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, it is my pleasure to present the Smart Surrey Strategy.

As the fastest growing city in the region, investing in technology and innovation is crucial to continuing our work in building a city that is prepared to face the challenges of the future. The Smart Surrey Strategy provides a foundation upon which we will continue to enhance our efforts to integrate innovative, tech-savvy city building approaches. It is imperative that we continue to encourage social engagement and connectivity, sustainable economic growth, innovative service delivery and sound infrastructure investments to maintain our trajectory, and this comprehensive strategy will assist in making significant advancements within these key areas.

The Smart City Strategy was developed on strong, collaborative decision-making processes that define our community goals and encourage additional co-operation and engagement between stakeholders to help create a brighter future for our rising city.

Sincerely,

Linda Hepner

Linda Hepner
Mayor, City of Surrey

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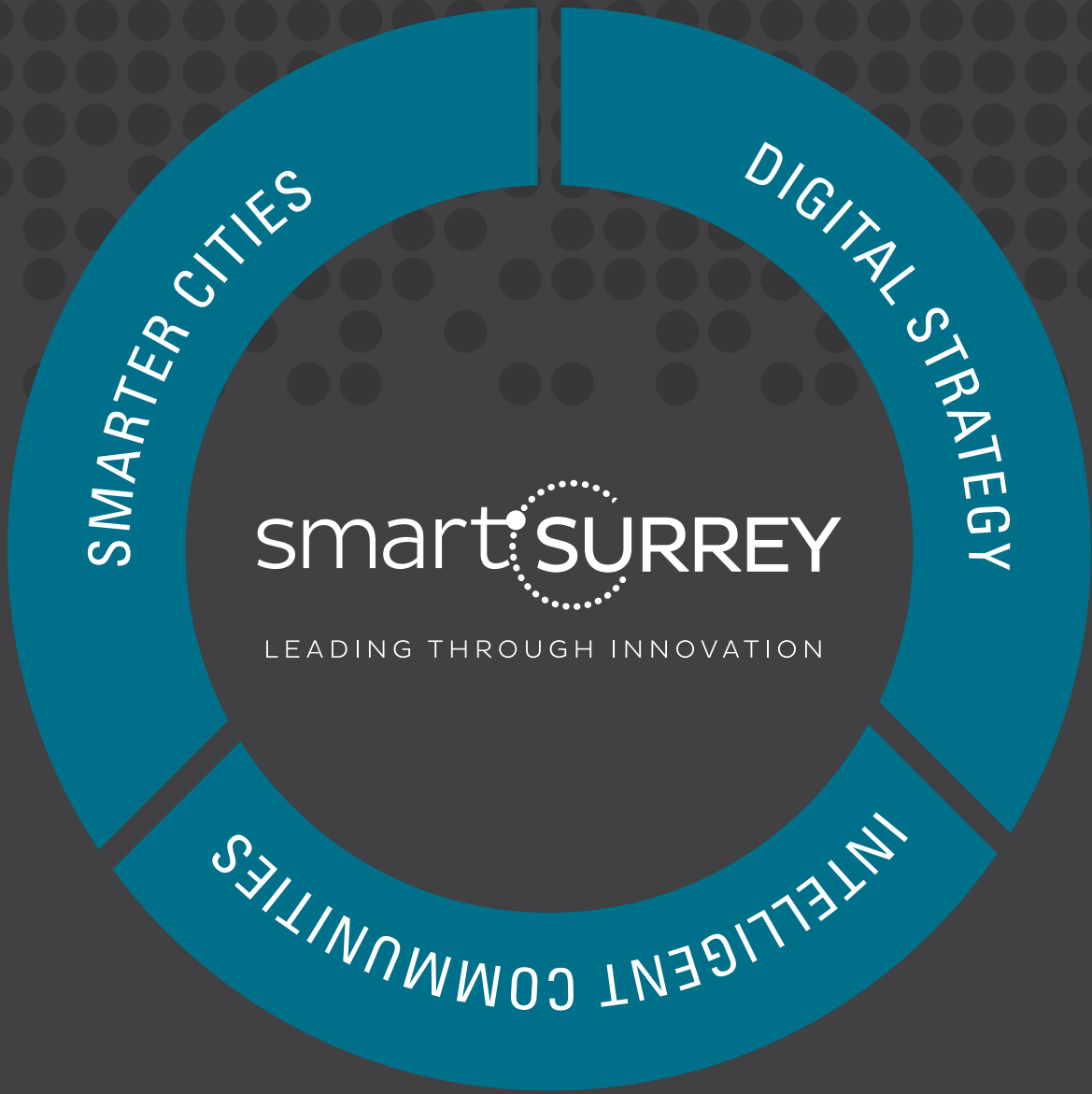
I invite you to review this strategy and see the many ways Surrey is taking the lead on the meaningful integration of technology and innovation into our decision making.

Sincerely,

Councillor Bruce Hayne
Chair, Investment and Innovation Committee

smart SURREY

LEADING THROUGH INNOVATION

SMARTER CITIES

DIGITAL STRATEGY

INTELLIGENT COMMUNITIES

INTRODUCTION & 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 half a million people.

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, without compromising the ability of future generations to meet their own needs.

What is a 'Smart' City?

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.

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 & 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 methods of 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.

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

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

SERVICE DELIVERY INNOVATION
- DIGITAL GOVERNMENT
- MOBILE WORKFORCE
- SERVICE REQUEST

SMART CITY INFRASTRUCTURE
- SMART WATER AND SEWER MANAGEMENT
- SMART ENERGY
- SMART TRANSPORTATION
- SMART BUILDINGS
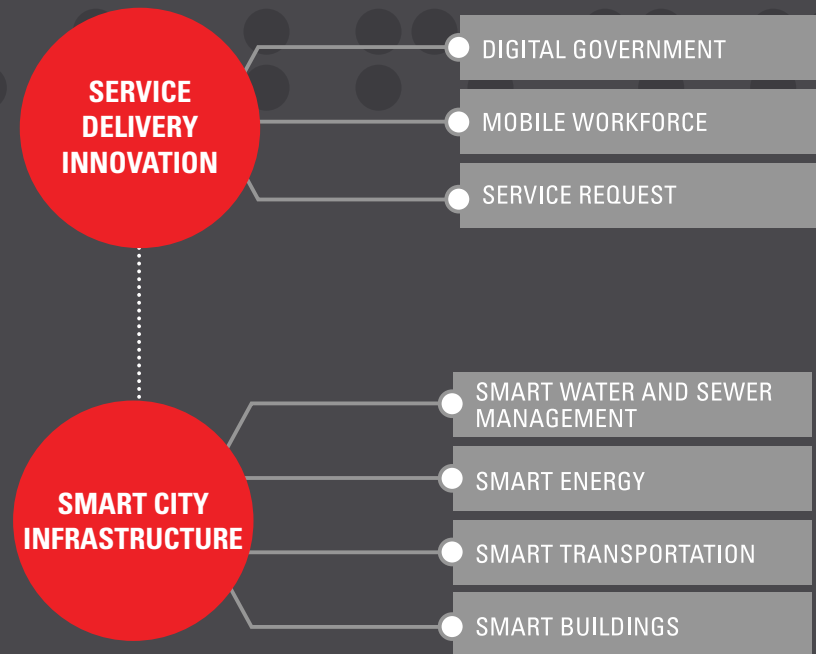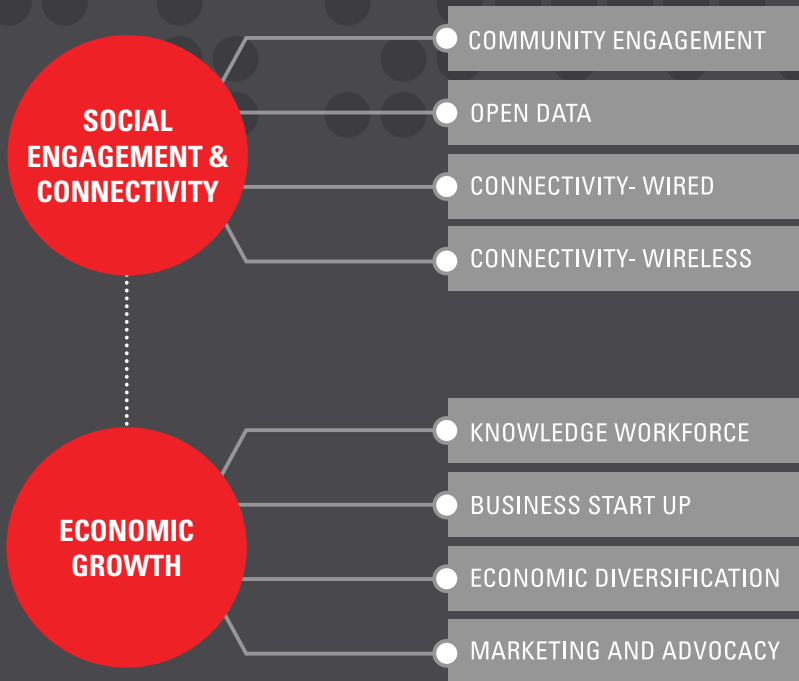
Sustainable
Customer Focused
Accessible
Cost Effective
New Approaches
Affordable
Do More With Less
Leading Edge
Prosperous
Convenient
Do more with less
Economy
smart SURREY
Connected
Accountable
Partners
Service-Delivery
LEADING CITY INNOVATION
Efficiencies
Knowledge Based
Optimize
Community
World Class
Engage
Inclusive
High Growth
Innovation

CITY OF SURREY'S OPPORTUNITIES & 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 though 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 for harnessing 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.

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. "

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.

TIMELINES	
Implemented	April 2013

PARTNERS
Vision Critical

LEAD CITY DEPARTMENT
Parks, Recreation & Culture – Marketing and Communications

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
Parks, Recreation & 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
Business Engagement Launch	
Neighbourhood Engagement	

POTENTIAL PARTNERS
To be decided – In the process of seeking partnership opportunities

LEAD CITY DEPARTMENT
Surrey RCMP

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	Implemented
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

66 ...certain people, properties and neighbourhoods have a greater fire risk than others due to socio–economic factors... 99

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

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.

TIMELINES
Ongoing
LEAD CITY DEPARTMENT
Parks, Recreation & Culture, Libraries

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

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 data that is 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 (healthcare, education, economic productivity, and scientific research) because better access to data is available to all communities.

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 through APIs.

- Annual Hackathon events foster collaboration and innovation.

TIMELINES	
New Open Data Policy	
New Terms of Use License	Implemented
Launch Open Data Catalogue	

PARTNERS
Surrey RCMP, Fraser Health, Open North

LEAD CITY DEPARTMENT
Engineering Department – GIS

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 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, labs 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	Implemented
Fibre Build Complete	Q2 2015

POTENTIAL PARTNERS
BCNET, CANARIE

LEAD CITY DEPARTMENTS
Economic Development
Engineering Design and Construction
Finance and Technology – IT

FIBRE BROADBAND STRATEGY

TIMELINES	
Identification of locations for potential opportunities for Overall Fibre Plan	2015
Explore opportunities to facilitate marketplace competition with suppliers	
Development of Fibre Plan for the City of Surrey	2015 – 2016

POTENTIAL PARTNERS
To be determined

LEAD CITY DEPARTMENTS
Finance and Technology – IT 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, residents, and visitors with fast, reliable and cost-effective connectivity.

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
CITY-WIDE 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 the region 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	Implemented
Negotiate solution delivery option with supplier	
Council approval of plan	
Phased implementation	Q4 2014–2015

POTENTIAL PARTNERS
Telecommunications providers

LEAD CITY DEPARTMENT
Finance and Technology – IT Division

SOCIAL ENGAGEMENT & CONNECTIVITY
CELLULAR PENETRATION

TIMELINES	
Fulfillment of the pilot project for City street lights	2015
Finalization of City's Telecom Policy (Protocol Agreement)	

POTENTIAL PARTNERS
Local wireless providers (Telus, Bell, Rogers)

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

In recent years we have seen significant growth in the demand for wireless services via smart phones, 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).

• Increase cellular penetration by implementing pilot project recommendations corroborated by telecommunications providers.

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.

RESEARCH CHAIR IN ENERGY SYSTEMS FOR SMART CITIES

TIMELINES	
Corporate Report approved by Council	Implemented
Terms of Reference	
Research Chair recruitment	2015
Submit Natural Science & Engineering Council Funding Application	2015

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.

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	
Start monthly 'Tech MeetUp'	Implemented
Deliver 2-day 'Build it Bootcamp'	
Joint events with SFU Venture Connection	2015

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. "

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 the process, speed transaction time, and minimize the requirement for customers 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.

TIMELINES	
Online Business License launch	Implemented

PARTNER
Computronix

LEAD CITY DEPARTMENTS
By-laws & Licencing Services Planning and Development

ECONOMIC GROWTH
HEALTH TECHNOLOGY
INNOVATION BOULEVARD

Innovation Boulevard is an agile partnership of health, business, higher education and government creating new health technologies to improve peoples' lives. 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	
Innovation Boulevard Tech Working Group	
Digital Health Hub launch	Implemented
Neurotechnology Lab launch	
RC Innovation Centre launch	
AGE-Well National Centre of Excellence Funding	
Innovation Space launch	

PARTNERS
Fraser Health (SMH and JPOC) SFU, KPU, BCIT, UBC Industry associations, companies, developers and funders

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 "

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	
Mayor's Clean Energy Advisory Network	Implemented
Industrial Research Chair Corporate Report approved	
Clean Tech website	2015

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. "

ICF SMART21 APPLICATION

TIMELINES	
Submit application for 2014 award	Implemented
Winner of Top 7 World's Most Intelligent Community	Implemented
Site visit for World's Most Intelligent Community Award	2015

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.

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	
Deliver full-day event	2015

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. Customers 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

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.

MY SURREY APP

The 'My Surrey App' is a one stop shop built to maximize customer awareness of the mobile apps and digital services available at the City. The new app is a container or discovery platform that lists and links to existing apps, such as COSMOS, Surrey Request, Rethink Waste, Surrey Library, ArtWalk, and Parking Services. The My Surrey App also includes up-to-date content on City News, City Events, Bike Routes, 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.

- Youth can find listings of the closest skate parks, youth centres, pools, and arenas.

TIMELINES	
My Surrey App Rollout	Implemented

PARTNERS
Purple Forge

LEAD CITY DEPARTMENT
Engineering Department – GIS

> 66 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. 99

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 350 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 increased 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.

TIMELINES	
Redesigned website launched May 2013	Implemented

LEAD CITY DEPARTMENT
Parks, Recreation & Culture – Web & New Media Team

" 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. "

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.

TIMELINES	
Mobile Work Asset Management System Summer 2013	Implemented

LEAD CITY DEPARTMENT
Engineering Department – Operations

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

BUILDING INSPECTION MOBILITY

TIMELINES	
Mobility system launched in 2011 and currently in use	Implemented

LEAD CITY DEPARTMENT
Planning & 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.

SURREY REQUEST APP

The new Surrey Request App provides residents with the ability to request information and report issues in over 20 different categories, such as graffiti, street light outages, and abandoned garbage. Available on smartphone and tablet devices, this easy-to-use app incorporates best practices in usability.

The Surrey Request App is an integrated reporting system that includes the existing online 'Report a Problem' website, as well as the Cityworks service request and work management platform. The tools work together to inform decision-making, create efficiencies, and maximize 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.

- App users can view the status of their requests, as well as provide feedback and attach photos, allowing for greater and quicker communication between the City and the public.

- 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	
Surrey Request App	Implemented

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. "

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).

TIMELINES	
Initial launch of website e-Reporting	Implemented
Subsequent launch including multiple languages	Implemented
Future plans include working with City partners to integrate crime reporting mobile options	2015
LEAD CITY DEPARTMENT	
Surrey RCMP	

EMERGENCY MANAGEMENT COMMON OPERATING PICTURE

TIMELINES	
Developed in 2011 and currently in use at EOC	Implemented
Developing RCMP version	2015

LEAD CITY DEPARTMENT
Engineering Department – GIS

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. Developed in-house by GIS, COP is a collection of multi-agency information 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.

CRIME ANALYSIS & 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	Implemented
Council adoption	2015
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.

Research conducted by the City of Surrey 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 and 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.

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

- Preemptive 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

SURREY FIRE SERVICES ATTENDANCE MANAGEMENT PROGRAM

TIMELINES	
Internal and external reports	Implemented
Research paper publication	

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 facilitated by the implementation of Kronos's (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 12 years, Surrey Fire Services has experienced a 68% reduction in both Workers' Compensation Board (WCB) absences and in sick leave, resulting in 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.

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 database will house information specific to high risk locations in Surrey, based on number and types of calls for service. The database is being populated with information from Surrey RCMP, Surrey Fire Services, Surrey By-laws, and the City of Surrey.

- Shared database is integrated with a custom-built 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	
Shared database	Implemented

LEAD CITY DEPARTMENT
Surrey RCMP, Surrey Fire Services, Surrey By-laws, Engineering Department – GIS

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. "

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 to 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 and industrial) and multi-family properties.

TIMELINES	
Implemented	2008
LEAD CITY DEPARTMENT	
Engineering Department – Utilities Division	

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

WATER LOSS REDUCTION

TIMELINES	
Zone metering installation Stage 1	Implemented
Zone metering installation Stage 2	
Leak detection	Ongoing
Meter testing	
Water main replacement	
Pressure management	2015

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.

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.

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.

TIMELINES
Implemented

LEAD CITY DEPARTMENT
Engineering Department – Utilities Division

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 and 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.

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	Implemented
Phase 2	2015
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.
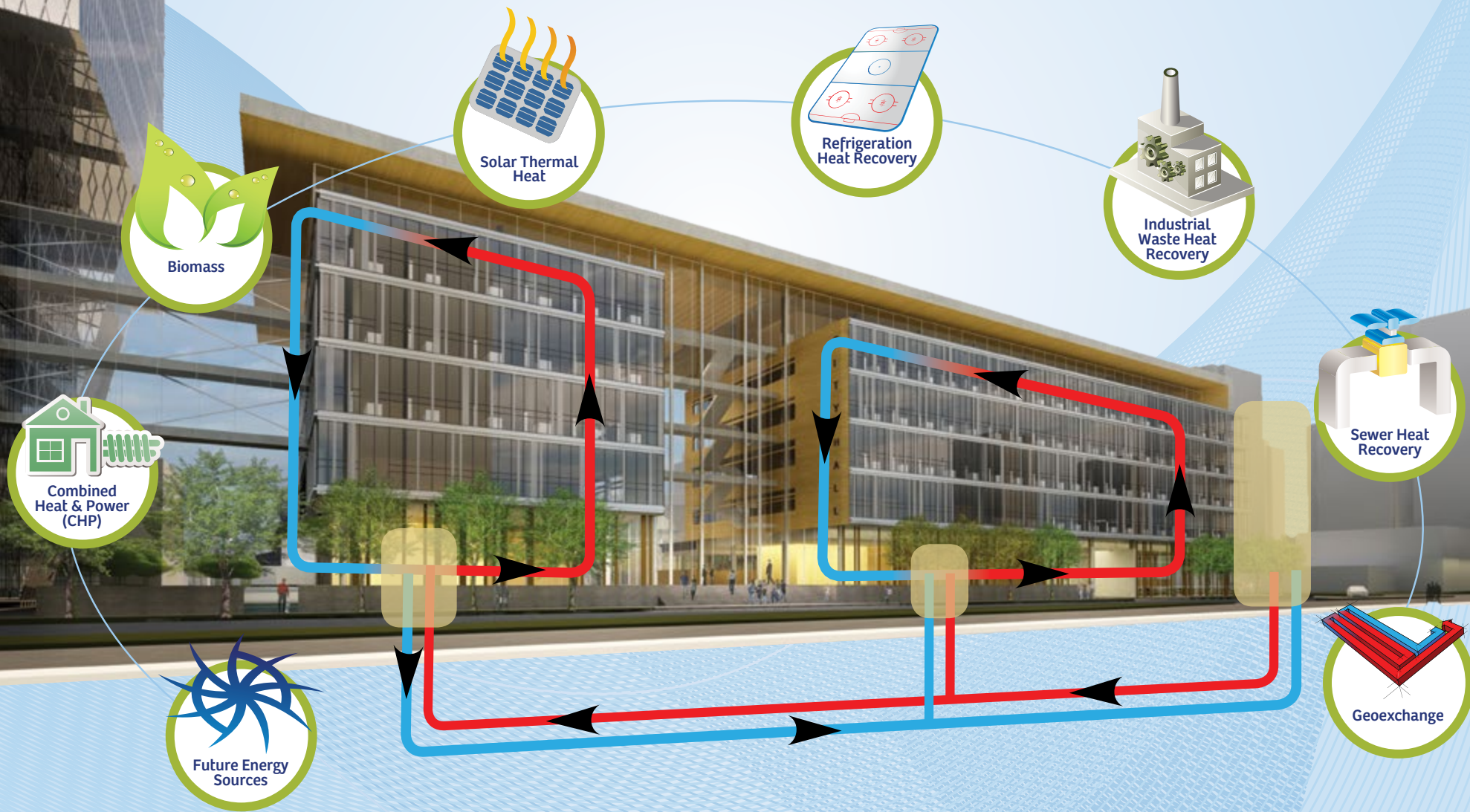
DISTRICT ENERGY

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	
City Hall geoexchange system	Implemented
1st phase of City Centre District Energy network	
Expansion of City Centre District Energy network ongoing to serve new development	2015 and beyond
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.

Solar Thermal Heat

Refrigeration Heat Recovery

Industrial Waste Heat Recovery

Biomass

Sewer Heat Recovery

Combined Heat & Power (CHP)

Future Energy Sources

Geoexchange

" 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. "

BIOFUEL 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 biofuel 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.

• Biofuel 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)		Implemented
Business case / risk assessment review		
Full application review (P3 Canada)		
Final Approval of Projects (P3 Canada)		
Selection of proponent		
Construction completion		2015
POTENTIAL PARTNERS		
Fortis BC, PPP Canada		
Private Sector Biofuel 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 biofuel 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 biofuel 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.

TRAFFIC MANAGEMENT CENTRE

TIMELINES	
New Transportation Operations Centre	Implemented
Additional 75 CCTV cameras installed	2015

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 250 CCTV cameras installed at signalized intersections with Ethernet radios for remote communication, with plans to add 75 new CCTV cameras annually, for a total of 325 by the end of 2015.

Key Outcomes

- The City currently has approximately 350 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 30 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 is implemented and in full operation. Using an Intelligent Transport System (ITS) and an advanced Video Wall Board linked to numerous field devices, the 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 and 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.

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	
Studies for evaluating potential incentives	Implemented
Adoption of draft Density Bonusing Policy	
Implementation of Density Bonusing Policy	
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. **"**

PROJECT GREEN SUITES

TIMELINES	
Project development	2013 – 2014
Project launch	Implemented
Project end	Q2 2015

PARTNERS
BC Hydro, Fortis BC

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 'Operation Save H2O' water conservation education program framework 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.

CITY OF
SURREY