digital SQUAMISH

Squamish Digital Strategy

Final – December 2016

About this Report

This document presents Squamish's Digital Strategy. It provides background on the current state, the results of the consultation process, observations from other community digital strategies, key areas of focus, and an action plan for implementation.

Acknowledgements

Message from Mayor Heintzman

As we began to develop Squamish's Digital Strategy, I started to wonder how long the title would actually be relevant. After all, the pace of technological change is accelerating so rapidly that obsolescence sometimes precedes adoption. It wasn't too long ago that our technologies - telephones, televisions and even our cameras were based on the revolutionary, continuously-variable physical quantities of analog. Computers in the past three decades have gone from a curiosity and privilege in a handful of households, to something so ubiquitous that they have reached the point of mundanity.

So I ask myself: Is a "digital" strategy obsolete before we even start to action its recommendations or realize its possibility? Is insinuating a digital binary computational system of 1s and 0s, almost crude yet brilliant in its simplicity, going the way of the dodo? Perhaps.

We may be on the verge of a quantum shift. Or will the human-machine divide disappear or blur to the point of irrelevance? How quickly will that change happen if or when it does? What does it mean for our collective investments, infrastructure, way-of-life and the like? And does it even matter as we make decisions today?

It's easy to get lost in the overwhelming grandness of the idea. And yet, to not be relevant and ready today for whatever the future holds, is to forfeit our goals of being an aspirational, competitive, compassionate and future-focused community. It matters that we are ambitious and mindful of how we become a smarter city, a connected city, a community nimble and ready to respond to emerging technological advancements and economic opportunities.

Being cognizant of emerging technologies, in whatever form, offers us profound opportunities in communication, responsive democratic engagement, "hardwired" infrastructure, capacity-building service delivery, open data and government, and is absolutely necessary today as an instrument of community building and economic development.

Equally important as we continue along this evolution, is to be ever-mindful of the potentially alienating "digital divide" within a community. So you will see, as you read this strategy, that it is not only a tool for economic competitiveness and prosperity, a means to build a "smart city" and a responsive government that delivers safe and efficient services, and a playbook for its supporting infrastructure. It is also a plan to be inclusive and appreciative of the potential for disparity among our citizens, and to act to prevent it.

The strategy, like its subject matter, is a work in progress, ever-evolving.

Because it really doesn't matter what we call it — a Digital, Analog, Quantum, or Bio-mechanical Strategy. It's not about a word or a possibility. It's a paradigm, and it's about being ready, alive to, and considerate of ALL our citizens and our collective opportunity in a changing world…today and into the future.

Patricia Heintzman, Mayor

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1. Executive Summary

The District of Squamish developed this *Squamish Digital Strategy* to determine how the District and their project partners can better leverage technology to meet the growing social, economic and environmental needs and desires of its citizens. It aligns, where possible, with other District initiatives that also target digital opportunities and challenges including the *Economic Development Review*, the *Official Community Plan*, and the *Technology Transformation Program*.

Digital strategies now incorporate more than just connectivity and communication channels (e.g. social media); communities are also targeting digital literacy, enhancing transparency between governments and their citizens, supporting economic growth, and leveraging technology to make better decisions that improve quality of life (i.e. 'smart communities'). This is the approach adopted for the *Squamish Digital Strategy*.

We are living in a time when technology is constantly evolving and influencing the types of tools, skills and solutions we use to connect people, businesses, and governments. 'smart communities' are using technology to improve services, lower costs and deliver new (and innovative) services that were previously resource-intensive, expensive or even exclusive. The District of Squamish, in partnership with project partners and other community stakeholders, is well positioned to become a 'smart community' by assisting the community with accessing technology to advance new business ideas, bridging the digital divide between those who remain disconnected, and delivering digital services that are cost-effective and reflect the needs of all of its citizens.

To progress Squamish towards achieving its vision of being '*a vibrant place where people want to live and work because businesses, governments and the community are thriving in a digitally connected and enriched environment*', the District of Squamish, its project partners, and the Digital Strategy Select Committee (DSSC) worked with the project consultants to develop a strategy and action plan of recommendations. The project consultants structured the development and implementation of the digital strategy into three phases. Phase 1 focused on research and community consultation with the DSSC, stakeholders, and the public, as well as an evaluation of the current digital landscape in Squamish, and observations from digital strategies developed by other communities. Phase 2 focused on taking what was learned, identifying key areas of focus and then developing a clear vision, mission and action plan to address the opportunities and challenges observed in Phase 1. Phase 3 involves implementation and monitoring of the strategy that is to be completed by the District of Squamish and its project partners.

The overall purpose of this strategy is to ensure the growing needs of an advancing digital society in Squamish are met and technology is exploited for the greater good of the community. Specifically, this strategy will move Squamish towards being more digitally connected by leveraging technology and partnerships to:

a. improve how we connect devices, objects, and people;

b. improve how citizens are served; and

c. stimulate new growth in all sectors, including digital technology

From the research and consultation completed in Phase 1, several key findings emerged:

1. **Digital connectivity isn't a significant factor in limiting the growth of the digital sector in Squamish.** Although there appears to be some concerns about the quality of some digital infrastructure in a select number of residential areas, there doesn't appear to be a digital barrier to new businesses relocating or opening in Squamish. Addressing other barriers, including affordable housing, is needed to support the growth of business including digital sector jobs.

2. **Squamish is well positioned to become a hub for small businesses and entrepreneurs who are harnessing technology for social change.** Squamish is well positioned to become a hub that harnesses

this human capital and sets Squamish apart from other communities. Meeting the digital infrastructure needs and demands of Squamish residents and businesses is also key to attracting new digital enterprises.

3. **The District of Squamish needs to be a digital leader.** The District is one of the larger technology users in the community and the use of its platforms and digital interfaces are the most pervasive. Therefore, the District is well positioned to lead a digital strategy, starting with a continued emphasis on improving municipal systems through the *Technology Transformation Program* and other information technology projects. In addition to moving the District technology initiatives ahead, the municipality should also look at growing a culture (internally and with its partners) of 'digital first' to advance Squamish towards being a 'smart community'.

4. **Lack of awareness of, and access to, digital tools and services may be contributing towards the 'digital divide' in Squamish.** All project partners should be exploring ways to engage their customers, users and communities, and finding new ways to improve digital literacy, access digital technology, and promote services to those not yet online. Partnerships between governments, schools and organizations should be a pre-requisite of any new digital literacy programming in the community.

5. **Municipalities that have developed digital strategies are mostly aligned in their approach.** Although Squamish is significantly smaller compared to most communities that were reviewed for this project, feedback from the stakeholders and the community is aligned with the digital priorities of these larger communities. Communities are mostly looking to become 'smart communities' by leveraging technology to improve governance, ensure connectivity is meeting demand, grow their economies by supporting the growth of the digital sector (i.e. a sector that typically generates higher paying jobs and often requires less square footage to operate), and ensure citizens are connected and well served by public and private organizations.

In addition to the findings, the project consultants also identified the key areas of focus for the delivery of the *Squamish Digital Strategy* to ensure recommendations remained aligned with the strategic priorities of the project partners. The five key areas of focus identified are:

1. **Digital Connectivity** – ensuring people and places have access to the quality of services required to support home, work and school
2. **Community Engagement** – ensuring people feel engaged and informed about Government programs, processes and decisions
3. **Economic Development** – addressing any barriers to business retention and expansion to help attract businesses in all sectors including digital technology
4. **Municipal Services** – advancing Government systems to improve customer service, internal processes, and transparency of information
5. **Partnerships** – leveraging partnerships to access expertise, funding, and minority groups, and introducing overall efficiencies

The *Squamish Digital Strategy* Action Plan comprises 13 initiatives, with a total of 37 tactics, which address the opportunities and barriers identified in the findings and one or more of the five key areas of focus.

This *Squamish Digital Strategy* is a living document; it is dynamic and requires iterative reviews so that the strategy continues to evolve as circumstances change. It is also likely that it cannot be driven by one organization as it benefits from active collaboration between the private and public sectors, each incentivized to drive technology adoption for economic growth and social wellbeing.

2. Introduction

2.1 Purpose

In 2015, the District of Squamish formed a Digital Strategy Select Committee—with representation from local government, non-profits, business organizations, and local industry—to discuss the concept of a digital strategy for Squamish. The committee's primary objective was to explore how to develop a strategy for the community that would serve to *attract business* investment, progress the digital *interaction between the District and its citizens*, and provide for *greater awareness and transparency* of new services. Furthermore, the committee identified elements that they felt should be considered in the development of a digital strategy, and these included:

- a more connected community;
- growth for the technology sector;
- more open and transparent government;
- better access to quality digital services;
- creating synergies between internal departments; and
- simplifying transactions between members of the community and the District.

Reflecting the committee's desired direction for the strategy, the purpose of the *Squamish Digital Strategy* has been defined as follows:

Purpose

Squamish's Digital Strategy will ensure the growing needs of an advancing digital society are met and technology is exploited for the greater good of the community. Specifically, this strategy will move Squamish towards being more digitally connected by leveraging technology and partnerships to:

a. improve how we connect devices, objects, and people;

b. improve how citizens are served; and

c. stimulate new growth in all sectors, including digital technology

2.2 Definitions

- **Digital** – The constantly evolving state of technology combined with social change that creates tools and opportunities for businesses, governments, and communities.

- **Digital Divide** – The gulf between those who have ready access to computers and the Internet, and those who do not [Oxford Dictionary].

- **Digital Maturity** – The state of digital maturity of an organization or community is determined by the extent to which technology is used to engage and service customers while optimizing operations and improving the community's overall wellbeing. A digitally mature entity may benefit from improved products, services, performance, and results.

- **Digital Sector** – The digital sector refers to any job that is related to working with technology. This may be the core competency of a business (e.g. software development), or may be a function of a

traditionally non-digital business (e.g. social media marketing or supporting information technology systems).

- **Digital Strategy** – According to Digital Strategy Conference (DSC)[1], a "digital strategy is the process of identifying, articulating and executing on digital opportunities that will increase your organization's competitive advantage". Squamish is developing a guiding document—supported by an action plan—that clarifies where we are today and how we can move towards digital maturity in an effort to improve governance and overall community wellbeing. This strategy is also a living document that should change as circumstances change.

- **Smart Community** – A smart community is a conceptual view of a community that promotes the use of information and communication technologies (ICTs) to engage with citizens to develop social and intellectual capital, to make better use of infrastructure, reduce the use of environmental capital, support smart growth (economic development), and overall improve quality of life.

2.3   Scope

2.3.1   Project Partners

The *Squamish Digital Strategy* is intended to be an inclusive endeavour, with shared ownership of initiatives and tactics, and shared accumulation of the benefits. It includes a strategic approach and supporting action plan that identifies the following project partners that will help drive implementation (in alphabetical order):
- District of Squamish
- Downtown Squamish Business Improvement Association (DSBIA)
- Inside Edge
- Non-profit organizations, including schools
- Private businesses and service providers
- Quest University
- Sea To Sky School District #48
- Squamish Chamber of Commerce
- Squamish Library
- Squamish Nation

As each initiative in the action plan is implemented, additional project partners, and other stakeholders, may be identified.

2.3.2   Implementing the Strategy

The *Squamish Digital Strategy* targets the following groups that are seen to benefit directly or indirectly from the successful implementation of the action plan.

The Digital Strategy is a community initiative that is targeted at the following groups:

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[1] http://www.digitalstrategyconference.com/

a. Existing businesses that lack the capacity to fully participate in the digital economy, or are looking to grow in a supportive and connected digital ecosystem.
b. New businesses that are looking to open, move to or expand in Squamish.
c. Residents seeking enhanced digital services from the District of Squamish.
d. Residents who are currently digitally disconnected from other people and organizations.
e. Residents who work in Squamish, or those residents who work in the digital sector and commute outside of Squamish.

2.4 Budget

The *Squamish Digital Strategy* and action plan have been developed to reflect existing programs and projects, organizational core competencies of project partners, and limited resources for a community the size of Squamish; yet the recommendations still aim to fulfill the purpose of the strategy. As the action plan is implemented (Phase 3), the budget and additional resources required to support implementation will need to be determined for each initiative. The tactics that support each initiative have been assigned a recommended timeline (i.e. from immediate to long-term) to help the District and other stakeholders prioritize them.

2.5 Background

2.5.1 Why does Squamish need a Digital Strategy?

> "Digital should be seen less as a thing and more of a way of *doing* things."
>
> – Karel Dörner and David Edelman, *'What 'digital' really means'*

Technology has transformed the way we interact socially, between municipal organizations and their citizens, between a business and its customers, and from business to business. It has also changed the way we identify problems and solve problems. Increased availability of broadband, spiking smartphone use, the advancement of technology in all fields, and accelerating use of social media can, and is, enhancing economic and social wellbeing, and citizen participation. Simultaneously, the digital divide between those with and those without access to digital services—and the means to use them—continues to increase.

Generally, municipal organizations facilitate the provision of services between households and businesses (such as waste collection, sewer, and water provision) at a lower cost and with better quality than if households or businesses were to seek those services directly. Technology has proven to be a tool that improves services, lowers costs and helps inspire new services that were previously resource-intensive, expensive or even exclusive. Digital technologies can offer solutions to community problems and provide unexpected benefits. In addition to the technical services adopted internally by municipal organizations, they are also supporting households and businesses with technical infrastructure and services to varying degrees.

With a fast growing community[2] that includes a growing young demographic and a pervasive entrepreneurial population[3] with a love of the outdoors, Squamish is well positioned to become a 'smart community' that uses technology to engage and connect people with one another, and to products and services. Squamish's proximity to Greater Vancouver has also attracted a growing number of professionals (many who work in the 'high tech' or 'knowledge' sectors – refer to 3.1.2); many of whom still commute to Vancouver for work, but live in Squamish for the lifestyle it affords and more affordable housing (in comparison to Vancouver). The number of residents working from home is also expected to be on the rise. Helping reduce the number of commuters to Vancouver by opening up more employment opportunities in Squamish is not only a key area of focus for Squamish's *Economic Development Review*, but is also an opportunity to be explored in the *Squamish Digital Strategy*.

Unfortunately, as with most communities, Squamish is home to residents (and businesses) that remain disconnected, e.g. aging community, lower income households, and homeless community members. The Squamish Library continues to see an increase in free Wi-Fi and computer usage by all types of users, including community members who have limited computer literacy skills and require hands-on support by staff (refer to Annex 3 for more information). Ensuring all residents have access to the tools and services they need to thrive in Squamish is equally important and necessary as services continue to evolve and shift towards being exclusively provided through digital means. A digital strategy can be harnessed to close this digital divide.

Lastly, a digital strategy is a living document. Although it guides the community in how it can remove existing barriers and pursue current opportunities, updating the document will remain an iterative process. As technology and our social behaviours change, often faster than the full implementation cycle of a new strategy (e.g. two years), as will the digital needs and strategic priorities of the community and of the *Squamish Digital Strategy*.

2.5.2   *Digital Strategy Select Committee*

The Digital Strategy Select Committee—with representation from local government, non-profits, business organizations, and local industry—developed a framework for a digital strategy and then launched a Request For Proposal process to find a consultant to develop the strategy and supporting action plan. Kicking-off in March 2016, the initial scope of work included assessing the digital landscape in Squamish, public consultation, developing vision and mission statements, identifying key areas of focus for the community, and an action plan for implementation.

Further to 2.1 Purpose, the committee identified elements that they felt should be considered in the development of a digital strategy that included digital connectedness, economic growth, government transparency, and improving customer service through the use of technology.

The committee also agreed that project partners and other community stakeholders be granted the opportunity to provide input into the direction and planning of Squamish's Digital Strategy.

The Digital Strategy Select Committee comprises the following representatives:

1.   District of Squamish Council Members (not all of Council)

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[2] Employment Lands Strategy, District of Squamish
[3] Squamish Branding, Development and Marketing action plan

2. District of Squamish Staff
3. Howe Sound Secondary School
4. Members at large (citizens/business owners)
5. Quest University
6. Sea To Sky School District #48
7. Startup Squamish
8. Squamish Chamber of Commerce
9. Squamish Library

2.6 Process

The project consultants divided the development of the digital strategy into three phases:

Phase 1:   Research, Engagement and Consultation
Phase 2:   Strategy Build and Tactics
Phase 3:   Implementation and Monitoring

The *Squamish Digital Strategy* includes Phases 1 and 2 which focus on answering the "why", "what", "how", "who" and "when" of a digital strategy. Phase 3 focuses on implementing an action plan and identifying adequate resources and measurements for success. The project consultants recommend that the District of Squamish and its project partners complete Phase 3 (refer to section 4.).

During Phase 1, feedback from the Digital Strategy Select Committee (DSSC), stakeholders and the community was gathered to help identify barriers and opportunities, key areas of focus, and any prevalent initiatives and tactics for implementation. During this phase, the DSSC also helped guide the development of vision and mission statements for a digital Squamish.

Also during Phase 1, the project consultants reviewed digital strategies from other communities including those from smaller cities, as well as taking a closer look at the District of Squamish's open data and technology projects. As further information, data and opinion was gathered and analyzed, a public consultation followed to present the key findings and initial recommendations.

Phase 2 then focused on analyzing the findings from the research and consultation, clarifying the key areas of focus, and identifying the main initiatives that are required to move the community towards realizing its vision for digital.

3. Phase 1: Research, Engagement and Consultation

3.1 Design of a Digital Strategy

3.1.1 Considerations

In designing a digital strategy for Squamish, the following considerations were acknowledged:

1. The sample sizes of the responses collected for this strategy, although significantly larger than some other District of Squamish initiatives, reflect only a small fraction of Squamish residents and ongoing engagement and analysis is important.
2. A digital strategy should be aligned with existing strategic directives and priorities, including the *Technology Transformation Program.*
3. Digital strategies from other communities have been developed for significantly larger communities that may have access to more resources (e.g. funding, partnerships, infrastructure), and have broader resident/business needs.
4. A digital strategy should reflect existing Squamish partnerships and organizational strengths, and pursue new partnerships to encourage efficiencies
5. A digital strategy should be realistic and reflect existing resources, where possible (including funding and expertise)*
6. Existing network infrastructure is privately owned and managed in the District of Squamish, i.e. by independent Telecommunication Companies (TELCOs)

*Unlike most of the jurisdictions that have developed and implemented digital strategies, Squamish is a significantly smaller community (population estimated to be close to 20,000 residents in 2016[4]) and has limited access to resources for the implementation of initiatives planned in larger communities. Squamish's Digital Strategy needs to reflect realistic resources and leverage partnerships and existing initiatives where possible.

3.1.2 Potential Barriers to Achieving Digital Maturity

Some of the barriers preventing Squamish from achieving digital maturity may include:

1. The anticipated cost savings for a business operating in Squamish or a resident living in Squamish are not realized.
2. The availability and cost of commercial and residential property is under strain.
3. Squamish must compete with wages in the Lower Mainland to attract and keep workers.
4. The availability of advanced technical talent is challenging for most municipalities.
5. Squamish may not attract those who do not regard outdoor recreation as being important.
6. Certain areas in Squamish remain technologically under-served (primarily residential).
7. The development of new commercial and residential properties isn't keeping up with demand.
8. Cost of digital infrastructure and services compared to those provided in other Lower Mainland municipalities is higher.

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[4] Employment Lands Study 2014 (a study to support the *Employment Lands Strategy*), District of Squamish

Most of these barriers are not unique to Squamish and finding solutions to some of them may need to be achieved in combination with other strategic initiatives, e.g. *Economic Development Review* and the *Affordable Housing Strategy*.

3.2 Research

In developing a strategy that is the right fit for Squamish, it was important to acknowledge the community's size, resources, location, demography, and existing digital sector base, as well as initiatives that may already exist and target the digital sector. It was also valuable to understand what other communities have already developed and how they were approaching digital strategies in their communities. These factors and insights are juxtaposed against the following:

- Squamish is one of the fastest growing municipalities in Canada;
- Squamish is an engaged community;
- Squamish has an existing nascent technology sector and growing culture of entrepreneurialism;
- Squamish is situated in a unique and attractive geographic location;
- Squamish is located in close proximity to Whistler and Vancouver;
- Squamish has laid out a progressive growth-based vision for the community (with a new *Official Community Plan* in development and completed *Economic Development Review*);
- The Digital Strategy Select Community has already gathered some insights and developed some expectations around a digital strategy.

3.2.1 Demographics

In 2014, the District of Squamish completed an *Employment Lands Strategy* that looked closely at the demographics of Squamish, and how age and type of employment may impact employment lands needs today and into the future.

The strategy noted that the average age in Squamish was 36.8 in 2011, which is relatively younger than Metro Vancouver (40.2) and the provincial average (41.9). It also acknowledged that Squamish is an ageing community. Since 2001, the proportion of people 24 years and under has decreased, while the population of people over the age of 25 (including 65+) has become an increasingly large part of the population[5]. These numbers may change with the release of 2015 Census results. The strategy also recognized that a significant sector in Squamish is the professional, scientific and technical services sector, sometimes referred to as the 'knowledge' or 'high tech' sector. This sector has grown significantly since 2001 and is expected to still be on the rise in 2016. According to anecdotal information provided by employment lands' stakeholders, a large proportion of this sector commute to places of work outside of Squamish such as Vancouver.

3.2.2 District of Squamish Initiatives

To ensure the Digital Strategy is informed, aligned and connected to other relevant District of Squamish strategic documents and community initiatives, the following documents were reviewed and are referenced, where applicable:

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[5] Employment Lands Strategy, District of Squamish

1. Digital Strategy Select Committee's *Strategy Outline* and *Visioning Document* (draft only)
2. *2010 Official Community Plan* (draft only – due for completion in winter 2016)
3. *Economic Development Review* (draft only – the final document was not available at the time of developing this strategy; completed in fall 2016)
4. *Technology Transformation Program Charter* (initial projects launched in spring 2016)
5. *Affordable Housing Strategy* (draft only)
6. *Employment Lands Strategy* (completed in spring 2015)
7. *Squamish Branding, Development and Marketing Action Plan* (completed in fall 2014)

3.2.3 Open Data

Like most municipalities, the District of Squamish has been updating its technology platforms to enable safe public access to data (and information drawn from data) as an important way to improve governance transparency, community engagement, and customer service. The first step in transparency is having the right technology in place; data can then be provided publicly, or even more importantly, it can be analyzed and shared in a way that is clear, meaningful, accessible, and timely. The right information can be used to inform, engage, empower and connect people, businesses and places.

The table below shows how some communities are leveraging open data. In some cases, larger communities are linking open data to 311 services[6] based on mobile applications that make use of GPS locations, phone cameras and social media tools.

Open data is gaining broad acceptance amongst all levels of government. In Canada, the federal and provincial governments have developed an Open Government License[7], through public consultation, which provides a licensing framework for municipalities. Many larger municipalities are also embracing open data as a core business practice. The City of Vancouver's *Open Data Policy* states that the City "will freely share with citizens, businesses and other jurisdictions the greatest amount of data possible while respecting privacy and security concerns", and that they "will move as quickly as possible to adopt prevailing open standards for data, documents, maps, and other formats of media".

Open Data Availability in Other Communities

City	Open Data Availability	Open Data Dashboard	Number of Open Data Sets	Availability of 311
Chicago	Yes	Yes	227	voice + app
New York	Yes	Yes	More than 1,300	voice + app
North Vancouver (District)	Yes	Yes	More than 170	No
Richmond	No	No	n/a	No
Squamish (District)	Yes	Beta	35	No
Surrey	Yes	Yes	322	voice + app
Vancouver	Yes	Yes	145	voice + app

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[6] 3-1-1 is a special telephone number supported in many communities in Canada and the United States. The number provides access to non-emergency municipal services. [Wikipedia]

[7] http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/

The District of Squamish's open data portal focuses on GIS data and contains 35 data sets[8], ranging from civil infrastructure and utilities (e.g. locations of boreholes, storm drains, and culverts) to boundary data (e.g. park borders and ecosystem areas), and hiking and biking trails. In comparison, the District of North Vancouver has more than 170 data sets ranging from administrative data (e.g. census data and bylaws), civil utilities, ducts, fibre optic service connections, and other property data sets (e.g. boundaries, property locations, and civil utilities locations).

The District of Squamish also collects a broad range of data by automated or manual methods. Although most of this data isn't currently available online to the public, several data sets and information drawn from the data could become available as the District implements the Technology Transformation Program (refer to 3.1.4). It is also important to note that the District doesn't currently have a process or policy for prioritizing and determining which data should be made available. Examples of the types of data collected include:

- website statistics;
- consumption information (utilities, waste, etc.);
- taxation information;
- building and development permit data;
- business licence data (available through GIS and open data);
- Squamish Library usage (wireless and computer usage; circulation data; program attendance); and
- Freedom of Information requests.

The District of Squamish has been recognized for their innovation in the field of Geographic Information Services that includes their interactive web maps used by staff and the community to view, search and share spatial and non-spatial data. Unfortunately, much of the District's data isn't organized in this way for easy access and use. For example, website statistics provide basic unique page views and categorisation, however, many of the categories are duplicated and only select staff can access the information. Historical data for showing trends (i.e. to measure progress) is not easily available or has to be separately integrated. Simple dashboards showing key metrics, targeted at specific departments, would be beneficial to District staff and the public.

Public access to data and information from other Squamish organizations also appears to be under-utilized. Capturing data through digital means that can then be shared internally, with partners and with the community can lead to better decision-making and community engagement.

Open Data Privacy Protection

With any new tool or software, the District completes a 'Privacy Impact Assessment' to determine if there are any risks to private data. They ensure that private citizen data is not shared or published externally and enforce internal security through user account permissions so only staff who need access to private data to do their jobs, have that access. With the TTP, more data will be accessible in new systems, but security and access permissions must continue to be actively managed.

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[8] District of Squamish GIS data sets: http://data.squamish.ca/datasets?sort_by=updated_at

3.2.4 New Technology

In January 2016, the District of Squamish launched the Technology Transformation Program (TTP), which involves upgrading and integrating software systems at the District. The extensive overhaul of District systems across most departments is anticipated to take approximately five years. The high level benefits from successful delivery of the TTP have been identified as follows:

- ✓ Automation driving improved operational efficiencies
- ✓ Enhanced functionality offering new opportunities and improving service for staff and citizens
- ✓ Centralized data that is reliable, accessible and offers a single source of accurate information
- ✓ Modern services for the community and businesses, particularly online
- ✓ Mitigating risk of data loss due to aging/unsupported systems and manual tracking methods
- ✓ Capacity to deal with growth in the community while maintaining service levels
- ✓ Modern systems, better equipped to handle emerging business requirements, new government regulations, and support Open Data initiatives
- ✓ Improved data capture, data analysis, and benchmarking to improve processes, products, services and results

Benefits will be incremental as systems and modules are launched and the District becomes more familiar with the new capabilities and opportunities.

District of Squamish Information Technology Mission Statement

In part, "*The District of Squamish's IT [Information Technology] Department integrates people, processes, and technology to increase the efficiency and effectiveness of District services*".

As of September 2016, the following District systems are being upgraded as part of the TTP:

- Financial Management (systems/vendors selected; project planning underway)
- Emergency Public Notification System (live)
- Fleet Management System (installed)
- Fire System (in progress)
- Public Engagement Tool for Budget (in progress)
- Bylaw Noticing & Adjudication (live)
- SharePoint Document Management System (in progress)
- Online payments (limited transactions)
- Open data portal (mainly GIS based data sets)

There are many other technology initiatives either in progress or upcoming at the District (that are above and beyond those initiatives in the TPP) – these include free Wi-Fi expansion, Internet services for Paradise Valley, and server upgrades (refer to Annex 5 for details).

3.2.5 Other Municipal Digital Strategies

Many municipalities in Canada and around the world have developed digital strategies to identify and prioritize digital/technology opportunities, and to link digital product and service offerings to wider community and economic development plans. These digital strategies also incorporate tools for cultural and social engagement,

and offer all people the opportunity to be 'digital citizens'. Larger Canadian cities such as Vancouver and Calgary, and cities abroad such as Joondalup (Western Australia) and Edinburgh (Scotland) have already started implementation of their plans. At this time, it is less common to see digital strategies being developed by communities similar in size to Squamish.

Digital strategies (both implemented and in development) and other digital initiatives from Canadian and international communities were examined for this project – they are as follows:

<u>Canadian Communities:</u>
1. City of Calgary, AB
2. City of Coquitlam, BC
3. City of Kitchener, ON
4. City of Montreal, QC
5. City of Richmond, BC
6. City of Surrey, BC
7. City of Vancouver, BC

<u>International Communities:</u>
1. City of Adelaide, Australia
2. City of Brisbane, Australia
3. City of Cape Town, South Africa
4. City of Casey, Australia
5. City of Darwin, Australia
6. City of Edinburgh, Scotland
7. City of Joondalup, Australia
8. Glenelg, Australia (City of Holdfast Bay)

The average population of communities with digital strategies is well over 100,000 (approx. five times the size of Squamish). The common motivators for developing digital strategies ranged from specific to nebulous – for example:

- Calgary states that the purpose of the digital strategy is to "outline how The City can provide better information to citizens, enhance technology within The City, improve operations through technology, and provide low-cost services".

- The City of Casey in Australia aims to adopt "new ways of thinking, operating and governing our business at Council".

- The purpose of the City of Vancouver's digital strategy is to move to "an integrated and strategic approach that prioritizes key actions which will have the most value for citizens, business and the organization".

In the case of the City of Vancouver, they have a broad holistic approach to their strategy, which encompasses growing and improving e-business, e-governance, e-infrastructure, and e-democracy. At the City of Brisbane, also in Australia, their digital strategy focuses on the business sector and the role digital plays in their economic development.

The digital strategies reviewed for this report were nearly as diverse as the cities themselves, however, there were four common themes (refer to Annex 4 for details):

1. **Governance** – this refers to the governance structure that drives internal processes and improved digital services to the community. It includes the organizational structure to deliver these services. Tools such as open data encourage aspects of governance such as transparency.
2. **Connectivity** – this encompasses both physical (fibre optic cable, wireless infrastructure) and digital assets such as software and data.
3. **Economic** – this refers to the economic benefits that the digital strategy is intended to facilitate. This is a nearly universal theme across all cities and towns that have a digital strategy.
4. **Social** – this refers to the interactions within a community, and partnerships.

3.3 Engagement & Consultation

Between March 2016 and June 2016, a number of interviews and consultations were completed:

1. 19 one-on-one interviews with project partners and stakeholders
2. Two committee presentations (live and archived video)
3. One public consultation presentation (live and archived video)
4. Public survey available online and in paper format at several locations around town

The total number of survey respondents as 85 (80 online plus 5 paper responses). Although these results as a total are not scientific in that they would have significant margins of error, they are nevertheless indicative. The survey was promoted on the District's website, through their social media channels, email communications, and at locations where the paper format was available around town.

Detailed responses to the stakeholder interviews and public survey are listed in Annexes 1 and 2.

District Research Methods:

✓ Project webpage on www.squamish.ca with link to survey
✓ E-mail blast to 2,200 subscribers with link to survey and webpage
✓ Facebook posting (2,400 followers)
✓ Media release with link to survey
✓ Survey boxes dropped at Municipal Hall, Totem Hall, Brennan Park Rec Centre, Public Library, Senior Centre, and Adventure Centre (Chamber of Commerce)
✓ Notice to Quest University

3.4 Findings

The following findings emerged from research and feedback collected during consultation with stakeholders, the community, and the Digital Strategy Select Committee.

3.4.1 *Digital connectivity isn't a significant factor in limiting the growth of the digital sector in Squamish*

Although there appears to be some concerns about the quality of some digital infrastructure in a select number of residential areas, there doesn't appear to be a digital barrier to new businesses relocating or opening in Squamish. The main deterrent to new businesses moving to or opening in Squamish, according to the findings, is the lack of affordable space, both commercial and residential. Furthermore, the lack of affordable rental housing is also limiting the number of professionals willing to move to Squamish for employment.

- Digital connectivity doesn't appear to be a barrier to business
- There is a lack of affordable real estate space and housing to support new businesses

31% of survey respondents believe the lack of affordable office space is a barrier to business

66% of survey respondents believe the lack of affordable housing is a barrier to business

Although there is limited data to confirm the number of businesses working from the home, Internet services wasn't identified in the research as a significant issue that was limiting business performance or growth.

3.4.2 *Squamish is well positioned to become a hub for small businesses and entrepreneurs who are harnessing technology for social change*

- The number of new businesses opening in Squamish continues to grow
- Limited digital sector jobs in Squamish
- Squamish no longer has a business incubator

Squamish's low rental availability, growing pressure on services and growth of new businesses is, in part, the result of people seeking an outdoor lifestyle combined with relatively affordable housing compared to Whistler and Vancouver. Many young, educated professionals with a love of the outdoors have been relocating to Squamish from Greater Vancouver; they continue to commute to Vancouver for work, or are finding work in Squamish. There has also been an increase in the number of businesses that are opening in or relocating to Squamish. Although Squamish currently has limited affordable move-in-ready employment spaces, the types of professionals who are moving to Squamish work in sectors that require minimal commercial space yet earn higher than the median household income[9]. Squamish is well positioned to become a hub that harnesses this human capital and this sets Squamish apart from other communities. Although there are currently limited digital sector businesses in Squamish, these may grow with a focused approach to business growth that encourages entrepreneurs who connect with Squamish's brand and who are using technology to advance their products and services. Technology is one way we solve problems that aren't necessarily digital in nature – Squamish should consider building a supportive and collaborative ecosystem for entrepreneurs and innovators across all sectors.

A privately operated business incubator, Startup Squamish, launched in 2014; however, the business failed to remain sustainable and closed almost a year later. The capacity or demand for this type of program may not (yet) exist, and may not prove successful without partnership funding. Stakeholder interviews indicated that there is likely a void in terms of a coordinating body that brings together entrepreneurs and professionals (including those working in the digital sector) to share, incubate, learn, collaborate, and plan for growth.

Meeting the digital infrastructure needs and demands of Squamish residents and businesses is also key to attracting new digital enterprises. This is an ongoing collaborative effort by government, digital providers (e.g. TELCOs) and land developers. There are currently several upgrade and expansion infrastructure projects planned by TELCOs in Squamish and it is important they are carried out soon to meet the demands of a growing city.

3.4.3 *District of Squamish needs to be a digital leader*

The District of Squamish really needs to 'walk the talk' and be a digital leader in the community to help build trust, grow usage and engagement, and support new opportunities that may arise from the use of technology (i.e. a 'smart community'). The District is one of the larger technology users in the community and the use of its platforms and digital interfaces are the most pervasive. Therefore, the District is well positioned to lead a digital strategy, starting with a continued emphasis on improving

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[9] Employment Lands Study 2014 (a study to support the *Employment Lands Strategy*), District of Squamish

municipal systems through the *Technology Transformation Program* and other information technology projects. There is still work to be done with improving municipal processes, customer services (including web and mobile tools, and access to more open data), and overall performance results by leveraging digital tools and technologies.

In addition to moving the *Technology Transformation Program* ahead over the next five years, the District should also look at growing a culture (internally and with its partners) of 'digital first'. The District should be considering how technology be used to improve performance of the organization, and how can the District continue to help businesses, organizations and citizens bridge the digital divide through the provision of literacy programs and access to affordable and free tools. As a community, Squamish can leverage technology to develop smart and innovative solutions to problems that continue to be barriers to growth, and problems that potentially aren't being resolved using antiquated and analog systems and approaches.

- Citizens are demanding greater transparency of government data and decision-making
- Mobile-supported services and infrastructure needs to be improved
- Several digital initiatives are already being implemented at the District

50% of survey respondents access the District's website on their mobile phone

18% of survey respondents don't know which websites to use to access different Squamish resources

With the recent completion of the *Economic Development Review*, the District would be well positioned to lead the implementation of the *Squamish Digital Strategy's* action plan to ensure alignment with other strategic priorities, leverage existing partnerships, and access resources when appropriate.

It is important to note, that some stakeholders were concerned that the digital strategy would have too much focus on District activities and would be beholden to District governance and administration. Unfortunately, at this time, there is no obvious corporate or non-profit leadership to assume the role of Champion or to provide funding, but as the strategy gains momentum, leadership could evolve to a mixed approach or even solely led by the private sector.

In terms of funding partner-driven or independent initiatives, the reality is that the organization providing the financial means to carry out projects–and who must be held accountable to either taxpayers or shareholders–will likely assume leadership. This accountability usually prohibits organizations from providing substantial funds to groups not under a measure of control through a transparent decision-making process. Therefore, although there is a stated desire by some stakeholders to move projects away from the District or to assume decision-making powers on projects funded by the District, these types of project management scenarios would require tight control and ongoing oversight. Unless there is another route chosen, such as crowd funding or Public Private Partnerships (PPPs), the digital strategy will inevitably be guided by and propelled by the District in the first instance. This is why sourcing reputable partners is important.

3.4.4 *Lack of awareness of, and access to, digital tools and services may be contributing towards the 'digital divide'*

Even though there are many digital resources available to community members including complimentary services provided by the Squamish Library, there continues to be a lack of awareness about what services exist, where they can be accessed, and if they are keeping up with demand. Even though the Squamish Library has seen an increase in free computer and Wi-Fi use over the last two

years, some citizens continue to feel disconnected and either unable to or uncomfortable with accessing the training required to use new technology.

All project partners should be exploring ways to engage their customers, users and communities, and finding new ways to improve digital literacy, access digital technology, and promote services to those not yet online. Partnerships between governments, schools and organizations should be a prerequisite of any new digital literacy programming in the community.

- Better promotion of existing services
- Expand and improve access to training and tools
- Encourage development of digital skills in schools (secondary, tertiary and adult learning)

16% of survey respondents were unaware that the Library provides free Wi-Fi, access to computers, and computer user support services

91% of survey respondents support free Wi-Fi in select locations or throughout Squamish

3.4.5 *Municipalities that have developed digital strategies are mostly aligned in their approach*

- Key areas of focus across most municipal digital strategies were: Governance, Connectivity, Economic and Social.
- Clear leadership and funding is needed to implement the strategy successfully

In the last decade or so, digital strategies have mostly been associated with marketing and communications businesses (or businesses within the 'digital sector'), however, more and more local governments are developing digital strategies to create 'smart communities', and are seeing varying degrees of success. Although Squamish is significantly smaller compared to most communities that were reviewed for this project, feedback from the stakeholders and the community is aligned with the digital priorities of these larger communities. Communities are mostly looking to become 'smart communities' by leveraging technology to improve governance, ensure connectivity is meeting demand, grow their economies by supporting the growth of the digital sector (i.e. a sector that typically generates higher paying jobs and often requires less square footage to operate), and ensure citizens are connected and well served by public and private organizations.

In support of the District of Squamish taking a leadership role in the digital strategy, it is also apparent that most municipalities are leading the charge with their digital strategies to ensure there is funding to implement changes for the broader community. Communities led by organizations that are forward thinking in their policies and systems are more likely to attract citizens and businesses that demonstrate the same values.

Nearly all of the digital strategies reviewed recognize social benefits and that it is difficult to deliver better services without close relationships and partnerships between the public and private sectors. For example, the City of Surrey identifies potential partnerships in each of its digital strategy objectives. In setting up a business incubator, Surrey identified two partnerships that were key to achieving this objective: the BC Technology Industry Association and Simon Fraser University's Beedie School of Business.

4. Phase 2: Strategy Build and Tactics

The purpose of Phase 2 was to create a vision and mission statement to steer the Digital Strategy, and build a strategic action plan based on the findings to: improve how Squamish connects devices, objects, and people; improve how citizens are served; and stimulate new growth in the digital sector.

In consultation with the Digital Strategy Select Committee, the following vision and mission statements were developed.

Digital Strategy Vision Statement

Squamish is a vibrant place where people want to live and work because businesses, governments and the community are thriving in a digitally connected and enriched environment.

Digital Strategy Mission Statement

Hardwire* Squamish so that people feel digitally connected to one another,
and to places, businesses, and services.

*'Hardwired' is a nod to Squamish's brand – *Hardwired for Adventure*.
Squamish is hardwired for business because of its infrastructure, growing number of businesses, and talented human capital.

4.1 Key Areas of Focus

Five key areas of focus, or priorities, were identified from research and consultation that should help steer Squamish towards achieving the purpose of the Digital Strategy (refer to 2.1). The key areas also reflect and align with the priorities identified in other supporting District of Squamish documents including the draft *Official Community Plan*, the *Technology Transformation Program*, and the newly completed *Economic Development Review*. In some instances, there may be recommendations that support more than one key area of focus.

The key areas of focus also support the Purpose (refer to 2.1) of the Digital Strategy in the following way:

> "... this strategy will move Squamish towards being more digitally connected by leveraging technology and **partnerships** to:
>
> d.   improve how we connect devices, objects, and people (**digital connectivity & engagement**);
>
> e.   improve how citizens are served (**municipal services**); and
>
> f.   stimulate new growth in all sectors, including digital technology (**economic development**)."

4.1.1 Digital Connectivity

The infrastructure of Squamish's digital network, and access to the tools needed to connect devices, objects and people, is the foundation of a digitally mature community. Meeting the digital infrastructure needs and demands of Squamish residents and businesses is an ongoing collaborative effort by government, digital providers (e.g. TELCOs) and land developers.

4.1.2 Engagement

Squamish has demonstrated[10] that it values and recognizes the right of citizens to participate in defining the type of community in which they want to live, work and play. Through this community-driven strategy, engagement amongst stakeholders, partners, businesses and citizens is necessary to reduce the digital divide, and guide and inform community decisions including action plan initiatives recommended in this strategy.

4.1.3 Economic Development

Stimulating economic development is core to Squamish's *Official Community Plan* and the *Council Strategic Plan 2015-2018*, as well as an initial motivator for developing Squamish's Digital Strategy. In an effort to improve the quality of living for all of its residents and grow its non-residential tax base, Squamish should harness technology and continue to support the growth of all sectors, including the digital sector.

4.1.4 Municipal Services

The District of Squamish is responsible for delivering a broad range of municipal services including services that reflect the needs and desires of the community. Using technology to create efficiencies in the type of services it provides and the delivery of these services is one way the District can steward taxpayer money, engage the community, and achieve its community vision[11].

4.1.5 Partnerships

Building linkages within the technology community (both in Squamish and beyond) and between governments, businesses, non-profit organizations and entrepreneurs can help expand the reach, cost savings and overall benefits of all of the recommended initiatives. This key area of focus is also aligned with the *Economic Development Review* and specifically the strategy to "ensure strong linkages and suitable partnerships with the local business community".

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[10] Council Strategic Plan, District of Squamish
[11] 2010 Official Community Plan – Vision Statement

4.2 Action Plan (Initiatives & Tactics)

<table>
<tr><td colspan="2" align="center">Squamish Digital Strategy Action Plan</td></tr>
<tr>
<td>Purpose</td>
<td>The purpose of the Digital Strategy is to move Squamish towards being more digitally connected, specifically by leveraging technology & partnerships to:
1. improve how we connect devices, objects, and people (digital connectivity & engagement);
2. improve how residents and businesses are served (municipal services); and
3. stimulate new growth in all sectors, including digital technology (economic development).</td>
</tr>
<tr>
<td>Scope</td>
<td>The Digital Strategy is a community initiative that is targeted at the following groups:
1. existing businesses that lack the capacity to fully participate in the digital economy, or are looking to grow in a supportive and connected digital ecosystem;
2. new businesses that are looking to open, move to or expand in Squamish;
3. residents seeking enhanced digital services from the District of Squamish;
4. residents who are currently digitally disconnected from other people and organizations; and
5. residents who work in Squamish, or work in the digital sector and commute outside of Squamish.</td>
</tr>
<tr>
<td>Vision</td>
<td>Squamish is a vibrant place where people want to live and work because businesses, governments and the community are thriving in a digitally connected and enriched environment.</td>
</tr>
<tr>
<td>Mission</td>
<td>Hardwire* Squamish so that people feel digitally connected to one another, and to places, businesses, and services.
*Hardwired' is a nod to Squamish's brand – Hardwired for Adventure. Squamish is hardwired for business because of its infrastructure, growing number of businesses, and talented human capital.</td>
</tr>
<tr>
<td>Key Areas of Focus</td>
<td>Areas of focus identified through community consultation, stakeholder engagement, and research of other digital strategies are:
1. Digital Connectivity – ensure people and places have access to the quality of services required to support home, work and school
2. Community Engagement – ensure people feel engaged and informed about Government programs, processes and decisions
3. Economic Development – address any barriers to business retention and expansion to help attract businesses in all sectors including digital technology
4. Municipal Services – advance Government systems to improve customer service, internal processes, and transparency of information
5. Partnerships – leverage partnerships to access expertise, funding, and minority groups, and introduce overall efficiencies</td>
</tr>
</table>

Initiatives (in order of priority†)	Tactics	Timeline	Responsible	Key Areas of Focus				
				Connect	Engage	Ec. Dev.	Services	Partner
1. **Implement** the Squamish Digital Strategy *Ensure it has a clear vision, leadership and accountability*	1.1 In partnership with community stakeholders, appoint the District of Squamish's Economic Development Office (EDO) as the strategic lead for the implementation of the Digital Strategy Action Plan.	Immediate	DOS			X	X	X
	1.2 With the implementation of each Action Plan initiative, develop (or support the development of) clear metrics to measure and report on success.	Ongoing	EDO					
	1.3 Retain Digital Strategy Select Committee for at least one year after the strategy is finalized to advise EDO & partners on implementation.	Immediate	EDO					
	1.4 Coordinate implementation of Action Plan with other strategic work plans including Economic Development Review and Employment Lands Strategy.	Immediate	DOS					

Initiatives (in order of priority†)	Tactics		Timeline	Responsible	Key Areas of Focus				
					Connect	Engage	Ec. Dev.	Services	Partner
2. Improve access to affordable and suitable **employment lands/spaces**	2.1	Continue to implement the *Employment Lands Strategy* recommendations, specifically 1, 2, 3, 8 & 10.	Short	EDO & Planning			X		X
	2.2	Use the Business Retention & Expansion program to identify and assess any digital-specific issues with employment lands; feedback will inform ongoing implementation of the ELS and new developments.	Ongoing	EDO					
3. Improve access to **affordable housing** to support business growth	3.1	Ensure the *Affordable Housing Strategy* and the new *Official Community Plan* recognize the housing needs of business owners and employees, including those who work in the digital sector, e.g. creating walkable neighbourhoods with "backdoor" access to the outdoors; access to high speed Internet; multimodal linkages between home and office.	Short	DOS			X		
4. **Promote** that Squamish is *hardwired* for business *Squamish is 'hardwired' for business because of its infrastructure, growing number of businesses, and talented human capital*	4.1	In support of the *Economic Development Review* and the *Branding Development & Marketing Action Plan*, implement the following: • market Squamish as being hardwired for business and home to human capital with digital/technical skills in a wide range of industries; • attract "anchor" businesses to Squamish (including but not limited to the digital sector); and • solicit feedback from new business enquiries, in addition to the Business Retention & Expansion program (refer to Tactic 2.2) to determine if there is demand for a Squamish business incubator that provides a partner-funded community space for private and public businesses to collaborate, share (e.g. open data), and innovate.	Short-Medium	EDO, Chamber EDO, Chamber & Partners		X	X		X
	4.2	Through a Squamish survey, gather insights about Squamish's connectedness and human capital, e.g. # of commuters.	Medium-Long	EDO					
5. Improve the variety and quality of the District's **digital communication tools** to grow and improve engagement with residents and businesses	5.1	Improve the mobile interface of all District systems and the website for District staff, businesses and residents (share best practices with other local organizations).	Medium	DOS IT & Comm	X	X	X	X	X
	5.2	Grow and improve social media engagement through targeted content and the use of incentives, e.g. Refer a friend to signup for ePACT emergency alerts for your chance to win X.	Ongoing						
	5.3	Improve access to online bookings and payments, and community information such as events, webcams and weather updates (e.g. wave conditions for kite-boarders, wind conditions for climbers).	Medium-Long	DOS & Partners					
	5.4	Promote location of free/subscriber Wi-Fi in Squamish.	Short	DOS Comm & TS					
6. Advance Squamish towards being a **'smart community'** *Grow a culture of 'think digital first'*	6.1	Advance the *Technology Transformation Program*, including using new systems to capture, analyze, benchmark, and report on data, and inform process improvements.	Ongoing	DOS			X	X	X
	6.2	Grow a culture of 'think digital first' to support Squamish becoming a smart community. Allocate resources to explore and implement innovative digital solutions (in conjunction with, but not limited to, tech support functions), especially those that result in cost savings and improved customer service.	Short-Medium	All stakeholders					
	6.3	Recruit employees who have technical skills and train existing employees to develop new skills so that there is strong uptake of new systems and the culture of "think digital first".							

Initiatives (in order of priority†)	Tactics	Timeline	Responsible	Key Areas of Focus				
				Connect	Engage	Ec. Dev.	Services	Partner
7. Make it **easier to do business** with the District *Provide access to transparent, open data*	7.1 Develop an open data policy to clarify which data should be made available along with other supporting criteria and requirements.	Short-Long	DOS		X		X	
	7.2 Use open data in meaningful ways to improve business and resident use of municipal services, provide transparency of municipal decision-making, and support citizens who are using data to inform their own decision-making and entrepreneurial pursuits.							
	7.3 Shift application, payment, wait times, and permit issuance to online, including mobile-friendly interfaces (e.g. business licences, zoning applications, building permits).	Medium-Long						
8. Introduce developer and small business relocation **incentives**	8.1 Remove barriers for developers; incent them and partner with them to build new residential and business developments that meet the needs of the digital sector, and encourage clustering.	Short-Long	DOS Planning, Building & Engineering			X	X	X
9. Build a **community portal**	9.1 Develop a portal that hosts community-wide resources for visitors and residents including an online museum, access to recreation data (e.g. trails), links to government services, entertainment listings, social services resources, etc. (e.g. Squamish.com).	Long	All stakeholders	X			X	X
	9.2 Provide access to third party web tools that enable residents and businesses to measure digital connectivity performance.	Short	DOS IT					
	9.3 Work with Quest and Sea To Sky School District #48 to engage students in the development and ongoing maintenance of the community portal.	Medium-Long	All stakeholders					
10. **Improve access** to affordable and robust digital infrastructure	10.1 Work with TELCOS to identify areas where access isn't robust, and improve connectivity, e.g. Paradise Valley, Garibaldi Highlands and Downtown Squamish.	Short-Medium	DOS IT & TELCOS	X		X	X	X
	10.2 Develop online best practice information for builders that includes installing the appropriate fibre conduit during construction ("one dig") and that consideration is given to future public-access Wi-Fi (e.g. Squamish Oceanfront Development).	Short	DOS Planning, Building, Engineering					
	10.3 Work with developers, builders and homeowners to encourage the installation of fibre conduit during new construction and renovations; and track data, where possible, about the location, type and date of fibre installation (e.g. through GIS).	Short-Medium						
	10.4 Formalize annual planning meetings between District (Planning, Building, IT) and TELCOS to address future growth/upgrade opportunities that are mutually beneficial.	Short	DOS IT, Planning, Building, Engineering & TELCOS					
	10.5 Work with TELCOS to identify current and proposed infrastructure and provide public access to data through GIS on the District's website, e.g. identify the type, location and provider of fibre in different business areas.	Medium-Long						
	10.6 Ensure internal Planning processes identify when developers need to be referred to TELCOS for new/improved infrastructure.	Ongoing	Planning					

Initiatives (in order of priority†)	Tactics		Timeline	Responsible	Key Areas of Focus				
					Connect	Engage	Ec. Dev.	Services	Partner
11. Improve digital **literacy and access** to digital tools and services *Ensure every business & resident is connected*	11.1	Improve promotion of and access to value-added public services that improve the digital literacy and ensure every resident is connected regardless of income, e.g. develop a "pop-up" library program whereby the library takes digital tools and literacy programs to locations where they can better reach those needing access, e.g. Senior Centre, Totem Hall.	Medium	Library	X	X		X	X
	11.2	Allocate a portion of the District's Community Grant Program to digital literacy programs and youth-led digital initiatives.	Short	DOS					
	11.3	Library to work with the District and other community partners (e.g. SD48, Quest) to host digital skilled-based events (e.g. youth coding event, e.g. "codeathon") and on-demand training services (e.g. youth providing hands-on, on-call computer literacy support to those in need)	Medium-Long	Library, DOS & Partners					
	11.4	To help reduce the "digital divide" between residents, host an annual Squamish Digital Re-Use-It event to collect and distribute unwanted cell phones and computers, in good working order, to those in need.							
12. Continue to provide **free Wi-Fi** in high traffic areas	12.1	Continue to partner with TELCOS and independent contractors to expand access to free Wi-Fi in high traffic areas in Squamish.	Ongoing	DOS & Partners	X			X	X
	12.2	Promote location of free/subscriber Wi-Fi in Squamish (refer to Tactic 5.4).	Short	DOS & TS					
13. Expand digital **education** opportunities in Squamish	13.1	Explore ways that resident learning institutions (e.g. Quest, UBC, SD48) can expand digital literacy programs to improve literacy (entry-level) and specialized digital skills (advanced).	Medium-Long	All stakeholders			X		X
	13.2	Connect Squamish's digital-sector with resident and Vancouver-based learning institutions to create job-shadowing, internship and mentorship opportunities.	Medium-Long	EDO, Library, learning institutions					

† Initiatives are ranked in order of priority based on the number of issues and opportunities identified through community consultation, stakeholder engagement, and research of other digital strategies. Although these initiatives are listed in priority under a digital context, they may not follow the same order of priority when taking into consideration other factors including organization priorities, resourcing, and the fact that some tactics may be regarded as "quick-wins" and proceed ahead of higher priority initiatives and tactics.

Timeline Key: Immediate = complete Q1 2017; Short-term = 0-12 months; Medium-term = 1-2 years; Long-term = > 2 years; Ongoing = no set timeline for start/end

Responsible Key: DOS = District of Squamish; DOS IT = District of Squamish Information Technology Department; DOS Comm = District of Squamish Communications Department; EDO = Economic Development Office; TELCOs = Telecommunication Companies; TS = Tourism Squamish; Chamber = Squamish Chamber of Commerce; Library = Squamish Public Library; Learning Institutions = includes Quest, Sea To Sky School District #48 and other Squamish-based institutions; All Stakeholders = those interviewed for the *Squamish Digital Strategy*; Partners = any individual or group

4.3   Additional Recommendations

4.3.1   Operational

These additional operational recommendations apply to all of the stakeholder organizations and their management and maintenance of data, information and systems.

1. The ICT architecture should use open industry standards wherever practical.

2. Software and hardware should conform to defined standards that promote interoperability for data, applications and technology.

3. Technology should be scalable in order to provide the ability to respond to user needs. For example, an increase in user numbers or a requirement to handle more data.

4. Avoiding redundancy is important to not only reduce costs but also to reduce user confusion.

5. Services or information offered by private companies, as well as through provincial or federal works should be inventoried and assessed before expenditures are made that might largely duplicate information/data. For example, there may be some duplication with the detailed information already provided by Google Earth that is offered by the District's current GIS system.

6. Relying on outsourced data and information instead of District of Squamish-owned and controlled information might require a change in approach as ownership and control issues may arise.

7. Appropriate emergency back-up should be a consideration. With valuable information being shared and stored there may be a need for an off-site and out-of-region handling facility. Caution should be taken in relying upon and placing copious and perhaps sensitive information into the Cloud. In the event of an earthquake/tsunami, major fire or other issues (and Squamish is susceptible to these), data must be accessible and information provided from an alternative back-up space. Also, as more people visit the back-country, more come in to contact with wildlife and emergencies caused by nature (e.g. fires, floods, ice), there is always a need to have access to leading-edge emergency planning and communication services.

4.3.2   Policy

1. Squamish must ensure that it is fully up to date with new data protection, privacy, and Freedom of Information (FOI) legislation. FOI administration has become an onerous exercise for many governments, including the District of Squamish, and is partly why there has been a push towards more 'open government'. Compliance and evolution of the architecture, as well as municipal policies, should also be managed through controlled governance processes.

5. Phase 3: Implementation & Monitoring

Phase 3 is to be completed by the project partners (with recommended leadership by the District of Squamish) and include implementing the *Squamish Digital Strategy Action Plan* as well as monitoring (and reporting) results to stakeholders. Monitoring may also involve developing benchmarks for the digital strategy to demonstrate how each of the target groups (refer to section 2.3.2.) is benefiting from the successful implementation of the initiatives. See below for examples of what a digitally mature Squamish may look like.

Reviewing and determining the feasibility, appropriateness and priority of the initiatives and tactics that are recommended in the *Squamish Digital Strategy Action Plan* is an iterative and collaborative process. The Digital Strategy Select Committee (DSSC) and the project partners should review the action plan periodically (e.g. every 12 months) to ensure the strategy is being fulfilled and it is supporting the five key areas of focus. Further work is required to ensure the timing and assigned responsibilities are on point, and to ensure there are clear measurables to gauge project success. New initiatives and tactics may arise over time and should be considered by the DSSC (with input from the community, if appropriate) and incorporated into the action plan as needed.

5.1.1 Examples of a Digitally Mature Community

The following examples demonstrate how the successful implementation of the digital strategy (in part or whole) can potentially benefit the strategy's target groups (refer to section 2.3.2):

A local business that wants to expand in Squamish…will be able to:

1. Access online business license renewals and payments.

2. View online history of property taxes paid and owing.

3. View GIS-based location coordinates, boundaries, infrastructure (gas, water etc.), expected or upcoming public works in the vicinity, etc.

4. View online building and development permit applications and processing status updates.

A resident who is not yet digitally connected…will be able to:

1. Visit the library and sign up for an introductory course on how to use a computer, access the Internet, and set up and use an e-mail account. Learn about basic safety and Internet browsing tactics.

2. Set a goal to learn how to pay municipal taxes on-line from the District of Squamish, and how to print off a paper receipt.

3. Learn how to submit a comment or send a direct message to the District via one of their social media channels (such as Facebook).

A resident student with digital aspirations…will be able to:

1. Sign up for a specific course on coding or App development at their school, and learn about safety and best practices for data protection.

2. Set a goal of learning how to develop an application that could be shared and used by people in Squamish. Perhaps this can be a part of a school project.

3. Enquire about internship or job-shadowing opportunities with the District or with a business in the digital sector in Squamish.

4. Uses the capped, free Wi-Fi in municipal buildings and around Downtown Squamish.

A person who loves the Squamish lifestyle (this may apply to several of the target groups)…will be able to:

1. Access Recreation Centre bookings easily on their mobile device and book and pay for a class from their mobile device.

2. Use a centralized GIS tool to see trail, rock, water, and other outdoor recreation conditions in the area.

3. View the live webcams and video feeds to see about weather, crowds, hiking, biking and climbing conditions; and upload information/photos to share with others.

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7. Annex 1: Stakeholder Interviews

7.1 General Observations

Stakeholders were interviewed independently and asked the same set of questions. In some instances more than one stakeholder from the same organization participated in an interview. Most interviews lasted approximately an hour.

Overall, stakeholders were very willing to provide input and had a genuine desire to assist with a digital strategy. Some respondents did not answer some of the questions; this was either due to the question not being applicable or the respondent opting not to answer. Comments that were redundant (within the same interview) or questionable in value or applicability were excluded from the summary below.

Information gathered from the interviews was collated and a summary of findings is provided below.

In summary:

- The lack of decent office space, affordable housing, and a cost saving which is not substantial from Vancouver and is likely not favourable to other parts of the Lower Mainland are the main points against growth.
- There doesn't appear to be any [known] digital connectivity barriers that would prevent technology/digital businesses from moving to Squamish.
- Future digital efforts to attract businesses to Squamish will be almost entirely indirect endeavours.
- Ideally, there would be an appointed leader or "champion" for the Digital Strategy to ensure implementation and integration with other initiatives. This position would also have access to the necessary funding to assist with implementation.
- Squamish's main attraction and key differentiator is the outdoor lifestyle.
- Zones without broadband connectivity or with slower speeds should cease to exist by next year
- The availability of qualified workers is a challenge for some employers, although this may be restricted to specialized IT workers.
- There is little opportunity for technological workers to change jobs once in Squamish and so the risk of moving, or commuting, may be higher.
- Within the District, there is a tendency for budgets to be driven by strategy and that these strategies often overlap or are complementary.
- In most cases, there is a limited capacity for Digital Strategy partners to provide financial and human resources to support digital initiatives.
- There is an interest in implementing programs with District funding or in partnership with the District.
- There was limited appetite to significantly expand existing programs and services that might enable all citizens.

7.2 Stakeholder Interviewees

The key stakeholders interviewed were:

1. Bridgett Barnett, Telus
2. Hilary Bloom, District of Squamish (Library)
3. Radek Burkat, Pinkbike
4. Gary Buxton, District of Squamish (Development Services)
5. David Crewson Start-up Squamish
6. Ryder French, Sea To Sky School District #48

7. Pria Giri, District of Squamish (Recreation Services)
8. Linda Glenday, District of Squamish (CAO)
9. Dan Griffin, District of Squamish (GIS)
10. Matt Gunn, District of Squamish (Planning)
11. Patricia Heintzman, District of Squamish (Mayor)
12. Tim Hoskin, District of Squamish (Recreation Services)
13. Peter Jory, Sea To Sky School District #48
14. Darren McCartney, Remax
15. Christina Moore, District of Squamish (Communications)
16. Rob Parry, Telus
17. Davin Peterson, Base Wireless
18. Chris Pettingill, Squamish Chamber of Commerce
19. Paul Wick, Squamish Nation

7.3 Questions and Summarized Responses

How would you help bring in (high tech related) businesses to Squamish?

- Future digital efforts that could attract businesses to Squamish will be almost entirely indirect endeavours that make it easier for companies to start operations and for their employees to move here and to integrate. There is no "silver bullet" that will bring business to Squamish as it will be a combination of events that will entice investors to Start or expand here.

- Economic development planning, District IT and communications services all play roles in making it easier to research and to set up in Squamish. However, a "champion" who is designated in a role to tie planning, IT, frontline delivery and economic development projects together (to improve access to and availability of digital services) will be useful.

- Squamish's main attraction and key differentiator is the lifestyle it affords its citizens. The proximity to mountains, sea and forest and all of the recreation activities associated with this geography is unique. The smaller town atmosphere – although rapidly changing – is also very different from most other areas within the Lower Mainland (and regions within driving distance of Metro Vancouver). Therefore, a public relations effort could help to raise awareness – and to target entrepreneurs and investors might help to bring business to Squamish.

- There does not appear to be a current drawback from a technological standpoint that would dissuade almost any type of company from moving to Squamish. The telecommunications infrastructure is sufficient for a city the size of Squamish in almost all instances and there are active plans in place to upgrade and roll out better infrastructure and telecoms services. When these services are made available over the coming year, there is another opportunity to provide communications material and to use public relations.

- The small yet burgeoning 'RecTech' sector may be a particular area to monitor and perhaps nurture. This represents what might be the best prospect to create a distinctive cluster effect. The District may seek to find out the wants/needs of this sub-sector in particular.

- Longer term, an effort could be made to ensure that education options provide Squamish with sufficient home-grown talent.

What inhibits entrepreneurs and investors from starting or expanding business in Squamish?

- Technology and the digital infrastructure and services is not what currently dissuades business from starting or expanding in Squamish. Instead it appears to be the lack of decent office space, the difficulty

finding affordable housing (rental), and a cost saving which is not substantial from Vancouver and is likely not favourable to other parts of the Lower Mainland (such as the Fraser Valley).

- Some frustrations were evident concerning the planning, development, licensure and inspection of premises by the District – however this probably would not dissuade an investor coming to Squamish or expanding business. However, delays and costs inhibit growth.

- The availability of qualified workers may be a challenge for some employers, although this may be restricted to specialized IT workers. Those skilled workers who commute from Squamish are mostly an unknown quantity.

- With little to no clustering effect just yet, there is also little alternative for technological workers to move jobs once established in Squamish and therefore the risk to moving for a couple or family - may be higher. Also, those with partners may find it difficult to find suitable employment without commuting.

- The lack of activities that are not based on (daylight) recreation may dissuade certain investors from coming to Squamish. Careful planning to encourage intelligent developments and ensure a vibrant downtown might mitigate this issue over time. This could include transportation planning as the limited evidence at hand suggests this is inadequate.

Does your organization (department) have a budget/resource that is allocated to expanding access to or usage of digital services and information?

- There is some indirect budget available in most instances - if a sufficient business case can be made. However it is unclear of the possible resource size. In most instances, the human resources available is minimal or non-existent. Previous entrepreneurial attempts to incubate/accelerate/support organic business growth have mostly failed due to an apparent lack of funding partners.

- Within the District, there is a tendency for budgets to be driven by strategy and that these strategies often overlap or are complementary. This can make it difficult to develop precise strategic objectives because the budget to carry out the task required to meet these objectives is not visible, obvious or perhaps set. The exception may be the library service – which has dedicated systems and people to expand access and usage.

- There is currently a question of how the implementation of the strategy will be carried out, and specifically by whom. Beyond the internal IT components, it is not yet clear who this champion might be.

Would your organization be willing and ready to partner with the District on a project to improve access to or delivery of electronic information/services?

- Tactical partnerships are possible with a limited number of entities. Included in this is a potential to partner on Wi-Fi expansion and to provide detailed (GIS) maps of local recreational trails. Certain public relations opportunities – such as with Telus – may also present themselves.

- Internal departments are willing to help where they can, although there is limited resource availability or specific funding allocated at present – beyond the IT investment.

- Telus is planning on making a major expansion of its network in the coming year. They have previously built digital dashboards for municipalities.

How might your organization contribute to the above?

- There is general interest in partnering with the District as well as with a limited number of more specific program opportunities to consider. There are certain precedents to explore (including the off-road bike association, Start-up Squamish, the Chamber of Commerce).

- However, in most instances there is a limited capacity for partners to provide financial and human resource support. Therefore it is a probability that certain stakeholders may be interested in being recipients of District funding in order to become involved. This might be considered when the strategy considers the number of possible projects that aren't intended to be District-led.

Is your organization willing and able to implement District funding with oversight?

- Generally there is an interest in implementing programs with District funding. Although there is some precedent here, there is limited current capacity with most organizations in Squamish to carry this out.
- Further, a rigorous management and audit function would be required to ensure proper ROI is achieved.

How would you improve take-up of digital services and information already available – either from the District, from your organization or from elsewhere?

- There was a mixed response with a portion believing that it should be the District leading the way while others thought that (an unspecified) community body would be better suited. The fear with some respondents was that bureaucracy would be a negative aspect to a District-led program. There was some agreement that the implementation may rest outside the District or at least with a diverse committee even if the impetus for the DS sits with the District.
- However, there is no obvious alternative entity ready and able to lead the DS at present. When pressed on who else might lead components, there was no clear alternatives provided; this suggests that there is a gap between the ideal and the reality in some cases.

Should the District lead the design and implementation of the Digital Strategy? If not, then who?

- Approaches mentioned include the need to improve overall digital literacy through training, to develop simple tech solutions such as Apps, bespoke portals, and to continue to improve the functionality of the website. Public engagement through social media may not have been thoroughly tapped.
- Other more specific suggestions included offering digital services through the library to include a digitization of records (in lieu of a museum), to offer an open house to showcase new services available through the District, and to offer (limited) free Wi-Fi either in certain locations or throughout an area (such as downtown).
- There are digital infrastructure builds currently being undertaken and also planned in the near future. Those zones without broadband connectivity or with slower upload/download speeds should cease to exist by next year.

How should we reach those who do not access digital services or should we do anything at all?

- Although many realized the social mandate of the District, there was not much appetite to significantly expand programs and services that might empower or enable all citizens. There are existing access points and training programs, however a question about how cohesive these programs may be did not promulgate a clear answer.
- The availability of free training, Wi-Fi, and computers with digital services was not well known. There is a possibility that these offerings could be better communicated, however those interviewed would tend not to require such services for themselves.
- Those in the Squamish Nation may not access these services readily, but instead utilise the Totem Hall on a rather informal and ad hoc basis to gain access to a computer, the Internet, or a printer.

Have you come across effective strategies or tactics for developing a city digital strategy from elsewhere? If yes, what were they?

- There was not a strong awareness of other similar initiatives, particularly from similarly-sized communities. There was also lingering confusion about the DS itself and how it relates other simultaneous programs being rolled out through the District.
- The difference between a District (organization) program and a community program remains a question that is not clearly defined. The definition likely cannot be achieved while the budget and leadership aspects are also not clearly defined.

8. Annex 2: Public Survey Responses

8.1 General Observations

The following summarizes key themes identified in the feedback received from the public survey.

- Approximately 60% agreed or strongly agreed to that it was easy to find out what is happening in Squamish (events, news, etc.) through digital media such as websites, blogs, and social media platforms. Less than one in five people did not agree with less than 1% strongly disagreeing.

- There was a strong desire to have free (or subsidized) Wi-Fi in municipal buildings and in the downtown and business cores, while there were suggestions to expand this service to schools and Brennan Park and the Adventure Centre. Almost one in three felt that free Wi-Fi should be available throughout the District.

- In terms of the perception of the quality of telecommunications services (wireless and wired Internet access, cellular service) currently available in Squamish, about 43% were satisfied or very satisfied. Price, Reliability, Speed and the lack of supplier choice were the most cited reasons for dissatisfaction.

- The main obstacles given inhibiting business growth in Squamish were not directly related to technology as the lack of affordable housing and lack of suitable office space far outweighed any other reasons given. However the Lack of workers with technological skills was also a concern and this was accompanied by issues such as wages, business costs, and employment opportunities and alternatives. The distance from Vancouver was not commonly viewed as a deterrent.

- A significant 77% of respondents visit the District of Squamish website at least once per month. There was a 64% satisfaction score for the current website which is always undergoing improvements and changes (215 points out of a maximum 335). About one in five respondents were dissatisfied.

- There was a strong view put forward that digital (mobile) applications would be tried if they were made available for frequently used District of Squamish services and information with only one in five stating that they would not consider these applications. Only 7% would probably not use on online payment system for dealing with municipal taxes, licenses, permits and fines.

- A majority (56%) may be amenable to an increase in property taxes to improve services and information.

- When asked which types of datasets that would be useful as the District makes more data sets available online, it was apparent that data of all types are now just expected, and that there is little preference between types of data sets. The "top five" included: traffic, water usage, weather information, economic development, and land developments.

- Although on-line voting is not an issue that Squamish is able to offer at this point (legally), only 16% would not vote online if given the choice.

8.2 Questions and Responses

Q1 To what level do you agree or disagree with the following statement: It is easy to find out what is happening in Squamish (events, news etc.) through digital media such as websites, blogs, social media platforms?

1.   Strongly Disagree: 1
2.   Disagree: 14
3.   Neutral: 18
4.   Agree: 42

5.	Strongly Agree: 7

60% either agreed or strongly agreed.

Comments: lots of information spread out or in layers; easier to find DOS information rather than community information; still a desire for a one-stop online place for Squamish.

Q2 To what level do you agree or disagree with the following statement: All citizens of Squamish should have access to free Wi-Fi areas and free public computer use?

1.	Strongly Disagree: 3
2.	Disagree: 4
3.	Neutral: 17
4.	Agree: 26
5.	Strongly Agree: 30

9% disagreed or strongly disagreed.

Comments: Access is crucial and income should not be a barrier; some threats (eg illegal downloads), but good to give access for time limits; should be free in certain locations but should be BYOD.

Q3 Free Wi-Fi access should be made available at (check all that apply):

1.	Municipal buildings 55
2.	Downtown and commercial centres 47
3.	Throughout the District of Squamish 29
4.	We don't need free Wi-Fi to be provided in Squamish 10
5.	Other: Schools, fire stations, Brennan Park, Adventure Centre.

Q4 Are you aware that the Squamish Public Library offers free access to the following digital resources (check all that apply):

1.	Public Internet computers and Wi-Fi 71
2.	One-on-one tech help with your computer, tablet or smartphone 26
3.	eBooks, eAudiobooks and digital magazines and movies 59
4.	Databases for research, business, consumer health, auto repair, and more 41
5.	Apps for language learning and early literacy skill development 31

Q5 5. How satisfied are you with the quality of telecommunications services (wireless and wired Internet access, cellular service) currently available in Squamish?

1.	Very Dissatisfied 2
2.	Dissatisfied 22
3.	Neutral 22
4.	Satisfied 29
5.	Very Satisfied 5

43% were satisfied or very satisfied

Q6 What is the cause of any dissatisfaction (check any that apply)?

1.	Price 40
2.	Reliability 28
3.	Tech support 9

4.   Customer service 11
5.   Speed/capacity 33
6.   Lack of choice for provider 29
7.   Other 9 (coverage problems, reception)

Q7 Do you require high speed Internet access primarily for:
1.   Business 7
2.   Personal 15
3.   Both 60

Q8 Does high speed Internet availability in your area meet your needs at HOME?
1.   No 18
2.   Yes 57
3.   Not sure 5

Q9 Which neighbourhood do you LIVE in? (who answered No):
1.   Valleycliffe
2.   Quest U
3.   North Yards 2
4.   Garibaldi Estates 5
5.   Garibaldi Highlands 3
6.   Hospital Hill
7.   Brackendale 2
8.   Downtown

Q10   Does high speed Internet availability in your area meet your needs at WORK?
1.   No 25
2.   Yes 42
3.   Not sure 8
Comment: "Spend time every day watching a blue circle spin".

Q11 Which neighbourhood do you WORK in? (who answered No):
1.   Garibaldi Estates 4
2.   Downtown 9
3.   All over 2
4.   Hospital Hill
5.   Garibaldi Highlands 4
6.   Loggers Lane 4

Q12   Are you aware of any obstacles to enabling business growth in Squamish (check all that apply)?
1.   Don't know 16
7.   Lack of technology 9
8.   Lack of workers with technological skill 20

9. Lack of suitable office space 26
10. Lack of affordable housing 56
11. Too far from Vancouver 4
12. Other 16: lower pay than Metro; gap between wage and costs; no incubator or government assistance; no "anchor" tech businesses; high commercial rent and tax; lack of redundancy options.

Q13 How often do you access the District of Squamish website?
1. Never 2
2. 1-2 times per year 16
3. 1-2 times per month 34
4. 1-2 times per week 23
5. Daily 4

77% visit at least once per month

Q14 How do you access the District of Squamish website (check all that apply)?
1. Desktop or laptop 68
2. Tablet 19
3. Smart Phone 43

Comments: not user-friendly; difficult to find stuff sometimes

Q15   How would you compare the District's online services and information to another municipality or city of its size? (1-5)
1. 1 4
2. 2 10
3. 3 26
4. 4 22
5. 5 5

64% satisfaction score (215 points out of a maximum 335).
21% dissatisfied.

Q16   The following services and information currently exist through the District of Squamish website. Which of these services and information do you currently utilize?
1. Council meeting agendas, live streamed meetings or archived meetings 31
2. Recreation programming information 47
3. Applying for a business licence 11
4. Applying for a special event permit 5
5. Festivals and events calendar 33
6. District news and updates 54
7. Bylaws and regulatory information 30
8. Mapping (GIS) 37
9. District bill/tax payment (via Internet banking) 24
10. Wildlife reporting and alerts 23
11. Emergency information and disaster management information 19
12. Garbage and recycling information and pickup schedule app 40

13. Finding/booking sports and recreation facilities 8
14. Animal welfare enquiries and information 10
15. Historic and archived information 13
16. Environmental and sustainability programs 11
17. Development projects and plans 32
18. Public transportation information or schedules 14
19. Bylaw complaints process 12
20. Trail maps 25
21. Recreation-based links and resources 14
22. Other 6: careers, department contacts/staff

Q17　What additional online services and information would you like to see the District provide?
1. Environmental / sustainability programs 2
2. Bus schedules
3. Adding "wolf awareness" to wildlife section
4. Online applications/forms 2
5. App to report issues like potholes
6. Police reports
7. Easier search for bylaws and archives
8. More user-friendly design
9. Online payments (eg dog tags) 2
10. Open data
11. Searchable financial source documents (eg invoices paid)
12. Clearer understanding of Council Minutes
13. Remove need to print fire permits
14. Better promotion of current events

Q18　Would you consider using a mobile application (App) to access frequently-used District of Squamish services and information?
1. Yes 39
2. Maybe 23
3. No 17

Q19　If yes, what information would you like to see more easily accessible via a District of Squamish App?
1. Local news updates 3
2. Bus schedule 3
3. Online payments 2
4. Reporting maintenance issues
5. Snow plow schedule
6. Wildlife/emergency updates
7. Events information 3
8. Weather
9. Trail maps

10. Recreation programming 3
11. Recycling 2
12. Source code
13. Burning ban information

Q20 Recognizing there could be a cost associated with providing improved online services and information, is this an area that you would be willing to support via a property tax increase?
1. Yes 20
2. Maybe 24
3. No 35
56% may be amenable to a tax increase to improve online services and information

Q21 The District of Squamish is working towards implementation of an online payment system for municipal taxes, licences, permits and fines. How likely would you be to use such an online service versus paying in person or by mail?
1. Very Unlikely 5
2. Unlikely 1
3. Likely 20
4. Very Likely 45
5. Not sure 7
7% would probably not use on online payment system.

Q22 As the District makes more data available to the public through a new Open Data portal, are there certain types of datasets that would be useful to you?
1. Infrastructure and land use 35
2. Economic development 39
3. Land development 38
4. Water usage 40
5. Energy usage 32
6. Weather/Rain information 39
7. Traffic 41
8. Wildlife 36
9. Property/Parcel 35
10. Demographics 37
11. Other 5: dogs; trails affected by development; sustainability-related information; investigations (ie management)

Q23 If you had the option of voting online in the next Municipal election, would you likely use this option?
1. Yes 56
2. Not sure 9
3. No 12
16% would not vote online if they had the choice

8.3   Additional Public Consultation

Following the completion of the research, the results were presented at a Digital Strategy Committee meeting. At the conclusion of this presentation, the following questions were presented and discussed:

Question 1.   Are there any other gaps that we need to consider (i.e. challenges or opportunities that we have not identified)?

Question 2.   Do you agree with the potential Principles and Objectives? Why or why not?

Question 3.   Should the District limit its technological planning to Wi-Fi expansion in certain areas and not consider public infrastructure development? Why?

Question 4.   Should Squamish prioritize the expansion of social services that already exist (i.e. public access to computers / tablets / training)? Why or why not?

Question 5.   Do you agree that a primary role of the DS is a coordination and facilitation effort between the private and public sectors? If not, then what is its primary role?

Question 6.   How can we increase uptake of digital services and drive awareness   of the benefits to people in Squamish?

Comments received at the meeting were captured in Council Minutes and are available at www.squamish.ca. Furthermore, stakeholders and the community were invited to submit additional comments and feedback during the week following the presentation. One written response was received and is included in section 8.3.1.

8.3.1   Additional Public Consultation Response (1)

1.   Are there any other gaps that we need to consider (i.e. challenges or opportunities that we have not identified)?

The cost associated to build all of these potential networks and the people to operate.

2.   Do you agree with the potential Principles and Objectives (slides 29 and 30)? Why or why not?

Yes I agree with the set out principles and objectives I believe they are all beneficial to the DOS.

3.   Should Squamish prioritize the expansion of free services that already exist (i.e. public access to computers / tablets / training)? Why or why not?

The district should strongly consider installation of infrastructure anytime there is an open trench, if not for District use a TELCO could potentially utilize this infrastructure as well as provide a means of reoccurring revenue for the district with 'route rental' fees. The district in my opinion should not pursue it's own WiFi expansion due to the cost associated with hardware, staff/maintenance.

4.   How can we increase uptake of digital services and drive awareness of the benefits to people in Squamish?

Yes I feel that ensuring computers and training of new technology is available in some municipal locations - it will help to ensure that training/access is available for those who may not have the opportunity to take advantage of these services through their bands or senior housing areas. These 'value add' services will help to build better relationships with the community and DOS.

5.   Should the District undertake telecommunication infrastructure developments (using public funding) beyond limited Wi-Fi expansion? Why?

I wouldn't say it's the primary role however the DOS needs to be open to facilitation of efforts, there could be huge value in teaming up with public sector/private sector depending on the initiative.

6. **Do you agree that a primary role of the Digital Strategy is a coordination and facilitation effort between the private and public sectors? If not, then what is its primary role?**

Continue to promote these services, through existing digital services and info sessions. If we educate everyone of the availability of these services they will be used as time progresses for ease of accessibility etc.

7. **Do you have any further comments?**

I'm still confused as to what the direction of the DOS/Digital Strategy committee is.

9. Annex 3: Squamish Library Services

The following information was provided by the Squamish Library.

Wi-Fi & computer usage at Squamish Library, 2014-2016 (forecast)

Type of use	2014	2015	2016 (forecasted to end of year based on Jan-Oct 2016 data)	% increase from 2015 to 2016 (forecasted)
Wi-Fi sessions	No data available	21,465 sessions	29,610 sessions	↑ 38%
Public computer sessions	13,363 sessions	15,868 sessions	17,467 sessions	↑ 10%
Hours of use (not including Wi-Fi)	8,104 hours	10,384 hours	13,597 hours	↑ 31%

- Usage continues to increase for the nine public Internet computers at the Squamish Library, as well as the use of the free Wi-Fi service. Unfortunately, at times the Wi-Fi service struggles to support the number of concurrent users at busy times during any given day.

- Many of the public computer users are people who don't have access to their own computer and who require assistance from staff due to limited digital literacy skills.

10. Annex 4: Other Municipal Digital Strategies

Most of the digital strategies reviewed focused on the following types of initiatives:

- digital inclusion;
- quality connectivity;
- streamlining technologies;
- transparency;
- technical redundancy; and
- cooperation.

In summary:

- Most cities that have a Digital Strategy are significantly larger than Squamish
- Self-provisioning of fibre infrastructure takes place in a relatively small number of cities. Most cities take an enabling role: reducing regulatory tape (such as rights-of-way) or coordinating infrastructure provision between different players
- Technology is a tool to improve services, lower costs and to deliver new services that were previously too resource intensive and expensive and the role of a digital strategy is take advantage of these opportunities
- Design and implementation of a digital strategy is the responsibility of a high level manager, sometimes even the CEO. Nowhere has the responsibility for implementation of the digital strategy been lower than Director level
- The economic benefits of a digital strategy are indirect: a digital strategy coordinates, supports and enables economic opportunities by attracting business and reducing red tape
- Governance is the single most important aspect of a digital strategy
- Nearly all digital strategies identify community engagement and participation as a key objective

- Two issues are always central to the success of a Digital Strategy: buy-in and adoption of new technology by stakeholders, and usage of e-Government services by citizens. The provision of e-Government services is not the simple solution that many governments expected, automatically leading to integrated government services, citizen engagement and efficiency gains. The primary challenge to e-Government services is the use (or uptake) of these services by businesses and citizens.

10.1 Governance

The key issue amongst cities that have successfully implemented a digital strategy is to identify clear responsibilities to ensure overall co-ordination of the implementation of the digital strategy. The governance structure for cities with a digital strategy is diverse:

1. Vancouver has a Chief Digital Officer;
2. Calgary places implementation of the digital strategy under the IT department (headed by a Chief Information Technology Officer), which reports to the Department of Finance;
3. The City of Casey in Australia has given the responsibility of implementation of its digital strategy to its CEO (similar to the Chief Administration Officer here in Canada).

In the organizational hierarchy, the person responsible for digital strategy implementation is, at the minimum, a director level appointment. Depending on the prominence that the digital strategy has for the overall strategy of the city, the appointment can be higher (General Manager or above). None of the cities surveyed for this research assigned the responsibility of implementing the digital strategy to a position lower than director.

In addition to changing the organizational chart to include a digital strategy implementing officer, many cities have established an advisory committee to support the digital strategy. For Calgary, the role of the "EGovernment Strategy Advisory Committee" is to "monitor and guide the overall vision, strategy and program plan for eGovernment at The City of Calgary" and this includes the design of the Digital Strategy. The Committee consists of three individuals representing the technical or communications industry with a background in strategic planning, IT architecture, business and customer service improvement and four individuals representing community organizations with an interest in eGovernment.

Several of the cities that were surveyed established a technical committee to oversee the initial design of the digital strategy. After the digital strategy was passed, however, some of these digital committees dissolved.

10.2 Economic benefits

Eight of the ten cities that were part of this survey emphasized the economic benefits of a digital strategy. Montreal, for example, highlights three benefits:

1. stimulating local businesses
2. attracting top companies
3. promoting networking between the research, industrial, venture capital, institutional investor and start-up sectors

Most of the other cities that have an economic focus to the digital strategy share a variation of these three economic benefits. All of these cities highlight the indirect economic benefits of a digital strategy. The Montreal digital strategy is the most explicit in its view that technology is an enabling factor in attracting business and skills and providing a high quality of life to its citizens. Most of the other cities, like Surrey, also add a focus on attracting start-ups and entrepreneurial skills.

10.3 Social benefits

Social benefits include community participation and engagement and partnerships to implement projects that the city has prioritised. Calgary's Digital Strategy vision is

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

In Surrey's digital strategy, each project has a list of potential partnerships, ranging from local and federal government to local and international businesses. For example, one of Surrey's projects is to expand Canada's Advanced Research & Innovation Network (CANARIE) from SFU Surrey to the Surrey Memorial Hospital campus. Project partnerships are BCNET and CANARIE.

A key driver for cities to expand their partnerships is that it is difficult to deliver an integrated service delivery model in today's digital economy without expertise from outside of city staff. As a result, the impact of a digital strategy on the economy of the city is dependent on the kind of partnerships (the social sphere) that a city can organize. Vancouver has a natural link to the software sector and is specifically targeting startups through its digital incubator initiative and through the Vancouver Economic Commission (VEC), which is chaired by the Mayor and focuses on the Tech, Digital Entertainment & Interactive and Green Economy sectors.

10.4 Connectivity

This is the bedrock for the themes of governance, economic benefit and social benefit. Without the digital infrastructure (Wi-Fi and fibre), it is difficult to deliver more efficient and effective services. Of course, the debate has moved from basic infrastructure (such as ADSL) to high-speed access that fibre allows.

Fibre networks provide international data connectivity over land or under the sea, national backhaul capacity for fixed and mobile operators and even end user access in the form of Fibre to the Home (FTTh). Fibre networks have the advantage over every other type of infrastructure because capacity is essentially limitless.

The new digital economy implies that only the cities that build sufficient infrastructure to connect to the global digital network will thrive in the challenging competition. However, the focus has to be on creating the enabling environment for the growth of tech-enabled companies and maximizing its job creation potential and not necessarily on building that infrastructure themselves.

There are several drivers of market intervention:

1. users are playing an increasingly critical role as they produce content and this is driving the demand for data and the Next Generation Networks (NGN) that are able to deliver data at high speeds.
2. new technologies (i.e. NGN) but including wireless, high bandwidth technologies such as LTE, require massive new investment
3. these new investments are so large that they require cross-sector coordination, especially between the private and public sectors
4. regulators have realized that their definitions of competition (counting the number of market players, for example) are too simplistic and that there are other factors that must be taken into account.

Some towns, for example, have decided that the private sector is unable to deliver the quality infrastructure necessary for a growing digital economy. The most obvious example in the lower mainland is City of Coquitlam. Coquitlam formed the Coquitlam Optical Network Corporation (QNet) in 2008 to take advantage of existing city fibre optic cable and ducting. The objective of QNet was to:

1. Be a future source of non-tax revenue,
2. Reduce City telecom costs,
3. Generate economic development opportunities, and
4. Provide businesses and residents in high-rises with greater choice and lower-cost access to high-speed Internet services.

QNet claims to have achieved these broad objectives: in 2015, QNet had surplus cash flow of $134,325, claims that it reduced City telecommunications costs by $360,000 per year, has nine telecommunications companies purchasing wholesale access and has connected 55 businesses to high-speed cable.

However, there are several cautionary signs that are not clear from the QNet press releases and other documentation. Planning for QNet started prior to 2008 when the factors driving fibre adoption were not as strong as they are now. Telus has gone on record that it will not invest in Coquitlam as part of its infrastructure rollout in 2016. The City's investment in QNet will only be recovered in 2028, a 20 year time horizon. Other factors, such as whether there is a lack of sufficient fibre infrastructure in Squamish or whether existing operators are prepared to invest in infrastructure also need to be considered.

10.4.1 Supporting connectivity build-out

There is another alternative to the District building its own network. If fibre is already present, cheap "last-mile" access via Wi-Fi or low-frequency spectrum is possible. Without fibre, more expensive technologies such as Microwave or VSAT have to be used.

To incentivise fibre network roll-out, local governments' must plan and coordinate infrastructure projects. Up to 85% of the cost of laying fibre accrues through civil construction (Basto, 2016). The civil works mainly consist of the cost of repairing the road and sidewalk. The cost of laying the conduit cable and installation of fibre cable are, in comparison, negligible.

There is an opportunity for the District of Squamish, via coordination of players, aggregation of demand and planning initiatives, to reduce the cost of fibre installation significantly and to accelerate connectivity infrastructure. Business models that facilitate private investment in broadband infrastructure and significantly reduce the cost of fibre provision have been tested and implemented in several countries, most notably Sweden and the United States and in cities like Santa Cruz, Berkeley and San Francisco.

The main challenge for extending fibre deployment is the coordination and providing appropriate incentives for private and public players. Deploying fibre, both above and below ground, requires three interlinked (and overlapping) processes (Hovis et al, 2013):

Figure 1: Uncoordinated fibre installation (top) vs. coordinated fibre installation

1. Access to key assets: local and national government own assets that must be made available, in a coordinated manner, in order to lower costs. Assets include real estate where equipment can be located, underground conduit, roads and sidewalks, utility poles, government buildings. In some jurisdictions, there is no consistent approach to access government facilities and, critically, existing infrastructure is regularly damaged because of the lack of coordination. Damage to fibre cables is a regular occurrence and will likely increase as more operators roll out new infrastructure.
2. Access to information: One of the challenges in cities around the world is that information is stuck in silo's, ensuring confusion, poor coordination, duplication of initiatives and excessive costs. The same challenge exists at the level of extending broadband access. Network deployers often don't have access to location information such as ducts, utility pole locations, gas and sewage lines, electrical cables, road construction timelines, government real estate and a host of other assets.
3. Process efficiency: There is often no formalised system for accessing key assets or information across local governments and across national departments. Timeframes for implementation vary considerably across different areas and communication across different infrastructure providers (e.g. water and roads) is often periodic.

At present, there is no incentive for local or national government to provide access to key assets because there is no formalised business model that government can adopt that shows a clear revenue stream.

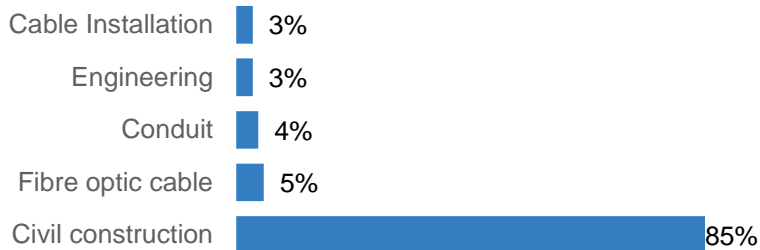|	
Cable Installation	3%
Engineering	3%
Conduit	4%
Fibre optic cable	5%
Civil construction	85%

Figure 15: Cost of Fibre roll-out (Source: Basto, 2016)

The lack of information sharing has a practical impact in terms of extending broadband by adding to the cost of deployment. If network providers do not know where key assets might be, the cost of construction is going to increase. Geographic Information Systems (GIS) can quickly provide information to network providers, especially if they incorporate some of the following data (the list is not exhaustive) (Hovis et al, 2013): street addresses, utility poles, conduits, fibre, manholes and existing underground utilities.
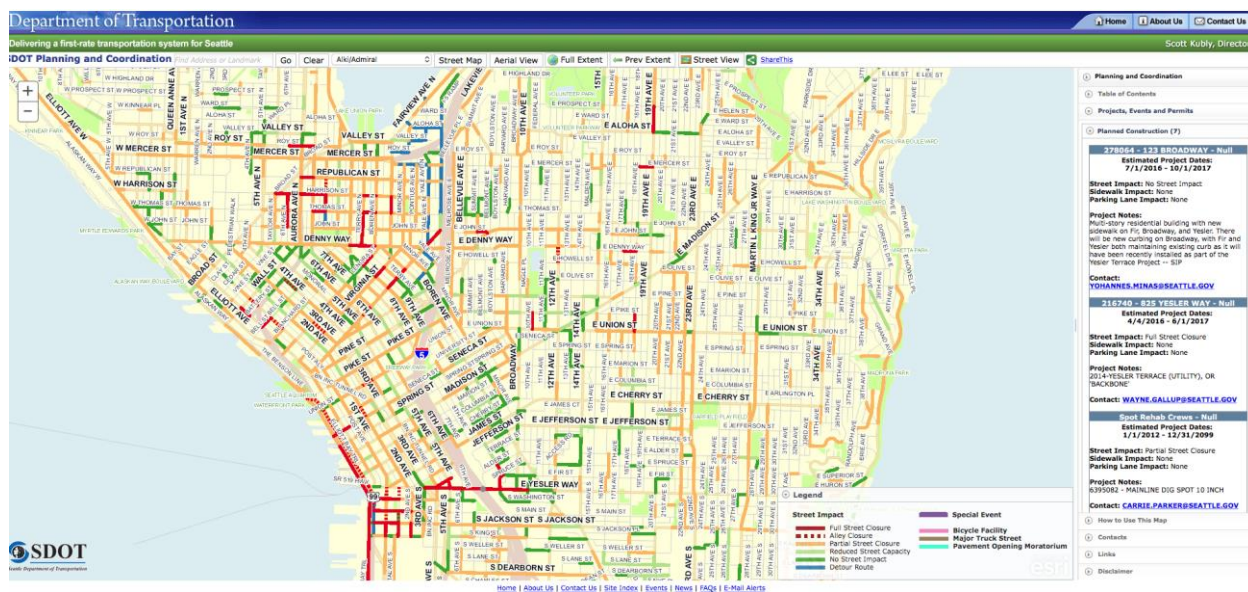

Figure 2: Example of a GIS map for planning purposes

In addition, some governments have included information on when streets will be closed for construction. Seattle's Department of Transportation (Seattle Department of Transport, n.d.), for example, has a GIS map showing partial and full street closures, moratoriums on construction on sidewalks and dates and contact details for any construction in the city (see Figure 2).

Accurate GIS maps are a requirement if government is going to be leasing any of its assets to private infrastructure providers. "Dig-once" policies, fibre and duct construction and leasing are all gaining traction as strategies to extend access to broadband. However, the process of coordinating the private and public sector players remains a key challenge. Building capacity at a local government level to coordinate, share information and develop public, transparent policies and procedures will have a significant impact on the cost of broadband extension.

11. Annex 5: District of Squamish Information Technology Initiatives

11.1.1 Technology Transformation Program (TTP)

Technology Transformation Program – in progress:

- Financial Management (systems/vendors selected; project planning underway)
- Emergency Public Notification System (Live)
- Fleet System (Installed)
- Fire System (Upgrade in progress)
- Public Engagement Tool for Budget (in progress)
- Bylaw Noticing & Adjudication
- SharePoint Document Management System (roll out continuing – 3 departments left)
- Online Payments (interim solution using Mais)
- Open Data Portal (mainly GIS based data sets)

11.1.2 Other I.T. initiatives – in progress:

- **Internet service for Paradise Valley**
    - o New fibre connection at Brennan Park also serves as backhaul for a joint initiative with Base Technology to provide internet service to Squamish and soon Paradise valley residents via radio towers/links (no cost to District)
- **Free Public Wifi at District sites**
    - o Includes the Library, Brennan Park, the Adventure Centre, and Muni Hall
    - o Improved Wi-Fi service and coverage is planned for these sites in 2017
    - o Wifi is also being deployed at the O'siem Pavilion (Junction Park)
- **District Network Upgrades**
    - o Managed network is running on Telus connections throughout Squamish (13 sites)
    - o Backup Radio network is still operational in case of Telco outage
    - o Telco contract is up for renewal in 2017
    - o Upgrading sites from 1.5-3 Mbps to 25-100 Mbps fibre connections
- **District Server Upgrades**
    - o DoS is currently running on modern virtual server environment at Muni Hall (some expansions this year to support new TTP systems)
    - o New virtual server environment has been added at Public Works for new SCADA and fleet systems (will also serve some Disaster Recovery functions)
    - o Cloud options for DR are currently being investigated and a full Business Continuity Plan is scheduled for 2017 in conjunction with the Emergency Program Coordinator
    - o Annual server system and software updates are ongoing

11.1.3 Upcoming initiatives:

New Finance Core Business Solution (2017/18)

- New, revamped internal processes and a new chart of account structure
- More connected departments with access to pertinent, 'single source of truth' data
- Improved reporting and better information for decision makers

- **More services including an online customer portal with payment functionality**

New Development Management Solution (2018/19)

- Land based system to manage building and planning
- **New online portal for Building Permits, Business Licenses, Pet Licenses, etc.**

New Recreation Solution (2018/19)

- Current solution is at 'end of life' and doesn't meet user needs
- **New online portal for booking classes, making payments etc.**

Asset and Work Management (2019/20)

- GIS based Asset Management system connected to central Finance system
- Work management functionality to manage work related to operations and projects

Other systems and modules (2019/20)

- Complaints - will include online functionality for public to submit and track complaints
- HR – internal system for managing employees, hours, training etc.
- Council Meeting Management – new functionality to manage meetings including agendas, minutes, videos etc. (will include an online public component)

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