Crossing Boundaries

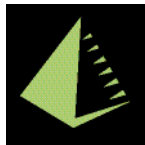# E-Government: The Municipal Experience

The Crossing Boundaries Municipal Caucus Discussion Paper

By Donald G. Lenihan
With Abla Hanna

Centre for Collaborative Government

Changing Government
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E-Government:
The Municipal Experience
The Crossing Boundaries
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Preface

The Crossing Boundaries Municipal Caucus was formed as a forum for municipal leaders to explore the opportunities and challenges that e-government poses for municipalities. The project began with a series of interviews with municipal leaders from across Canada. These interviews explored the issues municipalities were facing in trying to implement e-government initiatives in their regions.

Based on these interviews, the Centre for Collaborative Government prepared a draft of this discussion paper. It was circulated it to members of the municipal caucus. A group of 30 caucus members met in Hamilton 2002 as part of the Federation of Canadian Municipalities conference to discuss the findings of the paper. Based on the caucus' feedback, the paper was edited and elaborated on.

CCG would like to thank the Co-chairs Michael Fenn, Deputy Minister, Municipal Affairs and Housing, Ontario and Ann MacLean, Mayor, New Glasgow, Nova Scotia, all those interviewed and all the participants in Hamilton for their input and contribution to the paper.

About the Authors:

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About Crossing Boundaries

The Crossing Boundaries initiative explores the impact of information and communications technologies (ICTs) on government and democracy in Canada. Since 1997, it has engaged hundreds of elected and public officials from all three levels of government, members of the private and third sector, journalists and academics from across the country. Over the next year and a half, the project will focus on identifying immediate barriers to the progress of e-government and pose strategies to remove them.

More specifically, as Crossing Boundaries 1 and 2 progressed, we heard repeatedly that the e-government file is not well understood among elected representatives. We heard further that this is one of the major obstacles to progress precisely because the removal of many other barriers requires engaged political debate, support and leadership.

As a result, a central task of Crossing Boundaries 3 is to contribute to raising awareness among elected representatives by clarifying the areas and issues where political engagement would contribute to advancing the e-government agenda. To this end, the process will produce:

• A clear readable account of e-government – a storyline – that defines key challenges and opportunities along the way; and

• A three to four page appendix to the storyline containing a concise list of practical initiatives that could be championed by elected representatives and senior public servants to move the file forward.

Crossing Boundaries 3 will include a series of Ottawa-based sessions involving sponsoring departments and private organizations, a series of cross-country regional forums involving all three levels of government, international consultation by the project chair, and advisory group consultations, such as the Municipal Caucus, the Political Advisory Committee and the Information as a Public Resource Working Group. These activities will culminate in an international conference in 2003 that will bring participants and findings together into a forum where stakeholder commitment can be demonstrated and tested.

In addition, the Crossing Boundaries website provides authoritative resources on e-government issues, a clearing-house for information and a forum for developing and testing concepts and ideas. The Crossing Boundaries team publishes a regular e-newsletter and works to find innovative ways to engage a variety of e-government stakeholders to the site – especially elected officials. The site can be found at www.crossingboundaries.ca

Crossing Boundaries is organized under the auspices of the Centre for Collaborative Government and it is chaired by the Centre's Director, Donald Lenihan. The initiative is supported by 16 federal departments of the Government of Canada and three private sector organizations, and is advised by their representatives and elected officials.

Changing Government

Since its formation in 1999, the Centre for Collaborative Government has coordinated several national partnership initiatives to research and advance understanding on a variety of leading issues in governance and public sector management.

This is the eighth in our Changing Government series which communicates ideas and research to people working at all levels of government, the private sector and other public sector institutions. Future releases in the series will develop contemporary themes in public sector management and governance and will report on the outcomes of specific action-research projects.

All publications in this series are available at no cost and can be ordered by contacting the Centre for Collaborative Government or by visiting: www.crossingboundaries.ca
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Gouvernements en mutation

Depuis sa création en 1999, le Centre pour la collaboration gouvernementale a mis en oeuvre, avec de nombreux partenaires, toute une série d'initiatives nationales de recherche afin d'approfondir certains des enjeux majeurs qui confrontent les gestionnaires du secteur public.

Il s'agit du huitième volume de notre série Gouvernements en mutation, dont l'ob-jectif est de transmettre ces idées et ces résultats de recherche à un auditoire plus large à tous les paliers de gouvernement, ainsi qu'au sein des sociétés privées et parapubliques. Les prochaines parutions porteront sur les enjeux contemporains de la gestion publique et rendra compte des conclusions de projet de recherche précis.

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Executive Summary

Crossing Boundaries is a collaborative research project studying the impact of information and communications technology (ICTs) on government and governance. The Municipal Caucus is part of the Crossing Boundaries series of initiatives; it aims at deepening our understanding of e-government at the municipal level. This discussion paper is based upon interviews with municipal leaders from across Canada and a discussion of key issues at the Crossing Boundaries Municipal Roundtable, held in Hamilton on June 2nd, 2002, at the Federation of Canadian Municipalities national conference.

We found that municipalities go through three fairly clearly defined stages as they implement e-government: static information, transactional services and online communities. We call this the **e-government continuum**.

(i) Static information

The first stage of the continuum involves posting **static information** on a website. Many municipal sites are composed of mainly static information. Citizens can access this information to learn about city departments, the services they offer, council meetings, processes, etc. In this stage, citizens cannot use the website to interact with government or the information. Key challenges at this stage include issues around content selection and site design, updating information, and access to the site.

Communities have used a variety of approaches to select and organize content for their sites. Some assumed that individual departments were best positioned to decide what should be posted online. This resulted in "scattered" sites that were difficult for citizens to use.

Other municipalities first designed their sites to serve as a promotional tool for non-residents. But this approach left citizens wondering what use the site was to them. Municipal leaders re-evaluated the situation and found that a well-designed site could promote the city as an economic centre and still be useful to its citizens.

Some municipalities found early on that different departments were driving the web initiative in different directions. This problem was resolved by using opinion polls, customer interviews after walk-in visits, and quality call-back surveys to find out what citizens wanted. The result was a high level of satisfaction with the revised sites.

Once municipalities decide what information to post, they must ensure that it is kept up-to-date and relevant. For many communities, this has been a major challenge. If citizens do not regard the information as accurate, they will not use the site. A common concern here is the cost of upkeep. Many municipalities found that they had posted too much information and then did not have the funds to maintain the site. When they "trimmed" their sites and kept the remaining information current, citizens used the sites more frequently.

In some cases, individual departments were responsible for updating their own pages on a site. In general, this proved to be ineffective. A common complaint was that some departments are more diligent than others. Other municipalities created a central department responsible for the website. In smaller communities this department would post all the information and maintain it. In larger communities each department would have one person or group that would maintain the site but would report to a central department responsible for strategy development. Both approaches seem to work quite well.

Many municipalities view access as a significant issue. This can be access to the Internet or access to a computer. Most participants did not have a solution to the problem; they felt that funding is their biggest challenge.

(ii) Transactional services

In the second stage of the continuum, municipalities go beyond simply posting information. They create an interactive mechanism so citizens are able to complete transactions online. We call this stage **transactional services**. Examples range from single exchanges, such as paying a parking ticket online, to a more complex series of exchanges, such as an appeal of a property tax assessment. Challenges in this stage include overcoming cultural barriers, enabling "seamless service" by ensuring departments are able to work collaboratively to integrate services, and protecting personal privacy online.

Cultural change does not occur easily or rapidly. Municipalities must take steps to ensure that their citizens are willing and able to use the technology. Some interesting techniques are being used across the country to encourage citizens to use online services. In Charlottetown, a few months before the launch of their website, the municipality installed kiosks in community centres, at City Hall, and other locations where citizens line up to receive face-to-face services. The idea here was that citizens go to the kiosk and familiarize themselves with the technology because they would want to avoid waiting in line. Several municipalities have implemented home-computer ownership programs for their employees. And one municipality requires elected officials to undergo training to familiarize themselves with ICTs and their uses.

Many participants felt that "seamless service" (organizing services around citizens' needs) is one of the major opportunities of e-government. This requires some reorganization of back-office practices. Municipalities must ensure the compatibility of systems, interoperability, and the compatibility of people, projects and organizations, collaboration.

Many municipalities found that departments were unable to share information because their systems were incompatible. This greatly increased project costs as systems had to be replaced. Most municipalities are working on collaborative projects both between departments and with other governments. Every case we examined found that there were positive results. In many cases, municipalities felt they saved money and gained valuable knowledge from their project partners.

Using the Internet to provide information has raised privacy issues. Some municipalities have had to change or cancel projects in order to comply with provincial legislation. In general, privacy disclosure statements on every page have allowed municipalities to post a significant amount of information.

(iii) Online communities

In the third stage of the continuum, we found what we call **online communities**. These are sites where information is not only posted but is available in such a way that citizens play a role in developing and elaborating it and, in the process, interact with government officials. Such communities have the potential to change the basic relationship between government and citizens—and ultimately the practice of democracy. Not many municipalities have reached this stage. Those that are involved are taking their first steps in this direction.

Two interesting cases are Charlottetown and Ottawa. Charlottetown is engaging community groups, businesses, schools, and volunteer organizations to build pages within the municipality's portal. Ottawa is experimenting with using its site to engage citizens in the consultation process. Ottawa will transmit city Council and committee meetings online, and citizens will be able to pose questions directly to councillors in real-time.

We heard some concerns and some scepticism about e-democracy initiatives. This seems to stem from concerns over role confusion. What is the role of the elected official in relation to the role of the citizens when we engage in citizen consultation? One consideration is that consultations have occurred for years. The new technology is a way to allow more citizens to engage and be engaged by government, to participate in these consultations.

Finally participants highlighted the importance of political leadership and support in achieving e-government. Without it, major initiatives are unlikely to succeed.

Summary Statement of Findings

Static information

- An overall vision for the municipality's site should be developed up front.
- Sites should strive to be client-centred rather than government-centred.
- Municipalities could learn from private sector organizations that have successfully integrated new technology into their service delivery networks.
- Content selection should be based on consultations with citizens. This could include opinion polling, customer interceptions after walk-in visits, and quality call-back surveys.
- Governments should be wary of putting the task of site design into the hands of technicians.
- Information on websites must be kept up-to-date and relevant.
- Municipalities should not post information if they do not have the funds to maintain the site.
- One central department overseeing site design and content selection works best.
- Participants identified five key reasons for providing information:
    - To promote economic development
    - To respond to citizens' needs, e.g. frequently asked questions
    - As an information resource for "communities of interest"
    - To promote discussion and debate around issues of public concern
    - To encourage tourism

Transactional services

- Municipalities should actively work to build their citizens' comfort level with new technologies. This could be done through training programs, employee ownership programs, etc.
- A deeper understanding of e-government among citizens and politicians is needed.
- The value of e-government should be communicated to politicians.
- E-government infrastructure might be used to promote e-business.
- E-government is about better government, that is, government that is more accountable, open, democratic, and effective.
- E-government should not be focused on cost-savings, even though this could be one outcome.
- E-government initiatives must strike a balance between efficiency and effectiveness.
- Systems should be built with growth and interoperability in mind.
- One way to solve the interoperability issue is to set standards and force departments or project partners to comply.
- Some guidelines for collaborative efforts should be established before a project begins.
- Collaboration requires relationship-building with project partners. It is critical to ensure that the time required to build such relationships is built into a project.
- Collaborative efforts can save municipalities money.
- Collaborative efforts allow municipalities to learn from project partners.
- Privacy issues are a major concern.
- Privacy disclosure statements on every page have allowed municipalities to post a significant amount of information.
- When working with third-party vendors, ownership of information must be clarified.

Online communities

- Most participants are enthusiastic about the use of ICTs as a tool in public consultations.
- Information gathered through online consultation can help politicians and senior managers make decisions.
- These processes should be viewed as consultations. As such, the government would not be bound by the views expressed through them.
- E-democracy initiatives may not increase citizen participation in public debate.
- Municipalities must strive to ensure balanced representation in any online dialogue.
- A municipal setting may be the best setting in which to experiment with e-democracy initiatives.

Leadership

- Political leadership is required for any e-government initiatives to be successful.

1.1 Reasons for the paper

As phases one and two of Crossing Boundaries progressed, we found that electronic-government or e-government means many things to many people. For some, it is a new and promising way to provide services to citizens. For others, it as a way of providing them with information that is useful and authoritative. Others still regard it as a means of strengthening accountability and transparency in governments and a powerful new tool for public consultation. It eventually became clear to us that there is no single or comprehensive vision of e-government.

This is a major obstacle to progress. Good planning, building the right infrastructure, the identification and removal of barriers—all these require a clearer and more systematic understanding of the issues, challenges and opportunities. In response, a central task of the current phase of Crossing Boundaries is to produce a clear, readable account of e-government—a storyline— that synthesizes the thinking into a single, coherent framework and defines key challenges and opportunities along the way.[1]

This discussion paper will contribute to that goal. It is based upon interviews with municipal leaders from across Canada and aims at deepening our understanding of e-government at the municipal level. It is also based on a discussion of key issues at the Crossing Boundaries Municipal Roundtable, held in Hamilton on June 2nd, 2002, at the Federation of Canadian Municipalities national conference, where an earlier version of this paper served as the point of departure.

1.2 The findings

Briefly, we found that municipalities seem to be passing through some fairly clearly defined stages as they begin to implement e-government. Together, these form what we call the e-government continuum. At one end of this continuum, static information is simply posted on a website. Citizens can access these web pages to learn about services, meetings, processes, etc.; but they do not interact with government or the information. Posting static information is the simplest form of e-government. It has the simple goal of informing citizens about government business and activities.

At the other end of the continuum lies what we call "online communities." These are sites where information is not only posted but is available in such a way that citizens play a role in developing and elaborating it and, in the process, interact with government officials. For example, the information may be part of a community discussion led by an elected official. Such communities have the potential to change the basic relationship between government and citizens—and ultimately the practice of democracy.

The e-government continuum contains three basic stages:

• posting static information;
• transactional services; and
• online communities.

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[1] For a statement of our evolving version of the storyline, see *Realigning Governance: from E-Government to E-Democracy*, by Donald G. Lenihan, Changing Government, Volume 6, Centre for Collaborative Government, 2002, available at www.crossingboundaries.ca.

This paper works its way through each stage, using the material gleaned from our interviews and seminar to provide an overview of the state-of-the-art in municipal communities across the country. Comments and questions are raised along the way, and each section concludes with some questions for further consideration and discussion. Some of these we hope to explore with colleagues from across the country in the Crossing Boundaries regional forums that will be held in the fall of 2002.[2]

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[2] Further information on the forums can be found on the Crossing Boundaries website at: www.crossingboundaries.ca.

2.1 Content selection and site design

2.1.1 The basis for proceeding

We heard in the interviews that most municipal sites include a significant amount of static information, that is, information that is simply accessible to be read by citizens. It is posted like an electronic brochure or document. Typically, such sites provide information about city departments, the services they offer, the community, and/or the government.

Many municipalities were uncertain what or how much information they should post. Should all information be available online or just some? Is there a risk of information overload? If only some information should be posted, what information?

Communities used a variety of approaches to select and organize content. For example, some participants told us their governments had assumed that individual departments are best positioned to decide what should be put online, so the task was handed off to them. Others told us that the content selection for their community's site was based on citizens' needs. This reflected their desire to make services more citizen-centred through e-government. But when we explored this idea, we found little consensus or clarity on how these needs are to be determined or what should be the organizing principles for posting content on the site.

2.1.2 Experiences on the ground

One community, Vancouver, began by handing off the task of content selection to City departments. As a result, the site became "scattered" and many citizens found it difficult to use. Some departments used focus group testing as their guide, others did not. Some tackled the problem by examining their own needs, others by what would be most convenient for them to put online.

The City now recognizes that, when it began developing its website, it did not have a coherent strategy to guide content selection. As a result, it has had to rethink much of the initial work, approaching the task more from the citizen's perspective. According to the participant, getting officials to focus on the "bigger picture" has proved to be a major challenge. After so many years of working independently, departments are now being asked to work together to provide website content that is integrated. This requires collaboration, which, in turn, involves a major culture change (see section 3.2). Unfortunately, the City is currently preoccupied with other concerns and so has not yet completed the development of a common strategy.

In spite of the setbacks, however, the participant felt that Vancouver had learned from its experience and that, as a result, its website had improved. It now offers an online directory of employees, an online tendering system, information on road maintenance, and a list of community services. Pages dedicated to the police and fire departments provide safety tips. The site also features *Van Map*, an online geographic information system that provides information for residents and commercial enterprise about streets, buildings and sewer systems. Although parts of the site remain difficult to navigate, it is improving.

The town of Hinton travelled its own learning curve. At first, it based the website around what officials thought that someone from outside Hinton might like to learn about the municipality. The site was viewed as a marketing tool to attract businesses and tourists to the community.

However, once the site was up and running, a former mayor found that citizens were disappointed that it did not serve their needs. He recognized that the site could be redesigned to help the municipality provide better service to its citizens and led the movement to expand the site.

A second wave of planning has focused attention on what residents want and need. Now the citizens of Hinton use the site for a variety of purposes and have signalled their interest in receiving more online services. This has not prevented the municipality from continuing to use the site as a communications tool to promote Hinton as an economic centre and travel destination. Rather, officials have found that a well-designed site can serve both purposes.

The City of Saskatoon chose yet another starting point for its website. To resolve the issue of content selection, Saskatoon conducted a series of opinion polls, customer interceptions after walk-in visits, and quality call-back surveys. Officials also surveyed their own staff. It is interesting to note that the consultations were conducted because there was internal uncertainty. Individual departments were pulling the municipality in different directions. Central planners concluded that it would be unwise to proceed until they were confident that they knew what **citizens** wanted. The municipality therefore decided to put a hold on the project until the research had been done and a coherent and comprehensive strategy had been developed.

The site is now in its initial release phase. Only some information and services are available online but more are being developed. So far, citizens are using the site frequently and our participant reported that there is a high level of satisfaction with its design.

By contrast, Medicine Hat based its website content on what officials thought would be convenient for their citizens. It now offers pick-up dates for garbage, transit-route times, recycling information, municipal properties for sale, tourism information, and voting locations. The City did not use consultations to build content and did not mention any plans to try them. They have however had positive feedback in terms of hits on the site.

In Edmonton, content selection and development were based upon consultations with communications staff from each department who, in turn, looked to citizens for signals regarding content. Officials used a combination of the City's Citizen Action Centre – a call centre where citizens can register a complaint or idea – and focus group testing. The result is a user-friendly site with a remarkably high "pick-up rate" (number of new users).

Anmore, British Colombia, regards its website as more than a source of local information about services. Public affairs also has an important place on this website. For example, the site includes a section that posts councillors' opinions on important issues, along with contact information, including e-mail. The site provides background material on community business that the mayor believes would be important or of interest to citizens. It is noteworthy that the site was built and is maintained by the mayor, who reports that no matter how much information is on the site, constituents always seem to be asking for more. The web content, he says, has evolved as a result of requests from citizens.

In Ottawa, 12 municipalities recently merged to form the new City of Ottawa. The process was difficult and complex. Issues around branding and defining a visual identity for the new city were critical to establishing a fresh corporate identity and vision. The creation of a website was seen as an important tool, but developing a strategy for posting information was not easy. Each region regarded its own interests as essential and wanted its issues and community highlighted. According to the participant, it took a lot of negotiating to build the new City of Ottawa site.

E-Government:The Municipal Experience

Finally, seven of the eight municipalities in the Yukon have websites, but their content is generally designed for external users: tourists, investors and business travellers. The sites post information on a variety of themes likely to interest non-residents, such as town history, listings of local businesses and lodgings, things to do in the area, and links to other sites. They also offer contact numbers and e-mail addresses for local councillors and municipal employees, and the hours of operation for government services.

2.1.3 The need for a strategy

From the examples above, we see that it is far from clear how sites should be organized. The issue sparked some lively debate during the roundtable. In particular, participants wondered if there is a single best principle or approach.

One participant suggested that governments should be wary of putting the task of site design into the hands of "technicians." In his view, they tend to be too government-centred in their approach and tend to organize site material around government's preferences and needs rather than those of the user.

A site that is organized around government priorities is not likely to be user-friendly.

Others picked up the thread. Most agreed that a site that is organized around government priorities is not likely to be user-friendly. These may range from concerns over a legislative mandate to the physical location of a government department. Such priorities may bear little or no resemblance to the concerns of users.

Some thought that government could learn much from the experience of private-sector organizations which have successfully integrated new technologies into their service delivery networks. Banks, for example, have been very successful at using ICTs, such as automated teller machines, to redesign service delivery in ways that are efficient and user-friendly. What lessons and best practices could be passed on to municipalities?

The main conclusion from the discussion seemed to be that sites should strive to be **client-centred**. Participants took this to mean that content should be organized in ways that reflect the purposes of the user. They recognized that the principle is not always easy to apply: Who are the users? How do we know what their needs are? What if there are multiple users? What should we do when needs conflict?

Providing the right answers to such questions is complicated by the fact that government may have its own reasons for wanting to provide users with information. One participant identified five such reasons:

1. To promote economic development;
2. To respond to citizens' needs, e.g., frequently asked questions;
3. As an information resource for "communities of interest";
4. To promote discussion and debate around issues of public concern; and
5. To encourage tourism.

Organizing content around citizens might require "horizontal coordination" between departments or even levels of government.

Participants went on to discuss the fact that organizing content around citizens might require "horizontal coordination" between departments or even levels of government. For example, some information sharing may be necessary. The discussion raised another interesting point.

Sophisticated infrastructure is expensive to develop. It is therefore often unrealistic for smaller communities to consider trying. However, some participants thought that shared portals might be a solution. Rather than have each municipality develop its own site, perhaps there could be a shared portal, say, for getting a dog licence. The user would enter "dog licences" to get into the

portal, identify the city and provide the necessary information to the appropriate government. Such a service would allow smaller communities to have access to online services without incurring huge development costs.

Although an intriguing possibility, the idea of shared sites raised questions: Can the information be shared without compromising other commitments, such as personal privacy? Can different departments or governments coordinate with one another to ensure that the right information is available and posted? Who is accountable for the accuracy and reliability of posted information that comes from more than one source? This question will be developed further in the next section.

In general, there was a sense that municipalities cannot and need not do everything themselves. Officials were interested in the possibilities around partnerships but had many questions about cost and value. Are there economies of scale? Does the cost fall as you put more information online? Where and when does it help to partner with other municipalities? How useful are links to other sites? Can they save money? How much use must the various parts of a site get to justify the investment? Such questions merit further discussion and attention.

If there are some overarching lessons from the cases, they seem to be, first, that an overall strategy for content selection should be developed up front. It should reflect a corporate perspective. Second, it should be anchored in a clear awareness of the concerns and needs of citizens. Finally, although posting information is the simplest form of e-government, building and maintaining content for such a site can still be an expensive and time-consuming task. Partnering may be a useful strategy for offsetting such costs.

2.2 Updating information

Once information has been posted, a whole new job begins. Keeping the information up-to-date and relevant is a major challenge for each of the municipalities participating in our interviews. Similarly, roundtable participants told us that sites require continuous upkeep. If citizens do not regard them as reliable, accurate and up-to-date sources of information, they do not use them. Preserving a high level of confidence is therefore critical to their success, but this requires a significant ongoing commitment. Many communities only arrived at these conclusions through trial-and-error.

The City of Fredericton's representative told us that its officials found that the original website contained much outdated or unused material. As a result, they made a corporate decision to reduce the amount of content on the site and, in future, to post only information that could be updated regularly. The result has been an increase in visits to the site. Citizens appear to be more satisfied with the new design and have less difficulty navigating the site.

In Edmonton, each department is responsible for updating its own section. Officials found that this can cause problems or lead to unevenness across the website, as some departments are more diligent than others in updating the information.

This same challenge was described for the municipalities of Medicine Hat, Grande Prairie, Ottawa, and Winnipeg. Each participant explained that they needed content management tools to properly manage their sites. These are costly and trying to find funding for them can be difficult.

In Hinton, all content used to be posted by one web-master. As the site grew, it became impossible for a single person to manage the task. Each department now has a trained individual who acts as its webmaster. That person is in regular contact with the City webmaster, who ensures that all pages are up-to-date.

The City of Ottawa reviews each request to post information on its site. Approval is given only if the department has committed the funds to update it regularly. This ensures that information that gets posted will also get updated.

The issue of funding was on many participants' minds as they looked ahead. The cost of regularly updating websites can be considerable and most municipalities simply do not have the resources to ensure that information is kept up to date. However, the issue of site maintenance is crucial; regularly adding new information and deleting obsolete information is the only way to ensure that a municipality's website remains relevant to its citizens. Participants were unsure what implications this would have for the long-term development of e-government at the municipal level.

2.3 Access

If a site's technology progresses but it takes many users as much as 30 minutes to log on, they simply won't use the site, making the initiative a waste.

Several municipalities identified citizens' access to the Internet and to computers as important issues—the so-called "digital divide" question. A participant from Charlottetown regarded it as their biggest challenge. Charlottetown has several Community Access Portal sites where citizens can access the Internet free of charge. However, the smaller municipalities in the province that share the portal have very limited Internet access. In addition, speed of access is an issue. If a site's technology progresses but it takes many users as much as 30 minutes to log on, they simply won't use the site, making the initiative a waste.

The City of Fredericton is initiating several projects to bring the community online. To improve infrastructure and facilitate access, a not-for-profit corporation owned by the City is building a high-speed network to connect all government and business buildings in Fredericton. The City feels that this will help change the community's behaviour. Most citizens will have access from their workplace, where they will learn to use the Internet, ultimately carrying that knowledge into their homes. Members of the business community visiting the City will be able to connect from any hotel in Fredericton. Children will have access from their schools. Wide and easy access to the site should increase the population's comfort level with it and encourage citizens to begin using the Internet for municipal information and services.

In the Yukon, most communities have high-speed access to the Internet. Their challenge is a different one: many citizens don't have computers and can only access the Internet by using the computers in the public library. Because so many citizens don't have computers, they are not comfortable using the Internet. Because municipal sites in the Territory are designed for experienced Internet users, many residents find it difficult to navigate through them or to use them at all.

The digital divide issue was also a major concern for participants at the roundtable. They told us that if certain groups of Canadians were unable to access services and information online or participate in community affairs, they would be increasingly disadvantaged. This is especially true for people in remote areas who may depend upon such links to participate fully in community life. For example, in some parts of northern Canada, it now costs three times as much as in southern Canada to receive satellite service for e-mail. This is a significant barrier for many residents.

One participant noted that Internet-based service is not the only option. Electronic service delivery can be provided by telephone, as can various forms of citizen engagement. In the UK, for example, several regions have experimented with alternative service delivery models for voting. Pilot studies in Chorley and Swindon used postal voting, telephone voting, and Internet voting. In Chorley postal voting increased voter response rates from 30 to 60 percent. In Swindon, telephone voting

increased them by five percent and online voting by ten percent. This participant concluded by noting that the quality of the connection is an important consideration for internet voting. Low-speed access over a telephone line significantly limits the access, making it difficult, if not impossible, to download many pages or receive large messages.

Another participant speculated that the digital divide might be the most important issue facing e-government. Moreover, he said, there is not just a digital divide. There are many. The phrase "digital divide" is really a way of referring to a number of social groups whose access to the Internet is restricted in various ways. Limited access to the Internet then limits their access to government services, which, in turn, has an impact on government's ability to promote equality of opportunity.

There are many social groups in Canada whose access to the Internet is restricted. The reasons vary. In some cases, it is because of geography. If you live in the North, for example, there may be no service available. This is not the same problem faced by someone whose access is restricted because he or she does not speak English. In both cases, there is a digital divide but they are different divides, involving different social groups. A government program aimed at overcoming one digital divide may have no impact on another. For instance, a program to address regional isolation may have no impact on linguistic isolation. When we debate the impact of the digital divide, we must be conscious of this.

One participant proposed a list of five distinct forms of the digital divide that need to be addressed:
1. Language
2. Geography
3. Income
4. Access to the Internet
5. Speed of access

Many participants expressed strong views about the need for governments to make the digital divide a priority and act to address it. They warned that if citizens don't have access to the Internet, e-government could make our society less equitable, less fair and less democratic.

2.4 Questions for discussion

Reflecting on the reports in this section, a few questions should be posed for further discussion.

1. Learning by trial and error turns out to have been a common experience. Missteps and uncertainties regarding content selection were common across the country. What could be done to ensure that there is more sharing of experiences and best practices in the future?

2. Information of all kinds may be posted, leaving sites complicated and confusing to citizens. A common response was to turn to citizens to find out what information they wanted available. As a result of such consultations, we heard about literally thousands of pages of outdated or unused text that were removed from sites. If e-government is supposed to make services more citizen-centred, what steps should be taken up front to ensure that content is citizen-centred?

3. We heard that citizens expect content to be integrated; they do not think of services as being broken up and divided among departments, as governments do. In practice, this means that content must be presented in a way that reflects the citizens' view of the issue. The design

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of such a site therefore may not follow existing government structures. What issues does this pose for upkeep, content renewal and other site-management tasks?

4. If the digital divide is made up of many smaller digital divides, what are they? Which are most pressing? What can be done to overcome them?

3.1 The first level of engagement

Many services provided online by municipalities go beyond simple posting of information on a website. Some involve transactions between government and citizens. For example, in many municipalities it is now possible to pay parking tickets online or apply for a business licence. To complete such services, the citizen must be able to interact with the system, enter some information, such as a payment, and have it registered and acknowledged. Developing the capacity to complete such transactions online takes a major step beyond posting static information. This is a new and more complex category of electronic service delivery, which we can call transactional services.

Transactional services range from single exchanges, such as paying a parking ticket, to complex series of exchanges, such as regular communications between government and citizens regarding the phases in an appeal of the tax assessment for a property. Some transactions can be completed in real time so the citizen is able to get a response immediately; others require the intervention of a person, with the response sent electronically at a later date.

Moving to transactional services raises many challenges. Some of the most significant ones we heard about during the interviews include:

• overcoming cultural barriers, such as fear of technology;
• ensuring that departments are ready, willing and able to work collaboratively to provide integrated services; and
• protecting personal privacy in an online environment.

Using the material from the interviews, we will examine each one briefly.

3.2 Cultural barriers

Citizens must adjust to the idea that transactions which traditionally involved face-to-face contact can now be completed securely, effectively and easily, online.

Several participants reported that some of the biggest challenges e-government faces in their communities are cultural ones: citizens must adjust to the idea that transactions which traditionally involved face-to-face contact can now be completed securely, effectively and easily, online. It is not enough for them to support the concept of e-government at election time, said one participant. Citizens must start using the website on a day-to-day basis to complete regular transactions with government. (Although participants at the roundtable warned us that governments must continue to provide services through conventional channels.) Participants thought that citizens' reluctance to do this was partly a result of "cultural" factors, ranging from habit to fear of technology. One of the key challenges for e-government, they told us, is cultural change. Various strategies are being devised to help facilitate this change.

Charlottetown is a case in point. The City is preparing to provide a wide range of services online. To help citizens adjust, officials have developed a transition strategy. They are designing user-friendly kiosks that will be rolled out a few months before the portal comes online. Kiosks will be strategically placed in community centres, at City Hall and in other venues where citizens regularly line up to receive face-to-face service. The expectation is that they will use the kiosks to complete a transaction in order to avoid queuing, thus adjusting to the new service channels. Once the portal is up and running, they should be comfortable using the Internet and will make the transition more easily.

Governments should develop a strategy to help overcome cultural barriers that prevent or discourage people from using the technology.

Roundtable participants were in general agreement with the view that governments should develop a strategy to help overcome cultural barriers that prevent or discourage people from using the technology. A natural place to start is with government employees. And, indeed, we heard that many municipalities already offer training sessions for staff. Some also reported having home-computer ownership programs for staff, which aim at helping employees become familiar and comfortable with the technology by making it part of their daily lives. In at least one municipality, we were told that elected officials are required to undergo training to familiarize themselves with ICTs and their uses. The program permits them to do this from the comfort of their homes, along with their spouses, to help them feel at ease.

Finally, participants briefly discussed the possibility of creating a training program for citizens. There were more questions than answers. Should there be one? What would it look like? How costly would it be? Would it require involvement from other levels of government? Would it lead to a significant increase in use of the services? Might that, in turn, lead to savings elsewhere?

In the Yukon, some of the smaller and more remote communities post reports and agendas from council meetings on their sites, primarily for the use of citizens who cannot attend the meetings. But this is the exception, not the rule. The participant explained that, although they seem to want a strong web presence from the territorial government, citizens fail to see the value in putting municipal governments online. Some communities already televise their council meetings and hold public question periods before the meetings. The participant believes that citizens are not ready for an online format, such as discussion boards or chat rooms. They might feel that their politicians were hiding behind the technology. Before citizens will accept and participate in online meetings, a cultural adjustment must occur. So far, there is no clear strategy to promote one.

Three major challenges are facing Coquitlam as it develops an e-government strategy. One is marketing the plan to the community. The second is convincing Council of the value of e-government, which is a relatively new concept for the community and the politicians. The third is ensuring that municipalities support politicians in their role as consumer advocates of e-government.

A participant from Coquitlam identified three major challenges facing that city as it develops an e-government strategy. One is marketing the plan to the community. The second is convincing Council of the value of e-government, which is a relatively new concept for the community and the politicians. The third is ensuring that municipalities support politicians in their role as consumer advocates of e-government. It seems that both citizens and politicians are unclear on the benefits, risks, opportunities and challenges. Moreover, the cost of implementing e-government initiatives is huge. Getting Council and citizens to support such an investment requires a leap of faith on their part. But even that will not be enough. As the City builds the infrastructure to expand and develop e-government, the costs will rise even further. The participant worried about the public service's ability to win and hold the support of citizens and Council as the project proceeds. What is really needed is a deeper understanding of e-government among citizens and politicians.

At the roundtable, one participant suggested that the best way to convince councillors of the value of e-government is to find ways to use the technology to save money. Another participant noted that his government currently had people monitoring the sewer systems and utilities. Could this be done electronically, he wondered? Another reported having tried to develop a "one bill" system in which the City would send out a single monthly bill, containing the costs of water, hydro, and taxes. There was a backlash from citizens and the project had to be cancelled. Citizens made it clear that they were not ready for "Sears-style" billing, whatever savings might result. As we saw in Charlottetown, using e-government infrastructure for e-business applications can help convince councillors of the value of e-government.

Some participants worried that replacing people with machines may lead to problems with unions that are committed to protecting jobs. This could encourage them to oppose e-government. Others replied that e-government shouldn't be viewed as an opportunity to eliminate people. On the contrary, it will create new, more interesting and more productive jobs. With the right retraining, people could move into them. Still others felt that developing e-government projects to save

money was the wrong approach. It is about more than saving money. Indeed, in the short term, it may cost money. E-government is about better government, that is, government that is more accountable, open, democratic and effective. Some of the benefits of e-government will involve cost-savings and increased efficiency in government. But it is a mistake to over-emphasize these benefits as they may only appear over the long term. This should be made clear to councillors and citizens.

A participant commented that there is a tension between promoting efficient services and better government. Citizens wear two hats: they are owners of government services and they are users of them. As users, they are not interested in what is happening behind the counter. They want the best, most effective services possible. And they want government to be open, transparent, accountable and fair. As owners, they tend to focus on cost. They want services to be as efficient as possible.

According to the participant, a key challenge for e-government is to strike the right balance between these two, which is not always an easy thing to do. Citizens are not always conscious of the ambivalent relationship they have to government. When they are speaking as users, they may forget that they are owners, and vice-versa. This too is a kind of cultural challenge for e-government. Citizens must recognize that they play a key role in finding the right balance between efficiency and better government.

3.3 Interoperability and collaboration

According to some of our participants, **seamless service** is a major goal of e-government. Services should be organized around the citizens' needs, rather than expecting citizens to fit into the maze of government. Why should citizens have to visit several departments—or several levels of government—to complete what they regard as a single transaction, such as getting a business licence or a building permit? Why can't such services be completed online with a single transaction? Certainly, it is technologically possible.

But if participants sometimes felt that a citizen-centred approach to service delivery was essential to e-government, they also recognized that reorganizing services along these lines poses challenges. They raised two in particular. One concerns the compatibility of systems, which we can refer to as their interoperability. The other concerns the compatibility of projects, people and organizations, which we can refer to as collaboration.

Providing seamless service usually requires some reorganization of back-office business practices. This can range from data management systems to billing. In brief, when two organizations or departments want to work together to integrate services, it may be necessary—or at least more efficient—to create a single system for such operations.

Information and communications technologies vastly enhance government's capacity for such integration—especially if the organizations are in separate locations. Nevertheless, many municipalities are unable to integrate systems or exchange information freely between departments or governments for what can fairly be described as physical reasons. Barriers of this sort range from a reliance on old-style paper-based systems to the use of electronic systems that are not compatible with those of the partnering organization. Sometimes these so-called "legacy systems" can be redesigned. Sometimes they must be replaced. Either way, the incompatibility can make the costs around integration very high in the short run.

A second kind of barrier concerns the human problems that arise when different organizations begin to work together. Integration requires collaboration between different departments or levels of government. This is necessary to facilitate the information sharing and joint program management needed to make integration work. Although collaboration is relatively intangible – most referred to it as a "cultural" aspect of e-government – it is often critical to success. We heard from many participants that it is sometimes very difficult. There are no established rules for good collaboration. For example, if it is true that collaboration implies a greater willingness to "share responsibility" or to allow for "give-and-take," it is often hard to know exactly how responsibility is to be shared or for what things, or how much flexibility to show a partner or to expect from one. If collaboration was on many participants' minds, few were very clear about the ground rules for such a relationship.

Nevertheless, participants clearly felt that they were making progress. For example, the municipality of Charlottetown has collaborated with the municipalities of Stratford and Cornwall to build a community portal called Town Square2. It is divided into four parts: Community Builders' Forum, MarketPlace, Community Exploration, and Learning Centre. The portal has been modeled around the traditional town square, and includes businesses, community events, local information and a school—all integrated within a single electronic space. The format also allows each of the project partners to add content that is relevant to their areas of expertise. The partners include the three municipalities, the Charlottetown Area Development Corporation, the Confederation Centre of the Arts, the University of Prince Edward Island and Holland College, the Chamber of Commerce, the provincial government, and several endorsing partners. The portal is being launched in two phases: the first on June 1, 2002 and the second in the fall of 2002.

Despite the complexity of the project, the participant said that interoperability did not pose a major problem with respect to information sharing. The software for the system was designed to manage information from different sources. Instead, the main collaborative challenge identified by the participant involves access to provincial information for the Community Exploration portion of the site. Currently, the Province is charging for access to this information, which is a significant cost for the City of Charlottetown. The two governments are currently working toward a new agreement.

The issue raises interesting questions about the management of a collaborative partnership. What kind of commitment is needed to make such arrangements work? To what extent must the partners be prepared to put the interests of the project as a whole ahead of their own interests? Should such issues be sorted out in the early planning stages? If such a project is designed to serve citizens' interests, to what extent should different departments or jurisdictions sacrifice their own interests to promote those of citizens?

Although issues remain, the participant regarded the collaborative effort between the three municipalities as a success and described the experience positively. Indeed, the remarkable degree of collaboration contrasts sharply with past practice, we were told. Municipal governments in PEI have a long history of turf wars. The e-government experience has helped to reverse this. They have begun to build a new relationship based on a more collaborative outlook. The participant felt that this would carry over to other initiatives beyond e-government

Medicine Hat describes its online permit application system as an e-government success. Information is entered by the applicant and then stored in a database. Because of concerns over privacy, departments are only able to access information from the database that is specific to their needs. We asked what will happen as the system expands. Could it become too complicated to manage? The participant was not worried. As long as the service is transparent to the end user, he told us, what happens behind the scenes is not a problem. To date, the participant said, they have not had any serious complications.

Although this may be true, the case underlines the need for long-term planning with respect to the design and purchase of basic e-government infrastructure. At a minimum, systems should be designed to accommodate expansion. As a population expands, many initiatives that are now small will rapidly grow in size. More importantly, as e-government expands, many systems that now operate on their own will be merged with other systems, to take advantage of new opportunities. "Legacy systems" that have not been designed for expansion may quickly become costly "white elephants." Issues around interoperability, such as standardization or the capacity to handle larger or more complex operations, must be considered from the beginning. Failure to do so may lead to huge cash outlays and lost opportunities in the future.

Fredericton has launched an interesting service that should be mentioned here. It is a GIS (Geographic Information System)-based ortho-photo system that can be accessed by the police dispatch centre. The dispatch centre can access the system to provide officers with detailed descriptions of the City and its properties. There are many applications.

For example, suppose that a police officer must enter a backyard in the dark. The dispatch centre can use the system to locate a building on the property, its door and other significant points, thus giving the officer a picture of his or her surroundings. The system can also be used to provide citizens with property assessments and property-line information. This multipurpose GIS-based ortho-photo system is thus. It has achieved this flexibility by integrating information from several departments. But developing the system did bring up a number of issues around interoperability and collaboration.

For one thing, departments were reluctant to change their internal business processes to accommodate "outside" needs. As a result, the participant described the restructuring process as an ongoing tug-of-war between central planners and participating departments. In the end, each department had certain technical requirements imposed upon them to ensure that they would meet the needs of the project. This represents one way to solve the interoperability issue: set standards and force departments to comply.

Control of information presented another challenge. Departments tend to be internally focused and, as a result, the information they gather is aimed at improving their own services. According to the participant, departments tend to view such information as their property – especially where it may be sensitive – and they are often reluctant to share it with other departments. Sometimes this was explained as a way of protecting privacy. However, the participant felt it was at least as much about concerns over loss of control. Changing that outlook to accommodate a more collaborative approach has been a difficult task.

The municipalities of Edmonton and Calgary told us that they had collaborated in an effort to create a single online permit system. They shared the investment cost, the risk, and the final product. A third party designed the software and the communities aligned their business processes to match the system. Both communities use the same permit codes, so citizens in each community can use the same system. The partnership helped reduce the initial cost outlay for each municipality and was praised by the business community. It provides a good example of the benefits of municipal collaboration.

The Edmonton representative at the roundtable told us that building the relationship between the partners had been one of the biggest challenges in the project. In the early stages, the partners found it difficult to work together. The cultures of the organizations were very different. Expectations, practices and values needed to be adjusted.

**Working in collaborative rela-
tionships requires high levels
of trust, mutual understanding
and respect.**

Ultimately, they found that the adjustment was possible only after key individuals involved in the project recognized that they would have to make a significant personal commitment to understanding one another's organizations. In particular, they had to invest the time and energy to get to know their counterparts on the other side. Ensuring that the time was allotted to build the relationships was critical. It can take a lot of time. But the overarching lesson is that working in collaborative relationships requires high levels of trust, mutual understanding and respect. If that is not established, she said, it is too easy for things to go wrong.

The participant told us that the experience had not only changed her view of the project, it had changed her. Learning to collaborate with others in a business relationship, she said, was a personally enriching experience. It required a kind of personal reflection and the use of interpersonal skills that had not played a major role in her normal working relationships. The relationships that she built in the process were essential to the project's ultimate success. The strength of these relationships enabled the municipalities to negotiate successfully with software companies to meet their needs and save considerable amounts of money. The sense of accomplishment, concluded the participant, was a personal benefit and reward that she had not expected.

Anmore is working with four other municipalities on an application for funding to build a central server. The portal would allow citizens to pay bills, access information and have regional discussion forums online. The four partners are also considering building a business and government service directory. When asked whether integrating three different sources of information would raise issues around interoperability, the participant replied that it would not. One of the advantages of having engaged in a collaborative enterprise from the beginning, he explained, is that the municipality recognized that the site had to be compatible with the systems from each municipality.

Saskatoon had a similar story. The participant said that they had merged the IT sections from each department into a new Central Information Systems department. It will oversee the building of infrastructure in all municipal departments. One result is that the City expects to avoid the kind of interoperability issues that might arise if each department designs and purchases its own systems.

Whitehorse, the largest municipality in the Yukon, is building a directory of government programs and services. It is a collaborative effort involving several levels of government, which are working toward a common goal. The site will include federal, municipal, territorial, and aboriginal government services. As a first step, various government forms that can be downloaded by citizens will be posted. They can fill them in and fax, mail or hand-deliver them to the appropriate government to apply for services. The participant expected the site to be interactive within a few years, allowing citizens to submit the forms online.

3.4 Privacy

According to our interviewees from a number of municipalities, using the Internet to provide citizens with government information has raised significant privacy issues.

For example, Medicine Hat planned to offer information about local cemeteries online. The service would have used a search engine that could locate particular plots or search for available plots. However, the City found that provincial *Freedom of Information and Protection of Privacy Act* prevented them from making this information public, unless the person had been deceased for at least 25 years. The municipality has had to adapt the service in order to comply with the legislation.

Edmonton is another city which has taken pains to respect personal privacy in its e-government initiatives. Every submission form and online transaction page has a privacy disclosure statement which says where the information is going and who will have access to it. The municipality also has its site audited once a year by an external auditor to ensure that personal privacy is being protected

Although the participant from Anmore emphasised that its partnership initiative with three other municipalities was improving services for their citizens, he cautioned that sharing information raises ethical issues around access to information and protection of privacy.

When the City of Hinton tired to create a business directory, some citizens opposed the initiative on the grounds that such a directory would provide too much information to solicitors. The City only decided to go ahead after it had developed strict rules regarding the conditions under which information can be posted. In particular, when local businesses apply for a licence renewal, they will receive a form asking them if they wish to have their business listed and giving them a choice as to what information they would like posted on the site.

The participant from Coquitlam told us that the City was in the process of examining the question of safeguards for personal information, because some planned services will require citizens to provide confidential information, such as a credit card number, to make online payments.

Roundtable representatives felt that a significant part of the privacy debate is the issue of information ownership. When municipalities begin to collaborate with other governments and third party vendors, who retains ownership over data? If data is stored centrally, how do we ensure that privacy is maintained?

3.5 Questions for discussion

1. We saw that many municipalities regard "cultural" factors such as fear of the technology as a major barrier to e-government. At least one government has devised a transition strategy to help its citizens adjust to using the service channel. How significant are these barriers? What are they? Do municipalities need a strategy to overcome them? What are the essential components of such a strategy?

2. A different kind of cultural barrier we heard about involves the shift from a traditional "inward-looking" departmental approach to service delivery to a more collaborative one. What is the difference between these two? Is collaboration really all that important? Is it essential to e-government? Can the principles of a collaborative approach be codified to help officials adjust? What steps could be taken to facilitate more sharing of experiences and initiatives by municipalities?

3. How serious a challenge do privacy issues pose to the realization of e-government? If privacy legislation is provincial, what can municipal governments do to overcome the barriers it creates? Could e-government be a serious threat to the respect for personal privacy? What is the difference between privacy and security?

4.1 The second level of engagement

The third stage of the e-government continuum involves a new or second level of interactive relationship between citizens and government—ultimately, a dialogue. It can be subdivided into two parts: a preliminary citizen-to-government step, followed by the development of a full-fledged, interactive relationship between government and citizens, and the emergence of an online community.

4.1.1 Citizens to government
The intermediate step from transactional services to online community involves the development of a feedback and community involvement area online. This is not yet a citizen-government dialogue. It is information flowing in one direction: from citizens to government. Examples include a community events page on a website or a structured feedback form online.

Charlottetown is one city that is moving in this direction. The first phase of the new portal will include a capacity for "communities of interest" to build their own sites within the portal. In addition, it will have a complaint-tracking mechanism that citizens can use to register complaints. The relevant department will be obliged to respond within a specified amount of time. The second phase of the initiative will include a bulletin board where citizens can post comments. Finally, the City is considering plans to use the site to do some opinion polling.

These processes are viewed as consultations. They are not intended as an alternative to government.

Together, these various initiatives will create ample space on the new site for citizens to consider, discuss and express views on issues of concern. The interviewee from Charlottetown was careful to stress, however, that, although Council is supportive, elected representatives have concerns about such initiatives, and the City is very conscious of the need to manage public expectations around them. On one hand, the information gathered from the discussion forums and opinion polls could help politicians and senior managers understand how the public views key issues. On the other hand, these processes are viewed as **consultations**. They are not intended as an alternative to government. The participant underlined that the government would not be bound by views expressed.

The issue of "e-noise" seems to be a significant one for politicians. Political issues tend to be driven by the intensity, frequency and quality of citizen action. Participants expressed the importance of not being affected by the number of e-mail messages someone receives. Politicians have to avoid such overload, and learn to sift through the e-noise.

4.1.2 Citizen-government dialogue
The final step in the e-government continuum involves an interactive relationship between citizens and government. Citizens use the website to engage their government, and governments use the web site to engage their citizens. Although we asked most participants about their plans for online discussions, only a few were experimenting at this level or thought that it might be something that their citizens wanted. Indeed, most municipalities felt they were some distance from even having the capacity for such a dialogue.

The City of Coquitlam's website will include online discussion forums and opinion polling. The participant, who was a politician, felt that this was a useful part of the initiative. Although he had no plans to participate in discussions personally, he was interested in reading the summaries. He was less than confident that such discussions would increase citizens' participation in public debate. He felt that people who were already interested in municipal government would make use of the new channel, but that those who were not engaged would not be likely to be drawn in by it.

In Saskatoon, officials considered having a "question of the day" on their website, inviting citizens to discuss it online. In the end, they concluded that the cost of maintaining such a discussion was too high. It would require constant updating, monitoring and packaging of the results, which would then have to be sent to decision makers. The benefits did not appear to outweigh the costs. Moreover, a communications delivery branch already holds forums in the municipality to engage the public on issues. When asked about the prospects for online consultation, the participant worried that e-dialogues only reach those with computers and Internet access. By contrast, in-person forums are more inclusive as most citizens can get to the location. For now, the City views online discussions as exclusive forms of engagement that do not include a broad enough cross-section of the population.

The Medicine Hat representative told us about plans to introduce online surveys in the next few years. Councillors would receive summaries of the findings to help them make decisions.

Of the municipalities participating in our interviews, the City of Ottawa appears to have the most ambitious plans for e-democracy. The City recently hosted the Smart City Summit, which served as a pilot project for citizen-government interaction. The entire conference was webcast and viewers were able to pose questions and received immediate responses through e-mail. According to the participant, plans are being made to use the technology to transmit Council and committee meetings. Citizens will be able to pose questions directly to councillors.

In addition, Ottawa is examining ways of using the technology for consultation processes. Traditionally the City would organize a session, bring graphs and other aids and answer citizens' questions. However, participation rates at such sessions were uneven. On a snowy day, for example, only a handful of people might show up. Consultation processes using telecast would allow people to participate from their homes. But the participant went on to voice the City's concern about ensuring balanced representation. How do you know that the people who participate are really representative citizens as a whole? Would it be a good idea to use webcasting technology for such consultations? Given what we know about the digital divide, would that be likely to make such processes even less representative?

Similar concerns were raised by the Anmore representative. At the moment, the municipality mails all its citizens weekly or biweekly messages to inform them about current Council matters. The mayor would like to post this information on the town's website. But he is concerned about how this may affect residents who don't have access to computers. Would it be fair to post the information on a channel that might make it available to some but not others? The town cannot afford to mail the information **and** post it electronically. Would it be unfair to move it online? Would this create an elitist system?

One municipality tried to include community interest groups in city planning by creating a citizens advisory committee. This committee would discuss city issues and report to other committees made of up council members.

4.1.3 Imagining the future
Although the governments of most participants at the roundtable had not yet experimented in a major way with ICTs as new tools of public consultation and democracy, the topic was of interest to almost everyone in the room.

The level of interest—and excitement—is consistent with our experience at other Crossing Boundaries events, involving other levels of government. Although it is sometimes difficult to get officials from one level or one part of government to focus on some issue in e-government that is

not clearly related to their own expertise, e-democracy is a very soft sell. It seems to attract and hold almost everyone's attention from the start.

Perhaps e-democracy raises opportunities and challenges that are easily recognized by just about everyone, from public servants to the business community, from anti-globalization protesters to journalists and politicians. It does not take a great leap of imagination to see that the new interactive networks that are being built for service delivery could also be used to connect citizens and governments in a conversation. Once that possibility has been recognized, it is a short step to the conclusion that people and organizations will want to use it for that purpose. Indeed, it is hard to imagine how that could be avoided for long. Even authoritarian governments which fear the democratizing thrust of the Internet, such as those of China or Cuba, cannot expect to maintain a "firewall" around their country for long. This is much like sticking one's finger in the dike to stop the flow of water.

It may be worth recalling that **representative** democracy was invented in the 17th century as a substitute for the ancient Greek form of **participatory** democracy, because modern nation-states were too large geographically, with their populations too spread out to make the old form viable. Representative democracy was a way of addressing the issues of population size and distance. The new technology has the power to address these challenges in new ways. It may be possible to use it to have online discussions of various sorts involving large numbers of people who are separated by significant distances. It is certainly possible to have much more online voting.

As the technology develops and such processes become increasingly rich and cost-effective, there will be pressure from many sources for government to use them. It is unclear how this will change the practice of democracy in countries such as Canada. But it seems safe to assume that citizens and stakeholders will have a larger role in governance, and that all levels of governments will be consulting them, far more frequently and extensively.

This raises an interesting question about the role of municipalities in this process of transforming democracy. It may be that they have a special role to play. Municipal governments have long argued that they are the closest to citizens and the most democratically accountable. Municipal politicians see their constituents on a daily basis. In many communities, they are personally acquainted with large numbers of them.

If citizens and stakeholders are to become more involved in governance through new kinds of online forums and discussions, a natural place to begin experimenting with the technology may be at the community level. That is where citizens are most likely to become engaged and to feel confident about their understanding of the issues and interests at play. Citizens have a keen awareness of how and why things matter to them in their communities. For example, they care about and have informed views on the state of their parks and transportation systems, the safety of their streets, the service provided by their hospitals, the location and adequacy of shelters and food banks or the reliability of police and other emergency services.

These are all potentially very good areas for experimenting with citizen involvement in new forms of governance enabled by technology. Perhaps municipalities should position themselves as the petrie dishes of e-democracy. Moreover, as they begin to develop the infrastructure, expertise and culture to support such practices, they might serve as the nodes out of which to build a community-based network that is provincial or national in scope.

4.2 Questions for discussion

1. We saw that Charlottetown plans to provide capacity and space on its website for the development of "communities of interest." Do such initiatives add much value to community business? If so, what? Do communities want them? If so, for what purposes?

2. Ottawa experimented with real-time exchanges with citizens through e-mail. Is there a risk that such exchanges might lead to an unmanageable deluge of e-mail? How would officials respond to extremely high volumes of mail? Can consultation processes such as these raise citizens' level of interest and participation in community debate?

3. Although a number of municipalities were enthusiastic about e-democracy-type initiatives, we heard that they were also concerned about managing citizens' expectations around their use. Do they pose a threat to good governance? Can expectations be kept in check? Do citizens want such access? Are the concerns over representativeness justified?

In order to move e-government forward, municipalities need the political support of their councillors.

A final theme that should be considered here is leadership. In the interviews, we asked if there was a particular person or department driving each community's e-government initiatives. Most interviewees identified a political champion who had taken up the cause and made sure that the agenda was moving forward, though in some cases senior administrators were the driving force behind council. Virtually everyone agreed, however, that in order to move e-government forward, municipalities need the political support of their councillors.

The driving force in Hinton was a former mayor who was very interested in e-government and its potential. But the management teams in each department have ensured that the projects keep going and momentum is not lost.

Anmore is working with four other municipalities to build a central server. Public servants conceived the project—they developed the business case, brought it to Council and got it approved. But the project has been strongly supported by the Mayor.

In the Yukon, private citizens and government employees are playing the role of the e-government champion. Politicians generally do not take on this role.

To date, Vancouver has not had a political champion. Senior government officials are driving the initiative from the inside. There was some concern expressed that this may be why their e-government efforts have been piecemeal.

One politician said that all these decisions about e-government have to come from the Mayor and Council. He felt that as elected officials it is in their best interest to have contact with their constituents as they make the big decisions that will affect many people. This contact would provide some guidance through the decision-making process.

5.1 Question for discussion

1. How important is political leadership? How informed are municipal leaders on e-government issues? Is there a need to engage them more? If so, how should this be done?

Conclusion

This study of e-government poses a number of questions for further consideration. As e-government develops in municipalities, some will be answered, others will not, and new ones will appear. On the basis of our research here, some comments and observations can be noted, by way of a conclusion.

At the most general level, the experiences we heard about convince us that there is a significant opportunity for municipalities to work together, collaborate, share experiences and learn from one another. Our findings from each stage of the continuum underline the importance of collaboration within municipalities, between them, and with other levels of government. But there were many questions about how collaborative projects will work.

The most significant success factor was relationship-building with project partners. Participants were very clear that working in collaborative relationships requires high levels of trust, mutual understanding and respect, and that establishing these takes time. If they are not established, things go wrong too easily.

Second, as municipalities begin to use ICTs to deliver services, they must develop a strategy. The most successful strategies reviewed in our study developed a vision early on that guided the choices made along the way. Although such a strategy almost certainly will evolve along with the project, it provides a basis for responding to basic questions, such as: What is the site for? Who will use it? What information do we want to post? What information do our citizens want access to? Tensions and conflicting interests between departments, technical staff and the end-users are more easily managed and resolved when there is a clear strategy.

Third, although many participants warned us that governments must continue to provide services through conventional channels, most also felt that their citizens wanted more services available online. But they had concerns. The three that we heard most often were:

• financing the infrastructure;
• ensuring that the necessary political support is in place; and
• ensuring that all citizens have access to the Internet.

Fourth, even though participants expressed enthusiasm for e-government initiatives, there were some concerns around the implications of citizen participation. How will we manage the public's expectations? These processes were viewed as **consultations**, not as an alternative to government. Participants underlined that the government could not be bound by views expressed through such initiatives as electronic forums. But there was uneasiness over how citizens might feel about that, and how it may affect the role of the elected representative.

Finally, the biggest challenge municipalities face is securing political support. In order to move e-government forward, municipalities need the support of their councillors. Without it, everything from creating and maintaining a website, to offering online transactions, to collaborative projects, to citizen engagement strategies, is likely to fail. As e-government advances, municipalities must be sure that elected officials are brought along.

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