illustrates the organizational structure of the WRB Call Center.[20]

Exhibit II-3
WRB Call Center Organization
as of December 31, 2013
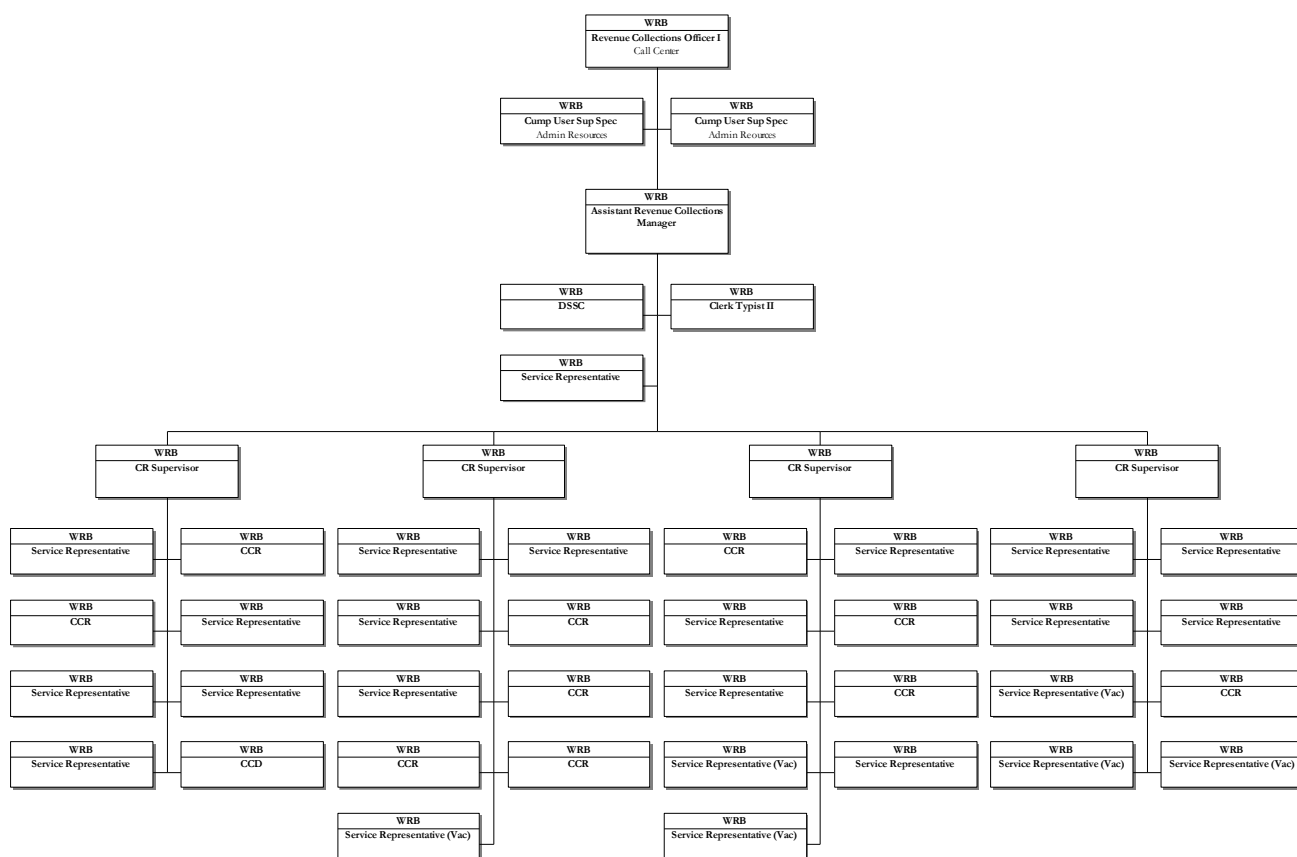
Source: Information Response 2

At the beginning of this project (end of 2013), there were 26 agents (of roughly 39 total staff) in the WRB Call Center. Of the 26 agents, only 21 in the past have typically worked on a daily basis, resulting in a 20% absence rate.[21] Of the 26 agents in the WRB Call Center, on average each year seven (roughly 27%) leave the call center to seek employment elsewhere.[22] Since the beginning of the project, the WRB Call Center has hired approximately 10 agents.[23] The WRB Call Center currently has a total staff of 49 employees, consisting of managerial, customer service representative, and clerical support positions.[24]

Systems

The WRB Call Center currently answers calls from the inContact Cloud Solution telephone system, using a voice over Internet protocol (VoIP) arrangement with Internet access to the cloud for voice connections to agents, call handling and disposition, interactive voice response/automated call distributor (ACD) routing, and reporting. Approximately 26 CCRs and six supervisory positions are connected to the inContact system. There is also an NEC 2400 with TDM telephone set at each employee's desk for administrative call handling, voicemail, and fallback to the VoIP headset connection to the inContact VoIP system.[25]

According to WRB management, with the installation of the inContact Cloud Solution telephone system and its IVR, expandable ports/lines, and callback capabilities, customers should not get a busy signal.[26]

Besides the inContact cloud solution telephone system that is used by WRB Call Center operations, other systems include:

♦ Outlook (email messages)
♦ Basis2 (billing activity); a few agents still have access to the old billing system (Water1)
♦ Agency Receivables
♦ H20 Revenue Assistance Program
♦ Philadox and OPA (replacement for Prodplar) (ownership of properties in Philadelphia)
♦ ShrinkIT

Assistance Programs

The assistance programs provided to Philadelphia customers include those identified in *Exhibit II-4*.[27]

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Exhibit II-4
Assistance Programs
FY2012

Philadelphia Water Department and Water Revenue Bureau Assistance Programs – FY2012			
Senior Citizen Discount	A 25% discount is provided for senior citizens 65 years of age or older, with a total household income of <=$30,500/year.	Administered by the Water Revenue Bureau.	Provided discounts to 22,473 seniors in FY2012 at a total cost of $2,786,441.
Charitable Organization Discount	A 25% discount is provided for charities, churches, nonprofit hospitals, schools, and universities.	Administered by PWD and the Water Revenue Bureau.	In FY2012, the general charitable discount was used by 2,849 organizations at a total cost of $3,619,080.
Water Revenue Assistance Program (WRAP)	Grants of up to $200 on water bills are available to prevent shutoff for low-income customers (at or below 175% of poverty level). Assists customers in obtaining federal energy assistance.	Administered by the Water Revenue Bureau.	In FY2012, provided city grants to 9,598 customers at a total cost of $1,065,262.
Utility Emergency Services Fund (UESF)	Grant program to prevent shutoff or restore water service for low-income customers (at or below 175% of poverty level). Provides up to $500 every other year ($250 UESF grant plus $250 matching PWD credit). The financial assistance must result in removing any arrearage.	Administered by the nonprofit UESF, with application help available from the Water Revenue Bureau.	Served 1,173 customers in FY2012, requiring PWD matching credits of $237,344 and administrative costs of $233,149.
Homeowners Emergency Loan Program (HELP)	No-interest repair loan program for homeowners in imminent danger of shutoff because of a violation notice.	Administered by the PWD.	Provided loans to 939 homeowners in FY2012 at a total cost of $3,277,585.
Conservation Assistance Program (CAP)	Provides water conservation devices and education to low-income customers (at or below 150% of poverty level), yielding average water usage savings of more than 25% for participants.	Administered by the Energy Coordinating Agency and Neighborhood Energy Centers under a PWD grant.	1,130 households served for low income customer assistance program (LICAP) and 1,125 for rain barrels in FY2012, averaging about 1.5 people per household at a cost of $332,012 for LICAP and $180,450 for rain barrels. Administrative cost = $102,560 for LICAP and $54,232 for rain barrels for FY2012.
Cross Connection Abatement Program	Repair program mandated by the State to correctly replace sanitary drainage lines that are connected to the storm sewer.	Administered by the PWD.	Served 51 properties in FY2012 at a total cost of $350,219.
Basement Protection Program (BPP)	PWD has established an assistance program to alleviate flooding condition in basements due to heavy rainstorms.	Administered by the PWD.	Served 40 properties in FY2012 at a total cost of $115,636.
TOTAL	Over $12 million		

Source: Information Response 22

Customer Service Operations Division

Also in the WRB is a Customer Service Operations division, which has a staff of approximately 46 employees consisting of managerial, customer service representative, and clerical support positions.[28] Its organization is shown in *Exhibit II-5*.[29]

Exhibit II-5
WRB Customer Service Operations Organization
as of December 31, 2013

Source: Information Response 2

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Customer Intake Centers

The Customer Intake Center unit (including satellite offices) is, in many instances, the initial contact point with customers. When visited by customers, this center either resolves the issue or refers it to the appropriate unit.[30]

Account Analysis Unit

The Accounts Analysis unit (AAU) provides in-depth analysis of accounts referred from the Intake and Call Center units. These two units process a high volume of customer contacts and must request account analysis of customer inquiries, requests, and complaints that require review and may involve procedures that cannot be performed at the initial point of contact. These units also process correspondence received from customers/agencies via traditional mail, which may need to be referred to the AAU.[31]

Water Revenue Assistance Unit

The Water Revenue Assistance unit processes requests for customers that, because of income levels, require assistance with paying their water bill.[32]

Credit and Collections

Exhibit II-6 illustrates the organizational structure of the WRB Collections unit.[33]

Exhibit II-6
Collections Unit Organization
as of December 31, 2013

	WRB
	Director
	Operations

	WRB
	Manager (Vac)
	Revenue Collections

WRB Supervisor CR — **WRB Supervisor CR** — **WRB Supervisor CR** — **WRB Supervisor CR**

Supervisor 1 (CR):
- WRB — Municipal Court/ Law Department /Bankruptcy
- WRB — CCR
- WRB — CCR
- WRB — CCR
- WRB — Service Representative

Supervisor 2 (CR):
- WRB — Sheriff Sale (Mrtg/Tax/Tax lien) — Basis 2 S/O Desk
- WRB — CCR
- WRB — CCR
- WRB — CCR
- WRB — DSSC
- WRB — DSSC
- WRB — DSSC

Supervisor 3 (CR):
- WRB — Collection Agencies — Sheriff Sale Outbound Calling
- WRB — CCR
- WRB — CCR
- WRB — Service Representative
- WRB — Service Representative

Supervisor 4 (CR):
- WRB — Housing Medicals — PWD Checks/BRI
- WRB — CCR
- WRB — Service Representative
- WRB — DSSC

Source: Information Response 131

Exhibit II-7 illustrates the automated debt collections process that is currently in place.[34]

Exhibit II-7
Automated Debt Collections Process
2014
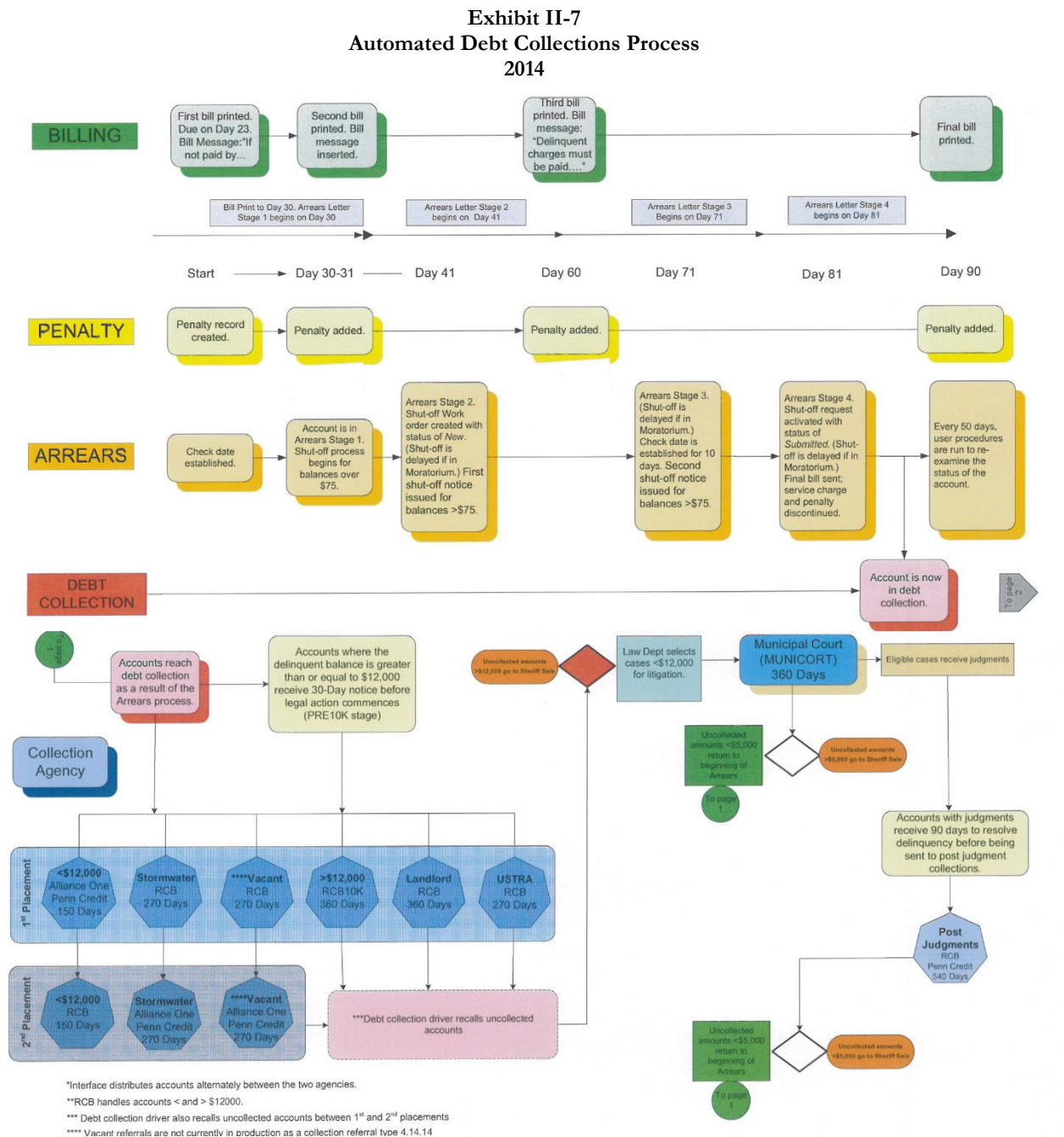
Source: Information Response 131

The Collections unit does not take any inbound calls; it performs only outbound calls for those customers with late payments. Those employees who are primarily involved in these activities (others may help, if necessary) are highlighted in gray in *Exhibit II-6*.[35]

Specifically, the minimum overdue balance is $75 and two billing cycles before service termination is considered and calls begin. Once a bill payment is late (and the balance exceeds $75), the Collections unit makes a courtesy call to the customer. Then, roughly 30 days from when the first bill is printed, a second bill with a notice is sent to the late payment customer. Then at roughly 45 days (if still not paid), a second notice is sent that indicates roughly when shutoff will occur. Then if still not paid by the date given, a final shutoff notice is sent.[36]

On a daily basis, the Collections unit sends PWD (automatically from Basis2 to ShrinkIT) a listing of accounts that are to be shut off. The list is sent electronically in Excel spreadsheet format and is sorted with the highest balances at the top. Roughly 700 accounts are sent each day, but the total can also reach as high as 2,000 accounts. If a shutoff does not occur, it keeps appearing on the shutoff list, which is sent daily to Delinquency & Restoration. Roughly 30 accounts/day are supposed to occur daily by each Delinquency & Restoration employee, resulting in some items that must reappear on the list multiple times.[37] According to PWD management, PWD completes 500 to 600 transactions/day (shutoffs, restorations, collections at door).

Once a bill payment is roughly 90 days late, it is sent to one of the WRB's collection agencies. Typically a collections agency has roughly five months to get a customer to pay. If the payment is still not received within those five months, the bill goes to another agency for a second placement.[38] The Collections unit can make payment arrangements; however, if a customer wants to make such an arrangement after the bill is sent to a collection agency, the agency must work with the Collections unit to make such arrangements happen. (The collection agencies have only read-only access to Basis2.) A first-time arrangement must include 25% of the open balance, while customers who have previously been on arrangements must pay 50% of the open balance. Only a WRB supervisor (in either the WRB Call Center, or Collections unit) can reduce the required percentage.[39]

Exhibit II-8 illustrates a summary of accounts placed with collections agencies in fiscal year 2013.[40]

Exhibit II-8
Summary of Accounts Placed with Collection Agencies
July 1, 2012 to June 30, 2013

Agency	Number of Accounts	Number of USTRA	Number of Accounts That Paid	% of Accounts That Paid	Total Agency Payments	Total Direct Payments	Total Collected	Amount Referred	% Collected
RCB	26,699	11,495	17,298	64.8%	$3,514,212.16	$8,500,682.41	$12,014,894.57	$18,945,677.45	63.4%
RCB10K	196	47	81	41.3%	$99,468.27	$1,917,912.09	$2,017,380.36	$5,577,350.15	36.2%
PRO	14,223	75	7,275	51.1%	$802,995.47	$3,538,491.24	$4,341,486.71	$13,298,054.92	32.6%
GILA	147	-	56	38.1%	$ -	$310,124.99	$310,124.99	$2,823,996.39	11.0%
LINEBAR	2	1	1	50.0%	$556.00	$ -	$556.00	$6,553.75	8.5%
Totals	**41,267**	**11,618**	**24,711**	**59.9%**	**$4,417,231.90**	**$14,267,210.73**	**$18,684,442.63**	**$40,651,632.66**	**46.0%**

Source: Information Response 24

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Exhibit II-9 illustrates delinquent and uncollectible accounts for FY2013 of $129,769,376 (included in $137,057,491 of requests for charge-offs) that are more than one year old, despite collection efforts. This was the first year that balances have been requested for charge-offs.[41]

Exhibit II-9
Delinquent & Uncollectible Accounts
FY2009 to FY2013

	FY 13	FY 12	FY 11	FY 10	FY 09
Pre-Petition Bankruptcy Balances	$3,341,595	$2,298,648	$1,891,745	$1,538,136	$586,363
Low Income Arrearages	$2,076,787	$2,287,363	$3,219,884	$5,997,082	$2,595,136
Low Income Program Customer Assistance Adjustments	$1,434,127	$1,467,011	$2,027,266	$1,716,364	$1,196,831
Vacant Properties and Vacant Lots	$435,606	$2,921,453	$200,672	$4,284,125	$4,589,925
Delinquent Accounts (1-14 years old)	$129,769,376				
Totals	$137,057,491	$8,974,475	$7,339,567	$13,535,707	$8,968,255

Source: Information Response 27

Philadelphia Water Department Customer Service Functions

PWD Call Center Division

Types of Calls

The PWD Call Center is designed to handle calls related to water service and emergency requests. In addition, a significant portion, often more than half, of the calls coming into the PWD call center are related to billing issues,[42] as customers are frustrated by wait times at the WRB call center or simply do not know where they are supposed to call for a billing issue. This issue is discussed in *Finding II-7*

In addition, the PWD call center handles calls that come in on an overflow line from WRB, although, as discussed in *Finding II-5*, many of these calls are transferred back to the WRB Call Center for resolution.[43]

Call Volumes and Times

During 2013, the number of calls offered and handled each month is shown in *Exhibit II-10*.[44]

Exhibit II-10
PWD Call Center Calls Offered & Handled
January 2013 to December 2013

Offered	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Bill Overflow to PWD					3886	4894	6403	4616	3027	4905	5725	4658
PWD General		2053	2165	520	1633	1417	200	21	9	20	26	25
PWD Priority Queue		91	56	63	36	40	142	37	26	47	27	48
PWD Supervisor Escalation				0			0					
Water Bill English		6470	8053	10583								
Water Bill Spanish		113	122	154								
Water Emergency English	5494	4458	3317	6710	5247	5191	5892	5761	6443	7125	4944	4663
Water Emergency Outbound	0	0	0	0	0	0	0	0	0	0	0	0
Water Emergency Spanish		87	69	134	139	143	145	136	153	120	97	94
Water Service English		2093	2044	2197	2204	2283	2857	2830	2732	2545	2062	1772
Water Service Spanish		166	182	225	272	313	326	274	343	316	216	189
WRB Priority Queue			0									
Total Calls Offered	**5494**	**15531**	**16008**	**20586**	**13417**	**14281**	**15965**	**13675**	**12733**	**15078**	**13097**	**11449**
Handled	**Jan-13**	**Feb-13**	**Mar-13**	**Apr-13**	**May-13**	**Jun-13**	**Jul-13**	**Aug-13**	**Sep-13**	**Oct-13**	**Nov-13**	**Dec-13**
Bill Overflow to PWD					4116	5223	6841	4931	3260	5288	6161	5007
PWD General		2136	2251	542	1686	1440	203	22	11	19	31	29
PWD Priority Queue		91	57	73	37	41	152	42	29	55	31	52
PWD Supervisor Escalation				0								
Water Bill English		6697	8381	10762								
Water Bill Spanish		113	125	142								
Water Emergency English	5910	4658	3564	7195	5594	5607	6397	6241	6842	7406	5163	4869
Water Emergency Outbound	588	709	642	527	630	635	613	525	627	552	543	472
Water Emergency Spanish		83	67	142	154	155	154	146	164	125	101	96
Water Service English		2198	2182	2320	2352	2445	3083	3014	2933	2727	2218	1901
Water Service Spanish		169	189	227	289	333	352	293	370	341	234	198
WRB Priority Queue			3									
Total Calls Handled	**6498**	**16854**	**17461**	**21930**	**14858**	**15879**	**17795**	**15214**	**14236**	**16513**	**14482**	**12624**

Source: Information Response 92

During that period, the average daily volume of the PWD Call Center was 700 calls. Office hours are from 7:00 a.m. to 10:00 p.m. (Mondays to Fridays), with an average distribution per hour of roughly 54.

Exhibit II-11
Average Call Times
2013
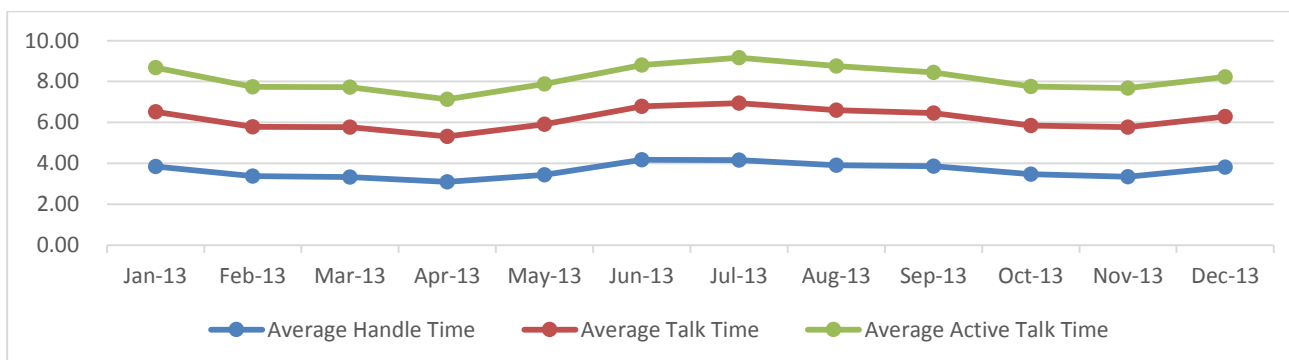
Source: Information Response 92

Staffing

Exhibit II-12 illustrates the organizational structure of the PWD Call Center.[45]

Exhibit II-12
PWD Call Center Organization
as of December 31, 2013

PWD
Assistant Manager
Revenue Collection

PWD	PWD	PWD	PWD
Support Specialist	**Supervisor**	**Supervisor**	**Administrative Technician**
Computer User	CCR	CCR	**(Vac)**

Collection Customer Representatives
(6 + 3 Vac)

Customer Service Representatives
(7)
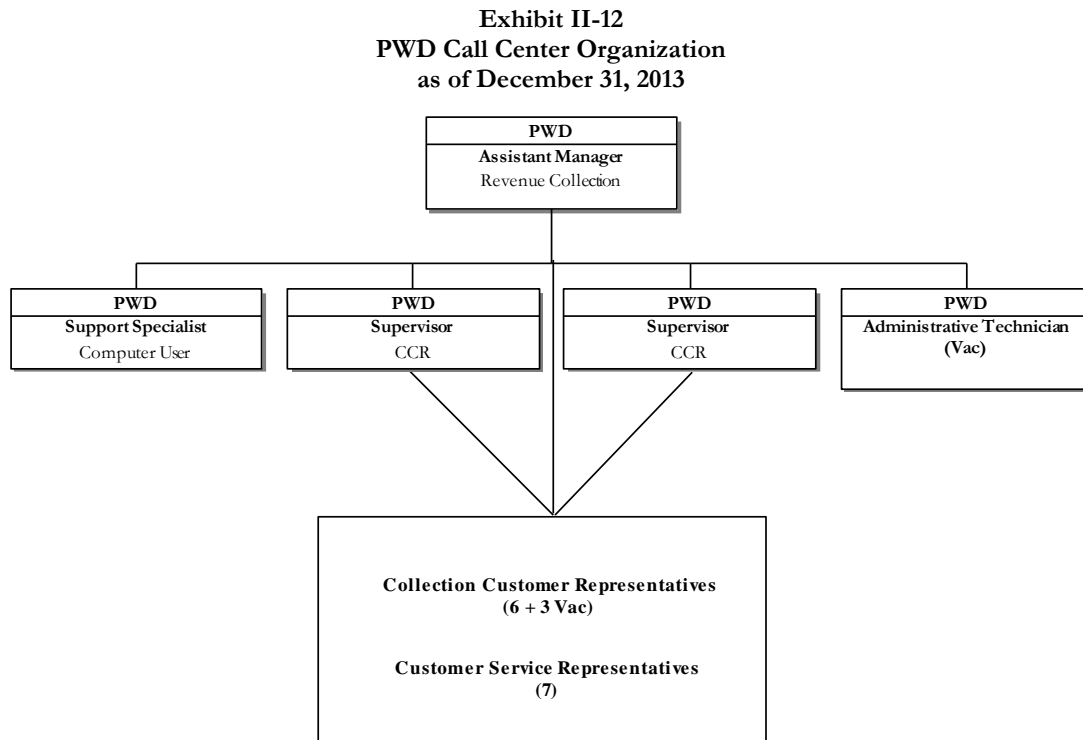
Source: Information Response 120

Systems

Besides the inContact Cloud Solution telephone system used by the PWD Call Center, other systems include:

♦ Cityworks (emergency activity after 6/2012) and CI System (historical emergency activity before 6/2012)

♦ Basis2 (billing activity)

♦ Agency Receivables

♦ H20 Revenue Assistance Program

♦ Outlook (email)

♦ Move Book (distribution schedule of crews)

♦ Service Link

♦ ShrinkIT (shutoffs), mostly after moratorium for residential customers, but year round for commercial customers who are not subject to moratorium

Meter Management and Reading

The PWD Meter Shop is located at 2901 Chalmers Avenue (29th and West Cambria Streets). It has approximately 51 employees, including one manager, one assistant manager, one administrative services supervisor, six group leaders, 12 water meter repair workers, 17 water meter service workers (including six recently coming from WRB organization), one administrative technician, eight data services support clerks, one service representative, and two clerk typists. Of these, two clerical employees are located at MSB in Center City Philadelphia, where customers can obtain permits. [46] PWD employees do not perform monthly meter readings, which is currently done by ITRON using automatic meter reading. ITRON typically does 99% of the reads each month. [47]

There are approximately 465,000 to 480,000 residential and 46,000 business/commercial accounts. Of the six Meter Repair and Service groups, three focus on residential customers and one on commercial customers, while the other two handle primarily revenue protection and shop activities. [48] The water meter service workers are one-person crews in field. Although these employees primarily do ERT or meter changes, they are also looking for theft. One of the organization's focuses is tampering of seals and screws, especially given zero usage of meters or ERT/reads mismatches. [49] There are approximately 400 to 450 thefts monthly. [50]

Approximately 5,000 to 10,000 accounts have zero consumption, which are attributed to vacancy, theft, or mechanical failure, based on roughly 33% in each category. If mechanical failure is found, WRB estimates usage and then back bills. If there is zero usage for two months, then a water meter service worker goes out and investigates. The Meter Shop sends information to WRB (through work order system) if tampering is found. WRB also estimates usages and then back bills in this situation. [51] Leak investigations are initiated through high-usage complaints to the call centers. [52]

Currently the Meter Shop uses an ACD telephone system, with Public Property working on any problems experienced, such as putting customers on hold and not going back to customers or dropping customers. PWD is currently working on establishing a customer self-scheduling function for the Meter Shop through the IVR system. The typical call to the Meter Shop is to make an appointment. Currently customers cannot make an appointment through the PWD or WRB call centers, as agents do not have access to Slinky; therefore, if they call there, customers either must be transferred to the Meter Shop or given its telephone number. [53]

B. Findings & Conclusions

Call Centers

Finding II-1   Call centers lack common service metrics and regular reporting.

PWD and WRB call centers serve a common customer group but are managed quite differently. The most basic management tool is a clear and well understood set of performance metrics. The two call

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centers do not report the same information to their respective management, in fact, much of the reporting appears ad hoc. PWD Call Center regularly reports it service level (speed to answer) and abandonment rate in the monthly managers' report. The WRB reports data as requested with a focus on call volume and wait times. We recognize that these reporting differences reflect differing circumstances, but are concerned that they also reflect differing management priorities. From a customer perspective, there should be seamless and efficient service, this begins with common metrics, common performance standards and shared management priorities.

The reporting problems also reflect confusion over the data definitions. The definitions provided by the vendor (inContact) are not clearly written and they are unable to provide clarification when requested. The problem is further compounded by limited PWD and WRD staff knowledge of the reporting capabilities of the call management system. Much of the reporting responsibilities have been tasked to an outside consultant and training of internal staff on reporting capabilities does not appear to have been a priority. Knowing what the data measures and being able to communicate this information clearly to management is essential to meaningful performance measurement and for driving improvement.

Finding II-2   inContact appears to have data management and integrity problems.

PWD and WRB use a common call management (ACD) provided by inContact. Schumaker & Company found the system to be lacking in a number of key functions associated with data management and reporting. We have mentioned the data definition problems above. We are especially concerned about data integrity issues (or at least data calculations). Using the system's complex report function, we found that different totals were produced for the same data in different reports. For example, when calculating the total number of calls handled at the two call centers, the summary report produced by the system suggests that the two centers handled 46,789 calls. When we ran a report asking for call volume by half-hour time intervals and then totaled the number of calls handled, the total was 52,758.

We believe, but cannot be sure, that in the second report, calls transferred between the two call centers on the WRB priority queue are counted as having been handled twice (which they are). We cannot be sure and cannot explain where they are counted in the first report (or why they are not counted). Furthermore, calculations performed to verify this hypothesis produced a number that accounts for only 82% of the difference. This difference is inexplicable and confounding. Emails sent to inContact requesting clarification referred us back to the unclear data definitions.

In another example, the number of PWD calls that are routed to an agent, plus the number of calls abandoned before answer, slightly exceeds the total number of calls queued in the system during the same period. At WRB, the number of calls that are routed to an agent, plus the number of calls abandoned before answer, accounts for only about 57 of the calls queued in the system. We assume, but cannot verify, that at WRB much of the difference can be accounted for by the number of queued calls that are routed for callback after exceeding the maximum hold time (30 minutes). It is our assumption that these calls are queued twice and handled once.

We were also frustrated by the fact that the system retains only three months of call data. We were told that this is because the fees for more data storage are cost prohibitive. The limited data prevents meaningful comparison of specified time periods across years and makes multi-year comparisons impossible.

Finding II-3   Service levels at the PWD and WRB call centers vary significantly

During the month of April 2014, callers to the PWD Call Center waited an average of 2.5 minutes for an agent. At WRB, the average wait time was 54 minutes.[1] At PWD, 63% of the calls were answered within 90 seconds, while only 5% of WRB calls met this service level. Also, 11% of the callers to the PWD Call Center abandoned their call before reaching an agent, while 15% of the callers to the WRB Call Center abandoned their call.[54]

Call volumes and call center performance vary greatly throughout the year. This variation is driven largely by the shutoff moratorium cycle. This leaves one or both call centers unable to maintain service levels during peak periods.

Finding II-4   Current staffing levels at the PWD and WRB call centers are appropriate for current call volume.

During the course of our interviews, we heard a number of comments about how the call centers are understaffed. Clearly, during peak periods (particularly at the end of the shutoff moratorium), there is a significant decline in service levels at the call centers. But staffing to peak volume is very inefficient and expensive. As a general rule, a call center is staffed to a figure necessary to accommodate something above the minimum but less than the average call volume. Well-run call centers use variable staffing strategies, particularly part-time agents, to manage call volume variation. We understand the limitations of hiring part-time staff in the public sector, but we caution against overstaffing.

Our staffing analysis uses actual call volume (calls queued) from April 2014. This is a peak month reflecting the end of the shutoff moratorium. For this analysis, we used actual average call volume (calls handled) in half-hour increments and calculated required staffing to maintain a service level of 70% of the calls answered within 60 seconds. We then plotted staffing levels as shown in the actual schedules for each call center.

We understand that the authorized staffing complement typically exceeds available complement. During April, the PWD Call Center had 16 authorized agents but only 12 available because of vacancy and long-term leave. WRB currently has 37 available full-time equivalents (FTEs) with 38 authorized. We also recognize that the staffing model must accommodate breaks, meals, vacations, and other authorized leave time.

Exhibit II-13 plots required staffing in half-hour incidents (diamonds) against scheduled staffing (bars). Assuming all positions are filled and everyone shows up, the rostering efficiency of this schedule is

---

[1] The wait time figure for WRB is somewhat confusing in that callers are supposed to be routed to callback mode after 30 minutes of waiting. This again points to data problems in the system. We suspect that this figure includes wait time in the callback queue, but we cannot confirm this conjecture from the system documentation.

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about 60%. This graph also shows that, with the exception of the 3:00–3:30 p.m. peak, 11 available agents can maintain a service level with an under-60 seconds average wait time.

Exhibit II-13
PWD Call Center Staffing (Actual Schedule in Bars) Versus Required (by Call Volume Marked with Diamonds)
April 2014

Source: inContact Reporting (X axis = Actual agents by time of day (top)/time of day (bottom); Y axis=Actual agents versus required.)

Exhibit II-14 provides an accounting of the number of FTEs required to maintain PWD's available peak staffing at 11 agents. Accounting for breaks, meals, vacation, and other leave time usage, PWD needs approximately 15 FTEs. Given the turnover rate and training time required for a new agent, the current authorized staffing of 16 FTEs is appropriate and perhaps one additional FTE could be justified.

Exhibit II-14
PWD Staffing Requirements with Meal/Break/Leave Coverage Factors
April 2014

Hours in shift	8.5
Number of days call center staffed (CoP has 11 annual holidays)	249
Break time per shift in minutes per shift	30
Meal time per shift in minutes per shift	30
Total break and meal time in hours per shift per year	249
Average amount of leave time used (vacation, sick, etc.) per employee in hours	330
Maximum number of lines to be staffed each day	11
Total hours for year per position (needed hours)	2,117
Total hours for year per position less meals and breaks(available hours)	1,868
Needed hours/available hours (break load factor)	1.13
Break load factor * number of positions	12.47
Annual hours less average leave (available annual hours)	1,750
Annual hours/available annual hours (leave load factor)	1.19
Staffing needed for a full year of coverage (FTEs)	15

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During April 2014, rostering efficiency at the WRB Call Center was only about 20%—assuming all staff were available. The same analysis that was presented for the PWD Call Center above is presented in *Exhibit II-15* for WRB. This analysis suggests that April call volume requires peak staffing of about 25 agents to maintain an average answer time of less than 60 seconds.

Exhibit II-15
WRB Call Center Staffing (Actual Schedule in Bars) Versus Required (by Call Volume Marked with Diamonds)
April 2014

Source: inContact Reporting (X axis = Actual agents by time of day (top)/time of day (bottom); Y axis=Actual agents versus required.)

A similar analysis of staffing for the WRB Call Center for February 2011 suggests similar overstaffing of two to seven agents per half hour.[55]

Exhibit II-16 provides an accounting of the number of FTEs required to maintain available peak staffing at 25 agents for WRB. Accounting for breaks, meals vacation, and other leave time usage, WRB needs approximately 34 FTEs. Again, given the turnover rate and training time required for a new agent, the current authorized staffing of 37 FTE is appropriate.

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Exhibit II-16
WRB Staffing Requirements with Meal/Break/Leave Coverage Factors
April 2014

Hours in shift	8.5
Number of days call center staffed (CoP has 11 annual holidays)	249
Break time per shift in minutes per shift	30
Meal time per shift in minutes per shift	30
Total break and meal time in hours per shift per year	249
Average amount of leave time used (vacation, sick, etc.,) per employee in hours	330
Maximum number of lines to be staffed each day	25
Total hours for year per position (needed hours)	2,117
Total hours for year per position less meals and breaks(available hours)	1,868
Needed hours/available hours (break load factor)	1.13
Break load factor * number of positions	28.33
Annual hours less average leave (available annual hours)	1,750
Annual hours/available annual hours (leave load factor)	1.19
Staffing needed for a full year of coverage (FTEs)	34

As we mentioned above, call volume varies throughout the year. This analysis uses a one-month data sample and was specifically chosen to not be a peak month. As such, given the current configuration of the call centers, we believe the current staffing to be relatively well optimized. Strategies for addressing peak volume and improving customer service will be discussed in our recommendations.

Finding II-5   **The PWD Call Center handles a relatively insignificant amount of WRB call overflow.**

An automated overflow line was set up in the ACD to send calls from the WRB Call Center to the PWD Call Center during peak call volumes at WRB. This redirecting makes sense given the extra capacity at PWD. Unfortunately, our analysis shows that there is little net effect in reducing call volume and associated hold times at WRB.

The rules programmed into the ACD that limit when the overflow "gate" can open are highly restrictive. Three agents with appropriate skill level must be available and no calls must be in the PWD queue. Both of these conditions seem unnecessarily high and thus limit the volume of calls that move to the less-congested PWD queue.

The skill level of PWD agents is a significant constraint. During the course of Schumaker & Company's monitoring of PWD Call Center agents, we heard multiple examples of calls coming in the overflow line and then being sent back to WRB through the priority queue when the PWD agent was unable to handle the customer request. As we have stressed above, this redirection creates frustration for the customer who must then wait in the WRB queue after the failed service attempt at PWD. It also means the call requires multiple handles. And more to the point of this finding, it does nothing to relieve call volume at WRB.

While monitoring the ACD dashboard (real-time call statistics), we noted several times that the number of calls transferred to the WRB priority line (from the PWD Call Center) exceeded the volume of calls that came into PWD through the call overflow line. The calls being transferred to WRB from PWD may, or may not, include failed service attempts on WRB overflow calls. It also includes calls that originated on the PWD lines that required WRB billing service. Whatever the origins, the point remains that during these times, the net effect is an increase in WRB call volume.

Overall for the month (April 2014), there was an insignificant positive net effect of the call overflow transfer. The WRB overflow line sent 5,718 calls to PWD. PWD sent 4,897 calls to WRB through the WRB priority queue. The net effect was 821 calls or about 1% of WRB call volume for the month.

Finding II-6   **Multiple call centers confuse and anger customers, reduce staffing efficiency, and increase costs.**

PWD customers can call into at multiple phone numbers (see *Background & Perspective* section) for service (PWD call center (water emergency/billing), WRB call center (water billing), meter shop, major commercial accounts, and administrative support line during the day on weekdays, and emergency calls during the night on nights and weekends). During Schumaker & Company's call monitoring, we noted numerous examples of calls that were automatically transferred from one answering point to another. Customers are confused about where to call and who can help them. They become frustrated by long holds and multiple transfers.

We heard one example in particular that captures the problems of multiple call centers and agents with differing and limited skills (see *Exhibit II-17*). A woman called the WRB billing call center for a question about getting a refund on a credit for an account. She had called before and was frustrated by having to call again with questions about a form she had to complete. WRB was overloaded with calls so, unbeknownst to her, her call was transferred to PWD on the overflow line. The PWD agent tried for 10 minutes or so to answer the woman's questions then, failing to do so, transferred her back to WRB. The woman was reduced to tears when she learned she had called the correct number but was transferred somewhere else to a person who could not help her. She was now back in the queue. We later learned that she needed to talk to the refund desk and the WRB billing agent couldn't help her either.

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Exhibit II-17
Call Flow of Actual Call
April 2014
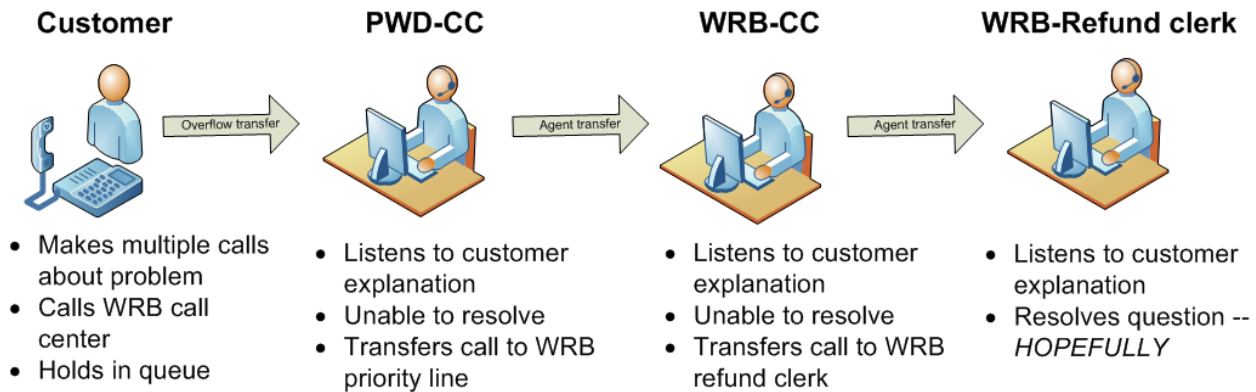
Source: Call center call recordings

It would be a mistake to dismiss this call as exceptional. Perhaps the situation the woman faced was unusual (she was out of state and dealing with her deceased mother's home), but the customer's experience was not unusual. We listened to many examples of callers who spent a great deal of time on the phone trying to explain their issue only to be transferred somewhere else, often requiring another wait in a queue.

Having multiple answering points staffed by agents with differing skills is a prescription for awful customer service. What's more, it is a main driver of inefficiency. A call answered by someone not fully trained to deal with the issue lengthens call time. Transfers and callbacks greatly increase call volume. Staffing decisions seem to have been made based largely on call volume with relatively little attention paid to reducing the drivers of call length and volume.

We have no way of measuring first-call resolution rates, the total amount of time a customer may spend on the phone over multiple transfers and callbacks, and the percentage of call volume that is the result of poor service. We can say that these metrics are substantial. In our time monitoring calls, no less than 20% of the calls either were transferred or were callbacks for unresolved issues. Add to this additional call lengths due to unskilled agents, and it all leads to enormous inefficiency that is experienced by the customer as poor service.

Finding II-7   More than half of all calls handled by the PWD call center are customers calling about water billing issues.

Many customers call the PWD call center with billing related issues. This may result from frustration with long wait times at the WRB call center or simply not knowing where to call. For example, during a four-week sample from June and July 2014, PWD agents handled (as reported in the Unit as a Glance report) 8,228 calls. Of this, 6,159 calls were coded as billing- related calls. Of the 6,159 billing-related

calls, 3,947 came in on the WRB overflow line. This suggests that about 27% of the calls that come in directly to the PWD call center (on the 6300 line) are billing-related calls. Adding in the calls that come through the WRB bill overflow line, about 75% of the calls handled by PWD are considered to be billing related.

These numbers support two points raised elsewhere. First, with three quarters of the PWD calls related to billing, it begs the question as to why there are two call centers as the vast majority of calls are related to billing. Second, if customers do not know where to call for a billing issue, it reinforces the point made above that customers are confused by the multiple call centers.

Finding II-8   Current Civil Service job classifications used in call centers are not designed for the specific needs of the function.

Call center agents at both PWD and WRB are hired as service representatives (Civil Service classification 1A37). This job class was established in 1966 and last updated in 1994. The classification applies to many entry level (open competitive) jobs. None of the examples of duties listed in the job description pertains to a call center environment. The job requires the equivalent of a high school education and "two years of experience in clerical work, one year of which shall have involved as a significant job assignment giving information to or eliciting information from the public or receiving and answering complaints."

After a period in the service representative role, call center agents can test (when offered) to become collection customer representatives (Civil Service classification 2B02). This job class was established in 1957 and last updated in 2007. "This is specialized clerical and revenue collection work contacting and interviewing taxpayers and water/sewer customers, and/or their representatives, to effect the collection of revenue."

In both cases, the job descriptions have little to no relationship to the work of the call center agents, especially at PWD. Call center work is very demanding and requires excellent communication and customer service skills.

Supervisors at PWD and WRB indicated to Schumaker & Company that the service representative is essentially a training classification and that the expectation was that agents would become collection customer representatives. Unfortunately, many service representatives lack the skills to perform at the CCR level. Supervisors discussed this issue during our interviews. This issue is also reflected in the small percentage of employees who make it through the promotion process from service representative to CCR. In 2013, the promotion test was offered four times. Across the city (data specific to the call centers was not available), 1,625 service representatives applied for the CCR position (general and bilingual combined). 878 were approved to take the test. 534 took the test and 326 passed. The Office of Human Resources/Civil Service Administration reports roughly a 61% passing rate, but this figure looks only at those who completed the test. The passing rate of those who applied for promotion is 20%.[56]

Schumaker & Company was not given access to Civil Service tests for the CCR position, but we are concerned that the tests, like the job descriptions, are not specific to the call center work and are a poor predictor of success in the job.[57]

Of course, there is wide variation in call agent performance. During our observations at both call centers, we listened to different agents respond to many calls. We were highly impressed with the level of knowledge, service, and dedication of many agents and we would be remiss to not recognize this. Nonetheless, this high quality of professionalism was not uniform and the selection process does not seem to be designed to ensure high-performing employees.

Finding II-9   **Agents at PWD and WRB call centers that are in the same classification have inconsistent skill requirements and job requirements.**

Further confusing the use of broadly defined job descriptions is the inconsistent way work is assigned. At WRB, service representatives and CCRs do the same work. They are distinguished only by tenure and having passed the test. At PWD, service representatives handle only PWD emergency calls, and some, but not all, CCRs handle both billing and emergency calls. The types of billing issues handled by PWD CCRs vary widely and seem largely a matter of individual choice.

Again, we are concerned that the job descriptions are unrelated to the work performed, that work requirements are inconsistent, that the selection process does not predict success, and that the promotion process is unrelated to any actual skill development.

Finding II-10   **Training and development for call center agents at the PWD and WRB call centers are inconsistently and infrequently conducted and are insufficient to adequately train agents.**

The training offered by the PWD and WRB call centers is done extremely differently between the two groups.

♦ At the PWD Call Center, new PWD agent employees spend several weeks on their own reading training materials. Then informal training is provided, during which the supervisor doing the training goes through training materials with each agent and agents listen to calls. Subsequently, new agents take calls for several months with the supervisor's help.[58] PWD agents must learn many different systems.

♦ At the WRB Call Center, a clearer plan has been developed, with all agents receiving approximately 11 days of training when they are new hires. This training is typically split up instead of occurring at one time.[59] After the initial training with a training manual, agents sit with a seasoned, high-performing agent for approximately one month using a y-connector to the telephone so that the experienced agent can observe and hear all aspects of the call.[60] Also, supervisors listen in on calls while agents are doing training to see when additional training is required.[61] Additionally, agent training is provided by the City of Philadelphia at least once annually. If an agent continues to perform below standard, he or she is asked once again to participate in the introductory training. If that is not sufficient, then the agent sits with the assistant manager for evaluation.[62]

♦ At the WRB Administrative Support/Major Accounts call center, typically only on-the-job training is used, as most people for this unit come from the WRB Call Center where they have already been trained, so they only require on-the-job training for their new unit.

Nevertheless, none of the call centers has written task definitions, procedures, or tests to help agents learn their activities or to certify the competency of agents. Schumaker & Company's observation of calls and interviews with PWD and WRB employees illustrated several examples where agents could benefit from additional training.

♦ Billing questions by customers to PWD agents were frequently transferred back to the WRB because PWD agents either could not/would not answer the customer's question or set up a standard payment arrangement.

♦ Call center agents are not sufficiently trained in water/sewer system design and function; therefore, service requests may be included in the Customer Service Cityworks inbox with the wrong category. This tendency results in improper priorities for dispatching crews by Customer Service or the Water Emergency Desk (which uses the same inbox as Customer Service) groups. For example, a leak in the streets or a main break may be set up as a property inspection, which does not have the same priority as a leak in the streets or a main break. If this repositioning occurs, a service request is not given the required high priority.[63]

♦ The PWD agents often put multiple jobs in the Customer Service/Water Emergency Desk Cityworks inbox for the same issue because they do not open Cityworks maps and they associate service requests with specific assets, such as mains, hydrants, or parcels (or possibly multiple items with requests). They do not review these maps to determine if a request for the same asset has already been made. This oversight produces multiple service requests that then must be consolidated by the Water Emergency Desk dispatcher. When this happens, the Water Emergency Desk dispatcher must close duplicate items in Cityworks (and refer the closed requests to the proper work order), rather than send crews out multiple times to address the same issue.[64]

♦ Sometimes agents hit "submit" rather than "request" when entering a job in Cityworks. This usually means the job is not dispatched, since it is not in the request queue that dispatchers dispatch from.

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Finding II-11   **Agent monitoring and associated coaching and development are infrequent and inconsistent among call centers and supervisors.**

In addition to insufficient formal training for agents, monitoring of agent calls by supervisors and subsequent coaching and development of agents by supervisors is infrequently done and is inconsistently performed by the PWD and WRB call centers and their supervisors. Monitoring of calls and coaching of agents by both WRB and PWD supervisors is generally not done as supervisors indicate they do not have sufficient time to do so.

Even when call monitoring and coaching occur, they are done without sufficient standards for the various types of calls. This leads to inconsistent feedback from coaches and furthers the problems of poor performance and inconsistent information being given to customers.

Finding II-12   **Lacking information about fieldwork, PWD Call Center agents give customers inaccurate information or they transfer customer calls to the Water Emergency Desk dispatcher during daytime hours.**

During our observations at the PWD Call Center, we monitored many calls from customers reporting or requesting information on service interruptions (mostly main breaks). The only information that call center agents have on service disruptions is from a fax that is sent in the morning from the Water Emergency Desk at 29th and Cambria. This fax simply lists any main breaks/jobs held over from the night before and provides no further information on restoration. The PWD Call Center has the option to call the Water Emergency Desk, who in turn could use the 800 MHz radio to call the appropriate crew to find out the status of a job, but they seldom use this option. Although Cityworks provides information an event (whether it's been reported, being worked on, etc.), it does not provide expected restoration times, which customers are calling about.

Once the fax is received, call center management provides a copy of the fax to each agent. Updates from the Water Emergency Desk are generally not provided to the PWD Call Center because field crews do not have the capability to provide real-time progress updates. Lacking telephones or laptops in the field, workers communicate by radio. Without laptops, field crews cannot update Cityworks directly. Therefore, the Water Emergency Desk staff can get such updates only if they contact field crews via radio or if field crews contact the Water Emergency Desk. Even if the Water Emergency Desk has information on the status of a restoration (which is seldom the case) it generally does not provide the PWD Call Center with progress updates.

Lacking real-time information, call center agents often have information that is outdated and nearly always incomplete. Service restoration estimates can be provided only by using rules of thumb, without any regard to severity, complexity, and working conditions that may affect the restoration time. We also noted that call agents gave very inconsistent estimates for the same event based on different rules of thumb and different time calculations. For example, during one event, we heard some agents say four to six hours and others say six to eight hours. If during the day any changes in the progress of fieldwork occurs, the agents have no way to provide that information to customers.

Although the capability exists to put announcements on the IVR regarding service problems, this approach is not used because there is no accurate information available on restorations. Instead, callers are put through to call center agents who do not have accurate information.

In some cases, PWD Call Center agents forward customer calls to the Water Emergency Desk at 29th and Cambria. The dispatchers there typically have more up-to-date information, but their job is to help manage fieldwork and not respond to customer inquiries. Again, customers are frustrated by long wait times, inaccurate information, and calls being transferred.

Finding II-13   **PWD Call Center agents transfer calls to the Meter Shop rather than making customer appointments directly into the Slinky system.**

Calls for setting up a meter appointment can be made either by customers calling the Meter Shop directly or by other call centers transferring calls to the Meter Shop or sending email messages to the Meter Shop manager. Currently the PWD and WRB call centers have read-only access to Slinky and cannot schedule meter appointments for customers. In the past, call centers have indicated that they do not have the resources to do nor do they receive training to use Slinky.[65]

Currently being considered is an interface from Basis2 to Slinky so email messages or call transfers would not need to be made. However, in those situations, the Meter Shop would still need to call customers back to actually schedule appointments.

Going forward, which is supposed to happen later in July 2014, customers will be able to schedule appointments via the IVR (not the PWD website) but still not by calling the PWD Call Center directly.

Finding II-14   **The majority of calls answered by the Administrative Support/Major Accounts group at WRB are residential customers who, for a variety of reasons, use the commercial account option in the IVR.**

The Administrative Support/Major Accounts group was created to give priority service to escalated issues, title companies, and commercial accounts. The group is staffed by a supervisor and four CCRs. They are budgeted for five CCRs and have considered requesting a sixth.

The volume of calls that truly fit this definition is rather small. Of the 58,255 customer calls handled by WRB and PWD during the month of July 2014, less than 3% (1,561) were administrative support calls (inbound and outbound combined). Another 9% (5,208) of these calls came through on the commercial line. Of these, 4,616 calls were handled by agents in the Administrative Support/Major Accounts group.[66]

This group also responds to email messages (including bulk requests) to WRB.HELPDESK@phila.gov (roughly 50/day). Usually one person each day is assigned responsibility for responding; however, such individuals generally do not address all messages and often get to them on weekends (overtime) to catch up.

The queue for major/commercial accounts often experiences the longest hold times. The agents we spoke with indicated that this is because many residential customers choose this option in the IVR, thinking they will have a shorter wait time than in the WRB billing queue. The supervisor in this group suggested that the "vast majority (80% to 90%) of the calls are residential." Precise numbers do not exist, but Schumaker & Company reviewed several days of manual agent logs (paper reports) and found approximately 75% of the calls were logged as residential.[67]

Any calls in the queue by 5:00 p.m. are handled by the WRB Call Center. For calls that come in after 5:00 p.m. customers receive a WRB closed message. After 10:00 p.m., any calls to the PWD Call Center are transferred automatically to the Water Emergency Desk, regardless of type.

Finding II-15   **An organizationally separate Administrative Support/Major Accounts group at WRB is inefficient and does not provide the desired service level for commercial accounts.**

Calls are routed to the Administrative Support/Major Accounts group through the same automated call distributor as all other water customer calls. The system uses skill-based routing that directs calls to an agent who can best address the customer's needs based on the selection the customer made in the IVR. As such, administrative support calls requiring a high level of service can be routed to any agent identified in the system as being qualified. It is unclear to us why this is a separate organizational unit under separate supervision. The ACD can achieve the same benefit without the organizational distinction.

Commercial calls, on the other hand, get lost in a clogged queue because residential customers select this option in the IVR thinking they will get faster service. This problem is currently managed by shifting commercial callbacks to the main WRB Call Center agents after 5:00 p.m. WRB agents who are CCRs are qualified to respond to commercial calls. Again, the existence of the separate organizational unit likely contributes to low service levels for commercial accounts because too many calls are in the queue for too few agents. These calls would be better served through a more precise sorting method or by simply being queued with all residential calls and not being treated as a separate option. More to the point, if all CCRs at WRB can answer commercial calls, why don't they?

This specialized group is, as we established in *Finding II-14*, doing mostly the same work as the agents in the call center: responding to residential inquiries. On average, these agents do a large volume of work. The average number of calls handled by agents in the Administrative Support/Major Accounts group was 34% higher than the average number of calls handled by WRB Call Center agents (billing) in July 2014. WRB billing agents handled an average of 843 calls each in July, while the Administrative Support/Major Accounts group handled an average of 1,283. In fact, two of the three agents handling the highest volume of calls were Administrative Support/Major Accounts agents.[68]

The effect of all of this is that some of the best agents are organizationally separated to provide higher levels of service, but the call volume of the calls actually requiring special support is low. The

distribution of calls is automatic and does not require a separate function with separate supervision. And in the case of commercial accounts, such distribution reduces service levels.

Finding II-16   **No PWD formal complaint process exists for operational issues, although an informal hearing process within WRB exists for billing issues, which is currently under investigation.**

Initially when Schumaker & Company requested a description of PWD's formal complaint process, we were told that such a process does not exist. The reason for this lack of complaint process, we were told, is that calls were considered complaints, as illustrated in *Exhibit II-18*.

Exhibit II-18
Calls Considered Complaints
2013
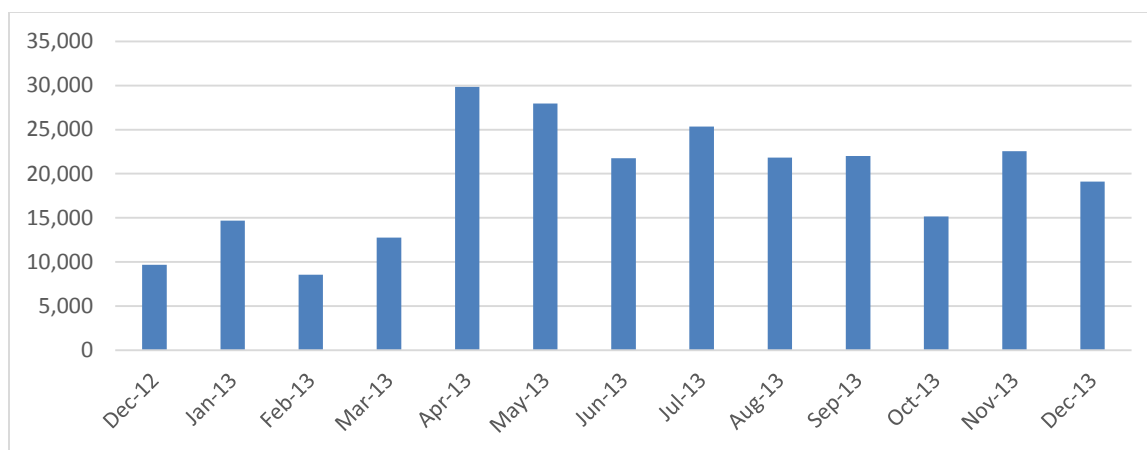
Source: Information Response 98

The calls are coded at the PWD and WRB call centers and are reported in PWD's monthly managers' report using limited complaint codes mixed in with all call type codes. Therefore, one cannot determine specific complaint reasons; plus not all calls should be considered complaints, as some can also simply be inquiries or service requests. Additionally, there is no formal escalation process, no measure of resolution, and no feedback process to drive operational improvements.

However, an informal WRB hearing process does exist. If a customer thinks his or her water bill is in error, the City of Philadelphia website indicates that the customer is to contact one of the call centers first. If the customer is still in disagreement about a bill after speaking with a customer service representative, the website states that a customer can request an informal hearing from WRB for the following reasons:[69]

♦   To dispute whether the customer's bill payment agreement terms have been properly applied

♦ To dispute rejection or revocation of acceptance of an application, including Water Revenue Assistance Program applications

♦ To dispute water shutoff for nonpayment or lack of access to the meter to change, repair, or read

♦ To dispute the customer's responsibility for water and sewer, but not storm water, charges

♦ To dispute the amount due or any possible errors in computing charges on the water, sewer, or storm water bill

♦ To dispute shutoff for failure to take or permit a meter reading or to provide access to a meter

♦ To dispute denial of a request for continued service pursuant to Section 100.10 of PWD's regulations

♦ To dispute denial of an application for continued water service under USTRA

Upon timely request, a customer may request an informal hearing before the WRB regarding disputes. A request is considered timely if it made within 30 days of the date of a disputed bill or within 10 days from the date of the first shutoff notice or notice of rejection or revocation of an application of service. Therefore, the right to request a hearing is waived, except to dispute charges accruing and determinations made after the date of the first shutoff notice.[70]

Exhibit II-19
WRB Customer Service Division
Informal Hearing Disputes Processed
November 2012 to November 2013

	AAU DISPUTE	WRAP DISPUTE	TOTAL
NOVEMBER	89	90	179
DECEMBER	53	78	131
JANUARY	122	89	211
FEBRUARY	130	109	239
MARCH	121	86	207
APRIL	193	116	309
MAY	166	109	275
JUNE	131	95	226
JULY	123	75	198
AUGUST	101	23	124
SEPTEMBER	131	54	185
OCTOBER	134	82	216
NOVEMBER	86	54	140
Period Totals	1580	1060	2640

Source: Information Response 18

Customers are asked to call the WRB to obtain an informal hearing request form. After the informal hearing has occurred, if a customer disagrees with the outcome of the process, or if a customer chooses not to have an informal hearing, the customer may send a petition for hearing to the Tax Review Board.[71]

Currently, PWD and WRB are working together, along with a consumer advocate organization, to make changes to the informal hearing process. Their aim is to make it more objective and detached by moving the Hearing Officers from WRB to Revenue Technical staff. Among other topics discussed include making written information notices more formal with logical next steps, standardizing letters, etc.[72]

Community Relations

Finding II-17   The PWD Community Relations function operates with limited capacity.

As the public face and voice of PWD, the Public Affairs group serves an important role in helping PWD achieve its vision of being the "country's model 21st Century urban water, wastewater and stormwater utility—one that fully meets the complex responsibilities and opportunities of our time." The Public Affairs group represents the work of the PWD to the public and represents the interests of the public to PWD. As a result, the communications strategy is important to both the success of the Public Affairs group and the overall ability of PWD to fulfill its vision for the future. The Public Affairs group is in the process of revising its Communications Guide, which describes three aspects of communications used: the messages PWD communicates, the audiences with whom PWD communicates, and the tools PWD uses to communicate those messages. Unlike a plan or a strategy document, this guide does not make recommendations for improving PWD's current communication methods. Instead, its purpose is threefold:

♦   *Provide all Public Affairs staff with consistent information*, as the group handles a range of situations, from emergency repairs to media requests and public meetings. In order for it to work as a cohesive group, it is important that each staff member know Public Affairs' messages, tools, and audiences.

♦   *Summarize the work of Public Affairs for firms or individuals contracted to work with the group*, as it often hires external consultants to perform services that require a solid understanding of its work. For example, the guide can provide background information to support current efforts such as developing interpretive signage for green infrastructure sites and creating a new branding strategy for PWD.

♦   *Document current communication methods,* because having a clear list of current communications methods enables PWD to evaluate the Public Affairs communications strategy on an ongoing basis.

Only one employee (community relations manager) in the PWD Public Affairs group performs a Community Relations function as a full-time responsibility (although other Public Affairs staff take on

components of this work), resulting in this function operating with limited capacity. For the last two years, since this position was formed, the community relations manager has been primarily responsible for providing community relations regarding emergency projects, especially high-impact events. He coordinates communications with media, public, other utilities, and internal PWD staff regarding these situations. He also spends a lot of time onsite when emergency situations occur, generally having meetings onsite (often for at least a week) and then sending weekly letters afterwards to customers to update them. For example, in a late 2013 major water event, the community relations manager contacted the PWD Call Center, which put a message on the inbound line designating the eight zip codes impacted by the event. This manager also sent reverse 911 messages to two of the eight zip codes impacted. If the community relations manager is not at work, there is no backup to perform these functions.[73]

Also, this function operates with limited information. For routine breaks/leaks involving six- to eight-inch lines, the community relations manager typically doesn't leave his desk. But for larger lines (12 inch or above), the manager often hears from internal sources when something happens. However, he also hears about emergency situations many different ways, often via media calls.[74]

Other activities the community relations manager is involved with include:[75]

♦ Planned project community meetings, which he considers a lot more difficult than emergency situations, especially with determining timeframes for performing activities – One example he gave was a project where he participated in a community meeting and it then took Philadelphia Gas Works (PGW) roughly seven, not one, months to do their work before PWD could be actively involved.

♦ Media calls, in which he is often involved with calls involving main breaks while the media relations manager is involved with water quality and billing calls.

♦ While some complaints go to the Construction branch, big ones often go to the community relations manager.

Intake

Finding II-18 **Appropriate staffing levels have been an issue at intake offices.**

There are no permanent staff currently at the North Philadelphia (NP) and Northeast Philadelphia (NEP) satellite intake offices. Instead, four interviewing staff from the Center City Philadelphia intake office rotate into the two satellite intake offices, with currently two at the NP office and two at the NEP office. That leaves three interviewing employees (of which one is in training and cannot directly help) and one receptionist located at the Center City Philadelphia Municipal Services Building office. Both intake supervisors are located at MSB, although the satellite supervisor also has additional duties besides supervising intake activities.[76] For example, the satellite supervisor is also responsible for intake reporting activities, assistance with deputy commissioner reporting, Community Legal Services liaison (research and responses), and WRB Conference Committee chair of committee (which meets twice monthly). This committee is comprised of PWD and WRB employees who review payment arrangements (PAs) for quality control purposes.[77]

Other Customer Service Operations staff cover for interviewing agents in the Center City Philadelphia office when Center City Philadelphia staff are working at satellite offices and additional help is needed.[78]

Too much time occurs to hire employees, according to intake supervisors, because Civil Service examinations often occur only once every two years. (Although examinations can take a shorter time if a list is exhausted, once a list becomes certifies it expires in two years.)

Finding II-19 **The satellite intake staff has limited access to supervisors.**

Because the satellite supervisor is generally located at MSB, the satellite intake staff has limited access to supervision help, if needed. Due to other responsibilities, the satellite supervisor does not go out to the NP or NEP Intake offices as often as needed, although in April and May of 2014 she spent most of her time there.[79]

Finding II-20 **The tracking of service metrics, such as number of customers and accounts served, wait time, and service time is handled inconsistently among intake offices.**

At the MSB intake office, the receptionist gives tickets to waiting customers depending on the reason they are coming to the office. The receptionist also tracks number of customers and number of accounts on a manual basis, although the PSS system at MSB logs how many customers are helped. In addition, it provides service time and wait time statistics, which are provided in monthly reports to the revenue collections manager.[80] The targets are < 16 minutes for wait time and < six minutes for service time. In June 2014, for example, the average wait time was 15 minutes and service time was 5.33 minutes. If there are more than six customers waiting, however, wait time is typically impacted, and it will generally go beyond 16 minutes. The busiest months tend to be March, April, and May.[81]

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At the satellite intake offices, the number of customers served is manually counted, typically through sign-in sheets. Moreover, the amount of wait time and service time cannot be tracked. The number of accounts is supposedly available from Basis2, but discrepancies exist.[82]

Finding II-21   The type of payments taken at intake offices is inconsistent.

Also handled inconsistently is the type of payment taken. At the MSB intake office, customers may pay by cash, check, or money order, while at the satellite intake offices, customers may pay only by check or money order. Cash is not allowed due to security issues, as further discussed in *Finding II-23*.[83]

Previously there were kiosks in MSB so customer could use credit cards, but they were removed from the MSB intake office. PWD's customers may use the Internet or telephone to pay by credit card; however, they are warned that such use may take three to five days for the payment to apply to their accounts. Therefore, if they are in jeopardy of being shut off, they shouldn't use such payment methods.[84]

Finding II-22   Equipment issues are a concern at all intake offices.

The MSB intake office has two printers, two copiers, and one fax machine; however, with the exception of one Xerox machine bought one year ago, all of the other equipment is old and frequently breaks down. Workarounds, such as manually creating bills, must frequently be done. Also, the fax machine only allows local calls, so if non-local calls are necessary, other fax machines must be used.[85]

It was also indicated that equipment issues existed at the satellite offices; however, the satellite supervisor was not sure who is responsible for equipment. This confusion arises because the NEP office reports to the Revenue Department, while the NP office reports to the managing director's office (one level under the mayor's office).[86]

It was also indicated that insufficient training exists regarding use of Outlook remotely at satellite intake offices, because some employees know how to use the program while others do not. It was also indicated that personal computer (PC) limitations for remote use of Outlook possibly exist; however, intake supervisors were unable to determine if the culprit was primarily training or PC limitation issues. The workaround is to put general notifications on shared drives where satellite intake employees have access to forms.[87]

Finding II-23   Security issues exist at all intake offices.

According to intake supervisors, security issues exist at both satellite intake offices. Such issues include:[88]

- ♦ Lack of security officers on duty
- ♦ No alarm systems
- ♦ No police/guard sign-in process

It was also indicated by intake supervisors that other security issues, such as the following, exist at the MSB intake office, especially regarding irate or threatening customers:[89]

♦ Low customer service counters with no protective glass
♦ Limited security staff visible to public
♦ Insufficient audio/visual equipment

Currently, when irate or threatening customers appear at the MSB intake office, if the customer service representatives cannot calm the person down, they are instructed to excuse themselves and walk to the supervisor's desk. This walking away from the situation allows the involved representative to calm down and hopefully the customer too. The supervisor, along with the representative, meets with the customer and attempts to placate the customer. If this does not happen, then a security guard is called in. The customer sits down with this security guard until the customer relaxes.[90]

Finding II-24 **Intake staff indicate that call center staff do not provide appropriate documentation information to customers when customers must visit an intake office.**

Intake supervisors indicate that call center staff don't know what is required when customers must go to an intake office. The call center agents don't give appropriate information to customers who are calling in, so often these customers come into one of the intake offices without sufficient information, especially for tenant or rent applications. This means that these customers must come back again, resulting in at least three interactions with the WRB, one via the call center and two via the intake office, before their requests can be addressed. This situation apparently exists, even though intake supervisors indicate that they have provided documentation, such as the handout given to customers, to call center staff.[91]

Additionally, intake supervisors would like greater rotation of Customer Service staff, as discussed further in *Recommendation II-24*.

C. Recommendations

Call Centers

Recommendation II-1 **Develop common metrics and monthly reports based on clearly defined and verified data. (Refer to Finding II-1 and Finding II-2.)**

Both call centers should produce a common report each month. This report should be created as a standard report in the system and should not require downloads to Excel or additional data manipulation or calculations. The vendor should be required to verify that the system is pulling the proper data to produce these statistics and should be able to clearly explain the algorithm. Furthermore, it should be possible to calculate this algorithm using raw data and achieve the exact result that is presented in the automated report. Short of this, a new vendor should be considered.

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We recommend, at minimum, the following statistics be presented in a monthly (and annual) report.

♦ Call volume for the period (number of calls queued)

♦ Abandonment rate (queued calls that hang up before answer)

♦ Service level (percent of calls answered within specified time, usually 30–90 seconds)

♦ Average time in queue (average hold time for an agent)

♦ Percent of calls queued for callback (calls for which the customer requests a callback or calls that exceed the maximum allowable hold time and are automatically queued for callback)

♦ Average call handle time (total time on the phone and spent completing associated follow-up work)

♦ Percentage of escalated calls (calls escalated to a supervisor for resolution)

♦ Percentage of calls transferred to another agent/employee (calls that could not be resolved by initial responding agent)

♦ Average number of calls per labor hour (number of calls handled divided by the total number of agent hours worked)

♦ Average agent availability rate (total hours agents are logged in and available to handle calls divided by the total number of agent hours worked)

♦ Average agent utilization rate (total handle time divided by the total number of agent hours worked)

These statistics provide key indicators of both service quality and call center productivity. Although management may request periodic special analysis, a standardized report as described above will allow management to conduct trend analysis, adjust resources, and drive improvement in call center operations.

Recommendation II-2   **Combine the call centers for WRB billing, administrative support/major accounts support, and PWD water emergencies into a single water customer contact center. (Refer to Finding II-2, Finding II-3, Finding II-4, Finding II-5, and Finding II-6.)**

Combining the call centers for WRB billing, administrative support/major accounts support, and PWD water emergencies into a single water customer contact center provides an opportunity to significantly improve customer service using existing staffing levels. It may even produce some efficiencies, but our focus is on improving performance. A single call center reduces transfers, improves first-call resolution, and better aligns resources to peak call volumes. *Exhibit II-20* shows the combined call volumes using inContact data from April and July 2014.

Exhibit II-20
Combined Call Center Average Calls Handled
April/July 2014
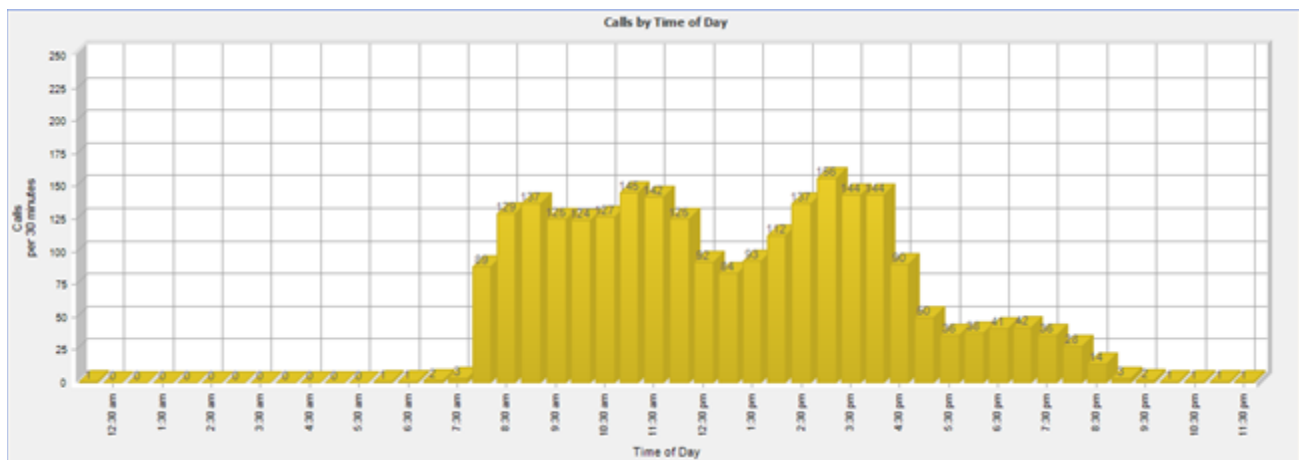
Source: inContact Reporting (X axis = Actual calls by time of day (top)/time of day (bottom); Y axis=Calls per 30 minutes.)

Exhibit II-21 presents a suggested staffing model that uses eight-hour shifts and fully meets base-level staffing requirements. To meet the call load demands of an average month requires 38 agents spread over 13 hours of service.

Exhibit II-21
Combined Call Center Pro-forma Agent Schedule

Shift	Start	End	Number of Agents
1A	7:00 a.m.	3:30 p.m.	2
1B	7:30 a.m.	4:00 p.m.	8
2	8:00 a.m.	4:30 p.m.	10
3	8:30 a.m.	5:00 p.m.	7
4A	12:00 p.m.	8:30 p.m.	6
4B	1:30 p.m.	10:00 p.m.	5
		Total	38

The staffing model presented in *Exhibit II-21* above, produces a fairly efficient call-handling model as presented below in *Exhibit II-22*. This model offers 70% rostering efficiency—better than the current PWD schedule (*Exhibit II-13)* and far better than WRB (*Exhibit II-15*). It also affords an average answer speed of 22 seconds. This model also suggests that 89.6% of calls will be answered in 30 seconds. This response time is much improved over what the existing three call centers achieve. This model is also the best that can be achieved using eight-hour shifts. Use of part-time agents would greatly improve rostering efficiency during the midday hours and perhaps address the difficulties in staffing night shifts, but we understand the practical and collective bargaining limitations on part-time positions for base-level staffing.

Exhibit II-22
Combined Call Center Average Calls Handled
April/July 2014

Source: inContact Reporting

As we discussed in our findings, the full complement of FTEs necessary to staff the call center must account for breaks, meals, and various leave time. To staff the suggested roster of 38 agents would require approximately 51 actual employees. This figure is considerably less than the current number of 60 FTEs authorized for the three call centers as proposed for merger here (PWD, WRB, and Administrative Support/Major Accounts). Given turnover and required training time (not accounted for in this model), it is not unreasonable to suggest an authorized FTE for the combined call center of 56 to 60 agents. The staffing calculations are presented in *Exhibit II-23*.

Exhibit II-23
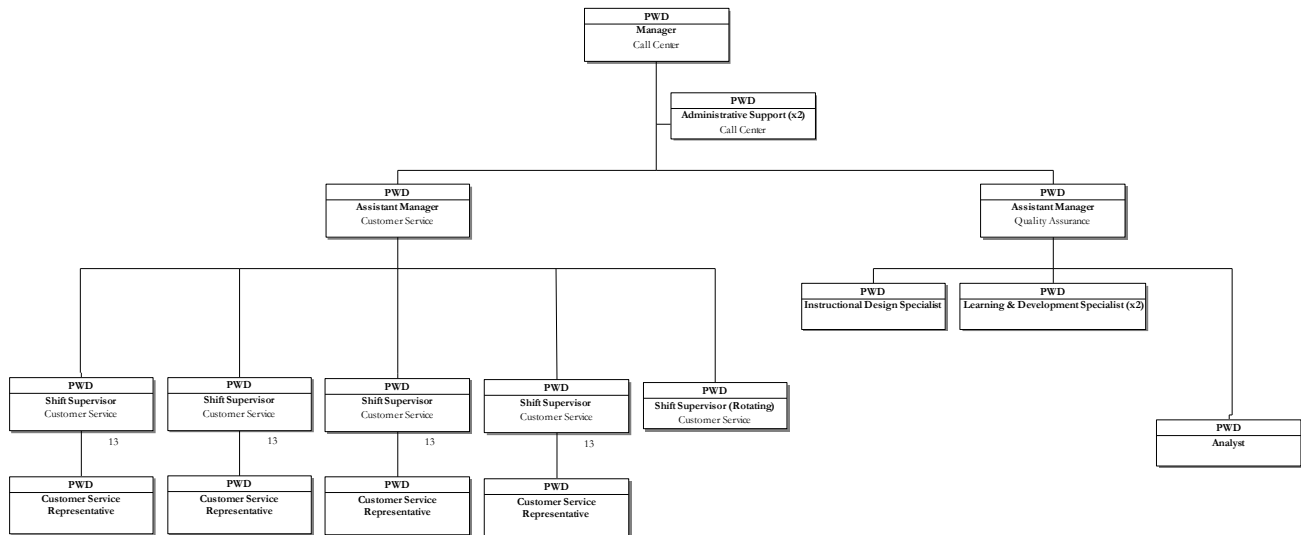**Combined Call Center Staffing Requirements with Meal/Break/Leave Coverage Factor**

Hours in shift	8.5
Number of days call center staffed (CoP has 11 annual holidays)	249
Break time per shift in minutes per shift	30
Meal time per shift in minutes per shift	30
Total break and meal time in hours per shift per year	249
Average amount of leave time used (vacation, sick, etc.) per employee in hours	330
Maximum number of lines to be staffed each day	38
Total hours for year per position (needed hours)	2117
Total hours for year per position less meals and breaks(available hours)	1868
Needed hours/available hours (break load factor)	1.13
Break load factor * number of positions	43.07
Annual hours less average leave (available annual hours)	1750
Annual hours/available annual hours (leave load factor)	1.19
Staffing needed for a full year of coverage (FTEs)	**51**

Although a combined call center could produce some efficiencies in terms of operating with fewer agents, this is not the goal of our recommendations. Our objective is to improve service levels, which will ultimately reduce call volume through reduced transfers and fewer callbacks for unresolved issues. We believe this aim is accomplished through better-trained agents who improve first-call resolution in a shorter amount of time. A combined call center supports this objective in several ways. Perhaps the most important benefit is the opportunity to reallocate management resources to provide professional training and ongoing development to agents.

Exhibit II-24 below offers a proposed organization using the same number of positions as currently employed by PWD and WRB in three call centers (PWD Call Center, WRB Call Center, and Administrative Support/Major Accounts group). The approach proposed here shifts several supervisory positions to training and development professionals (discussed in *Recommendation II-3*). There are five shift supervisors (one floating) to cover the four shifts proposed in *Exhibit II-21*.

Exhibit II-24
Combined Call Center Pro-Forma Organization

PWD
Manager
Call Center

PWD
Administrative Support (x2)
Call Center

PWD
Assistant Manager
Customer Service

PWD
Assistant Manager
Quality Assurance

PWD
Instructional Design Specialist

PWD
Learning & Development Specialist (x2)

PWD
Shift Supervisor
Customer Service

PWD
Shift Supervisor
Customer Service

PWD
Shift Supervisor
Customer Service

PWD
Shift Supervisor
Customer Service

PWD
Shift Supervisor (Rotating)
Customer Service

PWD
Analyst

13   13   13   13

PWD
Customer Service
Representative

PWD
Customer Service
Representative

PWD
Customer Service
Representative

PWD
Customer Service
Representative

Shift supervisors will be focused primarily on scheduling and ensuring coverage, including assuring that employees have the opportunity to participate in training and development. They will handle escalated calls and will coordinate with the quality assurance (QA) staff on training and performance improvement. That said, the full burden of training, monitoring, and coaching will no longer be on the direct supervisor because this work will be managed by the QA staff.

Once fully implemented, we believe that over time, PWD will be able to reduce the required number of FTEs necessary to support effective customer service. But as we have stated above, the immediate goal is to improve customer service. Combining call centers, restructuring management, and redeploying resources to training and development is the best way to achieve this goal with little incremental costs.

Recommendation II-3   **Dedicate additional resources to training and ongoing coaching. (Refer to Finding II-3, Finding II-8, Finding II-9, Finding II-10, and Finding II-11.)**

Higher-skilled employees, trained to consistent standards, are essential to improving customer service. We have recommended new positions related to training and development (although many aspects of these jobs are the responsibilities of existing positions and PWD and WRB).

The assistant manager for quality assurance is responsible for overseeing the development and reporting of performance metrics, the development of the job progression requirements, and in conjunction with shift supervisors, oversight of all training, mentoring, monitoring, coaching, testing, and promotional processes.

The instructional designer would be responsible for designing and developing effective training materials based on adult learning theories, using appropriate delivery methods and evaluation. This training would likely include video-driven as well as instructor-led material. The key is to have standardized materials for all aspects of customer service representative training for initial training, advanced training, refresher training, and new policies and procedures training. Ultimately, there should be a training protocol for every transaction performed in the call center.

The learning and development specialists would deliver training as well as manage call monitoring and coaching. These trainers would provide classroom and on-the-job instruction for new and existing employees. Such instruction includes ongoing call monitoring, behavioral scoring of calls, and consistent coaching to improve technical and interpersonal skills. Working in conjunction with shift supervisors, these trainers would support continuous improvement in call center performance.

Recommendation II-4   **Implement a learning management system. (Refer to Finding II-3, Finding II-8, Finding II-9, Finding II-10, and Finding II-11.)**

We recommended in our chapter on occupational health and safety the adoption of a training content management, delivery, and documentation system. We indicated in that section that we are impressed with Target Solutions (http://www.targetsolutions.com/home).[2] This product offers content developed specifically for water and wastewater utilities. It also allows for the uploading and sharing of practically any content developed in-house or purchased elsewhere.

A system such as this would be particularly useful for the call centers. It could support initial training and provide a convenient and efficient method for training on new policies and procedures—including testing and electronic signatures to document that an agent has read policy changes. Testing can be used in many ways to assure comprehension of standardized procedures. The system will record employee training completion and scores. Perhaps most importantly, it has a comprehensive training records system. It also allows for easy documentation of training and testing for advancement, it tracks expirations of mandated trading, and it notifies employees and supervisors of pending certification expirations or training refresher requirements.

In the call center, the instructional designer can push out new content quickly, with employees able to access such content at their work stations. This capability reduces the need for classroom training and provides a way to easily document employee participation and comprehension (when testing is used).

Using a system such as this across the enterprise makes for a *very* low-cost solution with wide applicability. It offers efficient delivery of standardized content and documentation for training completion, testing, and policy compliance.

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[2] Schumaker & Company has no relationship with Target Solutions and we are not recommending purchase of this specific system without appropriate needs assessment and review of multiple vendors.

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Recommendation II-5   Write new job descriptions that are specific to water customer service. (Refer to Finding II-3, Finding II-8, Finding II-9, and Finding II-10.)

In general, Schumaker & Company supports the use of broadly defined job descriptions that support the flexible deployment of human resources across a broad range of work—but not when such descriptions are written to the lowest common denominator. In a Civil Service environment, the broadly defined job descriptions are used to simplify recruitment and testing requirements rather than being used as tools for efficient management of operations. Recruiting individuals with very limited skills and experience and testing for simple knowledge and skills may be efficient, but it does not often produce qualified employees.

The work of the call center staff is difficult and requires advanced skills. As such, the job descriptions should be specific to the advanced requirements of this work. The selection process should be able to predict success in the job, which is simply not possible with the current job descriptions being written for a wide range of clerical functions.

Recommendation II-6   Develop a skills-based competency progression. (Refer to Finding II-3, Finding II-8, Finding II-9, and Finding II-10.)

Schumaker & Company believes that strengthening training and development should be part of a comprehensive strategy to enhance employee development and call center performance. We believe that call center work is difficult, requires strong customer service and communication skills, and takes time to master. Investing in employee development should include investing in incentives for qualified employees to stay on the job and to continue to grow and develop. We believe that a skills-based competency progression offers the best approach to career development in a call center environment.

In this approach, call center agents progress through specified learning experiences (formal and on-the-job) that gradually increase the type of calls they handle and, in turn, increases their pay as they successfully demonstrate competency at each level. Progress is based solely on competency. As such, there is no waiting for a vacancy to occur before a promotion can happen. Once the competency requirements are met, the employee advances to that pay level.

We recommend a five-level progression with an expectation that levels one through three are required and that the fourth and fifth levels are optional for those who wish to make a substantial effort to achieve them:

♦   *Level 1* – Probationary trainee: This is the entry level for new employees. At this level, an employee is engaged in formal classroom training, learning the various computer systems, and obtaining basic customer service knowledge and skills. He or she will also rotate through PWD and WRB units to learn the various functions and how the system operates. He or she may also be paired with a senior agent to monitor calls.

♦ *Level 2* – Customer information agent: To move to this level, the agent has passed various written examinations on PWD and WRB functions, water system operations, and customer service information. In addition, the employee has demonstrated proficiency in executing simple service functions. At this level, the employee will answer basic customer inquiries, provide information on system events and restorations, schedule appointments, do bill lookups, and perform other relatively simple tasks. In addition, he or she will continue to learn more complex functions, spend time in formal training, and continue to be mentored by senior agents.

♦ *Level 3* – Customer service representative: To move to this level, an agent must have demonstrated competency in all routine transactions for residential and commercial customers. This skill level is akin to being fully cross-trained for the existing WRB/PWD call centers. At this level, agents are not required to progress further and formal training may end; however, ongoing coaching and development will continue to support agent development in perpetuity.

♦ *Level 4* – Senior customer service agent: At this level, agents will have demonstrated the ability to handle complex accounts. These agents will handle major commercial accounts and the administrative support work requiring special attentions. In addition, these agents can handle escalated calls that require special attention short of management involvement (such a complex lookups and other non-routine transactions). To reach this skill level, the agent will have had to complete additional training, passed written tests, demonstrated proficiency in executing complex transactions, and achieved consistently high call scores on monitored calls. It is anticipated that an employee would have to have at least three years' experience as a customer service agent to be able to qualify at this level—although seniority is not a requirement and is not, in itself, considered evidence of competency.

♦ *Level 5* – Lead customer service representative: At this level, agents will have mastered all aspects of customer service and will serve as mentors to other agents. In addition, the lead agents will be able to serve as shift leaders in the absence of a supervisor. We are clear that they are not supervisors in that they are not able to hire, fire, discipline, or perform other responsibilities associated with supervision. They can provide task direction, respond to escalated calls, and monitor call center activity for a limited period of time in the absence of a supervisor. As with all other levels, entering this skill level requires passing written exams and demonstrating proficiency in complex tasks as well as demonstrating behavioral competencies associated with leadership. It is anticipated that a lead agent would have served as a senior customer service agent for at least two years before being able to meet all the requirements of this level. But again, seniority is not a requirement and is not, in itself, considered evidence of competency.

In a system such as this, any agent can handle any call at his/her level or below. When the higher-level skills of higher-level employees are not in demand, any call can be routed to that employee. As calls come in requiring higher skills, they are routed to the higher-skill employees.

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With a system such as this in place, there is no institutional barrier to the top. It is theoretically possible, but practically impossible, for all employees to achieve levels four and five. There is an intentional monetary incentive for employees to develop their skills, and more highly skilled agents will provide better customer service. But if all of the agents reach levels four or five, the requirements for entry are obviously too low. Natural attrition and varying skill levels will provide a limit on progression. That said, a system such as this one does create some increase in wage costs. It also produces significant efficiencies by reducing call volume and average call length. Money to pay for higher wages is gained through optimization of staffing levels over time, taking advantage of the efficiencies the approach yields.

We understand that this system is difficult to implement in a Civil Service environment, but it is, nonetheless, possible and has been accomplished elsewhere. Working within the Civil Service rules, it is possible to implement an approach such as this one so long as the concept is supported by Civil Service leaders.

Recommendation II-7   Provide additional evening coverage. (Refer to Finding II-3 and Finding II-4.)

The staffing model presented in *Recommendation II-1* offers additional staff for evening hours. Although this is somewhat more than the current call volume requires, we believe that if the hours are posted, customers will take advantage of them, especially if the call volume is lighter and there is less wait time in the queue. Not only does this availability improve customer service, it can potentially reduce peak call volumes during the afternoon. In so doing, the staffing model can be further optimized to improve rostering efficiency and reduce the required number of FTEs, especially if part-time agents are employed.

Recommendation II-8   Align direct supervision to shifts. (Refer to Finding II-10, Finding II-11, and Finding II-15.)

Supervisors' shifts should align to the four work shifts for customer service representatives. A fifth supervisor can rotate through shifts to provide coverage when other supervisors are absent or during peak hours. Although they have up to 13 direct reports, which is a relatively large number of employees to supervise, the supervisors will be supported by the learning and development specialists on employee monitoring and coaching. This assistance will allow the supervisor to focus on other administrative and personnel-related tasks.

Recommendation II-9   Create a single telephone number for all Philadelphia Water Department customer service. (Refer to Finding II-3.)

The customer should not have to know different numbers for different water customer service functions. Having multiple numbers and multiple call centers creates the need for frustrating internal transfers. A well-designed IVR can help manage call routing without the use of multiple numbers.

Although the Water Emergency Desk should continue with its own number, we recommend that Philadelphia Water Department customers currently calling other call center telephone numbers be able to call one number for all needs. We like the idea of 426 (H20) as the number. If this cannot be accomplished, use the existing PWD number (685-6300) and abandon the rest.

Recommendation II-10   **Reconfigure the IVR based on new skill groups. (Refer to Finding II-3, Finding II-8, Finding II-9, and Finding II-10.)**

A well-defined competency progression should be aligned to a well-designed interactive voice recognition system that gets customers to a person who is capable of addressing their needs in the least amount of time. This goal is greatly enhanced when all calls come through a single line and is part of the comprehensive strategy to reduce call volume by improving first-contact resolution.

Recommendation II-11   **Implement an internal system status communication system. (Refer to Finding II-12.)**

As we discussed in *Finding II-12*, the current system of morning faxes has proven to be a highly ineffective, inefficient, and limited means of communicating system events and restoration status information. Today, relatively simple and inexpensive software exists that would allow for real-time information to be shared with call center agents, management, communications/public relations staff, and other key individuals wherever they are and however they are connected. This system could be updated in the field from mobile devices, but we would expect in the beginning that the dispatchers at the Water Emergency Desk at 29th and Cambria would be responsible for issuing a notice of system events and restoration updates. That is because these dispatchers have direct contact with field personnel working on restorations.

PWD management indicates that PWD is still implementing Cityworks and is planning on rolling out handhelds as part of full implementation. When doing so, we recommend looking at systems such as DeskAlerts internal communications software (http://www.alert-software.com).[3] This software allows for sharing of critical information through desktop or mobile alerts. Users can send important updates, emergency alerts, event reminders, and RSVP invitations directly to staff as desktop popup messages. The system can send messages across technologically and geographically diverse networks. This diversity includes department-wide (or city-wide) directories, email, employees connected via Internet, and mobile devices.

Recommendation II-12   **Make fuller use of IVR announcements during system events. (Refer to Finding II-12.)**

Perhaps one of the simplest ways to reduce call volume during a system event is to use the announcement function on the IVR. This system could be used to announce even the limited current information. If a system to provide accurate updates is implemented (see *Recommendation 0-6*), this

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[3] Schumaker & Company has no relationship with DeskAlerts and we are not recommending purchase of this specific system without appropriate needs assessment and review of multiple vendors.

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information could be updated on the IVR. Customers could call back for updates and, in most cases, still not require an agent's time to answer status questions.

Recommendation II-13   Develop and implement a formal training plan for all PWD and WRB call centers. (Refer to Finding II-10.)

A formal training plan for all PWD and WRB call centers should be developed that does not rely primarily on agents reading training materials. Rather, formal classes should be held that all new agent employees must attend within the first month of employment. Examples of this type of classes includes (but is not limited to) the following:

- ♦ PWD and WRB organization and background information, including all applicable regulations
  - – PWD Field Operations groups
  - – WRB Accounting, AAU, WRAP, and Collections groups
- ♦ How to use the inContact telephone system
- ♦ Water service and emergency requests and how to use each of the systems involved
- ♦ Billing inquiries and how to use each of the systems involved, plus how to calculate information included on bills
- ♦ How to schedule meter appointments (once available to call center staff) if customers do not use IVR to go directly to the Meter Shop
- ♦ Dispute and informal hearings process activities
- ♦ Techniques to communicate with customers, especially those who are hostile to agents

Schumaker & Company observations indicate that not enough detail is currently provided to agents for those topics already included.

Also provided should be on-the-job training that incorporates a minimum amount of time that each new agent must observe a senior agent and be observed by a senior agent before being allowed to handle calls on his or her own.

Specific management positions should be instituted that deal only with call center activities. These initiatives should focus on having not only the technical skills needed by agents but also efficient and effective training skills. Just because someone has been a good agent does not mean he or she will be a good trainer.

Recommendation II-14   **Require supervisors to regularly monitor agent calls and provide associated coaching and development to agents. (Refer to Finding II-11.)**

All call center supervisors should be required to monitor at least two calls weekly for each agent under their supervision. In addition, they must meet with these agents weekly to discuss how the agents can improve. A formal checklist for each type of call should be developed that allows supervisors to evaluate agents in a standardized manner using the same approach.

Recommendation II-15   **Provide PWD and WRB call centers with Slinky access for making appointments, and provide agents with training. (Refer to Finding II-13.)**

PWD Call Center agents transfer calls to the Meter Shop rather than making customer appointments directly into the Slinky system. Although in process with a small group of agents, because PWD is anticipating adding capabilities for customers to use the IVR system to make appointments, all call center agents should be provided Slinky access. That way, they can make meter appointments without having to transfer calls to the Meter Shop or give customers the Meter Shop telephone number.

Recommendation II-16   **Establish a formal complaint process and train all PWD and WRB call center employees on the process details. (Refer to Finding II-16.)**

PWD and WRB should continue its efforts to improve the informal hearings process, but they should also ensure that such a process incorporates operational issues, not just billing and payment issues.

On a monthly basis, management reports should be provided to senior management that include not only a summary of activities but also details about year-to-date disputes by type.

Additionally, all call center employees should be trained so that they can offer full explanations to customers.

Community Relations

Recommendation II-17   **Develop and implement a formal backup plan for the Community Relations function. (Refer to Finding II-17.)**

The activities the community relations manager oversees are definitely necessary, but if he is not available or extreme major events occur, insufficient resources currently exist. The Public Affairs function should develop and implement a plan for adding resources, not just people, to the Community Relations function to ensure that the Communications Guide can be adequately implemented.

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Intake

Recommendation II-18   **Investigate appropriate staffing levels and make changes, as necessary, so that all intake offices are "permanently" staffed, with sufficient onsite supervisorial attention. (Refer to Finding II-18 and Finding II-19.)**

Further investigation should be done with regard to what appropriate intake staffing levels should be at each of the three intake offices. As part of that investigation, *Recommendation II-19* should be implemented so as to determine what staffing levels should be to attain proper service. Once the number of staff has been identified, the WRB should take more proactive actions with the City's Office of Human Resources to have timely Civil Service examinations and timelier hiring of employees. The WRB should also consider having the satellite intake supervisor be located at either the NEP or NP office.

Recommendation II-19   **Establish consistent tracking of service metrics at all intake offices. (Refer to Finding II-20.)**

All three intake offices should be provided with service metrics (e.g., number of customers and accounts served, average wait time, and average service time), so that appropriate management of intake activities can take place.

Recommendation II-20   **Allow customers to make payments by cash, check, money order, and credit card at all intake offices. (Refer to Finding II-21.)**

Appropriate actions should be taken to allow customers to make payments by cash, check, money order, and credit card at all intake offices. If security is the primary issue at satellite intake offices and it currently prevents payments by cash, then the issue should be addressed, as discussed further in *Recommendation II-22*.

Although Schumaker & Company does not disagree with encouraging customers to not use credit cards, if shutoff is likely, this option should be available to customers at offices, not just by telephone or website.

Recommendation II-21   **Develop and implement a plan for addressing equipment issues. (Refer to Finding II-22.)**

Despite the fact that all three intake offices report to different groups, a plan should be developed and subsequently implemented in the near term to improve equipment at intake offices at regular intervals. Training of intake staff to use it should be part of this plan.

Recommendation II-22   **Enhance security at all intake offices. (Refer to Finding II-23.)**

The WRB should develop and implement a plan to enhance security and to address concerns expressed during this study.

Recommendation II-23   **Incorporate required onsite documentation for customers into call center staff training. (Refer to Finding II-24.)**

As discussed in *Recommendation II-13* and *Recommendation II-14*, call center training/development and monitoring of calls need to be improved. As part of that process, a discussion of required onsite documentation for customers when going to intake offices should be incorporated. That way, customers do not have to make multiple trips to the intake offices when they are told to go there by call center agents.

Recommendation II-24   **Enhance training, including rotation of staff, involving intake offices. (Refer to Finding II-10 and Finding II-24.)**

Intake supervisors would like greater rotation of Customer Service (Call Center and Customer Service Operations) staff, not just support of other Customer Service Operations staff to intake positions, when needed. They would also like rotation by intake staff into other Customer Service Operations positions, such as the AAU and WRAP groups, to provide cross-training. Also, it was indicated that supervisors should be involved in rotations.

Although refresher training occurs annually in Customer Service Operations, intake supervisors believe that it should take place across all divisions.

According to intake supervisors, it is not known beforehand what specific training programs entail. As such, sometimes intake supervisors and staff go to training that is inappropriate, such as when the name of a training program does not necessarily refer to what it includes. This is especially true because PWD/WRB is part of a municipality and can't always perform activities that private sector organizations can.[92] Further investigation should be done prior to sending intake staff to training to ensure that it is appropriate.

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III. Implementation Plan

To be developed.

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[1] / Data obtained from the Monthly Managers report for the period ending 12/31/2013

[2] / Data obtained from the Monthly Managers report for the period ending 12/31/2013

[3] / Data obtained from the Monthly Managers report for the period ending 12/31/2013

[4] / Information Response 1

[5] / Interviews 76 and 77

[6] / Interviews 76 and 77

[7] / Interview 77

[8] / Interview 77

[9] / Information Response 35

[10] / Information Response 16

[11] / Information Response 16

[12] / Information Response 16

[13] / Information Response 3

[14] / Information Response 14 and Interview 15

[15] / Information Response 39

[16] / Information Response 8

[17] / Interview 15

[18] / Information Response 39

[19] / Information Response 39

[20] / Information Response 2

[21] / Information Response 34

[22] / Information Response 33

[23] / Interview 15

[24] / Information Response 3 and Interview 15 (staffing changes)

[25] / Information Responses 9 and 20

[26] / Information Response 8

[27] / Information Response 22

[28] / Information Response 3

[29] / Information Response 2

[30] / Interview 43

[31] / Interview 43

[32] / Interview 43

[33] / Interview 56

[34] / Information Response 131

[35] / Interview 56

[36] / Interview 56

[37] / Interview 56

[38] / Interview 56

[39] / Interview 56

[40] / Information Response 24

[41] / Information Response 27

[42] / Interviews 7 and 14

[43] / Schumaker & Company analysis

[44] / Information Response 92

[45] / Information Response 120

[46] / Interview 13

[47] / Interview 13

[48] / Interview 13

[49] / Interview 13

[50] / Interview 13

[51] / Interview 13

[52] / Interview 13

[53] / Interviews 13 and 60

[54] / Data drawn directly from inContact system

[55] / Information Response 47

[56] / Information Response 127

[57] / Information Request 126 (no Response)

[58] / Interviews 11, 14, and 52

[59] / Interview 15

[60] / Information Response 44

[61] / Interview 15

[62] / Information Response 44

[63] / Interview 60

[64] / Interview 60

[65] / Interview 60 (Meade)

[66] Data drawn directly from inContact

[67] Interviews 64 & 65

[68] Data drawn directly from inContact

[69] / http://www.phila.gov/Revenue/payments/Pages/disputes.aspx

[70] / Information Response 17

[71] / http://www.phila.gov/Revenue/payments/Pages/disputes.aspx

[72] / Interview 62

[73] / Interview 41

[74] / Interview 41

[75] / Interview 41

[76] / Interviews 76, 77, and 85

[77] / Interview 77

[78] / Interview 77

[79] / Interview 77

[80] / Interview 76

[81] / Interview 76

[82] / Interview 77

[83] / Interviews 76 and 77

[84] / Interview 76

[85] / Interview 76

[86] / Interview 77

[87] / Interview 77

[88] / Interviews 76 and 77

[89] / Interview 76

Schumaker & Company

[90] / Interview 76

[91] / Interviews 76 and 77

[92] / Interview 77