

REPORT FOR ACTION**Toronto Transit Commission: Managing Telecommunication Contracts and Payments**

Date: May 18, 2018
To: TTC Audit and Risk Management Committee
From: Auditor General
Wards: All

SUMMARY

This is the Auditor General's first review of the Toronto Transit Commission's (TTC) Telecommunication contracts and payments. A high volume of transactions, frequent service changes and multiple price plans create a high risk of overpayments. Effective management of service plans and telecommunication resources provide opportunities for savings.

An audit of the City of Toronto's (City) telecommunication expenses by the Auditor General in 2014 resulted in savings of \$3.4 million. The report entitled "Controls Over Telecommunication Expenses Need Improvement" was forwarded by the City's Chief Information Officer to all major City Agencies and Corporations, including the TTC.

Based on the findings of the 2014 audit at the City, we decided to extend the telecommunications audit to the TTC. The audit focused on expenses incurred from 2014 to 2016. The TTC spent \$19.3 million during this period. The audit did extend the analysis to 2017 in certain areas where data was readily available.

The objective of this audit was to assess internal controls over telecommunication contracts, payment of invoices and the monitoring of expenses at the TTC. Telecommunication services include phone lines (land lines), wireless phone services, internet, and voice and data communication circuits.

Our audit provides 13 recommendations which will result in improved controls, better use of telecommunication resources and increased due diligence in acquiring telecommunication services.

RECOMMENDATIONS

1. The Board request the Chief Executive Officer, Toronto Transit Commission, to work collaboratively with the City Chief Information Officer to evaluate the existing wireless service contracts for best value based on current needs. Staff should be advised to use telecommunication services contracts that offer the best value subject to terms and conditions.
2. The Board request the Chief Executive Officer, Toronto Transit Commission, to expedite the evaluation of the land lines excluded from Phase 1 VOIP implementation, and a detailed plan should be developed for implementation of VOIP throughout the TTC to achieve intended savings.
3. The Board request the Chief Executive Officer, Toronto Transit Commission, to develop and implement procedures to:
 - a. Maintain an up to date inventory of all telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits)
 - b. Identify and disconnect unused telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits) on a timely basis. Information reports, such as phones with no activity and staff with multiple phone lines should be developed for ongoing periodic review.
4. The Board request the Chief Executive Officer, Toronto Transit Commission, to review and evaluate the unused telecommunication services identified during the audit, and terminate those services that are no longer needed.
5. The Board request the Chief Executive Officer, Toronto Transit Commission, to develop a procedure to have end-user department staff review and verify telecommunication service invoices before payment.
6. The Board request the Chief Executive Officer, Toronto Transit Commission, to ensure staff are fully aware of the telecommunication contract clauses, and that services and payments are managed accordingly. The staff should be provided with copies of the current telecommunication contracts and be informed of ongoing changes.
7. The Board request the Chief Executive Officer, Toronto Transit Commission, to:
 - a. Update current invoice verification procedure to include the use of available electronic data provided by vendors
 - b. Ensure staff conduct detailed invoice verification as per the documented invoice verification procedure.
8. The Board request the Chief Executive Officer, Toronto Transit Commission, to work with the vendors to obtain credits or refunds for overpayments identified during the audit.

9. The Board request the Chief Executive Officer, Toronto Transit Commission, to evaluate, in the light of overpayments and incorrect charges identified during the audit, whether a review of prior period payments and charges is needed. A temporary summer student could be hired to complete such a review, once a review period is determined.

10. The Board request the Chief Executive Officer, Toronto Transit Commission, to obtain missing telecommunication service pricing agreements identified during the audit, and ensure that all payments adhere to the agreed prices. The overpayments, if any relating to prior periods should be recovered from the vendors accordingly.

11. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a process for TTC capital projects involving information technology work to ensure:

- a. IT Services Department is consulted for technology related work
- b. Detailed estimates are prepared during planning, and adequately reviewed prior to the award of the work
- c. Purchase orders are issued on a timely basis prior to the start of the work
- d. Adequate documentation is obtained before payments are approved.

12. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a telecommunication inventory management system to track all wireless devices and equipment from time of purchase to disposal.

13. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement policies and procedures relating to:

- a. Enrollment of devices on wireless device management application
- b. Requiring timely return of existing wireless devices when new devices are issued
- c. Tracking of returned devices, ensuring timely deletion of corporate data on returned devices and maintaining records of data deletion.

14. The Board forward this report to City Council for information through the City's Audit Committee.

FINANCIAL IMPACT

Overall, the report identifies potential recurring savings of \$1.5 million and one-time savings of \$60,000 in recoveries for the TTC. There will be additional savings and efficiencies by improving invoice verification process and terminating unused services.

DECISION HISTORY

An audit of the City of Toronto's (City) telecommunication expenses by the Auditor General in 2014 resulted in savings of \$3.4 million. The report entitled "Controls Over Telecommunication Expenses Need Improvement" was forwarded by the City's Chief Information Officer to all major City Agencies and Corporations, including the TTC. The report is available at:

<https://www.toronto.ca/legdocs/mmis/2014/au/bgrd/backgroundfile-70658.pdf>

Based on the findings of the 2014 audit at the City, the Auditor General decided to extend the telecommunications audit to the TTC and included this audit in her 2017 Audit Work Plan. The Auditor General's 2017 Work Plan is available at:

<https://www.toronto.ca/legdocs/mmis/2016/au/bgrd/backgroundfile-97443.pdf>

COMMENTS

Our audit identifies a number of areas where savings can be achieved and controls can be improved.

Aligning Telecommunication Contracts to Current Needs

The TTC has contracts with two vendors and these contracts were based on the pricing negotiated by the City. The TTC acquires majority of its wireless phone services from Vendor A that offers higher prices with less amount of data than Vendor B. Use of data on cellphones continues to increase, as users prefer to communicate using emails and other services that require data. If the services are acquired based on the prices offered by Vendor B, the TTC would save approximately \$218,000 annually.

Expediting VOIP Implementation

The Auditor General's 2014 audit report on the City's telecommunication expenses identified savings from switching land lines to VOIP. TTC management projected annual savings of \$605,000 if half of TTC's land lines are switched to VOIP. It is important for management to expedite this VOIP implementation to achieve the intended savings earlier as significant time has elapsed since the Auditor General's 2014 audit report.

Improving the Management of Telecommunication Service Contracts and Payments

Improved controls are needed to identify unused telecommunication services on a timely basis. Our sampled review found that cancelling unused services could save up to \$250,000 annually.

Our review also identified that staff do not have complete awareness of the telecommunication contract clauses and also do not use electronic data provided by vendors to validate the invoices.

We could not verify recurring charges for communication circuits and phone lines in the annual amount of \$140,400 because staff did not have the pricing agreements.

Our selected review identified \$60,000 in overpayments during the period from 2014 to 2016, as appropriate discounts and credits were not obtained and incorrect rates were charged for communication circuits, long distance and toll free calls, and purchase of wireless devices. TTC has received a credit of \$10,900 and the remaining amount should be recovered from the vendors.

Construction Related Charges

Telecommunication services construction-related work in the amount of \$597,000 for the Toronto York Subway Station Extension (TYSSE) was performed without staff first issuing purchase orders. The purchase orders were subsequently issued seven to nine months after the completion of work. In one invoice, service charges amounting to \$482,000 were paid and were 62 per cent higher than the amount initially estimated for the work.

Not issuing formal purchase orders before awarding the work present risks of vendor disputes, and the organization is compelled to pay the price invoiced by the vendor.

Inventory Management of Telecommunication Devices

The TTC does not have an inventory system to maintain the wireless devices it has purchased or the devices returned by users. A number of returned phones were found in open boxes in an area accessible by non-telecommunications staff. These phones, if stolen or lost, could remain undetected and expose the TTC to corporate data security risks.

Furthermore, wireless devices are not properly tracked in the wireless device management application. This application is used to manage services on the wireless devices and to remotely delete corporate data in the event a device is lost or stolen. Our analysis of selected devices found that 78 devices were not tracked in this application.

We have provided 13 recommendations to improve management of telecommunication contracts and payments at the TTC. Overall, the report identifies potential recurring savings of \$1.5 million and one-time savings of \$60,000 in recoveries for the TTC.

There will be additional savings and efficiencies by improving invoice verification using electronic data, and terminating unused services. The TTC Chief Information Officer has already started taking initiatives to implement our recommendations.

The audit report is attached as Attachment 1. Management responses to audit recommendations are also included in the Attachment.

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SIGNATURE

Beverly Romeo-Beehler
Auditor General

ATTACHMENTS

Attachment 1: Auditor General's Report, Toronto Transit Commission - Managing Telecommunication Contracts and Payments

**AUDIT
AT A GLANCE****WHY THIS AUDIT MATTERS**

TTC paid \$19.3 million between 2014 and 2016 for telecommunication services.

Due to a high volume of transactions, frequent service changes and multiple price plans, telecommunication payments have a high risk of overpayments. Effective management of service plans and telecommunication resources provide opportunities for savings.

BACKGROUND

TTC IT Services manages most of the telecommunication contracts and payments through a centralized budget.

The 2014 audit of the City's telecommunication expenses resulted in savings of \$3.4 million. Auditor General extended the audit to TTC.

BY THE NUMBERS

- TTC spends \$5.2M annually for recurring telecommunication services
- TTC has 7,000 land lines, 2,470 wireless lines, 2,440 cellular modems, 250 communication circuits, and internet services from two providers
- \$218,000 can be saved annually by acquiring wireless services at prices offered by another vendor
- TTC can save \$1M per year by converting 80% of its land lines to VOIP
- Terminating unused services can save \$250,000 annually
- \$60,000 in one-time recoveries to address prior period overpayments
- \$22,000 in annual recurring savings from improved invoice verification and use of electronic data

**Toronto Transit Commission: Managing
Telecommunication Contracts and Payments****WHAT WE FOUND****A. Aligning Wireless Telecommunication Contracts to Current Needs**

- TTC uses two vendors that are also used by the City. Since the City's negotiations in 2015, needs for wireless services have changed, largely due to an increased use of data.
- The majority of TTC's lines use a smartphone plan which includes voice and data. The current vendor provides less data at a higher price than another contracted vendor.
- If services are acquired based on pricing of the other vendor, TTC can save \$218,000 annually.

B. Expediting VOIP Implementation to Save \$1 Million Annually

- In 2014, the Auditor General recommended that all City agencies and corporations consider VOIP implementation.
- TTC has made progress in VOIP implementation and expects to move 40 per cent of its lines by April 2019. TTC will evaluate the remaining lines after the first phase. This needs to be expedited.
- Overall if 80 per cent of the existing land lines are converted, TTC can save up to \$1 million annually.

C. Improving the Management of Telecommunication Service Contracts and Payments

- Terminating unused services could save \$250,000 per year.
- Staff need to improve knowledge of contract clauses to avoid overpayments.
- We identified \$60,000 in overpayments from 2014 to 2016 relating to various services. This includes recurring annual savings of \$22,000 that could be saved by improving invoice verification and using available electronic data.
- In a number of instances, staff had to contact vendors to clarify prices. We could not verify recurring annual charges of \$140,400 as staff could not provide pricing agreements.

D. Other Issues

- For telecommunication charges related to the Toronto York Subway Station Extension project, a payment of \$482,000 was 62 per cent higher than the estimate and PO was issued nine months after work was completed.
- TTC does not have an inventory system to maintain wireless devices
- Inadequate tracking of data deletion on returned devices present corporate data security risks.

HOW RECOMMENDATIONS WILL BENEFIT THE TTC

Implementing the recommendations will improve controls over the management of telecommunication expenses at TTC, and will result in annual savings of \$1.5 million and one-time recoveries of \$60,000. The City can also achieve savings by aligning wireless service contracts to current needs. This opportunity will be described in a separate report to the City

AUDITOR GENERAL'S REPORT

Toronto Transit Commission: Managing Telecommunication Contracts and Payments

May 18, 2018

Beverly Romeo-Beehler, CPA, CMA, B.B.A., JD, ICD.D, CFF
Auditor General



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EXECUTIVE SUMMARY

The Auditor General's 2017 Audit Work Plan included an audit of telecommunication expenses at the Toronto Transit Commission (TTC).

Telecommunication payments have a high risk of overpayments

Due to a high volume of transactions, frequent service changes and multiple price plans, telecommunication payments have a high risk of overpayments. Effective management of service plans and telecommunication resources provide opportunities for savings.

The Auditor General conducted an audit of telecommunication services at the City in 2014

An audit of the City of Toronto's (City) telecommunication expenses by the Auditor General in 2014 resulted in savings of \$3.4 million between 2014 and 2017. The report entitled "Controls Over Telecommunication Expenses Need Improvement" was forwarded by the City's Chief Information Officer to all major City Agencies and Corporations, including the TTC. The report is available at:

<https://www.toronto.ca/legdocs/mmis/2014/au/bgrd/backgroundfile-70658.pdf>

Auditor General extended the telecommunications audit to TTC

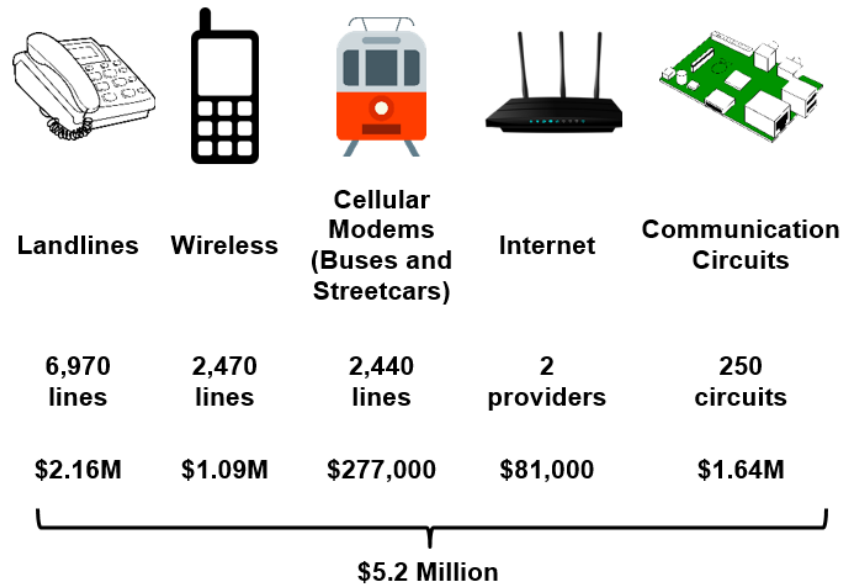
We decided to extend the telecommunications audit to the TTC. The objective of the TTC telecommunications audit was to assess internal controls over telecommunication contracts, payment of invoices and the monitoring of expenses at the TTC. Telecommunication services include phone lines (land lines), wireless phone services, internet, and voice and data communication circuits.

TTC spent \$19.3 million between 2014 and 2016

The TTC telecommunications audit began in 2017 and focused on the expenses incurred from 2014 to 2016. The total amount spent by the TTC during the three-year period was \$19.3 million. However, the audit did extend the analysis to 2017 in certain areas where data was readily available.

Annual recurring charges for telecommunication services as of December 2017 are shown in figure 1 below:

Figure 1: Annual Charges and Inventory of Telecommunication Services as of December 2017



Key Findings

TTC has made progress in implementing the Auditor General's past recommendations

The TTC has made progress in implementing the City's 2014 telecommunications audit findings. The new TTC Chief Information Officer has taken initiatives to implement Voice Over Internet Protocol (VOIP) to realize savings and has entered into a contractual arrangement with a vendor.

The TTC has also developed processes to monitor telecommunication expenses. We noted that long distance calls and cell phone roaming charges have declined by 40 per cent in 2016 when compared with 2015.

Audit identified areas with savings and a need for improved controls

However, our audit identifies a number of areas where savings can be achieved and controls can be improved to address management of telecommunication contracts and potential overpayments.

A. Aligning Telecommunication Contracts to Current Needs

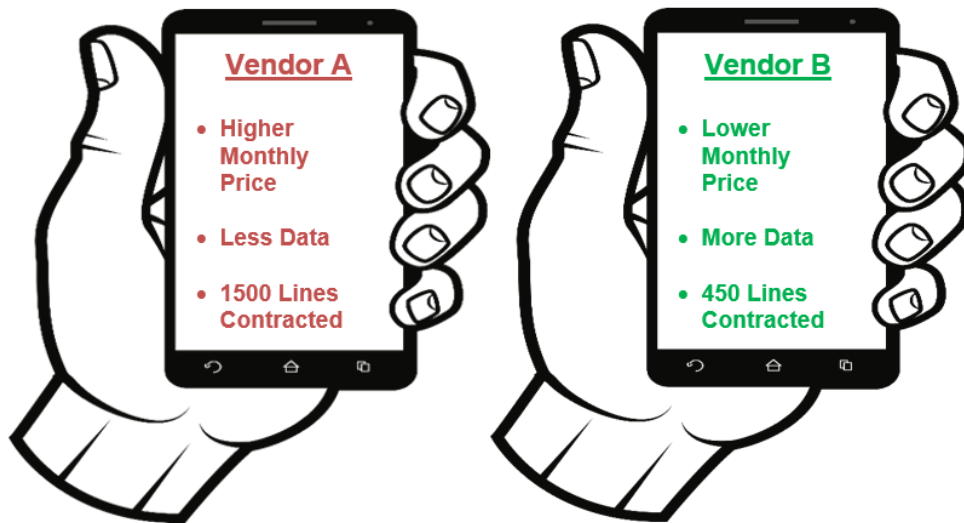
The TTC and the City use the same wireless vendors

The TTC has contracts with two vendors for wireless phone services: Vendor A and Vendor B. The commonly used service is a smartphone plan that includes both voice and data. The City also uses these vendors. The contracts signed by the TTC were based on the pricing negotiated by the City.

TTC would save \$218,000 annually by acquiring services based on Vendor B's pricing

Use of data on cellphones continues to increase as users prefer to communicate using emails and other services that require data. The TTC acquires majority of its wireless phone services from Vendor A. Our analysis of prices offered under the smartphone plan from both vendors indicates that Vendor A offers higher prices with less amount of data than Vendor B. If the services are acquired based on the prices offered by Vendor B, the TTC would save approximately \$218,000 annually.

Figure 2: Price Plans and Number of Lines Contracted as of December 31, 2017



As shown in figure 2, the preferred vendor has a higher priced plan with less data compared to the other contracted vendor.

Price Plan Impact on City's Telecommunication Costs

City can achieve a large amount of savings by aligning contracts to current needs

The Auditor General expanded her analysis to the wireless phone services acquired by the City and found that the same pricing variation exists. There also appears to be the opportunity to achieve a large amount of savings at the City if vendor contracts are better aligned to current needs and usage patterns. This will be discussed in more detail in an upcoming report to the City.

B. Expediting VOIP Implementation To Save up to One Million Dollars Annually

In 2014, the Auditor General recommended the City's Agencies and Corporations to consider VOIP implementation because of significant potential savings. The report stated that a City Agency or Corporation with 5,000 or more land lines could save over \$1 million dollars per year.

TTC estimated annual savings of \$605,000 by switching half of its land lines to VOIP

TTC staff has made progress in implementing the recommendations made in the City's 2014 telecommunications audit. In a staff report to the TTC Board in July 2017, management projected annual savings of \$605,000 if half of its land lines are switched to VOIP.

TTC plans to move 40 percent of lines to VOIP by April 2019

The TTC's plan is to move its land lines in phases: up to 40 per cent of the existing 7,000 lines by the end of April 2019, and to evaluate the remaining lines after the completion of the first phase. It is understood, that the TTC will require a certain number of lines to continue as land lines due to its operational needs. However, if 80 per cent of the existing number of lines are converted to VOIP, the TTC would save up to \$1 million dollars annually.

VOIP implementation should be expedited to achieve the intended savings

A significant amount of time has elapsed since the issuance of the Auditor General's report in 2014. Therefore, this implementation should be expedited to achieve the intended savings. Management advised that a significant amount of time was required to evaluate the TTC's network infrastructure and award the VOIP contract.

C. Improving the Management of Telecommunication Service Contracts and Payments

TTC is Incurring Unnecessary Costs by Not Terminating Unused Services

Cancelling unused telecommunication services could save \$250,000 annually

Improved controls are needed to identify unused telecommunication services on a timely basis. Our review of selected land line phones and wireless services identified potentially unused land lines and wireless services that are used monthly. Cancelling these unused services could save up to \$250,000 annually.

Overpayments due to Inadequate Invoice Verification

Overpayments reported in past audits

Findings related to inadequately verifying vendor invoices are not new. The Auditor General's reports entitled "Controls Over Telecommunication Expenses Need Improvement" and "Review of Toronto Transit Commission Accounts Payable Functions" had identified potential risks from inadequately verifying vendor invoices, resulting in overpayments to vendors.

IT Services staff need to improve knowledge of contract clauses

Our review identified that staff do not have complete awareness of the contract clauses relating to pricing, payment discounts and credits in the telecommunication service contracts. In addition, staff do not use electronic data provided by vendors to validate invoices.

Our review of a sample of invoices identified the following:

Staff needed to check prices with vendor during audit inquiries

- During the audit, staff needed to inquire with the vendor(s) to check the amounts that had already been paid.

We could not verify annual charges of \$140,400

- We could not verify recurring charges for communication circuits and phone lines in the annual amount of \$140,400 because staff did not have the pricing agreements. The details of these charges have been provided to staff for inquiries with the vendor.

We identified \$60,000 in overpayments

- We identified \$60,000 in overpayments during the period from 2014 to 2016, as appropriate discounts and credits were not obtained, and incorrect rates were charged for communication circuits, long distance charges, toll-free calls, and purchase of wireless devices. These amounts need to be recovered from the vendor.

D. Other Issues

Construction-related Charges

Amount paid was \$482,000 - 62 per cent higher than estimated

Telecommunication services construction-related work in the amount of \$596,000 for the Toronto York Subway Station Extension (TYSSE) was performed without staff first issuing purchase orders. The purchase orders were subsequently issued seven to nine months after the completion of work and receipt of vendor invoices. In one invoice, service charges amounting to \$482,000 were paid and were 62 per cent higher than the amount initially estimated for the work.

Not issuing formal purchase orders before awarding the work present risks of vendor disputes, and the organization is compelled to pay the price invoiced by the vendor.

Inventory Management of Telecommunication Devices

TTC does not have a system to maintain inventory of wireless devices

The TTC does not have an inventory system to maintain the wireless devices it has purchased or the devices returned by users. A number of returned phones were found in open boxes in an area accessible by non-telecommunications staff. These phones, if stolen or lost, could remain undetected and expose the TTC to corporate data security risks.

Furthermore, wireless devices are not properly tracked in the wireless device management application. This application is used to manage services on the wireless devices and to remotely delete corporate data in the event a device is lost or stolen. Our analysis of selected devices found that 78 devices were not tracked in this application.

Table 1 highlights key audit findings contained in this report and their potential impact.

Table 1: Audit Findings and Potential Impact

Description	Cost Savings
Annual Recurring Savings - TTC	
Converting 80% of Existing Land lines to VOIP	\$1 million
Terminating unused telecommunication services - Once the recommendations are fully implemented more savings are expected	\$250,000
Competitive acquisition of Wireless Phone Services	\$218,000
Addressing overpayments through improved verification of telecommunication invoices - Once the recommendations are fully implemented more savings are expected	\$22,000
One-time Recoveries and Other Issues - TTC	
Obtaining credits or refunds for identified overpayments	\$60,000
Corporate data exposures from loss or theft of wireless devices	Not Determinable

Conclusion

The implementation of the recommendations contained in this report will result in improved controls, better use of telecommunication resources and increased due diligence in acquiring telecommunication services.

Overall, the report identifies potential recurring savings of \$1.5 million and one-time savings of \$60,000 in recoveries for the TTC.

The report also identifies additional savings for the City. These savings will be discussed in an upcoming report.

We express our sincere appreciation for the co-operation and assistance we received from the management and staff at the TTC and the City.

BACKGROUND

TTC IT Services manages most telecommunication services

The Auditor General's 2017 Audit Work Plan included an audit of telecommunication expenses at the Toronto Transit Commission (TTC).

The TTC's Information & Technology (IT) Services department manages most telecommunication contracts and services. The telecommunication services are paid through a centralized budget managed by the IT Services Department.

An audit of the City of Toronto's (City) telecommunication expenses by the Auditor General in 2014 resulted in savings of \$3.4 million. The report entitled "Controls Over Telecommunication Expenses Need Improvement" was forwarded by the City's Chief Information Officer to all major City Agencies and Corporations, including the TTC.

The TTC has made progress in implementing the City's 2014 telecommunications audit findings. The new TTC Chief Information Officer has taken initiatives to implement Voice Over Internet Protocol (VOIP) to realize savings and entered into a contractual arrangement with a vendor in October 2017.

TTC paid \$19.3 million for telecommunication costs between 2014 and 2016

Our review is based on the TTC's telecommunication expenses between 2014 and 2016. During this period, the TTC paid a total of \$19.3 million in telecommunication costs.

The recurring telecommunication services and their inventory as of December 2017 are shown in table 2 below:

Table 2: Inventory of Telecommunication Services by Service Type as of December 31, 2017

Telecommunication Service	Inventory of Lines/Services	Approx. Annual Charges
Phone lines (Land Lines)	6,970	\$2,155,000
Voice and Data Communication Circuits	250	\$1,638,000
Wireless Phones (all monthly plans)	2,470	\$1,085,000
Cellular modems for buses and streetcars	2,440	\$277,000
Internet services	2 Providers	\$81,000
Total Approximate Annual Charges		\$5,236,000

TTC has developed processes to monitor excess usage for long distance and roaming

The TTC has also developed processes to monitor excess usage of long distance calls and cell phone roaming charges. We noted a decline in overall long distance and roaming charges of 38 per cent from \$34,000 in 2015 to \$21,000 in 2016.

Staff have access to electronic billing data but do not use it for price verification

For monthly recurring services, IT Services staff have access to electronic data from the vendors for wireless, land lines and communication circuits. However, the electronic data is not currently used for detailed price verification. Staff approve payments using hardcopy invoices.

AUDIT RESULTS

A. ALIGNING WIRELESS TELECOMMUNICATION CONTRACTS TO CURRENT NEEDS

TTC has contracts with two wireless vendors

The TTC has contracts with two wireless service vendors: referred to as Vendor A and Vendor B in this report. These contracts are based on the City's wireless contracts with the same vendors that were executed by the City in 2015. The most commonly used wireless phone service is a smartphone plan that includes both voice and data.

TTC and the City prefer Vendor A

Both the TTC and the City have preferred to keep a majority of the wireless phone services with Vendor A. City staff advised that the decision to acquire services from Vendor A was based on an overall evaluation of prices and services offered by the vendor at the time of the request for proposal (RFP) evaluation in 2014. Since that time, the needs for a number of services have changed, largely due to an increased use of data.

Vendor B's prices are lower

Our review indicates that the TTC and the City use a smartphone plan that provides both voice and data from Vendor A. The TTC and the City currently pay a higher amount each month per phone plan to Vendor A when compared with Vendor B. In addition, Vendor A's plan also offers 40 per cent less data than Vendor B's. Use of data on cellphones continues to increase as users prefer to communicate using emails and other services that require data. A higher price is also charged to the TTC for a commonly used wireless phone, when compared with Vendor B's prices.

As of December 2017, the TTC had 1,500 active smartphone lines with Vendor A and 450 active smartphone lines with Vendor B.

TTC can save \$218,000 annually by acquiring services at prices offered by Vendor B

The TTC can save \$218,000 annually on its 1,500 lines, if the services are acquired at the prices offered by Vendor B, with which a signed contract already exists. These savings would be in addition to the savings per smartphone that could be realized when buying new devices. For example, if at least 50 per cent of the 1500 lines are contracted and include new devices, a one-time savings of \$40,000 would be available on a two-year smartphone contract.

TTC staff acquired 46 plans at competitive prices resulting in savings

After the plan pricing analysis was discussed with TTC staff, management advised that 46 smartphone plans have been acquired at competitive prices resulting in annual savings of \$6,600.

Price Plan Impact on City Telecommunication Costs

City can also save by acquiring services at prices offered by Vendor B

The Auditor General performed a similar analysis of the City's wireless phone services and noted that the City has about 6,700 of its 13,800 wireless phone services on the smartphone plan with Vendor A. Similar to the TTC, the City could save a significant amount of savings. The Auditor General will be presenting these findings in a separate cover report to the City. The report will be tabled at the July 13, 2018, Audit Committee.

Recommendation:

- 1. The Board request the Chief Executive Officer, Toronto Transit Commission, to work collaboratively with the City Chief Information Officer to evaluate the existing wireless service contracts for best value based on current needs. Staff should be advised to use telecommunication services contracts that offer the best value subject to terms and conditions.**

B. EXPEDITING VOIP IMPLEMENTATION TO SAVE ONE MILLION ANNUALLY

Auditor General's 2014 City audit report estimated over \$1 million in yearly savings from moving to VOIP

The Auditor General's June 2014 audit report entitled "Controls Over Telecommunication Expenses Need Improvement" at the City highlighted significant annual savings that could be achieved by the City's Agencies and Corporations from converting land lines to VOIP. The report stated that a City Agency or Corporation with 5,000 or more land lines could save over \$1 million dollars per year.

In June 2015, the City's Chief Information Officer forwarded the report to all major City Agencies and Corporations for review and to consider implementing the recommendations.

TTC estimated savings of \$605,000 yearly by switching half of its land lines to VOIP

The TTC conducted a study and submitted a staff report to the TTC Board in July 2017 for procurement authorization and implementation of VOIP. The report provided estimated annual savings of \$605,000 if half of the TTC's approximately 7,000 phone lines are switched to VOIP. The TTC staff report is available at:

[https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2017/July 12/Reports/6 Procurement Authorization VoIP Upgrade Program.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/July%2012/Reports/6%20Procurement%20Authorization%20VoIP%20Upgrade%20Program.pdf)

TTC plans to move 40 percent of its phone lines to VOIP by April 2019

The TTC's plan is to complete the VOIP implementation in phases and expects to move 40 per cent of its land lines to VOIP by April 2019. The remaining lines are to be evaluated after the completion of the first phase.

VOIP implementation needs to be expedited to achieve savings earlier

While we understand that the TTC will require a certain number of lines to continue as land lines due to operational needs, such as emergency lines, disaster recovery planning etc., given the significant time that has elapsed after the Auditor General's 2014 report, there is a need to expedite the evaluation and implementation of VOIP to ensure that possible savings are achieved earlier.

Annual savings could be up to \$1 million

Due to the addition of more subway stations and garages, the requirements for land lines are expected to grow. Converting the existing phone lines to VOIP, plus the new requirements at stations and garages, will further increase the savings. Based on current estimates, converting at least 80 per cent of existing phone lines could save up to \$1 million annually.

Recommendation:

- 2. The Board request the Chief Executive Officer, Toronto Transit Commission, to expedite the evaluation of the land lines excluded from Phase 1 VOIP implementation, and a detailed plan should be developed for implementation of VOIP throughout the TTC to achieve intended savings.**

C. IMPROVING THE MANAGEMENT OF TELECOMMUNICATION SERVICE CONTRACTS AND PAYMENTS

In order to effectively use telecommunication resources and optimize telecommunication costs, it is important that service contracts are well understood by staff, adequate processes and controls are in place to ensure effective use of services, and that unused services are disconnected in a timely manner.

C.1. TTC is Incurring Unnecessary Costs by Not Terminating Unused Telecommunication Services

The lack of timely disconnection of telecommunication services was also identified in the Auditor General's 2014 audit of telecommunication expenses at the City. Similar findings were noted at the TTC.

(a) Terminating Unused Phone lines (Land Lines)

The TTC currently has approximately 7,000 phone lines with an annual cost of \$2.16 million.

TTC needs to identify unused land lines

The TTC does not have a process to periodically verify the number of land lines departments use. There is a need to either work with the vendor to identify unused lines or develop a periodic verification process with departments to determine the number of lines that are not required and need to be cancelled. With ongoing staff changes and relocations, there is a possibility that a land line may continue to be billed even though it is not used by the department.

37 lines in two sampled departments were not required

We sampled three departments and identified 37 of 201 lines (or 18 per cent) in two departments were not required. Management in those departments advised that these lines will be cancelled.

895 users had a land line and one or more wireless lines

Furthermore, we found 895 users as of January 2017 who had a land line and at least one wireless phone line. Some of these users had multiple wireless lines. Management advised that an evaluation will be performed to determine whether land lines are required for staff with wireless phones, and where multiple lines are not operationally needed, they will be discontinued.

TTC can save up to \$200,000 yearly based on a 10 percent reduction in land lines

If a complete evaluation of all phone lines is performed, additional savings are expected. Based on a conservative estimate, if the TTC reduces 10 per cent of its land lines, it could save up to \$200,000 annually.

(b) Terminating Unused Wireless Services (Cellular Modems)

Cellular modems are communication devices used in buses and streetcars for communication between the drivers and the dispatcher.

TTC can save up to \$30,000 annually by cancelling unused cellular modems

The TTC had about 2,440 cellular modems as of December 2017 and pays \$277,000 for these services on an annual basis. When we compared these modems to the number of streetcars and buses in use, we identified 300 modems that may not be needed. Cancelling these services would save up to \$30,000 annually.

Management advised that some cellular modems may have become defective over a period of time, but their monthly subscription with the vendor may not have been cancelled. We were also advised that because the invoices are not sent to user departments, those departments were unaware of the usage and monthly charges.

(c) Terminating Unused Wireless Phone Services

166 wireless lines had no activity for six months

Our analysis of the use of wireless phone services, as of December 31, 2016, identified 166 wireless lines that were billed but had no activity for at least six consecutive months. These lines cost \$55,000 annually.

Our review of a selected number of unused cell phones identified that five of these cellphones belonged to employees who had left the TTC. Staff cancelled these lines during the course of the audit. Due to late disconnections, the TTC paid an extra \$3,340 for these lines. Similarly, we found 10 staff members with more than one cell phone line, of which only one line was used, but payments were made regularly for all the lines.

TTC can save \$27,500 by cancelling unused wireless lines

We have advised TTC management to review these services and discontinue those that are not required. If half of the 166 unused lines are cancelled, the TTC could save up to \$27,500 annually.

(d) Improving the Monitoring of Unused Voice and Data Communication Circuits

The TTC currently has approximately 250 voice and data communication circuits. The annual recurring payment for these circuits amount to \$1.64 million. These communication circuits are used in subway stations, construction trailers, offices and ticket vending machines.

TTC need to follow up with departments to identify unused communication circuits

Similar to wireless phone services and land lines, TTC staff do not conduct periodic verification on the use of these communication circuits. However, we did note that the TTC has developed a formal procedure in 2016 to follow up with departments annually to identify any unused circuits, but this procedure has not been fully implemented and a complete inventory by department and location still needs to be developed. Due to incomplete inventory, the Auditor General could not perform a complete verification of these circuits.

Recommendations:

- 3. The Board request the Chief Executive Officer, Toronto Transit Commission, to develop and implement procedures to:**
 - a. Maintain an up to date inventory of all telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits)**
 - b. Identify and disconnect unused telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits) on a timely basis. Information reports, such as phones with no activity and staff with multiple phone lines should be developed for ongoing periodic review.**
- 4. The Board request the Chief Executive Officer, Toronto Transit Commission, to review and evaluate the unused telecommunication services identified during the audit, and terminate those services that are no longer needed.**

- 5. The Board request the Chief Executive Officer, Toronto Transit Commission, to develop a procedure to have end-user department staff review and verify telecommunication service invoices before payment.**

C.2. Improving Staff's Awareness of Contract Terms to Obtain Discounts and Credits

Our review identified that staff do not have complete awareness of the contract clauses relating to payment discounts and credits in the wireless services contract. Staff also do not have complete copies of contracts. We have advised staff of potential overpayments where vendor credits should be obtained. Our review identified:

Staff did not obtain discounts worth \$4,350

- One of the wireless vendor contracts had a clause for early payment discounts. Staff were not aware and did not track early payment discounts of \$4,350 from a total payment of \$145,000 made between 2014 and 2015.

\$1,500 in cancellation fees should not have been paid

- One of the wireless service contracts had a clause allowing a certain number of cancellations at no charge. We found that cancellations were not tracked, and an extra \$1,500 was paid in 2016 as a result.

Extra cases were ordered due to misunderstanding of contract terms

- Staff ordered extra cell phone cases with the purchase of smartphones to obtain a \$50 credit per device. We found no requirement in the purchase order that extra accessories were needed to obtain the \$50 credit. Each case cost TTC \$34. Our selected review of one month's invoices for one vendor identified that 42 cases were purchased for 21 cell phones. The 21 extra cases cost an additional \$700. In 2016, TTC purchased 433 smartphones from this vendor for a total of \$85,000. It is likely that additional cell phone cases may have been purchased to obtain the credit.

Recommendation:

- 6. The Board request the Chief Executive Officer, Toronto Transit Commission, to ensure staff are fully aware of the telecommunication contract clauses, and that services and payments are managed accordingly. The staff should be provided with copies of the current telecommunication contracts and be informed of ongoing changes.**

C.3. Addressing Overpayments by Improving Invoice Verification

Staff do not use electronic billing data to aid in price verification on invoices

Telecommunication billings are known to be complicated due to a high volume of transactions, a large number of services and varied price plans. As a result, they present a high risk for errors and over payments.

Staff needed to go back to vendor(s) to understand the amounts they had already paid on the invoices

Our review identified that TTC staff do not adequately verify charges on invoices before approving payments despite having a formal procedure for detailed invoice verifications. Although billing data is available in electronic form, staff approve payments without reviewing the detailed charges and instead rely on prior payment history. Furthermore, staff are not aware of the contract pricing and needed to go back to vendor(s), during the audit, to understand the amounts they had already paid on the invoices.

Concerns related to inadequate invoice verification have also been previously noted. The Auditor General in her 2017 audit of the TTC's accounts payable functions identified that at least \$1 million can be saved annually by adequately verifying invoices. From our review of selected invoices and analyzing available data, we found a total of \$54,400 in billing errors. Details of our findings are provided below.

Voice and Data Communication Circuits

We identified over-billing of \$26,600 for circuit charges

The vendor charged incorrect rates on certain communication circuits. As the rates were not validated by staff, we identified that incorrect billing continued for 18 months from October 2016 to March 2018 resulting in overpayments of \$26,600. Since the availability of electronic vendor data is limited to 18 months, it is possible the charges may extend to a longer period. The details of these overpayments were provided to staff, who after negotiating with the vendor, advised that the vendor has issued a credit of \$10,900 out of \$26,600. The remaining amount of \$15,700 could not be credited because the overpayments were older. We have recommended TTC to renegotiate the credit for the overpayments with the vendor. By addressing these overpayments, there will be \$22,000 in annual recurring savings.

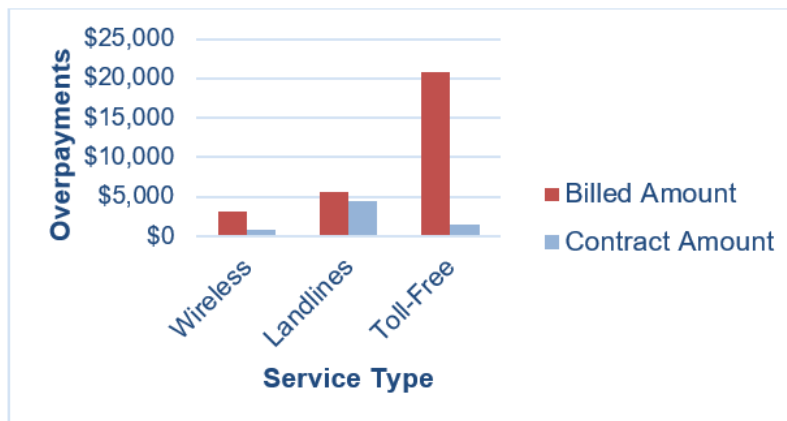
Since our review was based on a sample, there could be additional savings and efficiencies from improvements in the invoice verification process.

Long Distance and Toll-Free Charges

Overpayments of \$22,700 were made for calls charged at incorrect rates

We found \$22,700 in overpayments made between 2014 and 2016 due to billing errors by vendors in invoicing for long distance calls for smartphone plans, phone lines and toll-free calls. A large volume of toll free calls were billed at over 20 cents per minute, whereas the contract rate was 1.5 cents per minute. Figure 3 shows a comparison between the billed amounts paid and the correct amounts as per contract rates. These overpayments need to be recovered from the vendor.

Figure 3: Overpayments for Long Distance and Toll Free Charges, 2014 – 2016



Staff paid an extra \$5,100 at incorrect device prices

Wireless Device Purchases

For wireless hardware invoices, we found a number of smartphones that were charged in excess of \$100 over the agreed prices from our sample. We estimate at least \$5,100 may have been overpaid on 51 smartphones purchased between May to October in 2016. In total, \$85,000 was paid for 433 smartphones purchased in 2016 where price variations may exist.

Staff do not always maintain a current list of smartphone pricing from the vendor to enable invoice verification. Due to the improvement in technology, prices of earlier models of smartphones change frequently, and lack of documented pricing could result in overpayments. Currently, staff is working with the hardware vendor to obtain credits to rectify these overpayments.

Recurring Services with No Pricing Agreements

We could not verify monthly recurring charges paid for communication circuits and phone lines in the amount of \$11,700 (\$140,400 annually) in the July 2017 invoice because staff did not have the pricing agreements. The details of these charges have been provided to staff for inquiries with the vendor to confirm invoiced charges.

Recommendations:

- 7. The Board request the Chief Executive Officer, Toronto Transit Commission, to:
 - a. Update current invoice verification procedure to include the use of available electronic data provided by vendors**
 - b. Ensure staff conduct detailed invoice verification as per the documented invoice verification procedure.****
- 8. The Board request the Chief Executive Officer, Toronto Transit Commission, to work with the vendors to obtain credits or refunds for overpayments identified during the audit.**
- 9. The Board request the Chief Executive Officer, Toronto Transit Commission, to evaluate, in the light of overpayments and incorrect charges identified during the audit, whether a review of prior period payments and charges is needed. A temporary summer student could be hired to complete such a review, once a review period is determined.**
- 10. The Board request the Chief Executive Officer, Toronto Transit Commission, to obtain missing telecommunication service pricing agreements identified during the audit, and ensure that all payments adhere to the agreed prices. The overpayments, if any relating to prior periods should be recovered from the vendors accordingly.**

D. OTHER ISSUES

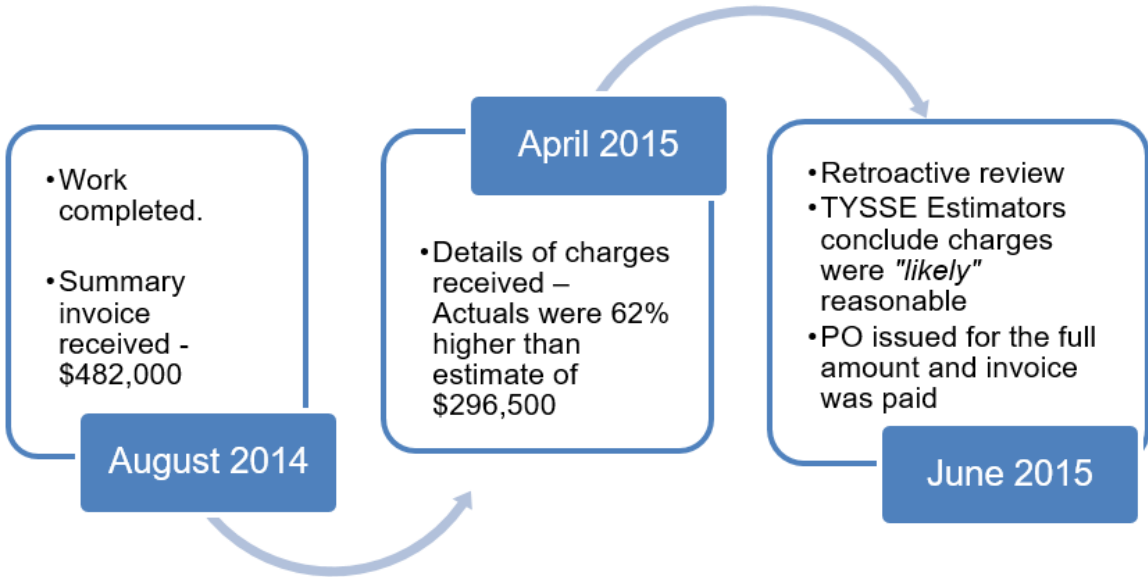
D.1. Construction-related Charges

PO for work was issued after receiving invoice

Two of our sampled invoices were related to construction work for the Toronto York Subway Station Extension (TYSSE) project. These invoices were related to telecommunication work. We were advised that Information Technology Services Department was not involved in the work related to these invoices.

The charges billed on one invoice, for relocating the cables and related communication structures for the YYSSE project, amounted to \$482,000. The work was completed without the issuance of a purchase order (PO). The PO was issued after nine months of the receipt of invoices from the vendor. Figure 4 shows the timeline from the completion of work to the retroactive review of actual charges and issuance of PO.

Figure 4: Timeline Showing Processing and Payment of one of YYSSE's Invoices



Actual charges of \$482,000 were 62% higher than estimates

Management acknowledged that the incorrect procedure was followed to award the work and that the PO was issued based on a retroactive review of the supporting documentation. The actual charges paid were 62 per cent higher than the estimated amount of \$296,500, and there were disputes on whether the work was the responsibility of TYSSE Station contractor or the TTC. The cost was eventually absorbed by the TTC.

According to management, the telecommunication services contractor's staff did not have the expertise to estimate the work and only a high-level estimate was completed. The actual charges were deemed "likely" reasonable by the TYSSE Estimators due to the complexity of the work involved.

Detailed estimate could not be found for an invoice worth \$115,000

In another invoice relating to the same project, with charges of \$115,000, the PO was issued seven months after the work was completed. TYSSE Estimators reviewed and approved the final charges after receipt of the invoice based on a retroactive review of documents. Staff could not provide the detailed estimate or quotes obtained for this work.

A review of the TTC Capital Program Delivery was completed by an external consulting firm in 2016. One of the report's recommendations noted the importance of developing estimate guidelines to ensure that all estimates are holistic, including both internally owned scope and scope affected or improved by other parties, regardless of funding responsibility, and including lifecycle costs when required.

The above report is available at:

[https://ttc.ca/About the TTC/Commission reports and information/Commission meetings/2016/September 28/Report s/3 TTC Capital Program Review.pdf](https://ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2016/September%2028/Report%20s/3%20TTC%20Capital%20Program%20Review.pdf)

Auditor General may conduct further work on TYSSE invoices

Given the issues raised on these two invoices, further work to understand issues in other TYSSE invoices may be undertaken by the Auditor General, as a second phase.

Recommendation:

- 11. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a process for TTC capital projects involving information technology work to ensure:**
 - a. IT Services Department is consulted for technology related work**
 - b. Detailed estimates are prepared during planning, and adequately reviewed prior to the award of the work**
 - c. Purchase orders are issued on a timely basis prior to the start of the work**
 - d. Adequate documentation is obtained before payments are approved.**

D.2. Tracking Wireless Devices in Use

The TTC does not have an inventory system to maintain all purchased wireless devices. This limits the TTC's ability to account for all the devices it has purchased, including devices that are upgraded or returned by users. Inadequate maintenance of wireless device inventory present risks that lost or stolen devices may remain unidentified and expose the TTC to corporate data security risks.

78 wireless phones were missing from the device management system

Furthermore, wireless devices are not properly tracked in the wireless device management application. This application is used to manage services and to remotely delete data in the event a cell phone is lost or stolen. We found 78 cell phones that were not tracked in this application. Not having all devices enrolled in this application limits the TTC's ability to remotely delete corporate data in the event a device is lost or stolen.

Segregation of duties is needed in the management of wireless devices

We also noted a lack of segregation of duties related to the management of wireless devices. One staff member completes and issues purchase orders for phone devices and accessories, receives the items, approves invoices for payment, distributes phones to users including taking back returned phones, enrolls the devices on the device management system, and maintains the physical devices and accessories.

The appropriate segregation of duties will improve controls in identifying errors and abuse.

D.3. Improving Procedures for Returning Cellphones

Existing procedure for return and monitoring of old devices require improvement

Although we found TTC has developed a procedure requiring the return of old devices from end-users. This procedure requires strengthening to improve accountability and monitoring for the return of old devices.

Our review of a sample of cancelled wireless phone plans identified 10 plans that were cancelled within a few months of contract with Vendor A, and moved to Vendor B. Staff purchased 10 additional phones that came with new service plans with Vendor B. This resulted in 10 potential cell phones becoming available to be used by staff. TTC staff could not advise on the status of the devices from Vendor A since they did not track the returned devices, although they were only a few months old.

Staff do not track whether corporate data is deleted from the returned devices

During our inventory count, we found more than 150 returned devices stored in two open boxes placed on the floor (as shown in Figure 5). Staff stated that those were old devices with data to be deleted and returned to the vendor. However, staff do not maintain records for data deletion or the return of devices. It is important to ensure that all phones are tracked and records are maintained to confirm that corporate data is deleted from lost, stolen or disposed devices.

Figure 5: Picture Showing Open Box of Devices



Recommendations:

- 12. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a telecommunication inventory management system to track all wireless devices and equipment from time of purchase to disposal.**
- 13. The Board request the Chief Executive Officer, Toronto Transit Commission, to implement policies and procedures relating to:**
 - a. Enrollment of devices on wireless device management application**
 - b. Requiring timely return of existing wireless devices when new devices are issued**
 - c. Tracking of returned devices, ensuring timely deletion of corporate data on returned devices and maintaining records of data deletion.**

CONCLUSION

This report presents the results of the Auditor General's first review of telecommunication expenses at the TTC. The TTC paid \$19.3 million in telecommunication costs between 2014 and 2016.

TTC can save \$1.5 million annually by implementing the recommendations

We have provided 13 recommendations to improve management of telecommunication contracts and payments at the TTC. Overall, the report identifies potential recurring savings of \$1.5 million and one-time savings of \$60,000 in recoveries for the TTC.

There will be additional savings and efficiencies by improving invoice verification using electronic data, and terminating unused services. The TTC Chief Information Officer has already started taking initiatives to implement our recommendations.

City can also achieve savings by aligning wireless service contracts to current needs

In addition, the City can also achieve savings by aligning wireless service contracts to current needs. This opportunity will be addressed to the City management in a separate cover report expected to be tabled at the July 13, 2018, Audit Committee.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

The Auditor General's 2017 Audit Work Plan included a review of Telecommunication Expenses at TTC, which are administered by its IT Services.

Audit objective

The objective of this audit was to assess internal controls over the management of telecommunication service contracts, payment of invoices and monitoring of telecommunication expenses by TTC.

Audit scope and methodology

This audit primarily covered telecommunication expenses for the period 2014 to 2016, with certain data analytics performed on recent years.

Our audit methodology included the following:

- Review of policies and procedures
- Review of telecommunication service contracts and service level agreements (SLA's)
- Review of telecommunication invoices and payments, and related processes
- Review of controls on management of telecommunication hardware inventory, practices for disposal of data and telecommunication devices and change management practices with the vendors
- Analysis of vendor data for wireless and phone lines
- Review of TTC's VOIP implementation timeline

Compliance with generally accepted government auditing standards

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.

APPENDIX 1: Management's Response to the Auditor General's Report Entitled: "Toronto Transit Commission: Improvements Needed in Managing Telecommunication Contracts and Payments"

Recommendation 1: The Board request the Chief Executive Officer, Toronto Transit Commission, to work collaboratively with the City Chief Information Officer to evaluate the existing wireless service contracts for best value based on current needs. Staff should be advised to use telecommunication services contracts that offer the best value subject to terms and conditions.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

The TTC will engage the City for contract price re-negotiation with Vendor A. Estimated completion is Q3 2018.

ITS department will work with M&P to increase the upset limit for Vendor B to allow new wireless services and transfer of existing wireless services where the financial penalty does not exceed the expected cost savings. Estimated completion, Q4 2018.

Recommendation 2: The Board request the Chief Executive Officer, Toronto Transit Commission, to expedite the evaluation of the land lines excluded from Phase 1 VOIP implementation, and a detailed plan should be developed for implementation of VOIP throughout the TTC to achieve intended savings.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Currently ITS committed 100% of Network and Telecom capacity to the VoIP rollout. In order to fast track the evaluation and expedite the transition to VoIP of the remaining 3700 lines, an assessment will be run in parallel with the first phase of rollout. The outcome will determine the number of VoIP lines to be scheduled for deployment as part of the Phase II. A detailed plan for the remaining 3700 lines is estimated to be completed, Q4 2018.

Recommendation 3: The Board request the Chief Executive Officer, Toronto Transit Commission, to develop and implement procedures to:

- a. Maintain an up to date inventory of all telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits)
- b. Identify and disconnect unused telecommunication services (wireless plans, land lines, cellular modem subscriptions and communication circuits) on a timely basis. Information reports, such as phones with no activity and staff with multiple phone lines should be developed for ongoing periodic review.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

In Q2 2018 ITS department will be rolling out a new Asset Management System to track all telecommunication devices. The inventory data will be verified, updated and fully transitioned to the new system in Q4 2018.

Where possible ITS department will work with the Vendors to build exceptions reports as relates to unused telecommunication services. Estimated completion Q4 2018.

ITS is fully committed to implement the recommendation as best it can with existing resources. Full implementation may require additional resources which will be added to ITS's 2019 budget request but approval is not assured.

Recommendation 4: The Board request the Chief Executive Officer, Toronto Transit Commission, to review and evaluate the unused telecommunication services identified during the audit, and terminate those services that are no longer needed.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

One time action. ITS department will review with the relevant stakeholders the list provided by Auditors (203 lines) and terminate agreed upon lines by June 30, 2018.

Recommendation 5: The Board request the Chief Executive Officer, Toronto Transit Commission, to develop a procedure to have end-user department staff review and verify telecommunication service invoices before payment.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

ITS department is in the process of engaging HR and Finance in the development of a procedure for the appropriate invoice verification and payment process. Estimated completion, Q4 2018.

Recommendation 6: The Board request the Chief Executive Officer, Toronto Transit Commission, to ensure staff are fully aware of the telecommunication contract clauses, and that services and payments are managed accordingly. The staff should be provided with copies of the current telecommunication contracts and be informed of ongoing changes.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

In order to ensure that the staff is trained, aware and in compliance with the telecommunication services and the associate contracts, ITS department started the prioritization and review of all the telecom contracts. Estimated completion on or before Q4 2019. To assist with the review, ITS department hired a temporary skilled resource for invoice and telecom contract management. (Mid May 2018 to Dec 2019)

To ensure contract performance and compliance, ITS department is working with telecommunications vendors to establish regular governance meetings. This will be an ongoing activity starting May 2018.

Recommendation 7: The Board request the Chief Executive Officer, Toronto Transit Commission, to:

- a. Update current invoice verification procedure to include the use of available electronic data provided by vendors
- b. Ensure staff conduct detailed invoice verification as per the documented invoice verification procedure.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Going forward ITS department is committed to review the vendor provided electronic data and update invoice verification procedures for each vendor as per contract review plan established in action plan # 6.

Where needed vendor assistance has been requested to better understand and improve the use of the vendor provided portal.

Recommendation 8: The Board request the Chief Executive Officer, Toronto Transit Commission, to work with the vendors to obtain credits or refunds for overpayments identified during the audit.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Requests for credit or refund of overpayments are in the process of being sent to vendors. Estimated completion, Q4 2018

Recommendation 9: The Board request the Chief Executive Officer, Toronto Transit Commission, to evaluate, in the light of overpayments and incorrect charges identified during the audit, whether a review of prior period payments and charges is needed. A temporary summer student could be hired to complete such a review, once a review period is determined.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

ITS department contacted and started working with the Vendors to identify refunds for overpayments and incorrect charges for prior payment periods. Estimated completion is Q4 2018.

As part of process update, ITS will improve its controls to minimize overpayment(s) and incorrect charges. Continuous process improvement will evolve in conjunction with action plan #6.

Recommendation 10: The Board request the Chief Executive Officer, Toronto Transit Commission, to obtain missing telecommunication service pricing agreements identified during the audit, and ensure that all payments adhere to the agreed prices. The overpayments, if any relating to prior periods should be recovered from the vendors accordingly.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

As part of the contract review established in action plan # 6, pricing agreements will be identified and requested from the vendor if missing.

Identified overpayments will be followed-up in action plan # 8

Recommendation 11: The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a process for TTC capital projects involving information technology work to ensure:

- a. IT Services Department is consulted for technology related work
- b. Detailed estimates are prepared during planning, and adequately reviewed prior to the award of the work
- c. Purchase orders are issued on a timely basis prior to the start of the work
- d. Adequate documentation is obtained before payments are approved.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

With support from the CFO, ITS Department will work with other TTC departments such as Engineering and Construction, M&P to improve procedures and controls to better ensure ITS involvement in all telecommunication services planning, acquisition and implementations. Estimated completion, Q4 2018.

Recommendation 12: The Board request the Chief Executive Officer, Toronto Transit Commission, to implement a telecommunication inventory management system to track all wireless devices and equipment from time of purchase to disposal.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

This will be addressed as part of the action plan # 3, implementation of Asset Management System.

Recommendation 13: The Board request the Chief Executive Officer, Toronto Transit Commission, to implement policies and procedures relating to:

- a. Enrollment of devices on wireless device management application
- b. Requiring timely return of existing wireless devices when new devices are issued
- c. Tracking of returned devices, ensuring timely deletion of corporate data on returned devices and maintaining records of data deletion.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

- (a) Only phones with voice and data can be tracked via the wireless device management application. Voice only phones and Kyocera legacy phones will be inventoried in the Asset Management system. ITS department will develop a guidance to enrol devices on wireless management by Q2 2018.
 - (b) ITS department will improve its processes and controls to ensure timely return of existing wireless devices when new devices are issued.
 - (c) ITS department has engaged the current 3rd party provider to ensure that the corporate cellphone data deletion process is maintained, timely performed and tracked.
 - (d) Old Blackberry devices are now under lock and key and data will be deleted by IT Staff before disposal.
-