



INTERNET VOTING IN ONTARIO: TIME FOR OVERARCHING STANDARDS

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The federal Liberal Party's 2015 election promise to create an all-party parliamentary committee to review Canada's national electoral system and evaluate other measures of reform has once again sparked a debate about the use of online voting. While federal and provincial electoral management bodies in Canada consider the merits of online voting, the technology is actively used in binding municipal elections in the provinces of Ontario and Nova Scotia. In the recent 2014 Ontario municipal election, for example, online voting was offered in 97 municipalities that serve approximately one quarter of the provincial electorate, and it is anticipated that some 30 of Nova Scotia's 54 municipalities (including the two largest, Halifax Regional Municipality and Cape Breton Regional Municipality) will use online voting in 2016.

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In fact, there has been more deployment of internet voting municipally in Canada than anywhere else in the world. International jurisdictions look to Canadian municipalities to learn about best practices in developing their own internet voting models. Despite this international notoriety, policies surrounding internet voting deployment remain unaddressed by higher levels of government. Presently municipalities individually devise and establish policies related to i-voting deployment, but there is no overarching set of policies or standards to shepherd the use of internet voting in Canada. Other jurisdictions that use the technology less, on a trial basis, or have only begun to experiment with it have more comprehensive policies and regulations in place. So why is this not the case in Canada?

This article focuses on the lack of provincial policies and standards surrounding internet voting use in local elections by specifically examining developments in the province of Ontario. We argue that the province should take leadership in developing legal, technical, and operational standards in cooperation with municipalities and that now is an ideal time to do so. Standards should be prescriptive enough to provide a sound framework, but sufficiently open to continue to allow local election authorities autonomy in defining policies, particularly in certain operational areas. We present some ideas as to what these standards might look like and suggest they will add value and create consistency in election delivery.

I. STANDARDS: WHY NOW?

In some respects it is surprising that there are no broad policies regarding internet voting implementation. In Norway, development of regulations was a key component of internet voting trials. In the United States, by comparison, there are comprehensive guidelines for the use of e-voting systems. Yet, while other jurisdictions often adopt policies closer to the outset of trials, there are a few reasons why now is an opportune time to develop standards in Ontario.

For one, Internet voting has been used at the municipal level in Ontario since 2003, meaning some municipalities have over a decade of experience using the technology. Thus, municipalities are in a position to contribute practical knowledge to standard development, something jurisdictions without experience, or that are newly experimenting, do not have. This acumen can inform much richer policy than could be developed otherwise. In addition, the openness of the legislative framework guiding elections has fostered an environment conducive to innovation and experimentation, allowing us to learn much more about internet voting deployment than jurisdictions that trial the technology once or twice and then cancel the program, such as in Norway or the UK. Furthermore, the province is currently in the process of revising its *Municipal Elections Act*, making this an ideal time to consider how the modernization of elections might factor into a new version of the *Act*, or might inform a separate set of standards. Finally, projected growth in adoption and use of internet voting presents an ideal time to initiate a discussion about standards.

II. WHY DOES THIS POLICY GAP EXIST?

One reason for this policy gap is that no larger entity or higher level of government has taken a leadership role to develop standards. For example, the Council of Europe, a regional governmental organization representing 47 member countries, created non-binding legal, operational, and technical guidelines in 2004 for member countries, which have been readily used by both member and non-member governments adopting the technology. The Council of Europe is currently revisiting these guidelines and updating them in light of practical experiences with electronic voting and advancements in technology. In most cases broader standards are developed nationally, sub-nationally, or regionally.

Another explanation is that there are no provincially-established policies or standards that regulate the use of any type of technology for the casting or counting of ballots in provincial or local elections. Telephone voting, electronic voting kiosks and scanning tabulators, for example, are all widely used for municipal level elections (tabulators for provincial elections too), yet there are no standards that guide their use, with the exception of locally-developed policies and some piecemeal standards that exist in case law as a result of recounts involving tabulators. This is partly due to the fact that these are newer developments whose considerable uptake was not foreseen when legislation was developed. In addition, though debates about standards and policies are occurring in other areas where digital technology is a newer component of governance, such as in open government frameworks, electoral modernization has yet to reach a prominent place on the broader policy-making agenda.

The province may have shied away from having a conversation about standards for two reasons. One has to do with the division of powers and the fact that municipalities have a considerable degree of autonomy over their own elections. Another is that internet voting has not really been a provincial priority. Municipalities seem inherently more innovative, willing to embrace technology for service delivery and governance more so than provincial or federal governments. For example, Elections Ontario carried out an online public consultation, and subsequently compiled a report on alternative voting technologies in 2013. The agency suggested it may trial internet voting by 2017, although it now appears a provincial test of the technology is not likely to happen for several years.

Municipalities have filled the gap by establishing their own policies regarding deployment. For example, municipalities must pass a by-law to enable use of the technology, which then requires corresponding written procedures that govern where, when and how votes will be tabulated, whether internet voters will be required to pre-register, and the credentialing process for internet voters, among others. These policies apply to that particular community only and vary across municipalities. Furthermore, they do not encompass standards regarding technology requirements. To collectively discuss and potentially develop standards would require overarching organization and funding. The current situation presents an important opportunity for the province to introduce minimum standards regarding internet voting deployment, which could be optional or not, and would provide municipalities with this resource.

III. WHY DO WE NEED POLICY?

There are several reasons why provincial policy development in this area is important at this point in time. For one, citizen demand for the service is strong and growth in internet voting use by local governments is about to surge. Internet voters are highly satisfied with

the service and want to see more of it, paper voters want to see it implemented, and some non-voters say they would be more likely to vote because of it. For example, in a survey of more than 33,000 internet voters in Ontario's 2014 municipal elections 95 percent report being satisfied with online voting and 98 percent say they would use it again in a future municipal election. Furthermore, online voting is by far the preferred method when offered alongside other ballot types such as paper and telephone. Paper voters report being less satisfied with the traditional paper method (68 percent satisfied) and 78 percent say they would be likely to use internet voting in a future election.

In addition to citizen willingness to use the service, municipal adoption of internet voting in Ontario has nearly doubled with each election cycle, and similar growth is expected for 2018. This could mean that approximately 200 municipalities will offer online voting in the next election, including some much larger cities such as Toronto. In addition, the newly available option of ranked ballots, and the perceived complexity it will add to election administration (particularly the tabulation of results), may pressure municipalities that had not planned to use online ballots to do so if they adopt ranked choice voting. All of these factors make it very likely that around 5-6 million of Ontario's 9 million electors will have the option of voting online in the 2018 municipal election.

Second, policy development is best carried out proactively, designed to prevent a problem or issue. Too often government policy development is reactive, crafted in response to a crisis or problem, instead of proactively anticipating this need. Legislation targeting cyber bullying and privacy legislation enacted as a result of well-publicized data breaches are two such examples. While proactively writing policies by no means guarantees problem-free elections, it would provide municipalities with guidelines they could choose to follow, putting some in a better position to implement the technology.

Third, the creation of provincial standards would promote some consistency in how i-voting is used across the province. Though the current legislation has helped foster innovation, it has also contributed to a patchwork of approaches to internet voting deployment. The *Municipal Elections Act* includes a provision that allows for alternative voting methods, but beyond this municipalities have autonomy and discretion to run elections as they see fit. This has resulted in inconsistency across Ontario in terms of how the technology is programmed, tested, and delivered. In addition to up front research and testing, deployment varies in several specific ways. First, there is variation in the period during which online voting is made available to electors. In some cases it is offered for a period before election day, while in others it is a voting option for the entire election. This can mean considerable variance in the period of time online voting is offered (in 2014 for example it was used for 5 days in some areas and for 18 days in others).

Furthermore, the online voting process varies across communities. Some opt for a two-step process, requiring electors to register for online voting. Others, by contrast, follow a one-step process whereby voters are not required to pre-register but can vote by internet with the receipt of their Voter Information Package. In both cases, the credentials required for authentication of the voter's identity can differ. There is also diversity in the types of ballots used. Based on the technology available some municipalities opt for a composite ballot, which is an electronic version of the traditional paper ballot, lists all races on one ballot and is submitted at the same time. Others offer a series of individual ballots for each race.

The fourth difference is the mixture of voting methods used. Some communities offer a combination of poll-based paper voting in conjunction with remote methods such as inter-

net and telephone voting, whereas others run all electronic elections. Different combinations of voting methods naturally make sense for particular communities (e.g. remote voting for very rural areas) but overall this contributes to the patchwork of development across the province.

Finally, cost and resources are an issue that impedes some municipalities from developing more detailed policies surrounding implementation, notably technical standards. Smaller communities with lesser budgets and fewer resources may not have technical expertise in-house, nor are they in a position to commission a risk assessment of the proposed system which can be prohibitively costly. To date, municipalities have done remarkably well in overcoming these barriers. However, a set of standards initiated by the province, which could be optional, would provide municipalities with a framework many are not in a position to compile on their own and would greatly assist those planning to use the technology for the first time.

IV. WHAT SHOULD POLICY LOOK LIKE?

Legal

As of 2015, the province is undertaking a comprehensive review of the *Municipal Elections Act*. The current *Act* is extremely prescriptive with respect to traditional elections but almost entirely silent on the use of internet voting, causing some local election administrators to call for more prescriptive language and regulation in this area. For example, the legislation requires elements that will regulate candidate and voter behavior where unsupervised voting (such as internet voting) is employed. Currently, the *Act* establishes rules that prevent persons from unduly influencing electors as they cast their ballots, or from revealing how another person voted. But such rules only apply in relation to an official 'voting place', while these behaviors remain wholly unregulated outside of those official 'voting places'. This is a gaping hole in the laws that govern municipal elections as internet voting and other forms of remote voting become more popular, and paper voting at traditional polling stations becomes a relic of the past, for some. The *Act* must also be re-written to consider issues such as proxy voting, judicially-ordered recounts, and the diminished role of scrutineers in the context of internet voting use in Ontario municipal elections.

Technical

A minimum standard of technical requirements would assist municipalities that have limited technical resources to properly vet technology vendors and ensure that the system they choose has a certain level of security and is fit to uphold the integrity of the vote and principles of the *Act*. For example, technical standards could establish the need for a human interface challenge, 'time-out' and session monitoring, encryption and digital certificate standards, a chronological systems log of all processes that occur during the voting period, and minimum standards for anti-virus scanning and intrusion detection systems. Such a standard could also, for example, provide for minimum requirements in terms of how many concurrent votes a system should be able to process (e.g. 30 percent of an electorate, concurrently), and the degree to which the system complies with Accessible Design Standards (e.g. WCAG 2.0). Finally, technical standards should speak to how an online voting system must protect the information and data stored within it (e.g. to specify that data should not be transmitted or stored outside Canada, and that safeguards exist against identity theft). These are some examples of the components that could be addressed, however, a comprehensive set of technical standards would be of great value to municipalities as they go to market for a qualified service provider.

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Operational

While municipalities tend to prefer a lack of provincial prescription in certain operational areas, there are some elements for which established rules and standards would enhance the quality and consistency of municipal internet-based elections. For example, the province could prescribe a range for the length of an internet voting period (e.g. between 5 and 20 days), a process for adequately credentialing online voters (e.g. a secret PIN plus birth date, or a PIN and some other shared secret), or guidelines for how a voting system should be tested and audited before, during and after the voting period. Additionally, while the *Act* has permitted the use of technology in elections for some time, it has left local election administrators with little to no direction on how technology should be programmed to handle under-votes, over-votes, and spoiled ballots. Local election administrators may in fact welcome some guidance or mandatory requirements in these particular areas.

Note of caution

While it is important to develop some regulation in this area, it is imperative that the development of standards not be overly prescriptive. Ontario’s municipalities are diverse in a number of ways and they are best aware of the unique contextual factors that impact elections in their communities. Rural areas, or places with many seasonal residents might better facilitate accessible voting by offering remote voting, for example, whereas traditional voting may be a preferred option for urban settings. Likewise, communities with many candidates (e.g. Toronto’s 67 mayoral candidates in the 2014 election) may favour individual ballots for each race, while places with fewer candidates might opt for a single, composite ballot. Furthermore, as noted above, freedom surrounding implementation of municipal elections in Ontario has created an institutional environment conducive to innovation. A lack of regulation has in fact created the conditions for the modernization of elections, which is arguably a positive outcome. The ability of municipalities to experiment with a variety of i-voting approaches has helped create best practices for implementation.

Finally, standards that are too stringent might have a negative impact on healthy market competition among vendors and could result in products that are prohibitively costly for municipalities. Systems certifications can often be expensive, limiting the companies that can afford to go through these processes. In the US, for example, standards are required for ballot scanners, which has restricted the market to very large suppliers who are able to pay the \$1M to ensure their product conforms. The cost of certification is then relayed back to the consumer, as the price of using the technology increases to pay for various certifications. This may result in internet voting becoming exceedingly costly for communities and actually reduce potential for use locally. Limiting the options to a single supplier in Ontario would not be beneficial for reasons of choice, service, and market competitiveness, so any standards need to be compiled carefully and in full consultation with stakeholders (e.g. local governments and technology vendors) to ensure municipalities are able to continue to innovate, and have a range of options to select from.

V. TOWARD PROVINCIAL STANDARDS

We hope that this article stimulates a conversation about the development of provincial standards related to internet voting. This policy discussion should be broad enough to consider standards for other technologies that are used as part of electoral modernization, such as telephone voting and tabulators. In addition, these standards are best crafted in such a way that they could be a resource to non-governmental entities that use internet voting such as political parties and unions. This conversation should meaningfully include stakeholders, notably local election administrators who have learnt firsthand about best practices through deploying the technology. Given that municipalities have practical experience implementing internet voting the province does not have to begin from a blank slate, but rather can tap into and synthesize conversations about internet voting policy that have been occurring locally since 2003. The depth of knowledge from municipal administrators puts the province in a better position to compile standards than jurisdictions with less experience.

In conclusion, Ontario would benefit from policy development to guide the modernization of its elections and votes, notably standards related to the deployment of internet voting. These policies should provide a comprehensive framework for implementation being prescriptive in certain respects, but sufficiently flexible to account for the diverse contextual considerations that vary by municipality. Finally, by showing leadership in this area Ontario may encourage other provinces to follow suit.

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