Internet Voting Project Report

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NOTE TO THE READER

This report was prepared for municipal partners to help synthesize the findings collected from the Ontario, Canada component of the Internet Voting Project with the goal of helping to better inform governments, stakeholders, and the public of the effects of Internet voting on elections. The research study informing this report was generously funded by a Social Sciences and Humanities Research Council through an Insight Development Grant. Other sponsors that made the project possible include contributions from AskingCanadians, the Centre for e-Democracy, Environics Analytics, and the Munk School of Global Affairs at the University of Toronto. I would like to extend special thanks to Jon Pammett, Andrew Sancton, Larry LeDuc, Bernard Grofman, Rodney Smith, André Blais, Karen Bird, Alexander Trechsel, and Nicole Wellsbury for their advice and guidance during survey design phase of the project; to Theo Nazary and Stéphanie Plante for their research assistance and help in the execution of the project; and to all those who participated in survey recruitment on Election Day.

FOREWORD

The adoption of technology in elections has become a trend worldwide. Elections are modernizing by incorporating digital technology in different stages of the election process including poll worker training, compilation of voters' lists, voter registration, and the casting and counting of ballots. Knowledge from these developments can be leveraged to determine what works and what does not with respect to implementation, and to answer pressing questions about the impacts of technology on elections, such as whether online voting adoption can improve voter participation or strengthen voter confidence in the election process, how it affects candidates and campaigns, and what sort of impacts are felt by election administration.

Internet voting is one part of the trend to modernize elections that has become popular in Europe, Latin America and North America. At the local level municipalities in Canada have deployed online voting in more elections than anywhere else in the world. Despite growth in adoption and use, however, modest academic study has been carried out to understand the impacts of Internet voting in Canada. Funding provided by the Social Sciences and Humanities Research Council and contributions from AskingCanadians and the Centre for e-Democracy supported the study of 47 Ontario municipalities that used Internet voting in the 2014 municipal elections. Participation in the project included surveys of Internet voters, Candidates, and Election Administration. Paper voters were also surveyed in several municipalities.

This study provides valuable information from a diverse group of communities across the province. Although this analysis has a local focus, much of the discussion in the report is applicable to elections at higher levels of government. It is my hope that this knowledge will inform citizens, governments, academics, and others about the effects of this technology on local elections in Canada and that these findings, and any lessons learned, will be considered as the modernization of elections evolves. I would like to thank the Centre for e- Democracy for translating and disseminating this information to a wider audience. The farther the reach of this knowledge, the greater the impact it might have. I would also like to extend my sincere thanks to the 47 local governments across Ontario that participated in the research and made the project possible.

I hope you find value in the report. I am excited to share these stakeholder experiences with you.

Sincerely,

Dr. Nicole Goodman

EXECUTIVE SUMMARY

This report presents findings from surveys of Internet voters, paper voters, candidates, and election administrators in the 2014 Ontario municipal elections carried out as part of the Internet Voting Project. A total of 47 municipalities participated in the research providing sizeable samples from all stakeholder groups. Previous studies of municipalities in Canada had looked at Internet voters in a few select communities. By incorporating a larger group of Internet voters, and the perspectives of other election stakeholders, this study presents new knowledge about municipal use of Internet voting in Canada. The report provides detailed analysis of the overall findings from each survey group and concludes with lessons learned for future Internet voting development at the municipal level in Canada and elsewhere.

Broadly the study finds support among stakeholders for Internet voting in local elections. Surveyed groups are satisfied with Internet voting and voters and election administrators would like to see it used in elections at higher levels of government. When offered alongside other voting methods, Internet voting is Ontario voters' preferred method for municipal elections and a strong majority of users say they would recommend its use to others. Among paper voters there is also a desire to see Internet voting continue. Many paper voter respondents say they would vote online in a future election, particularly in situations where circumstances may prevent them from attending a physical poll location.

Voters who are older, educated, wealthier, interested in politics, and report voting in past elections primarily use Internet voting for reasons of convenience. These voters are regular users of the Internet and have fast Internet connections at home. There is evidence that a small proportion of non-voters are inclined to participate electorally at the municipal level because of Internet voting, but this group is modest. Municipalities primarily adopt Internet voting to enhance voter accessibility and convenience, and to increase voter turnout. While this study cannot comment on its effect on turnout based on the survey data used, Internet voting seems to have a noticeable impact on voting patterns by increasing the number of votes cast during the advance voting period.

In addition to these findings, the report presents the following additional lessons:

- Some non-voters may be encouraged to participate online, but it is not a solution to

counter declining voter turnout or to engage young people;

- Older voters are the biggest users of the service and can present a challenge to deployment;
- Internet voting impacts voting patterns, especially when offered in the advance portion of the election;
- The cost of Internet voting depends on the model and approach used; and
- Education and outreach are the biggest challenges for implementation.

Although there are challenges that need to be worked through, and impacts that must be better understood, Internet voting is desired and viewed positively by election stakeholders. Based on these findings prospects for future use and growth in Ontario are promising.

1. INTRODUCTION

In the 2014 Ontario municipal elections 97 municipalities adopted Internet voting, making the voting mode available to approximately 2 million electors. This election represented the largest deployment of Internet voting in binding local elections and a significant shift toward electoral modernization at the municipal level in Canada. Despite widespread use of online voting municipally, and the international importance of the Ontario case, there has not been much examination of how online ballots impact local elections in Canada. In an effort to better understand how Internet voting affects the election process and its stakeholders, voters, candidates, and election administration were surveyed in the 2014 Ontario municipal elections to learn about how online voting might be changing things, for better or worse. Between October 2, 2014 and November 21, 2014 four stakeholder groups were surveyed, these include: (1) Internet voters, (2) Paper ballot voters, (3) Candidates, and (4) Election administrators involved in the planning and execution of the election. This report presents descriptive findings from this research. Specifically, it presents results about voters' satisfaction with the online voting experience, information about the sociodemographic characteristics and digital literacy of online and paper voters; the effects on local campaigns; and effects on the administration of the election, notably whether online voting adoption breaks the bank or can save money.

The report proceeds in seven parts. The first portion provides historical context about Internet voting in Canada, explaining how it started, how it has grown, why so many local governments have adopted it, and why others have not. Second, information about the data used to inform this report is explained including who participated in the research and how the data was collected. Third, we take a look at the results from the Internet voter survey and what can be learnt from this information. This portion examines online voter satisfaction, likelihood of using online voting in the future, and the sociodemographic characteristics and reported digital literacy of online voters. Fourth, results from the survey carried out with paper voters are presented. Items such as satisfaction with paper voting at the polls, concerns about online voting, sociodemographic traits and digital literacy profiles are examined. This section is written comparatively, evaluating the results of paper voter survey alongside those from the survey of Internet voters. The fifth and sixth sections discuss findings from the candidate and election administrator surveys respectively, exploring issues such as the effects

of Internet voting on local campaigns, whether these stakeholder groups are supportive of Internet voting and would like to see it used in future elections, municipal rationales for adoption, the efficiency of local elections with Internet voting, and its impact on election budgets. Finally, we present some overall conclusions regarding what these findings mean for our understanding of how Internet voting changes elections and what this means for electoral modernization in Canada.

2. CONTEXT

Internet voting is presently used in local Canadian elections in the provinces of Ontario and Nova Scotia. Twelve Ontario cities and townships first introduced the voting technology in the 2003 municipal elections. By the 2006 elections 20 communities offered it as an alternative voting method, and adoption further expanded to 44 municipalities in 2010. With each election the number of local governments deploying Internet voting in municipal elections has about doubled in Ontario, with a similar increase in adoption anticipated for the 2018 elections.

Generally municipalities have been pleased with the outcomes and effects of Internet voting. Only two of the municipalities that have adopted the policy reform since 2003 stopped using it in a subsequent election and one of those reintroduced it in 2014[1]. Ontario communities that have not yet adopted the voting technology have not proceeded for a variety of reasons such as a lack of political will from municipal councils, insufficient bureaucratic backing, financial constraints or inadequate resources required to support the change, concerns about security and fraud, hesitation to adopt the technology too quickly without first learning from municipalities that have used it, and a reluctance to modernize.

Internationally, studies and deployments of Internet voting over the past fifteen years have made clear that online voting technology is not a magic bullet solution that will fix electoral ills such as drastically improve rates of voter participation or remarkably boost public trust in elections. However, as the results of this report indicate, the technology offers significant benefits from the perspectives of some voters, candidates, and election administrators, which explain why the voting method has become so popular in Ontario. These benefits, as well as the challenges and drawbacks of using Internet voting for local level elections, are outlined in this report.

Before explaining the findings it is important to mention that there are an array of voting models in Ontario municipalities. Models differ in three primary ways: (1) the online voting period, (2) the online voting process, and (3) the ballot types offered. For example, some municipalities offer Internet voting in the advance portion of the election only, whereas

[1] These include the communities of North Glengarry (which adopted it again in 2014) and Huntsville.

others make it available for the full election period including Election Day. In terms of the online voting process, municipalities currently use either a 1-step or 2-step model. A 1-step approach allows electors to cast a ballot online without registering to do so first, while the 2-step model requires prior registration. The items required for authentication (proving the voter is indeed who they say they are) also vary. Some approaches, for example, require only a secret PIN, while others call for a secret PIN, birth date, email confirmation, and the creation of, and response to, a secret question.

Finally, the types of voting methods offered differ based on the unique needs of the community. Generally municipalities use different combinations of the following four voting methods: in-person paper ballots, mail-in ballots, Internet ballots, and voting by telephone. In 2014, 59 municipalities ran fully electronic elections, offering electors either Internet voting only or a combination of Internet and telephone voting[2]. The implications of this discretion on the part of local government are a variety of models throughout the province. This has allowed for the testing of an array of approaches, but it also means a lack of consistency across communities, which could be positive or negative. It is important to take these contextual differences into consideration when reading and interpreting the findings presented in this report.

[2] The municipality of Leamington was the first municipality to offer a fully online election, using the Internet voting method only.

3. DATA

This report includes data collected from four surveys administered in conjunction with the 2014 Ontario municipal elections. Each of the 97 local governments that used Internet voting was invited to participate in the research. A total of 47 communities elected to take part (please see the Appendix A of this report for a complete list of municipal partners). Participating municipalities have varied sociodemographic profiles, are located in different parts of the province, range in population size from small (500 persons) to large (300,000 persons +) and in density from urban to rural, or a combination of the two. Groups surveyed included: Voters (1) Internet and (2) Paper, (3) Candidates, and (4) Election Administration.

There were 43 municipalities that took part in the online voter survey. Upon casting a ballot voters were prompted with a thank you screen that included brief details about the survey. If they were interested, online voters were taken to a consent page that provided additional details about the study[3]. Voters were able to complete the survey while Internet voting was active in their community, which meant the dates a respondent could complete a survey varied based on the Internet voting period in their municipality. The survey was active from 12:00am on October 2nd to 9:00pm on October 27th. Of the 196,447 persons that voted online in these 43 communities, 33,090 of them participated in the survey for a response rate of 17 percent.

Four municipalities took part in the survey of paper voters: City of Greater Sudbury, City of Guelph, City of Markham, and Township of Springwater[4]. Data was collected at select polls on Election Day and voters were offered the option of participating once they had cast a ballot. Paper surveys were administered in Sudbury and Guelph ,whereas in Markham and Springwater respondents completed the questionnaire on iPads[5]. A total of 1,766 paper voters took part in the research.

The candidate and election administrator surveys were administered to all 47 municipalities. These were made available online after the election from 4:00pm on November 7, 2014 to

[3] The online voting experience and exit survey were completely separate.

[4] The paper voter survey was made available to a limited number of communities due to cost.

[5] A small number of surveys in Markham were also completed by paper.

11:59pm on November 21, 2014 and completion was voluntary[6]. Survey links were circulated to staff and candidates by email correspondence from the municipal clerk's office, along with one reminder message. Candidates from 44 of the participating communities completed 299 surveys. A total of 164 election administrator surveys were completed in 46 municipalities[7].

[6] The original plan was to make these surveys available for a two-week period, but this was extended by a week upon requests from municipalities.

[7] No candidate surveys were completed in the municipalities of Huron Kinloss, South Glengarry, and West Elgin. No election administrator surveys were attempted in the municipality of Frontenac Islands.

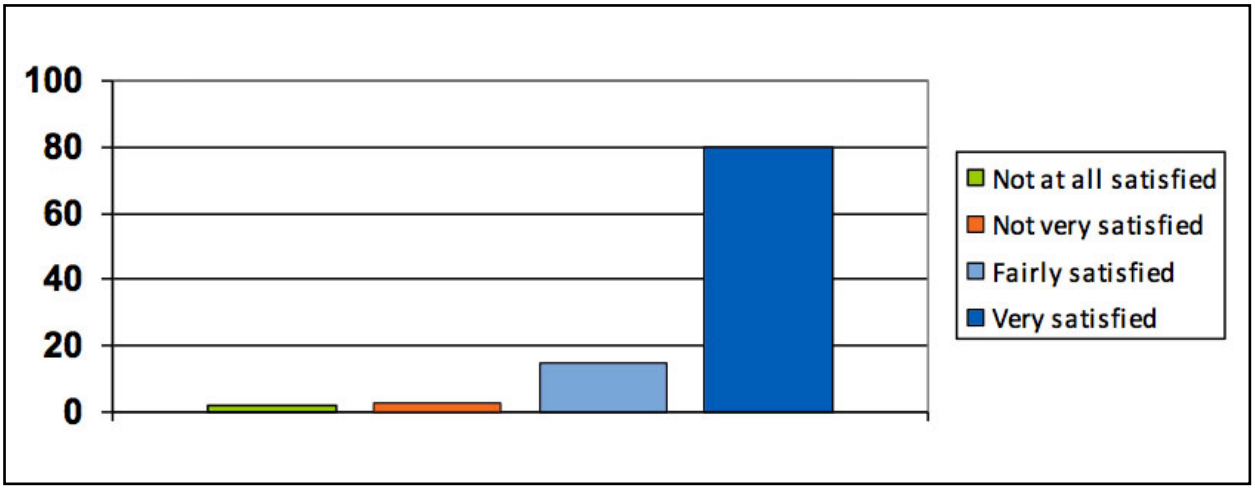
4. INTERNET VOTERS

This portion of the report explores what we can learn about Internet voters from the information collected in this study.

4.1 Satisfaction with the online voting process

Internet voters report high levels of satisfaction with the online voting process, see Figure 1. Across the 43 municipalities represented in the survey, 95 percent of respondents report being satisfied with the online voting process. A majority of these answers (80 percent) represent people who chose the 'very satisfied' option, suggesting a degree of enthusiasm, rather than just acceptance, with the Internet voting option.

Figure 1: Satisfaction with the online voting process

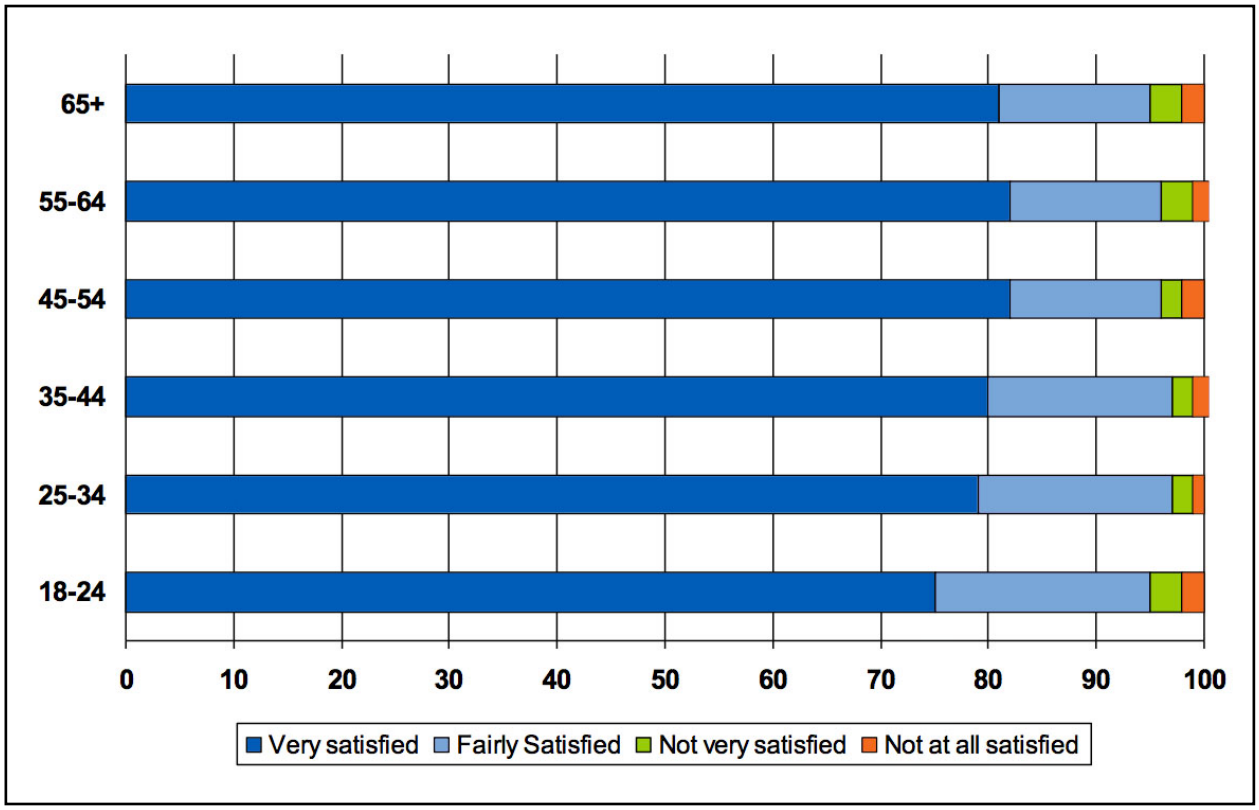


Examining satisfaction by age we see that older voters report being slightly more satisfied with online voting than the youngest cohort of voters, Figure 2. In particular, older voters are more likely to say they were 'very satisfied' with the voting method. On the whole, however, a majority of voters from all age groups express strong levels of satisfaction with the online voting services offered in the 2014 Ontario municipal elections. Reasons for differences in satisfaction are explored below.

When asked to explain satisfaction with the online voting process a majority of respondents said that they found the process to be "easy", "simple", "straightforward", "convenient" and "private". Many commented how much easier it was to vote in the 2014 municipal election with busy work schedules, being away from the municipality, or because of mobility

or transportation issues. Respondents remarked on the convenience of not having to wait in line, deal with poll clerks, and how they perceived this method of voting to be more private than voting by paper ballot in a polling station. It is interesting that many respondents in this study said they believe voting online made their voting experience more private since privacy is often cited as a concern in debates about Internet voting since families could observe each other voting at home.

Figure 2: Internet voter satisfaction by age*



*Totals may not add to 100 due to rounding

In terms of criticism, some of those who chose 'fairly satisfied' explained that they were less satisfied than they could have been had there been fewer steps involved in the voting process. Some municipalities opted for a 1-step approach to Internet voting whereby voters are able to go online and vote without having to pre-register, whereas others opted for a 2-step model that requires registration first. The 2-step process is often regarded as delivering added security because it allows for additional layers in the voting process. These added steps, however, increase the opportunity cost of voting online, and were a factor in why some respondents did not choose the 'very satisfied' option.

Those who said they were 'not satisfied', by contrast, expressed frustration in learning a new

voting method and some cited concerns about the security of the online voting system. In communities that used the 2-step online voting model respondents commented on having to wait too long for their PIN to arrive after registering, and said there were too many procedures involved, which made the voting method overly complicated especially for those with low levels of computer or Internet literacy. The vast majority of respondents, however, praised the option of Internet voting as making their lives easier and better enabling their voting rights.

Strong satisfaction with Internet voting is also reflected in questions which ask how likely respondents would be to vote in various types of elections - municipal, provincial and federal - and how likely they would be to recommend online voting to others.

- 98 percent of respondents say they would be likely to vote online in future municipal elections (93 percent report being 'very likely' to do so).
- 95 percent report being likely to vote online in a provincial election (89 percent indicate they would be 'very likely' to do so).
- 94 percent indicate they would be likely to vote online in a federal election (89 percent say they would be 'very likely' to do so).

Support for Internet voting in elections at all levels of government is quite strong, suggesting the adoption of the voting method would be a welcome service change for this group in all Canadian elections. It may be significant that there seems to be little differentiation between the level of government and intended use of Internet ballots. These voters are oriented toward Internet voting and willing to use it when a voting opportunity arises.

When asked how likely respondents would be to recommend online voting to others over 95 percent say they would recommend Internet voting, with less than 5 percent saying they would 'definitely' or 'probably' not do so. Looking at responses to this question by age all age groups are equally likely to say they would encourage others to use Internet ballots. Once again, this seems to be an indication of enthusiastic support, as there would be no tendency to try to get others to follow suit if Internet voting were not perceived as a desirable method of voting.

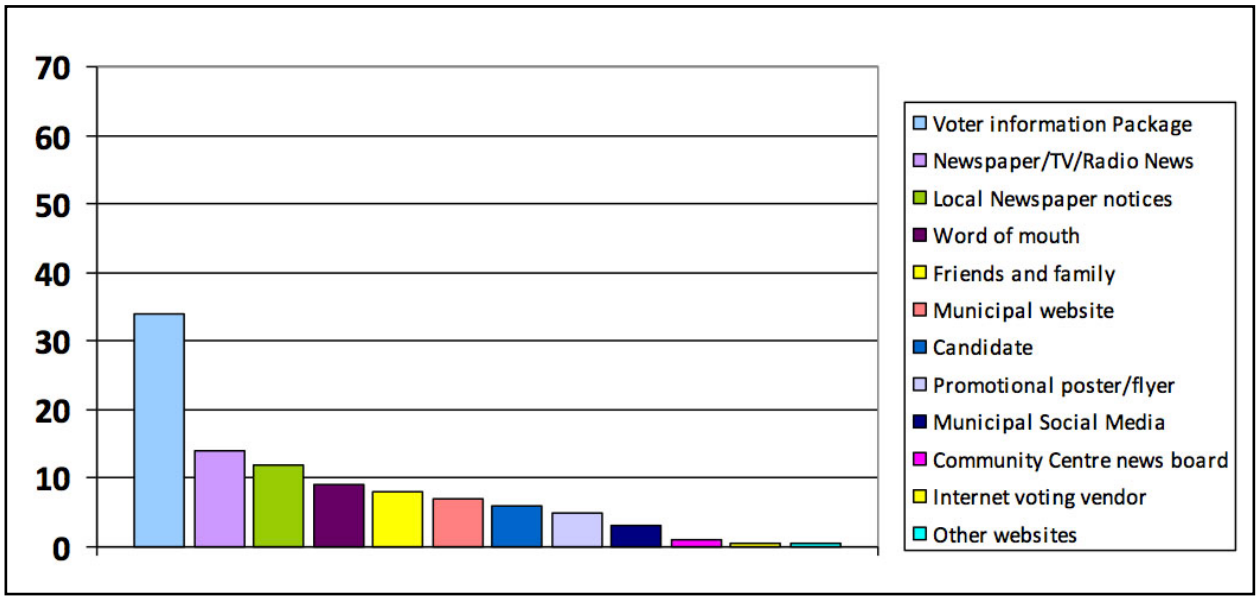
Internet voting was the preferred voting method in the majority of municipalities that participated in this study. This is consistent with data from previous municipal elections

in Ontario, which found that when a combination of voting methods were offered Internet voting was the preferred way to cast a ballot. In a majority of cases where Canadian voters are given an option between Internet voting and other ballot types, they overwhelmingly choose the online ballot. This not only implies that Ontario electors will make use of the service, but it also illustrates satisfaction with the voting method especially since, for those communities that have offered it in more than one election, we typically see growth in voter uptake with each election. Overall then, users are satisfied with the Internet voting experience, they would use it again for all types of elections, and would recommend it to others.

4.2 Other aspects of the voter experience

When asked how voters heard about Internet voting for the 2014 election[8] the largest group of respondents, 34 percent, said they learnt of Internet voting from the Voter Information Packages they had received, followed by the newspaper/TV/radio, 14 percent and local newspaper notices, 12 percent, Figure 3. Interestingly, very few respondents (10 percent in total) had heard about Internet voting from web-based sources such as municipal websites, social media, Internet voting vendors, or other websites. The fact that voters paid attention to official information from the election authorities may indicate that this source has particular credibility.

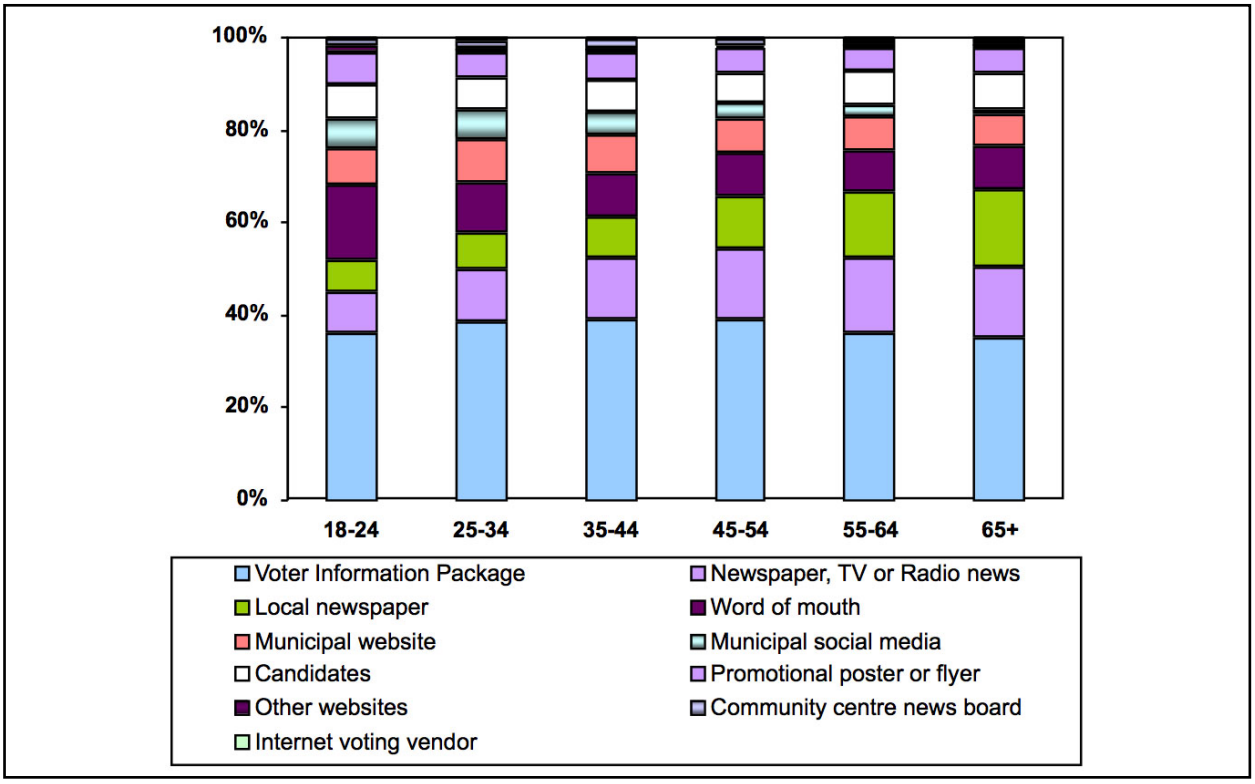
Figure 3: Source of online voting information



[8] 'How did you hear about Internet voting for the 2014 Municipal election' is a multiple response question.

Examining sources of information by age we see that 18 to 24 year olds and voters over 65 were less likely than the other age groups to have obtained information about online voting from Voter Information Packages, Figure 4. Younger people aged 18 to 24 were more likely than the older voters to have learnt about Internet voting through word of mouth. This may be a reflection of young adults living in family households, or possibly their late addition to voting lists. Social media was also a slightly more effective information source for voters under the age of 44 years. While it was not one of the most popular sources of information, the data collected suggests it is a useful means of reaching the younger demographic. Finally, those falling into older age groups were more likely than younger voters to have found information about online voting through the newspaper, TV, radio or local newspapers. This is not surprising given known patterns of media consumption.

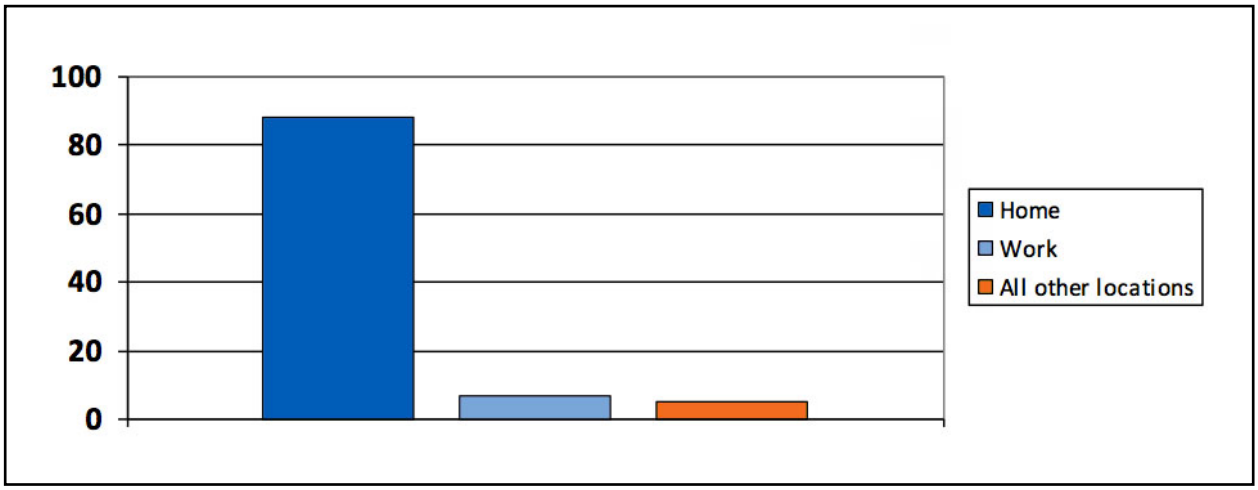
Figure 4: Source of online voting information by age*



*Totals may not add to 100 due to rounding

Looking now to where Internet voters voted from, Figure 5, the majority of respondents, 88 percent, cast their ballots from home, followed by work, 7 percent. Less than 5 percent of respondents selected other locations such as public Internet access points, out of town locations, a friend or family members home, mobile device, municipal polling place, or another site.

Figure 5: Internet voting location



In terms of devices used to cast a ballot, 85 percent of respondents took the survey using a desktop computer and so likely voted using a desktop as well. The remaining 15 percent was split between the iPad, 11 percent, while iPod, iPhone, and Android devices all occupied less than 1 percent respectively. This suggests that the preferred way to vote remotely online is from home using a desktop computer.

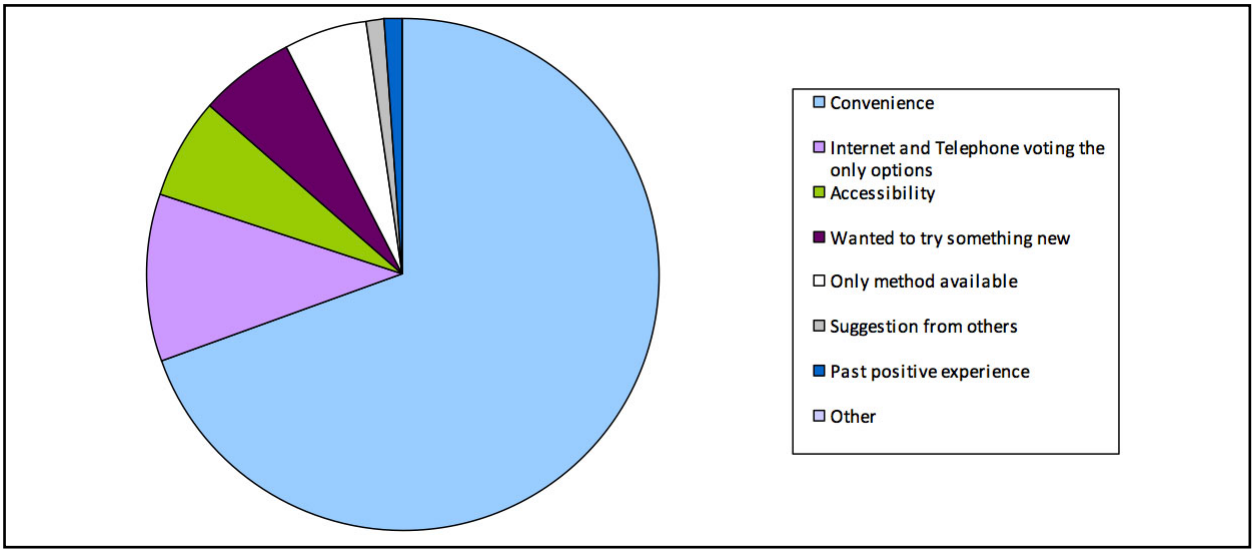
4.3 Why are Internet voters drawn to the voting method?

Looking at why voters are drawn to cast their ballots online is important for understanding the usefulness of the service option and to see if the reasons municipalities are adopting the technology are consistent with the explanations voters give for using it. The primary reason respondent's say they voted online was convenience, 66 percent, Figure 6. These results are consistent with the comments voters provided to explain their satisfaction with the online voting process. Ten percent of respondents said that Internet or telephone ballots were their only choices, which was the case in 31 of the 43 municipalities that participated in this survey[9]. The fact that more voters did not choose this option suggests that even though only Internet and telephone voting methods were available to them, they opted for Internet voting specifically because of its convenience or another rationale. Six percent of respondents communicated that they were motivated to vote online because of added accessibility, 6 percent opted to use it because of a desire to try something new, and 5 percent reported using it because it was the only method offered in their municipality. Less than 5 percent of online voter respondents said they voted by Internet because of suggestions from others, a past positive experience, or other reason. Although there are synergies between the

[9] These municipalities offered fully electronic elections.

convenience and accessibility response options, voters seem to gravitate toward convenience as the primary reason they chose to vote online. This response is consistent with previous research in Canada that has looked at voters' rationales for voting online in local elections.

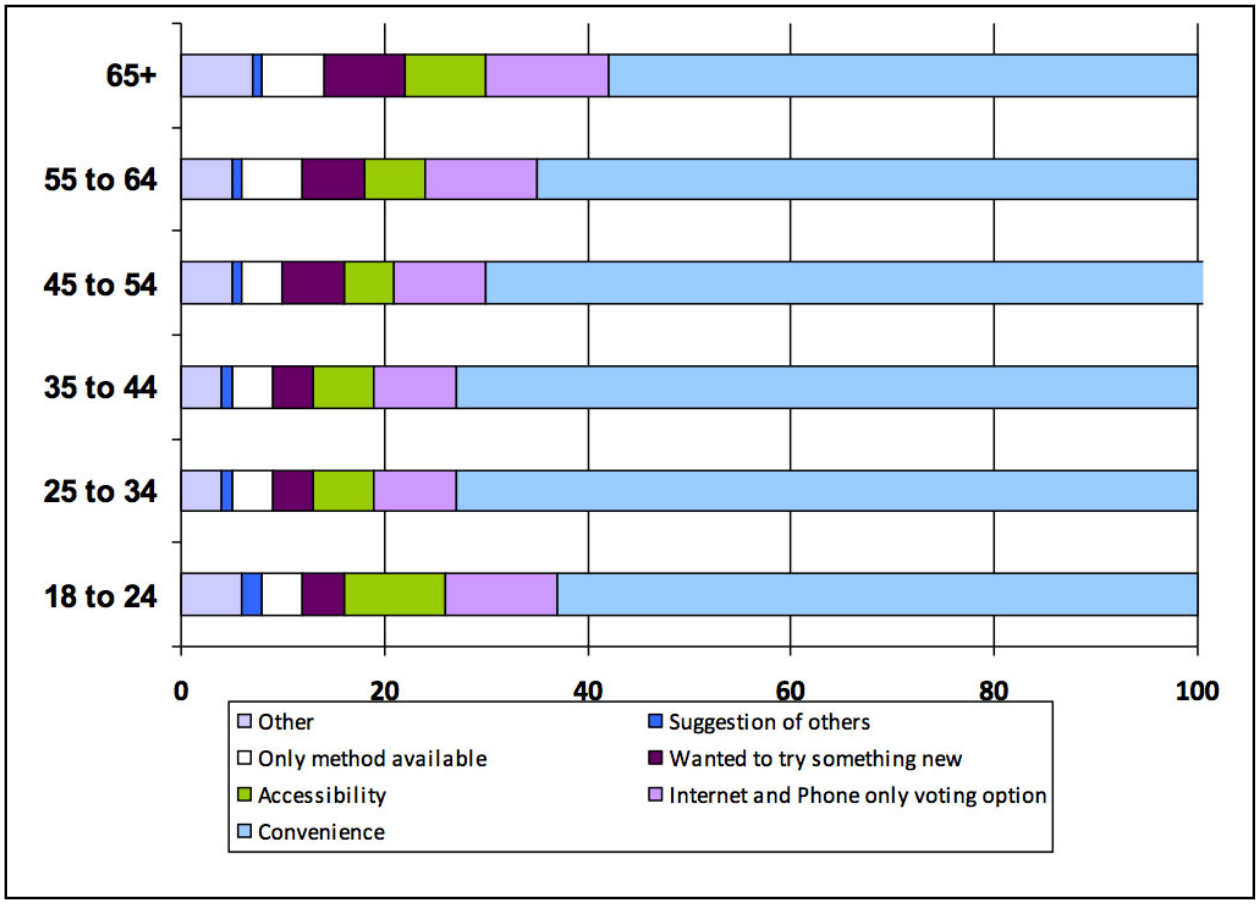
Figure 6: Reasons for voting online



Looking at the reasons for voting online by age in Figure 7, we see there is some difference by age group in the category of 'convenience'. The youngest group, 18 to 24 years, and the oldest group, 65+, are less likely to say they voted online for reasons of convenience than voters that fall into the middle age groups. Sixty-three percent of the youngest group and 58 percent of the oldest group say they voted online for convenience. In comparison, 73 percent of the middle three age categories comment having chosen to vote online because of convenience. The oldest and youngest age groups are also slightly more likely to say that they opted for Internet voting because of the added accessibility they believe it offers. The rationale of accessibility could be a better fit for students away at university or seniors who may be away or have mobility issues that could prevent them from making it to traditional poll locations.

Overall those that used the online voting process were satisfied with it, would use it again in other elections and would recommend it to others. Online voters primarily learned about the option from municipal Voter Information Packages, and voted from home by desktop for reasons of convenience. Voters that used 2-step systems of online voting report being less satisfied to varying degrees than those whose municipalities offered a 1-step model of Internet voting.

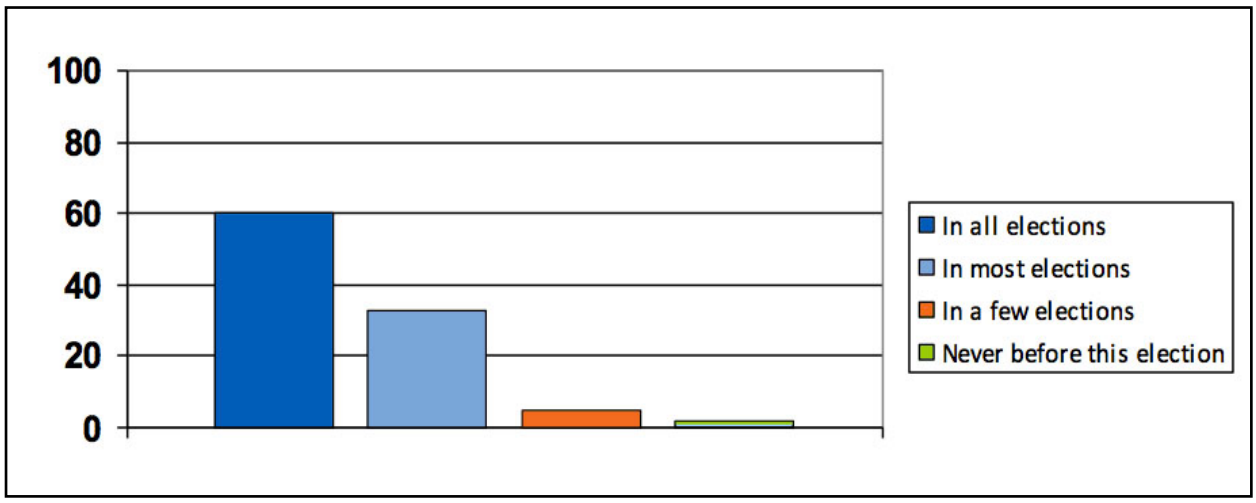
Figure 7: Reasons for voting online by age



4.4 Internet voter profiles: Past voting behaviour and digital literacy

To understand the online voting experience further, it is helpful to examine Internet voters' past voting behaviour, perceived computer and Internet literacy, and personal characteristics such as age, education and income.

Figure 8: Reported voting record in past elections



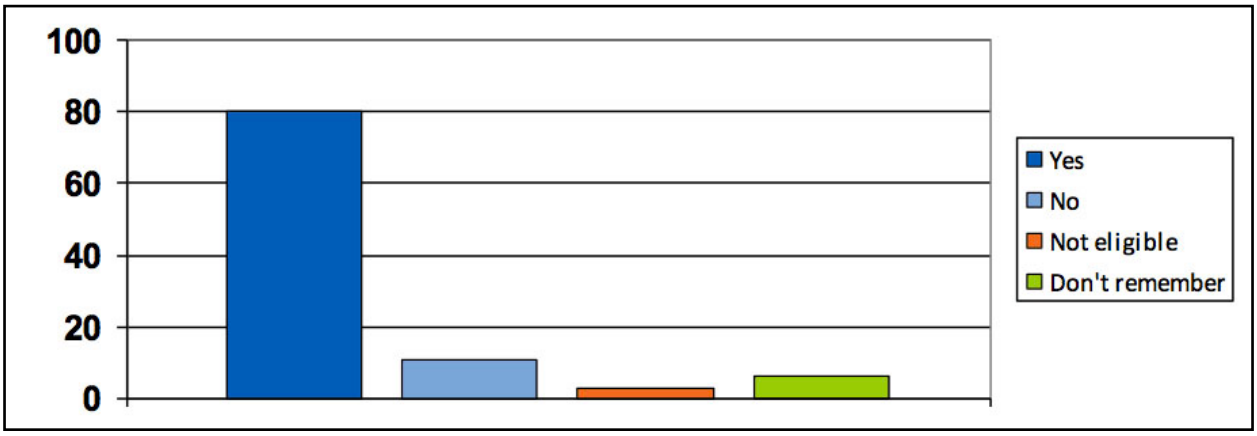
Past Voting Behaviour

Respondents were asked to recall whether they had voted in all government elections since they had become eligible to vote, Figure 8.

The majority of respondents said they had voted in all elections (municipal, provincial and federal) since they became eligible. Over 90 percent said they had voted in 'most' elections, with 60 percent of these reporting having voted in 'all' elections. This indicates that for most online voters the decision to use vote by Internet is one made by the regular voter and is consistent with the continual mention of "convenience" as the main reason for this choice.

Respondents were then asked if they had voted specifically in the past municipal election of 2010, Figure 9.

Figure 9: Reported voting behaviour in the 2010 municipal election



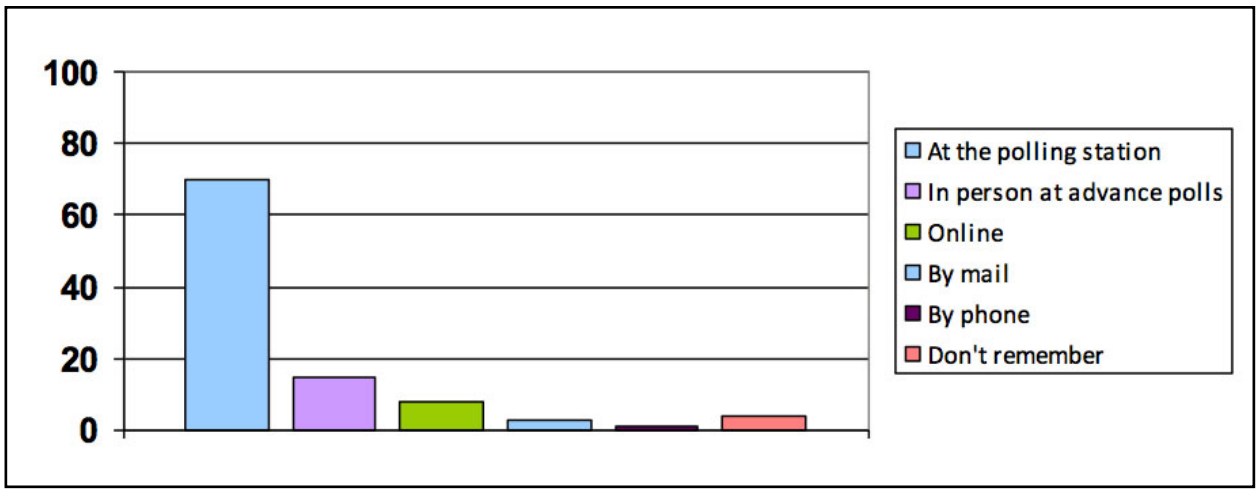
The vast majority of respondents, 80 percent, said they had voted in the past municipal election. Only 11 percent said they had not voted, 3 percent reported not being eligible, and 6 percent could not remember whether they had participated in the 2010 election or not. Respondents who said they did not vote were asked a follow-up question about why they had not voted. The most common responses included being 'too busy', 23 percent, not feeling sufficiently informed to vote, 21 percent, and not being present in the municipality to vote, 20 percent.

Although those that report having not voted in the previous municipal election are a modest group, it is interesting that the reasons many indicate as their basis for not voting had to

do with the accessibility or convenience of the voting options in 2010. Rationales such as being 'too busy', 'out of the municipality', 'voting locations being too inconvenient', 'mobility issues', 'transportation issues', and 'illness' comprise 58 percent of these responses. It could be that the perceived added convenience and/or accessibility of Internet voting encouraged these electors to participate in the 2014 election given that the remote voting method is intended to make the voting process easier and to counteract these types of explanations. To support this thinking we can look at responses from another question, which asked respondents whether they would have voted if Internet voting had not been offered. While 84 percent said they would have, 14 percent of online voters indicate they either 'definitely' or 'probably' would not have cast a ballot had it not been for Internet voting. This is a small group, but lends support for the fact that some voters find benefits in Internet voting which motivates their electoral participation.

Of those that report having voted in 2010, respondents were then asked how they voted in the past municipal election, Figure 10.

Figure 10: Voting method in the 2010 municipal election



The majority of respondents, 70 percent, report having voted at the polling station on Election Day in 2010. Fifteen percent of online voters voted in person at the advance polls, 8 percent voted online, and less than 5 percent voted by phone or mail[10].

Generally, online voters self-report as people who vote in most elections, voted in the past municipal election and for the most part voted using the traditional, in-person mode, either

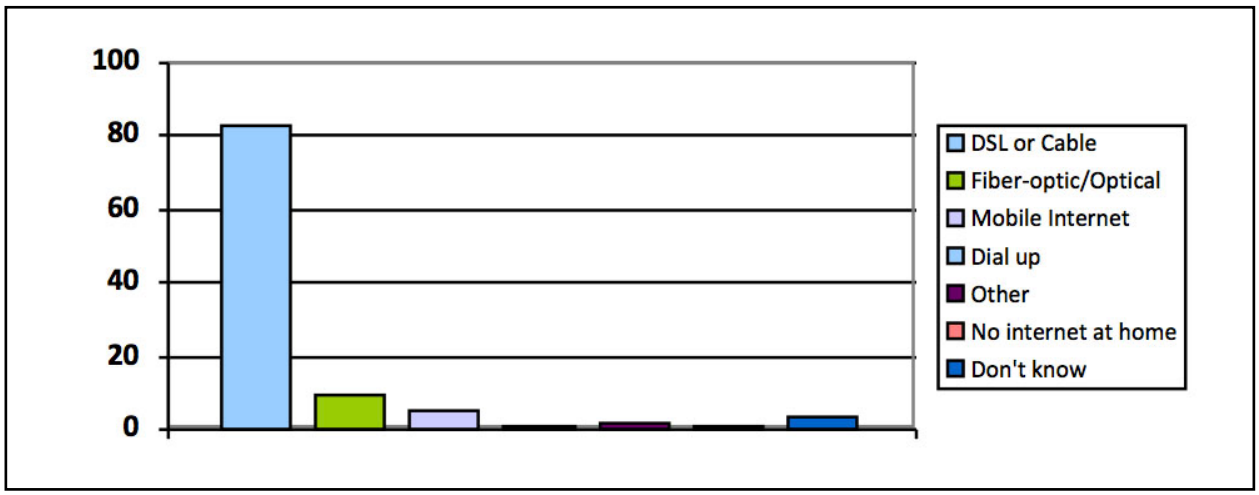
[10] 16 of the 43 municipalities that participated in this part of the research offered Internet voting to electors in the 2010 municipal election.

on Election Day or in the advance polls. Very few voters used other methods of voting in the past election. These individuals are relatively committed voters who would be likely to participate in elections regardless of the voting method. A small proportion, however, may have been motivated to participate because of the added convenience or accessibility they perceive remote Internet voting to offer.

Digital Literacy

Looking now to the perceived digital literacy of online voters and their access to an Internet connection, respondents were asked what type of Internet connection they have at home and how often they access the Internet, Figures 11 and 12.

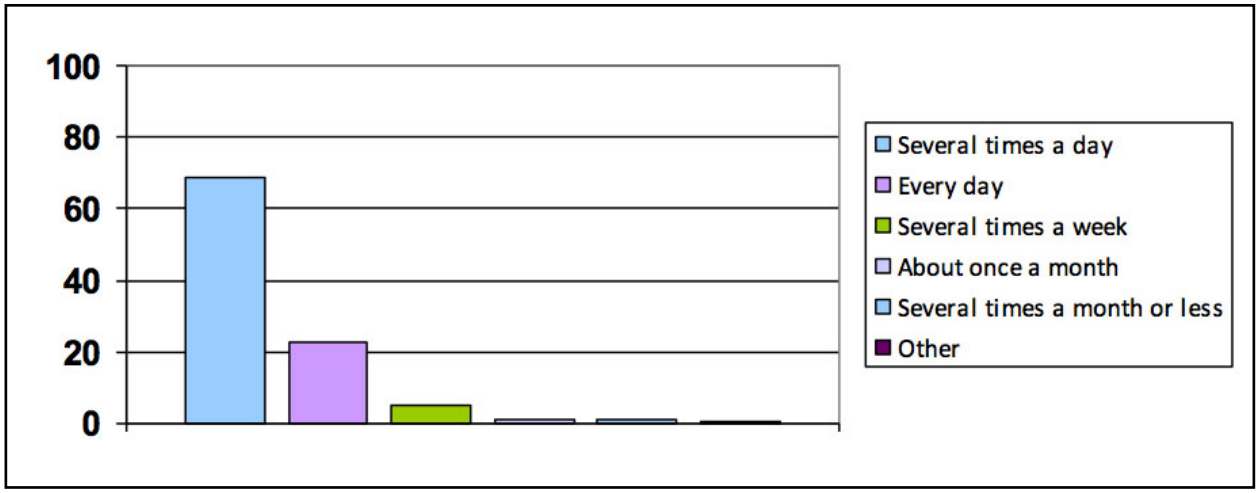
Figure 11: Type of Internet connection at home



The majority of respondents report having DSL or cable, 83 percent, (with 40 percent of these respondents indicating they connect their device wirelessly) or a Fiber-optic/Optical connection, 9 percent. A small percentage of respondents have a Mobile Internet connection, 2 percent. Less than 1 percent have a Dial-up connection and less than 1 percent say they do not have Internet access at home. Although we know that Internet penetration is quite high in Canada, and in Ontario specifically, it is important to question whether so few respondents said they do not have the Internet because penetration is just very high and so access is widespread, or whether Internet voting is more likely to attract voters who have access to an Internet connection at their home. If the latter situation is the case, certain electors who may not have access to these technological resources at their place of residence could be disadvantaged from using this method at election time. These electors could be disadvantaged because they have to travel to another location to access the Internet, have

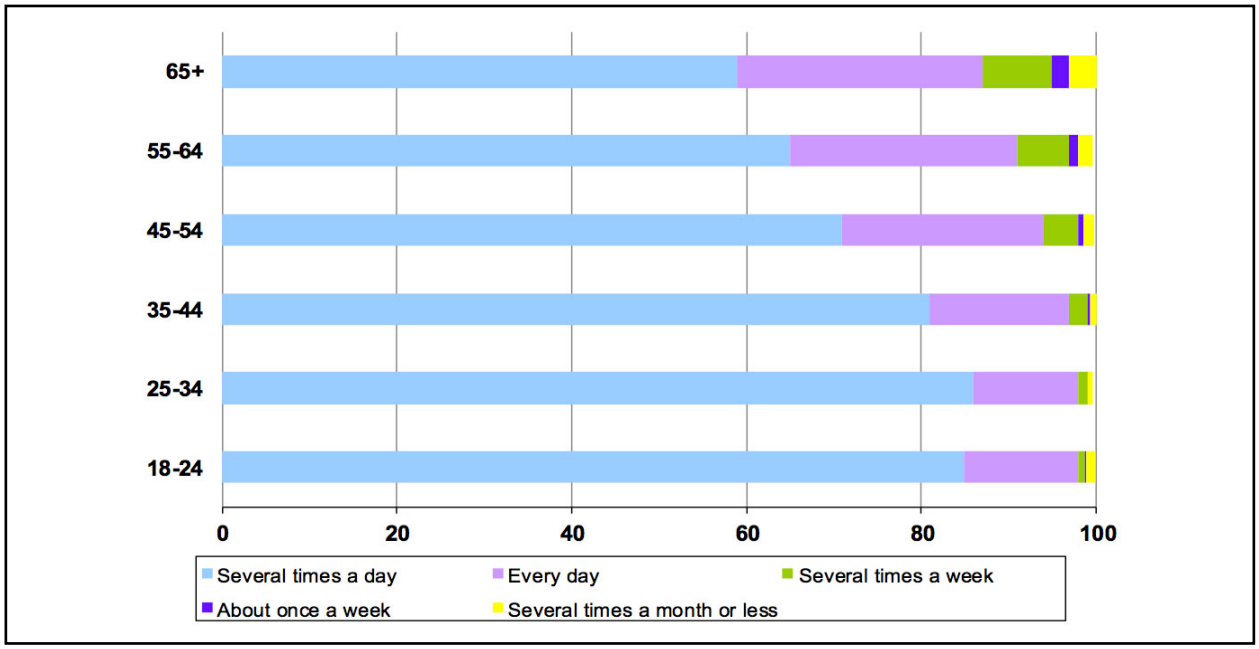
lower digital literacy because they do not have access to a regular connection at their home, or in the event that they do not have access to the Internet or electronic device outside of the home and are therefore unable to use the Internet voting service.

Figure 12: Reported Internet usage



When asked how often online voters use the Internet, not surprisingly a majority report being frequent users, Figure 12. Ninety-three percent report accessing the Internet at least every day, with 69 percent of these voters saying they access the Internet several times a day. Less than 2 percent of respondents report accessing the Internet once a month or less, suggesting that those who are active Internet users are more likely to make use of Internet voting when it is offered.

Figure 13: Internet usage by age*



*Totals may not add to 100 due to rounding Looking at Internet usage by age we see that while all age groups are likely to access

the Internet several times a day, younger online voters are more likely than older people to do so, Figure 13. In fact, 85 percent of the youngest online voters say they use the Internet several times a day, while 59 percent of the oldest category report using the Internet several times a day.

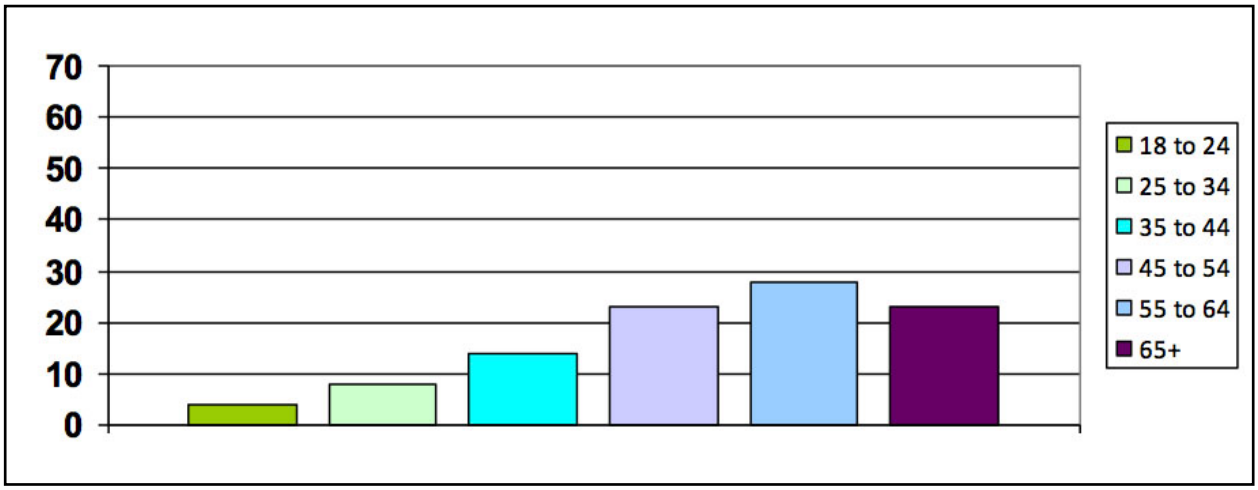
4.5 Sociodemographic profiles of Internet voters

Sociodemographic Characteristics

What are the personal characteristics of an Internet voter? Is he or she old or young, interested in politics, highly educated, married or single?

The average age of the online voter respondent is 53 years old, which is consistent with previous research examining age groups and use of Internet voting, Figure 14. The online voters in the survey ranged in age from 18 to 99 years. The majority of online voters are 45 years of age or older, 74 percent. Only 4 percent of online voters are aged 18 to 24 years, 8 percent are 25 to 34, and 14 percent are 35 to 44. Considering this data with information collected on age from municipalities that used Internet voting in past elections, it is clear that those over the age of 50 years are the most likely users of Internet voting. From this group, for example, 65 percent of Internet voter respondents report being over the age of 50 and 35 percent between the ages of 18 and 49 years.

Figure 14: Internet voters by age group



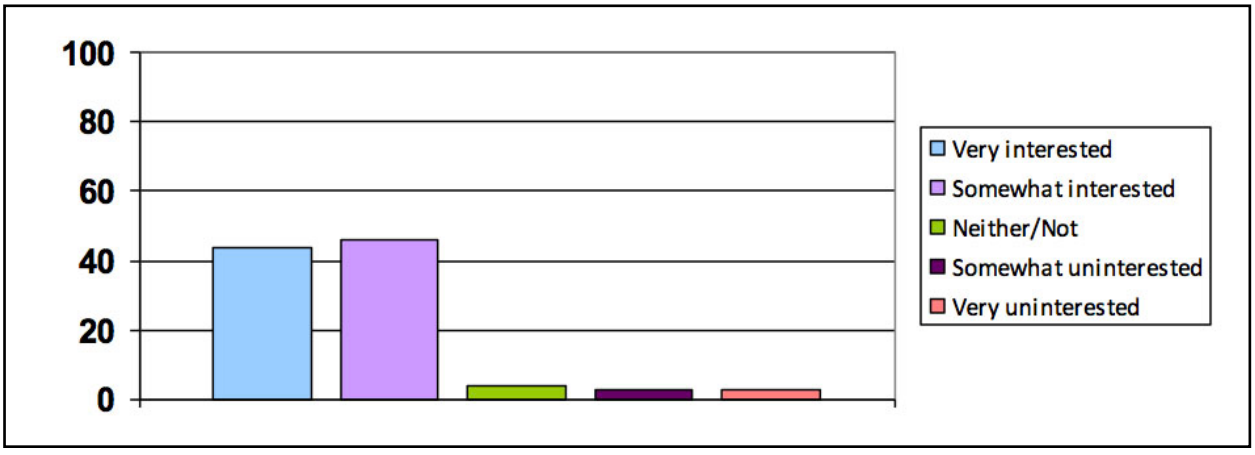
Considering these results in combination with previous research on age and Internet voting usage over the past four municipal elections in Ontario, it is clear that young people are not the primary users of Internet voting. This has less to do with the appeal

of Internet voting for youth (it does attract them) but is more a consequence of the non-voting behaviour of the age group. Put simply, young people vote less than their older counterparts and so are less likely to be users of Internet voting. If you do something less, in some cases far less, than other age groups it is no surprise that young electors in Ontario are not the primary users of the voting method. This is also consistent with the finding that online voters are typically committed voters – those that vote in all elections – which many young people do not.

In some ways it is rather reassuring that older voters are willing to cast their ballots online. There have been concerns expressed about older electors not having sufficient digital literacy or access to electronic devices with an Internet connection, which could be deterrents from using Internet voting. The fact that the largest portion of Internet voting users are over the age of 50 suggests that if these barriers are a factor they may not be marginalizing older electors as much as was originally thought. It could also be that older electors either have more access to the Internet, better digital literacy (or both), or are willing to make use of online voting in spite of these handicaps.

Turning now to the educational background of an Internet voter, we see that a majority of respondents have at least some university education, 57 percent, and report an annual household income of over $80,000, 58 percent. Seventy-two percent of respondents are married and report living in an urban or suburban area. Finally, with respect to gender, 55 percent of the online voters in the survey were female and 45 percent were male. These results indicate that the Internet voter is, on average, likely to be more educated, wealthier, married, and live in an area with denser housing.

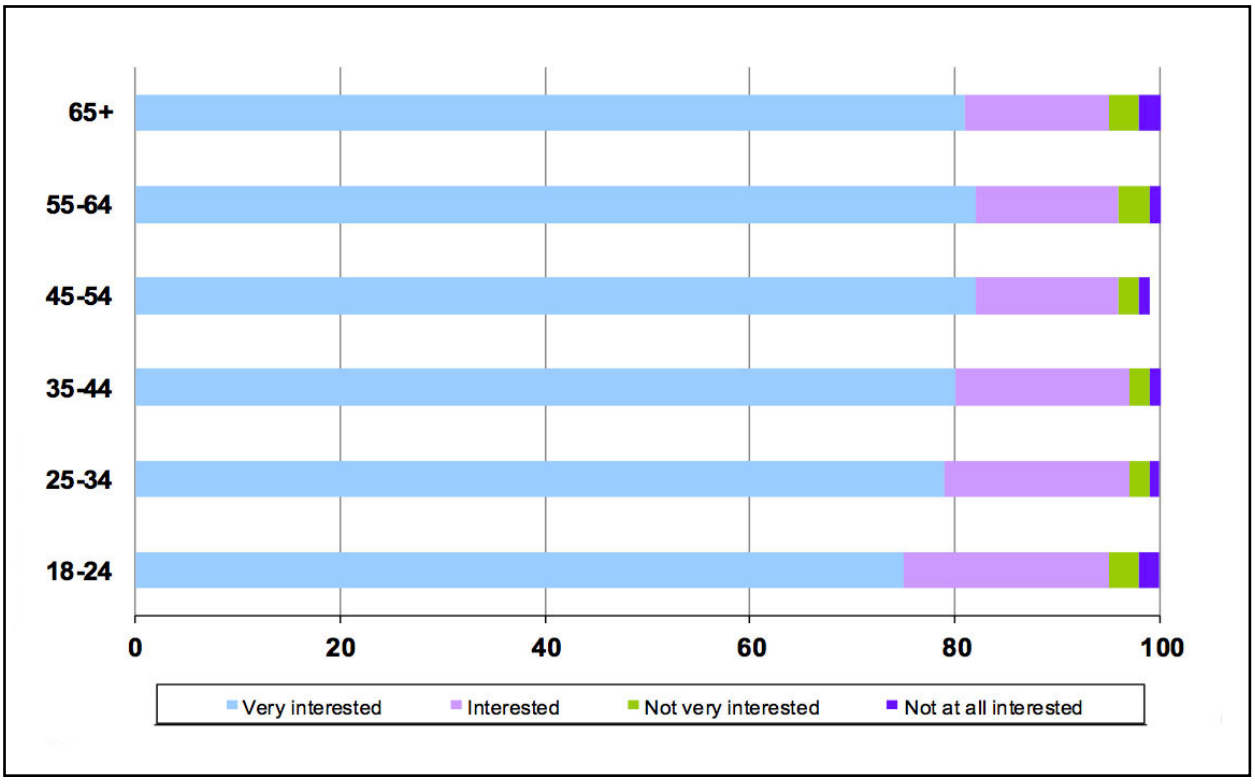
Figure 15: Interest in politics



Finally, interest in politics is useful to understand voting and non-voting behavior as well as the profile of voters. Figure 15 illustrates responses to the question, 'How interested in politics are you?'

The majority of respondents report being at least 'somewhat' interested in politics, 89 percent. Forty-four percent of respondents say they are very interested in politics. Only 6 percent of respondents indicate they are 'somewhat' or 'very' uninterested in politics. Typically those that shy away from voting or other acts of political participation exhibit lower levels of interest in politics. The fact that this group reports a strong interest for politics is consistent with the fact that they report being habitual voters and suggests that this is a relatively engaged group of citizens. This is not a surprising finding for advance voters, who are typically engaged, and makes sense since a lot of online ballots are cast during the advance voting period.

Figure 16: Interest in politics by age*



*Totals may not add to 100 due to rounding Knowledge of computers and the Internet

Taking a look at interest in politics by age, older online voters are more likely than younger ones to say they are interested in politics, Figure 16. Eighty-one percent of people over the age of 65 say they are 'very interested' in politics while 75 percent of the youngest age

category, 18 to 24 year olds, say they are 'very interested' in politics. It is important to note, however, that the majority of all age groups say they are very interested in politics. These differences in levels of interest by age are consistent with previous research which shows that younger electors are less likely to be as interested in politics as their older counterparts. The fact that these young online voters express strong levels of interest in politics implies that they are a relatively engaged group.

Knowledge of Computers and The Internet

An additional factor in the Internet voting experience is computer and Internet knowledge, Figure 17. Of the Internet voters surveyed, 85 percent agree they have good knowledge of computers and the Internet. Only 5 percent of Internet voters disagree with the question.

Taking a look at agreement with this statement, by age, younger voters 34 years and under are much more likely to strongly agree that they have good knowledge of computers and the Internet, Figure 18. This is consistent with results on reported Internet usage among online voters and shows that the youngest voters have the strongest digital literacy profiles. While older online voters are slightly less confident in their knowledge of computers and the Internet they remain the biggest users, suggesting that self-assurance of understanding electronic devices and the Internet does not have to be very strong for electors to use the Internet voting option. While these findings support the fact that for the most part Internet voters have reasonable digital literacy, they also highlight that older voters are willing to cast their votes online in spite of lower confidence in their knowledge of the technology.

Figure 17: I feel I have a pretty good knowledge of computers and the Internet

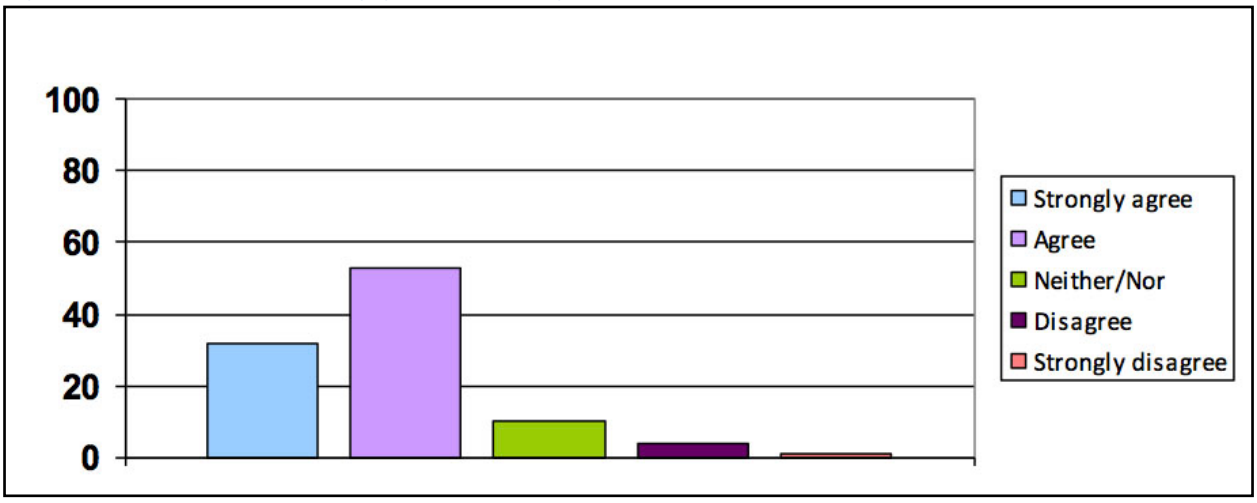
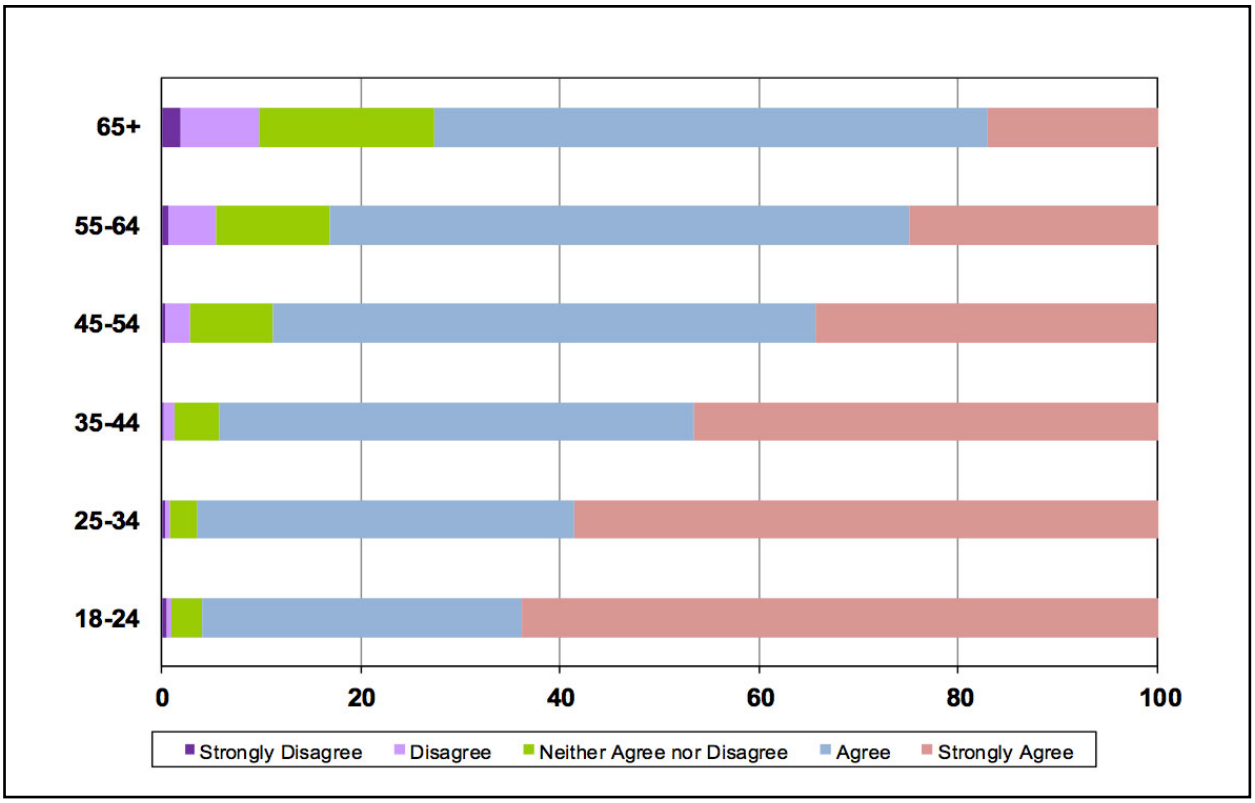


Figure 18: Knowledge about computers and the Internet by age



4.6 Section summary

To summarize, Internet voters are very satisfied with the voting method and express strong support for its continued use in local elections and elections at higher levels of government. A majority of voters cast their ballots online remotely from home because it is convenient. When offered alongside other ballot types, voting online is the preferred voting method. This last point is true in a majority of communities that offered Internet voting in 2014, including those that participated in this study.

In terms of profiling, a majority of online voters are educated, wealthier, married, and live in urban and suburban settings. The largest proportion of online voters are over the age of 50 years, interested in politics, and report relatively committed voting histories, suggesting that most probably would have voted without online voting. It is interesting to note, however, that a modest group, 14 percent, of online voters did say that they 'probably' or 'definitely' would not have voted if Internet voting had not been in place. Finally, the online voter has a good knowledge of computers and the Internet, uses the Internet frequently, and has access to a connection from their home.

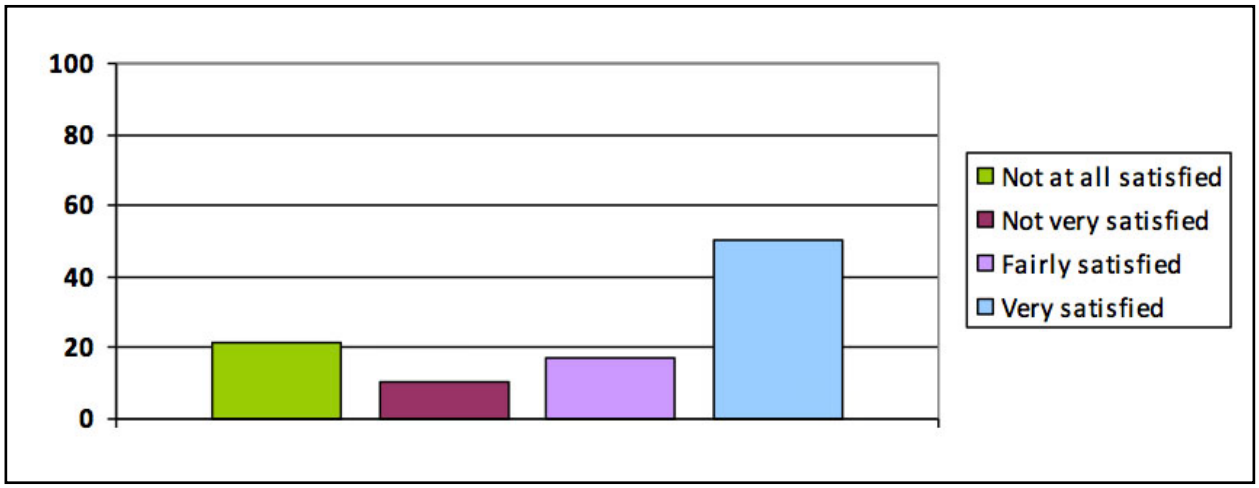
5. PAPER VOTERS

This portion of the report explores what we can learn about paper voters and their opinions about Internet voting based on the information collected in this study.

5.1 Satisfaction with the in-person, paper ballot voting process

In contrast with the extremely high levels of satisfaction of the online voters, those that voted in-person using paper ballots say they are generally satisfied with the process, Figure 19. Sixty-eight percent of paper voters report being 'very satisfied' or 'fairly satisfied' with the voting process (compared to 95 percent of Internet voters). Thirty percent of respondents said they were either 'not very satisfied' or 'not at all satisfied' with the process.

Figure 19: Satisfaction with the paper ballot voting process



On the whole then, Internet voters report being more satisfied with the voting method than those who cast ballots by paper, albeit a majority of both groups of voters report being satisfied. The greater satisfaction of Internet voters could be a consequence of the perceived convenience of the method.

5.2 Impressions of online voting

When asked whether they were aware Internet voting was offered in the 2014 municipal election, the overwhelming majority (89 percent) said they knew about it. This suggests that many of these voters made a conscious decision to not use online ballots and instead opt to vote by paper. When looking at the proportion of satisfied voters with awareness of the

Internet option, 72 percent of those who said they were not satisfied with the process said they were aware of the option. Of this group over half, 53 percent, said they would have been somewhat or very likely to have voted by Internet.

Generally, paper voters were satisfied with the voting process and were aware of the Internet option. Since these voters were aware of the voting options it is important to understand their objections to voting online. Respondents were asked about their top concerns of Internet voting, Figure 20.

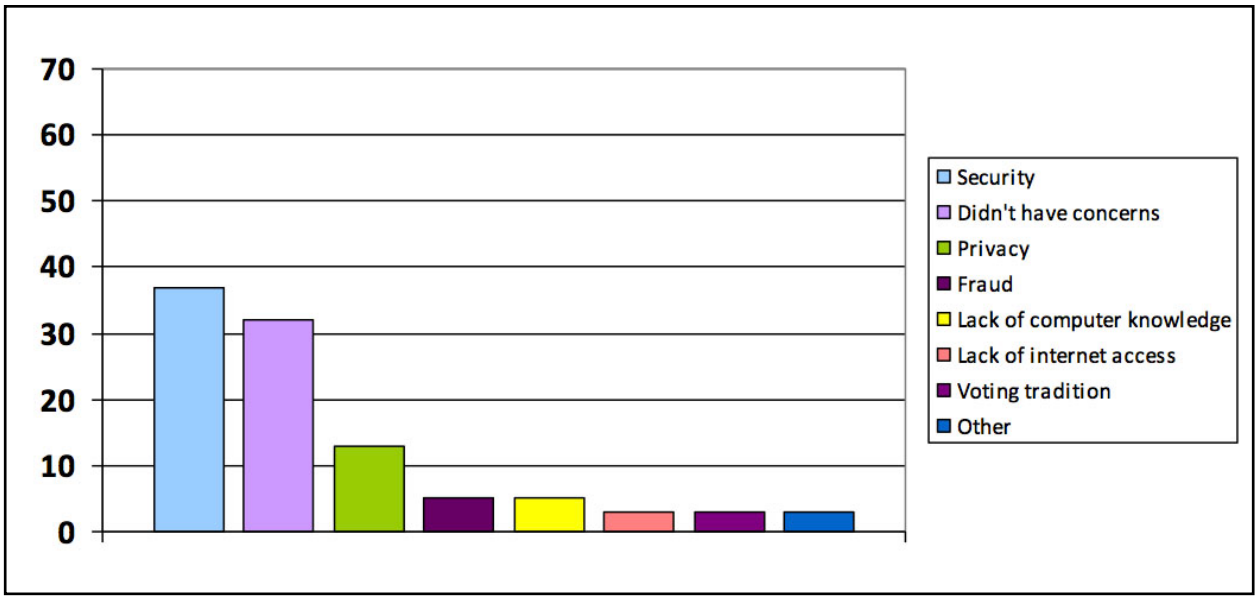


Figure 20: Do you have concerns about Internet voting and if so, what is your top concern?

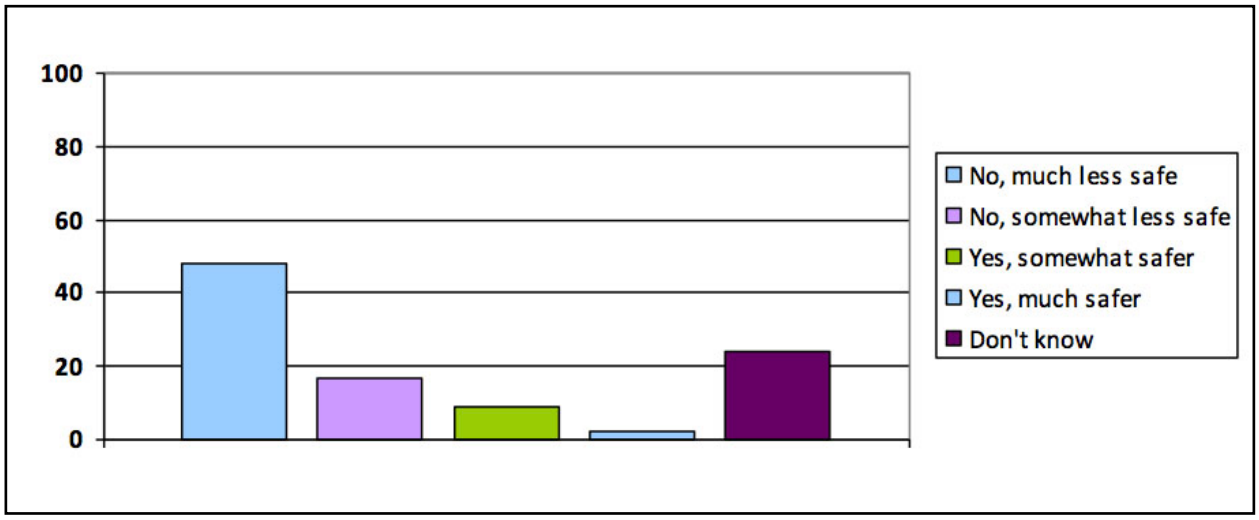
The top concern expressed by voters was issues related to security of the voting process, 37 percent. Next, nearly one-third of respondents, 32 percent, reported having no concerns about the technology. A smaller percentage, 13 percent, said they had concerns about privacy. Concerns such as fraud, lack of computer knowledge, insufficient Internet access, or loss of the voting tradition were identified, albeit to a lesser extent as they each occupied less than 5 percent of responses. These results suggest that some voters are not voting online because of these concerns and that they are areas, particularly security and privacy, wherein governments should evaluate the risks and mitigate them if possible when considering adoption. The fact that nearly one-third of respondents express no concern about voting online is interesting and raises questions about why they did not use it. While a small percentage of those who do not have concerns were not aware of the voting option, others remarked they did not use Internet voting because they "forgot" or "waited too long", received a late voter card, were

not on the voters' list, needed to change their address, or had not decided on their preferred candidates by the Internet voting deadline[11]. Not being on the voters' list, not receiving a timely voter card, or requiring other administrative changes (e.g. change of address) could be barriers to accessing online ballots.

Turning back to security, respondents were asked about the perceived safety of other remote voting methods, such as voting by telephone and mail-in ballots, in comparison to Internet voting. When asked if they thought telephone voting was safer than Internet voting 66 percent said they believe telephone voting to be less safe than voting by Internet, Figure 21. Twenty-three percent of this group said they did not know whether it was safer or not, and 11 percent said they thought voting by telephone was more safe.

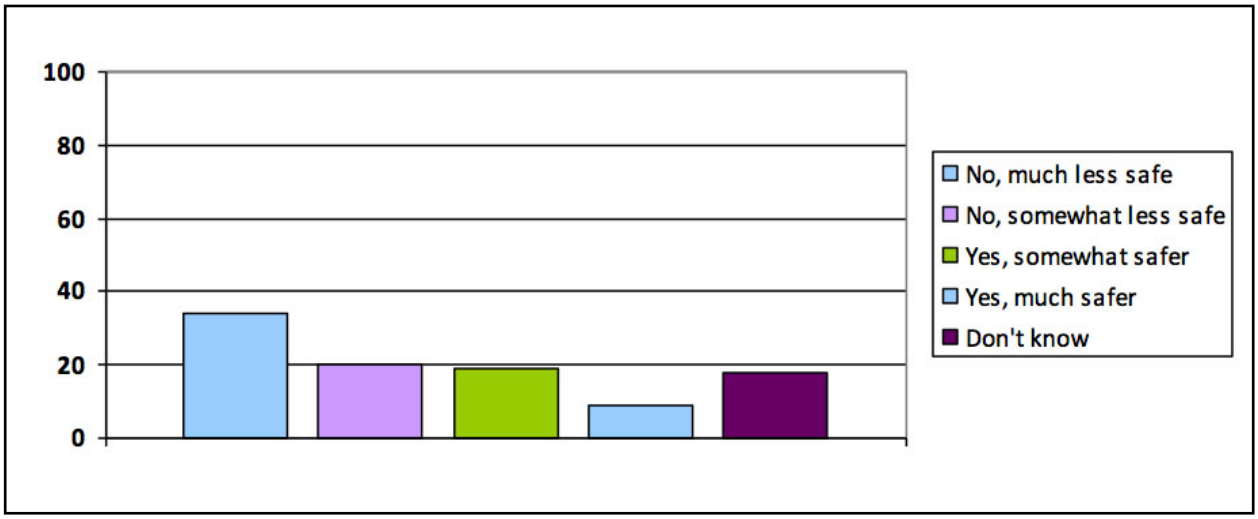
Asking about mail-in ballots, by comparison, 54 percent of respondents said they believe voting by mail is less safe than by Internet, 28 percent feel it is safer, and 18 percent were not sure, Figure 22. With respect to remote voting options then, the majority of paper voters surveyed in this study express that they believe Internet voting to be the safest of these alternatives. This finding is consistent with the fact that when Ontario voters are offered a combination of these three voting methods, they overwhelmingly choose the Internet method to cast their ballot municipally.

Figure 21: Do you perceive telephone voting to be a safer option than Internet voting?



[11] The persons impacted by a 'deadline' came from communities where Internet voting was offered in the advance poll portion of the election and not on Election Day.

Figure 22: Do you perceive mail-in ballots to be a safer option than Internet voting?



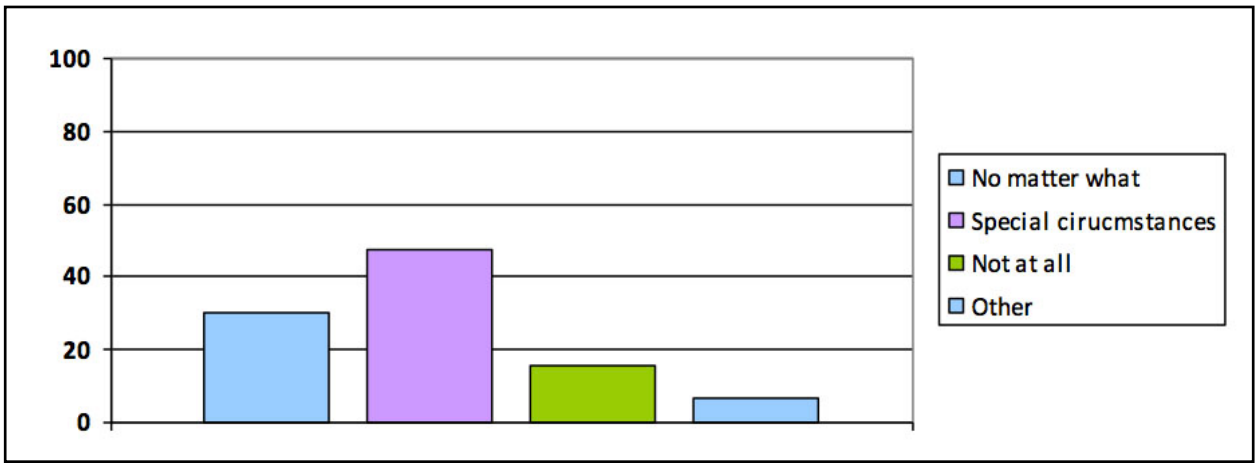
5.3 Would paper voters use Internet voting in the future?

It is helpful to know if those that vote by paper are committed to that voting method, or if they would be willing to vote online in a future election, Figure 23. To get a sense of this willingness respondents were asked whether they would be inclined to vote online under particular circumstances. Forty-seven percent said they would use Internet voting in a future election under special circumstances such as in cases of illness, inclement weather, mobility issues, or because they were traveling. This speaks to both the convenience and accessibility of Internet voting as a remote voting method, which can make casting a ballot easier in situations where an elector is not able to make it to the polls. About one-third (30 percent) of respondents said they would use Internet voting in future 'no matter what' and 16 percent commented they would not use it at all. While some paper voters are inclined to vote by Internet in a future election then, the majority of this group would elect to make use of the voting method under particular situations where they could not physically make it to a poll location. A smaller group would not use the voting method under any circumstances and is committed to the traditional approach. The fact that a majority of these voters say they would make use of online ballots suggests it is a useful alternative voting method to ensure voting is convenient, but also accessible for electors who may face special conditions at election time.

Respondents were then asked about the main reason they would opt to vote online. The primary explanation given was 'convenience', 64 percent, which is consistent with the main

reason Internet voters give for making use of the voting method. A further 8 percent said they would be inclined to vote by Internet because of its added accessibility. Twenty-two percent emphasized they would not vote online. Clearly, while the accessibility of Internet voting is perceived as a benefit, the primary reason Internet voters choose to cast online ballots and the main motive for paper voters to use the electronic voting method is the perception of added convenience. This may be an important consideration for governments thinking of adopting Internet voting in future elections.

Figure 23: Under what circumstances would you use Internet voting in a future election?



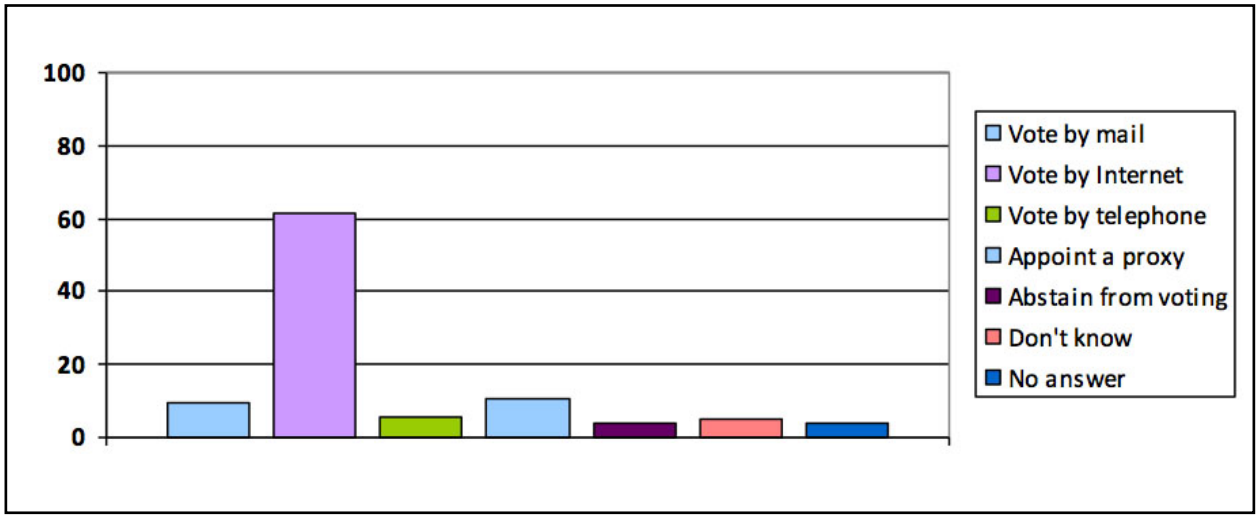
Finally, paper voters were questioned about their preferred method of voting in the event that they could not make it to the polls physically on Election Day, Figure 24. Sixty-four percent said they would vote by Internet, 11 percent would appoint a proxy to vote on their behalf, and another 10 percent indicated they would vote by mail. A smaller percentage, 6 percent, would be inclined to vote by telephone, and 4 percent said they would abstain from voting altogether.

Overall, a good portion of paper voters says they would use Internet voting in a future election, especially if faced with special circumstances that prevented or limited them from physically attending a polling location. In fact, if not able to attend the polls and faced with all the remote voting options available in Ontario municipal elections currently, a majority of these voters would pick the Internet option as the preferred method to cast their ballot. This suggests that the perceived convenience and accessibility Internet voting provides could be important for enabling voting rights in cases where an elector finds themselves unable to visit a poll personally. There are also a good number of respondents (one-third) who, for

one reason or another, simply missed out on the service this time around but look forward to trying it in the future.

Finally, it is important to note that a small percentage of paper voters are unwilling to use Internet voting in any circumstance and prefer to cast their vote by paper at a polling station. To ensure voters of all types are accommodated these results suggest that eliminating paper voting altogether in favour of a solely electronic election might leave some voters feeling excluded and unhappy with available voting methods, which may limit perceived accessibility of the voting process. This finding is consistent with responses from a majority of municipal candidates who, while supportive of Internet voting as a complementary voting method, are not in favour of having online voting as the only method available at election time.

Figure 24: If you were unable to make it to the polls would you prefer to…



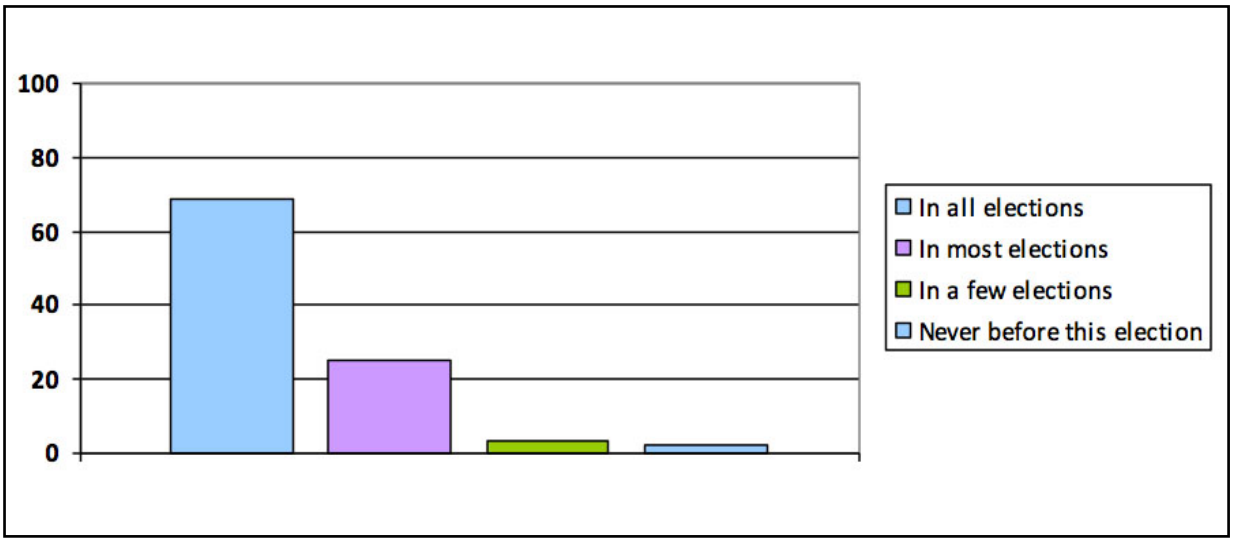
5.4 Paper voter profiles: Past voting behaviour and digital literacy

Past Voting Behaviour

To learn more about their profiles as voters, respondents were asked about their voting histories; specifically how frequently they had voted since they became eligible, Figure 25. Ninety-four percent indicated they had voted in 'most' elections, with 69 percent of this group reporting having voted in 'all' elections. Responses suggest these persons are regular voters. Responses from Internet voters asked the same question were similarly high, although not quite as strong. It may be that a slightly greater proportion of regular voters are attracted to paper ballots compared with those who are inclined to vote online. This difference is

also supported by the fact that a modest proportion of Internet voters say they 'definitely' or 'probably' would not have voted had the Internet option not been available in the 2014 municipal election.

Figure 25: Reported voting record in past elections

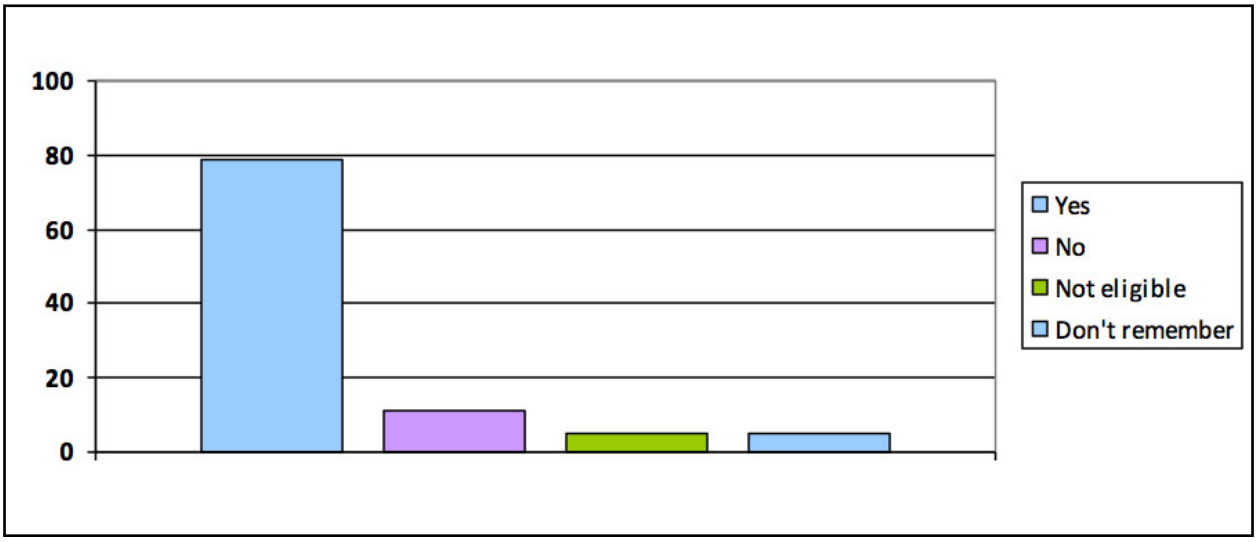


When asked about voting in the 2010 municipal election specifically, a majority of respondents said they had participated, 79 percent, while 11 percent said had not voted, Figure 26. Five percent could not remember and an additional 5 percent reported not being eligible to vote. These percentages are very similar to the data collected from Internet voters for this same question.

Among those paper voters who said they did not vote in 2010 the following reasons were cited most frequently for not participating: not in the municipality or out of the country, 18 percent, not feeling informed about candidates or elections issues, 18 percent, not being on the voters' list, 15 percent, and being too busy, 10 percent. There are some small differences between paper ballot and Internet voters that reported not having voted in the 2010 municipal election. Namely, Internet voters were more likely to say they had not voted because they were 'too busy' and a small percentage more said they had not been in the municipality to vote. Certainly, the option of remote Internet voting from home has been communicated by electors as making the voting process more accessible when they are out of town and when being busy may prevent them making from it to the polls. Issues such as not feeling informed about candidates or election topics, or administrative issues such as not being on the voters' list are not addressed by the option of the voting method. That said, a

number of Internet voters commented in the open-ended questions of the survey that they felt voting from home by Internet allowed them to research candidates and platforms more thoroughly than under traditional circumstances.

Figure 26: Reported voting behaviour in 2010 municipal election



Digital Literacy

Looking now at perceived digital literacy of paper voters, respondents were asked about the quality of the Internet connection they have at home, if they have one, and how frequently they use the Internet.

The majority of respondents said they have access the Internet via DSL or cable, 72 percent, Figure 27, with 40 percent stating they access their Internet with a wireless device. A smaller group, 15 percent, report having a fiber-optic Internet connection, 2 percent have mobile connections, and 1 percent use dial-up. Six percent of voters surveyed said they do not have the Internet at home. Access to home Internet for paper voters is somewhat consistent with Internet voters' access. A majority of respondents from both groups (Internet and paper voters) report having Internet access at home via wireless or DSL connections, with a smaller proportion subscribing to a fiber optic connection. There is a 5 percent difference, however, for those who claim they do not have Internet access at home, with paper voters reporting less access. Albeit very small, this could mean access to the Internet is an issue for some voters and may be why they choose to vote by paper.

When it comes to use of the Internet, paper voters report accessing it less than Internet

voters but can still be considered regular users of the technology. Eighty-two percent, for example, said they use the Internet every day, 57 percent of which access the Internet several times daily, Figure 28. Eight percent of paper voter respondents said they use the Internet once a month or less (7 percent of this group reporting they do not use it at all) compared to 2 percent of Internet voters. This tells us that active Internet users are still drawn to paper voting, but are slightly less engaged with the technology than those who voted by Internet. A small percentage of paper voters do not access the Internet, which might suggest digital literacy plays a role in voting method selection for those electors.

Figure 27: Internet connection at home

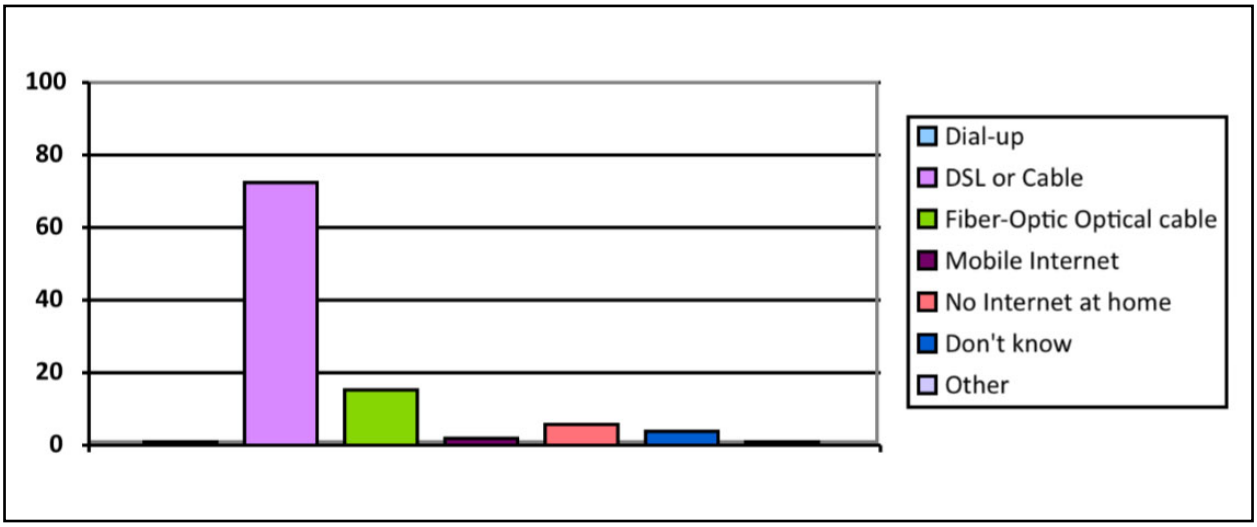
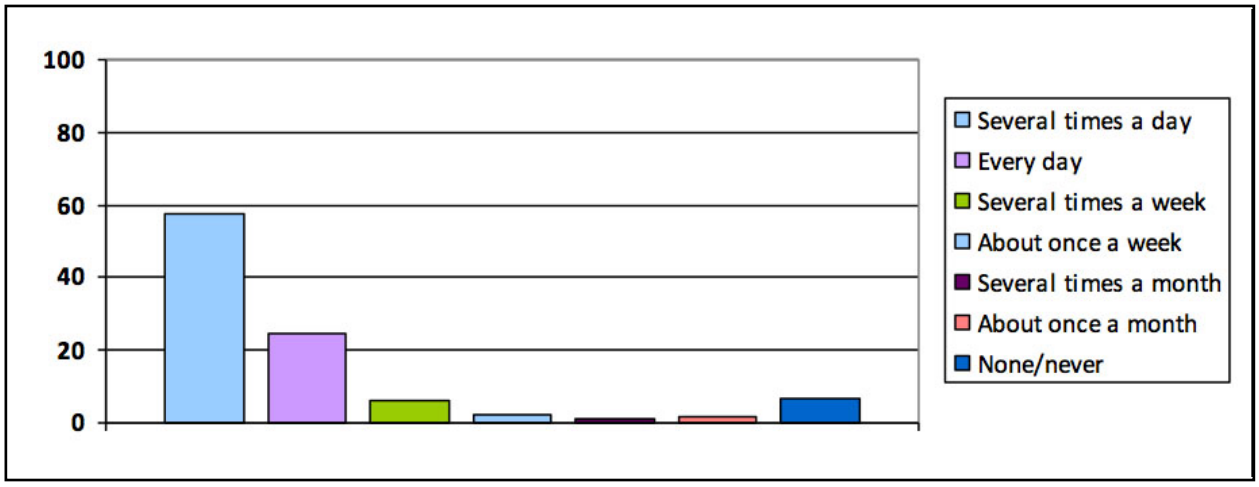


Figure 28: Frequency of Internet access

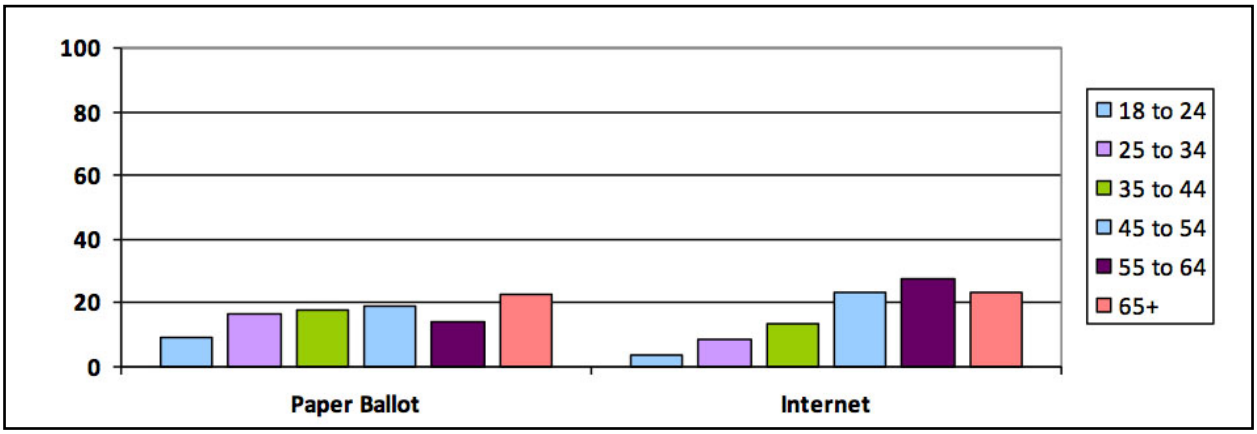


Generally, paper voters have fast Internet connections at home and are regular users of the Internet, however, connectivity at home and frequency of Internet use is not quite as strong as it is among those that voted by Internet in the 2014 Ontario municipal elections.

5.5 Socio-demographic profiles of paper voters compared to Internet voters

Finally, what are the socio-demographic characteristics of paper voters and, after looking at the profile of Internet voters, how do these two groups compare? This section outlines the profile of paper voters as observed in the municipalities of Guelph, Markham, Springwater, and Sudbury at the polls on Election Day and compares the information collected from those who responded to the Internet voter survey in the 43 participating municipalities. Analyzing responses from four communities with those offered from voters in 43 may not allow for a direct comparison, but is is helpful in understanding basic demographic differences between the two types of voters and gaining insights as to what these might be on a larger scale.

Figure 29: Age comparison of paper and Internet voters



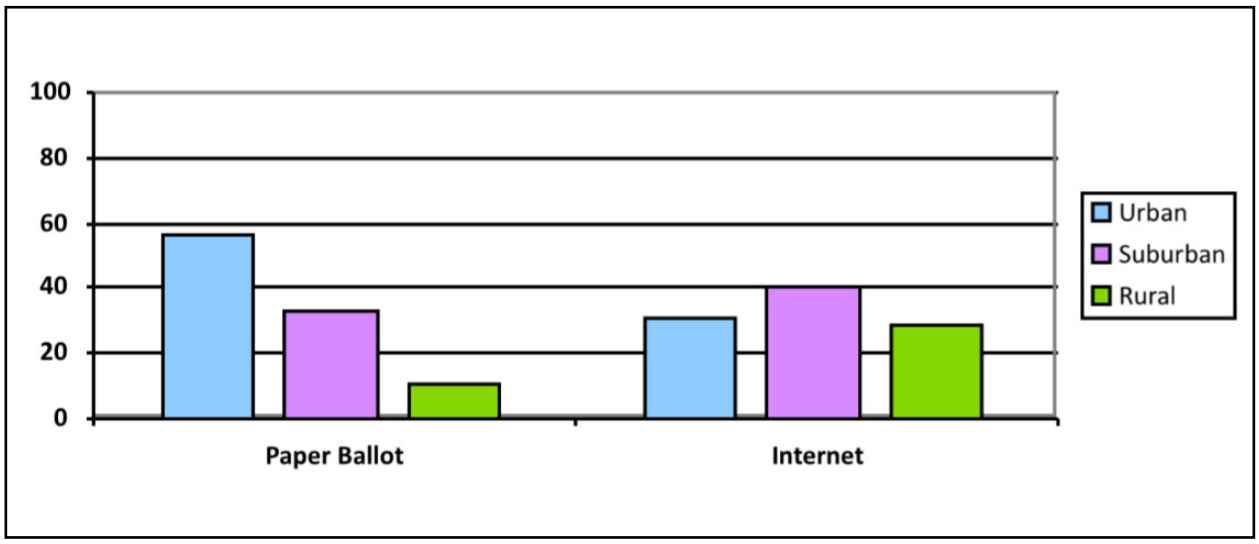
Fifty-three percent of paper voters surveyed were female, and 47 percent were male. The average age of a paper voter respondent is 44 years, which is slightly younger than the average age of an Internet voter (53 years). Looking at the percentage of voters by age group it is interesting to observe that, of those surveyed, voters under 44 years of age were more likely to vote by paper, while those over the age of 45 years voted more frequently by Internet, Figure 29. As noted earlier this casts doubt on theories that older electors are not as drawn to Internet voting as younger ones, and speculation that the youngest electors would be the biggest users of the voting method. These results are supported with data from Ontario municipalities that have used Internet voting in past elections. After four consecutive municipal elections, it is reasonable to conclude that in Ontario older electors embrace Internet voting more so than young ones. Part of this has to do with the fact that young people vote less overall than their older counterparts and so use any voting method

less frequently. It is interesting though that, of those surveyed in this study, younger people (in the communities of Markham, Guelph, Springwater, and Sudbury) made more use of paper ballots than they did of Internet voting in the 43 participating municipalities.

In terms of education and income, the average paper voter surveyed had completed technical or community college and reports an annual household income between $60,000-$79,999 before taxes. The average respondent is also married, 59 percent, and say they live in an urban or suburban area. This group is somewhat less educated than the average Internet voter and falls into a slightly lower household income bracket. The majority of respondents in both groups report being married and residing in areas that are urban or suburban.

Looking more closely at the data regarding the type of area voters report living in we see that a much larger number of urban voters cast their ballots by paper, while a greater proportion of suburban or rural voters were inclined to vote by Internet, Figure 30. Although rural voters were not the biggest users of either method, they were much more likely to opt for Internet voting. This could be because voters living in rural areas often have to travel farther to the polls than those living in urban centers and so voting remotely from home or work is more convenient, and in some cases, more accessible.

Figure 30: Area paper and Internet voters reside in



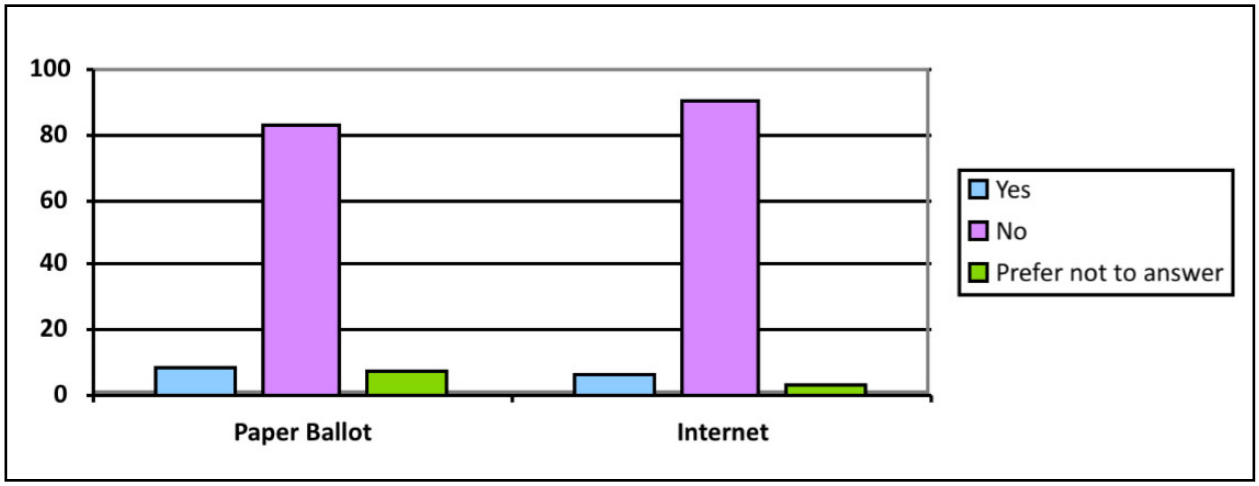
Although this needs to be investigated further, the fact that urban voters made much less use of Internet voting (25 percent difference) and rural voters from the sample gravitated more towards Internet voting (18 percent difference) suggests the added ease of access

remote Internet voting offers might appeal more to those who are less likely to live in areas with public transit and have a longer travel distance to poll locations. Living in an urban centre likely means voters are closer to poll locations and have better public transportation to get there, lowering the opportunity cost of traveling to a polling station.

Impact on Those with Disabilities

Finally, voters from both surveys were asked if they self-identified as having a disability. Part of the rationale for asking this question was to see if persons with disabilities were more inclined to vote by Internet based on its perceived added accessibility, and in some cases because the addition of certain applicators can provide persons with disabilities with greater privacy. Nine percent of paper voting respondents reported having a disability compared to 7 percent of those that voted by Internet, Figure 31. Although more paper voters indicated they prefer not to answer, the percentage of persons self-identifying as having a disability is close between the two groups not suggesting a particular affinity to one method or the other.

Figure 31: Paper and Internet voters identifying as having a disability



Respondents from each voter group were also asked questions about whether they felt the method of voting they used was accessible. In response to the statement "Voting in-person at the polls by paper ballot is accessible for me" 71 percent of respondents agreed, while 24 percent disagreed. Internet voters, by contrast, were asked the degree to which they agreed with the phrase, "Being able to vote online made the voting process more accessible for me." Seventy-seven percent of Internet voters agreed that the option of casting a ballot online made the voting process more accessible for them, while 9 percent said it did not. This tells

us that a majority of those voting by paper ballot at the polls believe this method of voting is accessible for them, but about one-quarter of respondents disagree that it is, suggesting work could be done to improve voting accessibility at paper poll locations. Although asked a different question about perceptions of access, a majority of Internet voters report that this option enhanced their accessibility of the voting process, making casting a ballot easier.

5.6 Section summary

Overall, paper voters are satisfied with the voting method, albeit considerably less so than those who used the Internet voting method. The top concern regarding voting by Internet for this group is security of the voting process, although there is a similar sized group that reports having no concerns. Of the remote voting methods available, paper voters perceive Internet voting to be the safest option. Many of them would vote online in a future election, especially in cases where special circumstances arose and they could not as readily make it to a traditional poll location. There remains, however, a small group that is not inclined to use Internet voting and for whom it would be important to maintain traditional voting methods. Maintaining traditional methods will also ensure voting accessibility is being facilitated for those without access to Internet.

Generally, paper voters are slightly more likely to have committed voting histories than Internet voters and report marginally weaker digital literacy. These voters are more likely to live in urban centers, are younger, somewhat less educated, and fall into a lower household income bracket than their Internet voter counterparts. An important point for consideration is how much more likely those who chose to vote by Internet were to come from rural areas. This point merits further investigation and is something governments should take into account when planning for elections and accommodating electors from different areas. Finally, although Internet voters were slightly more likely to believe that voting online made the voting process more accessible, similar proportions of paper and Internet voters felt the respective voting methods were accessible for them. This is consistent with the mention of convenience as the primary reason for voting online and again should be a consideration as governments decide whether to introduce online voting or not.

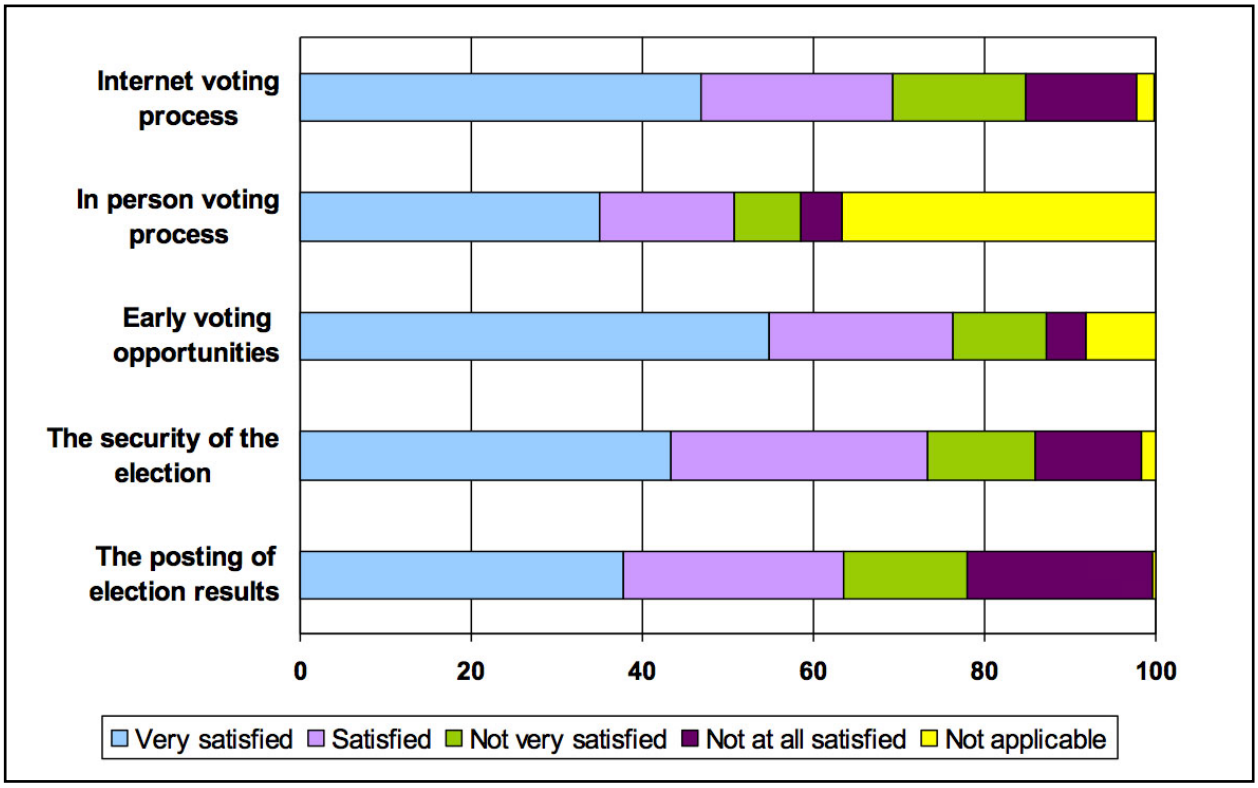
6. CANDIDATES

This portion of the report explores what we can learn about candidates' experiences and opinions regarding the use of Internet voting in the 2014 Ontario municipal election.

6.1 Satisfaction with the online voting process

Candidates in the 2014 municipal election report high levels of satisfaction with the voting process on a number of dimensions, Figure 32.

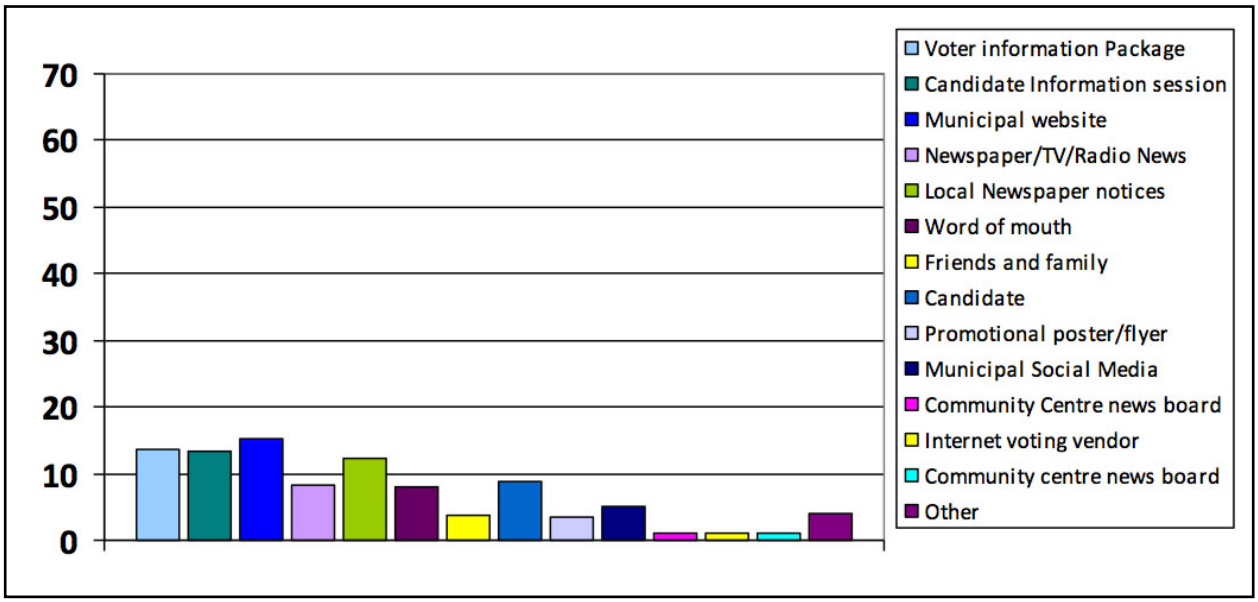
Figure 32: Satisfaction with online voting process



- 69 percent of candidates report being satisfied with Internet voting process (47 percent say they were 'very satisfied').
- Although 36 percent of candidates say the in-person voting process was not applicable to them, of those that it was applicable to, 80 percent were satisfied with the process.
- Over 75 percent of candidates surveyed say they were satisfied with early voting opportunities.
- 73 percent of candidates were satisfied with the security of the election.
- 64 percent of candidates were satisfied with posting of election results.

Candidates were asked whether they were aware Internet voting was available in the 2014 municipal election in their municipality. Almost all of the candidates who responded to this question, 99 percent, said they were aware of it. For candidates that said they were aware of the Internet voting option there was a follow-up question asking where the candidate had heard about online voting, Figure 33.

Figure 33: How did you hear about Internet voting for the 2014 municipal election?



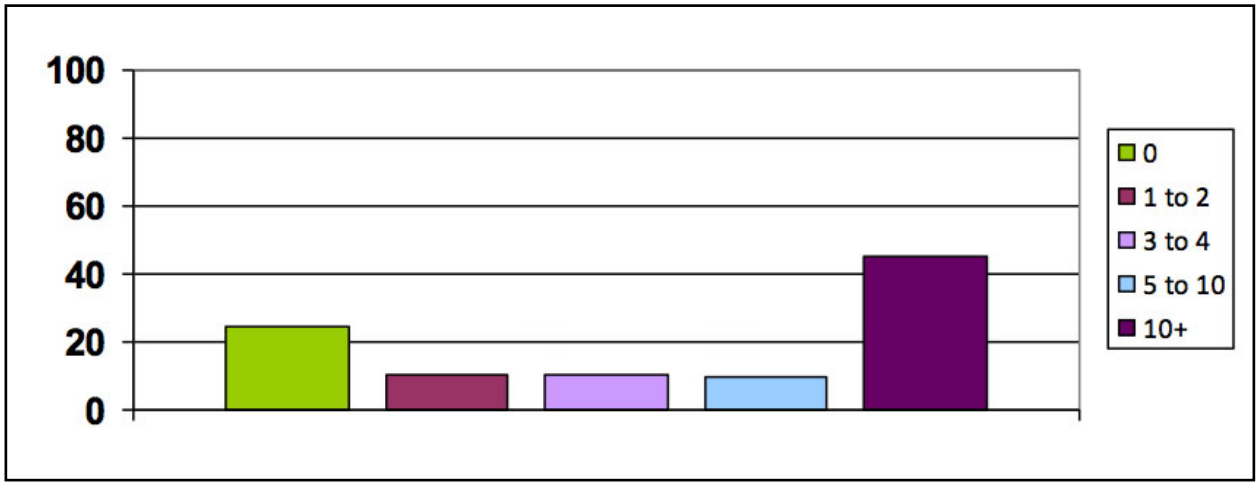
Candidates heard about Internet voting from a range of sources. The most popular information source was the municipality website, 16 percent, followed by the Voter Information Package (VIP),14 percent, the candidate information session, 13 percent, and local newspaper notices, 12 percent. Newspaper, TV, and radio articles or clips, 8 percent, as well as word of mouth, 8 percent, were also among these more popular information options. This suggests that information sources administered by municipalities (e.g. the local government website, VIP, and candidate information session), or initiated by them (e.g. newspaper notices) are important for educating candidates about voting options and should be paid attention to, to ensure these stakeholders are well-informed about voting options or changes to the election process. While there is no overwhelming medium responsible for informing candidates those that are municipal-led appear to have the greatest impact on candidates' knowledge of the Internet voting option. Governments looking at introducing Internet voting in future elections should consider the importance of municipal-led information sources for educating candidates about the online voting system. Voters too favoured information methods initiated by election authorities.

6.2 Internet voting and candidates' campaigns

Candidates were asked whether they felt that Internet voting had an affect on their campaign. Sixty-four percent of respondents said they thought it had, 20 percent said it had not, and 17 percent they did not know whether it had. In an open-ended follow up question that asked candidates to comment on how they thought Internet voting had affected their campaign, a range of viewpoints were offered. In general, the comments were more positive, 50 percent, than negative, 33 percent, while a few comments were neutral, 17 percent, and simply described how the candidate changed the way they approached campaigning. Positive comments primarily focused on how Internet voting allowed voters who were not in the municipality at election time (e.g. students, seasonal residents) to vote easily; making the beginning of the campaign more crucial for attracting and mobilizing supporters; increases in voter turnout; a larger number of young voters; and how generally the option of Internet voting made the voting process easier. Negative comments, by comparison, focused on how Internet voting negatively impacted seniors; those who did not have access to computers; or those who did not trust in the security of the process. Quite a few comments also referenced the fact that while canvassing or attending campaign events, talks with electors often focused on the voting method instead of election issues. This could be a negative effect since understanding candidates' positions on municipal issues and priorities are important for casting an informed vote and choosing someone the voter feels will adequately represent their interests.

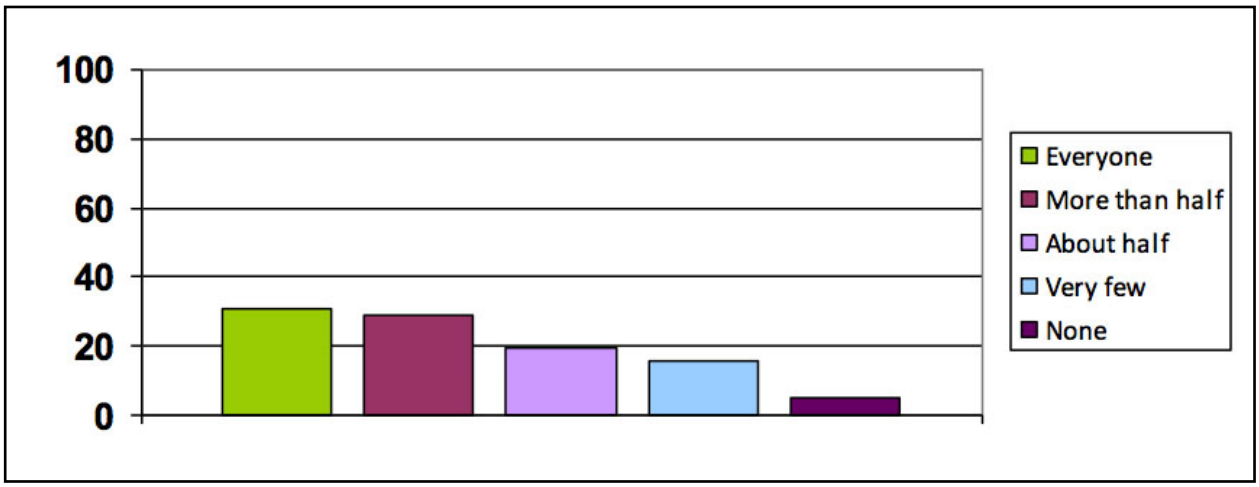
One of the most interesting influences of Internet voting on campaigns, now documented over multiple municipal elections, has to do with how it changes voting patterns. While some communities permit voting by Internet on Election Day, others make it available in the advance portion of the election only. In many communities the online advance voting period has meant large increases in advance voter turnout, as electors gravitate toward the voting method. This means that when candidates canvass and try to mobilize voters they encounter many more electors who have already cast a ballot than in past elections where paper ballots were the only advance voting option. To get a sense of how often this happened in the 2014 Ontario municipal election candidates were asked to recall how many people said they had already voted when they were campaigning, Figure 34.

Figure 34: When campaigning how many people did you encounter that had already voted?



Just under half of the respondents, 45 percent, said they had encountered 10 or more voters that had already voted while canvassing or at campaign functions. Candidates were then asked how many of these people had indicated they had voted online, Figure 35.

Figure 35: How many of these people indicated they had voted online?



According to nearly one-third, 31 percent, of candidate respondents, all of the voters they encountered said they had already voted online. An additional 29 percent of candidates said more than half of the voters they met indicated they had already voted online. Only 5 percent of candidates said that 'none' of the voters said they voted online.

This finding is consistent with comments from candidates in previous municipal elections where online ballots were used, and indicates that Internet voting promotes voting in the advance portion of the election. The fact that a greater number of voters cast their ballots

early on in the election campaign means that candidates need to be well-prepared going into an election to be able to target potential supporters. It also increases the importance of the beginning of the election period, and depending on how many voters are drawn to advance voting, could lessen the importance of the end of the campaign - a time which has traditionally been crucial to garner votes. This finding means that in communities offering online voting in advance polls, especially those making it available for advance voting only, candidates need to re-think the timelines of traditional campaign strategies to ensure they are able to reach electors before they cast a ballot.

6.3 Candidates' opinions of Internet voting use

To get a better sense of how candidates feel about the addition of Internet ballots in local elections they were asked whether they are in favour of, or against, its use as an additional voting method, Figure 36, and their feelings about having Internet ballots as the only voting method, Figure 37.

Nearly 80 percent of candidates express that they feel favourably about having Internet voting as an additional voting method. A majority of candidates, 51 percent, say they are 'completely in favour' of Internet ballots being offered as a complementary voting method, while an additional 28 percent of candidates say they are 'mostly in favour' of adding the method. A total of 18 percent of candidates said they are 'mostly' or 'completely' against Internet voting being offered as an alternate method of voting. This indicates strong support among candidates for the introduction of Internet voting as a complementary voting method.

Figure 36: How do you feel about having Internet voting as an additional voting method?

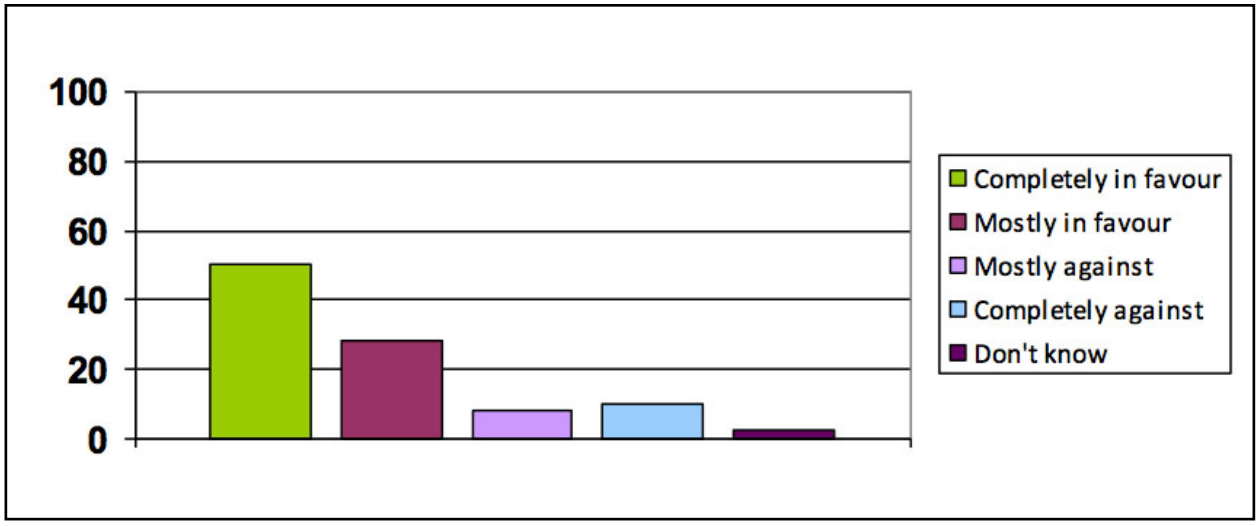
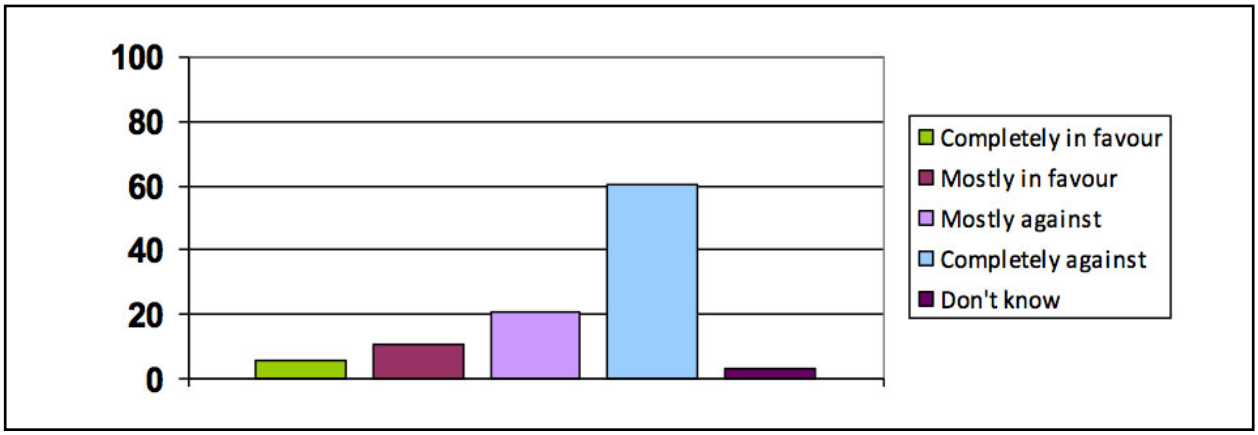


Figure 37: How do you feel about having Internet voting as the only option



Candidates, however, are not in favour of having Internet voting as the only voting option. Sixty percent of respondents say they are 'completely against' having Internet voting as the only option, 21 percent say they are mostly against. Only 16 percent of candidates report being 'mostly' or 'completely' in favour of Internet voting as the exclusive voting method in local elections. So, while candidates embrace having Internet voting as an additional voting method, they are not in favour of it being the only voting option. While surveyed candidates do not support Internet voting replacing existing voting approaches, they are comfortable with it as an addition to current voting processes.

6.4 Section summary

Overall, candidates are satisfied with Internet voting and see more positive than negative influences from the inclusion of the voting option. Candidate respondents communicate that Internet voting has an impact on the campaign period, notably by encouraging early voter participation, which seems to change voting patterns. Other opinions about the impact on campaigns note that online voting improves voter accessibility for those who out of town during election time, increases the ease of the voting process, and has a positive effect on voter turnout and the voter engagement of young people. In terms of concerns, candidates remark how online voting negatively affects some seniors and those without access to an electronic device with an Internet connection, and comment on public worries about voting security. Candidates strongly support the adoption of Internet voting as a complementary voting method, but are not in favour of it being the only option. These results indicate strong support for the voting method from this stakeholder group, although there is caution to be mindful of some challenges that arose in the 2014 elections to ensure an equitable election process.

7. ELECTION ADMINISTRATORS

This portion of the report explores what we can learn about the effects of Internet voting on elections from the perspective of election administrators and their experience in the 2014 Ontario municipal election.

7.1 Who was represented in the Election administrator survey?

Of the municipalities that participated in the election administration component of the research 60 percent used Internet voting for the first time in the 2014 election, while the remaining 40 percent had used it once or more in the past. The largest group of administrative participants, 43 percent, was from municipalities with permanent populations between 10,000 and 25,000, Figure 38. When asked about electorate size, the largest group of administrators, 41 percent, reports a municipal electorate size between 2,000 and 10,000 persons, Figure 39. Though a good proportion of respondents come from smaller municipalities this is somewhat characteristic of the municipalities in the province, since 70 percent of Ontario municipalities have populations of 10,000 persons or less.

Figure 38: Permanent population of the municipality

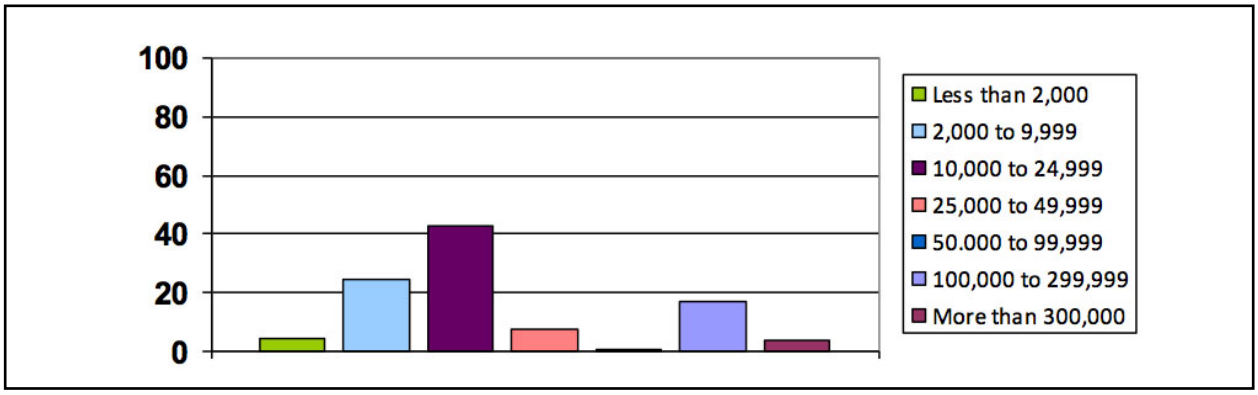
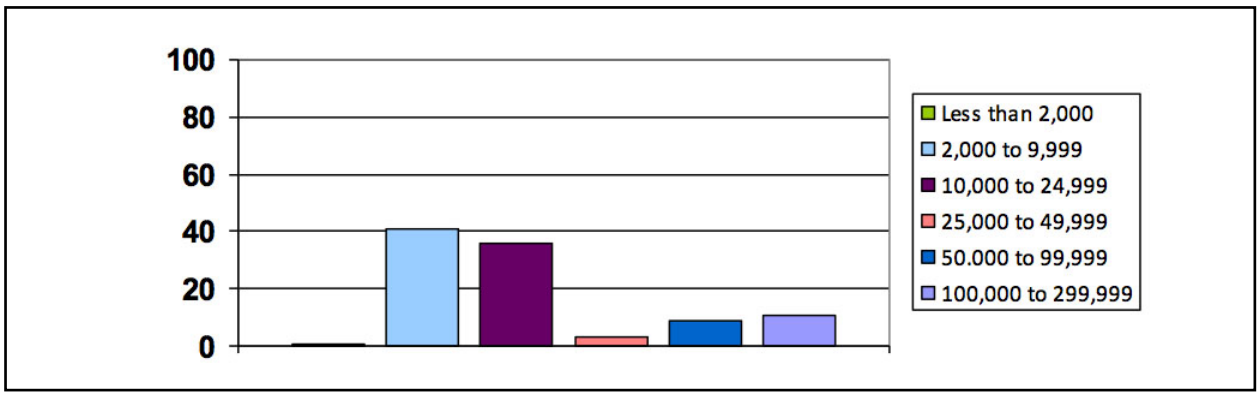


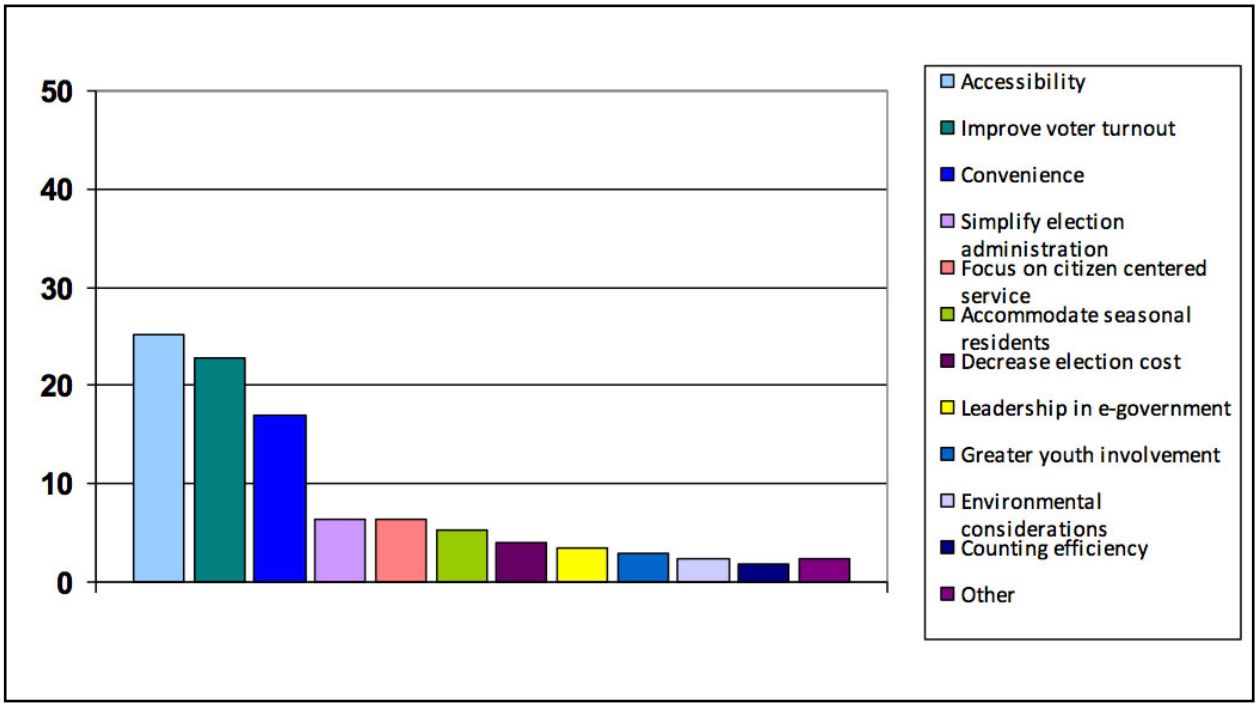
Figure 39: Electorate size of municipality



7.2 Why Internet voting for municipal elections?

Administrators were asked to select the top reasons their municipality opted to offer Internet voting, Figure 40.

Figure 40: Top reasons municipalities adopted Internet voting



The most common responses include accessibility, improvements in voter turnout, and convenience. Twenty-five percent of administrators said accessibility is the main reason their municipality chose Internet voting, 22 percent said it was to improve voter turnout, and 17 percent report using it for reasons of convenience. All three of these responses focus on making it easier for voters to cast a ballot or encouraging voter participation, as opposed to reducing costs or improving efficiencies.

7.3 Satisfaction with the online voting process

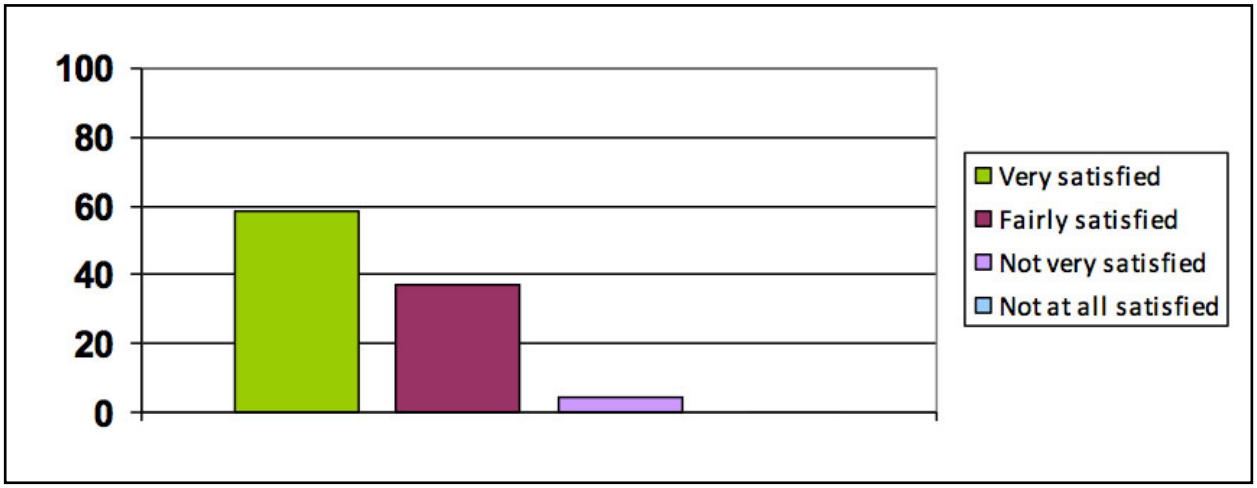
Administrators report being 'very satisfied' with the Internet voting process, Figure 41. Ninety-six percent of administrators were 'very' or 'fairly' satisfied with the process, and none say they were 'not at all' satisfied with the process.

Administrators were asked to explain their level of satisfaction with the voting process in an open-ended follow-up question. The majority of comments from satisfied respondents focus

on the convenience and speed of the process. Here are a few examples of the open-ended comments that came from respondents who said they were satisfied:

- "Internet voting made it easy for non-resident voters to participate in the election if they were already on the voters list. Voting was convenient from home at any time of day."
- "Was able to use far less staff to run the election. Instant results. Great feedback from residents."
- "Quicker to complete for the user and administrative governance rules that require management by election officials."

Figure 41: Overall satisfaction with Internet voting



Of those who were not very satisfied, by contrast, the issue of dealing with seniors' unfamiliarity with computers, issues with the voters' list, and the timeliness of results were common responses. The following comments were characteristic of those who said they were not satisfied with Internet voting:

- "It took over 3 hours for the results to be released from the company operating the Internet/telephone voting. Had the results been available in a more timely manner I would have been very satisfied."
- "Many errors due to an inaccurate voters' list."
- "As an assistant it was beyond brutal assisting seniors who immediately rebelled against using computers."

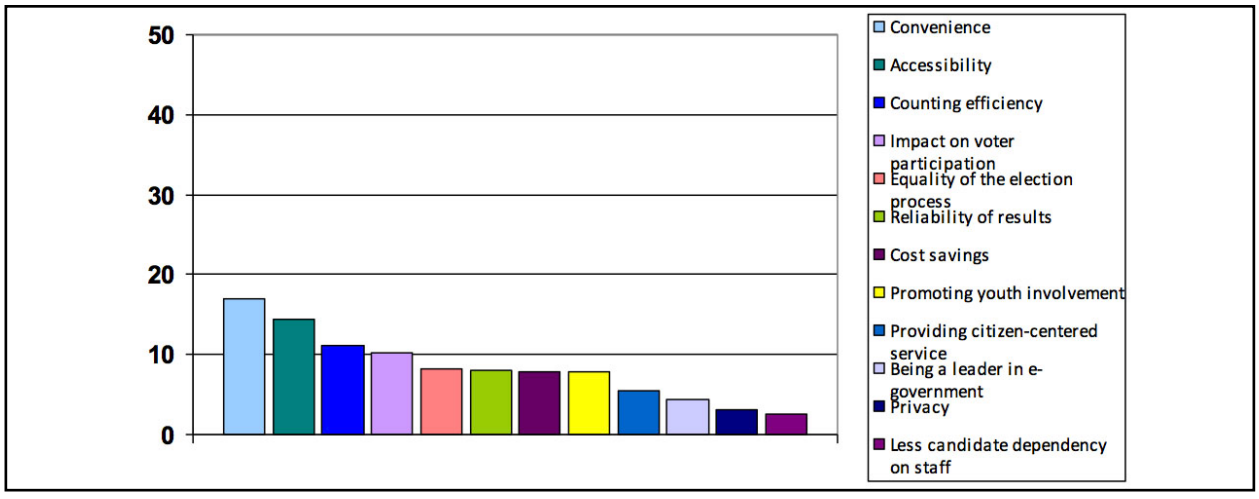
In general, administrators are very satisfied with the Internet voting process. They do, however, recognize that educating some seniors, or those with limited knowledge or access to an electronic device with an Internet connection, presents a challenge for the

implementation of Internet voting. While educating seniors seemed to be a challenge for some administrators, overall those over the age of 65 years were more likely to make use of Internet voting than electors under 50 years of age suggesting this limitation is not pervasive among the age group. As noted earlier for example, 65 percent of Internet voters who participated in this study said they were over the age of 50. Also, although concerns regarding the voters' list did not emerge as readily in the survey findings, subsequent discussions with municipal officials indicates that gaining access to an accurate voters' list is a key challenge moving forward both for the implementation of alternative voting methods and for elections that continue to operate using traditional processes and ballot types.

7.4 Benefits and challenges of using Internet voting in local elections

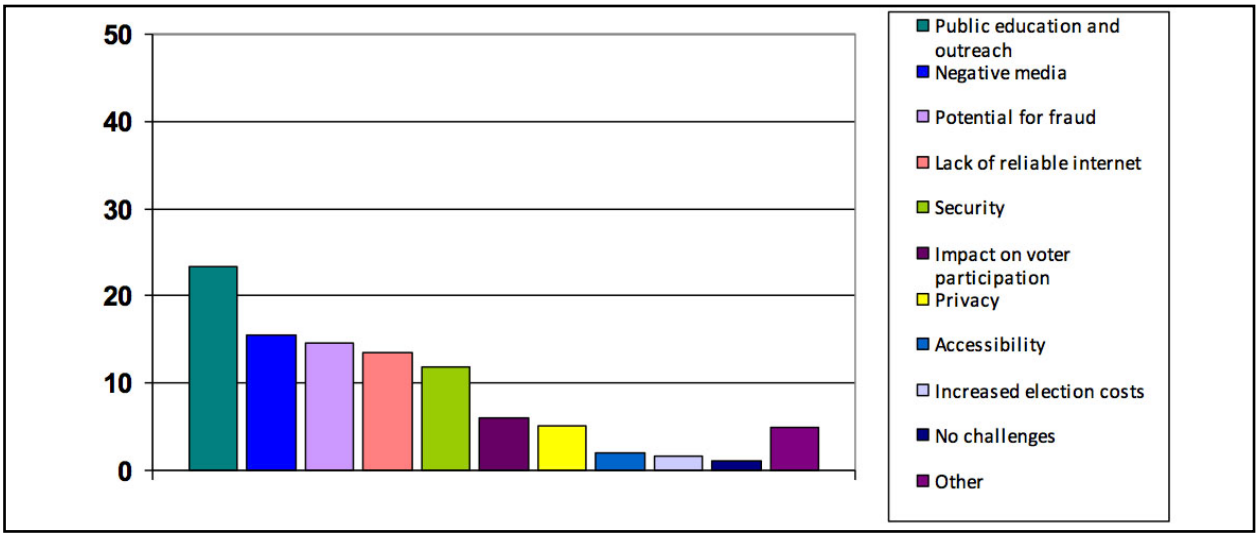
To get a sense of the advantages and obstacles faced by election administrators, respondents were asked to identify the main benefits and challenges of Internet voting from an administrative point of view, Figures 42 and 43.

Figure 42: Main benefits of Internet voting from an administrative perspective



The main benefits of Internet voting from election administrator's perspective include convenience, accessibility, and counting efficiency. These three categories accounted for 43 percent of the responses. Close to 50 percent of the responses in total (10 percent each) encompassed items such as impact on voter participation, equality of the election process, reliability of results, cost savings, and promotion of youth involvement. The greatest challenges administrators communicated are public education and outreach, 23 percent, managing negative media, 16 percent, and potential for fraud, 15 percent.

Figure 43: Challenges of Internet voting from an administrative perspective



Overall election administrators express that Internet voting makes the act of voting easier for electors and improves the quality of the voting process, both from an administrative perspective and with regards to cost. Primary challenges, according to this group, include getting information out to the electorate and managing the media. Administrators also recognize that the Internet must be accessible and secure for all voters.

To gain an understanding of how election administrators perceive the electorate to be affected by Internet voting, respondents were also asked to identify what benefits and challenges they believe Internet voting poses for electors, Figures 44 and 45.

Figure 44: Main benefits of Internet voting for electors

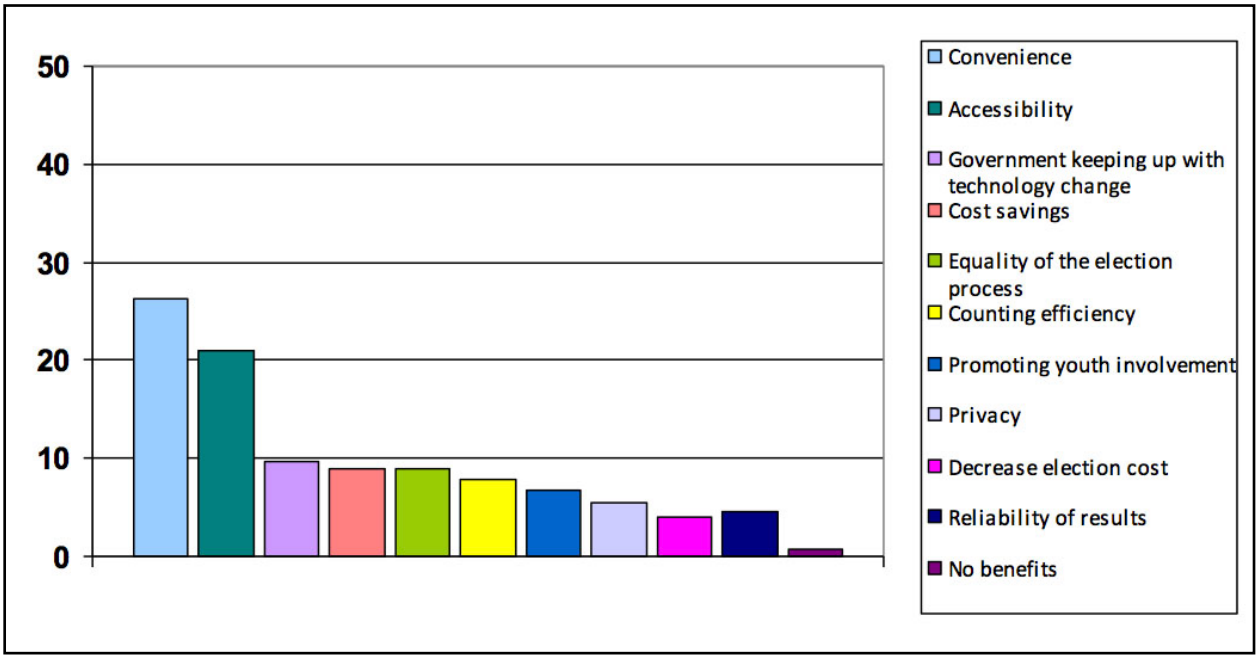
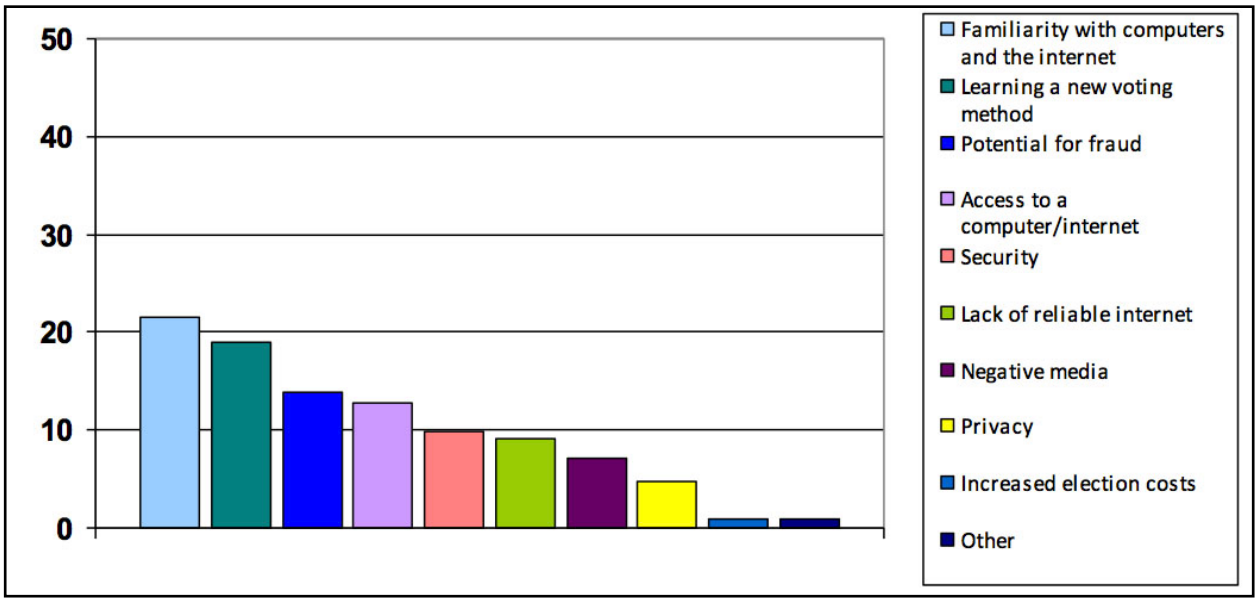


Figure 45: Main challenges of Internet voting for electors



Administrators recognize the main benefits of Internet voting for electors as being convenience and accessibility, 26 and 21 percent respectively. Close to 40 percent of the responses in total focused on improvements to the voting process, such as improving technology, saving money, and improving efficiency. The main challenges administrators believe electors faced with the option of Internet voting include familiarity with computers, 22 percent, learning a new voting method, 19 percent, and potential for fraud, 14 percent.

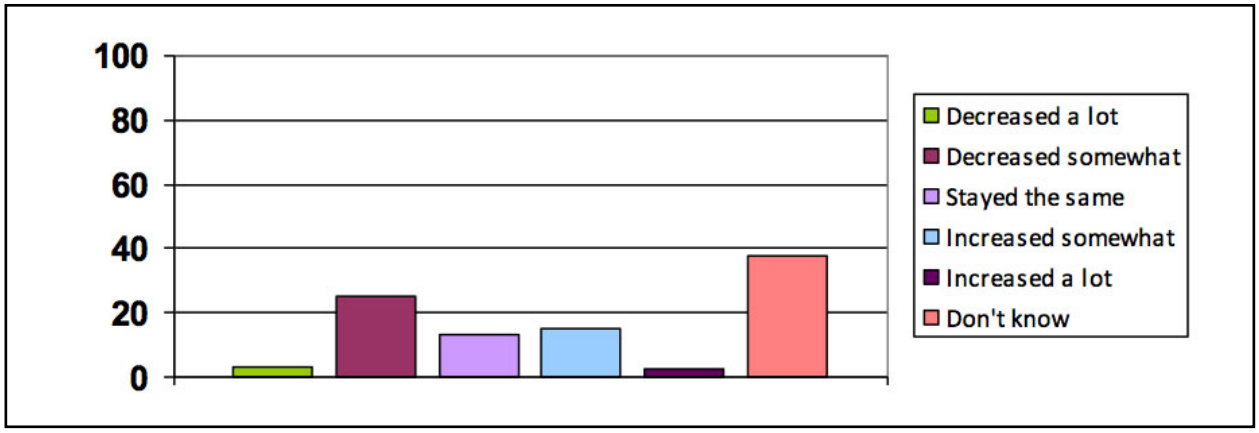
In general, election administrators communicated that their municipality chose Internet voting to make voting more accessible and convenient for voters. Increases in electoral participation were seen as a desired consequence of making these improvements to the voting process. From their point of view improved access to voting and convenience are the main benefits of Internet voting for both administrators and electors. The obstacles they encountered relate to meeting the challenges of introducing a new method of voting to voters from older age cohorts, and those who may not have the digital literacy to make use of the voting method or the desire to change to an alternative ballot form.

7.5 Cost: Does Internet voting break the bank or save money?

Given that cost is a major factor in determining whether governments will move ahead with Internet voting deployment, a few questions sought to get a sense of what the cost impact of implementation was for these municipalities in the 2014 elections. Conventional

wisdom used to be that introducing Internet voting was quite costly and meant election budgets would have to be extended significantly for the first few elections until voters felt more comfortable with the method and uptake increased. In 2012, however, some Nova Scotia communities successfully offered Internet voting in their municipal elections without increasing budgets from the previous election. Cape Breton Regional Municipality in particular, managed to keep the budget consistent with that of the previous election while adding an Internet voting component and maintaining paper voting at the polls. These cost savings were achieved based on the approach and implementation strategy used. To gain insight from the 2014 municipal election, administrators were asked to estimate whether election costs had increased or decreased since the introduction of Internet voting, Figure 46. They were then asked to estimate how much the cost per voter had increased or decreased, Figure 47.

Figure 46: Since introducing Internet voting election costs have...

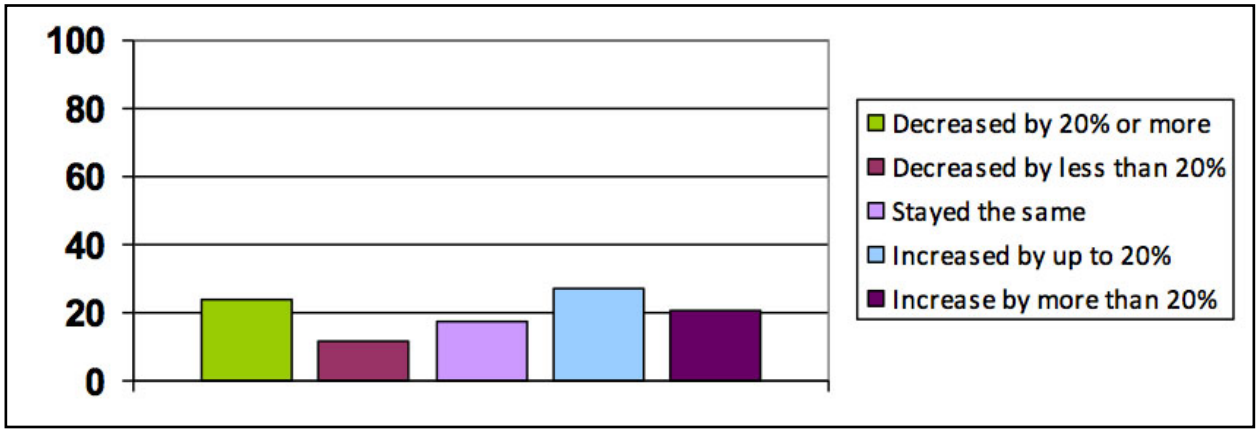


The largest group of administrators said they did not know whether costs had increased or decreased with the addition of the Internet voting option, 38 percent. This likely has to do with the fact that municipal clerks and deputy clerks are typically in charge of budgets and though these officials took part in the survey many respondents included other permanent or contract election staff that were not involved as much in the budgetary portion of election planning. Thirty-one percent of this group thought costs had decreased, 18 percent thought they had increased, and 14 percent believed they stayed the same.

To examine the issue of cost further, a cross-tabulation of overall satisfaction with Internet voting and whether Internet voting has increased or decreased election costs was produced to determine if those who were less satisfied with Internet voting were more likely to have

said that election costs had increased. There was no difference between administrators who said they were 'satisfied' with Internet voting and those who were 'dissatisfied' with Internet voting and their opinions of whether Internet voting had increased or decreased costs[12].

Figure 47: How much would you say the cost to run an election per elector has changed since Internet voting was introduced?



Probing the impact of cost more specifically, Figure 47, 20 percent of administrators thought that election expenditures decreased by 20 percent or more per elector and an additional 12 percent thought the costs would have decreased between 1 and 19 percent. Eighteen percent of administrators said they believe election costs had stayed the same. With respect to increases, 27 percent of administrators thought costs increased by up to 20 percent and an additional 20 percent thought costs would have increased by more than 20 percent.

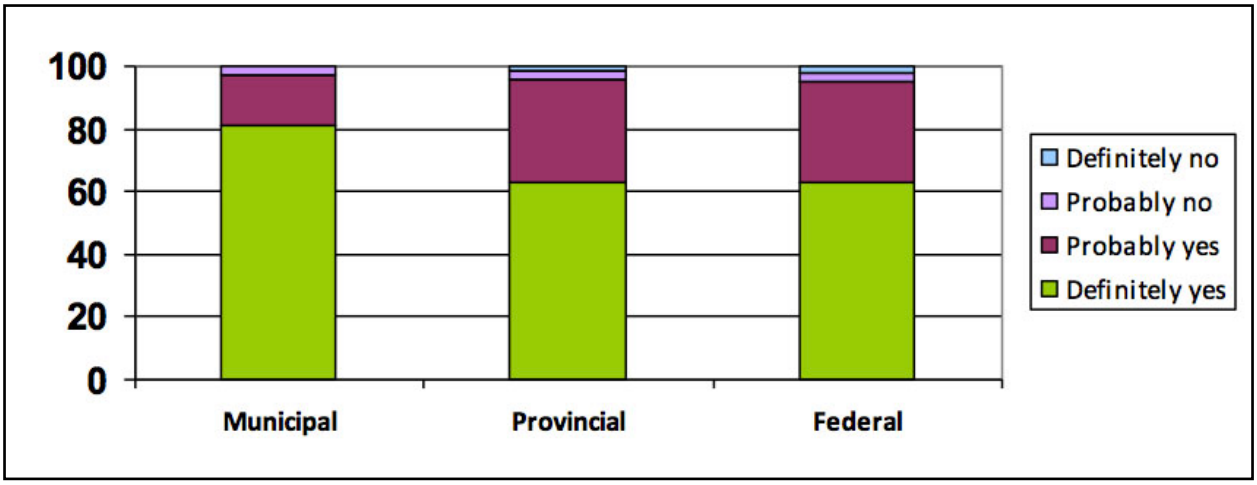
This mixture of responses is not surprising given that a range of municipalities that participated in the research, some with electorates of a few thousand and others responsible for over 100,000 electors. Municipal budgets for elections depend on size and so there is a considerable difference in what the average cost to run an election might be, based on the particular municipality. Furthermore, the Internet voting vendor chosen, the model or approach used (for example, including registration or not), and other changes made to traditional components of the process play a role in cost variance across communities. Depending on these elements, Internet voting can be introduced and cost savings realized, even from previous election budgets, or election expenditures can increase slightly or significantly [13].

[12] Cell sizes were small.

[13] A further analysis will be carried out down the road to highlight strategies governments can implement to maintain cost efficiencies while preserving paper ballot voting and introducing Internet voting.

Cost increases or decreases aside, however, the majority of administrators said they would recommend Internet voting in subsequent municipal, provincial and federal elections, Figure 48. Support is highest for recommending Internet voting in the 2018 municipal election with 81 percent of administrators saying they would 'definitely' recommend Internet voting. Overall, 97 percent of administrators surveyed say Internet voting should 'definitely' or 'probably' be used in the next municipal election, 96 percent support its use in future provincial elections, and 95 percent would recommend its deployment in federal elections; finding strong support for the inclusion of Internet voting in binding elections. Internet voters surveyed for this report echo these feelings of support for the voting method (details of this support is explored above in Section 4).

Figure 48: Would you recommend Internet voting In the next municipal, provincial and federal elections?



7.6 Other perceived impacts of Internet voting

To learn more about administrators' attitudes and opinions toward Internet voting they were asked to agree or disagree with a series of statements that touched upon some potential

impacts earlier research suggested online voting may have, and how respondents feel about the risks of Internet voting compared to other methods, Figure 49.

Responses to these opinion questions indicate that administrators are very positive about the Internet voting option.

- Over half of the group, 58 percent, agree that voter turnout was positively affected because of the extension of Internet voting, while 12 percent disagree with the statement.

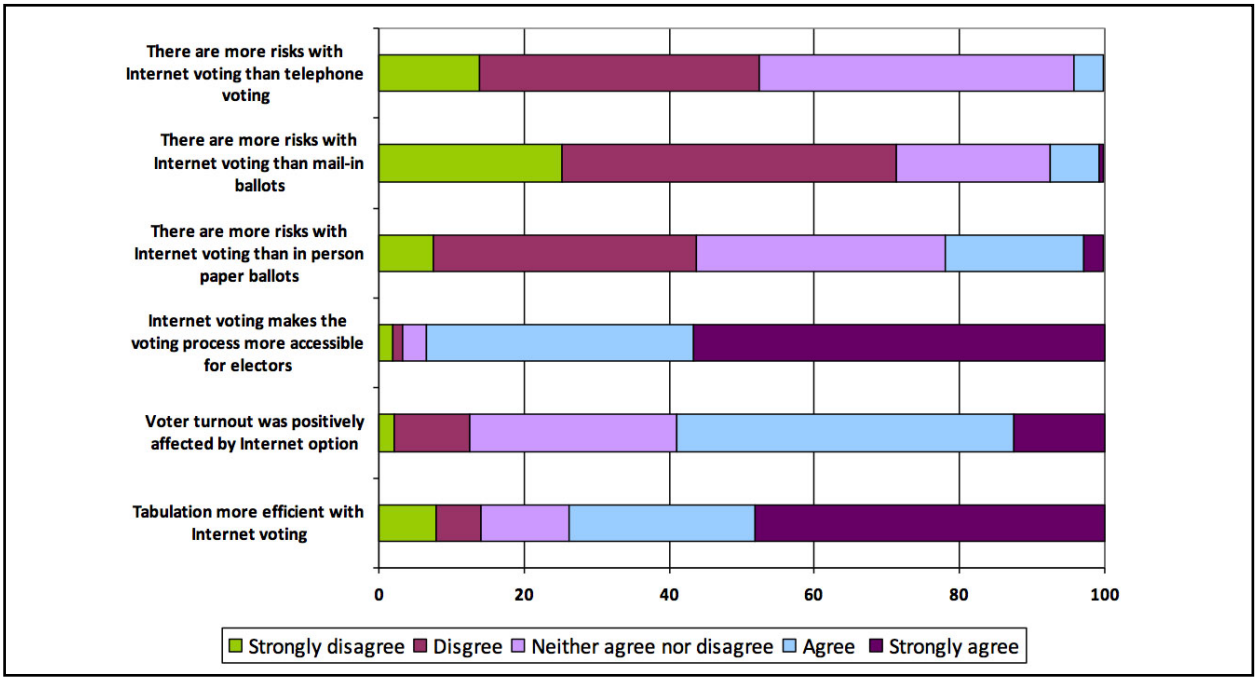
    - Since almost 30 percent of this group did not agree or disagree with the statement, it is possible this information was not available to the administrators at the time of the survey, notably for those communities that had used the voting method for the first time in 2014. While this does not mean Internet voting increases voter turnout, there is the perception among the stakeholder groups studied in this research that it does.
- Seventy-four percent of administrators agree with the statement, 'The tabulation of election results is more efficient with Internet voting', while 14 percent disagree.
    - This indicates a majority of administrators feel Internet voting delivers efficiencies to vote tabulation and end of election wrap-up.
- Over 90 percent of administrators agree with the statement, 'Internet voting makes the voting process more accessible for electors', while less than 2 percent of this group disagree.
    - There are strong feelings among stakeholder groups surveyed here that Internet ballots improve voting accessibility.
- Over 70 percent of administrators disagree with the statement, 'There are more risks with Internet voting than with mail-in ballots'. Only 8 percent of the group agree, and 21 percent neither agree nor disagree with this statement.
- Asked the same question about telephone voting 52 percent disagree that voting by Internet carries greater risks than casting a ballot by phone. A further 43 percent neither agree nor disagree, while only 4 percent agree.
- Forty-four percent of administrators disagree with the statement, 'There are more risks with Internet voting than in person paper ballots', while 22 percent of the group agree.

When it comes to perceived risks of voting methods then, administrators seem most confident in the risk level of Internet voting when compared with other remote voting options such as voting by mail and telephone voting. Specifically, there are strong feelings that voting by Internet is not riskier than voting by mail. In fact, many comments from administrators communicate that they believe Internet voting is actually safer from a security and fraud perspective that mail-in ballots. While they are less certain about telephone voting, a majority still agrees voting by Internet is not riskier.

These feelings about risk are not the same when administrators compare paper and Internet voting. Although there is not strong agreement that 'there are more risks with Internet voting',

strong levels of disagreement are not present as they are with the other two statements. This suggests administrators are less certain that Internet voting does not have as many risks as voting by paper ballot.

Figure 49: Agreement with statements about Internet voting



7.7 Section summary

In general, administrators are very positive about the impact, security, efficiency and value of online voting. Respondents communicate that municipalities decided to use Internet voting to make voting more convenient and accessible for voters, and in the end, felt that this had been achieved. Increasing voter turnout was another common motivation and a majority of administrators surveyed believed the option of online ballots had positively affected electoral participation. Administrators showed confidence and satisfaction with the voting method by strong majorities recommending adding it for future municipal, provincial and federal elections.

Administrators also acknowledged challenges with implementing a new process and voting method. Specifically, many felt that seniors were resistant to learning a new way of voting and expressed concern about those who may not have access to computers or the Internet. Given that we know seniors are likely users of Internet voting, this seems to be a concern

that can be managed. Access to, and familiarity with, the Internet, however, should probably be more of a concern since most Internet voters have access to an Internet connection at home and use it daily. Finally, concerns regarding potential for fraud, the voters' list, and some delays in results were also communicated.

8. CONCLUSION

The results of this study strengthen our understanding of how the use of Internet voting in local Ontario elections impacts stakeholders and teach us about their attitudes and opinions of the technology. These findings also allow us to extrapolate some broader lessons learned that are particularly important for local governments to pay attention to as they adapt existing Internet voting programmes or consider deployment of the technology in future elections or other types of votes.

Commonalities Among Stakeholders

Overall this study finds strong support for Internet voting among voters, candidates, and election administrators in Ontario. In addition to high levels of satisfaction among all three groups, voters and local government administrators say they would like to see online ballots offered in elections at all levels of Canadian government. This suggests the incorporation of the voting technology would be a welcome service change. With respect to paper voters, though some prefer the traditional voting method and would like to stick with it, a sizeable proportion say they would use Internet voting in a future election. Some say they would vote online 'no matter what', while others indicate they would use the service under special circumstances which may prevent them from making it to a physical poll location. Altogether, there is strong support for the deployment of Internet voting in local elections. Even among non-users of the service there is a desire to see it continue as a complementary voting option to ensure voting accessibility and convenience for electors.

When it comes to the effects of Internet voting, commonalities between Internet voters, candidates and election administration include perceptions of improved electoral accessibility and convenience. Convenience is the biggest motivation for voters (both Internet and paper) and is identified as a benefit by electoral administrators. All three groups clearly communicate that Internet voting makes the voting process 'easier' and adds efficiencies to the election process more generally. Finally, comments suggest Internet voting delivers improvements in voter turnout. While in some cases the deployment of Internet voting is accompanied by increases in voter participation, it is more likely this observation is a reflection of changes in turnout patterns brought about by Internet voting, particularly when it is only offered

in the advance portion of an election. It is likely this is what many stakeholders (e.g. candidates) observed as opposed to increases in overall turnout[14]. This report cannot make a determination as to whether Internet voting delivers increases in turnout as there are many contextual factors that impact the number of electors who turn out, such as the salience of election issues, closeness of the race, acclamations, and other factors[15]. Certainly Internet voting seems to attract those who already identify as committed voters and therefore are likely to vote anyway. For a small group of reported non-voters, however, the option of Internet voting seems to be sufficiently motivating to engage them in the voting process. Internet ballots are also the preferred remote voting method for those who are unable to make it to a physical poll location.

What Can We Learn from This Research?

There are several lessons we can take away from the Internet Voting Project findings. The first is that Internet voting is desirable for election stakeholders in Ontario and is a welcome addition to keep pace with societal changes, accommodate electors' increasingly busy schedules, and to help mitigate factors that may limit voter accessibility of physical poll locations. Use of this technology in elections is not only desirable for local elections, but provincial and federal races also. When offered it is almost always the preferred voting method over other ballot types, and is the favoured remote voting option.

Second, despite comments about observed improvements in turnout, this study, and other research, clearly indicates that Internet voting is not the magic bullet solution to improve voter participation or to engage young people. This research suggests there is modest potential to engage some non-voters and that Internet voting might enable the act of voting when attending a physical poll location may not be possible. While these could deliver improvements in turnout, they are modest, and technology is not a band-aid solution for other institutional or cultural factors that affect citizens' willingness to participate. Finally, findings show that remote Internet voting is particularly desirable for the youngest and oldest electors, although the youngest group is less likely to actually use it.

[14] When a voting method is offered in advance polls only it is not possible to determine what the effect on overall turnout is, since it is not made available on Election Day.

[15] Additional research is being done regarding the turnout question as part of this project. An analysis of the 44 Ontario municipalities that used Internet voting in 2010 compared with a matched sample of 44 communities that did not showed a 3.5% increase controlling for other factors.

Third, older electors are cited as a challenge to deployment, but at the same time they are the biggest users. Some older electors experience challenges using the technology and learning about a new voting method, or feeling comfortable making use of it. This is an observation for governments to be mindful of as they integrate technology in elections to ensure they are equally enabling voting for electors of all ages. While some seniors experience difficulty, however, voters over 50 years of age are the most likely to vote by Internet, even if they do not use the Internet everyday or feel confident in their knowledge of computers and the Internet. This indicates that older electors are inclined to vote by Internet and, in fact, many are willing to use the service despite having low digital literacy. It is important to recognize this groups' attraction to Internet voting and work to ensure these electors have access to the tools needed to participate electronically if they wish to do so.

Fourth, Internet voting has an impact on voting patterns, especially when offered as a voting option in advance polls only. Using Internet voting in this way not only delivers increases in advance voter participation, as many voters decide to cast their ballots early, but it also affects the campaign period and local government resources. An increased number of electors voting in the advance portion of the election make the front portion of the campaign more crucial for candidates to get out their messaging and platform, talk to electors, and mobilize support. At the same time, it means the end of the campaign period lessens in importance since many voters have already cast a ballot. This is important for candidates to understand as they campaign in a changing voting environment. Finally, an increase in voters casting ballots in advance of Election Day means that administrative resources can be more evenly spread over the entire election period. Additional resources may be required during advance polling periods, while the traditional staff requirements are not needed on Election Day.

Fifth, the inclusion of Internet voting in elections does not have to break the bank, as was previously thought. Though the approach and model used greatly affects the cost of the election, there are many instances in which Internet voting deployment has reduced election budgets or kept them consistent with accounting from previous years – while maintaining physical poll locations and paper voting. The cost of an election with this technology really rests in the design and approach a government chooses. At the local level, this varies based on contextual factors that influence the nature of the election and the goals of the administering government.

Sixth, the biggest challenge to implementation is sufficient education and outreach to election stakeholders, particularly electors. It is important governments have a robust communications plan in place and engage stakeholders early and often. Seniors in particular, may require additional outreach. Next, although it was more muted in survey findings, an accurate voters' list presents significant challenges for use of Internet voting. An accurate voters' list helps to ensure that voter cards or packages are sent to appropriate parties, which are required for both 1-step and 2-step Internet voting approaches. Post-election many clerks commented that the 2014 voters' list was one of the more challenging lists to work with, despite new tools that were introduced to improve voter registration. Though list accuracy is a challenge at all levels of government this will be an important area of focus in the coming years to ensure deployment of this type of election technology works as it is designed to, and appropriately enables electors.

Seventh, the primary reasons to use Internet voting include convenience and accessibility. A majority of voters are attracted to the voting method because of the perceived convenience it provides at election time. Paper voters are inclined to say they would use the service for the same reason. For a smaller portion of voters, the added accessibility of voting online is the attraction because it is perceived as better enabling voting rights under certain conditions. Candidates and election administrators echo these qualities as being benefits of the technology and as a rationale for its inclusion in elections. This report finds Internet voting is fulfilling these goals in the minds of stakeholders. Consideration should be given to these two reasons, notably the continual mention of convenience, as governments develop approaches to electoral modernization. If added convenience for the electorate is not a priority in election frameworks, and if sufficient improvements in accessibility cannot be realized, election officials may think twice about online voting adoption.

Overall Internet voting receives positive reviews from the election stakeholders surveyed here and is embraced as a welcome addition to traditional election processes. In Ontario it appears Internet voting uptake will continue to grow and become part of electoral modernization at the local level so long as there remains demand from citizens, candidates, and the bureaucratic will to innovate the administration of elections.

Appendix A: List of Participating Municipalities

The following 47 municipalities across Ontario took part in this research.

- Addington Highlands
- Ajax
- Archipelago
- Brockton
- Brockville
- Burlington
- Cambridge
- Carling
- Central Huron
- Cobourg
- Deep River
- Frontenac Islands
- Grimsby
- Guelph
- Huron East
- Huron Kinloss
- Innisfil
- Kenora
- Kingsville
- Laurentian Valley
- Leamington
- Lucan-Biddulph
- Markham
- McKellar
- Middlesex Centre
- Minden Hills
- Mulmur
- North Dundas
- North Frontenac
- North Glengarry
- North Stormont
- Port Hope
- Quinte West
- Shuniah
- South Dundas
- South Frontenac
- South Glengarry
- South Stormont
- Southwest Middlesex
- Springwater
- Strathroy-Caradoc
- Sudbury
- Tay Valley
- Tecumseh
- Wasaga Beach
- West Elgin
- West Perth

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About the Centre for e-Democracy

The Centre for e-Democracy is a not-for-profit organization dedicated to initiating, translating and disseminating research and knowledge on the impact of digital technologies on politics and democracy. Founded by Delvinia CEO Adam Froman in collaboration with Nicole Goodman, PhD, the Centre is the first of its kind in Canada and will be a hot spot for e-democracy research with aim of making a real, practical impact on Canadians' knowledge and understanding of the use of technology in society and politics. For more information about the Centre, or to donate to the organization, please visit centreforedemocracy.com.

About Nicole Goodman

Dr. Nicole Goodman serves as Director of the Centre for e-Democracy with a concurrent appointment as Assistant Professor at the Munk School of Global Affairs. Her current research largely focuses on the impacts of digital technology on Canadian political behaviour and public policy. Internet voting in a Canadian context is one of her subject specialities and she is recognized as the leading expert in Canada. She has co-authored multiple academic papers and reports for EMBs and governments across Canada on the topic and has provided advice internationally regarding the adoption of online voting in elections.

Nicole recently led a study of online voting in the 2014 Ontario municipal elections and its effects of technology on voters, candidates, and election administrators. She is currently part of three SSHRC-funded research projects to understand the impact of digital technology on municipalities and First Nations in Canada.

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Heather Pyman is a graduate of the Communication programme at Carleton University. She is currently the Director of Research in the Carleton University Survey Centre, a research unit in the School of Journalism and Communication. She is also a lecturer in the School of Journalism and Communication and teaches courses on research methods.

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