REPORT TO:	**Finance and Corporate Services Committee**
DATE OF MEETING:	**January 29, 2024**
SUBMITTED BY:	**Dan Murray, Director Technology Innovation and Services, 519-741-2200 ext. 7825**
PREPARED BY:	**Dan Murray, Director Technology Innovation and Services, 519-741-2200 ext. 7825**
WARD(S) INVOLVED:	**All**
DATE OF REPORT:	**January 16, 2024**
REPORT NO.:	**COR-2023-513**
SUBJECT:	**Options for Disposition of End-of-Life Desktop and Laptop Computers**

RECOMMENDATION:

That the City redirect our end-of-life laptop and desktop technology assets from e-waste providers and make them available to interested local community groups and programs so they can be repurposed to support the local community when possible; and,

That the City continue to donate end-of-life equipment to non-profit groups upon request to benefit the local community in accordance with our procurement bylaw; and,

That the City also donate end-of-life equipment to The Working Centre's Computer Recycling program which provides low-cost computer equipment to the community with the ability to support and train end-users in the use of equipment.

REPORT HIGHLIGHTS:
- The purpose of this report is to recommend options to expand the City's donation of end-of-lifecycle technology assets to provide maximum community benefit and promote sustainability.
- The key finding of this report is due to limited staff capacity to build an internal technology donation program, the use of existing successful programs such as The Working Centre's Computer Recycling program is the most cost effective with the highest benefit to the community. The City can continue to donate directly to non-profit organizations as allowed with the existing procurement bylaw for disposition of surplus assets.
- The financial implications are the loss of a small amount of revenue that we have been able to recover from e-waste providers for equipment.
- This report supports **Stewarding a Better City Together: Focuses on City employees as stewards of Kitchener; responsive, innovative, diverse & accountable public servants working together to serve residents; removing barriers and championing a better city and a better world.**

*** This information is available in accessible formats upon request. ***
Please call 519-741-2345 or TTY 1-866-969-9994 for assistance.

BACKGROUND:

The City of Kitchener TIS division has, in past years, provided our end-of-life computers, monitors and printers to charity or non-profit organizations upon formal request to assist them with equipping their organizations with needed technology equipment. In more recent years, the City has worked with e-waste providers to perform certified cleansing of data from all assets and take our assets for sorting for potential reuse or recycling as appropriate for the age of the device. These e-waste services are provided free of charge and in some cases the City has been able to recover limited revenue back from the end-of-life assets where there was residual value.

At the June 26, 2023 Council meeting, Council supported a motion directing staff to report back on options for the potential expansion of options for donating our end of life technology assets to charitable groups as well as potentially donating them directly to community members in need. The motion asked to consider asset disposal procedures, software licensing considerations and the distribution of those assets to the community. The purpose of this report is to report back on those findings.

REPORT:

Staff have investigated the considerations in expansion of the options for donating equipment and a summary of each area of consideration is provided below:

Computer Desktop and Laptop Hardware
The City has set hardware lifecycles for technology equipment in order to allow for proper budgeting for lifecycle replacements and to ensure the technology will perform appropriately for the intended lifespan. The planned lifecycle for a desktop computer is five years and for laptop computers it is set at four years. These are considered fairly long lifecycles in the technology industry where many organizations run on a three-year lifecycle. Most technology lease programs run on a three-year contract for this very reason as the reliability of the technology asset can begin to deteriorate later in the lifecycle. The City has been successful with this extended lifecycle due to careful technology device selections that will meet the intended lifecycle period.
Laptops do pose extra challenges due to the battery dependency of the device. Lithium-ion batteries used in laptops deteriorate over time, losing device run-time but can typically still be operated using a power cord. Some laptop batteries will begin to swell when they have reached their end-of life causing the keyboard to lift. Even though they may continue to operate, these laptops should not be used as lithium-ion batteries can pose a fire hazard when they begin to fail.
The timing of the City's annual rollout of replacement laptop and desktop devices is not always predictable which will lead to an inconsistent supply of used devices to run a program. We often hold onto laptops destined for surplus declaration to support summer programs or special projects which can interrupt the supply of surplus assets for months at a time.

Operating System Licensing and Re-installation
Desktop and laptop computer vendors ship Microsoft Windows based computers with an installed software operating system on them. The version of Microsoft Windows the City uses

is Windows 10 Enterprise which differs from the one that shipped with the computer as we rely on advanced security, encryption and management technologies that are only available in the Enterprise edition of the software. The operating system installed on the computer for our purposes must be removed before the device can be repurposed. The original device software license can be re-installed through a recovery process – this operating system recovery process generally takes about 2 hours to complete to prepare the laptop for re-use.

Asset Disposal
The City's Procurement Bylaw outlines the acceptable processes for the City to dispose of surplus assets. The current bylaw allows assets declared surplus that may have a residual value to be donated to a non-profit agency. The bylaw has been crafted to ensure the responsible management of all City assets from procurement through disposal and prevent any mishandling of City assets that could call into question the reputation of the City and its management of public funds.
While the current by-law could be amended to broaden the ability of providing City assets directly to the community, it would be critical to build in the required checks and balances to ensure that these City assets are being handled in a methodical way that protects the reputation of the City and prevents any potential misappropriation of surplus technology assets.

Distribution of End-of-Life Technology Assets
The distribution of technology assets once prepared by Technology Innovation and Services staff would require staff in public facing facilities to develop criteria to determine who is eligible to receive these technology assets free of charge in a manner similar to how the Leisure Access program is managed. The process and criteria would need to be clear and transparent to ensure public confidence in the management of the distribution of the surplus assets.

An important aspect of the distribution of end-of-life assets would be the managing of expectations around support and maintenance of the devices once provided. Community Centre staff do a great job of supporting clients in using the Public Access Computers (PAC) that the City provides in our Community Centres. Those staff are in turn supported by TIS IT Service Desk staff should any hardware of software issues arise with those computers. There is limited staff capacity, both at a community facility and TIS perspective to be able to offer significant support beyond the distribution of the assets. With older computer hardware, there are likely to be issues arise and it will be difficult to turn away patrons needing support from a program of this nature.   Without additional staff supports to assist with the program, dissatisfaction with the technology provided and the ability of staff to support it is a likely outcome.

Taking into consideration of the above factors, staff recommend that the city introduces a program to redirect end-of-life laptop and desktop technology assets from e-waste providers and instead make them available to interested local community groups and programs to be repurposed to support the local community where possible. Additionally, staff recommend continuing to donate end-of-life equipment to non-profit groups upon request to benefit the local community (in accordance with our procurement bylaw). Finally, staff recommend that the City also donate end-of-life equipment to the Working Centre's Computer Recycling program, which provides low-cost computer equipment to the community. The Working Centre's program has the ability to support and train end-users in the use of the equipment.

Donate our End-Of-Life Technology Assets to The Working Centre and Other Non-Profit Organizations

Staff have connected with The Working Centre's Computer Recycling program staff to learn more about their existing programs to get technology into the hands of the community. The Working Centre accepts technology donations, assesses, and sorts the equipment, harvests reusable parts, builds and tests refurbished laptop and desktop computers using a free-to-use Linux operating system. Any remaining technology equipment deemed unusable will be recycled by a reputable e-waste provider. To be financially sustainable, they then sell these refurbished computers to community members in need of low-cost technology. The costs range from $30 to $250 depending on the quality of the device. The Working Centre staff will interact with the customers, train them in the use of the Linux operating system and support the computers should any issues arise. The Working Centre staff will work with programs such as Ontario Works or Ontario Disability Support Program to help customers to access support to cover costs when needed. The Working Centre staff estimate that it costs about $100 per computer to check hardware, install software, test and provide customer support and training. This existing program, located steps away from Kitchener City Hall, addresses many of the challenges identified above related to hardware, software licensing and distribution of our end-of-life assets. The City would be able to direct our surplus assets to The Working Centre with no changes to our procurement bylaws. The Working Centre staff have the capacity to handle our end-of-life assets and were quite interested in the City supporting their program which in turn supports the community's access to technology.

The City can also continue to donate end of life computer equipment to other non-profit organizations upon request as we have in the past. City staff will provide thorough instructions on how these groups can download the original operating system and reload the licensed operating system on the devices for re-purposing if they would like to use a Microsoft Windows operating system. These options will not require any changes to our procurement bylaws and will maintain the rigour that already exists in our Disposal of Surplus Assets section of the procurement bylaw. These options can also be delivered within existing staff and divisional resources.

In the development of this report, staff investigated the feasibility of an internal program that could be established to repurpose and distribute our end-of-life computers. There are several challenges that would need to be overcome to support a successful program internally.

Our existing procurement bylaw defines appropriate methods to disposal of surplus assets. The bylaw was developed to ensure that all City assets are handled appropriately and consistently to maintain the public trust in the organization and that no misappropriation of the City's assets occurs. A very robust and auditable asset management process would need to be developed and administered.

Each end-of-life computer would need to have all data removed and the original Windows operating system reinstalled using the computer recovery process. Staff have tested this process and expect it will take roughly 2 hours per device to assess the hardware and prepare it for re-use. With a potential quantity of 250 end-of-life devices per year this could equate to 500 hours of effort per year (roughly 30% of a full time equivalent) to prepare the computers.

Further to this, a program to determine the eligibility of community members against a criteria would need to be developed and administered. The closest comparison for an existing suitable program would be the Leisure Access program that allows for access to recreational programming for low-income community members. There would be significant staff time involved to create such a program and administer it to ensure fair access and defendable qualification decisions.

The primary reason that the City maintains a lifecycle for our desktop and laptop computers is to ensure that the computers remain reliable business tools and do not impact staff's ability to perform their jobs due to equipment failures. Any older computer equipment has a much higher likelihood of failure. The City could deploy the devices as-is with no guarantees but there will always be an expected level of support should a computer device fail in a short period of time. Front line customer facing staff would not be able to support questions from program recipients and would likely need to turn to TIS staff to assist them. There is limited capacity of staff to meet existing customer demands and this would create additional pressure for staff, even with limited support offerings. Successful technology re-use programs offer support and training for the recipients and help people get the most out of the re-used computers such as the program operated by The Working Centre.

End of life disposal through e-waste contractors

The City has been successful in generating some revenue from the disposal of end-of-life assets to an e-waste contractor. However, there is no guarantee that we will be able to continue to do so in the future. The market for used technology assets is highly variable. The greatest benefit of disposal through an e-waste contractor is that this ensures the highest level of data security upon disposal. All reputable e-waste providers will certify that all data on storage devices have been securely destroyed and is unrecoverable. They will also generally provide bins and pick up the equipment at no cost to the City.

Other Considerations to Increase Community Access to Technology:

Continued Development of Public Access Computer (PAC) Program and Kitchener Tech Connects
The City has offered the PAC program for many years and the service has been very well utilized. The Tech Connects program was implemented with a grant from New Horizons for Seniors and offers training as well as access to borrow a Chromebook or iPad. While neither of these programs leverage end-of-life technology assets, it is important to highlight successful access to technology programs already in place that could be expanded to meet wider community needs for access to technology. City staff have been able to implement and staff these programs with limited impact and have met an important need in the community. As we look to refresh the Digital Kitchener strategy for the future, we can consider how these successful programs can be further leveraged.

STRATEGIC PLAN ALIGNMENT:

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working together to serve residents; removing barriers and championing a better city and a better world.

FINANCIAL IMPLICATIONS:

Capital Budget – The recommendation has no impact on the Capital Budget.

Operating Budget – The recommendation would result in the loss of a source of revenue for the Technology Reserve Fund that the City receives for the sale of surplus assets with residual revenue. This revenue source varies significantly year to year but has resulted in approximately $10,000 in recoveries in a recent year.

COMMUNITY ENGAGEMENT:

INFORM – This report has been posted to the City's website with the agenda in advance of the council / committee meeting.

CONSULT – Staff connected with The Working Centre staff to learn more about their Computer Recycling program and explore their interest in receiving the City's end-of-lifecycle technology assets.

PREVIOUS REPORTS/AUTHORITIES:

There are no previous reports/authorities related to this matter.

APPROVED BY: Victoria Raab, General Manager, Corporate Services