



Mobile Device Usage



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Mobile Device Usage Audit

Executive Summary

Objective

This audit was conducted to determine whether there is adequate monitoring of the City's mobile devices and to evaluate potential cost savings.

Background

The City has over 6,800 mobile devices including cellular phones, tablets and hotspots. Cell services are contracted with AT&T, FirstNet, Sprint, and Verizon with expenditures totaling approximately \$4.1 million in calendar year 2019. Public safety accounts for 44% of these devices, including personal mobile devices and devices located within vehicles such as police cars and fire trucks.

I&T is responsible for ordering devices, except for CMPD. Each department has a telephone liaison who manages the program. I&T has drafted a Cellular Device Policy, which is under review.

Conclusion

Inadequate controls over the management of mobile devices have resulted in unnecessary expenses.

Highlights

Savings will be realized by deactivating unused devices.

- The City had 1,169 unused cellular devices and services during the period November 2019 to January 2020.
 - The charges incurred during three consecutive months for which there was no reported usage totaled approximately \$124,000 (or \$496,000 annualized).
- 752 of these devices were unused for seven consecutive months (November 2019 through May 2020).
 - The four additional months of charges for these devices total approximately \$116,000.
- Unused cell service specific to tablets/iPads is an area for departments to focus cost-cutting measures.
 - Charges for unused iPad cellular service during a three-month period totals \$20,393.
- Auditors' inquiries resulted in 538 devices or services being identified for deactivation.
 - The charges for these disconnected devices and services totaled \$21,300 per month, or \$255,600 annually.

Controls should be improved to better monitor mobile device usage.

- Departments should enter sufficient and accurate information for each service line to be traceable to an individual, a piece of equipment, or to a location.
- Appropriate detail needs to be available for departments to efficiently review relevant monthly charges.

Actions Planned

An updated policy that will include clarity around the responsibility for monitoring unused cellular lines will be implemented citywide on October 1, 2020. Additionally, I&T plans to create a dashboard to allow liaisons to better monitor their service lines. Internal Audit considers these actions to be responsive to the recommendations.

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Background

The City has over 6,800 mobile devices including cellular phones, tablets and hotspots. Cell services are contracted with AT&T, FirstNet, Sprint, and Verizon with expenditures totaling approximately \$4.1 million in calendar year 2019. Auditors limited the review to Verizon, which accounts for 93% of the City's cell service expenditures.

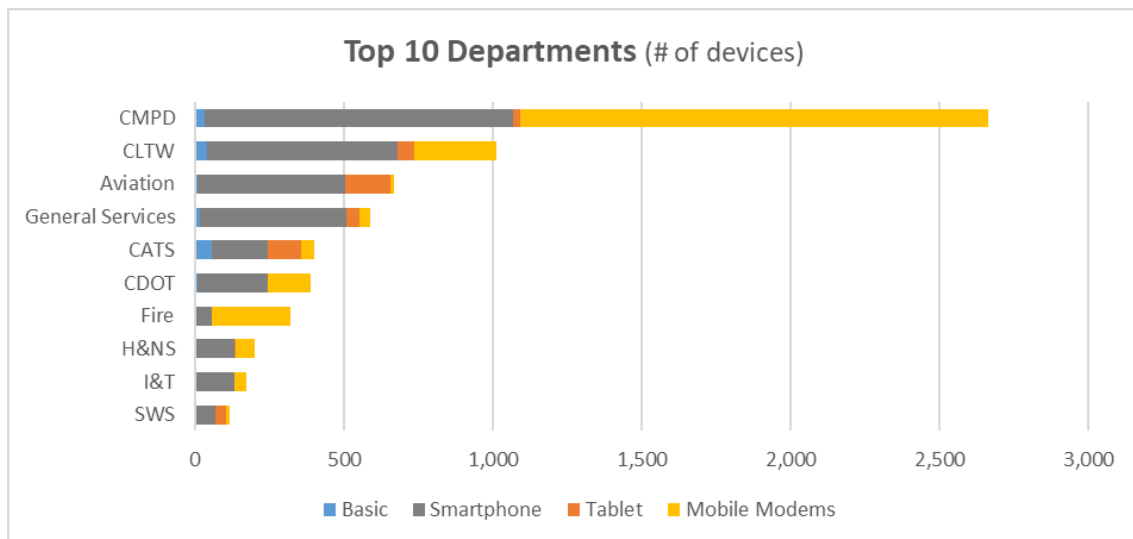
Innovation and Technology (I&T) is responsible for ordering devices for all City departments, except CMPD. Each department has a telephone liaison who manages the program. Liaisons obtain approval for mobile device orders (including cell service) and create service tickets through the City's Service Desk Portal, Cherwell. These tickets are routed to the I&T Telecom Specialist who then places the orders.

I&T controls the plans and device types; access to Verizon's website is restricted. There are a limited number of individuals with full access rights, including the ordering of new service. Currently, four users (out of 75 total) had full administrator privileges on the website. Most users are allowed view-only access, to allow monitoring of the department's activity. CMPD, due to a high number of devices needed and time sensitivity, has been authorized to order new service directly. The CMPD liaison informs the I&T Telecom Specialist after orders are placed. The following chart details the types of devices using Verizon's network for accessing the Internet, with costs for a typical month.

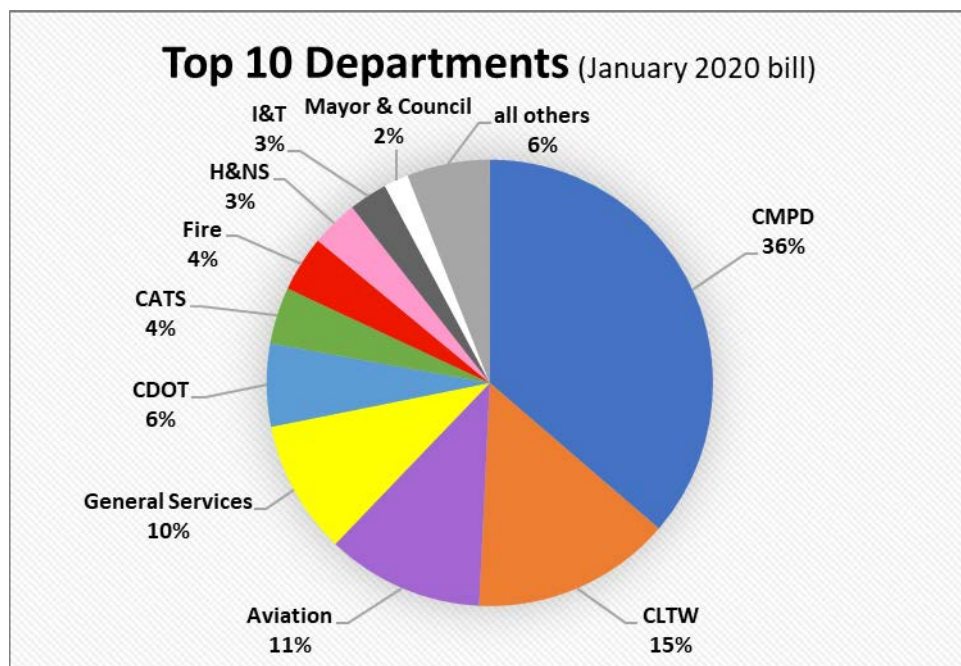
January 2020				
Device Type	Description	Number of Devices	Total Cost	Avg. Cost per Device
Basic Cell Phone	Mobile phones that include phone calls (voice) and text messaging (text)	158	\$ 3,009	\$ 19.04
Smartphone	Mobile phones that include voice, text, and allows internet access (data)	3,700	\$ 196,853	\$ 53.20
Tablet	Tablet computers (e.g. iPads) that allow internet access	507	\$ 20,289	\$ 40.02
Mobile modems ¹	Devices that provide Wi-Fi internet to other equipment, e.g. laptops	2,480	\$ 93,965	\$ 37.89
Totals		6,845	\$ 314,116	\$ 45.89

Public safety accounts for 44% of these devices, including mobile devices and equipment located within vehicles such as police cars and fire trucks. The charts on the next page show the percent of total mobile devices and the expense by department.

¹ Aircard, Hotspot, or MiFi devices



Invoices are paid by the City's Accounts Payable Division (A/P) of the Finance department. A/P pays each invoice when received, after minimal review. The charges are allocated to departments based on a mobile device line inventory maintained within A/P. Departments are responsible for reviewing their portion of each month's invoice as well as notifying A/P when changes need to be made to the line inventory file (e.g., employee transfer or termination, user name change). In addition to reviewing each month's billing activity, departments are responsible for monitoring mobile device lines for usage and continued business need.



I&T has circulated a draft Cellular Device Policy. The purpose of this policy is to "...provide efficient and consistent standards for the use and maintenance of cellular devices...and to provide effective organizational communication and cost management guidelines associated with acquiring and operating these devices."

Objective

This audit was conducted to determine whether there is adequate monitoring of the City's mobile devices and to evaluate potential cost savings.

Scope, Methodology, and Compliance

Scope

This audit was conducted after an Employee Hotline call suggested there were mobile devices going unused for at least 90 days. Following this call, Internal Audit reviewed mobile device data from July 2018 to October 2019. After initial analysis of the data and making departmental inquiries, auditors reviewed similar data from November 2019 to May 2020. Emphasis was placed on line non-usage as well as unusual billing charges. Mobile device configuration and security was excluded from this review.

Methodology

To achieve the audit objectives, auditors performed the following:

- Interviewed I&T staff and departmental liaisons,
- Reviewed mobile device usage data,
- Reviewed mobile device billing data, and
- Evaluated the City's controls around mobile device management and program structure.

Compliance

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.

Findings and Recommendations

1. Savings will be realized by deactivating unused devices.

Billing data indicated 1,169 unused² cellular devices and services during the period November 2019 to January 2020. The charges incurred during the three consecutive months for which there was no reported usage totaled approximately \$124,000 (or \$496,000 annualized).

Subsequently, auditors reviewed billing data for the period February 2020 to May 2020. Of the 1,169 unused devices appearing in the original dataset, 752 continued to be unused for the entirety of the seven-month period. The four additional months of charges for these devices total approximately \$116,000.

At least 381 employees had multiple devices. Many employees had two devices with data plans, such as a tablet and a smartphone. In some instances, the business-need to access the internet could be satisfied with just one of these devices. For the period reviewed:

- 250 of 416 iPads had unused cellular service for at least 1 of the 3 months.
- Charges for unused iPad cellular service during the three-month period totals \$20,393 (44% of the total \$46,674 charged for iPads).

Although some of these unused devices are necessary³, a comprehensive review could result in additional cost savings for the City. Departments are ordering iPads with cellular service even if the device will be connected to the City's network most of the time.

For example, several users have cellular-enabled tablets that appear to be rarely used outside of the City's wireless network and those users also have a smartphone. Enabling the phone's remote hotspot capability costs \$10/month. By using the hotspot, rather than paying for the tablet to have its own wireless plan (\$37.99/month), departments could save about \$336 annually per line.

I&T sends monthly no-usage reports to department liaisons. Currently, there is no process for departments to periodically evaluate the continued business need for devices with minimal cellular usage. The City could realize cost savings by improving the monitoring of unused devices that should have their service deactivated, or temporarily suspended. (Mobile device providers allow temporary suspension of services, at no cost.)

Recommendation 1: I&T and departments should monitor unused lines, paying close attention to iPads. Departments should be required to include a business-case for any iPad order that includes cell-service. If a user also has a City-issued smartphone, departments should consider the more cost-effective alternative of using the phone as a hotspot.

Value Added: Risk Reduction; Cost Savings; Compliance

² No voice or text, and minimal data usage.

³ Public Safety and some other departments have unused devices kept as inventory for emergency purposes.

Actions Taken: Following auditor inquiries, 538 devices or services were identified for deactivation. The charges for these disconnected devices and services totaled \$21,300 per month, or \$255,600 annually, and the continued business need of others is being researched.

The draft Cellular Device policy includes language clarifying that I&T is responsible for the monitoring of lines showing “no activity for a period of 90 days...” It is each department’s responsibility to confirm if any service is still needed.

I&T Response: Agree. I&T will hold departments accountable for periodically reviewing the business need for unused devices. The new Cellular Device policy addresses this and we anticipate a citywide implementation date of October 1, 2020.

2. Controls should be improved to better monitor mobile device usage.

Liaisons create and maintain their department’s line/user information within the Verizon website. Some examples of the types of user data stored:

- Wireless number
- User Name
- Department
- Device Type
- Equipment Name
- Price Plan Description

No Citywide standard outlines procedures for departments to manage wireless services. The lack of devices being assigned to a specific person or location prevents the efficient monitoring of usage and the ability to correct unnecessary spending. Without a centralized source performing periodic monitoring, it is not possible to ensure departments follow best practices.

As of January 2020, 11% (751 of 6,845) of City-issued mobile devices were not assigned to an individual, a specific piece of equipment, or a location traceable to a responsible individual. User names assigned to those devices included only the department name or other general/non-descriptive information. Additionally, 15 service lines were found with usernames of terminated employees. In some cases, these lines had been reassigned but the names of the responsible individuals were never updated within Verizon’s portal. In the remaining cases, the devices were being stored unused.

Appropriate detail needs to be available for departments to efficiently review relevant monthly charges. Department liaisons should be granted “View Only” access.

Recommendation 2: I&T should ensure departments:

- Provide enough information for mobile devices to be traced to an individual, a piece of equipment, or to a location that is the responsibility of an individual.
- Provide departments guidance on how to effectively monitor cellular charges.
- Have sufficient and appropriate access to cell service data.
- Periodically review add-on packages for deactivation.

Value Added: Risk Reduction; Compliance

Action Planned: I&T has been using AirWatch for mobile device management for several years. In the last few months, I&T began using the AirWatch data for internal asset tracking and reporting. The AirWatch data contains identifying user information, as referenced above.

I&T is in the process of using this AirWatch data, combined with cell provider billing data, to create a dashboard allowing department liaisons to better monitor service lines. This data has not yet been shared outside of I&T.

I&T Response: Agree. I&T will work with departments to assess the information that's been provided in the past and deliver a new dashboard/report that will facilitate the timely and accurate reviews of cellular device usage within each. I&T will also provide departments with adequate training on how to enter and maintain their user data and use the dashboard/report to effectively conduct usage reviews.

Conclusion

Inadequate controls over the management of mobile devices have resulted in unnecessary expenses.

Distribution of Report

This report is intended for the use of the City Manager's Office, City Council, and all City departments. Following issuance, audit reports are sent to City Council and subsequently posted to the [Internal Audit website](#).