Meeting Date: **9/16/2014**

Report Type: Staff/Discussion

Report ID: 2014-00656

City of SACRAMENTO **13**

City Council Report
915 I Street, 1st Floor
www.CityofSacramento.org

Title: City Auditor's Audit of Citywide Wireless Communications

Location: Citywide

Recommendation: Pass a Motion approving the City Auditor's Audit of Citywide Wireless Communications.

Contact: Jorge Oseguera, City Auditor, (916) 808-7270, Office of the City Auditor

Presenter: Jorge Oseguera, City Auditor, (916) 808-7270, Office of the City Auditor

Department: Mayor/Council
Division: Office of the City Auditor
Dept ID: 01001201
Attachments:
1-Description/Analysis
2-City Auditor's Audit of Citywide Wireless Communications

City Attorney Review

Approved as to Form
Sandra Talbott
8/27/2014 12:02:27 PM

Approvals/Acknowledgements

Department Director or Designee: Jorge Oseguera - 8/21/2014 10:46:40 AM

James Sanchez, City Attorney Shirley Concolino, City Clerk Russell Fehr, City Treasurer
John F. Shirey, City Manager

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Description/Analysis

Issue Detail: This audit was approved as part of the 2013-2014 Audit Plan. According to City Code Chapter 2.18, the City Council should be kept apprised of the City Auditor's work. The Audit Committee shall receive, review, and forward to the full Council the City Auditor's updates and reports.

Policy Considerations: The City Auditor's presentation of the *Audit of Citywide Wireless Communications* is consistent with the Mayor and City Council's intent to have an independent audit function for the City of Sacramento.

Economic Impacts: None.

Environmental Considerations: None.

Sustainability: None.

Commission/Committee Action: The Audit Committee unanimously accepted this report on August 12, 2014 and forwarded it to the full City Council for approval.

Rationale for Recommendation: The report includes three findings and makes eighteen recommendations to address issues related to City wireless communications.

Financial Considerations: The costs of the *Audit of Citywide Wireless Communications* were funded out of the Office of the City Auditor Budget.

Local Business Enterprise (LBE): No goods or services are being purchased as a result of this report.

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Report # 2014-03

Attachment 2

Audit of Citywide Wireless Communications

Improving how the City's wireless device plan is administered could potentially save the City $291,600 and decrease the risk of abuse

Wireless device policies are insufficient

Inventory records are incomplete and inconsistent

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City Auditor

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Office of the City Auditor
August, 2014

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City of SACRAMENTO
Office of the City Auditor

AUDIT FACT SHEET

RECOMMENDATIONS

We made the following recommendations to enhance City wireless communication management practices:

We recommend the IT Department:

1. **Establish controls to monitor overage charges.**
2. **Develop testing mechanisms and protocols for detecting and eliminating excessive personal use.**
3. **Activate parental controls for devices to prevent employees from purchasing and downloading inappropriate apps and subscriptions.**
4. **Develop a monitoring mechanism to ensure employees provided City cell phones are not receiving a technology allowance as well, vice versa.**
5. **Determine the appropriate taxes the City is obligated to pay.**
6. **Review quarterly optimization reports issued by vendors and consider changing lines to suggested plans.**
7. **Consider cancelling or suspending services for devices not being used.**
8. **Follow the City's Employee Separation Policy and develop processes to tract retrieval of devices from separating employees.**
9. **Assign responsibility for monthly review of device use.**
10. **Perform analysis on the City's lines to ensure devices are in the most cost effective plans.**
11. **Continue to develop and implement formal policies and procedures to reflect operational changes and advances in wireless device technology and security.**
12. **Develop a process to review policies on an ongoing basis so they remain up-to-date.**
13. **Establish how best to exercise their authority over the City's wireless communication devices.**
14. **Update and utilize the wireless communication device request form for all employees issued City devices. The request form should include a written justification for the device, anticipated use, and plan type with supervisory approval and stored for as long as the employee is assigned the device.**
15. **Submit a new wireless communication device request form for all existing employees with City-issued devices.**
16. **Define responsibilities and develop policies to govern telecom liaisons.**
17. **Department management should review changes made by telecom liaisons to ensure they are appropriate.**
18. **Update inventory records and ensure complete and up-to-date inventory is maintained.**

Audit of Citywide Wireless Communications

August, 2014 2014-03

BACKGROUND

City employees may be assigned wireless communication devices to conduct official City business in the course and scope of their employment. Wireless devices consist of cell phones, tablets, and personal computer cards (PC cards). Many of these devices typically incur a monthly recurring charge for the wireless services provided by the City's three carriers: Verizon Wireless, AT&T, and Sprint.

FINDINGS

Improving how the City's wireless device program is administered could potentially save the City $291,600 and decrease the risk of abuse

Sound management requires active administration and continuous monitoring of internal controls. When oversight is designed and implemented appropriately, organizations are more likely to identify and correct internal control problems on a timely basis and produce more accurate and reliable information for use in decision-making. Our audit of the City's wireless communication devices found inadequate administrative practices which allowed for questionable acts to go unchecked. Specifically, we found:

- Most overage charges were avoided in 2013;
- Some devices had high use that appeared to be personal;
- Over $2,000 was spent on app downloads and subscriptions;
- Ten employees inappropriately received both a technology allowance and City-provided cell phone during 2013 at an additional cost to the City of $5,600;
- The City's vendors are applying state and local taxes inconsistently;
- The City does not take advantage of quarterly optimization reports provided by vendors; and
- The City could save $284,000 by better managing underutilized devices.

Wireless device policies are insufficient

Up-to-date policies and procedures are important in an organization to provide employees guidance and establish accountability. We found the City did not have appropriate policies and procedures in place to provide direction on the issuance and use of wireless devices. We found:

- Current policies and procedures are outdated;
- The Information Technology Department is not exercising their authority over the City's wireless communication devices;
- Supervisory approval of most wireless devices and plans are unavailable; and
- Telecom liaison responsibilities are not clearly defined.

Inventory records are incomplete and inconsistent

As many of the inventory issues were identified in the Office of the City Auditor's *Audit of City Inventory Systems*, we performed a brief inventory review of the wireless communication devices. Specifically, we found the following:

- Inventory of wireless communication devices are not kept in a central database;
- Inventory of all devices are not kept;
- Some devices are not assigned to individuals; and
- Some devices are assigned to former employees.

Introduction

In accordance with the City Auditor's 2013/14 Audit Plan, we have completed an *Audit of City Wireless Communications*. In addition, this audit also addresses concerns brought to our attention through the City's Whistleblower Hotline. We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The City Auditor's Office would like to thank the Information Technology Department for their time and cooperation during the audit process.

Background

Wireless Communication Devices

City employees may be assigned wireless communication devices to conduct official City business in the course and scope of their employment. Wireless devices consist of cell phones, tablets, and personal computer cards (PC cards)[1]. Many of these devices typically incur a monthly recurring charge for the wireless services provided by the City's three carriers: Verizon Wireless, AT&T, and Sprint. Some employees are provided a technology allowance to offset the cost of using their own personal cell phone for official City business in lieu of a City-issued device.

City employees may be assigned wireless communication devices to conduct official City business in the course and scope of their employment.

To help manage the City's wireless devices, the City utilizes a Telecom Expense Management solution offered by Dimension Data called NexTEM, also known as Xigo. The system helps optimize the City's wireless device billing by centralizing all of the City's fixed, mobile, voice, and data expenditures into one place. Xigo has the ability to capture all billing, inventory, and utilization data and also provides analysis of use to identify cost savings.

[1] While the City also has pagers, they were not included in the scope of this audit.

Based on Xigo information, the City's cell phones, PC cards and tablets as of December 2013 are shown in Figure 1 and are categorized by vendor.

Figure 1: Number of Wireless Communication Devices by Vendor, December 2013

Vendor	Cell Phone	PC Card	Tablet	Grand Total
ATT Mobility	316	26	50	392
Sprint-Nextel	296	56	0	352
Verizon Wireless	567	591*	14	1,172
Grand Total	**1,179**	**673**	**64**	**1,916**

*This total does not include an additional 245 PC cards recently added by the Police Department in 2013.

Source: Xigo System

The City may provide its employees with wireless communication devices such as cell phones, PC cards, and tablets. The wireless device and plan for each employee is determined by department management and is primarily based on the individual's job duties. City cell phones range from regular flip-phones with voice plans to smartphones that include voice, texting, and data plans. PC cards emit a wireless signal that allows other devices to connect to the internet. Similar to PC cards, tablets may include a charge for a monthly data plan to connect remotely to the internet.

Based on Xigo information, Figure 2 shows the number of wireless devices assigned to each City department as of December 2013.

Figure 2: Number of Wireless Communication Devices and Technology Allowance by Department, December 2013

Department	Number of Employees	Employees with Technology Allowance	Cell Phone	PC Card	Tablet	Total of City Devices
Utilities	517	50	199	235	15	449
Fire	654	3	239	89	9	337
Parks and Recreation	561	13	205	51		256
Police	956	130	175	74*		249
Public Works	408	46	128	87	3	218
Community Development	163	26	89	76		165
General Services	371	35	71	43		114
Convention, Culture, and Leisure	137	21	43		1	44
Mayor/Council	31	21	8	4	9	21
Information Technology	50	29	9	5	3	17
City Attorney	46	27	5	1	8	14
Economic Development	11	8	2	3	4	9
City Manager	13	9	1	1	6	8
Human Resources	70	36	1	1	6	8
Non-Departmental**	23	4	2	1		3
City Treasurer	12	5	1	1		2
Finance	83	18	1	1		2
City Clerk	15	7				
Grand Total	**4,121**	**488**	**1,179**	**673**	**64**	**1,916**

*This total does not include an additional 245 PC Cards recently added by the Police Department in 2013.

** Identified in the City Staffing Budget as Citywide and Community Support.

Source: Xigo System

As shown in Figure 2, the Utilities, Fire, Parks and Recreation, and Police Departments have the most wireless communication devices in the City. Together, the four departments are assigned more than two-thirds of the City's devices. These four departments also make up two-thirds of the City's staff.

We also reviewed the City's use during calendar year 2013 by evaluating the billable minutes for the City's cell phones. Billable minutes usually do not include minutes used during nights and weekends or when made to other phone lines with the same vendor. Figure 3 details our analysis.

Figure 3: Average Voice Billable Minutes, 2013

Department	Average Monthly Cell Phones in 2013	Average of Voice Billable Minutes	Standard Deviation of Voice Billable Minutes	Max of Voice Billable Minutes
Utilities	212	84	124	1,091
Fire	239	124	306	2,835
Parks and Recreation	207	137	314	4,540
Police	173	91	145	948
Public Works	133	157	230	1,905
Community Development	92	283	288	2,151
General Services	77	236	421	3,316
Convention, Culture, Leisure	40	57	153	1,158
Mayor/Council	10	75	140	615
Information Technology	8	75	103	734
City Attorney	6	124	121	433
Economic Development	3	307	257	870
City Manager	1	33	78	281
Human Resources	1	3	4	13
Non-Departmental*	2	137	158	485
City Treasurer	1	12	11	45
Finance	1	64	46	144
City Clerk	-	191	152	398
Grand Total	**1,206**	**135**	**264**	**4,540**

* Identified in the City Staffing Budget as Citywide and Community Support.
Source: Xigo System

As shown in the figure above, the City had a monthly average of 1,206 cell phone devices during 2013 and had average voice billable minutes of 135. However, we should note that use varied greatly across the City and even within the individual departments.

Wireless Device Costs

The Information Technology (IT) Department conducts an annual review of all citywide IT-related purchases. Based on their annual review, the IT Department prepares and submits to the City Council, a Cooperative Agreement, detailing its proposed purchases. During fiscal year 2013, the City Council approved a total of $8.3 million for citywide IT-related purchases with nearly $1.5 million allocated towards wireless device services. For fiscal year 2014, the City Council approved a total of $6.9 million for citywide IT-related purchases consisting of $1.25 million for wireless device services.

While each City department is responsible for issuing and procuring devices and selecting plans, the City's wireless communication bills are centralized within the IT Department. An IT Department Administrative Technician is tasked with creating monthly journal entries to charge the various departments for their portion of the cost.

The City's wireless device billing contains monthly costs by vendor for wireless devices. Figure 4 shows the amount spent by the City in calendar year 2013.

Figure 4: Monthly Cost by Vendor

Month	Verizon Wireless	AT&T	Sprint-Nextel	Total
Jan-2013	$ 36,521	$ 16,879	$ 18,517	$ 71,917
Feb-2013	$ 37,402	$ 16,287	$ 18,854	$ 72,543
Mar-2013	$ 37,902	$ 16,149	$ 16,769	$ 70,820
Apr-2013	$ 36,357	$ 13,576	$ 15,879	$ 65,812
May-2013	$ 39,031	$ 13,812	$ 17,250	$ 70,093
Jun-2013	$ 36,382	$ 13,922	$ 15,767	$ 66,071
Jul-2013	$ 34,931	$ 14,418	$ 15,580	$ 64,929
Aug-2013	$ 47,780	$ 13,174	$ 17,085	$ 78,039
Sep-2013	$ 46,391	$ 13,382	$ 15,099	$ 74,872
Oct-2013	$ 52,099	$ 12,893	$ 15,047	$ 80,039
Nov-2013	$ 51,173	$ 14,581	$ 14,346	$ 80,100
Dec-2013	$ 47,834	$ 14,585	$ 14,563	$ 76,982
Grand Total	**$ 503,803**	**$ 173,658**	**$ 194,756**	**$ 872,217**

Source: Xigo System

WSCA Contracts

In an effort to obtain the best pricing for wireless communication services, the City participates in both the California and National Association of State Procurement Officials' (NASPO) Western States Contracting Alliance (WSCA) master agreements with AT&T, Sprint, and Verizon Wireless. WSCA creates multi-state contracts in order to achieve cost-effective and efficient acquisition of quality products and services. WSCA contracts maximize cost avoidance, reduce individual agency administrative costs, and encourage market competition and product availability through standard specifications and consolidated requirements.

As part of the California contracts, the three cell phone providers offer two main plans for cell phones: an unlimited and a consumption plan. Under the unlimited plan, the City pays a flat monthly fee for an unlimited number of voice minutes. The monthly fee ranges from $49.99 to $59.99 and differs among the three vendors. The consumption plan allows the City to pay $0.06 for each billable voice minute used during the month. This rate is the same for all three of the

vendors for which the City has lines. Figures 5 and 6 provide a comparison of the available plans.

Figure 5: Voice and Data Plans by Vendor

Plan Type	State Plans	Sprint	AT&T	Verizon
Voice	Consumption Plan	$0.06 per minute	$0.06 per minute	$0.06 per minute
Voice	Unlimited Plan	$ 59.99	$ 49.99	$ 54.99
Data	Wireless Broadband Modem	$ 37.99	$ 39.00	$ 37.99

Source: California Department of General Services

Figure 6: Special Features by Vendor

Feature Name	Sprint	AT&T	Verizon
Messaging SMS/MMS (text/picture/video) - 100	$ -	$ -	$ -
Messaging SMS/MMS (text/picture/video) - 300	$ 2.00	$ 3.00	$ 3.00
Messaging SMS/MMS (text/picture/video) - 1000	$ 4.00	$ 5.00	$10.00
Messaging SMS/MMS (text/picture/video) - Unlimited	$ 7.00	$ 8.00	$12.00
Unlimited Mobile to Mobile & Unlimited Nights/Weekends	$ 4.99	$ -	$ -
Domestic Data (Smartphone/Blackberry/PDA)	$20.00	$23.40	$24.99
Walkie Talkie	$ 5.00	$ 5.00	$10.00
Tethering*	$ 7.00	$ 5.00	$10.00
Insurance	$ 7.00	$ 4.99	$ 5.18

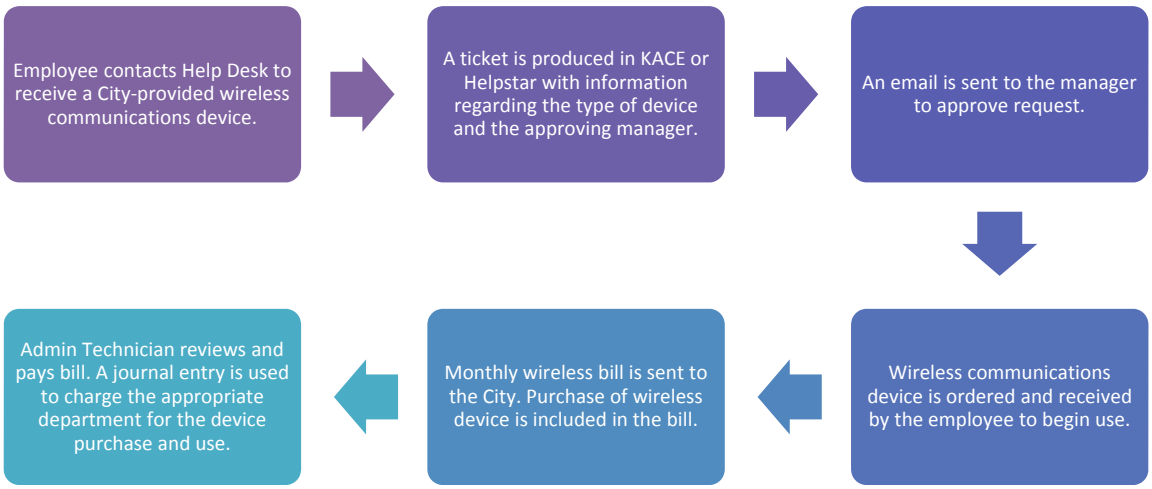
* Use of a mobile device with internet access to serve as an internet gateway or access.
Source: California Department of General Services

In addition to the California contracts, NASPO has similar contracts with the various cell phone providers through WSCA. The City has the option to select plans from both the WSCA and California contracts. As a result, the City has available numerous options to choose from to best fit a plan to an employee's anticipated use.

Telecom Liaisons

According to the IT Department, a telecom liaison is an employee responsible for ordering, updating, and terminating mobile telecom services for one or more departments. Liaisons take actions based on the instructions, requirements, and approvals from department management for which the service and device is assigned. The City's telecom liaisons follow the informal process outlined below in Figure 7 for purchasing new devices, changing existing plans, or adding/removing lines and plans.

Figure 7: City-Provided Wireless Communication Device Purchase Process[2]



Relevant Policies and Procedures

We contacted various City departments to determine if they had policies in place to guide the issuance and use of wireless devices. Based on our research, we found two policies related to wireless devices: the 1994 *Cellular Phone Policy* and the 2004 *Information Technology Resource Policy* (API 30). The *Cellular Phone Policy* outlines the City's procedures for requesting cellular service and equipment. API 30 covers numerous IT resources including City-provided computers, servers, cellular phones, and pagers. New hire and rehire employees are provided API 30 during the Human Resources Department's orientation process and are required to sign a user acknowledgement that is saved in the employees' personnel files.

We found two policies related to wireless devices: the 1994 Cellular Phone Policy and the 2004 Information Technology Resource Policy (API 30).

The City's labor agreements with the various employee unions briefly discuss wireless communication devices available to employees. According to the City's labor agreements, employees are explicitly prohibited from receiving both a City-issued cell phone and a technology allowance; however, the agreements do not prohibit employees from receiving both a technology allowance and a tablet or PC card.

Objective, Scope and Methodology

The objective of this audit was to assess the City's wireless communication devices to identify areas of risk and opportunities for potential savings. Our scope included most of the wireless communication devices with a monthly

[2] Some Departments order equipment and services directly from the vendor. As such, a ticket is not created for requests that do not go through the Helpdesk.

recurring charge in calendar year 2013[3]. We excluded the devices assigned to the Sacramento Visitors' Bureau[4] from our review as they are not a City department. We also excluded pagers from our review as the data is not tracked in the Xigo system and costs were not material[5] in comparison to other wireless communication devices included in the scope of this audit.

We obtained and analyzed information from the following:

- Dimension Data's Xigo system;
- AT&T, Sprint, and Verizon Wireless; and
- The Finance Department's eCAPS payroll system.

To assess the accuracy of the Xigo system, we reviewed monthly invoices received from the vendors and verified the amounts with the Xigo data. Although our testing identified data integrity concerns[6], we relied on the system information as it was the best available information. We also relied on the Information Technology Department's identification of the device types as the information was not included in the Xigo System. We reviewed controls over physical security, approval, and ordering of devices and lines. In conducting our review, we defined the types of wireless communication devices, summarized the data and conducted data mining for potential issues such as overages or excessive use and to target fraud. To determine if the devices were appropriately issued, we reviewed labor agreements and wireless device requests. We also compared a list of former City employees against the list of employees currently assigned wireless devices to determine if former employees were still assigned City assets. In addition, we reviewed the billing user access privileges and inventory records for appropriateness.

We reviewed controls over physical security, approval, and ordering of devices and lines.

[3] Some of our analysis did not include an examination of the Police Department's 245 newly acquired PC Cards as this information was not available at the time.
[4] Although the Sacramento Visitors' Bureau's (SACVB) devices are included in the Xigo system, SACVB reimburses the city for the cost of its devices.
[5] The average monthly cost of pager services for the City between July 2012 and February 2013 were $1,300.
[6] Some data integrity concerns are later discussed in finding three of this report.

Finding 1: Improving How the City's Wireless Device Program is Administered Could Potentially Save the City $291,600 and Decrease the Risk of Abuse

Sound management requires active administration and continuous monitoring of internal controls. When oversight is designed and implemented appropriately, organizations are more likely to identify and correct internal control problems on a timely basis and produce more accurate and reliable information for use in decision-making. Our audit of the City's wireless communication devices found inadequate administrative practices which allowed for questionable actions to go unchecked. Specifically, we found:

- Most overage charges were avoided in 2013;
- Some devices had high use that appeared to be personal;
- Over $2,000 was spent on app downloads and subscriptions;
- Ten employees inappropriately received both a technology allowance and City-provided cell phone during 2013 at an additional cost to the City of $5,600;
- The City's vendors are applying state and local taxes inconsistently;
- The City does not take advantage of quarterly optimization reports provided by vendors; and
- The City could save $284,000 by better managing underutilized devices.

The City may significantly reduce the cost of wireless communication devices by reevaluating how it manages the City's wireless device assets. The City should also formally assign responsibility for monitoring the devices and develop controls to identify and prevent employees from inappropriately receiving a City-issued cell phone and technology allowance.

The City may significantly reduce the cost of wireless communication devices by reevaluating how it manages the City's wireless device assets.

Most Overage Charges Were Avoided in 2013

Overage charges are designed to penalize users who exceed their selected plan limits. As such, wireless device plans should be aligned with an employee's anticipated use to avoid overage charges. During our review of the monthly invoices for the devices, we found many devices had overage charges. In Figure 8, we summarized the overage charges and found they totaled nearly $163,000 for City-owned devices during 2013. However, as some of the City's devices have pooled minutes, the City received voice pooling credits of almost $158,000 that mostly offset the $163,000 in overage charges. As a result, the City paid less than $5,000 in overage charges during 2013.

Figure 8: 2013 Overage Charges by Month

Month	Total Overage Charges	Voice Pooling Credit	Actual Amount Paid by City
January	$ 13,482	$ (13,176)	$ 305
February	$ 4,925	$ (4,546)	$ 379
March	$ 25,587	$ (25,045)	$ 542
April	$ 16,977	$ (16,732)	$ 245
May	$ 15,741	$ (15,279)	$ 462
June	$ 14,619	$ (14,277)	$ 341
July	$ 12,518	$ (12,128)	$ 390
August	$ 12,819	$ (12,258)	$ 562
September	$ 15,162	$ (14,722)	$ 440
October	$ 4,545	$ (4,108)	$ 437
November	$ 14,010	$ (13,690)	$ 320
December	$ 12,160	$ (11,803)	$ 356
Grand Total	**$ 162,545**	**$ (157,765)**	**$ 4,780**

Source: Auditor generated based on Xigo data

Based on this analysis, it appears that the City's current plans are adequately matched to avoid most overage charges[7]. However, care should be taken to avoid assuming that all current use is appropriate. As discussed later in the report, some of the City's current use may not be necessary and therefore, some plan modifications may yield lower costs or further reduce overage charges. Also, administrators should be cautious not to simply avoid overage charges by unnecessarily upgrading the plan for those with unusually high use to an unlimited plan or significantly increasing the number of pooled minutes without first scrutinizing wireless device use for appropriateness.

Some of the City's current use may not be necessary and therefore, some plan modifications may yield lower costs or further reduce overage charges.

RECOMMENDATION

We recommend the IT Department:

1. **Establish controls to monitor overage charges.**

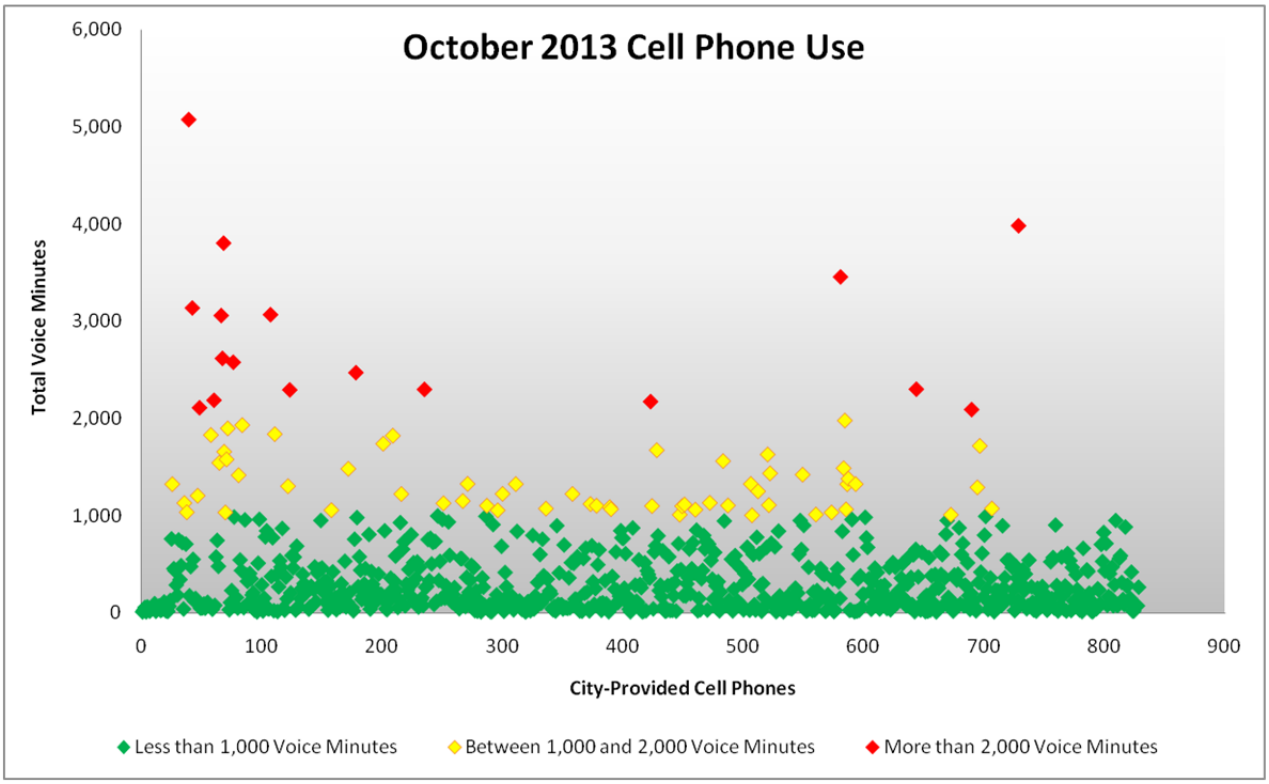
Some Devices Had High Use That Appear to be Personal

API 30 states "Information Technology Resources shall be used for official City business. Information Technology Resources may also be used for incidental personal use, so long as such use does not result in a significant monetary expenditure to the City or involve the expenditure of a significant amount of time by the user away from his or her job duties. Supervisory personnel are responsible for limiting personal use of Information Technology Resource." However, our audit found lines with unusually high use. In some cases, high use may be indicative of abuse and should be investigated further.

[7] This assumes that all current use is appropriate and business related.

We reviewed the City's cell phone use during calendar year 2013. Figure 9 below shows the number of minutes used in the October 2013 invoices.

Figure 9: October 2013 Total Voice Minutes for the City's Cell Phones[8]



Source: Auditor generated based on Xigo data

In an effort to determine a more accurate average number of voice minutes per month for the City during October 2013, we excluded cell phones with use of ten minutes or less[9]. Based on this analysis, we determined City cell phones averaged 401 minutes of use during the month of October 2013. Ninety-one percent of the cell phones had less than 1,000 voice minutes, seven percent had between 1,000 and 2,000 voice minutes, and two percent had more than 2,000 voice minutes during October 2013.

In order to gauge the appropriateness of City cell phone use, we tested a sample of thirty cell phones that appeared to have unusually high use. Ten samples were selected from each of the following departments: Fire, Utilities, and Parks and Recreation as these departments had the most cell phones in the City. We also tested the City's ten cell phones with the most voice use. Based on our review, we identified several high volume numbers called by City employees that appear

[8] Cell phones with ten minutes or less of use in the October 2013 invoices were not included in this scatter plot.
[9] For October 2013, 370 cell phones experienced ten minutes or less of use.

to be personal. Figure 10 below, summarizes the City's top cell phone users by average monthly minutes used in 2013.

Figure 10: Top Cell Phone Users in 2013

Department	Total Voice Minutes in 2013	Monthly Average Minutes Used	Highest Monthly Minutes
Fire	68,199	5,683	7,316
Parks and Recreation	50,085	4,174	5,969
General Services	47,401	3,950	5,896
Parks and Recreation	38,331	3,194	10,215
Fire	35,984	2,999	3,856
Parks and Recreation	34,212	2,851	4,270
Economic Development	30,909	2,576	3,055
Fire	30,454	2,538	3,843
Fire	29,445	2,454	3,553
General Services	29,069	2,422	3,222
General Services	29,061	2,422	3,282

Source: Xigo System

As Figure 10 illustrates, the top cell phone user had monthly average use of nearly 5,700 minutes. A more detailed review of the employee's cell phone use revealed that an average of nearly 2,700 minutes per month were personal calls with one individual. In addition, a Parks and Recreation Department cell phone user had more than 10,000 voice minutes in one month and most of the individual's calls in 2013 were out-of-state. Another Fire Department individual used more than a quarter of his 2013 voice minutes for conversations with one phone number we identified as belonging to his wife. We referred the City's top cell phone users to the City's Labor Relations Division for review and possible discipline.

We also reviewed the City devices' data use for appropriateness. We found some PC Cards with high amounts of monthly data use that may warrant further scrutiny. Figure 11 below summarizes the City's top ten PC cards with high data use and converts monthly use to hours of standard video streaming[10].

[10] Hours of standard video streaming are not reflective of actual data activity. Figures are simply a calculation to provide a relatable measure to further illustrate use.

Figure 11: Top 10 Data Use

Device Type	Department	Number of Months Used in 2013	Monthly Average Data Use(GB)	Hours of Standard Definition Video Streaming (at 450 MB/Hour)
PC Card	Utilities	12	111	253
PC Card	Fire	12	67	152
PC Card	Community Development	12	29	66
PC Card	Parks and Recreation	12	28	64
PC Card	Utilities	9	26	59
PC Card[11]	General Services	5	24	55
PC Card[11]	General Services	12	22	49
PC Card	Fire	10	20	45
PC Card[11]	Public Works	7	14	31
PC Card[11]	Parks and Recreation	12	13	28

Source: Xigo System

As shown in Figure 11, the City's top data user had a PC card with average monthly use of 111 gigabytes. However, since detailed information regarding how the device was being used was not available, we could not assess whether these levels of use were appropriate. Nonetheless, high use may be indicative of inappropriate use and may warrant further scrutiny.

Those cases where use appeared to be unusually high were referred to the City's Labor Relations Division for review and possible discipline. Without appropriate oversight, employees may be using City-paid time and resources for excessive personal use. In our opinion, City devices should be actively managed and monitored to ensure inappropriate personal use of City devices do not go undetected.

RECOMMENDATION

We recommend the IT Department:

2. **Develop testing mechanisms and protocols for detecting and eliminating excessive personal use.**

[11] The Information Technology Department identified these devices as mobile hot spots that may provide internet services to more than one device. However, we could not confirm how many devices were supported with this data use.

Over $2,000 Was Spent on App Downloads and Subscriptions

Many City tablets and cell phones are capable of downloading applications[12] (apps) and purchasing monthly subscriptions. Some app downloads are free while others are available for a cost that can be added to the user's monthly invoice. As some of these downloads may not be appropriate City purchases, employees should be restricted from making unauthorized app purchases or subscriptions. Based on our review of City wireless device expenses, we found the City spent over $2,000 on items that appear to be non-City business related such as app and music downloads and monthly subscriptions during 2013.

As some of these downloads may not be appropriate City purchases, employees should be restricted from making unauthorized app purchases or subscriptions.

Thirty-three devices in our audit contained charges for app downloads and monthly subscriptions. We selected eight devices to determine what types of apps were downloaded. We found most downloads were monthly recurring charges for ringtones and premium messaging. Premium messaging is an option to purchase or subscribe to messaging programs, provided by third party content providers, for premium charges. For example, one of the devices had a $9.99 monthly subscription for daily horoscope text messages. Another device had a total of four subscriptions with monthly costs of nearly $31.

Although the cost of approximately $2,000 appears insignificant in comparison to the overall charges, many of the purchases we reviewed do not appear to meet a business purpose. A simple control that the City could activate to help prevent these types of purchases is parental controls. The City currently has the ability to activate parental controls through the various vendor websites to block employees from purchasing apps, music, and premium texts on City devices. However, we found many of the City's devices did not have parental controls activated. In our opinion, controls should be in place to prevent wireless device expenditures for non-City business. As previously stated, simply applying the parental controls could prevent most of these types of purchases. Alternatively, the City could establish a policy to require supervisory approval on any charges in excess of the standard plan costs.

RECOMMENDATION

We recommend the IT Department:

3. **Activate parental controls for devices to prevent employees from purchasing and downloading inappropriate apps and subscriptions.**

[12] Applications are small specialized programs downloaded onto mobile devices

Ten Employees Inappropriately Received Both a Technology Allowance and City Cell Phone in 2013 at an Additional Cost to the City of $5,600

Some of the City's labor agreements offer employees a technology allowance for using their personal cell phones for the conduct of official City-related business. Employees who receive a technology allowance are not eligible to also receive a City-provided cell phone. For example, the labor agreement between the City and the Sacramento City Exempt Employees Association (SCXEA) states "use of City-provided cellular telephones shall be discontinued upon receipt of the technology allowance by the employee." We also confirmed with the manager of the Labor Relations Department that employees were not to receive both a technology allowance and City-provided cell phone.

Employees who receive a technology allowance are not eligible to also receive a City-provided cell phone.

During our audit, we found ten employees who received both a technology allowance and a City-provided cell phone during 2013. Six of the employees received both during the entire year while the other four[13] overlapped the technology allowance and a City-issued cell phone for part of 2013. Figure 12 below, identifies the cost of the City-provided cell phone for each of the ten employees.

Figure 12: Employees with the Technology Allowance and City-Provided Cell Phone during Calendar Year 2013

Employee	Cost of City Cell Phone
1	$ 740
2	$ 233
3	$ 849
4	$ 804
5	$ 34
6	$ 2,355
7	$ 429
8	$ 9
9	$ 204
10	$ 5
Grand Total	**$ 5,662**

Source: Xigo System

Had the ten employees only received the technology allowance during 2013, the City would have saved over $5,600 in cell phone costs. Although the cost of the City cell phone was low for some of these employees, as they were on the

[13] During 2013, the four employees were identified as receiving both the technology allowance and City-issued cell phone and were no longer issued a City cell phone.

consumption plan and had limited use of the cell phones, the lack of appropriate oversight and monitoring has resulted in unnecessary expenses and allowed employees to inappropriately receive both a technology allowance and City-issued cell phones. Management should ensure that employees assigned cell phones are not receiving a technology allowance.

RECOMMENDATION

We recommend City management:

4. **Develop a monitoring mechanism to ensure employees provided City cell phones are not receiving a technology allowance as well, vice versa.**

The City's Vendors are Applying State and Local Taxes Inconsistently

Our review of the device lines with the various vendors found inconsistencies in the taxes the City paid on the lines. We found the City was being inconsistently billed state and local taxes for its lines with Verizon Wireless and AT&T. We also noticed that the City was not billed for any state and local taxes on the lines with Sprint. When we inquired with the vendors of the inconsistencies, we were informed by Verizon Wireless and AT&T that per California state statute, local government agencies are exempt from the California Local E911 Fee, California Local Utility Users Tax, and California State E911 Fee. However, Verizon Wireless and AT&T have charged the City these taxes on some lines for at least the past three years. We requested the vendors and the City Attorney's Office to review state and local taxes the City paid on the various lines to determine appropriateness. At the time of issuance of this report, the vendors were still in the process of reviewing the City's lines.

We found the City was being inconsistently billed state and local taxes for its lines with Verizon Wireless and AT&T.

Taxes paid on the various lines with the various vendors should be correct and consistent. If the City has overpaid taxes, the overpayment should be calculated and a reimbursement should be requested from the vendors. If the City has not paid required taxes, these too should be calculated and paid to ensure the City is paying all obligatory taxes.

RECOMMENDATION

We recommend the IT Department:

5. **Continue to work with the vendors to determine the appropriate taxes the City is obligated to pay.**

The City Does Not Take Advantage of Quarterly Optimization Reports Provided by Vendors

As part of the WSCA contracts, the City may request a quarterly optimization report, also known as a price plan analysis. This report analyzes the City's current plan on each line and makes suggestions for changes to minimize costs. We requested the optimization reports of the various vendors as of October 2013 to determine if the City has made the suggested changes. We found the City does not request the optimization reports from the vendors and did not have the reports for the quarter. As a result of our inquiry, the City requested the reports as of February 2014[14]. The suggested changes to the plans may save the City nearly $52,000 annually. Figure 13 below details the savings in the optimization reports.

Figure 13: February 2014 Price Plan Analysis

Vendor	Account	Monthly Savings	Annual Savings
Verizon Wireless	I	$ 1,975	$ 23,701
Verizon Wireless	II	$ 256	$ 3,069
Verizon Wireless	III	$ 1,279	$ 15,347
Sprint-Nextel	All Accounts	$ 822	$ 9,864
Grand Total		**$ 4,332**	**$ 51,982**

Source: Vendor Rate Plan Analysis Reports

Many of the suggested changes involve changing voice plans on cell phones to the consumption plan. The savings in the optimization reports obtained from the vendors assume the current device use is appropriate. If inappropriate use is reduced, the optimization reports may produce even greater savings. Proper oversight and review of the optimization reports ensures the devices are in the most cost effective plans and may be a deterrent for abuse of devices.

Many of the suggested changes involve changing voice plans on cell phones to the consumption plan.

RECOMMENDATION

We recommend the IT Department:

6. **Review quarterly optimization reports issued by vendors and consider changing lines to suggested plans.**

[14] AT&T provided the City with a Rate Plan Summary that can be used to determine if plan changes are warranted. However, they did not provide specific plan change recommendations or projected savings.

The City Could Save $284,000 by Better Managing Underutilized Devices

The City and its management have an obligation to be responsible stewards of the taxpayers' money. Therefore, to maximize the efficiency of the City's resources, devices should be utilized and assigned properly given their expected use. We conducted an analysis to determine if the City's wireless communication devices were properly utilized and identified several devices that experienced zero use during the course of the year as well as devices that appeared to be significantly underutilized. Device use should be routinely monitored to minimize waste and abuse. Better management of the City's devices could save the City an estimated $284,000.

During fiscal year 2013, the Administrative Technician tasked with paying the City's wireless device bills noticed increasing costs due to a large number of unused lines (zero-use devices) and began shutting down lines that were no longer necessary. This lowered the anticipated cost of cellular phone services for fiscal year 2014. Our review of the devices uncovered additional devices with zero use. These devices did not have voice, text, or data use for the time period covered by each invoice. A total of 1,027 devices had at least one month of zero use. Of the 1,027 devices, the number of months of zero use varied. Figure 14 below documents the number and cost of devices with the number of months of zero use.

A total of 1,027 devices had at least one month of zero use.

Figure 14: 2013 Zero-Use Devices

# of Months Zero Use*	Number of Devices	Cost of Devices**
1	194	$ 5,410
2	115	$ 6,988
3	131	$ 12,100
4	69	$ 8,997
5	54	$ 10,402
6	31	$ 5,705
7	41	$ 8,051
8	55	$ 14,662
9	26	$ 7,651
10	41	$ 10,967
11	57	$ 12,653
12	213	$ 53,966
Grand Total	**1,027**	**$ 157,552**

*Each device is counted once in the table.
**Cost includes taxes associated with devices on the consumption plan that may be appropriate.
Source: Auditor generated

We selected the thirty most costly zero-use devices and surveyed the liaisons to determine if the devices were actually needed. The telecom liaisons informed us that fourteen of the thirty devices should have been cancelled as they were no longer required. Three more of the thirty devices had been cancelled before we inquired of the devices but were unused the entire 2013 calendar year. Although the remaining thirteen devices were not used during 2013, the telecom liaisons mentioned the devices were required for City business or were requested by department supervisors.

Based on our analysis, we found that one of the causes for the existence of zero-use devices were that separated employees had not had their devices deactivated or transferred to another employee when they left City employment. As a result, the devices sat unused while the City continued to pay for them. This occurred despite the City's *Employee Separation Policy*[15] holding division managers, or their designees responsible for "implementing procedures to track the property issued and access granted to each employee, (and) collecting all City property." To further evaluate the issue of active devices for separated employees, we selected fifteen former employees to test for compliance with the *Employee Separation Policy*. Of the fifteen employees surveyed, we found only four entries in the KACE system documenting the separation process. In addition, only one of the fifteen employees selected included a completed separation checklist as required by the policy. We also found that some device lines were turned off several months after the employee separated. Not following the *City's Employee Separation Policy* has contributed to the high number of zero-use devices being unnecessarily paid for by the city.

We found that one of the causes for the existence of zero-use devices were that separated employees had not had their devices deactivated or transferred to another employee when they left City employment.

Another cause for the high number of zero-use devices is devices may be provided to employees who do not require them to perform their job duties. Thirteen of the thirty zero-use devices discussed above were said to be necessary when they were not used at all during the 2013 calendar year. Management should periodically review devices with zero use to determine if they are necessary and appropriate. Lines that are unnecessary should be cancelled or suspended.

In our opinion, devices that have zero use during a given month should be reviewed to determine if they are necessary. As shown in figure 14, the City could have saved over $133,000 in 2013 if devices with more than three months of zero use were cancelled.

[15] In addition, a KACE ticket is created and an Employee Separation Checklist is required to be completed when an employee separates from the City.

In addition to reviewing devices with zero use, we attempted to determine the extent of underutilized cell phones. We determined a device to be underutilized if it had more than 1 minute but less than 60 minutes of voice use during a month and was not on the consumption plan. We found devices with a total cost of nearly $65,000 were underutilized at least one month during 2013. Figure 15 below shows the extent of underutilized cell phones by the number of months the lines were underutilized.

Figure 15: Cost of 2013 Underutilized Cell Phones

# of Months Limited Use*	Number of Devices	Cost of Devices**
1	99	$ 4,522
2	50	$ 2,985
3	39	$ 3,669
4	35	$ 4,226
5	24	$ 5,214
6	19	$ 4,977
7	23	$ 5,621
8	25	$ 6,323
9	24	$ 7,961
10	16	$ 4,986
11	17	$ 8,221
12	17	$ 5,976
Grand Total	**388**	**$ 64,681**

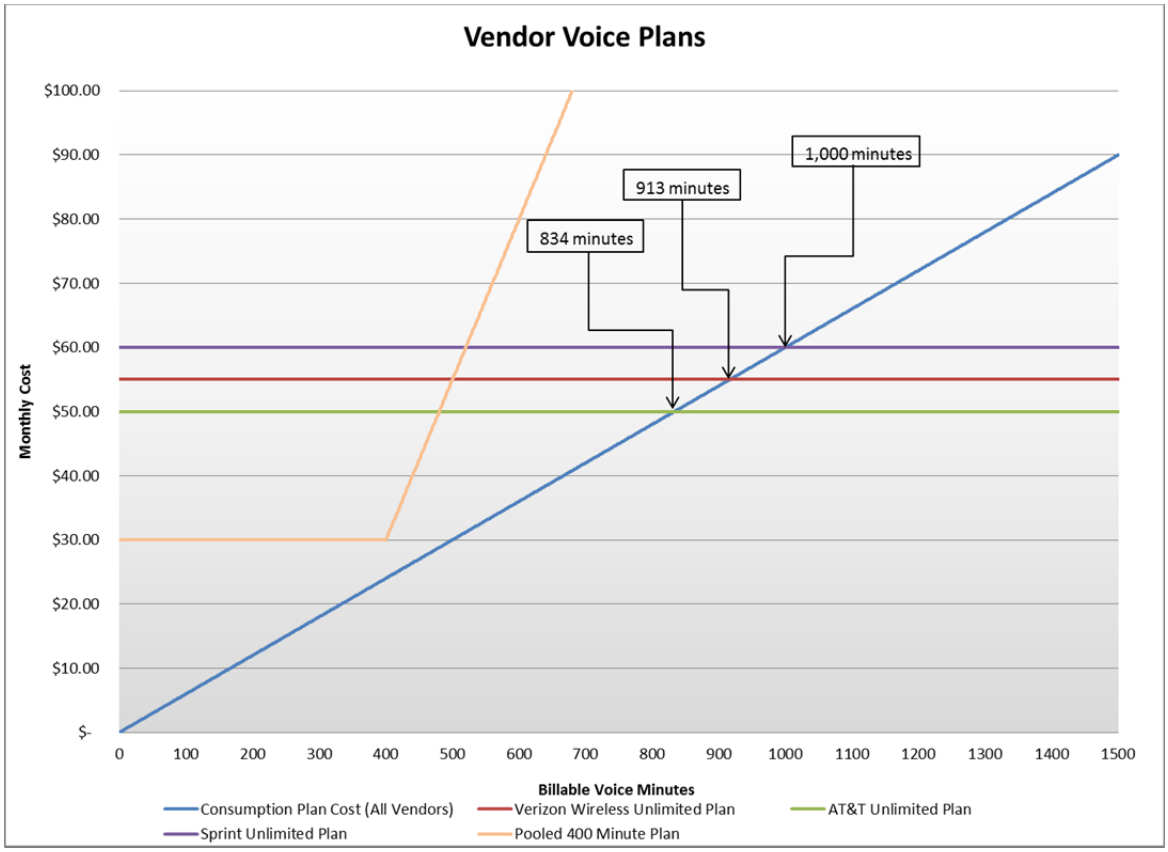
*Each device is counted once in the table.
**Cost includes taxes associated with devices on the consumption plan that may be appropriate.
Source: Auditor generated

While some of the underutilized devices may be necessary, such as devices assigned for emergency use; patterns of underuse could be indicative of a lack of need. Therefore, device use should be closely monitored to identify opportunities to make changes to plans or assignments to more efficiently deploy our wireless resources.

Patterns of underuse could be indicative of a lack of need.

One cost effective option the City should consider for low use employees is the wireless providers' consumption plan. The City would be charged $0.06 per billable voice minute used instead of a high monthly recurring cost. Figure 16 shows the breakeven points the City should consider when choosing plans.

Figure 16: Vendor Voice Plans Breakeven Analysis



Source: Auditor generated

The breakeven points differ among the various vendors as the cost of the unlimited plan varies. For example, the AT&T unlimited plan is $49.99 compared to $59.99 for the Sprint unlimited plan. Based on Figure 16, it appears that unless an employee is expected to use more than 830 minutes per month for City business, the consumption plan may be a more effective option. Some of the City's devices are on pooled plans, such as the Pooled 400 Minute Plan illustrated in Figure 16. The pooled plans allow a certain number of minutes and usually charge $0.25 per minute after the allotted minutes in the pool. We reviewed the pooled plan with the largest number of City lines with Verizon Wireless and found the pooled plan is not as cost effective as the consumption plan as it costs more than the consumption plan at all points in figure 16. Given City employees average 401[16] minutes per month and that over 90 percent of City cell phones experience less than 1,000 minutes per month, we decided to examine whether the City could reduce its voice plan costs if all employees were moved onto the consumption plan.

It appears that unless an employee is expected to use more than 830 minutes per month for City business, the consumption plan may be a more effective option.

[16] This calculation does not include zero use devices or devices with less than ten minutes of use in a given month.

Based on our analysis, we found the City could save $180,000 annually if all of the City cell phones were on the consumption plan. Figure 17 summarizes the savings by department for 2013.

Figure 17: 2013 Consumption Plan Savings

Department	Actual 2013 Voice Cost[17]	2013 Voice Cost if on Consumption Plan	2013 Savings	Percent Savings
Parks and Recreation	$ 71,099	$ 20,515	$ 50,584	71%
Utilities	$ 50,141	$ 12,780	$ 37,361	75%
Public Works	$ 51,711	$ 15,959	$ 35,752	69%
General Services	$ 37,708	$ 13,255	$ 24,453	65%
Community Development	$ 31,037	$ 18,622	$ 12,415	40%
Fire	$ 26,152	$ 21,406	$ 4,746	18%
Convention, Culture, and Leisure	$ 5,396	$ 1,634	$ 3,762	70%
Mayor/Council	$ 3,683	$ 550	$ 3,133	85%
Information Technology	$ 2,901	$ 448	$ 2,453	85%
Police	$ 13,731	$ 11,441	$ 2,290	17%
Economic Development	$ 2,214	$ 682	$ 1,532	69%
Non-Departmental*	$ 567	$ 197	$ 370	65%
Attorney	$ 891	$ 528	$ 363	41%
Finance	$ 374	$ 46	$ 328	88%
City Treasurer	$ 267	$ 8	$ 259	97%
City Clerk	$ 204	$ 46	$ 158	78%
City Manager	$ (58)	$ 31	$ (89)	N/A
Human Resources	$ (218)	$ 3	$ (221)	N/A
Grand Total	**$ 297,800**	**$ 118,151**	**$ 179,649**	**60%**

*Identified in the City Staffing Budget as Citywide and Community Support.

Source: Auditor generated based on Xigo data

Based on 2013 use, voice costs could be reduced by 60 percent if all of the City cell phones were on the consumption plan.

In addition to voice services, the City spent a significant amount of money on data services that were not utilized during 2013. As previously mentioned in this section, the City spent $157,000 on zero-use devices. If the consumption plan is used to address voice plan inefficiencies, reducing zero use data devices could compliment a conversion to the consumption plan. Of the $157,000 the City spent on zero-use devices[18], approximately $124,000 was spent on data services.

[17] Some data discounts are included in this calculation that we were unable to filter out. Therefore the Actual 2013 Voice Cost appears as a credit for some departments.

[18] These devices did not have voice, text, or data use for the time period covered by each invoice.

If the City cancelled data services on devices with more than three months of zero use, the City could have saved $104,000 during 2013. Figure 18 below, details the number and cost of devices with varying months of zero use.

Figure 18: 2013 Zero Data Use

# of Months Zero Use*	Number of Devices	Data Total Cost**
1	110	$ 4,073
2	72	$ 5,210
3	90	$ 10,227
4	34	$ 5,068
5	34	$ 6,144
6	20	$ 4,436
7	28	$ 7,579
8	57	$ 19,633
9	29	$ 9,799
10	19	$ 6,583
11	28	$ 11,463
12	74	$ 33,485
Grand Total	**595**	**$ 123,700**

*Each device is counted once in the table.
**Cost includes taxes associated with devices on the consumption plan that may be appropriate.
Source: Auditor generated using Xigo data

By changing all phones to the consumption plan and eliminating all data plans that experience more than three months of zero use, we estimate the City could save approximately $284,000 per year. In addition, changing voice plan types to the consumption plan allows the City to better identify instances of unusual voice use and hold those accountable who may be inappropriately using City devices.

RECOMMENDATIONS

We recommend the IT Department:

7. **Consider cancelling or suspending services for devices not being used.**
8. **Follow the City's Employee Separation Policy and develop processes to track retrieval of devices from separating employees.**
9. **Assign responsibility for monthly review of device use.**
10. **Perform analysis on the City's lines to ensure devices are in the most cost effective plans.**

Finding 2: Wireless Device Policies are Insufficient

Up-to-date policies and procedures are important in an organization to provide employees guidance and establish accountability. Best Practices should be reviewed to aid an organization in establishing adequate policies and procedures. The Committee of Sponsoring Organizations of the Treadway Commission (COSO), a joint initiative of private sector organizations, develops guidance on internal control and fraud deterrence. In their report *Internal Controls – Integrated Framework,* COSO stated that policies and procedures must be established and executed to help ensure the actions indemnified by management are effectively carried out. The policies and procedures of an organization establish what is expected and address how these expectations will be put into action. We found the City did not have appropriate policies and procedures in place to provide direction on the issuance and use of wireless devices. Specifically, we found:

- Current policies and procedures are outdated;
- The Information Technology Department is not exercising their authority over the City's wireless communication devices;
- Supervisory approval of most wireless devices and plan changes are unavailable; and
- Telecom liaison responsibilities are not clearly defined.

We found the City did not have appropriate policies and procedures in place to provide direction on the issuance and use of wireless devices.

Outdated policies and procedures compromise the effectiveness of a policy. Insufficient policies and procedures create inconsistencies in how tasks are performed and could lead to inefficient execution of operations. Further, without adequate supervisory approval and oversight, the operations are more vulnerable to fraud, waste, or abuse.

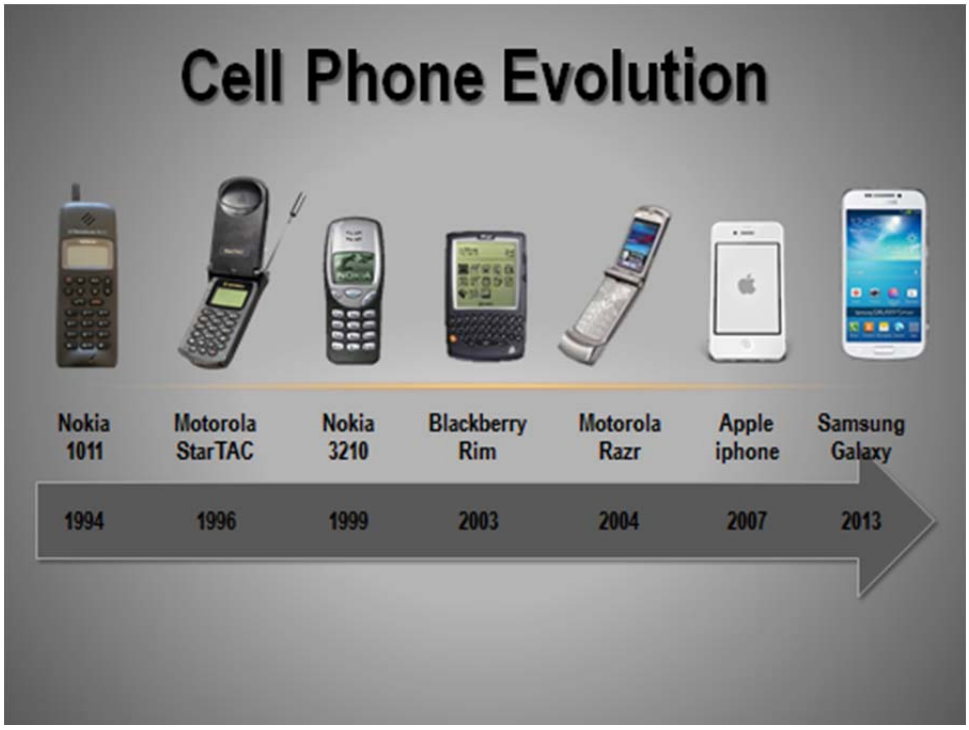
Current Policies and Procedures are Outdated

Over time, organizations change and grow and require updates in the policies and procedures. In their *2012 Certified Information Systems Auditor Review Manual* (CISA Manual), the Information Systems Audit and Control Association (ISACA) stated "policies need to be updated to reflect new technology, changes in environment (e.g. regulatory compliance requirements) and significant changes in business process in exploiting information technology for efficiency and effectiveness in productivity." However, our audit found the City's *Cellular Phone Policy* has not been updated since it was first implemented in 1994.

We spoke with IT Department employees and telecom liaisons and found they were not aware of the *Cellular Phone Policy*. The policy has not been updated since its inception and therefore has not been adjusted to take into account changes in technology such as the development of apps, data plans, and

improvements in device security. As illustrated in Figure 19, cell phones have advanced greatly since implementation of the City's 1994 *Cellular Phone Policy*.

Figure 19: Cell Phone Evolution



Source: Auditor generated

Given the significant advancement in cellular technology, it is important that the policies and procedures regarding them be updated to keep up with the changes. Without regular updates, policies run the risk of becoming outdated or obsolete. For example, the City's current policy does not address standard device security protocols such as the importance of protecting information, locking phones with pin codes, or establishing remote device wiping when devices are lost.

Given the significant advancement in cellular technology, it is important that the policies and procedures regarding them be updated to keep up with the changes.

In addition, the outdated *Cellular Phone Policy* currently refers to the Communications Division of Information/Communications Service, which is no longer a division in the City. The Cellular Phone Policy also contains an outdated list of positions which may be provided City cellular phones.

Having recognized the need to update the City's policies, the IT Department provided us with two draft policies that have not yet been implemented: the *Information Technology Resources (ITR) Policy* and the *Mobile Communications Policy*. The *ITR Policy* will supersede the *Information Technology Resource Policy*, API #30, and has been updated to provide guidance for the City's information technology resources. The *Mobile Communications Policy* contains relevant information relating to the acquisition, use, and support of City-owned cellular phones and pagers that the current policies and procedures lack. This policy also

assigns responsibility of monitoring use and reviewing billing to the telecom liaisons. The draft *Mobile Communications Policy* also addresses minimum security requirements for City devices and personal devices connecting to the City e-mail system.

In our opinion, the City should review on a regular basis its policies and procedures to determine whether they are operating effectively and continue to meet the needs of the City. Continuous review and improvement of the City's policies and procedures will prevent policies from becoming outdated or obsolete.

RECOMMENDATIONS

We recommend the IT Department:

11. **Continue to develop and implement formal policies and procedures to reflect operational changes and advances in wireless device technology and security.**
12. **Develop a process to review policies on an ongoing basis so they remain up-to-date.**

The Information Technology Department is Not Exercising Its Authority Over the City's Wireless Communication Devices

In order to more efficiently process the City's wireless invoices, billing of wireless communication devices were centralized to the Information Technology Department. However, according to the Information Technology Department, although the department is responsible for paying the monthly invoices, the department does not have the authority to dictate changes to or cancellation of the wireless communication device plans. Based on our review of the City's *Information Technology Resource Policy,* API 30, it appears the Chief Information Officer has broad authority over the management of information technology resources. API 30 specifically states:

> "The Chief Information Officer (CIO) and his or her designee shall have the primary responsibility for enforcing this API. The CIO will be responsible for the establishment of policies, operating procedures and guidelines governing the technical architecture, usage, security, backup and recovery for Information Technology Resource."

Based on our review of the City's API 30, it appears the Chief Information Officer has broad authority over the management of information technology resources.

However, the CIO has not established a mechanism to centrally manage and monitor wireless device use. Without a formal structure and process for the CIO to manage the information technology resources, department and division supervisors are making wireless communication decisions without the benefit of a centralized citywide perspective.

To better manage the City's cellular resources, the CIO should evaluate how to best exercise his or her authority and responsibility over information technology resources. The CIO should establish a process to identify inappropriate or inefficient wireless device use and formalize protocols to cancel or change wireless communication device plans where such changes are warranted.

RECOMMENDATION

We recommend the IT Department:

13. **Establish how best to exercise their authority over the City's wireless communication devices.**

Supervisory Approval of Most Wireless Devices and Plan Changes are Unavailable

Assignment of devices should be documented to provide justification for the issuance of the devices. The City's *Cellular Phone Policy* states "all requests for cellular service/equipment must be submitted to the Communications Division on a City requisition form reflecting the approval of the employee's department head." However, during our audit, City departments were not able to provide evidence of supervisory approval for most of the devices we tested. When we inquired of the lack of supervisory approval, it appeared the KACE system, where requests and forms are uploaded, deletes records more than two years old. This is due to the City's *Record Retention Policy* of two years for KACE tickets. As most of the City's wireless communication devices have been in service for more than two years, we were unable to review documentation to support why many devices were issued or if they were necessary for the employees to perform their job duties as no documentation exists.

Assignment of devices should be documented to provide justification for the issuance of the devices.

As the KACE system deletes records, wireless communication device request forms and justification for issuance of devices should be retained elsewhere for better recordkeeping. In addition, any changes to or cancellation of devices should be updated.

RECOMMENDATIONS

We recommend the IT Department:

14. **Update and utilize the wireless communication device request form for all employees issued City devices. The request form should include a written justification for the device, anticipated use, and plan type with supervisory approval and stored for as long as the employee is assigned the device.**
15. **Submit a new wireless communication device request form for all existing employees with City-issued devices.**

Telecom Liaison Responsibilities Are Not Clearly Defined

The previously mentioned CISA Manual states "procedures must be written in a clear and concise manner so they may be easily and properly understood by those governed by them. Procedures document business processes (administrative and operational) and the embedded controls." Policies and procedures provide employees direction and assign responsibility. The CIO has delegated some authority to the telecom liaisons to oversee the City's wireless communication devices. However, telecom liaison responsibilities are not clearly defined. Our survey of the City's telecom liaisons found there are no formal policies and procedures to detail the telecom liaisons' role with respect to management of the City's wireless communication devices. As a result, practices were inconsistent among the various City departments. For example, we found different levels of monitoring over device use among the telecom liaisons. Some performed a monthly review of unusual activity while others did not.

Our survey of the City's telecom liaisons found there are no formal policies and procedures to detail the telecom liaison's role with respect to management of the City's wireless communication devices.

In addition to the lack of clearly defined responsibilities, we found limited controls in place to prevent telecom liaisons from ordering devices and plans. While we did not identify any instances of telecom liaisons abusing their ordering privileges, the current City process allows telecom liaisons access to order devices and upgrade plans without supervisory approval. For example, a telecom liaison could open lines or order cell phones and other devices for personal use without detection. As a result, the City is at risk of paying for devices that are not being used for City business.

RECOMMENDATIONS

We recommend the IT Department:

16. **Define responsibilities and develop policies to govern telecom liaisons.**
17. **Department management should review changes made by telecom liaisons to ensure they are appropriate.**

Finding 3: Inventory Records are Incomplete and Inconsistent

The United States Government Accountability Office (GAO) states "accurate and reliable data are essential to an efficient and effective operating environment." In addition, the GAO explains that complete inventory allows management to make "effective budgeting, operating, and financial decisions and to create a government that works better and costs less." The City of Sacramento Auditor's Office recently performed an *Audit of City Inventory Systems*. The *Audit of City Inventory Systems* found the City's Information Technology Department utilizes two inventory systems and the inventory systems contain significant errors and omissions.

The Audit of City Inventory Systems found the City's Information Technology Department utilizes two inventory systems and the inventory systems contain significant errors and omissions.

As many of the inventory issues were identified in the *Audit of City Inventory Systems*, we performed a brief inventory review of the wireless communication devices. Specifically, we found the following:

- **Inventory of wireless communication devices are not kept in a central database**
  Most of the City's departments track inventory in KACE. However, we found some departments do not utilize the inventory system and keep track of the wireless communication device inventory in spreadsheets. Keeping inventory of the City's wireless communication devices in various locations makes it difficult to determine the types and amounts of City devices.

- **Inventory of all devices are not kept**
  We compared the number of devices the various departments had in their inventory listing with the number of devices that were active during the same time and found that the numbers did not match. For example, the Fire Department provided us with the inventory of their devices in November 2013. Their inventory had 265 devices while the billing data showed the Fire Department was billed for 337 devices during the same time.

- **Some devices are not assigned to individuals**
  Our review of the devices found that many devices are not assigned to a specific individual. For example, we found 113 Fire Department devices that were assigned to "user." When we inquired with the Fire Department telecom liaison, he explained many unaccounted devices were mostly unmanaged until he recently received temporary help from a light duty firefighter who began a cleanup of the inventory and devices. Without documentation of the individual assigned to the device, it would be hard to determine who is held responsible for the devices.

- **Some devices are assigned to former employees**
  We compared our list of employees assigned wireless communication devices with a list of employees who left City employment during calendar year 2013. We selected a sample of fifteen employees to determine appropriate processing of their wireless communication devices. We found that some device lines were turned off after the employee separated but in many cases, the lines were unused for months before being turned off. A couple of devices were not turned off and had not been used since the employee separated. In addition, we could not determine whether the City retrieved the devices from fourteen of the fifteen employees as there was no documentation for retrieving devices from terminated employees.

Complete and up-to-date inventory records are essential for effective and timely decision making. Without accurate information, the inventory cannot be efficiently and effectively managed.

Complete and up-to-date inventory records are essential for effective and timely decision making.

RECOMMENDATION

We recommend the IT Department:

18. **Update inventory records and ensure complete and up-to-date inventory is maintained.**

City of SACRAMENTO
Information Technology

July 30, 2014

TO: Farishta Ahrary, Auditor
Jorge Oseguera, City Auditor

FROM: Maria MacGunigal, Chief Information Officer

CC: Howard Chan, Assistant City Manager

SUBJECT: **RESPONSE TO DRAFT CITY WIRELESS COMMUNICATIONS AUDIT**

1. This letter is in response to the City Auditor's 2014-03 Audit of City Wireless Communications.

2. The Department of Information Technology (IT) acknowledges receipt and concurs with the recommendations from the City Auditor's draft report.

3. Corrective actions are actively being taken. A proposed draft policy is in the review process and will be formally implemented as soon as possible. In addition, internal operating procedures are being updated and staff training has begun to ensure established performance measures are followed and program goals and individual responsibilities are assigned.

4. I would like to take this opportunity to thank the City Auditor and staff for their efforts in identifying process improvements in this audit. Please feel free to contact me directly should you have any questions.

5. Below is the department's response to the 18 audit recommendations identified in the audit report:

AUDIT RECOMMENDATIONS AND DEPARTMENTAL RESPONSE:

1. Establish controls to monitor overage charges.

Response: IT will provide monthly reports that include high usage information and overages to departments. Department heads or designee will be responsible for determining if usage is appropriate for job functions. IT will provide recommendations for plan adjustments to optimize plans based on usage.

2. Develop testing mechanisms and protocols for detecting and eliminating excessive personal use.

Response: A new telecommunications management system will be used to monitor and track excessive use including voice calls, and application and music downloads. This new systems will be implemented in the fall of 2014. IT will review and flag usage reports. Reports will be provided quarterly to department heads or designee for review of appropriateness.

Department of Information Technology
915 I Street, 3rd Floor
Sacramento, CA 95814
Phone: 916-808-5763

3. **Activate usage controls for devices to prevent employees from purchasing and downloading inappropriate apps and music.**

   Response: IT has asked the city's cellular vendors to activate usage controls to prevent employees from purchasing and downloading inappropriate applications and music. The cellular vendors are in the process of implementing controls now.

4. **Develop a monitoring mechanism to ensure employees provided City-provided cell phones are not receiving a technology allowance as well, vice versa.**

   Response: IT will establish a process and appropriate procedures with the Department of Human Resources to prevent employees from receiving both a technology allowance and a City-provided cell phone.

5. **Continue to work with the vendors to determine the appropriate taxes the City is obligated to pay.**

   Response: IT is currently working with cellular providers to determine the appropriate taxes the City is obligated to pay.

6. **Review quarterly optimization reports issued by vendors and consider changing lines to suggested plans.**

   Response: IT is actively reviewing optimization reports and is working with departments to select appropriate plans for their mobile devices on a quarterly basis.

7. **Consider cancelling or suspending services for devices not being used.**

   Response: IT will provide "low or no usage" reports to department heads or designee for their review each month. Departments will be responsible for determining if devices should be cancelled or disconnected based on business requirements.

8. **Follow the City's Employee Separation Policy and develop processes to track retrieval of devices from separating employees.**

   Response: IT recently implemented workflow procedures with HR and departments to track the retrieval of devices from separating employees.

9. **Assign responsibility for monthly review of device use.**

   Response: IT will provide monthly cellular reports to department heads or designee for review. Department heads or their designee will be responsible for reviewing and confirming billing charges.

10. **Perform analysis on the City's lines to ensure devices are in the most cost effective plans.**

    Response: IT will review quarterly optimization reports from wireless carriers and will make service plan recommendations to departments.

11. **Continue to develop and implement formal policies and procedures to reflect operational changes and advances in wireless device technology and security.**

    Response: The draft Mobile Device Policy is being updated and will be circulated for formal review and implementation.

12. **Develop a process to review policies on an ongoing basis so they remain up-to-date.**

Response: IT will review policies and make appropriate updates on an annual basis.

13. **Establish how best to exercise IT authority over the City's wireless communication devices.**

    Response: The Mobile Device Program is a shared management responsibility between IT and the departments and charter offices. IT administers wireless contracts and centrally manages consolidated billing efforts. Departments are responsible for requesting services and reviewing/approving monthly bills for appropriate usage. The draft Mobile Device Policy will address and assign responsibilities for the various functions under the program.

14. **Update and utilize the wireless communication device request form for all employees issued City devices. The request form should include a written justification for the device, anticipated use, and plan type with supervisory approval and stored for as long as the employee is assigned the device.**

    Response: A wireless device request form with a written justification for the device, anticipated use, and plan type with supervisory approval will be developed and included as part of the Mobile Device Policy. The request and assigned equipment will be tracked in the KACE system. IT will use the City's Content Management System (CCM) to store wireless device request forms.

15. **Submit a new wireless communication device request form for all existing employees with City-issued devices.**

    Response: Due to the large amount of wireless devices deployed throughout the City, IT recommends using a streamlined review process with departments to ensure they recertify required devices and identify devices that are no longer needed. IT will provide detailed lists of users, devices, and plans to departments to certify that devices and plans are accurate and necessary.

16. **Define responsibilities and develop policies to govern telecom liaisons.**

    Response: The draft Mobile Device Policy will clearly address and assign responsibilities for the various functions under the program.

17. **Department management should review changes made by telecom liaisons to ensure they are appropriate.**

    Response: IT will provide monthly cellular billing reports to department heads or designee for review. Department heads or their designee will be responsible for reviewing and confirming billing charges.

18. **Update inventory records and ensure complete and up-to-date inventory is maintained.**

    Response: IT is using the KACE System to manage all IT hardware equipment inventory. This is also addressed in the IT Hardware Inventory Policy and previous audit.