CITY OF SURREY
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CORPORATE REPORT

NO: R127 COUNCIL DATE: **JULY 7, 2014**

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **July 3, 2014**

FROM: **General Manager, Finance & Technology**
General Manager, Parks Recreation & Culture
Acting General Manager, Engineering

FILE: **0620-20**

SUBJECT: **Smart Surrey Strategy**

RECOMMENDATION

The Finance & Technology Department, the Parks Recreation & Culture Department, and the Engineering Department recommend that Council:

1. Receive this report as information; and

2. Approve the City of Surrey, Smart Surrey Strategy described in this report and Appendix I.

INTENT

The purpose of this report is to provide an update to Council on the Smart Surrey Strategy and to obtain Council approval of the Smart Surrey Strategy.

BACKGROUND

Surrey is the fastest growing city in BC and one of the fastest growing in Canada. Innovation and a commitment to service are hallmarks of Surrey's governance model. This commitment has enabled Surrey to evolve from a relatively small, bedroom community of the 1960s into a vibrant home to more than a half million people.

The City of Surrey is growing at a rate of 1,000 new residents per month, putting it on track to become the most populous city in the province by 2040. With rapid growth and urbanization come opportunities and challenges. Surrey has the unique opportunity to benefit from its large, young, diverse population; its physical geography with border crossings, port access and close proximity to Vancouver; and its abundant land.

Surrey currently has the lowest residential and the second lowest business taxes in the Metro Vancouver region. These low taxes, combined with a growing population with increased demand for services, means that the City must look to innovation to ensure that it is allocating tax dollars as efficiently as possible. Decisions made today affect our lifestyle tomorrow. Opportunity lies in Surrey to build a sustainable city where residents live, work and play, and enjoy a high quality of life. In order to accomplish this goal, the City must be forward-thinking to ensure that the

infrastructure, the economy, and its communities are built to best serve its growing population. Critical to guiding this growth is innovation; the Smart Surrey Strategy seeks to guide Surrey's growth from an innovation and technological perspective.

The Smart Surrey Strategy supports the principles of Surrey's two guiding documents: its Official Community Plan and its Sustainability Charter. The Official Community Plan sets a vision of Surrey as a city that will "continually become a greener, more complete, more compact and connected community that is resilient, safe, inclusive, healthier and more beautiful." The Sustainability Charter commits to the principle of meeting the needs of the present generation while promoting a high-quality of life but without compromising the ability of future generations to meet their own needs.

What is a 'Smart' City?

The following definition has been adopted as the guide for the Smart Surrey Strategy:

A 'Smart' City creates sustainable economic development and high quality of life by considering innovation and technological advancements as a key ingredient in its decision making, strategy and investment.

DISCUSSION

Vision for Smart Surrey

The City of Surrey's 'Smart Surrey' Strategy strives for excellence and deployment of international best practices using technological advancements and innovation to enhance life and work within Surrey.

Using new and existing technologies and information, it identifies and implements systems and programs to inform decision-making, create efficiencies and optimize the effectiveness of City resources leading to cost-savings.

Four key areas of action have been developed to deliver on its vision. Each action item serves to meet the criteria of one of the four following areas:

1. **Social Engagement and Connectivity**
   A socially engaged and connected community is one where residents actively participate in decision making and the City of Surrey is both transparent and accountable.

2. **Economic Growth**
   The local economy in a Smart City is prosperous and resilient. It achieves a one-to-one ratio of jobs-to-resident work force and a balanced tax base. New jobs are created in knowledge-based and high-growth industries by local entrepreneurs. The City has a world-class network of partners to enable growth.

3. Service Delivery Innovation
Service delivery in a Smart City is easy, convenient, and efficient for residents to do business with the City. Residents have multiple methods to do business, either digitally or in person. The City's service delivery is customer-focused, efficient, and cost effective.

4. Smart City Infrastructure
Smart City Infrastructure consists of optimized construction, operation, and maintenance. The City uses leading-edge technology and new approaches to find efficiencies, coordinate activities, and collect data to do more with less.

Smart Surrey Opportunities and Challenges

Opportunities

- Rapidly growing, young and diverse population provides the work force of the future;
- Research university and hospital campus located downtown fosters innovation;
- Asia Pacific Gateway with port access, two US border crossings, intermodal rail and close proximity to Vancouver means the City is well positioned to grow into an economic centre in the region;
- Opportunity to shape the development of the emerging downtown core through investment in innovation and technology;
- Surrey's low taxes ensure investments in new technology provide a significant return to the City and its residents; and
- Strong supply of industrial lands, provide opportunities for a range of businesses.

Challenges

- As the Smart Surrey Strategy is rolled out and matures, there will be a need for the strategy to continually evolve and adapt to the needs of the City;
- Ensuring that the strategy remains focused on improving quality of life for those who live in the community as opposed to technology for technology's sake;
- Challenging to deliver technology over Surrey's large physical land mass (e.g. Wi-Fi access);
- Limited tax dollars means finding creative solutions to rapidly changing and continuously evolving technology; and
- Ensuring that the right community and business stakeholders and partners are involved in decision-making processes so that decisions made are reflective of what is in the best interests of the entire community.

Smart Surrey Strategy Document (Appendix I)

Attached in Appendix I, is the Smart Surrey Strategy Document which includes the four key areas of action that were described above. Within each there are a collection of specific initiatives that help support the overall Smart Surrey Vision. Each Initiative is summarized with a short Description, Key Outcomes along with Timelines, Partners and Lead City Department.

SUSTAINABILITY CONSIDERATIONS

Smart Surrey Strategy supports many aspects of the Sustainability Charter. With its range of focus with the four key themes, the Smart Surrey Strategy will assist Surrey in achieving the objectives of the City's Sustainability Charter within the Social-Cultural Pillar, Economic Pillar and Environment Pillar. Some examples of these include (but are not limited to):

Social-Cultural Pillar

> "Provide opportunities for meaningful community engagement in civic issues so that the City is responsive and accountable to the needs of the community;"
>
> "Design neighbourhoods that are friendly and responsive to the unique needs of children, youth, seniors and those with special needs;"
>
> "Support and foster a broad range of accessible life-long learning opportunities ranging from early childhood development programs and literacy initiatives, to world-class post-secondary educational opportunities;"
>
> "Create a City that is, and is perceived as being safe and secure;"
>
> "Create neighbourhoods that have distinct identities, diverse populations, lively public spaces that promote social connections, and a range of accessible services and opportunities;"

Economic Pillar

> "Strive for a balance of one local job for every employed resident in Surrey and a range of high quality/high value local employment opportunities;"
>
> "Develop a vibrant City Centre and Municipal Town Centres as mixed-use areas with excellent transportation connections that create an attractive business environment. Concentrate office and retail employment that is not location dependent in areas that are well serviced by public transportation;"
>
> "Promote environmentally friendly businesses and "green" building practices;"
>
> "Encourage alternative employment arrangements such as low-impact home base businesses and telecommuting that build a sense of community and help reduce impacts of economic activity;"
>
> "Support local opportunities for technical training, advanced education, research and development;"

Environment Pillar

The Built Environment. Establish a built environment that is balanced with the City's role as a good steward of the environment.

Air Quality. Preserve clean air for current and future generations, considering:

a) Local air quality;
b) Stability of the global atmosphere; and
c) Air quality issues related to both human and ecosystem health.

CONCLUSION

Based on the above discussion, it is recommended that Council approve the Smart Surrey Strategy. With the launch of the Smart Surrey Strategy there will be a collective vision to help drive Innovation at the City. The foundation that this strategy will lay will help connect multiple initiatives with consistent Smart Surrey Vision and Goals. An annual report on the Smart Surrey Strategy will be forwarded to Council in the first quarter of 2015 as part of the commitment to regular reporting and communication.

Vivienne Wilke, CGA
General Manager,
Finance & Technology

Laurie Cavan
General Manager,
Parks, Recreation & Culture

Gerry McKinnon
Acting General Manager,
Engineering

Attachments:
Appendix I: Smart Surrey Strategy Document

Appendix I

smart SURREY

LEADING THROUGH INNOVATION




CITY OF SURREY

A SMART CITY STRATEGY TO

GUIDE FUTURE INNOVATION

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MESSAGE FROM THE MAYOR

On behalf of Surrey City Council, I am pleased to present the Smart Surrey Strategy.

Investing in technology and innovation is essential to building a city that is prepared for the challenges of the future. The Smart Surrey Strategy provides a framework that will enhance our efforts to integrate technological advancement and innovation into the transformation of our city at all levels. As Surrey continues on its path as the second metropolitan core of the region, it is important that we encourage social engagement and connectivity, sustainable economic growth, innovative service delivery, and sound infrastructure investments. This strategy will assist us in making important advancements in all of these areas.

The Smart City Strategy is built on the strong foundation of collaborative decision-making that defines our community and will encourage further cooperation between stakeholders to create an even brighter future for our city.

Sincerely,

Dianne L. Watts
Mayor

MESSAGE FROM THE CHAIR

As Chair of the Investment and Innovation Committee, I am proud to support the Smart Surrey Strategy as a blueprint guide for our future investments in technological advancement and innovation. Innovation and entrepreneurship are key characteristics of our vibrant community and will continue to shape our city as we implement effective tools to enhance the sustainable growth of Surrey.

I invite you to review this strategy and see the many ways Surrey is taking the lead on the meaningful integration of technology and innovation into our decision making.

Sincerely,

Councillor Bruce Hayne
Chair, Investment and Innovation Committee


SMARTER CITIES
DIGITAL STRATEGY
INTELLIGENT COMMUNITIES
smart SURREY
LEADING THROUGH INNOVATION

INTRODUCTION & BACKGROUND

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Decisions made today affect our lifestyle tomorrow. Opportunity lies in Surrey to build a sustainable city where residents live, work and play, and enjoy a high quality of life. In order to accomplish this goal, the City must be forward-thinking to ensure that the infrastructure, the economy, and its communities are built to best serve its growing population. Critical to guiding this growth is innovation; the Smart Surrey Strategy seeks to guide Surrey's growth from an innovation and technological perspective.

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What is a 'Smart' City?

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VISION FOR SMART SURREY

The City of Surrey's 'Smart Surrey' Strategy strives for excellence and deployment of international best practices using technological advancements and innovation to enhance life and work within Surrey.

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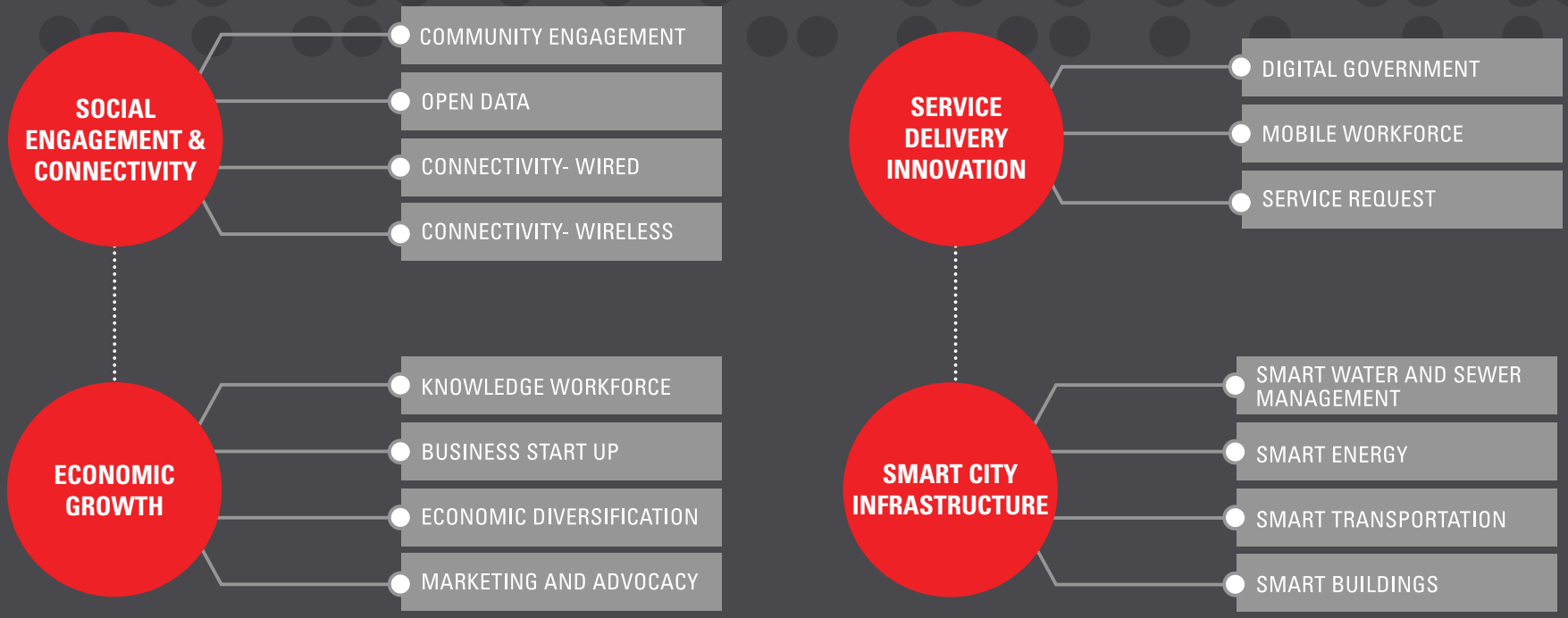
SOCIAL ENGAGEMENT & CONNECTIVITY
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DIGITAL GOVERNMENT
MOBILE WORKFORCE
SERVICE REQUEST
ECONOMIC GROWTH
KNOWLEDGE WORKFORCE
BUSINESS START UP
ECONOMIC DIVERSIFICATION
MARKETING AND ADVOCACY
SMART CITY INFRASTRUCTURE
SMART WATER AND SEWER MANAGEMENT
SMART ENERGY
SMART TRANSPORTATION
SMART BUILDINGS


Do More With Less
New Approaches
Affordable
Sustainable
Leading Edge
Customer Focused
Prosperous
Accessible
Convenient
Cost Effective
Do more with less
Economy
smart SURREY
Connected
Knowledge Based
Efficiencies
Accountable
Partners
Service-Delivery
LEADING CITY INNOVATION
Optimze
Community
World Class
High Growth
Engage
Inclusive
Innovation

CITY OF SURREY'S OPPORTUNITIES & CHALLENGES

Opportunities

- Rapidly growing, young and diverse population provides the work force of the future;
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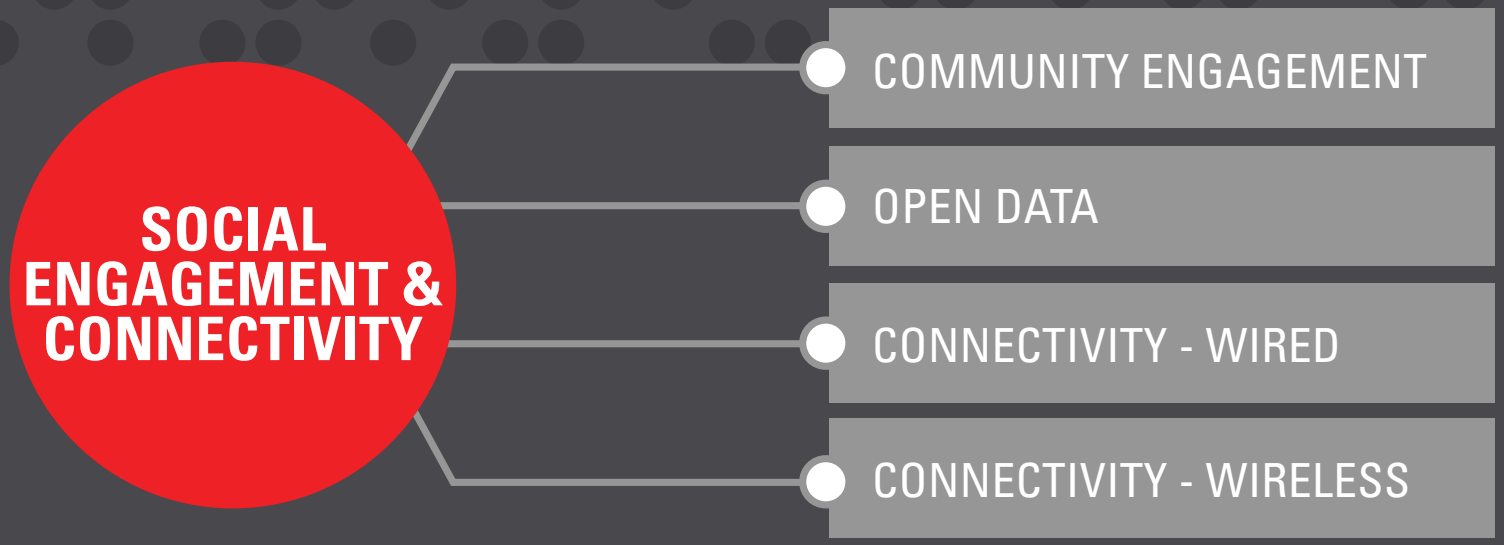
SOCIAL ENGAGEMENT & CONNECTIVITY

Vision

"The City of Surrey is an inclusive, connected and engaged community. Residents actively participate in decision making and the City of Surrey is both transparent and accountable."

Pillar Description

Initiatives designed for the purpose of increasing engagement opportunities and improving the ease of which residents interact with civic government and with each other. High social engagement in a community has been associated with increased happiness, health and well-being.


SOCIAL ENGAGEMENT & CONNECTIVITY
COMMUNITY ENGAGEMENT
OPEN DATA
CONNECTIVITY - WIRED
CONNECTIVITY - WIRELESS

> “CitySpeaks is a web-based citizen engagement tool designed to give the public a stronger voice in local government decision making”

TIMELINES	
Implemented	April 2013
PARTNERS	
Vision Critical	
LEAD CITY DEPARTMENT	
Parks Recreation and Culture – Marketing and Communications	

SOCIAL ENGAGEMENT & CONNECTIVITY

CITYSPEAKS

CitySpeaks is a web-based citizen engagement tool designed to give the public a stronger voice in local government decision making. CitySpeaks allows residents and businesses to have effective and meaningful input on programs and initiatives occurring around the City of Surrey. Instead of relying only on public meetings, hearings and other traditional methods of gathering public input, often centered on contentious issues, the CitySpeaks program is designed to balance citizen input throughout the year and tackle more complex issues while gathering information.

Key Outcomes

- Improved two-way communications with customers, businesses, property owners, and residents.
- Provides sophisticated insights and profile data on diverse citizen groups.
- Qualitative and quantitative research in a statistically valid manner.
- Takes the guess-work out of what the broader public is thinking and allows for sophisticated ongoing community intelligence when consulting on civic matters.


CitySpeaks
CORNER
JOIN AT
www.surrey
CitySpeaks
CORNER

SOCIAL ENGAGEMENT & CONNECTIVITY

EARLY CHILDHOOD DEVELOPMENT

The Early Childhood Development Initiative (ECD) goal is to develop sustained improvements around child care, health and nutrition, safety, community and culture, socialization, and physical activity. Through a partnership with IBM and the Smarter Cities Challenge, Surrey's ECD initiatives were assessed and found that although there are many services available, challenges exist around overlapping of services, awareness, rapid population growth, complexity, dispersed data, cultural diversity, and budget constraints.

Key focus areas include: Leadership Development, Investment Management, and Communication & Engagement.

Key Outcomes

- Establish ECD Leadership Task Force
- Evolve towards an ECD Centre of Excellence
- Commit to a data gathering & sharing strategy
- Create analytics-driven decision making team and tools
- Maximize shared facilities & volunteer community
- Intensify social media outreach

TIMELINES	
Implemented	Ongoing
POTENTIAL PARTNERS	
Children's Partnership of Surrey-White Rock	
Surrey Children First	
LEAD CITY DEPARTMENT	
Park Recreation and Culture	

SOCIAL ENGAGEMENT & CONNECTIVITY

SURREY STEPS UP

Surrey Steps Up is a City of Surrey communication campaign focused on increasing community engagement to improve well-being and safety. It will encourage active participation from youth, business and neighbourhoods to counteract the underlying social issues/root causes of crime. It will also promote the work currently being done and celebrate community spirit.

Key Outcomes

- Engage youth in a pro-active manner to set a positive course for the future around safety issues important to them (i.e. bullying, gangs, etc.)
- Have businesses, business associations, boards of trades and chambers of commerce participate in community engagement and enhancement projects designed to promote participation and reinforce positive behavior.
- Empower neighbourhoods to work together with existing neighbourhood associations, block watch groups, and community associations.

TIMELINES	
Overall Program & Youth Engagement Launch	Implemented February 2014
Q3 Business Engagement Launch	2014
Q3 Neighbourhood Engagement	
POTENTIAL PARTNERS	
TBD, In the process of seeking partnership opportunities	
LEAD CITY DEPARTMENT	
Surrey RCMP	

SOCIAL ENGAGEMENT & CONNECTIVITY

HOMESAFE PROGRAM

The HomeSafe Program is a core component of Surrey's Evidence-Based Fire Reduction Strategy based on research by the University of the Fraser Valley (UFV) examining nearly 5,000 structure fires in Surrey over a 20 year period. This research found that certain people, properties and neighbourhoods have a greater fire risk than others due to socio-economic factors such as age, family structure and lifestyle.

Key Outcomes

- Identifies Surrey neighbourhoods with the greatest fire risk.
- Uses local fire and demographic data to target fire hotspots for door-to-door firefighter visits to educate residents about fire safety and install free smoke alarms.
- To date firefighters have visited over 40,000 homes.
- Cost-effective program leverages existing resources and community sponsorship.

TIMELINES	
Initial Homesafe Visits	Completed
Continued evaluation of cohorts	Ongoing
PARTNERS	
University of the Fraser Valley	
Kiddle Canada	
Surrey Firefighters Local 1271	
Guildford Mall	
LEAD CITY DEPARTMENT	
Surrey Fire Services Operations/Prevention	

> "...certain people, properties and neighbourhoods have a greater fire risk than others due to socio-economic factors..."

> “Digital Inclusion ensures individuals and disadvantaged groups have access to, and the skills required to use information and communication technologies.”

TIMELINES
Ongoing
LEAD CITY DEPARTMENT
Parks Recreation and Culture, Libraries

SOCIAL ENGAGEMENT & CONNECTIVITY

DIGITAL INCLUSION

Digital Inclusion ensures individuals and disadvantaged groups have access to, and the skills required to use information and communication technologies. This enables them to participate in and benefit from Surrey’s growing knowledge and information offerings.

Surrey continues to grow its many community technology programs through the Smart Surrey Strategy.

Key Outcomes

- Expanded free public Wi-Fi at select parks/gathering places, recreation facilities and City facilities allows free connectivity.
- READ-Ability services and free computer classes at Surrey Libraries.
- Redesigned City website with a responsive design allows for optimal viewing and improved accessibility via mobile devices.
- Surrey Archives provides access to the public via its Public Reference Services and computer terminals.
- Volunteers gather community input at special events by having residents fill out questionnaires on tablets.
- Computer Labs at Surrey Libraries provide online access to seniors and youth who don’t have computers at home.

> “...certain data should be freely available for everyone to use and republish as they wish, without restrictions...”

TIMELINES	
New Open Data Policy	Completed
New Terms of Use License	Completed
Launch Open Data Catalogue	2014
POTENTIAL PARTNERS	
Surrey RCMP, Fraser Health, Open North	
LEAD CITY DEPARTMENT	
Engineering Department - GIS	

SOCIAL ENGAGEMENT & CONNECTIVITY

OPEN DATA PROGRAM

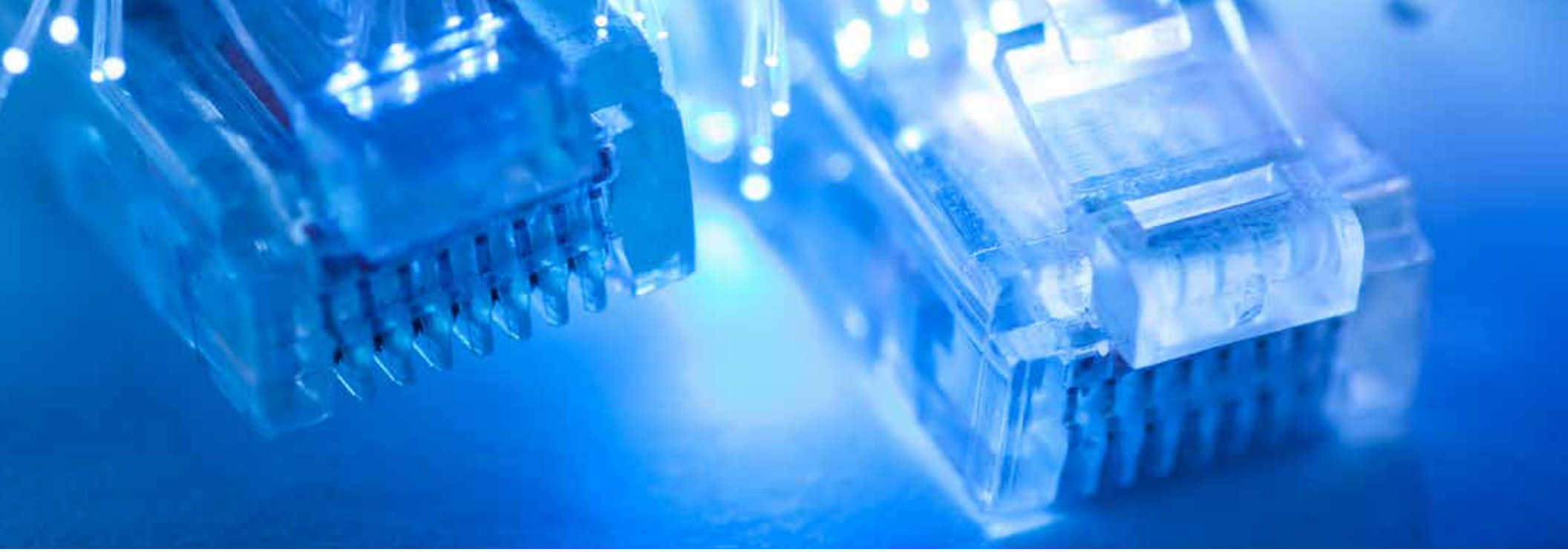
Surrey's Open Data program is an important component of the City's commitment to be an open, transparent and accessible government. Open Data is the idea that certain data should be freely available for everyone to use and republish as they wish, without restrictions.

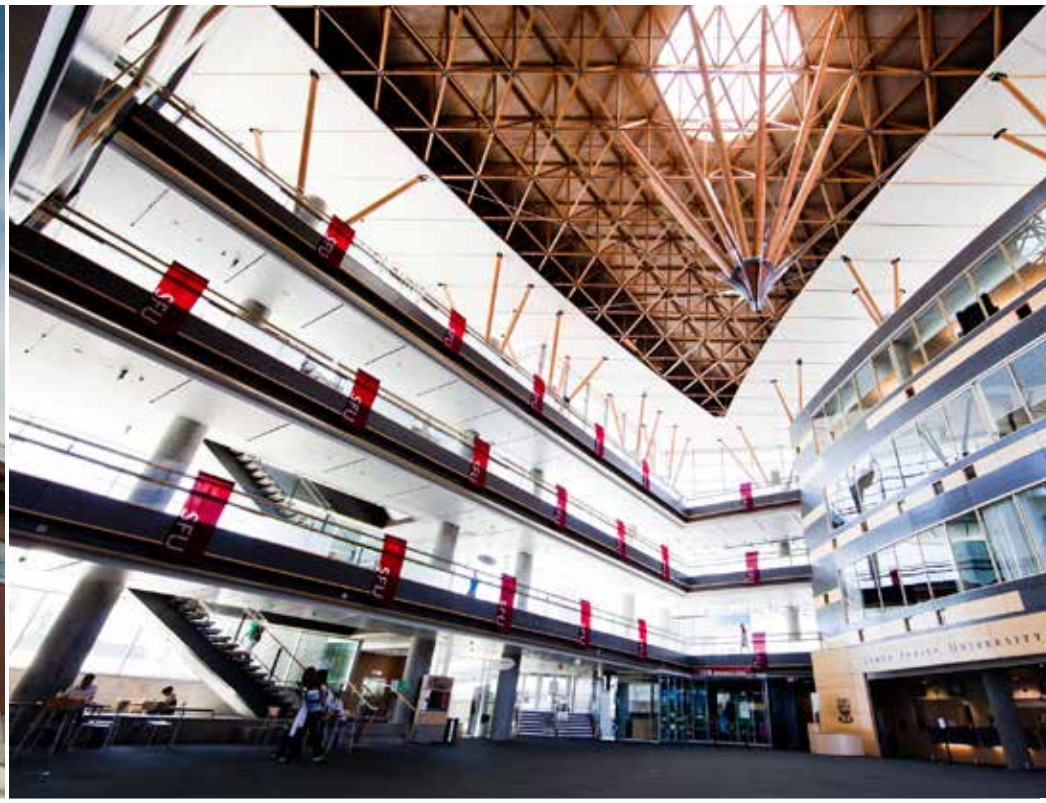
The goal of Open Data is to empower citizens, to help small businesses, or to create value in some other positive unforeseen way. Open Data is an enabler of socio-economic development (health care, education, economic productivity, and scientific research), which is accelerated by better access to data.

Key Outcomes

- Largest municipal catalogue in Canada with public access to over 300 datasets.
- Near real-time access to data to support developer apps and map visualizations.
- Annual Hackathon events foster collaboration and innovation.


OPEN DATA
Search for Datasets
Search By Category





SOCIAL ENGAGEMENT & CONNECTIVITY

INNOVATION BOULEVARD FIBRE

Located in close proximity within Surrey's City Centre between Surrey Memorial Hospital (SMH) and Simon Fraser University (SFU) is world-class talent and organizations in the medical technology sector. Known as Innovation Boulevard, the City of Surrey has formed strategic partnerships to capitalize on this convergence of talent that includes the largest health infrastructure investment in British's Columbia's history with the expansion of SMH, leading-edge research at SFU, and a new BC Leadership Chair in Multimodal Technology for Healthcare Innovation.

A key component of Innovation Boulevard is connection to 'CANARIE'; (Canada's Advanced Research & Innovation Network) an ultra high-speed network that connects researchers and innovators to data, tools, colleagues and classrooms in the digital economy.

Key Outcomes

- Expand the 'CANARIE' fibre network from SFU Surrey to the Surrey Memorial Hospital campus and throughout Innovation Boulevard to connect researchers and institutions to the national networks.

TIMELINES	
Fibre Build Study	Completed
Targeted start of implementation	2014
POTENTIAL PARTNERS	
BCNET, CANARIE, TELUS	
LEAD CITY DEPARTMENTS	
Economic Development Engineering Design and Construction Finance and Technology – IT	

SOCIAL ENGAGEMENT & CONNECTIVITY

FIBRE BROADBAND STRATEGY

TIMELINES	
Identification of sites for potential opportunities for Overall Fibre Plan	2014
Explore opportunities to facilitate marketplace competition with suppliers	
Development of Fibre Plan for the City of Surrey	
POTENTIAL PARTNERS	
To Be Determined	
LEAD CITY DEPARTMENTS	
Finance and Technology – IT Division Engineering Design and Construction	

Connectivity is to the new economy what physical highways were to the old economy; reliable high speed networks are integral for increasing economic activity in a knowledge based economy.

The City of Surrey is being a facilitator of world-class broadband connectivity through the use of public-private partnerships where feasible. Strategically provisioned fibre optic networks are to provide broader reach for businesses and residents with fast, reliable and cost effective.

At the core of the Social Engagement & Connectivity Strategy is the need to deliver connectivity services to our citizens and business community. To further that aim, the City of Surrey will establish a Fibre Broadband Plan.

Key Outcomes

- The City will provide a future roadmap on how best to connect our citizens and business to ultra-high speed fibre in an affordable manner that optimizes community access and inclusivity.
- Explore different options around policies and programs to increase penetration rate of broadband usage.
- Development of hybrid model that will include partnerships with local providers, City owned fibre and/or conduit to achieve long range needs.
- Creating and implementing a City Fibre Broadband Strategy.

> “The City will provide a future roadmap on how best to connect our citizens and business to ultra-high speed fibre in an affordable manner that optimizes community access and inclusivity.”

SOCIAL ENGAGEMENT & CONNECTIVITY

CITYWIDE WI-FI

Providing free Wi-Fi access will enable citizens, visitors and City employees to access the Internet and eliminate potential barriers for access. Wi-Fi has become one of the predominant means by which an individual accesses information. As Surrey is one of the largest cities (by land mass) in Canada and with its growing population, City wide Wi-Fi connectivity is integral.

Key Outcomes

- Position the City as a progressive, connected community, making it attractive to mobile-enabled residents, visitors, businesses, and knowledge workers.
- Partner with a provider to deliver free City wide Wi-Fi services at key locations such as Recreation Centres, Libraries, parks, and city gathering places.

TIMELINES	
Preliminary contract negotiations with supplier	Completed
Q3: Negotiate solution delivery option with supplier	2014
Q3: Council approval of plan	
Q3: Start of phased implementation	
POTENTIAL PARTNERS	
Telecommunications Providers	
LEAD CITY DEPARTMENT	
Finance and Technology – IT Division	

SOCIAL ENGAGEMENT & CONNECTIVITY

CELLULAR PENETRATION

TIMELINES	
Finalization of City's Telecom Policy (Protocol Agreement)	2014
Fulfillment of the pilot project for City street lights	

POTENTIAL PARTNERS
Local Wireless Providers (Telus, Bell, Rogers)

LEAD CITY DEPARTMENT
Engineering Realty Group Planning & Development Finance and Technology – IT

In recent years we have seen significant growth in the demand for wireless services via Smartphones, tablets, etc. This growing demand has challenged the wireless industry to provide sufficient infrastructure to address area coverage and capacity issues, while being mindful of community concerns over infrastructure aesthetics.

Key Outcomes

- Update the City's Telecommunication Policy.
- Increase cellular penetration by implementing a pilot project for using streetlight poles to install wireless communications infrastructure (Corporate Report R186, July 2012).


ECONOMIC GROWTH
KNOWLEDGE WORKFORCE
BUSINESS START UP
ECONOMIC DIVERSIFICATION
MARKETING AND ADVOCACY

ECONOMIC GROWTH

Vision

"Surrey has a prosperous and resilient local economy that achieves a one-to-one ratio of jobs to resident work force and a balanced tax base. New jobs are created in knowledge-based and high-growth industries by local entrepreneurs. Surrey has a world-class network of partners that enable growth."

Pillar Description

Comprises technology and innovation driven initiatives intended to stimulate economic growth to increase the City's tax base and create new jobs to allow residents to both work and live in their community while enjoying a high quality of life.

ECONOMIC GROWTH

RESEARCH CHAIR IN ENERGY SYSTEMS FOR SMART CITIES

TIMELINES	
Corporate Report approved by Council	Completed
Terms of Reference	Completed
Q4 Research Chair recruitment	2014
Submit Natural Science & Engineering Council Funding Application	2014
PARTNERS	
SFU, PowerLabs	
LEAD CITY DEPARTMENT	
Engineering	

As conventional unsustainable sources of energy are depleted, there is a growing need for clean technology to replace current energy sources and enhance energy management.

The proposed NSERC - Power tech - City of Surrey Executive Industrial Research Chair in Energy Systems for Smart Cities builds on the work of the Mayor's Clean Energy Advisory Network, Surrey EnergyShift Initiative, and the proposed Energy System Engineering Program that would be delivered at SFU Surrey.

Key Outcomes

- Leading research that focuses on planning, regulating, implementing and managing energy infrastructure and related sustainable energy technology for evolving cities in the 21st Century.
- Research will span industries from energy generation, transportation, conservation, recapture, storage and utilization within cities.
- Leading an Advisory Group from industry, academia, government and other agencies to assist in creating an Economic Development Strategy and a related Centre of Excellence in the area of sustainable energy systems.
- Actively contribute to training and teaching activities under the proposed Energy Systems Engineering Program at SFU.

ECONOMIC GROWTH

BUSINESS INCUBATORS

Business incubators help entrepreneurs grow their companies by providing them with resources and mentorship.

An active entrepreneurial base and nurtured "start-up culture" enables new business formation by creating connections and sharing ideas.

The City's efforts compliment partner activity such as the Health Tech Connex innovation space, and the Venture Connection and Digital Health Hub incubators located at SFU Surrey.

Key Outcomes

- Partnered with SFU Surrey and the British Columbia Technology Industry Association (BCTIA) to deliver the BCTIA's Centre4Growth acceleration programming in Surrey.
- One-on-one coaching from an experienced technology CEO, and access to the BCTIA's network and other programming. Centre4Growth is offered free to Surrey companies.
- Delivered of a two day "Build-It Bootcamp" to ten companies to apply best practices and validate business ideas for new product development.
- Work with partners to hold events such as monthly 'Tech MeetUps' to share ideas and foster connections.

TIMELINES	
Start BCTIA Centre4Growth programming in Surrey	Implemented
Start monthly 'Tech MeetUp'	
Deliver 2-day 'Build it Bootcamp'	
PARTNERS	
BCTIA SFU – Innovation Office and Beedie School of Business	
LEAD CITY DEPARTMENT	
Economic Development	

"An active entrepreneurial base and nurtured "start-up culture" enables new business formation by creating connections and sharing ideas...."

> “Efficient City processes make it easier for businesses to start and grow. Surrey is developing a leading-edge solution to move the entire business licencing process online.”

TIMELINES	
Q4 Initial Launch Targeted	2014
PARTNER	
Computronix	
LEAD CITY DEPARTMENTS	
By-laws & Licencing Services Planning and Development	

ECONOMIC GROWTH

ONLINE BUSINESS LICENCE

Efficient City processes make it easier for businesses to start and grow. Surrey is developing a leading-edge solution to move the entire business licencing process online. This will streamline process, speed transaction time, and minimize the requirement for citizens to travel to City Hall.

Key Outcomes

- Offer users the option to submit or change an existing business licence application on-line, thereby increasing accessibility for Surrey businesses.
- By integrating business applications and revising department workflows, work will be entered one time only, and will no longer be delayed by ‘in-transit’ paperwork.
- Streamline Business Licence Process with the goal of reducing wait time for businesses.
- Enhanced ability for City staff and applicants to understand the current status of a business application, in real time, thus accelerating response times.

ECONOMIC GROWTH

HEALTH TECHNOLOGY (INNOVATION BOULEVARD)

Innovation Boulevard is a network of health institutions, universities, companies and world-class talent located in Surrey's City Centre between Simon Fraser University and Surrey Memorial Hospital. Innovation Boulevard will act as a catalyst for economic opportunities by connecting companies with the latest health technology research, providing clinical access for technology companies to test, refine and accelerate their ideas. Its shared vision is to achieve remarkable results in four areas:

Key Outcomes

- Improve health care outcomes for patients.
- Implement intelligent solutions for the health care system.
- Attract talented clinicians and researchers.
- Grow companies in health care technology and services sectors.

TIMELINES	
SMHF BC Leadership Chair in Multimodal Technology for Healthcare Innovation	Implemented
Mayor's Health Tech Working Group	
Digital Health Hub Launch	
Launch Event	
Neurotechnology Lab launch	
PARTNERS	
Fraser Health (SMH and JPOC), SFU, KPU, BCIT, UBC, BCTIA	
LEAD CITY DEPARTMENT	
Economic Development	

> "Innovation Boulevard will act as a catalyst for economic opportunities by connecting companies with the latest health technology research, providing clinical access for technology companies to test, refine and accelerate their ideas"

ECONOMIC GROWTH

CLEAN TECHNOLOGY

British Columbia is a world-leader in clean technology; a high-growth sector with more than 200 clean tech firms which in 2011, generated an estimated $2.5 billion in revenue. BC is recognized for its leadership in hydrogen and fuel cells; clean transportation; energy management and efficiency; renewable energy; and water and waste resource management.

Clean technology in Surrey capitalizes on expertise at SFU Surrey, Powertech Labs, the City of Surrey, and other local companies. The City of Surrey will help clean tech companies grow by providing industry and academic matchmaking, connections to government resources, and economic information to attract new investment.

SFU Surrey has industry focused research expertise in fuel cells, automobile applications and building energy management.

Powertech Labs is BC Hydro's clean energy subsidiary that provides consulting and testing expertise with a focus on smart utility, power labs and clean transportation.

The City of Surrey has developed significant expertise in the areas of urban planning, building design, transportation, energy systems, waste management and energy modelling. Surrey has been recognized for its work through Clean50, Clean Energy BC, the Community Energy Association, and QUEST.

Key Outcomes

- Industrial Executive Research Chair in Energy Systems for Smart Cities co-funded by SFU Surrey, Powertech Labs and the City of Surrey will produce leading-edge research and build industry partnership

TIMELINES	
LOI - Advancing Sustainability through clean energy initiatives	Implemented
Mayor's Clean Energy Advisory Network	
Industrial Research Chair Corporate Report approved	
Q4 Clean Tech Website	2014
Q4 Clean Tech Marketing	
PARTNERS	
SFU Surrey, Powertech Labs	
LEAD CITY DEPARTMENT	
Economic Development	

> “The City of Surrey will help clean tech companies grow by providing industry and academic matchmaking, connections to government resources, and economic information to attract new investment.”

ECONOMIC GROWTH

ICF SMART21 APPLICATION

TIMELINES	
Smart21 application submitted for 2013 award	2014
Q2 Feedback from ICF	Implemented
Q4 Submit application for 2014 award	
LEAD CITY DEPARTMENT	
Economic Development	

The Intelligent Community Forum (ICF) is the thought leader in intelligent community design by providing education, best practices, and a community of learning for cities that are undergoing transformation. The City of Surrey has become actively engaged with ICF to learn how to improve and accelerate its transformation by learning from leading international cities and sharing ideas through the ICF.

Key Outcomes

- Becoming recognized through the ICF Award process helps validate our Smart Surrey Approach.
- Multi Year Application Process allows City to receive feedback on Smart Surrey Strategy approach as it evolves.
- The Smart21 application process benefits the City of Surrey because the City compiles a thorough inventory of activity in its corporate operation, by partners, and in the community.

ECONOMIC GROWTH

INTELLIGENT COMMUNITY EVENT

The City of Surrey will deliver a full-day event "The Evolution of Communities Forum" that casts a spotlight on business strategies, clean technologies, and urban sustainability innovations that are poised to transform the world's cities. The role of policy makers and business leaders has merged as technology innovators, thought leaders and public policy decision-makers look to create the communities of the future.

This inaugural senior-level forum will offer attendees the chance to interact directly with innovators and thought-leaders driving the evolution of planning and service delivery at the city level.

TIMELINES	
Q3 Event announcement	Implemented
Q3 Webpage and registration launch	
Q4 Event Hosted	
LEAD CITY DEPARTMENT	
Economic Development	

Key Outcomes

- International exposure positioning Surrey as a leader in innovative solutions.
- Relationship building with Smart City thought leaders and innovators.
- Information sharing and capacity building for delegates.
- Feedback and guidance for future updates to City's Smart Surrey strategy.

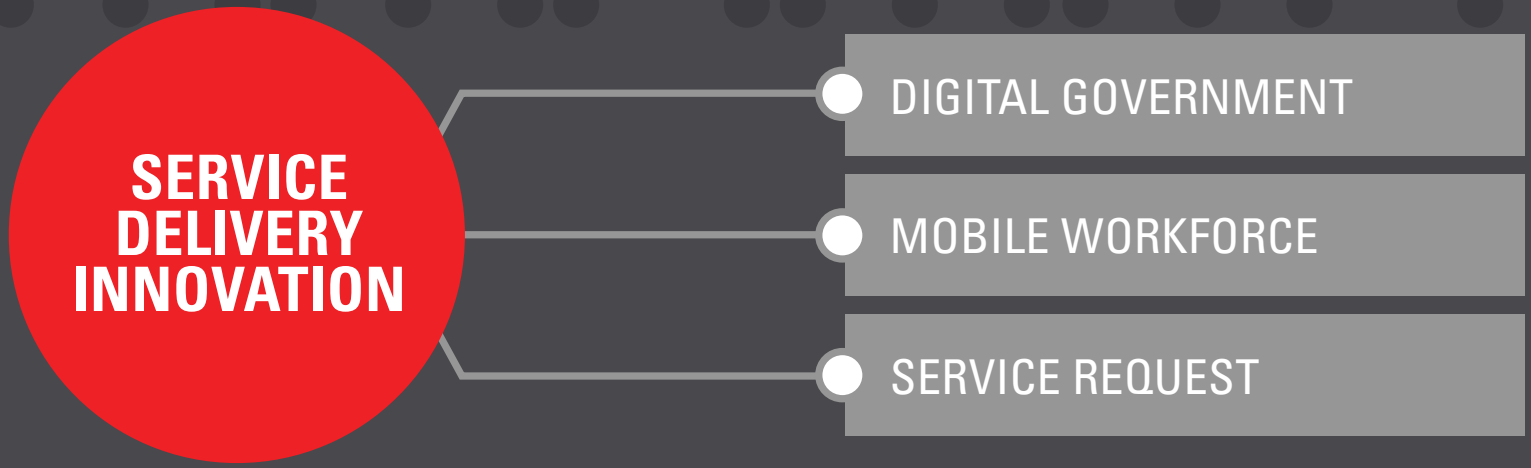
SERVICE DELIVERY INNOVATION

Vision

"It is easy, convenient, and efficient for residents to do business with the City of Surrey. Residents have multiple methods to do business, either digitally or in-person. For the City of Surrey, this means our service delivery is customer-focused, efficient, and cost effective."

Pillar Description

Focuses on technology and innovation driven initiatives that seek to improve the resident customer experience when doing business with the City.


SERVICE DELIVERY INNOVATION
DIGITAL GOVERNMENT
MOBILE WORKFORCE
SERVICE REQUEST

SERVICE DELIVERY INNOVATION

SURREY.CA IMPROVEMENTS

TIMELINES	
Redesigned website Launched May 2013	Implemented
PARTNERS	
Yellow Pencil Web Design & Development	
LEAD CITY DEPARTMENT	
Parks, Recreation & Culture Web & New Media Team	

Driven by public and user feedback, the City's Responsive Design Project sought to broaden access to the City's website www.surrey.ca from either desktop or mobile devices, optimizing the user experience by providing information that was easy-to-find, thereby encouraging new and returning visitors.

Key Outcomes

- Enables optimal viewing from any device.
- Platform is expandable for future services.
- Web analytics tools were upgraded to ensure continuous and ongoing content improvements.
- Navigation enhancements were made to reduce the number of clicks required to find key information.
- Improved content, better user experience, and more use of mobile devices for the City's website has resulted in improved web traffic and a positive customer experience for finding City information including increased use of online services.
- Allows users to share content more seamlessly with social media platforms.

SERVICE DELIVERY INNOVATION

MY SURREY APP

Create a one stop 'My Surrey App' to maximize citizen awareness of mobile apps and digital services available at the City. The new app is a container or discovery platform for existing apps, such as COSMOS, Surrey Request, Rethink Waste, Surrey Library, and ArtWalk. The My Surrey App will also include City News, City Events, and City Job listings.

Key Outcomes

- Optimized for use on all smartphone and tablet devices.
- My Surrey App detects if other City apps are already installed and will either launch or direct to iTunes store or Google Play to download.
- Increased awareness of new City apps and services as they become available by automatically appearing as placeholders within My Surrey App.
- Find City facilities closest to you such as libraries, parks, and arenas, and view information and services available at that facility.

TIMELINES	
Q3 App rollout	2014
POTENTIAL PARTNERS	
Purple Forge	
LEAD CITY DEPARTMENT	
Engineering Department – GIS	

> “Since its introduction, COSMOS has tremendously increased Surrey’s level of service to its residents and business community, providing even more self-serve options and increase access to clear and concise information.”

TIMELINES	
Redesigned website Launched May 2013	Implemented
POTENTIAL PARTNERS	
Yellow Pencil Web Design & Development	
LEAD CITY DEPARTMENT	
Parks, Recreation & Culture Web & New Media Team	

SERVICE DELIVERY INNOVATION

COSMOS

The City of Surrey’s award-winning web mapping system (COSMOS) was developed in-house based on public feedback, and provides access to more than 150 datasets of City-related information for the public, City staff, RCMP, Fire, and the development community. COSMOS allows users to query, view, and print a wide range of City information such as property details, zoning, utilities, parks, roads, recreation facilities, points of interest, and aerial photography.

The Online Mapping System has been recognized as an overwhelming success by both its customers and the industry. Since its introduction, COSMOS has tremendously increased Surrey’s level of service to its residents and business community, providing even more self-serve options and increasd access to clear and concise information.

Key Outcomes

- Public access to City information in an easy to use web based mapping application.
- Available for use on all devices including desktop, smartphones, and tablets.
- Unique ability to retrieve user’s previous session, saving the user considerable time.
- YouTube ‘How-to’ videos assist users in locating specific information.
- Allows users to share content more seamlessly with social media platforms.


SURREY
NEWTON
SOUTH
SURREY

> “Ability to access information related to service requests, work orders, and up-to-date mapping of assets will promote greater effectiveness as well as reduced costs by eliminating printing map books.”

TIMELINES	
Mobile Work Asset Management System Summer 2013	Implemented
LEAD CITY DEPARTMENT	
Engineering Department - Operations	

SERVICE DELIVERY INNOVATION

OPERATIONS MOBILITY

Surrey’s vision for a Mobile Work Asset Management System (Cityworks) was to move towards true mobility, whereby service requests and work orders can be received in the office or the field wirelessly and dispatched electronically to crews at their location. Using Cityworks, staff can send updates or report on maintenance work from the field, without having to return to the office. This means reduced overtime and lower costs for asset maintenance because information that enables decision-making is available where the work is being performed.

Key Outcomes

- Real-time dispatch of service requests and updating of completed work in the field.
- Greatly increase efficiencies, resulting in less travel time to and from the office and reduction in fuel consumption.
- Ability to access information related to service requests, work orders, and up-to-date mapping (including infrastructure offsets, watercourses, valve locations, etc.) ensures greater effectiveness as well as reduced costs in creating and printing map books.
- Provides ability for crew members to submit hours worked and equipment used electronically through an approval process.
- GPS services tracks operations crew work efforts in real time, leading to efficiencies.

SERVICE DELIVERY INNOVATION

BY-LAW ENFORCEMENT MOBILITY

In 2012, the City of Surrey implemented a mobile solution that enabled its By-law Officers to work remotely in real time, reducing the need to travel back and forth from the field to City Hall base operations.

This project improved productivity and time management for the By-law Department, and improved customer service for the public and increased revenue generation, by providing key information in real time including direct access to By-law details accessible in the field.

Key Outcomes

- Improved customer service by providing relevant documentation at the time of inspection.
- Improved availability of investigation information, monitoring and enforcement.
- Significant reduction in travel time by By-law officers, completion of more inspections with greater quality and consistency of information.
- Provision of metrics for efficient use of staff workload optimization.
- Remote access to emails, calendar, schedules and a internal systems provides information required by the officers during their field work;
- Remote printing and talk-to-text functionality.

TIMELINES	
By-law Mobility Enhancements Launched Spring 2013	Implemented
LEAD CITY DEPARTMENT	
Legal Services - By-law Enforcement & Licensing	

SERVICE DELIVERY INNOVATION

BUILDING INSPECTION MOBILITY

TIMELINES	
Mobilty System Launched in 2011 and currently in use	Implemented

LEAD CITY DEPARTMENT
Planning and Development

As part of the City of Surrey's land development and building process, inspections must be performed by City staff to ensure that buildings meet regulations and safety requirements. The building inspection process is complex and often requires multiple inspections.

With the implementation of mobile building inspection technology, clients can now manage their inspection requests online through an office computer or smart phone application, providing a more efficient and convenient alternative to the automated telephone inspections line. Once the inspection is completed, a printed copy can be given to as many clients on site as required, and a digital copy of deficiencies is sent via e-mail to the client along with an SMS text message advising them the inspection is completed and results have been emailed.

Key Outcomes

- Improved communication and reduction in time required for the inspection process.
- Online system saves the client significant travel time by reducing the need to physically visit City Hall to conduct business. Clients can now request a permit online, pay online, schedule an inspection online and get results online and via SMS.
- Clients receive more precise real-time estimates of appointment times leading to less waiting.
- The new system simplifies cash handling procedures and allows automatic daily financial reconciliation, saving the City time and money.


CITY OF
SURREY


Stay
Strong
5SOS
STAY strong

SERVICE DELIVERY INNOVATION

SURREY REQUEST APP

The new Surrey Request App provides residents with the ability to request information and report issues such as graffiti, street light outages, abandoned garbage, and over 20 other categories. Available on smartphone devices, this easy to use app incorporates best practices in usability. This is one component of an integrated reporting system that includes the existing online 'Report a Problem' website and the Cityworks service request and work management platform which informs decision-making, creates efficiencies, and maximizes resources to field crews.

Key Outcomes

- Surrey Request will improve staff's ability to respond to service requests by linking directly with internal work management systems.
- Provide tracking and feedback to the public on the status of requests.
- Enabling the public to attach photos of the request.
- Automatically provide a GPS location map of the request.

> "Surrey Request will improve staff's ability to respond to service requests by linking directly with internal work management systems."

TIMELINES	
Q3 Launch of Surrey Request App	2014
LEAD CITY DEPARTMENT	
Engineering – GIS	

> “Reporting crime and public safety issues to police and other City authorities is an inherent civic duty and an important first step in developing an effective response.”

TIMELINES	
Q1 Initial Launch of Website E-Reporting	2014
Q4 Subsequent Launch including Multiple Languages	
Future plans include working with City partners to integrate crime reporting mobile options	2015
LEAD CITY DEPARTMENT	
Surrey RCMP	

SERVICE DELIVERY INNOVATION

ONLINE CRIME REPORTING

A key enhancement of the Surrey RCMP website is to offer online crime reporting. E-Reporting allows citizens to file their own minor incident reports. These reports are then transferred to the RCMP Records Management System (RMS) and responded to in an operationally appropriate time and manner (e.g., depending on event type/ priority, local policy with respect to police attendance and resource availability).

Reporting crime and public safety issues to police and other City authorities is an inherent civic duty and an important first step in developing an effective response.

Key Outcomes

- The e-Reporting initiative supports increased reporting and thus better understanding of the prevalence of crime and disorder enabling efficiencies when deploying police officers on the street.
- Reports can be submitted in either English or French.
- Speeds up the reporting process and offers ability to report minor crimes or incidents without needing to visit a police station or calling in to speak to a call-taker.
- Users can choose to report at their convenience and can exit the system at any time.
- Completed forms can be printed from one’s own computer to keep on file (an email confirmation/report is sent once verified).
- Ability to access other/related information on the website before, during and/or after online reporting process (e.g., Crime Prevention tips, local program and service information).


RCMP

SERVICE DELIVERY INNOVATION

EMERGENCY MANAGEMENT COMMON OPERATING PICTURE

TIMELINES	
Developed in 2011 and currently in use at EOC	Implemented
Developing RCMP Version	Q3 2014
LEAD CITY DEPARTMENT	
Planning and Development	

The Common Operating Picture (COP) is a single identical display of relevant operational information on a map for the purposes of collaborative planning and to achieve situational awareness during an emergency. It is a collection of multi-agency information that is used by City Staff, Surrey RCMP, and Surrey Fire Services in an Emergency Operation Centre to deliver real time information to the decision makers managing the situation.

While initially designed to be used in an emergency, the COP can also be used in day to day command centres at both Surrey RCMP and Surrey Fire Services. It improves connectivity within an intelligence/ communications centre by using real-time data to provide a snapshot of public safety from multiple agencies' point of view.

Key Outcomes

- Ability to view location of personnel and status of important infrastructure.
- Create snapshots in time to improve record keeping and decision making.
- Ability to display notes on a map to indicate status of event or assets.
- Show additional real-time information from external sources such as social media reports with pictures and/or videos of weather, natural hazards, road closures, etc.
- Plume modelling representing an area affected by a disaster using real-time weather information.
- Traffic Camera Integration and Control in event of emergency.

SERVICE DELIVERY INNOVATION

CRIME ANALYSIS AND EVIDENCE BASED DECISION MAKING

Understanding the root causes of crime assists in directing appropriate resources towards actions that will have the greatest impact on preventing and deterring priority crimes. Crime analysis by the Surrey RCMP conducted by academic researchers, will provide information that will assist in targeting public safety resources and identifying hot spots within the City. To accomplish this, the Surrey RCMP continues to employ crime analysts to study and analyze the crime patterns and trends in the City.

Key Outcomes

- The resulting information can be used to direct available police and other resources to areas where the most impact will be made to prevent and deter crime.
- The Surrey RCMP Crime Analysis Unit has helped identify the most prolific offenders, criminal hot spots and problem premises in Surrey.
- The Unit has generated a number of analysis documents, including weekly intelligence briefs and crime analysis reports on emerging criminal trends and hot spots.

TIMELINES
Ongoing
LEAD CITY DEPARTMENT
Surrey RCMP

> “Understanding the root causes of crime assists in directing appropriate resources towards actions that will have the greatest impact on preventing and deterring priority crimes.”

SERVICE DELIVERY INNOVATION

RISK BASED FIRE INSPECTIONS

TIMELINES	
Initial Analysis	Completed
Q2 Council Adoption	2014
Q4 Implementation	

POTENTIAL PARTNERS
Province of British Columbia Office of the Fire Commissioner University of the Fraser Valley Fire Chiefs Association of BC Fire Preventions Association of BC BC Institute of Technology

LEAD CITY DEPARTMENT
Surrey Fire Services – Prevention Division

With over 13,000 inspectable properties in one of the fastest growing communities in Canada, the legislative responsibility of meeting the Provincial mandate to perform fire and life safety inspections is difficult to meet.

The research conducted by the City showed that:

- Properties that were not compliant with the BC Fire Code experienced fires 2.4 times more frequently than all other inspected properties.
- Fire safety & suppression items inspected at properties that experienced fires were non-compliant 4.0 times more often than items inspected at properties overall.

Key Outcomes

- Potential to develop a data-driven framework for conducting fire safety inspections based on risk.
- A model will be developed using multiple risk factors to determine the frequency for timings of fire safety inspections. (i.e. property that is classified as high risk, based on occupancy type, history of inspections and fires.)
- Requirements will be adopted to ensure that the owners and occupants in high risk buildings will have a certified and trained responsible person to ensure that life safety systems are operating and being maintained and that the occupants are trained on fire safety and evacuation procedures.

SERVICE DELIVERY INNOVATION

SURREY FIRE SERVICES MOVE UP MODULE

Surrey Fire Services's operational decision making is guided by a probability-driven, real time resourcing, decision-making tool called the Live Move-Up Module (LiveMUM).

Implemented in 2007, this model uses past calls for service to calculate the probability that resource gaps have emerged as a consequence of current resourcing demands. If such gaps are identified, LiveMUM then makes recommendations about reallocating the remaining resources to improve coverage.

Key Outcomes

- Pre-emptive allocation of resources around the City.
- Maximized operational cost efficiencies and improved fire coverage and response.
- LiveMUM interacts with the City's computer-aided dispatch system in real time to determine when and where move-ups are necessary based on call volume periods. For example, when the closest units to a particular neighbourhood will be available for a significant period of time, a move-up is recommended. At the same time, LiveMUM's risk-assessment tool helps to ensure that any relocated resources will actually be put to use.

TIMELINES	
Ongoing improvement and Analysis	Implemented
LEAD CITY DEPARTMENT	
Surrey Fire Services Communications/Operations	

SERVICE DELIVERY INNOVATION

SURREY FIRE SERVICES ATTENDANCE MANAGEMENT PROGRAM

TIMELINES	
Internal and External Reports	Completed
Research Paper Publication	Completed
PARTNERS	
University of the Fraser Valley	
LEAD CITY DEPARTMENT	
Surrey Fire Services - Administration Division	

Surrey Fire Services introduced an Attendance Management Program (AMP) to reduce employee absenteeism. The program outlines a procedure for managing attendance, using a series of progressive steps that include letters, counselling and positive reinforcement. The first of its kind in the province, the program was a response to a gradual increase in absenteeism at Surrey Fire Services, which is one of British Columbia's largest fire departments, with 17 fire halls and more than 364 firefighters.

An important component of the AMP program was the record keeping and reporting of the data. This was facilited with the implementation of Kronos' (formerly PDSI) Telestaff staff scheduling software. This foundation provided the opportunity to deliver evidence based decision making within the Attendance Management Program.

Key Outcomes

- Over the past twelve years, Surrey Fire Services has experienced a 68% reduction in both Workers' Compensation Board (WCB) absences and in sick leave, resulting in a cumulative savings of more than $9.15 million.
- The AMP is intended to promote and achieve high attendance levels from all employees, and reduce costs and disruption to the operation.
- Results are tracked on an annual basis with the 2012 and 2013 results shaping up to be the best two years of attendance on record.
- Understand the just-in-time problem to scheduling staff based on predictive staffing patterns using evidence based decision making.
- Ability to design a solution to the problem including the processes to monitor performance against the benchmarks.

SERVICE DELIVERY INNOVATION

HIGH RISK LOCATION INITIATIVE

The "High Risk Location Initiative" (HRL) is a coordinated approach between the Surrey RCMP, City By-laws, and Surrey Fire Services. The initiative targets locations where homicides, violent crimes or criminal activity associated with violence have occurred in the past. It is generally these types of locations where those living high risk lifestyles come together and create an increased risk to public safety and potentially violent crime.

By attempting to enhance safety in and around these high risk locations, the initiative is designed to increase public safety and reduce violence associated at these locations.

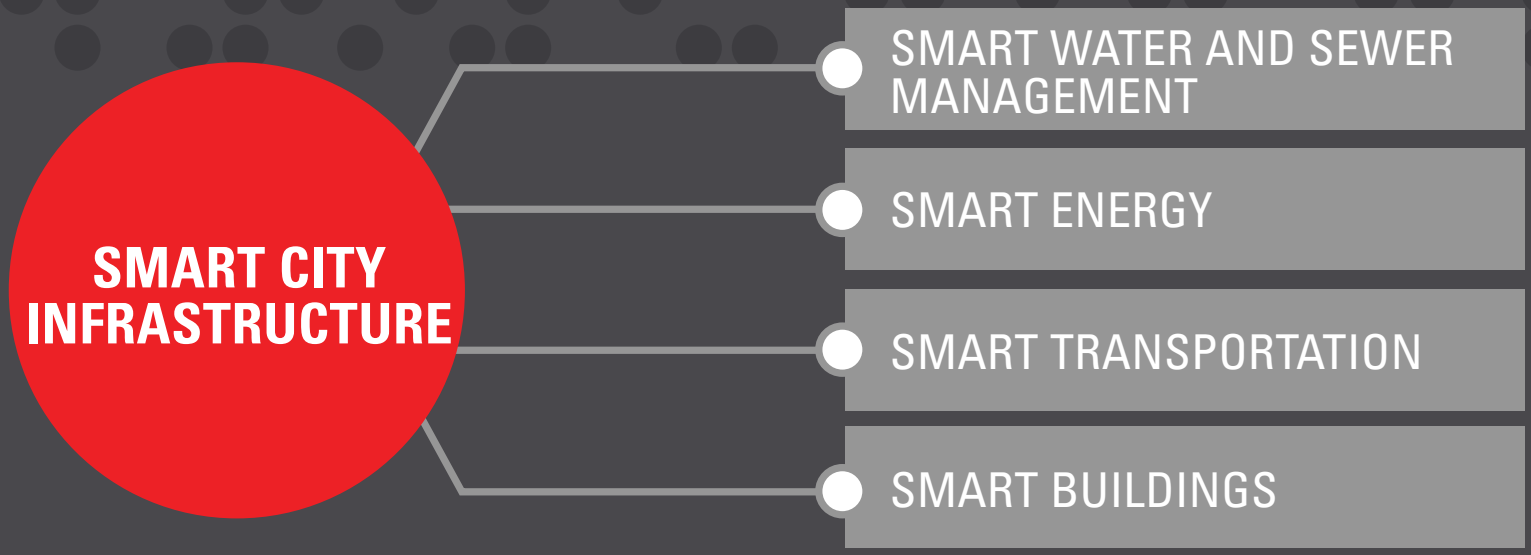
Key Outcomes

- Shared data bank will house information specific to high risk locations in Surrey, based on number and types of calls for service. The data bank is being populated with information from Surrey RCMP, Surrey Fire Services, Surrey By-laws, and the City of Surrey.
- Shared data bank is integrated with a web based mapping tool to assist in the visual coordination and assessment of locations.

"By attempting to enhance safety in and around these high risk locations, the initiative is designed to increase public safety and reduce violence associated at these locations."

TIMELINES	
Q1 Shared Data Bank	Implemented 2014

LEAD CITY DEPARTMENT
Surrey RCMP, Surrey Fire Services, Surrey By-laws


SMART CITY INFRASTRUCTURE
SMART WATER AND SEWER MANAGEMENT
SMART ENERGY
SMART TRANSPORTATION
SMART BUILDINGS

SMART CITY INFRASTRUCTURE

Vision

"Infrastructure construction, operation, and maintenance is optimized and sustainable. The City uses leading-edge technology and new approaches to find efficiencies, coordinate activities, and collect data to do more with less."

Pillar Description

Comprises technology and innovation driven initiatives that build physical infrastructure based on both 'Smart City' industry best practices and the unique needs of the City.

> “Water consumption in these homes decreased by over 25%, or approximately 2.5 million cubic metres to date and continues to decrease over the years after the visit.”

TIMELINES	
Program Initiation	2008
Program Implementation	Ongoing
LEAD CITY DEPARTMENT	
Engineering Department – Utilities Division	

SMART CITY INFRASTRUCTURE

OPERATION SAVE H2O

To reduce the overall water consumption and to defer future water infrastructure upgrades, the City of Surrey implemented the Operation Save H2O Program, under which a team of 8 – 10 post-secondary and high school students were hired to provide education and offer tools to customers to conserve water and save money on their water and sewer bill.

One key aspect of the Program is to adopt Community Based Social Marketing (CBSM) tools to assist metered single family homes with an annual consumption of over 800 cubic meters to reduce their water usage. A team of two students visit each home with a guided questionnaire to introduce incentives and tools to the customers about water conservation. The personal interaction with the customer has a much higher success rate of creating long term change in behaviour, and therefore any water saving would be sustainable, if not further improved over time.

Key Outcomes

- Over 7,000 homes visited in the past 5 years.
- Water consumption in these homes decreased by over 25%, or approximately 2.5 million cubic metres to date and continues to decrease over the years after the visit.
- The program has been extended to ICI (institutional, commercial & industrial) and multi-family properties.


EXHIBITOR
SAVE H2O
48 Easy Tips to Save Water

SMART CITY INFRASTRUCTURE

RESIDENTIAL WATER METERING PROGRAM

To promote the efficient use of water and create an equitable water rate structure, the City of Surrey implemented a Water Metering & Demand Management Strategy in 1998, where all non-metered industrial, commercial and institutional (ICI) properties can be metered. All new construction, residential and ICI shall also be metered. In 2001, the City initiated a Voluntary Water Metering Program, under which existing residential properties may apply for a meter, at no charge to the homeowners. To date, over 54,000 residential homes have been metered.

Key Outcomes

- Total water consumption by the City of Surrey has remained similar to that of 2002 despite significant increases in population over the same period.
- This results in cost savings in water infrastructure upgrades to meet the population increase.

TIMELINES
Mandatory metering for all new construction since 1998 Voluntary metering program for existing residential properties since 2001
LEAD CITY DEPARTMENT
Engineering Department – Utilities Division

SMART CITY INFRASTRUCTURE

WATER LOSS REDUCTION

TIMELINES	
Zone metering installation Stage 1	Completed
Zone metering installation Stage 2	Completed
Leak detection	Ongoing
Meter testing	
Water main replacement	
Pressure management	2014
LEAD CITY DEPARTMENT	
Engineering Department – Utilities Division	

To promote an effective water delivery system and equitable water and sewer billing, the City of Surrey has implemented a Water Loss Reduction Program or Unaccounted for Water Reduction Program.

Unaccounted for water consists of two components: water loss through leakage in the water main network, and water that is consumed but not billed, such as under registration of meters.

Key Outcomes

- Zone meter installation in all water supply sources from Metro Vancouver connection points to assess the water loss in different areas of the City in order to prioritize water loss reduction efforts and leak detection strategy.
- Replace aging water infrastructure that is most susceptible to water main leakage.
- Water main leak detection to detect and repair any leaks.
- Pressure management technology to reduce water pressure during low demand periods to reduce leakage.
- Water meter testing program.

SMART CITY INFRASTRUCTURE

ONLINE REPORTING BACKFLOW PREVENTER TEST REPORTS

The City of Surrey receives over 8,000 backflow preventer test reports annually. Currently, the testing company has to obtain blank test forms from City Hall and record the annual test result for every backflow preventer. Following the completion of the tests, the testing company is to submit the form to the City in person or by mail, with a fee payment. The City then manually enters the results into a database, processes the payment, and subsequently files the test form.

TIMELINES
Implemented September 2013
LEAD CITY DEPARTMENT
Engineering Department – Utilities Division

Key Outcomes

- Online submission of test reports have been allowed since September 2013 to increase efficiencies and save time.
- Submission of paper test form will only be supported until September 2014 when all annual test submissions will be submitted online.

SMART CITY INFRASTRUCTURE

ENVIRONMENTAL COMPLIANCE CONSTRUCTION SITES

As one of the fastest growing cities in Canada, Surrey has experienced a construction boom for the past decade. That trend is likely to continue. In a climate that is characterized by persistent rainfall for the majority of the year, soil washing off of construction sites is a major source of pollution impacting both the engineered drainage system and salmon rearing streams to which the City's system discharges too.

TIMELINES	
Program Implementation	Ongoing
LEAD CITY DEPARTMENT	
Engineering Department - Utilities Division	

Key Outcomes

- To efficiently manage, analyse and respond to the incoming data, the City custom built an integrated workflow database to address these needs.
- Approximately 18,000 site inspection reports are submitted to the City per annum. Consultants to submit reports using a secure webpage.
- Automated scheduling of inspections based on live rainfall data & site performance.
- Standardized reporting against specific performance criteria across all projects.
- Oversight of each site's performance and due diligence.
- Routine administrative tasks to be automated (i.e. compliance letters, system flags when specific criteria have been met).
- Ease of access of data to both City employees and external project managers.


KWH

SMART CITY INFRASTRUCTURE

SEA LEVEL RISE FLOODPLAIN REVIEW

Our climate is changing, resulting in higher sea levels. It is projected that flooding will become more common and that flood levels will increase over time. To understand the extent of the impact, a new approach utilized roughly 50 years of historical data to perform a continuous simulation of the impacts of storm surge, wind, and rain throughout the Serpentine and Nicomekl floodplain, was implemented.

TIMELINES	
Phase 1: Implementation	Complete
Phase 2: Implementation	2014
POTENTIAL PARTNERS	
Ministry of Forests, Lands and Natural Resource Operations Climate Action Secretariat	
LEAD CITY DEPARTMENT	
Engineering Department - Utilities Division	

Key Outcomes

- Development of four numeric models distributed over multiple computers. This approach intrinsically captures the natural connection between sea conditions and precipitation.
- A phased approach has been adopted to assess the impacts before developing mitigation and adaptation strategies.
- A comparison of baseline conditions to those simulated for year 2100, determined current 200-year flood levels may occur almost annually close to the sea, and roughly every 20 years in the upper reaches of the floodplain.
- Future work will incorporate the projected impacts from a number of dyke breach scenarios, and assess the impacts at a number of planning horizons leading up to 2100.
- These proactive steps to understand the local impacts of climate change will inform a Climate Change Adaptation Strategy in the future.

SMART CITY INFRASTRUCTURE

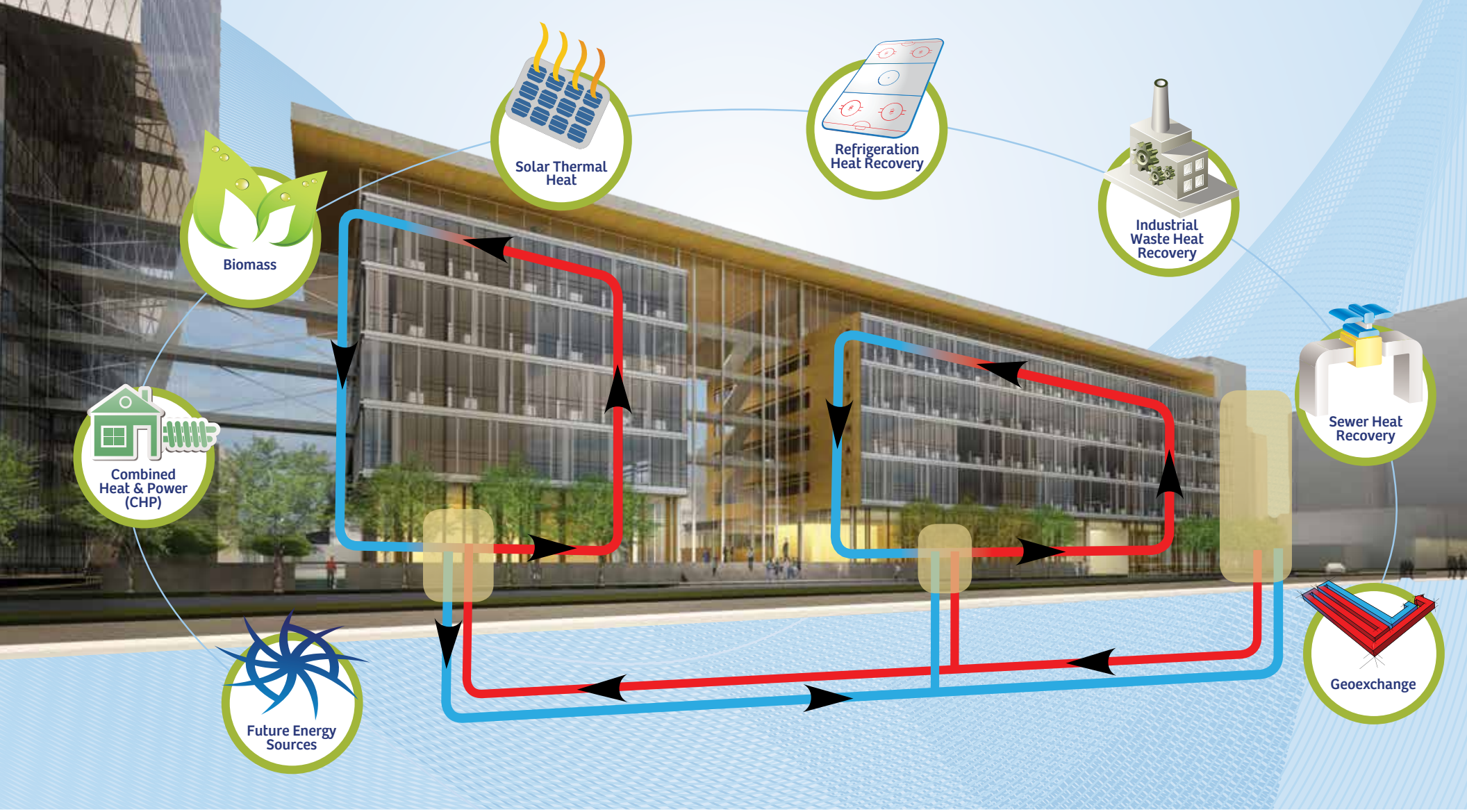
DISTRICT ENERGY

A district energy system distributes thermal energy (i.e. heated water) by way of a common heat source and pipe system to buildings in a defined neighbourhood. These systems can be an efficient and effective means of reducing greenhouse gas emissions by utilizing low GHG-emission energy sources.

TIMELINES
Implemented
LEAD CITY DEPARTMENT
Engineering Department - Utilities Division

Key Outcomes

- The City has established a district energy utility within the Engineering Department, operating under the name of Surrey City Energy.
- Surrey City Energy is responsible for the implementation and operation of district energy systems within the City.
- Construction of the system to service the New City Hall was completed in the fall of 2013 and became operational with the opening of the new City Hall.
- New infrastructure to service new developments in City Hall/Community Plaza area will be constructed in 2014, and continued in the years following.
- The system will expand over time to service future development in the Surrey City Centre area and will use a variety of energy sources.
- In addition, opportunities for new systems will be evaluated in order to support future development in Campbell Heights, Grandview Heights and West Clayton.



"The district energy system to service new City Hall captures energy by utilizing a vertical, closed loop geoexchange system that uses heat pumps to store and extract heat from the ground underneath the parkade that has been constructed as part of the new City Hall/Community Plaza Project."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SMART CITY INFRASTRUCTURE

BIO FUEL PRODUCTION PARTNERSHIP

To maximize the benefit derived from curbside organic waste collection (kitchen and yard waste), the City of Surrey is proposing to establish a bio-fuel facility in Surrey to process this waste into a carbon neutral fuel source. The facility will also accept commercial food waste from within the Metro Vancouver area.

Key Outcomes

- Diversion of organic waste from landfills will assist the Region in achieving the goal of 70% waste diversion by 2015.
- Surrey's organic waste diverted from landfills will also reduce the City's Greenhouse Gas impact on the environment.
- This reduction will effectively offset the City's carbon footprint.
- Bio-fuel is a product of anaerobic digestion of organic materials that can be used to fuel vehicles and/or with the agreement of Fortis BC (formally Terasen Gas), can be compressed and distributed through the natural gas pipeline network.

TIMELINES	
Initial P3 Canada application (screening)	Completed
Business Case/Risk Assessment Review	
Full application review – P3 Canada	
Final Approval of Projects – P3 Canada	
Selection of Proponent	
Construction completion	Q4 2014

POTENTIAL PARTNERS
Fortis BC, PPP Canada Private Sector Bio-fuel Facility Proponent (design, build, own, operate, maintain)

LEAD CITY DEPARTMENT
Engineering Department Operations Division

> "To maximize the benefit derived from curbside organic waste collection (kitchen and yard waste), the City of Surrey is proposing to establish a bio-fuel facility in Surrey to process this waste into a carbon neutral fuel source."

TIMELINES	
Single Stream Recycling & Yard Waste Collection Program	Implemented
Surrey's Rethink Waste Program	Implemented
LEAD CITY DEPARTMENT	
Engineering Department Operations Division Garbage & Recycling	

SMART CITY INFRASTRUCTURE

WASTE DIVERSION PROGRAM

In late 2012, the City of Surrey initiated a new waste collection service that was branded "Surrey's Rethink Waste Program". Borrowing from best practices in waste collection services from around the world, the program was innovatively designed to maximize diversion of organic and recyclables, while significantly reducing landfill bound garbage. The approach has resulted in both environmental and economic benefits.

> “Borrowing from best practices in waste collection services from around the world, the program was innovatively designed to maximize diversion of organic and recyclables, while significantly reducing landfill bound garbage.”

Key Outcomes

- Surrey’s Rethink Waste program has resulted in the City achieving its 70% waste diversion goal from its residential customer base, well ahead of its 2015 target.
- In addition, the CNG fleet used to carry out collection services emit 23% less carbon emissions as well as 90% less air particulates than traditional diesel trucks.
- The City of Surrey is one of the few Canadian municipalities to switch to CNG-fuelled vehicles.
- The low cost of natural gas waste trucks compared to diesel trucks, combined with an automated waste collection system, has resulted in a waste collection service savings of approximately $3 million per year.
- Plans are now underway to develop North America’s first fully integrated organic waste management system.
- This gas will be used to fuel the CNG waste collection trucks, creating a net-zero carbon impact waste management system. The facility is expected to be operational in 2015.
- To ensure no impact to Surrey’s taxpayers, the City’s approach to developing this facility is via a public-private-partnership model where the City’s partner will be responsible to design, build, finance, operate and maintain the bio-fuel facility through a long-term agreement.
- As an added financial benefit, the Government of Canada has agreed to contribute up to $16.9 million of the capital costs of the project through its P3 Canada fund.
- The sum of these measures is aimed to create a cleaner city, placing Surrey at the global front line of sustainable organic waste diversion practices.

SMART CITY INFRASTRUCTURE

TRAFFIC MANAGEMENT CENTRE

TIMELINES	
New Transportation Operations Centre	Q3 2014

LEAD CITY DEPARTMENT
Engineering Department Transportation Division

At the City of Surrey, Intelligent Transportation Systems (ITS) is a key component of the City's overall strategy to respond to increasing transportation demands. Over the years, the City of Surrey has undertaken a number of initiatives to implement and expand the ITS technology:

The Closed Circuit Television (CCTV) system is used to monitor traffic on the streets 24 hours a day. The City currently has 178 CCTV cameras installed at signalized intersections with Ethernet radios for remote communication, with plans to add 50-80 new CCTV cameras annually, for a total of 250 by the end of 2014.

Key Outcomes

- The City currently has approximately 340 traffic signals in operation. Recently, improved tracking and monitoring of 201 signals has been achieved through remote (radio) access.
- Plans to expand the traffic signal coordination network along 29 city corridors each year.
- 16 permanent traffic count stations exist across the City and by the end of 2014 all traffic signals will be updated to provide 24/7 traffic count data.

The new Traffic Management Centre (TMC) based at the new City Hall, will be the nerve centre of the system. It will be implemented in Q2 2014 and start full operation. Using an Intelligent Transport System (ITS) and an advanced Video Wall Board linked to numerous field devices, the new TMC will be the most advanced municipal TMC in BC and possibly Canada.

Key Outcomes

- Improving transportation management efficiency through a more robust, capable and scalable facility.
- Improving safety for the travelling public and commercial vehicles through analysis of video footage of traffic behaviour and incidents.
- Minimizing delays & congestion in the transportation network reduces costs and boosts economic productivity through signal timing changes based on observed patterns via CCTV cameras. Real-time signal timing changes proactively respond to changing traffic patterns.
- Managing travel demand in order to use the transportation network more effectively.
- Provide fast and coordinated responses to incidents/emergencies and reduce impact on travelling public by adjusting traffic signals and communicating rerouting options.
- Improve data collection, management, and sharing to provide users with relevant timely information, and help agencies better manage their operations and infrastructure.
- Provide video footage of collisions to police and other appropriate agencies.
- Improve compatibility, coordination and cooperation with the Ministry of Transport and TransLink's Regional Transportation Management Centre.
- Operation, traffic signal event monitoring (including alarm capabilities), uploading and downloading of traffic signal timing data to and from field locations.
- New Transportation Operations Centre (TOC) is planned for Q2 2014 to provide numerous enhancements.

SMART CITY INFRASTRUCTURE

ENERGY EFFICIENCY DENSITY BONUSING POLICY

The City's Community Energy and Emissions Plan proposes strategies that will move the City towards Greenhouse Gas reduction targets. One strategy is to develop a local incentive program for energy efficiency.

Key Outcomes

- The new West Clayton Neighbourhood Concept Plan proposes a policy that rewards increased energy efficiency in new buildings by allowing additional density.
- Density bonusing offers developments additional density in exchange for amenities needed by the community including parks, heritage preservation and affordable housing.

TIMELINES	
West Clayton NCP Terms of Reference	Completed
Studies for evaluating potential incentives	
Adoption of draft Density Bonusing Policy	
Implementation of Density Bonusing Policy	2014
Adoption of Density Bonusing Policy	2015
PARTNERS	
BC Hydro	
LEAD CITY DEPARTMENT	
Planning and Development Department	

"Density bonusing offers developments additional density in exchange for amenities needed by the community including parks, heritage preservation and affordable housing."

SMART CITY INFRASTRUCTURE

PROJECT GREEN SUITES

TIMELINES	
Project Development	2013-2014
Project Launch	Q2 2014
Project End	Q4 2014
PARTNERS	
BC Hydro	
LEAD CITY DEPARTMENT	
Sustainability Office, Engineering Department, Engineering Operations Department	

The City of Surrey is committed to reducing its greenhouse gas (GHG) emissions significantly over the next two decades. The City's goals for a low-carbon future aspire to a reduction in per capita emissions 33% below 2007 levels by 2020, and 80% below the 2007 benchmark by 2050.

The City's Community Energy and Emissions Plan proposes strategies that will move the City towards these greenhouse gas reduction targets. One strategy is to develop an energy conservation program.

Key Outcomes

- The City has developed Project Green Suites, a year-long pilot project focused on educating residents who live in multi-family developments to save energy, water, and divert waste to recycling and composting.
- The program builds on the City's existing 'Operation Save H2O' water conservation education program and will be piloted in select multi-family buildings within the City.
- The project will help residents save money while meeting the City's commitment to greenhouse gas reduction and sustainability.

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