

## THE CITY OF CALGARY



## DIGITAL STRATEGY REPORT

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## **EXECUTIVE SUMMARY**

Work on the Digital Strategy began when Council appointed seven citizens to an eGovernment Strategy Advisory Committee in October of 2012. The team of citizens worked alongside city employees to discuss digital programs, governance, and provide thought leadership on the future of technology in civic affairs. In addition to the work of the eGovernment Strategy Advisory Committee, The City also conducted engagement activities with 270 members of the public, and 60 staff, who provided feedback and insights on The City's Digital Strategy.

Together, staff and citizens said Calgary's Digital Strategy must be more than a list of goals. The Digital Strategy should also outline how The City can provide better information to citizens, enhance technology within The City, improve operations through technology, and provide low-cost services.

Internal and external research indicated that The City must discard the perception that technology is owned by one or two departments, and embrace the idea that technology shapes city processes, services, organizational logic, and influences corporate culture. Not only has the role of municipal government expanded, but the role of the citizen has transformed from passive to active, and Calgary must strive to ensure citizens feel that government activity is open, honest, and responsive. The five objectives of the Digital Strategy outline how The City of Calgary can effectively use technology to make Calgary a thriving city and a great place to live.

### **Digital Strategy Objectives**

#### **We have accessible services**

A commitment to an online service is also an obligation to understand the customer and provide a useful interaction. Online services commit The City to purchasing, maintaining, and regularly updating the systems that power those services and channels.

#### **We pursue and build partnerships**

Pursuing partnerships includes collaboration within our own organization, as well as seeking organizations locally and abroad who can further our cause of improving government services and community participation through technology.

#### **We are transparent**

Public decision making should be an open and inclusive process where citizens can access public information to participate in government. Transparency not only means releasing information. In order to be transparent, The City has the responsibility to accurately collect information, securely store data, and safeguard any confidential material.

#### **We provide and support platforms for citizens to participate**

Government participation is both a freedom and a choice. Public participation in government requires public forums, the opportunity to participate, as well as the innovative use of technology to advance two-way communications and discussions.

**We value innovation**

At the heart of technological innovation is disruption, and the path to change at The City of Calgary includes putting the customer first, and accepting disruption in order for innovation to occur. Innovation is needed to keep pace with private industry, to lower costs, and to build partnerships with other organizations and within our own.

In the 90 days following the approval of the Digital Strategy, the project team, along with city staff, will evaluate the capability, resources, and technology we have in order to understand the gaps to move forward.

Following the first three months, The City will begin planning and implementing digital projects that align with the Digital Strategy. The planning stage will include financial analysis and governance, and the implementation stage will focus on delivering digital projects and meeting set targets, key performance indicators and population measures.

A second phase of engagement activities will focus on project implementation and will include a wider audience. Not only will the new engagement activities collect ideas relating to new digital technology, it will also consider the ideas of those who have barriers when accessing digital technology and services.



# **WHERE WE ARE GOING**

## **Digital Strategy**

## Onward

The Digital Strategy aims to create an open organization. The Digital Strategy takes a corporate-wide view while being mindful of trends in digital and open government. The strategy defines how we connect, communicate and engage with Calgarians, our colleagues and potential partners.

The City of Calgary's Digital Strategy will be achieved through a common, disciplined approach to the technologies, tools and processes enabling participation and access to services and information.

### **Our vision**

Using innovation and engagement to enable secure anytime, anywhere, access to an open government for today and tomorrow's citizen.

### **Our mission**

The City of Calgary's Digital Strategy will be achieved through the technology, tools and processes enabling participation and access to services and information.

### **Guiding Principles**

During the early engagement process, the eGovernment Strategy Advisory Committee and city staff developed principles to direct the process for creating the Digital Strategy. The team determined that The City of Calgary must be open by default and make information widely available for public consumption on multiple platforms. Additionally, the team agreed that The City must not fear change, and instead, re-think how The City uses technology throughout current and future operations. The City must also make cultural changes and cultivate an environment where disrupting processes, in order to make services better, is widely accepted and practiced.

## **We have accessible services.**

**The role of The City is to use technology to deliver better services and invest in technology to provide more self-serve options.**

*2015-2018 Action Plan Engagement*

A commitment to an online service is also an obligation to understand the customer and provide a useful interaction. Online services commit The City to purchasing, maintaining, and regularly updating the systems that power those services and channels. Improving bandwidth, increasing data security, and sharing services between municipalities can assist Calgary in delivering technology investments.

### **The Case for Change**

Already The City has had success in delivering online services when applying for permits, booking tee times, and submitting 3-1-1 service requests. However, these efforts have been accomplished by meeting citizen demands rather than connecting to a larger strategic vision for all city services online. Break-throughs in technology such as cloud computing, and mobile virtualization will enable the user experience to span across new devices and leverage identity management.

#### **Commitment to digital services first**

*“By 2036, all Calgarians have easy access to current forms of communications technology and resources.” – imagineCalgary*

Citizens expect The City to use technology to progressively decrease fees and increase efficiency. However, cost-savings can be misleading as one division may simply pass on the costs to another division, depending on the technology solution. The City must consider broad-reaching digital solutions that reduce costs internally, finding efficiencies in processing, removing redundant services, or eliminating funding for out-dated technology.

#### **Facilitate self-service**

*“We need a single interface that makes sense from the citizen’s viewpoint” – Digital Strategy Feedback Form*

There is a growing segment of the population that prefers to access services online, specifically on smartphones or tablets. However, as The City attempts to introduce online services, there are barriers to educating citizens and businesses on how to find them. The City must prioritize online services, dedicate resources to release them faster, and create a hub for connecting products and services together.

#### **Multiple channels for services**

*“Mobile will become the hub for controlling connected products and will become the remote control through which people manage their everyday lives.” – Forrester*

The City has already made efforts to offer services on multiple channels. 3-1-1, which is a dedicated phone service, also accepts requests through The City’s website and through a mobile app. Suggestions

for cross-channel improvements include location-based services, as well as building applications for multiple channels and 24/7 service.

### **Consistent user experience**

*“The more consistent the user experience around all City services, the better participation you will get” – Digital Strategy Feedback Form*

The City recognizes the need to improve the user experience across all platforms. Challenges around internal collaboration, and isolated technology groups, have left many online services looking disjointed without the capability to connect easily with other systems. A focus on human-centered design and single-point of access are some suggestions to improve the user experience.

### **Everyone can access services**

*“eServices need to be accessible for people who do not have phones, tablets and computers” – Digital Strategy Feedback Form*

Multi-lingual services, web accessibility standards, and in-person services are suggestions for The City to ensure Calgary is an inclusive community. The City understands that not all people have the same abilities, yet are all equal in their rights to access civic services.

## **We pursue and build partnerships**

**A well-run city is one that works with government partners to ensure we have the tools we need to deliver excellent services.**

*2015-2018 Council Priorities*

Pursuing partnerships includes collaboration within our own organization, as well as seeking organizations locally and abroad who can further our cause of improving government services and community participation through technology.

### **The Case for Change**

Calgary is considered one of the best places to live in Canada, and this distinction draws the attention of other municipalities who want to learn from our successes. Our City is always willing to open our doors to share our knowledge and resources with others. However, citizens believe that The City of Calgary has not been overly successful in reaching out to domestic and international organizations to improve services through technology. Better procurement processes, protecting the democratic process, supporting the technology sector, and improving internal collaboration were all suggestions to help The City foster meaningful and mutually beneficial partnerships.

### **We are one organization working together**

*“The more people we collaborate with, the better the outcome and higher likelihood of buy-in from citizens” - Digital Strategy Feedback Form*

The City of Calgary employs over 13,000 people and with a workforce of this size, collaboration can be challenging. However, we recognize that collaboration is essential to deliver services through technology, reduce the duplication of efforts, and find efficiencies to solve multiple problems with one common solution. We must endeavour to remove internal barriers, process information so it is easily shared between departments, and foster a culture that embraces technology and provides consistent service through all of our technology channels.

### **Seek digital partners**

*“It can’t all be done in-house. Partnerships and tapping into external expertise is essential.” - Digital Strategy Feedback Form*

While we strive to be a resource for others, we must also reach out and ask for help. We must define our problems and communicate our needs for new tools and programs, which others can provide. And we must reach out to citizens, as well as private industry both locally and internationally. In Calgary alone, there are over 2,400 companies in the technology and digital sector, and we can capitalize on the expertise they have to offer.

### **Support the digital economy**

*“Encourage citizens to participate in solving digital problems – making it easy for technological start-ups to grow in the city” - Digital Strategy Feedback Form*

Businesses rely on The City to support an economy of growth and diversity. This means supporting new sectors, such as the technology sector, attracting new businesses to Calgary, and contracting out services. We must ensure we keep pace with innovations in the private sector as well as protect the democratic process to ensure fairness and a level playing field for businesses.

## We are transparent

**By 2016, 80 per cent of Calgarians report that they feel government activity is open, honest, inclusive and responsive.**

*ImagineCalgary*

Public decision making should be an open and inclusive process where citizens can access public information to participate in government. Transparency not only means releasing information. In order to be transparent, The City has the responsibility to accurately collect information, securely store data, and safeguard any confidential material.

### The Case for Change

The City of Calgary provides information through the Freedom of Information and Protection of Privacy Act, and to academic intuitions, but only recently started releasing open data. A recent report indicates Calgary's efforts towards open data are declining compared to other Canadian municipalities. Citizens have said transparency is beneficial to them however, many have cited concerns around the reliability of data, and whether The City can currently separate public information from data that would compromise the privacy rights of individuals. Providing better information, empowering citizens and improving government operations are some of the benefits citizens suggested for improving transparency at The City of Calgary.

#### Open by default.

*"Opaque government cannot be good for long. Transparency is essential." - Digital Strategy Feedback Form*

Technology currently exists at a functional level where certain departments are seen as "in control" of digital information which limits The City's ability to break down barriers and become more open. Moving to an information-centric approach challenges The City to find effective ways to manage large volumes of data, overcome storage and retention issues, and understand the staffing needs required to transform data into usable information. Improvements to the information security policy can help outline how to protect privacy, as well distinguish data that belongs in a public forum.

#### Embrace open data.

*"One of the most powerful levers of government is to provide information" - Digital Strategy Feedback Form*

Calgary complies with the Freedom of Information and Protection of Privacy Act, and has implemented corporate governance policies to safeguard public interest and promote transparency. In 2013, The City made improvements to the open data catalogue however citizens have suggested The City could improve open data efforts by creating real-time data, cross-platform functionality, and be inclusive of third-party data. At the same time, the public agreed that a legal framework and Council directive would be essential to mandating improvements to the release of open data at The City of Calgary.

#### A culture of measurement.

*"The public have the right to know the operations of their municipality and should not have difficulty finding information they require" - Digital Strategy Feedback Form*

Collecting, maintaining, and analysing data is the first step to becoming an information-centric organization. The City must also effectively use data to foster effective decision-making and to score operational work against performance measures tied to outcomes for citizens and businesses.

### **Protecting privacy**

*“Data must be of high accuracy, consistent, secure and up-to-date” - Digital Strategy Feedback Form*

As The City develops more digital tools, and collects more information, there is the expectation that staff must distinguish between information that must be protected, and information that can be publicly disclosed. Privacy depends on the context in which data is collected, used and shared. The City must review the definition of privacy and understand the impact of new technology and devices which contribute to the collection of “big data.” By providing a choice for the public to disclose personal information, as well as address new types of data when planning new digital tools and channels, The City can maintain confidence that both public and private data is stored securely, and private information will not leak into the public domain.

### **Recognize the power of place**

*“Intelligence sharing would aid in a collective response to citizen needs” - Digital Strategy Feedback Form*

Data takes on more relevance, and perspective when provided in a geographic context. When analysing information, geographic references aid both city staff, and the general public, when trying to make sense of data. The City can increase the speed of service, or provide specialized services when using location-based technology or geo-referencing.



## **We provide and support platforms for citizens to participate**

**By 2010, 90 per cent of Calgarians agree that there is a strong sense of community in Calgary, and at least 80 per cent of Calgarians report high levels of satisfaction, sense of belonging, attachment and civic pride.**

*imagineCalgary*

Participating in government is both a freedom and a choice. Decision-making is a collective process and requires the knowledge of many groups and individuals in order for Calgarians to enjoy a high quality life and feel proud of the city they live in. Public participation in government requires public forums, the opportunity to participate, as well as the innovative use of technology to advance two-way communications and discussions.

### **The Case for Change**

The choice to participate in government extends from the desire to build a strong sense of community and civic pride. Decision-making must be an inclusive process which does not discriminate, and The City of Calgary must remove barriers to participation and respect those who choose to get involved. While The City has taken steps to increase public participation in government, citizens have suggested that many barriers still exist. Engagement that occurs too late in the decision-making process, lengthy time commitments, and lack of expertise on issues are some the reasons well-intended engagement has negative outcomes.

#### **Work with community groups and existing community projects**

*“Increase the use of technology to meaningfully engage citizens in the decision making process.” – Action Plan Engagement*

For a dedicated portion of the public, looking to be involved in government decision-making, there is nearly never enough information. By using technology to inform the public about engagement opportunities, as well as improve the coordination of engagement events internally, The City can begin to provide more methods of engagement, both online and in-person, as well as maintain a regular schedule of events. Citizens have suggested the online environment plays a significant role in awareness and enhances two-way communication, sharing results digitally allows for further analysis of information.

#### **Facilitate a meaningful role in the decision-making process**

*“Citizens feel more involved in government if they know their views are taken into account.” – Digital Strategy Feedback Form*

The value in collecting public knowledge and expertise resides in how the information is used to make meaningful decisions. Organizing and processing feedback and comments becomes a labour-intensive process, as exchanging ideas through technology introduces the dimension of speed and sets the expectation for analyzing information and distributing it quickly. While The City has improved efforts on collecting public feedback, there must be equal improvements to analysing and circulating information so it can have a meaningful impact on the lives of Calgarians.

## We value innovation

**We encourage innovation, or pilot projects, which have the potential to support or contribute to the goals of Council and which have city-wide application.**

*Council Innovation Fund*

At the heart of technological innovation is disruption, or change. The path to change at The City of Calgary must involve putting the customer first, and for both the government and the public to accept disruption in order for innovation to occur. While research, testing, and measurements can help The City achieve success, we must not be afraid to attempt new ideas for fear of failure. Innovation is needed to keep pace with private industry, to lower costs, and to build partnerships with other organizations and within our own.

### The Case for Change

Often governments fear innovation because when experimenting with technology, there is a cost to failure. However, the greater risk is delaying progress, stalling the delivery of new services, maintaining old regulatory processes, and launching tools with outdated technology. The City must keep equal pace with innovations occurring in the private sector, such as the construction industry, to ensure that we can accommodate technological advancements through the regulatory process.

#### Analyze information to improve efficiencies

*“Technology should be embedded into all business processes” – Employee Engagement Session Survey*

Becoming more efficient means understanding where, and how, improvements can be made. Data, research, and feedback all contribute to delivering services faster, in the right places, at the right time. To make decisions that disrupt the current way of doing business, The City must not only collect information but use it to justify and support those changes.

#### Set an expectation of experimentation

*“311 was a major innovation – I think the City does attempt to innovate. It’s follow through is always a problem, but the willingness to innovate and the willingness to try something different is definitely there.” – Action Plan Engagement*

Citizen research suggests The City can encourage innovation internally through improved collaboration efforts, simplifying procurement processes, and embracing a culture that rewards and recognizes new ideas. Safe environments where it is acceptable to challenge the status quo may assist The City in becoming proactive with digital solutions and allow for multiple approaches to the same problem.

#### Explore disruptive ideas and establish long-term goals

*“The structure of The City is set up to prevent true collaboration and partnerships” – Digital Strategy Feedback Form*

In the whirlwind of daily operations, it is difficult to set aside time to re-think The City’s culture, organizational structure, and evaluate new data. Setting long-term goals, planning for innovation, and

setting performance indicators for staff to measure progress are some ways The City can make conscious efforts to embrace new ideas and deliver on them.

**Look for opportunities to do more with less**

*“There is an attitude of getting ahead by following orders versus getting ahead by being competent, resourceful, innovative or responsive” – Digital Strategy Feedback Form*

Citizens have suggested The City challenge the public for innovations and solutions to achieve goals, and look for cost-savings in open source technology. However, innovation must be shared across the organization, and cannot exist within one group. The City requires a comprehensive city-wide response to emerging technologies and that means a significant internal cultural change as well as individual behavioural change.

# **HOW WE GOT HERE**

## **Engagement and Research**

## Engagement

The City of Calgary's Digital Strategy was a collaborative process. The eGovernment Strategy Advisory Committee, made up of citizens and staff, intended to create a strategy that would reflect community needs and internal processes. The first phase of engagement focused on the development and writing of the Digital Strategy. The second phase, still to be completed, will focus on implementing the objectives outlined in the first phase, and include a larger population. The second phase will also address collecting and using the ideas of citizens who have barriers to access digital technology and services.

### Engagement Activities

#### eGovernment Strategy Advisory Committee

In October 2012, Council appointed seven citizens to monitor and guide the overall vision, strategy and program plan for eGovernment at The City of Calgary. They were appointed for a two-year term and meet quarterly to discuss digital programs, governance, and provide thought leadership on eGovernment. Staff from Information Technology and Customer Service and Communications acted as resources to the Committee. The eGovernment Strategy Advisory Committee developed the first draft of the vision, mission and objectives through Trello, an online workspace for exchanging ideas. The group explored themes of identifying cultural values, imagining the digital future of Calgary, innovating solutions, and identifying gaps.

#### Brainstorm Sessions, February 25 and 28, 2014

City staff from various departments met over two days to build on the work of the eGovernment Strategy Advisory Committee. From these sessions emerged a clear vision of the Digital Strategy as well as the guiding principles for designing Calgary's future success in integrating technology into civic affairs. The intent of the Digital Strategy is to be a long-term vision that integrates technology into daily business decisions at city hall, with the goal to create convenient and transparent interactions with the public.

#### Digital Strategy Feedback Form, April 14-24, 2014

The Digital Strategy feedback form was designed to gather feedback on Calgary's Digital Strategy. And, it helped The City understand how to improve communications and better serve Calgarians through technology. Over 270 participants filled out the survey and provided input on the goals, strategies, direction, and implementation of the plan. There were 132 fully completed forms. All forms, whether partially or fully completed, were considered in the development of the strategy.

### Findings and Results

Respondents indicated they want to understand the Digital Strategy with:

- Clear language
- Specific goals
- Examples of how The City would measure success or take "temperature checks" on its progress.

***Respondents agreed that The City should improve its own technology needs.***

The eGovernment Advisory Committee's original strategic themes of transparency, e-services, city workplace, responsiveness, as well as engagement and participatory government were ranked as "very important" while the strategic theme of partnerships was rated as "somewhat important."

Although some participants did indicate some themes as "very unimportant" they were the same themes that were also ranked "very important" (transparency, e-services, city workplace, responsiveness). However, these different opinions highlight the role of The City to continue to check back with the public as implementation begins for the Digital Strategy.

***Respondents agreed that The City's role in the Digital Strategy should be to improve access to city services digitally.***

Respondents indicated the top three roles of The City in a Digital Strategy should be:

- Improving citizen's access to city services digitally
- Improving The City's own digital technology
- Improving citizen's access to digital technology

However, The City's role cannot exclusively be digital as many citizens have significant barriers to access digital services. When considering the technological needs of The City of Calgary, the most important factors were information security, innovation, and better collaboration between employees.

***90% of respondents believe the Digital Strategy will help citizens.***

Respondents told us the five most important ways the Digital Strategy will help citizens are: providing better information, empowering citizens, providing better government operation, providing lower cost services and fostering innovation.

Additionally, respondents suggested that the Digital Strategy would also provide lower cost services and encourage innovation which would benefit Calgarians. Feedback also indicated the Digital Strategy would make it easier for city employees to do their job serving citizens, as well as make services easier and more convenient.

Suggestions of programs, systems, resources, and books of how The City might make the Digital Strategy more useful were included in the comments and were built upon in the Employee Engagement Session.

### **Employee Engagement Session, May 7, 2014**

Following the Digital Strategy survey, the research team facilitated a session with employees to identify digital trends, barriers, and opportunities for The City to deliver digital solutions. 59 employees participated and were asked to help add to the strategy and determine what would need to be done to achieve the vision of the Digital Strategy.

### **Findings and Results**

Employees indicated improvements were required to advance the vision of the Digital Strategy. These included improvements to the user experience, information management systems, the ability to collaborate with one another (internally and externally), data collection and measurement, as well as digital tools to allow the public to provide feedback.

#### ***Over 100 ideas of initiatives, strategies and projects were generated to support the Digital Strategy***

When asked to provide information about what was important for the Digital Strategy, staff said:

- Protect secure information and keep information safe from hacking
- Find the right balance between trying new technology, doing things right and spending resources wisely (“pick new technology based on need, not modifying needs to suit selected technology”)
- Making citizen-driven choices and decisions
- Recognizing and celebrating innovation
- Ensure data quality is high

Ideas that would make things easier included:

- Plain language in all digital channels
- One-stop-shop for citizens to access all city services (self-service)
- Less “can’t” and more “how”
- Guidelines and clear policies about open data, mobile apps, social media and other digital technology aspects so things can be done consistently
- Setting organization-wide goals that all staff are motivated to achieve

Full results of the engagement activities can be viewed here: <http://calgary.ca/engage/Pages/eGov-Digital-Strategy.aspx>

## External Research

### **Digital Business Strategy: Toward a Next Generation of Insights**

*A. Bharadwaj, O. El Sawy, P. Pavlou, N. Venkatraman*

Retrieved from: <http://www.misq.org/misq/downloads/download/editorial/581/>

Academic researchers from Emory University, the University of Southern California, Temple University and Boston University, published a study that evaluates key themes to successfully implementing a digital business strategy. Their findings reveal that the prevailing view of information technology exists at a functional level, rather than strategic level. Many firms have treated digital technology within traditional departments such as marketing or operations, and these disjointed views have offered limited benefits because organizations struggle to transition the physical into the digital. Researchers argue that now is the time to shift our thinking about IT as a fundamental driver of business value, rather than a response mechanism.

The themes identified by these researchers illustrate that digital technology has the capability to shape infrastructure and influence organizational logic, as well as evolve from a functional activity into the basis for business strategy.

### **Calgary Technology Industry**

*Calgary: Advanced Technology. Information and Communication Technology Sector Profile*

Retrieved from:

[http://www.calgaryeconomicdevelopment.com/sites/default/files/pdf/sector\\_profiles/info\\_communication\\_tech.pdf](http://www.calgaryeconomicdevelopment.com/sites/default/files/pdf/sector_profiles/info_communication_tech.pdf)

The Information and Communication Technology (ICT) sector in Calgary includes over 2,400 companies that employ over 55,200 workers, representing almost 10 per cent of total employment in the Calgary Economic Region. Major telecommunications companies such as Shaw and Telus, as well as digital media firms, electronics, geomatics, and general technology organizations make up the landscape of technology in Calgary. Approximately 60 public and private institutions in the Calgary area provide education and training specific to the ICT sector, and the three major universities in Alberta contribute over 30,000 potential employees each year.

### **Canadian Information and Communication Technology Sector Profile**

*Statistics Canada*

Retrieved from: [http://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h\\_it07229.html](http://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h_it07229.html)

The Information and Communication Technology (ICT) sector consists mainly of small companies, and the number of large companies in the Canadian ICT sector is relatively small; in 2011, there were about 75 companies with more than 500 employees. Comparatively, there were over 28,300 companies with



less than 10 employees. However, from 2007 to 2011, ICT sector revenues increased from \$134 to \$155 billion. The ICT sector contributed \$67.2 billion to the Canadian GDP in 2011 and the ICT sector outgrew the overall economy in 2011.

### **Digital Canada 150**

Retrieved from: <http://www.ic.gc.ca/eic/site/028.nsf/eng/00576.html>

The Federal Government announced their Digital Strategy on April 14, 2014 which focuses on five strategic pillars including connecting Canadians, protecting Canadians, economic opportunities, digital government, and Canadian content. The document outlines completed projects such as the 700 MHz auction, spectrum license policy, cyber bullying strategy, and the open government initiative. It also includes 39 new initiatives towards building a more connected Canada.

## Internal Research

The Internal Research includes the other activities in The City of Calgary that are currently influencing or have influenced the Digital Strategy.

### **Digital Business Process Review**

In May and June of 2014, The City conducted a Digital Business Process Review with KPMG in order to review processes, skills, and various business models used to maintain The City's current web presence. The Digital Business Process Review covers processes, skill sets, and the overall model to complete digital projects. Results will assist The City in designing workflows and processes for new and existing digital projects, as well as outline the skill sets needed from staff to continue to optimize and enhance a leading digital presence.

The review consisted of an internal survey, key stakeholder interviews, phone interviews and a collection of roles and skills sets from staff. Over 240 staff participated in The Digital Business Process Review and a detailed report of results will be delivered by KPMG on July 18, 2014.

### **2015-2018 Council Priorities**

Council's Priorities for 2015-2018 reflect Council's intentions for moving The City of Calgary toward the long-term goals articulated by Calgarians through imagineCALGARY.

The Digital Strategy aligns with:

#### **A prosperous city**

Calgary continues to grow as a magnet for talent, a place where there is opportunity for all, and the best place in Canada to start and grow a business.

- **Priority 5**  
Seek out partnerships with other governments and community partners to achieve community well-being.
- **Priority 10**  
Enhance access to technology and information

#### **A well-run city**

Calgary's government is open, responsive, accountable and transparent, delivering excellent services at a fair price. We work with our government partners to ensure we have the tools we need.

- **Priority 40**  
Regularly collaborate and engage citizens to encourage participation in City decision-making, and better communicate the reasons for the decisions.
- **Priority 42**  
Continue to transform the organization to be more citizen-focused in its approach and delivery of service.

## Action Plan 2015-2018 Engagement Results Report

The input gathered here covers a wide-array of opinions and ideas and several key themes emerged throughout all engagement streams and revealed some consistent priorities across participation. While these themes are meant for consideration for the next cycle of business plans, the Digital Strategy will also consider how technology can be used to accomplish or support the areas Calgarians' identified as having significant benefits for the future of Calgary. All the themes can be found in the Action Plan results online at [www.calgary.ca/actionplan](http://www.calgary.ca/actionplan).

### Technology mentions

Many of the services The City provides can be improved by the use of technology. The 2015-2018 Action Plan Engagement Plan didn't specifically ask how technology can improve government, but many individual responses addressed solving issues through technology. Engagement results evaluated by Ipsos Reid included business focus groups, citizen ideation, social agencies, and open-ended comments from the budget simulator. The following is a summary of instances where technology was mentioned.

#### Citizen Ideation

- Improve quality of life by integrating new areas with the same technical specifications, such as train stations.
- The role of The City is to use technology to decrease fees and increase efficiency, as well as deliver better services.

#### Business Partners and Focus Groups

- Calgary is a great place to do business because we have a young, skilled workforce that embraces technology and social media.
- Technology creep is a key trend impacting business organizations. Businesses respond to The City's need for innovation, but have not put in place measures to speed up processes when innovations are made. Technology has increased the pace at which certain construction jobs can be completed, yet the time to complete the regulatory process, such as getting a permit, has stayed the same.
- The City should continue to focus on technology-based solutions such as the 311 mobile app.
- The City should work to increase the use of technology to meaningfully engage citizens in the decision making process.

#### Social agencies

- One of the key trends is the technological change in communications and the effects of us communicating differently through technology.
- Advances in medical technology mean people are living longer, including those with disabilities.

#### Budget simulator comments

- 2% of open-ended comments mentioned increasing the use of technology
- Fiscal management includes ramping up uses of technology to improve efficiencies, reduce staffing, and increase productivity.
- Technology can hinder productivity and we should look at the devices employees require to do his or her job.
- Increasing technology may replace some jobs that can be automated or can be done by one person instead of two.

- Technological advances in infrastructure (stricter building codes, enhanced public education, and communication/dispatch technologies) have improved the efficiency of fire departments everywhere but that efficiency has not translated to better spending.
- People are willing to pay for better services. You need to invest in a growing city (in things such as Technology that will allow better service for less and allowing more self-serve options)
- Prevent funding of older technologies such as incandescent street lights.
- Technology such as camera's would be effective in reducing nuisance crimes such as car prowling and vandalism
- Attract technology companies to try and reduce Calgary's economic dependency on the oil and gas industry, bring in new industries
- Technology is lacking in Calgary's education sector, not enough technology in classrooms, or science and technology programs.
- Don't reinvent the wheel; borrow innovations and technology from other cities like Edmonton.

### **Information Technology Trends**

The City of Calgary uses trend analysis to make informed decisions and identify strategies to manage risk and potentially decrease costs through improved operational efficiency. The following trends will continue to influence The City of Calgary over the next five years.

#### **Information Explosion**

The volume of information The City is accumulating continues to grow exponentially. The volume of data and the wide variety of content types leads to challenges not only with discovery, storage and retention, but complicates the ability to transform this content into usable information for the business. As a result, the implications for The City include data security and privacy concerns, better data analytics, greater data accessibility, and less paper-based documents.

#### **Mobility**

Developments in mobile devices, changes in work styles, and customer expectations have changed the way information moves among individuals and between organizations. Business technology systems need to be designed for mobile access, handheld, wearable and vehicle-mounted mobile devices. This means The City must managed devices, maintain the security of city data, and enable the workforce to function from any remote location or city facility.

#### **The Internet of Things**

The Internet of Things refers to the ability to identify physical objects such as vehicles, people, appliances and other devices through a unique address that is connected to the Internet and integrated into an information network. Bluetooth and Wi-Fi support access to connected devices and create the ability to control devices and capture data in the field, in real-time. The City of Calgary must provide constant connectivity, improve bandwidth, increase resiliency and reduce dependency on telecommunication carriers.

#### **The new rate of change**

Consumers and employees are doing business in ways not previously possible by connecting, interacting and collaborating through the use of apps and social media. This rate of change forces companies to operate at a new pace in parallel to expectations set by the consumer market. To stay competitive, Calgary must increase collaboration to deliver new technology services such as virtual desktops, cloud computing, open source software, multiple data centres and a comprehensive city network.

## **Transforming Government**

The Transforming Government initiative was introduced by Mayor Naheed Nenshi in 2011 as a program intended to recognize efforts to improve customer service and reduce customer frustrations with city services. The program recognizes that Calgary is a city in which individuals must have access to public information and are able to receive city services without complication. Mayor Naheed Nenshi and City Council unanimously agreed to embrace and reinforce constant improvement through programs or public work that embody transparency, accountability, civic engagement, innovation, citizen orientation and sustainability.

## **International Leader Interviews**

In December 2013, The City of Calgary conducted two interviews with leaders from other municipalities. David Eaves, Open Innovation Expert in Vancouver, and Michael Flowers, Chief Analytics Officer, Office of the Mayor in New York City.

Michael explained that change is not a technology or data challenge, but a cultural, legal, and political challenge. Direction must come from an authority that has the ability to deliver consequences and once there is buy-in; the team must then deliver the product. He knows he's disruptive to some, but he makes sure that his team reaps the rewards in terms of resources; which has helped him build a strong culture.

David explained some misconceptions about corporate technology including the appeal to focus on the distribution layer ("we want to revamp our website"). To fully realise available opportunities, one must think of the technology stack from top to bottom, simultaneously thinking about distribution all the way down to procurement. Leadership and quality of leadership was a key theme. In strong mayor systems (Chicago, New York, Baltimore), there is the ability to direct change. In a weak-mayor system, many of the key players can slow the process because they are reluctant to change for fear of blame and having to live with the fall-out.

## **eGovernment Strategy and Roadmap**

The eGovernment Strategy was intended to define the future vision for city services and to develop a high level approach to implementing digital projects between 2012 and 2014. eGovernment refers to the use of information and communication technologies to exchange information and services with citizens, clients, customers, businesses and other arms of government. The anticipated benefits of eGovernment include better accessibility of city services and the creation of a transparent environment that enables citizens to participate and collaborate with The City using the channel of their choice. The program focused on six key strategies including:

1. **Citizen Centric Service Delivery**  
Improve recognition and access to city services available via the web. Shift citizens towards the web as the primary channel with information and services designed for their convenience.
2. **Citizen Participation and Engagement**  
Improve engagement with Calgarians in decision making, policy development, and setting strategic direction.

3. **Fostering eGovernment Partnerships**  
Collaborating with partners for improved access to any service in Calgary regardless of who provides the service.
4. **Access to City Information and Data**  
Strengthening trust and transparency in government.
5. **City Information Workplace**  
Improve employee productivity based on increased access to the appropriate internal services and information assets when and where they are needed.
6. **Services Anytime, Anywhere**  
Mobility enables citizens, business units and employees to carry out business anytime, anywhere.

### **ImagineCalgary**

The imagineCalgary plan is a 100-year plan with goals that reflect the diversity of aspirations of the citizens of Calgary. Developed with input from more than 18,000 community members, the plan represents the largest community visioning and consultation process of its kind anywhere in the world. It includes a series of 114 targets and associated strategies that provide useful reference points for individuals, groups and organizations to determine what they can do to achieve our shared vision. The Digital Strategy directly aligns with five targets of the imagineCalgary Plan under Communications and Access, but also indirectly supports many others.

#### **Communications targets**

Target 1 - By 2036, 75 per cent of Calgarians report that they are informed.

Target 2 - By 2036, all Calgarians have easy access to current forms of communications technology and resources.

Target 3 - By 2036, Calgarians increase their use of communications technology to support sustainability.

#### **Access targets**

Target 48 - By 2016, 80 per cent of Calgarians report that they feel government activity is open, honest, inclusive and responsive.

Target 49 - By 2016, Calgary City Council establishes a participatory budgeting process.

### **Municipal Development Plan**

Technology contributes to The City's Municipal Development plan which governs Calgary's land use, growth, and development processes.

Objectives on integrated decisions making and public accountability in Section 5 of the Municipal Development Plan can be improved through The City's use of technology. Decisions on land supply must take into consideration the financial and infrastructure implications for The City, as well as rely on an inter-departmental management structure. The City will face significant capital and operating shortfalls over the next 10-year period if it continues to provide the same services, in the same way, with the same revenue. Much of this shortfall is driven by the choices around when, where and how The City grows. While digital solutions do not always result in a cost-savings, often they can save time or improve the speed at which The City does business.

To achieve a good quality of life of for all people in the Calgary region, and to support the long-term health of regional communities, The City of Calgary must maintain strong relationships with municipal neighbours. Partnerships are a key element of the Digital Strategy, recognizing that The City does not function alone, and that there are many contributors to Calgary's digital economy.

### **Calgary Transportation Plan**

Street lights, train stations, and traffic interchanges are all powered by The City's technology. The Calgary Transportation Plan covers a wide-range of transportation issues, including those that can be significantly impacted by The City's use of technology. Providing a high-quality of service for all modes of transportation involves understanding how services are managed as well as how they contribute to the overall quality of life in Calgary. Managing traffic flows, providing traffic information, as well as improving point-of-purchase transactions all contribute to how Calgarians feel about the transportation services they receive.

# **CONTINUING OUR JOURNEY**

## **Future Direction**



# Digital Strategy Roadmap

## The First 90 Days

In the 90 days following the approval of the Digital Strategy, the project team, along with city staff, will evaluate the capability, resources and technology we have in order to understand the gaps to move forward.

### Objectives

The objectives of the Digital Strategy include accessible services, partnerships, transparency, participation, and innovation. The mission and vision of the strategy, as well as customer segmentation, will be used during the first 90 days to assess our current state and understand the gaps.

### Assess

The first 90 days will primarily focus on assessing the current state of The City's capability, resources, culture, and technology that are required to deliver digital projects.

## 90 days and beyond

Following the first three months, The City will begin planning and implementing digital projects that align with the Digital Strategy. The planning stage will include financial analysis and governance, and the implementation stage will focus on delivering digital projects and meeting set targets, key performance indicators and population measures.

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Information Technology

City Manager's Office - Cultural Transformation

Customer Service and Communications

Infrastructure and Information Services