



FORMAL REPORT

To:	Mayor Strathdee and Members of Council
From:	Trisha McKibbin, Director of Corporate Services / Deputy Clerk
Date of Meeting:	28 March 2017
Subject:	COR 14-2017 Vote Counting Equipment and Alternative Voting

PURPOSE

To provide information to Council on Vote Counting Equipment and Alternative Voting methods available for the 2018 municipal election.

RECOMMENDATION

THAT COR 14-2017 Vote Counting Equipment and Alternative Voting report be received; and

THAT Council direct staff to bring forward a Bylaw on Vote Counting Equipment and Alternative Voting Option _____ to the April 11 Council meeting.

BACKGROUND

The next regular municipal election will take place on Monday October 22, 2018. The *Municipal Elections Act*, 1996, S.O. 1996, c. 32 regulates the conduct of municipal and school board elections in Ontario. In addition to providing regulation of candidates and electors, the *Act* also sets out roles for municipal Clerks and Councils.

Municipal Clerks must ensure that elections are conducted that adhere to the following principles:

- the secrecy and confidentiality of the voting process;
- the election shall be fair and non-biased;
- the election shall be accessible to the voters;
- the integrity of the process shall be maintained throughout the election;
- there is to be certainty that the results of the election reflect the votes cast;
- voters and candidates shall be treated fairly and consistently; and
- that proper majority vote governs by ensuring that valid votes be counted and invalid votes be rejected so far as reasonably possible

The *Municipal Elections Modernization Act*, 2016, or Bill 181, makes changes to the *Municipal Elections Act*, 1996.

Pursuant to Section 42 (1) of the *Municipal Elections Act*, the council of a local municipality may pass a by-law authorizing the method of voting and the use of vote-counting equipment and for electors to use an alternative voting method. The by-law must be passed on or before May 1st in the year before election year. For the 2018 election, the due date for the by-law is May 1, 2017.

The Province of Ontario defines alternative voting technology as “a means of both casting and counting votes electronically, involving the transmission of ballots and votes via telephones, private computer networks, or the internet.”

During the 2014 election, the Town of St. Marys used the following types of voting technology:

- Optical Scan Vote Tabulators
- Voter List Management Software

For the 2018 election Council will need to decide by May 1, 2017 if they wish to use an alternate form of voting technology. Several options are presented in the “Report” section below. Two of the key considerations related to the type of voting methodology to be used are its impact on voter turnout, and the cost to run the election. Further information on these considerations are provided below before Council considers its options:

Voter Turnout

There has been much discussion on alternative voting technology as a method to increase voter participation. The academic literature supports the suggestion that there are inconclusive results about the impact of network voting on voter turnout. Voter turnout is influenced by a number of factors, many which are difficult to quantify. These include, for example, the competitiveness of the election, candidate campaign mobilization efforts, issues at stake, voter fatigue, and the weather, among other elements that may vary from one election to the next in the same jurisdiction. While conducting research for this report some municipalities saw an increase to their voter turnout when they utilized a new alternative voting technology, while other municipalities saw their voter turnout remain static.

Costs of Previous Elections

Costs of the 2006, 2010 and 2014 elections are as follows:

2006 Election - \$18,373.19 - \$22,873.19 with included staff time (\$4.57 per elector)

- Advertising – \$948.88 (8%)
- Labour (32 Staff) - \$7,425 (62.5%)
- Supplies - \$3,499.31 (29.5%)
- Administrative/IT Support – \$6,500 to \$11,000 (estimated)

2010 Election - \$17,820.96 - \$22,320.96 with included staff time (\$4.46 per elector)

- Advertising – \$1,943.31 (17%)
- Labour (30 Staff) - \$6,485.49 (57%)
- Supplies - \$2,892.16 (25%)
- Administrative/IT Support – \$6,500 to \$11,000 (estimated)

2014 Election - \$30,200 - \$32,200 with included staff time (\$6.44 per elector)

Optical scan tabulators and the voter’s list management software both base their costs on the size of the population of electors. Based on 5,000 electors, the total 2014 election costs were:

- Advertising - \$2,605.00
- Labour (Poll Clerk/Deputy Returning Officers) – \$7,414
- Optical scan tabulators (equipment, software, professional services) - \$11,950.00
- Electronic Voter List Management - \$3,500

- Supplies – \$1,523.00
- Administrative - \$4,296

REPORT

There are several alternative voting technology methods available for use in the 2018 municipal election. Below is a description of each of these methods available for Council's consideration:

Option #1 – Status Quo (Voting Polls with Optical Scan Tabulation Equipment)

This is the most traditional and familiar method of vote casting. Voting stations are located within the municipality and electors cast a physical paper ballot. With the use of optical scan tabulation equipment, voters present their voting card, which is scanned by the voting clerk. This "scan" is linked electronically to the "real-time" voters list. All computers in all voting stations are linked to this one master voting list. Once a registered elector votes, the system prevents the same voter from voting a second time.

Electors fill out their paper ballot and the ballot is inserted by staff in the feeder of the optic scanning equipment. The vote is immediately processed and the elector is advised by the machine operator whether their vote is "counted", or deemed to have an error or over-voted. The elector then has the option to correct their ballot and attempt to have it scanned again. This is an important feature as, with the traditional method of voting and manual counting, there was no way to advise the voter if the vote had an error or would not be counted.

These machines allow for dual-sided scanning, flexible ballot sizes, and have the capability to store ballot images for fast and accurate post-event assessment or for a potential recount. In the event of a power failure, existing election data will not be compromised and voting can continue through an auxiliary ballot compartment on the ballot box. These optical tabulators are compact in size, lightweight, portable and durable, making them perfect for poll-level deployments with a high frequency of voters.

Another important feature is that results can be tabulated quickly after the voting location closes which allows for quick election result announcements.

Costs:

The Town utilized this alternative voting technology for the first time during the 2014 municipal election. The cost for the optical scan tabulators (equipment, software, professional services) was \$11,950.00 and the Electronic Voter List Management software was \$3,500. Additional costs would include advertising, supplies, administration and labour for a projected election cost of up to \$35,000 using the 2014 election costs as a baseline.

Option #2 - Vote-by-Mail

This non electronic alternative voting method closely resembles a traditional election model as paper ballots are still used. This voting method has been in use for many years, and is most commonly used by rural and/or sparsely-populated jurisdictions with larger geographic areas. The voting process begins with a package being mailed to every qualified elector on the voters' list containing instructions, a ballot and a voter declaration form. Within the defined voting period, voters are asked to return mail their completed ballot and declaration form to the municipality each within a separate prepaid postage envelope. The declaration forms are reviewed in an independent manner in order to cross voters off the voters' list. At the end of the day on voting day, a Returning Officer will then either hand count the returned ballots or tabulate them using a central count scanner/tabulator (they can be scanned prior to election day, just not tabulated). The majority of municipalities who used a vote-by-mail solution have implemented it as the sole method of voting. Perth South utilizes this method of alternative voting.

Concerns with vote-by-mail voting include errors that can occur as a result of the mail distribution process, voters returning their ballots improperly marked (thus spoiling their ballots), voters inadvertently disclosing their identity by returning their declaration form and ballot in the same envelop (thus spoiling their ballots), and the potential for significant postage costs incurred by the Town.

Costs:

Approximately \$2.00 per voter kit (outer envelope, return envelope, secrecy envelop, ballot, voter declaration)

Postage costs (includes mailing out of voter kit, and pre-postage for return of ballot)

Additional costs would include advertising, supplies, administration and labour.

Option #3 - Telephone Voting

Telephone voting is a method of alternative voting that is often used in conjunction with remote Internet voting. Telephone voting allows voters to cast their ballot remotely from anywhere they have access to a phone line at any time within a defined voting period. Qualified electors on the voters' list receive a voter information package containing instructions on how to dial in to access the system as well as how to navigate the audio ballot. Most interactive telephone voting systems rely on the voter to interact with the audio ballot by way of dialling on the key pad in relation to response requests, however, the potential exists to use voice activated responses to navigate and complete an audio ballot. After voting selections have been made for each office, the voter is prompted to review their decisions and continue on. Once the ballot is completely "marked" by the voter, he/she is then asked to review their selections prior to submission. Once submitted, the respective data is transferred to a secure server which effectively separates the voters' identity data (name, phone number etc.) from their ballot data. The former serves as the master voters' list identifying, in real-time, those electors who have voted and the latter represents pending results which are not tabulated until the end of voting day.

Concerns with Telephone voting include the significant amount of time it takes to navigate through and complete an audio ballot. Depending on the number of selections and the review options, a lengthy audio ballot may disengage and confuse voters. There are also some operational concerns with telephone voting as network congestion on the host telecommunications system must be able to support call volumes.

Option #4 - Internet Voting

The most common form of an alternative voting method is remote Internet voting, which allows an elector to cast an electronic ballot from their personal computer, tablet or smartphone. For this method, a municipality will provide security credentials to electors on the voters' list by way of the voter notification card. Based on research conducted by The Centre for e-Democracy & The University of Toronto, in 2014, 97 municipalities utilized internet voting. It is believed that this number will increase for the 2018 election.

Within a one-step process: the voter uses the credentials to access a ballot during the voting period. Prior to accessing the ballot, however, the voter is normally asked to authenticate his or her identity by answering a question based on information contained in the voters' list.

Within a two-step process: the voter notification card credentials are used by the elector to complete an online registration process. At the time of registration, an elector may also be asked to answer additional questions to establish a personalized access code in order to help authenticate their identity prior to accessing the online ballot. Following registration, additional credentials are forwarded

to the elector either by a secondary postal mail out or by way of email. The voter would then use both sets of credentials along with their personalized access code in order to validate their identity and access the online ballot during the voting period.

In a remote Internet voting election, voters can access their online ballot during the voting period from any computer, provided it is connected to the internet and the internet browser meets the minimum technical security requirements. Most products also allow voters to access ballots from their tablets or smart phones. Online ballots commonly mirror that of traditional paper ballots and must subscribe to legislated requirements with respect to formatting and appearance. Internet voting can be designed to fully verify voter intent by disallowing unintentional spoiled ballots and, if so desired, providing warning prompts in relation to offices which may be under-voted or left blank. Completion of an online ballot is similar to marking a hard copy ballot, voters simply click on the check box next to the candidate or selection of their choosing and navigate to vote for each office appearing on the ballot. Upon completion, the voter has an opportunity to review his/her selections and make changes. When the ballot has been submitted, the voting data is stored in a secure database and is not tabulated until the end of voting day. This database is designed to encrypt the voting data in order to ensure there is no way to link a voter with his/her ballot after the electronic ballot has been submitted. It can also be managed to restrict access to designated Election Officials.

Potential benefits of remote Internet voting include:

- Increased choice for electors in how and when they cast their ballot
- Voting is more accessible to electors with disabilities.
- Voting is more accessible to electors who live outside the jurisdiction, such as military voters, students and snowbirds.
- Fast and accurate tabulation is often made possible by network
- Reductions in the number of election workers and voting locations.
- Cost reductions may be achieved, particularly by jurisdictions that eliminate paper ballots.
- Environmental benefits may result from reduced travel by electors and election officials and less paper is required for poll materials, ballots and staff training materials.

Potential risks and limitation of remote Internet voting include:

- Perception of security concerns - security breaches that could jeopardize the integrity of the voting process.
- Voter identification
- The possibility of denial of service –whether deliberate or inadvertent.
- Lack of transparency, including for a vote audit or for recount purposes, due to the lack of a paper trail.
- The digital divide – some electors or subgroups of electors do not have equal access to the internet.
- Costs to administer – can be less costly than traditional methods when employed as a single voting channel

Costs:

Based on research on the use of internet voting by surrounding municipalities' projected total costs for internet/telephone voting ranges between \$2.65 per elector - \$3.08 per elector - \$14,310 - \$16,632. Additional costs would include advertising, supplies, administration and Labour for a projected election costs of \$28,010-\$30,332.

Option #5 – Polls with Optical Scan Tabulation Equipment + Internet Voting (Advanced Polls)

If Council wished to incorporate two different alternative voting methods, the most common is either 1) Internet and Telephone voting or 2) polling stations utilizing optical scan tabulation equipment and Internet voting for advanced polls.

This option may be viewed as a way to increase voter turnout. However it has been noted in research completed by the City of Markham and the City of Peterborough that overall voter turnout did not increase. Advance polls in the City of Markham and the City of Burlington did see significant increase to voter turnout with the implementation of Internet voting. This same research also shows that internet ballots are most frequently used by established voters (35-64), not youth/young people. If it is Council's direction to move forward with internet voting, it would be staff's recommendation that the target market for communication and education for the use of internet voting be for those 50 years of age and older.

Another concern with this hybrid approach is election costs. The use of two alternative voting technology methods would see the municipality incur the costs of both voting methods. It is estimated that total election costs would double and could include the following expenditures:

Optical Scan Tabulation Equipment - \$11,950.00

Internet Voting - \$14,310-\$16,632

Additional costs would include advertising, supplies, administration and Labour for a projected election costs of approximately \$48,960 – \$51,282.

SUMMARY

This report contains information on alternative voting methods and vote counting equipment that may be utilized in conducting the 2018 municipal elections. Options include optical scan tabulation equipment, vote-by-mail, telephone voting, internet voting or a combination of multiple methods.

Based on the research conducted, it is staff's recommendation that Council select either Option #1 (polls with optical scan tabulating equipment) or Option #4 (internet voting).

At a surface level consideration, Option #5 (hybrid of polls and internet voting) lends itself to an assumption that it would increase voter turnout and options for voters. Based on staff's research, the hybrid approach has not been shown to increase voter turnout, and the costs are approximately double when compared to either of the two recommended options above.

FINANCIAL IMPLICATIONS

A cost comparison of the recommended options is:

Option #1 (polls with optical scan tabulating equipment)	\$35,000
Option #4 (internet voting)	\$30,332
Option #5 (hybrid of polls and internet voting)	\$51,282

Election costs are funded through the Town's election reserve.

OTHERS CONSULTED

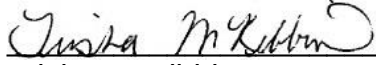
Jim Brown, Director of Finance

Report: Analysis of Alternative Voting Methods, Blair Labelle, City Clerk, City of Guelph, 2013.
Report: Alternative Voting Technologies Report, Chief Electoral Officer's Submission to the
Legislative Assembly, 2013.

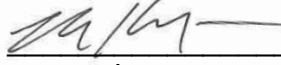
ATTACHMENTS

None

Respectfully submitted,



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