Smart City
Implementation Program

Towards a Smarter Sunshine Coast
October 2017

Acknowledgements

Council wishes to thank all contributors and stakeholders
involved in the development of this document.

Disclaimer
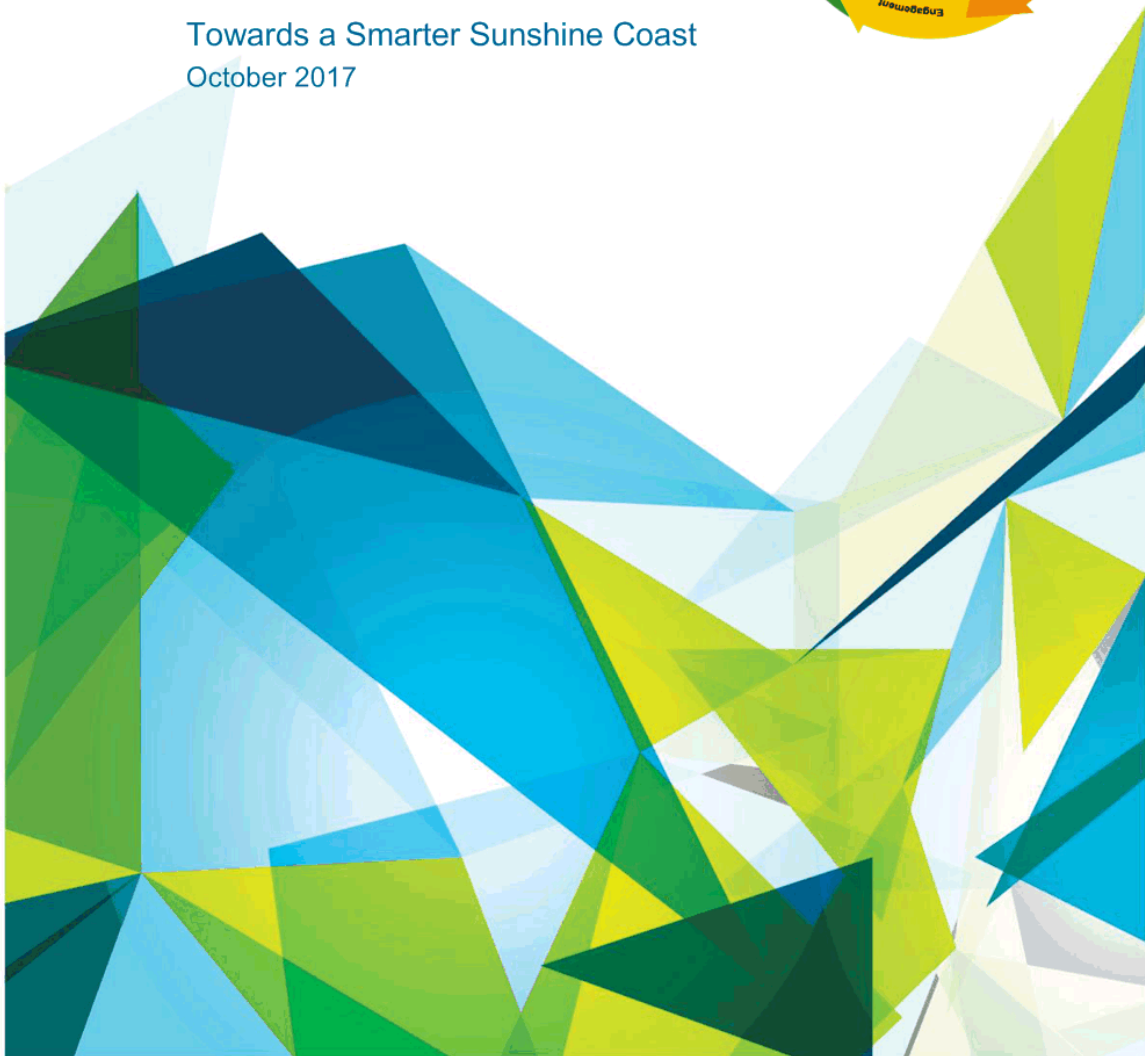
Information contained in this document is based on
available information at the time of writing. All figures and
diagrams are indicative only and should be referred to as
such. While the Sunshine Coast Regional Council has
exercised reasonable care in preparing this document it
does not warrant or represent that it is accurate or
complete. Council or its officers accept no responsibility
for any loss occasioned to any person acting or refraining
from acting in reliance upon any material contained in this
document.

Contents

Terms and Abbreviations

Terms & Abbreviation	Definition or in full
AWCS	Automated Waste Collection System
Council	Sunshine Coast Council
LED	Light-emitting diode
SC	Smart City
SCC	Sunshine Coast Council
SCF	Smart City Framework
SCIP	Smart City Implementation Program
MCC - Maroochydore City Centre (developer SunCentral Maroochydore)	Council's wholly owned private development company created to oversee the development of the former Horton Golf Course into the region's premier CBD
Telecommunications Carrier Licence	Council has acquired a Carrier Licence from the Australian Communications Media Authority to protect our communications infrastructure
USC	University of the Sunshine Coast

Executive Summary

The Smart City Framework was adopted by Council in December 2016 at the same time as the three-year Smart City Implementation Program (SCIP). This version of the SCIP incorporates progress updates, learnings and the first-year report card.

The desire to create a smart and digitally connected Maroochydore City Centre was the catalyst for the development of the Smart City Framework which is now embedded into Council's Corporate Plan. By expanding the smart program to include the wider Sunshine Coast region, it delivers the benefits of implementation at scale. Smart outcomes can be delivered sooner and with higher value results by incorporating the delivery of these solutions within existing capital works programs and organisation-wide operations.

The Smart City Implementation Program lays out a structure, program of works, and deliverables for the implementation of the Smart City Framework into Council projects, systems and processes and gives the organisation the visibility of this strategic project.

The rapid progress of initial implementation of the Smart City Framework has highlighted the critical need to guide the next three years with a detailed Smart City Implementation Program structured around how Council operates, and designed to position the region strongly as opportunities arise.

The Smart City Implementation Program is structured to logically achieve these priorities by incorporating strategy, operations, programs and projects. These elements are delivered using the following structure:

1. Leadership
2. Governance
3. Development of organisational capacity and capability
4. Engagement with internal and external stakeholders and partners
5. Smart City Foundations and Solution Systems
6. Smart City projects

The Smart City Implementation Program outlines the program of activities over the next three years, including:

- Integrating Smart City Solutions through Capital Works projects for key locations such as:
  - Maroochydore City Centre;
  - Mooloolaba Foreshore;
  - Continued development of Bulcock Street, Caloundra as a fully integrated Smart Street aligned with the Smart Centre and located in the Smart City Living Lab evaluation area

- A growing list of other locations such as - Sunshine Coast Stadium, Palmwoods Town Centre Streetscape and Evans Street, Maroochydore;

- Developing an Integrated Smart City through Smart Region Management Platform generating high value New Intelligent Systems (formerly Business Intelligence) and providing access to internal and external clients;

- Providing an integrated process to rapidly process ideas though the evaluation pipeline to scale deployment where it makes sense;

- Providing an interactive consultation environment and team smart cities skills development environment at the Smart Centre;

- Growing the number of internet connected devices delivering improved service delivery and reduced costs through efficiencies and reduced human involvement in service delivery; and

- Building connectivity capability across wired and wireless systems to ensure data ownership and reduced cost models to benefit for council and the region.

Smart City Implementation Program   5

Introduction

The Smart City Framework (Smart City Framework) was developed by Council, Cisco and Telstra and launched by Mayor Mark Jamieson on 15 September 2015. The catalyst for the development of the Smart City Framework was the desire to create a smart and digitally connected Maroochydore City Centre. At the time the global value at stake (in the public sector) was estimated at US$4.6 trillion and a $755 million opportunity for the Sunshine Coast.

The Smart City Framework and three-year Smart City Implementation Program (SCIP) were both adopted by Council on 8 December 2016.

Smart City in the Council Corporate Plan

Council's Corporate Plan refers to the Smart City principles under the new economy goal as an initiative to bring new capital investment to the region:

New capital investment in the region

Commencing implementation of Smart City principles across the Maroochydore PDA and the Sunshine Coast Enterprise Corridor to build connectivity, improve accessibility to information and services and build the value proposition of the region.

The Smart City Implementation Program details the three-year implementation program to achieve the transition of "smart" from new to business as usual. The Smart City Implementation Program is a Council policy.

Smarter city definition

Worldwide, there are many different definitions of smart or smarter. For the Sunshine Coast it is not about using technology for the sake of technology. Smarter cities and regions are defined by the improved citizen experience delivered by a combination of relevant technologies and cost effective services and redefined systems.

The Smarter City as a regional program

The Sunshine Coast has many urban areas and towns, and identifies as a regional community. The Smart City Implementation Program focuses on the urban areas, strategic nodes, key natural areas with high user traffic and all areas where there is a viable business case. Already, the waste bin sensor project will potentially apply to remote locations and urban areas. The water flow sensors have potential to save costs in remote off grid sites. River and creek system monitoring is becoming smarter with the use of real time connectivity to improve disaster management in time of flood and storms. As such the Smart City Implementation Program is a regional program.

Financing the Smart City

The Smart City Implementation Program   financing models the cost of the program (in capital and operational terms) together with its financial benefits, which include potential revenue, savings and capital works reduced investment as they are expected to apply across the organisation.

There are a number of key considerations and assumptions that underpin the three-year budget:

- The Smart City Implementation Program will have a financial cost to Council, but that cost will deliver savings, revenue and community benefits that will potentially, in financial and non-financial terms, outweigh the actual dollar costs:
  - Several grant programs have been identified that will potentially increase available funds without requiring additional budget (aside from the existing Smart City Implementation Program budget). These grant programs include Advance Queensland (Innovation Hubs) and the Federal Smart Cities and Suburbs Programs
  - The operational cost of the Smart Centre (including testing and trialling laboratory and demonstration facilities such as Bulcock Street Urban Smart Street) will be reduced by the contribution of vendors through hardware, software and cash through the Smart Centre Partnership Program

- As a result of the Smart City Implementation Program, and in particular Council's Carrier Licence, at least one vendor has increased its discount – representing a significant saving to the relevant Council area
- The solution systems (e.g. smart waste bin sensors to regulate emptying based on actual real-time demand) will initially involve a small introduction cost, but whole of life cycle costs will significantly reduce, and community benefit (user experience) will improve
- The collective New Intelligent Systems (formerly Business Intelligence) arising from the smart WiFi, solution system sensors (all) processed through the Smart Region Management Platform will potentially provide revenue, savings and community benefits. For example:
  - Chambers, businesses and investors - the ability to provide existing and potential investors with real time and time series information, similar to that used by major commercial shopping centres, will enable informed decision making and lead to improved sustainability
  - Council capital works and service delivery – the ability to use accurate user numbers and seasonal variables is already informing design and investment scale decisions. Requests for infrastructure can be independently assessed and evaluated with a stronger evidence base.

Implementation Program

The Smart City Implementation Program is a three-year transition program during which time working "smarter" will become the new 'business as usual' for Council and the region.

The Smart City Implementation Program will achieve the whole of organisation outcomes by using the following framework of activity areas:

1. Leadership
2. Governance
3. Develop organisational capacity and capability
4. Engagement with stakeholders and partners
5. Smart City Foundations and Solution Systems
6. Smart City Projects.

Leadership

Globally, successful Smart City initiatives are driven by Mayors and the city's or the region's political leadership. These programs are usually aligned with the economic vitality and long term sustainability of the city and its community. The Smart City Framework highlights the need for a strong organisational and political leadership to drive the changes required to achieve the maximum benefits.

The Sunshine Coast has been recognised for our leadership in the development of our Smart City program as an international Smart 21 city for 2017 (see below). This award comes from the world wide Intelligent Community Forum and short lists the Sunshine Coast to be in the 21 smart cities from a list of over 400. The Smart 21 2017 is the third time the Sunshine Coast has received this recognition out of the last 4 years and will assist the region in recognition and reputation. This will form part of our investment attraction collateral.

The four key hallmarks of the Sunshine Coast Smart City Program are:

Smart City Implementation Program   7

1. A Fully Integrated System

Using a systems based approach avoids the creation of siloed solutions and serves as the catalyst to deliver outcomes that combine multiple systems to achieve higher value results. For example, a silo system would be an irrigation system that uses soil moisture to activate it. Through a networked system, it would rely on the bureau of meteorology to determine forecast rain and other elements such as events to know to irrigate before, not during an event. The Sunshine Coast Smart City Integrated System includes seven core elements:

- Smart Region Management Platform at its core
- A Communications Network (optic fibre and wireless)
- Electrical services for the Smart City
- Living Lab to test solutions at small scale before wider deployment
- A Smart Centre to showcase the Smart City and Living Lab trials
- A Council Smart App for community access Smart City Citizen App
- Supporting the wider 15 Smart City Solution Systems

2. User/People Focussed

Our Smart City Solutions Systems start with the individual user first then build a system focused to deliver user orientated outcomes. There are many different user perspectives to consider:

- The public
- Community Groups
- Business & Industry (including chambers of commerce)
- Local Innovation system – app developers and local entrepreneurial groups and growing employment in a digital age
- Council and contractor teams delivering services for the region
- Strategic planning and policy

3. Performance Focussed

To qualify for wide scale implementation, new solutions will need to meet performance criteria such as:

- Improved operational costs – e.g. waste bin sensors and environmental water sensors delivering real-time information
- Informed capital works design driving reallocation of resources to priority areas – e.g. number of BBQs or path routes and sizing
- Enhanced community benefits through the delivery of smart solutions - e.g. free public WiFi and parking space availability
- Revenue generating opportunities – e.g. carrier licence provides revenue potential through duct and fibre lease with other carriers.

4. Sunshine Coast Focused

Community perception of "smart" implies that something which is not smart is dumb. The Smart City Implementation Program addresses this by defining what we do as working towards creating a smarter Sunshine Coast. The Smart City Implementation Program builds on this by seeking to enhance the region's reputation as a smarter location for investment and providing a region wide smart system rather than just a local government focus.

Moving towards a region wide program, the Smart City Implementation Program identifies the need to create a region wide partnership to deliver a smarter Sunshine Coast through a public, private, people based partnership (4P) model:

- Governance through the Futures Board or similar whole of region entity
- Driving investment in the region by existing and new investors
- Service a way to connect, community, business, innovations system, Research and Development groups, vendors together with Council and other levels of government
- Coordinating the smarter region program initially through council's website and later through approval through a single region platform.

The this approach has the potential to create a single location for region wide Smart City projects and activities to be hosted, plus create a virtual partnership connection to the public, private sector, community groups to benefit the whole region.

Foundation systems for all new developments

The most cost effective way to create a robust region wide Smart City is to ensure the foundation infrastructure is provided up front during the civil works phase of the original development. The Smart City Implementation Program team have been approached by Stockland and Pelican Waters development teams with a view to including the new foundation infrastructure in their respective development fronts that are currently in the civil works phases on the basis that it enables some Smart City Solutions to be provided from the beginning of development and other Smart City Implementation Programs over time.

In the absence of any statutory power to require Smart City foundation infrastructure in new developments, the Smart City Implementation Program recommends that an overarching head of power within the planning scheme such as a planning scheme policy or design manual be investigated and if found to be reasonable be incorporated into the planning scheme over time.

In the meantime, to move forward and provide certainty to the likes of Stockland and Pelican Waters individual agreements are considered the most appropriate mechanism to ensure all parties are aware their obligations.   Individual agreements, once negotiated will provide developers with required certainty and the confidence to place the foundation infrastructure in their developments during the civil works phase.

Smart City Selection Guide

To support the implementation of the Smart City Implementation Program, the Smart City Selection Guide has been developed. When released for internal use in late 2017, the document will help teams in concept development and design phases. The guide has information on solutions already evaluated, under review and even identify those solutions that are not considered suitable for the Sunshine Coast. By including high level diagrams, examples of locations used elsewhere and a pricing guide, users will be able to draft pre-selected items before involving relevant Smart City resources from across Council. This documentation will continue to be prepared and developed in consultation with relevant Council areas and is intended to be integrated into the organisation's normal operational systems over the longer term.

Smart City Governance Structure and Design Gates

A key learning from the first year of implementation has been the need to operate under a single governance and evaluation process.

The Smart City Implementation Program Governance Structure (see below) will see the formation of a dedicated team to serve as a Coordination Group to oversee the day to day implementation. This group will report on progress to a Smart City Steering Group who will report through to a Project Control Group. The governance groups will have representation for each of the departments and other relevant staff as required. Modelled on the successful Sunshine Coast Council Gateway process, the project teams will use the Project Management Office (PMO) or the MS Teams to drive and deliver specific projects resourced across the organisation.

Smart City Implementation Program   9

Smart City Design Gates and Governance Structure
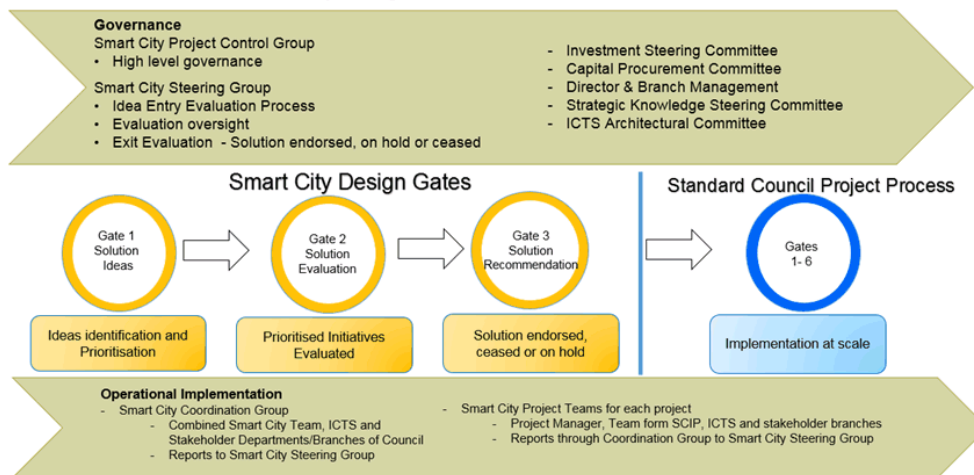
Integrated Gateway Evaluation Process

The integrated gateway evaluation process will provide a self-contained process of managing Smart City ideas to implementation for all of Council. The objective of smart cities is to improve the way we deliver services, build our urban and protect the natural environment, identify efficiencies in time and cost and where feasible generate revenue. Smart cities is the process of digitising the urban environment that Council together with other government entities are responsible for.

Every aspect of smart cities involves doing things differently, involves change and requires the owners of traditional systems to review their business. This process is not always easy. It challenges people and tests the interpretation of legislation, regulation and policy.

The Smart City Framework laid the foundations for the current implementation program. Through our early stages of development, we have identified the need to better process the many ideas and vendor solutions into a short and manageable, prioritised list of initiatives to evaluate. As an advanced form of procurement, we need to ensure there is a robust and transparent process for preparing the lead branch to move a current system from analogue to digital and at scale.

The digitisation process is refined and the tools and resources built up the process will become faster. For example - each major project Council embarks on an eg solar farm requires business case, validation of technology resourcing, Council resolution and resolution of legal, technical regulatory and business operational implementation. The Smart LED Public Street lighting and smart parking initiatives show how despite many of these challenges being addressed, the ultimate goals have not always been realised. Irrespective of the size of a digitisation project all of these issues have to be successfully addressed.

To achieve an integrated and ends to end system, the integrated gateway evaluation process has been developed and will provide:

- a process for gathering smart city ideas;

- evaluation methodology for supported initiatives;

- a robust report to inform the decision to proceed to scale, cease or delay; and,

- a transition to standard internal council process for deployment at scale, review and write on and ongoing operational management

The integrated gateway evaluation process, as it is developed and refined, will help accelerate the implementation process. Together with the Smart City Framework and the Smart City Implementation Program, additional tools are now available for the integrated gateway evaluation process:

- Microsoft Teams provides a collaboration space for all council staff involved in a specific SCIP initiative to have access to the current documentation, project plan with project manager and team roles identified, meeting notes & minutes etc.

- A tailored SCC Smart City Implementation Program agreement template to support the evaluation of competing products in a robust and transparent way.

- All council stakeholders will have real time access to the evaluations and ability to add to an online audit record tool to help inform the final joint report. The link to this tool (eg Survey Monkey) will be available in the common team site.

- The Smart City Selection Guide will soon begin to serve as an organisation wide document to convey the current solutions available:

  - recommended solutions for implementation based on situation and location;

  - status of initiatives under trial; and,

  - Those solutions that may be proposed but for reasons identified, not recommended for use here on the Sunshine Coast.

- The integrated gateway evaluation process will use intranet to provide organisation wide visibility to the Smart City Framework, Smart City Implementation Program and progress of the ideas to implementation pipeline. The Smart City Selection Guide will also be made available via the intranet. An online form will provide the opportunity for new ideas and solutions to be considered for addition to the program.

- The SCC website will also be used to provide visibility for relevant information and a place for new ideas to be collected and considered by the integrated gateway evaluation process.

- Many of Councils' proposed smart solutions are identified as a result of proposals by Vendors. Staff at all levels and also potentially Councillors are the recipient of these solutions. To ensure these are handled evenly and without favour, the SCIP process will be for meetings and proposals to be documented and relevant solutions presented to the SC Steering Group. A register of ideas initiatives and solutions to be maintained with all stakeholders having access to the list. Evaluations, trials and testing to be undertaken using the SCIP methodology to ensure a rigorous, transparent and end to end benefit analysis is undertaken and documented for review and sign off by the SC Steering Group and PCG.

- Need to address procurement to ensure smart city capability and capacity built in via core principles eg Tenders and RFQs to require that devices that are capable of being connected to the intent and becoming smart devices have Internet Protocol (IP) built in with security and API functionality out of the box. Council to identify standards relevant and add to the procurement contracts.

The role of the Smart City Team is to oversee the SCIP with input from ICTS and active involvement of all relevant branches and stakeholders across council.

Smart City principles

Team members from many areas of Council and across the region will be involved in the identification, selection and transition to delivery of smart solutions. In many cases being smart is as simple as taking traditional systems and approaches (often referred to as analogue) and introducing digital programs and solutions.

To help guide individual areas to mobilise towards the digital transformation, a series of smart principles have been developed and will continue to mature as the program progresses, including the following technology principles (detailed in the Smart City Technical Specifications and Standards document):

1. Quality of life

2. Environmental sustainability

3.	Interoperability	8.	Secure
4.	Aesthetics	9.	Continuity
5.	Longevity	10.	Supported
6.	Intuitive	11.	Contextual data
7.	Adaptable	12.	Ownership

Policy exclusion zones for test and trial areas

Council has a number of local laws and policies in place to manage the implementation of permanent solutions, i.e. CCTV. Deployments require a formal report to Council seeking approval. To facilitate the efficient evaluation of new technologies (prior to commitment to use as permanent solutions) policy exclusion zones will be created. Typical evaluations by the Smart City team will last 3-6 months with occasional deployment lasting 12 months (to provide a full year cycle evaluation).

Identification of these testing and trial areas as policy exclusion zones will facilitate the implementation by reducing establishment timeframes and reduce the cost of evaluation.

Develop organisational capacity and capability

Smart City concepts are new and unfamiliar territory for local government (other industries have been using smart technologies and systems efficiency programming for some time). Council will need to develop and build organisational capacity and capability to ensure departments are aware of and understand the opportunities available for implementing Smart City solutions. This area focuses on:

- Training and developing staff capabilities
- Supporting departments to identify and implement Smart City projects and solutions
- In order to deliver an organisational capacity and capability development program, the Smart City Implementation Team will:
    - Attend individual branch and group meetings to socialize the Smart City Program and actively seek the organisation's collective involvement in the transition to a Smarter Sunshine Coast
    - Encourage groups and individuals to visit the Smart Centre (Shop 3, 63 Bulcock Street Caloundra) and tour the Living Lab
    - Participate in organisation events such as Ignite to provide an interactive learning environment
    - Develop and run 3-4 workshops per year to develop awareness and skill team members to be able to identify smart solutions within their own work areas or across the organisation.

Engagement with stakeholders and partners

The Smarter Sunshine Coast concept is more than a series of technologies used to improve the public's user experience. Council will need to actively engage with the region and further afield to fully activate these benefits. The key outcomes from engagement are:

- Raised awareness of the Smart City Implementation Program and communicate our activities over the next three years
- A single platform for all Smarter Sunshine Coast activities to be collectively located
- Activation and involvement of key regional stakeholders (traditional and emerging)
- Acquisition of knowledge and increased awareness both nationally and internationally of the Smarter Sunshine Coast initiatives, leading to increased investment in our region.
- Team members are able to identify smart solutions within their own work areas or across the organisation.

Regional partnerships

Council will achieve many of the externally focused outcomes of the Smart City Implementation Program   through its regional partnerships with:

- Regional Development Australia Sunshine Coast
- University of the Sunshine Coast
- Combined Chambers of Commerce
- Industry sector associations or not for profit companies (Spark Bureau, Innovation Centre and Silicon Coast).

National partnerships

Council will maintain existing partnerships with national organisations (such as the Australian Smart Communities Association) and identify other strategic alliances/partnership to build our regional profile.

Smarter engagement

Two key Smart City Implementation Program elements are the Smart Centre and Citizen Apps, which enable improved engagement with the regional community.

Smart Centre

The Smart City Framework described the need for a Smart Lab and Hub to provide community access to the testing and trialling and open access to wider business and innovation community involvement. The Smart Centre opened at Shop 3, 63 Bulcock Street Caloundra in May 2016 and has generated significant interest from the community, vendors and other Australian regions.

- Today the experience centres provide community consultation, business investment and supplier demonstration facilities in an environment that allows the Sunshine Coast to showcase the Smart City as it comes alive
- It also creates a place for people to experience the emerging technology, understand the benefits, and to also stimulate feedback and ideas from the community on how we can all make use of the new technologies for the social wellbeing of our community
- A Smart Centre Officer position has been created to cover opening hours and build the regional reputation nationally and internationally.

Smart Citizen Services

Users can access information about the Sunshine Coast Smart City activities through our Sunshine Coast Council App available through both Apple and Android which services over 92% of the smart device market. The app helps by:

- Providing community/citizen access to our smart systems in real time. Where possible real time pilot/trial data will be pushed to Sunshine Coast Council App for community use – This is currently available with the parking space availability trial
- Expanding and developing over time as the smart foundations and smart solutions are developed and deployed
- Harnessing existing apps and app capability to increase user experiences at a lower cost profile to Council.

Smart City Implementation Program   13

Smart City Foundation and Solution Systems

The original Framework identified 15 action areas ranging from Smart WiFi to Smart Parking and Smart Health (Refer Appendix 2 for details). As the initial program of works has been developed and refined, it is clear that there will be many areas of focus over time. Instead, the solution systems have been grouped under five themes:

- Foundation Systems
- Transport
- Energy, water and wast
- Built and natural environment
- Smart citizens and living

Benefits of implementation at scale can be achieved by expanding the Smart City Implementation Program to include the wider Sunshine Coast region. Smart outcomes can be delivered sooner and with higher value results by incorporating the delivery of these solutions within existing capital works and organisation-wide operations.

Foundation systems

The Smart City foundation systems include:

- Smart Region Management Platform at the core to collect, crunch and communicate system information and automated decisions
- Communications network connectivity (including fixed underground, wireless and WiFi) supported by Council's Telecommunications Carrier licence.
- Electrical systems (normal supply) designed to support smart connected devices including smart urban infrastructure (smart poles and other pieces of (connected) urban elements).
- Living Lab – testing and trialling new Solutions Systems
- Smart Centre - an interactive environment to provide community access and a demonstration facility for the Living Lab trials
- Smart Apps – proving real time information to the community and businesses
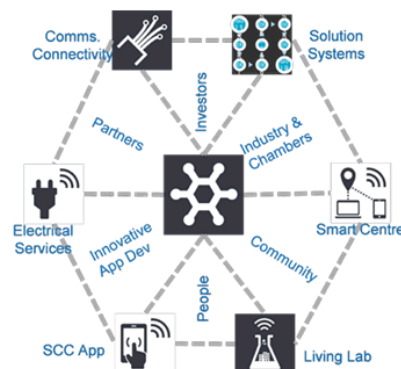
Transport

Transport fits within the wider mobility theme. Transport is also an area where the state government has the lead role and responsibility for the policy environment within the broader state wide context. Initial work within Council will focus on aspects of transport that we are able to directly influence. The initial sub theme categories are:

- Public transport – specifically bus stop smart services
- Transport infrastructure planning

- Parking
- Cycling & walking

Parking and transport Smart City Solutions have both been identified as priority solution system areas to be developed from FY16/17.

Energy, water and waste

Council has innovative and smart projects already underway in this theme:

- First Automated Waste Collection System (AWCS) in Australia
- Solar farm at Valdora
- Public street lighting project

Three waste and water solutions are currently under trial in the Smart Centre:

- Public Waste Bin Sensor Project – five sensors are already delivering significant operational savings with more to come as this is extended across the 3,000 bins in the network
- Digital water meters (designed by a Sunshine Coast company) are now under trial in five locations
- Environmental water sensors (generating real time results) are informing additional operational savings in the Pelican Waters canal system. With application across the Sunshine Coast, significant operational savings are achievable.

Smart citizens and living

This theme responds to the community aspirations for high quality community spaces and our Sunshine Coast environment. It includes the following initial sub categories:

- Smart apps
- Tourism and major events
- Education and health
- Smart Centres and Living Labs.

Built and natural environment

This theme captures the balance of areas not included above. Private developments are increasingly including smart solutions, such as:

- App based power control/venue management for markets/community space.
- Building information modelling to manage day to day operations through maintenance and other full life cycle considerations.
- Digital vision and CCTV is transforming how traditional CCTV has operated, providing far more layers of intelligence and integration without the need for constant human monitoring, e.g. facial recognition cameras.
- Digital signage incorporates way finding, public information and integrates tailored advertising of local venues or uses commercial arrangements.
- Sound sensors pick up the myriad of technical solutions that can assist with sensing and triggering automated responses and information recording.

Smart City Projects

Council capital works projects represent the single greatest benefit realisation area from the Smart City Implementation Program. Council spends more than $150 million on capital works every year

Smart City Implementation Program   15

renewing, replacing and enhancing the infrastructure that makes our community and region unique. By designing smart technologies into capital works the number of locations with smarter solutions will increase across the whole Council area.

The Smart City Team will work with our branches, designers and project delivery teams to identify the best solution systems to integrate in each project. Sometimes this will simply involve the foundation systems and where there is sufficient budget, this will extend to the smart solution systems as well.

Examples of how capital works projects will integrate Smart City Implementation Program Solutions Systems are:

The Palmwoods Town Centre project will provide revitalisation to a key part of the town centre in 2017. A number of specific Solution Systems are proposed, including:

- Foundation systems – communications and smart electrical systems together with smart poles, Smart WiFi (public WiFi plus data analytics services)
- Waste bin sensors, street lighting and artistic/park lighting using LED
- Integration of public art – with capability of using augmented reality and/or 3D projections
- Potential for smart furniture – including USB charging
- Potential for smart heritage or sound trail solutions via beacons – as per the Maroochy Bushland Botanic Gardens.

In late 2016 / early 2017, the Bulcock Street Streetscape will be completed and achieve an Australian first – the formation of a 250m Smart Street Demonstration and Testing Facility with the following included:

- As for Palmwoods Town Centre above
- LED street lighting aligned with evening LED lighting experiences
- Digital water meters
- Potentially also auto bollards and digital displays for market days.

The Mooloolaba Foreshore project represents an excellent opportunity to integrate smart Solutions Systems outlined above plus additional innovations adapted to this location. The range of services and activities occurring there include:

- Examples as for Bulcock Street above
- Digital signage and bollards to manage pedestrian traffic areas at different times
- Tourism and major events (New Year's Eve, marathons etc.)
- Coastal uses – water play and swim zones
- Cultural and artistic events with high energy visual and audio environment capability.

From the 2016/17 financial year, the Smart City Team will continue to work across a range of projects including capital works projects already identified for active integration of Smart City Implementation Program solution systems:

- Development of the Smart Solutions Portfolio
- Bulcock Street Streetscape as the Smart Street Demonstration and Testing Facility
- Mooloolaba Foreshore project
- Palmwoods Town Centre Urban Streetscaping

- Working with Capital Works teams at the early stages for many more projects.
- Major urban development areas such as Stockland Aura (Caloundra South) and Palmview
- Alex Skate Park, Kawana Sports Stadium Solution Portfolio
- Caloundra – Honey Road Sports Project
- Nambour – Diddillibah Road Sports Complex
- Coolum Library extension
- Mooloolaba Holiday Park works
- Nambour Tram Project
- Resource Recovery Centres
- Bli Bli Streetscape
- Pacific Paradise Streetscape
- Minyama - Mooloolaba Cycleway
- Evans St lane / road upgrade
- Sippy Downs Drive lane / road upgrade
- Bus stops
- Consultation on other significant capital works projects.

Report Card and Targets for years 2 & 3

The first annual Smart City Framework Report Card provides council with a high-level indication of progress and a lens to identify and shape resourcing to assist in the effective implementation of the program. Please see the published version of the report card – available on Councils website.

The SCIP forward program has been updated following the progress and learnings form the first year of implementation. Some minor modifications have been made to the activities. The major change has been the addition of a targets and comments column introducing, where feasible, specific targets.

To provide a high level indication of the program performance progress and success, the 10 highest value target areas have been profiled below. Refer Appendix 1 for more detail.

!0 high value Smart City targets and results by year.

	Description/Target & Result	Target	Result	Target	Result	Target	Result
1	Capital and Operational Projects with SCIP consultation	20	22	40		80	
2	Specific solutions in Council Projects – planned and/or implemented	25	40	60		90	
3	Total number of IoT devices and sensors	200	225	400		650	

Smart City Implementation Program   17

	Description/Target & Result	Target	Result	Target	Result	Target	Result
4	Smart Centre visitor numbers	1300	1450	2,000		2,500	
5	Solution ideas processed to Solution evaluation	-	-	50		100	
6	Solutions evaluated and reported to the Smart City governance groups	3	3	10		20	
7	Solutions approved for Branch deployment at scale through normal capital works	2	2	7		16	
8	Smart Region Management Platform connections and integrations	-	-	8		15	
9	Data analytics platform available for Council and region access - number of users + number of data sets	-	-	100		200	
10	Australian and International recognition	2	3	5		5	

Conclusion

Over the last two centuries, the world has experienced the steam, electricity and automobile revolutions. Each have brought significant benefits and challenges. Today, a fourth revolution is underway – the digital revolution is bringing about change at a faster rate than any of the three previous revolutions.

The Sunshine Coast Smart City Implementation Program is Council actively seeking to harness the benefits of the digital revolution for our region. Our choice is to be proactive and choose the change that adds value to our region, increases our regional sustainability and drives new investment through an international profile as a leading smart region.

Like all other cities and communities, the Sunshine Coast is seeking to provide world class experiences for its community, a high quality built environment and highly efficient service delivery within a decreasing revenue base. The Smart City Implementation Program has been designed to transform our region towards becoming a Smarter Sunshine Coast.

Appendices

Appendix 1 - Smart City High Level Program – Years 2 & 3

Legend:

✓ Scheduled Activity	❖ Development	Active & ongoing	▲ Review & Update

Smart City Implementation Program FY17 to FY19	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Comments and Targets
1 Leadership									
Australian and International recognition and communications		▲			▲				Build on Intelligent Community Forum - Smart 21 to identify Australian programs – awards, major publications & forums.
Implement Smart City Communications Program		▲				▲			Complete 6 media releases, 10 Project updates, 10 articles for various internal and external publications
Develop region wide identification system for Smart City Solutions		❖	❖					▲	Build on Smart WiFi identification program for whole of SCIP.
2 Governance									
Use SCIP Agreement program to increase evaluations & reduce costs	✓	✓	✓	▲	✓	✓	▲	✓	Use new agreement template to prepare up to 10 new agreements each year
Use integrated governance model to accelerate whole of council implementation	✓	✓	✓	✓	✓	✓	✓	✓	Implement revised integrated governance and evaluation system
Smart Centre (operations, leases lease – Shop 3, 63 Bulcock Street, Caloundra)	✓	▲	✓	▲	✓	▲	✓	▲	Seek extensions to current funding and identify potential for an appropriate centre in the new Maroochydore City Centre
3 Development of organisational capacity and capability									
Smart City Program awareness and training	✓	✓	✓	✓	✓	✓	✓	✓	Continue, refine and expand where resourced 20+ Council teams/year to Smart Centre and off site to 6 Council events – eg Ignite.
Solutions System opportunity identification training	✓		✓		✓		✓		Continue, refine and expand where resourced
4 Engagement with stakeholders and partners									
PPP's with infrastructure providers – Unitywater, Energex etc.	✓	✓	✓	✓	✓	✓	✓	✓	Continue to work with existing and new external partners

Smart City Implementation Program   19

Smart City Implementation Program FY17 to FY19	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Comments and Targets
SCIP interactive experience - Smart Centre and smart Street – Bulcock Street Caloundra		▲	✓	✓	✓	✓	▲		Build on existing programs and target additional demographics. Add interactive displays and virtual tours for 24/7 experience (6 new displays/Yr.)
Smart City Living Lab	✓	▲	✓	✓	✓	✓	▲	✓	Use integrated gateway process to progress ideas to implementation. Complete five evaluations in year 2 and eight in year 3
Support stakeholders and regional innovation entrepreneurs to drive jobs and business growth	✓	✓	▲	✓	✓	✓	▲		Continue Smart City Meetups (4/yr), increase Open Data live feeds (6/yr), support Gov Hack and Hackfest.
Leverage partnership and joint funding opportunities	✓	✓	✓	✓	✓	✓	✓	✓	Identify and apply for relevant funding and partnership opportunities. EG Australian Smart Communities Association Accelerator
Work with relevant Council branches to identify forwards program of Smart WiFi deployment	✓	✓	✓	✓	✓	✓	✓	✓	Develop and implement Smart WiFi policy. Expand where viable from current 178 in 41 locations to 200/44 and 250/50 locations in years 2 and 3 respectively.
Using Smart Solution Systems to develop Smart City apps in collaboration with innovation and entrepreneurial sectors	✓	✓	▲	✓	✓	✓	▲	✓	Continue development of the SCC App and increase downloads and usage by 10% each year
Drive new investment and job creation opportunities	✓	✓	✓	✓	✓	✓	✓	✓	The Smart City Framework adds to the Smart Region profile for investors. Council investment in Smart City technologies adds to job creation opportunities. Links to Sunshine Coast Regional Economic Development Strategy.
5 Foundation & Solution systems									
Smart Region Management Platform	✓	✓	▲	✓	✓	✓	▲	✓	Initial pilot version contracted and operational – Yr2 increase connected systems to 5 and 10 in years 2 & 3 and integrations – 3 and 5 in years 2 and 3
Smart City Selection Guide (Formerly Technical Specification, Standards and Pricing Guide)	✓	✓	▲	✓	✓	✓	▲	✓	Launch in Q1 FY18 with 20 initiative/solutions building to 60 and 120 by the end of years 2 and 3 respectively.
Optic Fibre network for major urban developments and key Council developments	✓	▲	✓	✓	✓	▲	✓	✓	Identify and expand networks 2 locations, 2klms of ducting 1.5klms of fibre per year
Carrier Licence Administration	✓	✓	✓	✓	✓	✓	✓	✓	Ongoing
Business Plan Development & Implementation	✓	✓	✓	✓	✓	▲	✓	✓	Complete additional research and finalise for implementation through appropriate channels.

Smart City Implementation Program FY17 to FY19	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Comments and Targets
Network Audit, future expansion plan and operational governance									
Smart Public Waste			▲			▲			Build on AWCS by finalising public waste bin sensors and expanding to locations where they are viable. Focussed deployment of smart public bins solutions to improve waste collection, and inform future bin placement.
New Intelligent Systems (formerly Business Intelligence)	✓	✓	▲	✓	✓	▲	✓	✓	Develop internal and external access to advanced analytics arising from Smart WiFi and other Smart City Sensors in year 2. Measure based on number of users and number of data sets. 100 and 200 in years 2 and 3 respectively.
Smart Transport (including parking)	✓	✓	✓	✓	✓	▲	✓	✓	Develop specific solutions within the Smart Transport area – ✓ On street and off street smart parking - work with the TIM Branch to support development of the Smart Parking Technology Solution. Ensure Smart Parking is available in Maroochydore City Centre and other locations. ✓ Retractable bollards, charging stations, bike hire schemes, prepare for vehicle to other connected devices to support future autonomous vehicle networks ✓ Seek private investment in real time mobility apps like City Mapper and Rome2Rio ✓ Use of analytics to improve transport modelling and design, ✓ Seek the opportunity to demonstrate and pilot autonomous vehicles, partnering where possible with TMR
Tourism and Events	✓	✓				▲			Work to install Smart LED and Smart WiFi providing additional features in SC Stadium and other locations by end of year 2. Expand across additional locations in year 3. Seek to increase venue revenue and improve user experiences.
Smart Lighting		✓	✓	✓					Expand Smart (connected) LED luminaires in street lighting, paths, parks and for artistic purposes - permanent and temporary (like Sydney Vivid).

Smart City Implementation Program   21

ORDINARY MEETING
Item 8.4.3   **Smart City Implementation Program Update**
Appendix A   **Smart City Implementation Program**

9 NOVEMBER 2017

Smart City Implementation Program FY17 to FY19	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Comments and Targets
									Evaluate connected LED options and grow from current nil to 50 connected LED's be end of year 2 and 150 by end of year 3
Smart Water Program		✓	✓	✓	✓				Identify and implement irrigation managing systems connected to the Smart Region Management Platform and provide centralised control. Reduce infield staff time Identify and implement environmental water sensors to improve data and rate of collection, saving in field time.
Smart Closed Circuit Television (CCTV) & Vision		✓	✓	✓	✓	✓			Draw on the Living Lab trial of data analytics based cameras to inform Council wide use (where relevant and approved)
Smart Digital Signage		✓	✓	✓	✓	✓			Commercial Branch exploring revenue models from digital adverting in various locations- report on progress. Council is developing digital way finding (combined with static way finding for the wider Maroochydore City Centre. Progress 3 digital wayfinding sites with regional information and creative options to deliver a unique SC experience Stockland seeking digital signage to display smart city information – real time weather, usage other features etc. – to be installed in the Town Centre Park – part of agreement to install SC Smart City Solutions
Smart Buildings and Building Information Modelling (BIM)		✓	✓	✓	✓	✓			Explore Smart Building Solutions for use in MCC and across the region. Expand on the use of BIM in MCC to other locations. From 1 to 3 in year 2 and 6 in year 3.
Smart Power and Energy		✓	✓	✓	✓	✓	✓	✓	Pursue in year 3 – proposed energy capture, storage and use to drive savings are developed and implemented – eg Aquatic centres and other strategic sites.
Smart Sound				✓	✓	✓	✓		Pursue in year 3
Smart Sensors					✓	✓	✓	✓	Pursue in year 3
Smart Health					✓	✓	✓	✓	Pursue in year 3
Smart Education					✓	✓	✓	✓	Pursue in year 3
6 Capital Works and Operational Projects									

ORDINARY MEETING
Item 8.4.3   Smart City Implementation Program Update
Appendix A   Smart City Implementation Program

9 NOVEMBER 2017

Smart City Implementation Program FY17 to FY19	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Comments and Targets
Projects assisted and continuing in year 2 – FY18 ✓ Maroochydore City Centre ✓ Smart Urban Demonstration and Testing Facility - Bulcock St Streetscaping – Australian First ✓ Development of Smart Solution Portfolio ✓ Mooloolaba Holiday Parks (Smart WiFi) ✓ Alex Skate Park 16/17 – 17/18 ✓ Palmwoods Town Centre Streetscaping Mooloolaba Foreshore ✓ Stockland Aura (Caloundra South) & Palmview ✓ Sunshine Coast Sports Stadium Solution Portfolio ✓ Evans St Lane / Road Upgrade ✓ Nambour Tram Project ✓ Pacific Paradise Streetscape ✓ Parks and Gardens – Centralised Irrigation Control System ✓ Minyama > Mooloolaba Cycleway – LED lighting on the Bridge ✓ Caloundra Indoor Cricket – Smart WiFi ✓ Sippy Downs Drive Lane / Road Upgrade ✓ Plus other projects not listed here Projects identified for assistance in year 3 – FY19 ✓ List to be added in FY18 Q4 following adoption of the council budget	✓	✓	✓	✓	✓	✓	✓	✓	Targets – Years 1-3 | Target Description	Year 1	Year 2	Year 3
---	---	---	---
Capital and Operational Projects with SCIP consultation	20	40	80
Specific solutions in Council Projects – planned and/or implemented	25	60	90
Total number of IoT devices and sensors	200	400	650	 The Smart City Selection Guide (formerly Standards, Tech Specs and Pricing Guide) will begin to provide informed options, identify solutions in the pipeline and solutions that are not suitable on the Sunshine Coast.
Planning Scheme requirements for Smart City					✓	✓			Work with the Strategic Planing team to identify planning scheme amendments to support SCIP via Development Assessment.

Smart City Implementation Program   23

Appendix 2- Solution Systems by themes

Engagement with stakeholders and partners

Engagement	Components
Smart Centre	The Sunshine Coast Smart Centre includes a number of components: Our **interactive experience space** is a former retail location and provides visitors with: • An understanding of the Smart City Framework and Implementation Program • An overview of the current Living Lab testing and trialling laboratory with real-time information via touch screens • A community consultation tool to facilitate community awareness and understanding • A presentation space for visiting groups • A location for our vendor partners to demonstrate existing and future solution suites • A 250m urban street demonstration and testing facility built from the ground up with Smart City as the key focus. • A dedicated web hub for local businesses and innovation groups to drive private sector involvement and value adding through app development etc (Proposed).
Living Lab	The **Living Lab** is a testing and trialling program allowing Council to evaluate a small number of devices before deployment at scale. The evaluation considers how the device complies with the 12 Smart City principles and integrates the relevant branch of Council, and their business models. Then the solutions can be deployed at scale as budget becomes available (and approvals if needed). A **Living Lab self-guided walking tour** using Council's app and beacons to highlight the Solution Systems tests where they are installed around the Caloundra CBD. Users simply follow the prompts in the app, walking to Smart City testing and trailing installations. The beacons prompt the user with a range of information and media types highlighting features and outcomes from the trial. This tour will expand and update as new solution system trials occur.
Smart Citizen Services	• To provide community/citizen access to our smart systems in real time. • Expand and develop over time as the smart foundations and smart solutions are developed and deployed. • Harness existing apps and app capability to increase user experiences at a lower cost profile to Council. • Available in Apple and Android to service over 92% of the smart phone market.

Solution Systems - Foundations

Foundations	Components

Smart Communications Connectivity	• Use Council Carrier licence to
	  o Manage and protect our underground fixed communications infrastructure:
	    ▪ pits, pipes and field cabinets (electrical and communications combined)
	    ▪ optic fibre and active equipment
	  o Investigate use of Low Energy Wide Area Networks e.g. LoRaWAN and/or Long Term Evolution (LTE) - 3G, 4G, 5G) as cost effective ways to connect services
	  o Seek to generate revenue through subducting agreements with other carriers
	  o Provide Maroochydore City Centre with Gigabit plus rates connectivity to create a competitive advantage
	  o Support future international connectivity via a submarine cable to US and Asia.
	• Expand Council duct and pit network in all new capital works programs and new developments across the Sunshine Coast.

Smart WiFi	Smart WiFi combines three different elements: 1- The Sunshine Coast Free Public WiFi network is offered in over 34 locations with 100+ access points. Each week over 7,500 users connect and consume 3Tb of data 2- The network also serves as an Internet of Things service. For example, during the Caloundra Music Festival, the WiFi services the EFTPOS transactions for festival goers. After the festival the system reverts to Free Public WiFi. 3- WiFi can also serve as a planning and managing tool through the heat mapping and smart phone counting. Using the anonymous data from smart phones foot fall and volumes of people in areas can be determined and can be used to inform the demand for increases in services – i.e. waste bin clearing following a day of high use. • Next steps - Expand Smart WiFi deployments to increase user registrations, participation and future commercial opportunities.
Smart Electrical Services	• Traditional light systems are set in groups of 20-30 with a single photo sensor switching them on and off. • Smart infrastructure requires dedicated power supply. • Ensure dedicated electrical ducting, pits and cabling is required. • Field cabinets managing both electrical and communications equipment is needed to support smart infrastructure.

Smart Urban Infrastructure	• Deploy smart poles in appropriate locations (e.g. Greenfield development sites and Council funded streetscaping) to provide Council owned infrastructure to support the installation of Smart Solutions.
	• These can be smart multi-function poles, cost effective square or round poles. Spacing height and capacity to add additional smart infrastructure including:
	  o Smart street and off street lighting
	  o Flexible smart lighting for events (e.g. New Year's Eve or Sydney Vivid like events)
	  o Low level pathway lighting or under eve lighting

Smart City Implementation Program   25

ORDINARY MEETING
Item 8.4.3   **Smart City Implementation Program Update**
Appendix A   **Smart City Implementation Program**

9 NOVEMBER 2017

Foundations	Components
	○ Support appropriate power solutions to allow variable 24x7 controls, and multiple sensors.
Smart Region Management Platform	• The core component of an integrated Smart City system is the Smart Region Management Platform. • Following the trial of three competitive smart operating systems in the Living Lab in 2016 a procurement process will select the initial of the Smart Region Management Platform • In the longer term, investigate the potential for partnering with other communities across Australia to create a multi-state and territory standardised operating system that will be considered for use by state governments and deliver the maximum integrated outcome for the Sunshine Coast. • Partner with the Australian Smart Communities Association and CSIRO, and use an investment model where the initial capital outlay will be down paid as other communities purchase licenses. • Council to continue discussions with State Government, Council of Mayors, and Universities (e.g. University of the Sunshine Coast / Queensland University of Technology).

Smart Solution Systems

Smart Solution	Implementation plan elements
Smart Lighting	• Street lighting LED and meshed to provide another conductivity layer for Internet of Things sensors and smart solutions • Security • Lighting up buildings • Smart LED lighting for pathways, parks using colour changes and variable intensity • Capability to dim and respond to the number of adjacent people, vehicles or movement • Specialised lighting installations, e.g. Bulcock Street Streetscaping LED project Note: Smart Street Lighting requires third party (Energex) approvals to proceed.
Smart Waste	• Automated Waste Collection System – Maroochydore City Centre • Connected waste bins with compactors, WiFi sensors and digital signage for advertising • Waste collection informed by sensors • Building smart into new Council waste contracts

ORDINARY MEETING
Item 8.4.3   Smart City Implementation Program Update
Appendix A   Smart City Implementation Program

9 NOVEMBER 2017

Smart Solution	Implementation plan elements
Smart Sense	• Use wired and wireless sensors to determine public barbecue use to provide feedback • Air quality monitoring • Water quality monitoring • Use Internet of Things (wireless network) to deliver asset management capability through the deployment of sensors with GPS and asset management registration Note: Smart Sensors apply in a wide range of user case scenarios.
Smart Sight	• Public safety CCTV • Parking solutions using pixel based cameras • Parking infringements - number plate recognition • Parking management - automated number plate recognition • Traffic counts - including vehicle categories, pedestrian, and cyclists – can be combined with Smart WiFi to generate journey to work data or inform digital advertising pricing and duration. Note: Smart Sight involves more than just public safety CCTV.
Smart Sound	• Use of microphones coordinated with cameras for public safety in conjunction with other sensors to generate safety responses e.g. fighting/violence or scream sensors • Digital speakers for public safety announcements, musical background for events, market days, New Year's Eve etc. Music coordinated with light installations like the Sydney Vivid Festival

Smart City Implementation Program   27

Smart Solution	Implementation plan elements
Digital Signage	• Street sign advertising, potentially including smart technology such as WiFi and cameras as required • Combined with WiFi data analytics, tailored advertising at higher value when needed otherwise providing way-finding
Smart Power and Energy	• Power demand management, particularly for Council owned services, and linkages to Solar Farm • Investigate inclusion for requirements in key commercial development areas, e.g. Maroochydore CBD • Solar PV installations - Council Solar Farm • Smart grid energy management • Electric vehicle charging stations (where and how, local info such as fuel / shops / beach) • Electric bicycle charging stations • Recharge points – smart phones Investigate products with the potential to broaden and deepen the power generation options for the Sunshine Coast: • Solar Roadways® (SR) is a modular system of specially engineered solar panels that can be walked and driven on www.solarroadways.com/ • Solar Roof tiles used instead of solar panels www.solarcentury.com/uk/our-products/ and www.monier.com.au/RoofTiles/SOLARtile/ • Dog poo power generating energy from dog faeces www.poopower.com.au/index.html.

Smart Transport (including Parking)	• Use of analytics to improve transport modelling and design,
	• Seek the opportunity to demonstrate and pilot autonomous vehicles, partnering where possible with TMR
	• Smart bus stops with real-time information, WiFi Smart Sight, advertising, interactive screens, USB charging
	• Smart Parking:
	   o Parking spaces available near the destination
	   o Availability of red and blue handicapped parking spots
	   o Availability of loading zones
	   o Availability of non-Council parking in areas behind shops or nearby streets
	   o Information about zones with variable hours parking duration and, where relevant, dynamic pricing
	   o Parking spot 400m (variable) for users to increase their daily steps (Smart Health)
	   o Regulated parking or paid parking users are advised that parking time has almost run out
	   o Paid top up options for registered users
	   o History of parking take up – use of way signing, bill top-ups

Smart Solution	Implementation plan elements
	• Bollards to close off entrances for market days • Sensors • Street level information • Beacons/proximity for information • Traffic flow • Autonomous Vehicle Technology (private and as on-demand mobility) • Self-driving cars - augment current two-dollar cab fare service with self-driving cars (CSIRO proposed partnership) • Mapping and mobility apps • Mobile ticketing • All public transport to be designed and built with Smart WiFi (all three layers), device charging (USB), CCTV (including screens showing CCTV views scrolling), digital advertising (for revenue generation) Note: Many Smart Transport initiatives require third party involvement, agreement and investment.
Smart Water	• Smart water meters to provide near real-time information about water consumption to implement once user consumption level reached • Alert to malfunctions in the user's network (e.g. crack in pipe created by tradesman or landscaper identified and rectified. Responsible person pays for damage rather than a high cost water bill and fixed some months after the incident).
Smart Health	• Partner with the University of the Sunshine Coast and other health-related educational groups to develop the region into a smart health laboratory investigating the connection between health, digital and our Solutions Systems • Work with relevant groups and install sensors to help those with allergies to pollens and other triggers for Asthma to be able to access current real time information • Fitness sites with beacons for additional information / pace / competition data • Connect transport solutions to enable people of all abilities to achieve improved health through fitness – use sensors, beacons, tracking, physical design and app connectivity with real time information.
Smart Education	• Tailor smart outputs in aggregate form for wider use or through secure access to registered user's individual information relevant to their circumstances (e.g. Smart water meter and electricity meter consumption for their own unit or premises) • Guided walks (using beacons) for education, cultural and history assisted interactive experiences for visitors and residents • Gamification of smart statistics for use in schools to promote sustainability - compare suburb and locality results for water consumption electricity and other indicators

Smart City Implementation Program   29

Smart Solution	Implementation plan elements

(graduation cap icon)	• Continued development of self-guided walking tours through the Sunshine Coast Council app using beacons and other technologies to enhance visitor, student, business and resident experiences
	  o cultural heritage based
	  o Smart installation and information
	• Partner with University of the Sunshine Coast, TAFE, and local educational institutions using the Smart City eco-system/solutions to improve local educational outcomes.

New Intelligent Systems reflecting the broad areas of:
• Data Analytics;
• Robotics;
• Automation & Machine Learning; and,
• Artificial Intelligence
 	
(toolbox icon)
	• Use data analytics intelligence from Smart WiFi to help businesses tailor their opening and closing hours to respond to event opportunities
	• Provide capability for businesses to advertise to a specific geographic area or in times when an incident/accident has caused delay, e.g. Bruce Highway offer: discounted meals and accommodation to improve visitor experiences (builds on existing disaster hub capability)
	• Provide existing businesses, potential investors, banking and commercial real estate agents with time series and real-time information about people movements
	• Use the Sunshine Coast Council app to drive people to active and open businesses following events using Smart WiFi identification of how busy and active that location is
	• Enhance Council's open data platform with real-time data to help local app developers create relevant apps, and generate income from app sales
	• Provide access to local innovation and entrepreneurial groups (i.e. Spark Bureau, Innovation Centre, Silicon Coast etc.) to the Sunshine Coast smart platform and ecosystem to drive further innovation, growth, business and employment opportunities.
	• Advance investigations in the relevance and application of:
	  o robotics,
	  o automation (including autonomous vehicles)
	  o machine learning; and,
	  o artificial intelligence.

Smart Tourism and Events
 	
(tickets icon)
	• Work with Visit Sunshine Coast to tailor a package of existing and future Smart Solutions to meet the needs of the tourism industry on the Sunshine Coast
	  o expand the Smart WiFi deployment
	• Develop event specific WiFi value ads
	  o e.g. ability to use push messaging such as - sell remaining hot food at venues at the end of the day
	  o Manage EFTPOS and other systems like communications without the need for 2-way radios
	  o Data analytics – visitor numbers, real time and time series, returning visitors and other anonymous and unique information
	  o Ability to increase event hire charges where the client can access the data ananalytics and or other Smart Connectivity services
	  o Drive up number of users, number registered and actively participating

Smart Solution	Implementation plan elements
	• Develop budgets that reflect the total cost and benefits
Smart Buildings	• Smart buildings reflects Councils intent to create Smart Buildings within the Maroochydore City Centre and incorporates Building Information Modelling (BIM). • Building Information Modelling is a shared (digital) knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition • Use Building Information Modelling throughout major new buildings and infrastructure to achieve effective asset management and reduce maintenance costs

Smart City Implementation Program   31

ORDINARY MEETING   **9 NOVEMBER 2017**
Item 8.4.3   Smart City Implementation Program Update
Appendix A   Smart City Implementation Program

Sunshine Coast
COUNCIL

www.sunshinecoast.qld.gov.au
mail@sunshinecoast.qld.gov.au
T 07 5475 7272 F 07 5475 7277
Locked Bag 72 Sunshine Coast Mail Centre Qld 4560