Asset Management Plan Summary

Information technology

Asset management plans

Together, our 14 asset management plans present a detailed description of all the things – roads, cycleways, footpaths, pipes, buildings, vehicles, parks and so on – that the Christchurch City Council owns, across all areas of work, and how these 'assets' are planned, managed, operated and funded.

All our assets, collectively worth $16.8 billion, belong to ratepayers and are managed and operated on their behalf. Ensuring our assets are appropriate for the city's needs enables us to deliver the services that make Christchurch and Banks Peninsula a great place to live, work and visit.

Asset management plans are technical documents. The summary documents give an overview of how we manage our assets through their lifecycles to ensure we deliver services in cost-effective ways.

For the first time, we have published these documents online as part of our commitment to transparency.

What we do

Our main role is to provide technology advice and maintain services across a range of platforms to deliver the Council's Digital Strategy programme. We are responsible for maintaining IT services and ensuring business service level expectations are met.

Why we do it

We provide a range of tools to enable staff to carry out the Council's statutory, regulatory and commercial business.

Increasingly we're providing self-service applications and web-hosted solutions to make it easier for people to work with us and to increase transparency.

We enable internal and external communication, data collection and information sharing, monitoring and management of systems and infrastructure and we support all business activities across the Council.

Christchurch City Council

Our assets

We own and manage hardware and software. Hardware is largely a mix of computer devices and screens, and software is a mix of individual licences, perpetual licensing, concurrent licences, software as a service and cloud services. Unlike other areas of infrastructure, technology (both software and hardware) generally has a short lifecycle.

Where we've come from

For the past 30 years our role has been to provide in-house services to support the use of information and communication technology.

In 2010, Council moved to a more managed service environment. Initially this involved outsourcing management and maintenance of our server assets, using Infrastructure as a Service (IaaS) agreements.

Over time, we have moved to include Software as a Service (SaaS), Telecommunications as a Service (TaaS) and a range of cloud based enterprise solutions to enable scales of economy to ensure expenditure provides value for money.

Our issues and risks

Many of our risks have fairly clear-cut effects – either the service is available (customers can connect, transactional activities activity can still occur and staff can operate), or it's not.

IT's areas of risk fall into three broad categories – demographic changes, natural events (earthquakes, tsunami, flooding and the effects of climate change) and globalisation. Our risk mitigations are set out in our Asset Management Plan.

Demographic changes

- Increasing cultural diversity
  - Need for improved communication channels
  - Need to improve engagement levels
- A more dispersed city
  - Need different approaches for services offered locally
  - Need to introduce more cloud-based services
- A more mobile population
  - Need new ways to provide for transactional activity
  - Need consolidation of customer information
  - Need more app-based transactional functionality
  - Need new ways of engaging with ratepayers
- Workplace skills
  - Need succession planning to stop loss of organisational intelligence
  - Need to upskill workforce as new technology is introduced
  - Could struggle to get skilled workers because of national and international competition

Natural events

- Disruption to or failure of multiple systems
- Disruption of service for essential workers
- Disruption of service to critical facilities
- Failure of or disruption to alert systems
- Disruption to or failure of external organisations' service provision

Globalisation

- Location may affect supply chains
- Currency fluctuations may affect budget
- Political or health emergencies may affect trade agreements
- Security systems may be compromised by cyber attacks
- Terrorism may result in local, national or international restrictions
- Production capabilities may be affected by climate change

What it costs

Our proposed budget for the activity that uses these assets in Year 1 of the Long Term Plan 2021-31 is $38.42 million (total activity net cost of service and capital spend), with the net operational expenditure projected at $25.67 million (net cost of service) and capital expenditure at $12.75 million (total capital spend). Tables for each area of spending are included in our activity plan.

**The proposed operational and capital programme is indicative only. It will be updated through the LTP 2021-31 capital prioritisation process.*

How we're funded

A user-based financial model calculates a flat rate per user charge for our operational funding. Our capital expenditure is managed through the Capital Investment Programme.

This is a simplified model of fund accumulation and does not necessarily show where the true costs of IT are derived. Nor does it provide a view of how efficient or inefficient business units are in their use of technology.

How it's delivered

Delivery is via a combination of Council staff and tendered contracts with partner organisations and private providers.

Our work often requires skill-sets not available in-house, so delivery may be completed using a combination of Council staff and external providers. Outsourcing is also used for areas of work that are not our core business.

Outsourcing selective services and increasing Software as a Service delivery highlights a need to strengthen strategic vendor management capabilities across IT.

We are increasingly customising or tailoring products to be Council-specific. This may increase operational costs where customisation relies on staff having specific skill sets.

Procurement of technology services also uses all-of-government contracts negotiated centrally to benefit the public sector.

Our functions and services

Our goal is to deliver the required level of service to existing and future customers in the most cost-effective way.

IT services are involved in almost all aspects of the Council's business. We are responsible for the data network, information and communication technology hardware and software, cyber security and business continuity planning.

We ensure the technology has the capability to meet the needs of elected members, staff and the public. We manage information and records, including 15.7 million digital records, 30,000 paper records and 1600 linear metres of historical records.

Active monitoring and management of all IT assets ensures applications are appropriate and recur and replaced at the right time, and ensure capacity is adequate for the Council to operate. We operate a secure, robust and resilient data network which connects facilities, provides remote response capabilities for critical services (water, waste, transport operations and civil defence) and is a secure access point for sharing information with other government agencies.

We provide IT helpdesk services to monitor systems and support staff, we provide expert advice to business units, and we manage cyber security risks.

Information and Technology Asset Management Plan

April 2020

Christchurch City Council

Table of contents

1 Summary of the Activity

1.1 Activity Description

1.1.1 What do we do?

The Information and Technology (IT) Unit's primary function is to provide and maintain technology advice and services across a variety of platforms to enable the delivery of the Organisational Digital Strategy programme and ensure that existing IT services are maintained, and meet business service level expectations

For a full overview of the Organisational Digital Strategy consult Trim: 2020/0606284

1.1.2 Why do we do it?

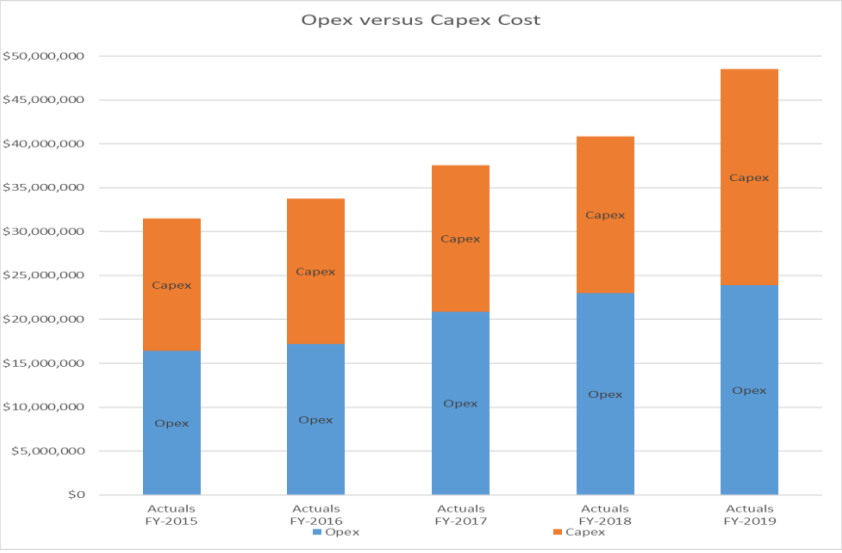
IT provides the Organisation with a range of tools for its internal staff to carry out all its business activities whether statutory, regulatory or commercial on behalf of its customer base and sector partners. This approach permits, through the use of self-service applications and web hosted solutions, the progress to move citizens and customers towards a "single pane of glass" environment. This self-managed experience enhances the transactional interaction while giving access to a range of informational data available from with council. This increases transparency and moves the organisation along the strategic goal to "Enabling active citizenship and connected communities".

These tools enable internal and external communication, data collection and information sharing, monitoring and management of systems and infrastructure along with supporting all the business activities across the Council.

1.1.3 How much does it cost?

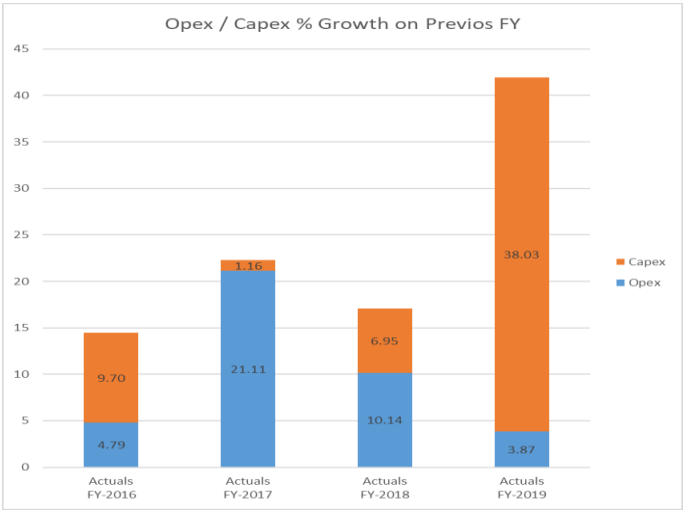
Our proposed budget for the activity that uses these assets in Year 1 of the LTP is $43.6 million (21/22), with the operational expenditure projected at $24.7 million (net cost of service) and capital expenditure at $18.9 million. Tables for each area of spending are included in our activity plan.

Costs have been reviewed over a five-year period to establish a baseline in line with IT Units planning principles This model looks at the spend per financial year since FY-2015 detailing Opex versus Capex



This graph shows an increasing trend on spend year by year.

Direct cost have increased year by year largely fuelled by the need to rebuild and regenerate post the 2010/2011 earthquakes. This has seen a series of organic growth and some restructuring to ensure a more aligned approach to council activities, all of which have direct impact on IT costs.



This graph demonstrates that during a period where the CPI average a growth rate of 2.1% IT spend in both Opex and Capex trend well outside of that figure.

In respect to the FY2017 Opex cost increase, these are largely due to a restructuring which saw Library IT personnel moved from the Citizens and Community business unit into IT, to allow for a consolidate centralised approach to IT enablement and management.

Capex growth largely equates to a major spend in 2019. This has occurred because of deferment of renewal and replacement programmes the previous year. This saw the need for $2m funding to address the problem. In addition, the implementation of SAP cloud transformational activities, principally the My Council and Our Spaces initiatives, accounted for a further $12.8m in capital spend.

1.1.4 How is it funded?

Externally Christchurch City Councils principle income stream is from rate payer contributions. Internally IT is Operationally funded by a user based financial model that looks at the number of users and divides the total of IT spend by that number to give a flat rate charge per user. Capital programmes are managed through the Capital Investment Programme.

This model while providing a simplied model of fund accumulation does not necessarily provide a true cost of where IT costs are derived from nor a view of how efficient or inefficent business departments may be in the use of technology.

1.1.5 How is it delivered?

IT is provided by a combination of in-house resourcing and external service contracts and agreements.

This model of delivery includes Infrastructure as a Service (IaaS), Software as a Service (SaaS), Telecommunications as a Service (TaaS) which either leverage whole of government contracts along with contracting services and resources to supplement in-house resourcing where experience, capacity and/or capability is lacking.

1.1.6 What are the functions and services provided?

The key functions provide by IT are;

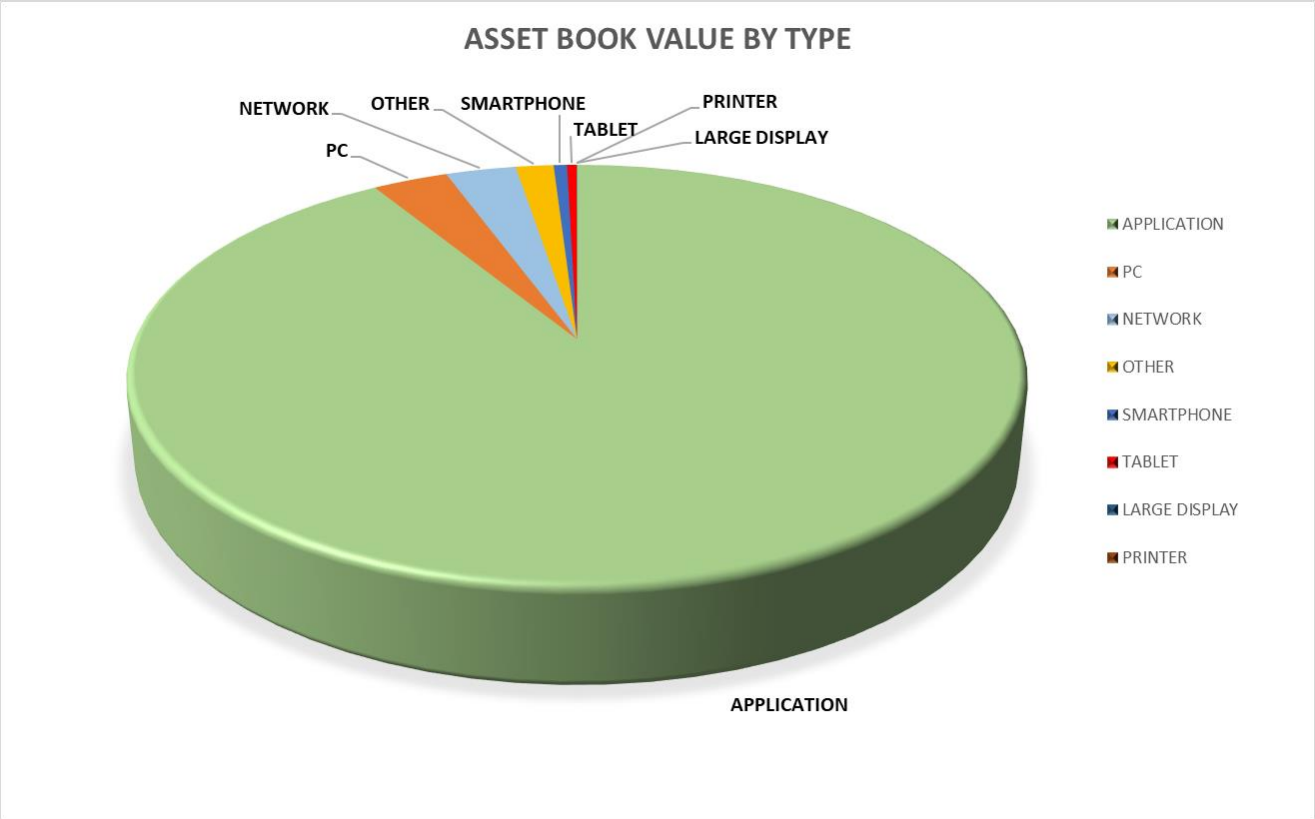
- Digital Assurance
    - Responsible for providing IT with an assurance function across areas of quality, cyber security programme, risk, performance and business continuity by ensuring best practice frameworks and controls are in place and operational
- Digital Platform
    - Responsible for a holistic approach across all the Digital Platform (software applications) capabilities ensuring that strategies, roadmaps and delivery frameworks are aligned across teams and work is delivered to cohesively for successful and efficient outcomes.
- Digital Service Operations
    - Responsible for delivery programmes, services and support for all data network, communication services, private and public cloud infrastructure along with ensuring best practice for incident and support service (helpdesk) requests, and desktop and mobile device implementation and support.

- Digital Solutions
    - Responsible for delivering values to our customers by collaboratively ensuring our current solutions are aligned to the organisational digital strategy along with providing expert evaluation of new solutions.
- Information Management
    - Responsible for the strategic leadership of the Information Management and Records function as an enabler for business intelligence and spatial technologies along with leading the Information Management Strategy. Supporting quality and timely information to support organisational decision making.
- IT Programme & Planning
    - Responsible for planning, analysis and facilitation of the overall IT Enablement Capital programme along with being the main interface between IT and relevant governance groups. Holds accountability for overall IT capacity planning, IT asset management of hardware and software along with proactively enhancing the linkages between capital programmes and operational budget outcomes.

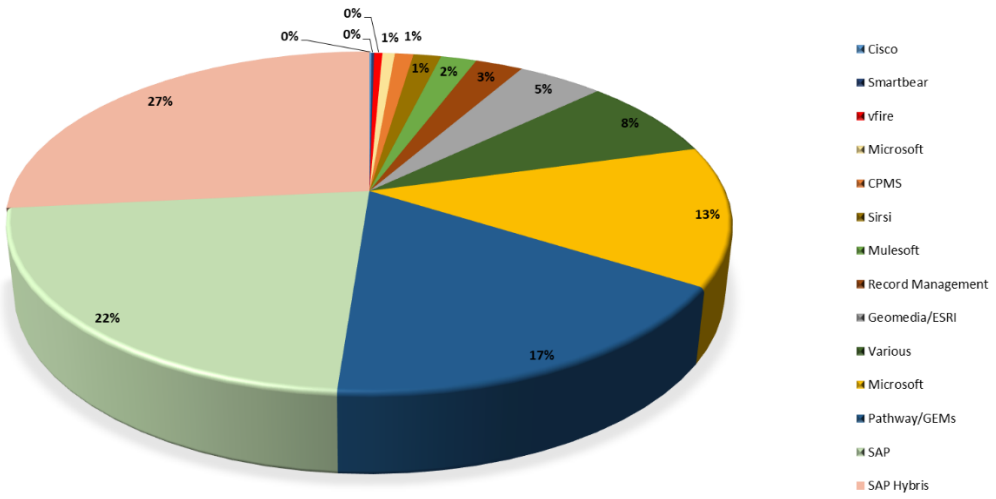
1.1.7 Overview of assets

Asset Management since 2010 has been managed in a number of formats across a range of software applications. This has led to a fragmented view of our total level of assets. The below graphs represent a best attempts, utilising the data available at this point in time, to give a range of views that show the distribution of assets, which IT unit manages those assets on behalf of the organisational business units and the assets set approximate value.

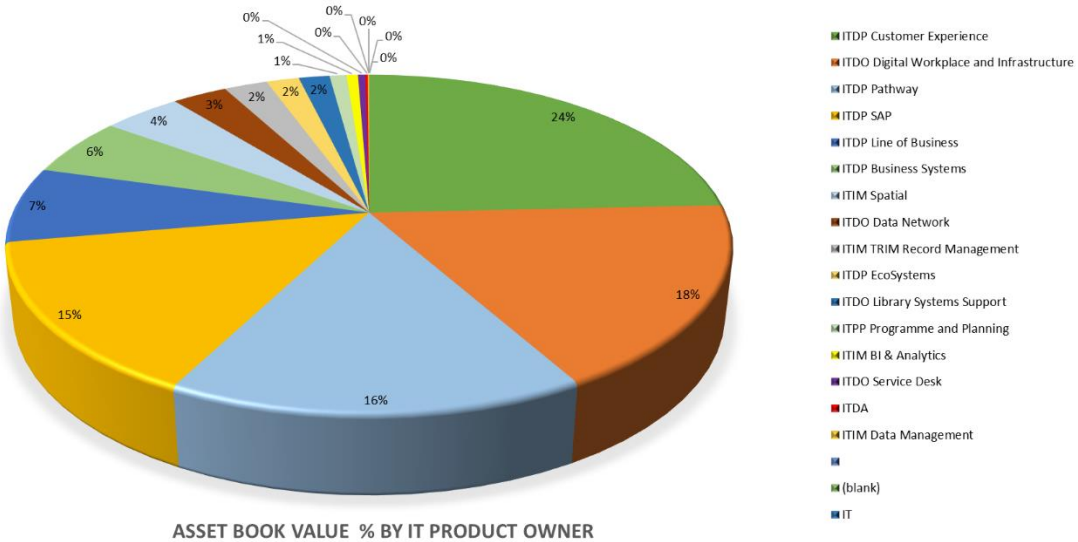
Whilst this view is a best endeavours at this point in time, the initiatives described within this document are part of a program to ensure better quality report of IT assets.



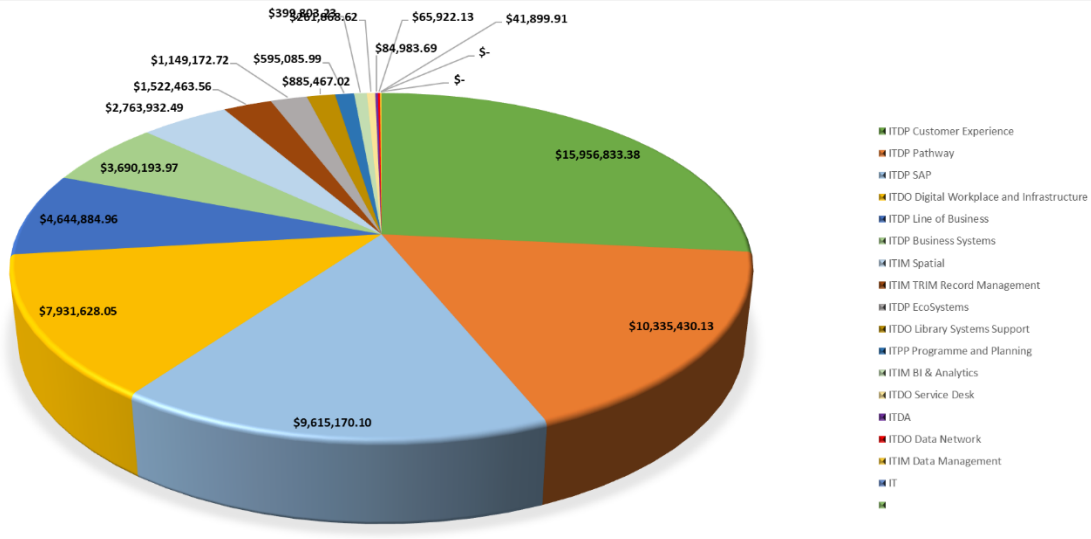
APPLICATIONS BY PLATFORM/PRODUCT



ASSET BOOK VALUE % BY IT PRODUCT OWNER



ASSET BOOK VALUE $ BY IT PRODUCT OWNER



1.2 Where have we come from and where are we heading

1.2.1 Background

Asset Management within IT has traditionally been focussed on the purchase and tracking of existing equipment. The earthquakes of 2010 and 2011 saw equipment disbursed and redistributed where possible to meet operational needs within a compromised environment.

Since that point concentration has been upon build and replacement. This, by the nature of the need for rapid rebuild, has seen growth of systems in an organic fashion configured to all continuity of operation whilst also ensure continued access for citizens and customers to council systems.

Asset Management since that time has centred round understanding what is connected and deployed within our system and will continue to do so. To rationalize and optimize these systems an initial investment will be required, to ensure the platforms operating are fit for purpose today and also provide a roadmap going forward. An example of this is the implementation of a new data network that will align our needs for connectivity to our strategic goals of improved resilience, robust operation and future proofing.

The Asset team continues to maintain financial and condition data to support AP and LTP investment cycles relating to IT equipment, services and software based upon the activities of the last five years.

1.2.2 Looking Forward

The IT Unit recognises that whilst management of resources in this arena has been adequate to date, a more robust view with policies that reflect the existing environment are now required. With this in mind this will be the first Asset Management Plan for IT. As part of this activity policies, guidelines and procedures will be reviewed and updated to reflect current operational practices.

This work has already commenced with the undertaking of an internal asset maturity assessment, a review of what data and tools are required to ensure best practice. This will provide a pathway of development to be built upon its findings. This course of action will be validated with external oversight.

This will be developed in partnership with the wider organisation and incorporates the investment roadmaps.

All activity responses specific to IT will in the most part drawn from the Organisational Digital Strategy initiatives in conjunction with best practise IT methodologies.

1.3 Successes, Issues, Opportunities and Risks

1.3.1 Success Factors

This Internal Service supports all the Community Outcomes through the organisational support provided by this Activity to the External Services of the Council. Success will be measured by compliance with levels of service, which monitor responsiveness and system up time, in conjuction with the level of confidence exhibited by the business in the IT Unit as indicated by satisfaction surveys.

1.3.2 Strategic Issues and Risks

Strategic Issues	Responses
Foundation Funding	Understanding and quantifying the total cost of IT expenditure, capturing any current cost which may be sitting outside the mainstream and ensuring that our renewal and replacement programmes ensure that service levels are meet and maintained
Establish Systems and Processes that Provide a Clear Overview of the Assets Managed	Define exactly what assets the IT Unit is responsible for thereby allowing for appropriate asset management plans to be put into place that ensures consistency of maintenance programmes
Power Management	Ensuring that the IT Unit has an overview of all power capabilities wherever infrastructure is installed for the purpose of maintaining systems and solutions in optimal running order. Where areas have been identified as BCP sites ensure that

	generators, UPS systems and battery backups are capable of meeting demand and are regularly maintained and tested
Network Management	Ensuring that wherever infrastructure is installed network capability is sufficient to maintain, monitor and support systems to permit optimal operating conditions. Where sites have been identified as BCP sites ensure that dual connectivity is in place allowing for bi- directional routing to mitigate disruptions to network routes
Monitoring of Systems	Review, consolidate and where necessary replace the any tools used to monitor assets and systems to allow a clear view of what assets are in place, their current state of health, usage profiles both of device and software along with providing historical evidence of support to allow for informed decision making to be undertaken as part of the Renewal and Replacement programmes
Business Confidence in IT Unit	Ensuring that we understand customer need, articulating that need back to the customer in a way that shows the problems are understood. Researching and presenting solutions that not only address current need but are capable of upward migration to counter changes to the environment. Once solutions are confirmed implement a project lifecycle that meets customer expectation and fully engages them in the process. At project closure demonstrate that the appropriate systems and policies are in place for support, maintenance, renewal and replacement within a BAU environment
Funding Source Changes	With the move from on premise solutions to more cloud based activities funding streams will move from a more Capex orientated stream to require a greater degree of Opex funding.

2 Introduction

2.1 Background

This asset and activity management plan (AMP) is the basis for Information and Technology activity planning. The purpose of this plan is to demonstrate responsive management of IT assets (and services provided from IT assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 30-year planning period.

The objective of asset management is to:

"Deliver the required level of service to existing and future customers in the most cost-effective way."

In this context the specific objectives for this AMP are:

- To define the services to be provided, the target service standards that Council aims to achieve, and the measures used to monitor the performance of the Information and Technology activity.
- To translate Council's Strategic Vision and Goals into activity strategies and action plans. The plan identifies forward works programmes based on strategic outcomes sought and financial forecasts required to meet agreed service levels and cater for growth.
- To demonstrate responsible management of the Information and Technology infrastructure to stakeholders, ensuring that public funds are optimally applied to deliver cost effective services to meet customer expectations.
- To document current asset management practices used by CCC based on clear evidence as part of a sustainable and optimised lifecycle management strategy for the Information Technology infrastructure, and identify actions planned to enhance management performance.
- To comply with the requirements of relevant legislation.

The key outputs of this AMP are inputs into the 2021-2032 10 Year Plan process, which will be the subject of a special public consultative procedure. The intention of this AMP is to set out how Council manages Information and Technology assets and services in a way that is appropriate for a readership including elected members of the Council, executive management, interest groups and business partners associated with the management of the Information Technology activity along with interested members of the community.

For the purpose of the individual plan and in line with general IT principles this plan will focus on a 5-year term. It covers the services that are provided from ownership and management of the associated assets. It will be reviewed annually taking into account any technical advances that may impact on its long term viability.

This AMP covers a period of 30 years commencing 1 July 2020. Operational, maintenance and renewal programmes for the first 3 years are generally well defined with reasonable certainty of being implemented to budget as planned. Beyond this period, work programmes are generally based on projected trends and demands and there is less certainty with respect to scope and timing of the projects. All expenditure forecasts are based on unit costs as at 1 July 2019

2.2 Scope of the Assets and Services Covered

The following assets and services are covered in this AMP.

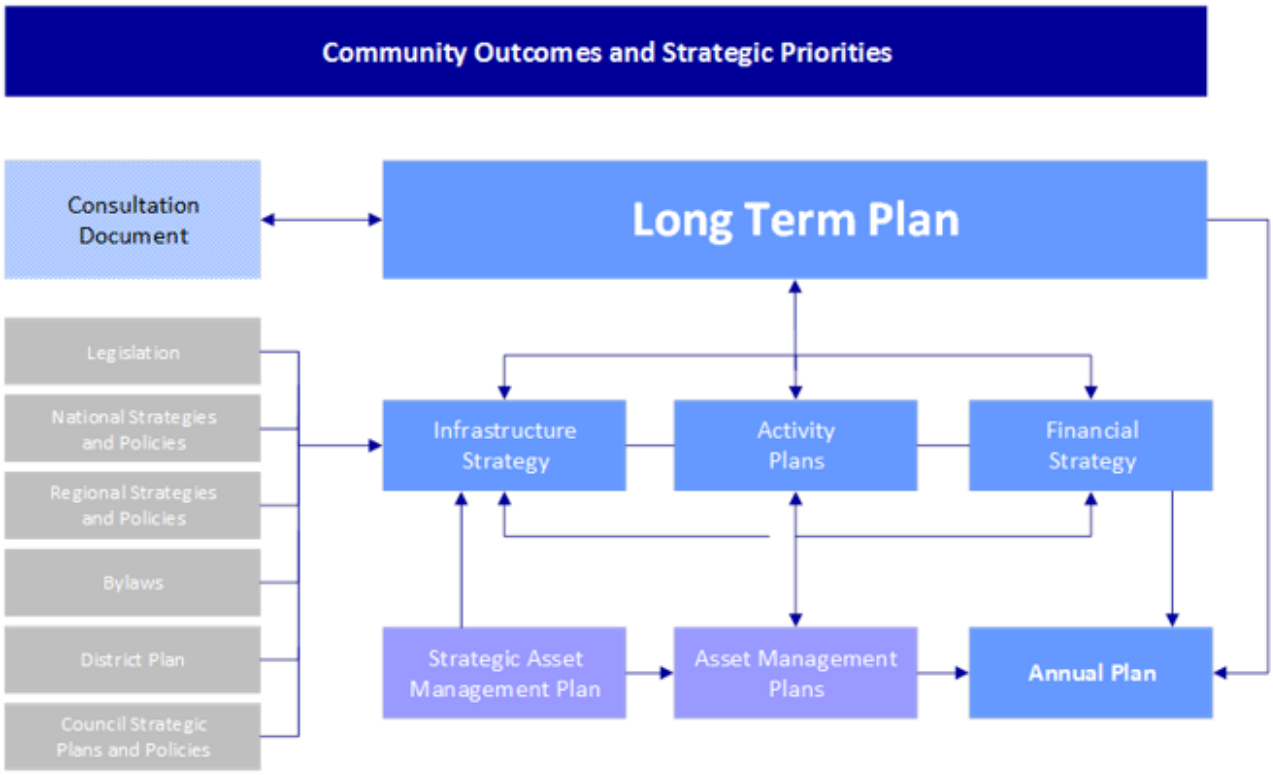
In Scope	Out of Scope
Data Network	In-building cabling
Hardware	Infrastructure that has no IT component. IT Hardware not purchased or operated by the IT Unit.
Software	Software not purchased or operated by the IT Unit
Managed Services	Managed Services where there is no IT component
Cyber Security	
Business Continuity Planning	

Table 2-1: Scope of Assets and Services Covered in this Plan

2.3 Relationship with other plans

Many of the assets planning activities undertaken by Council are applied to all infrastructure assets. For this reason, Council has developed asset management plans in two parts. A strategic asset management plan (SAMP) document which provides an overview of asset management planning at the Council, and an AMP document for each asset group which describes the assets and how the principles contained within the SAMP are applied to the management of the assets.

The diagram below depicts the relationship between the various processes and levels of planning within the Council required to deliver on Council's vision and goals.



The SAMP provides an overview of the linkages between asset management planning and the other business processes of Council, such as strategic planning, risk management, financial management and compliance. Throughout this AMP references to the SAMP are frequently made.

The SAMP also describes the linkages between AMPs and other corporate plans and documents. In addition to these corporate documents, the following documents are specifically relevant to this AMP:

Document Type	Document Title	Year
Strategic Plans, Strategies & Policies	Council Organisational Digital Strategy	2019
	Business Intelligence (BI) and Analytics Strategy	2018
	Information Management Strategy	2018
	Digital Channel Strategy	2018
	IT Internal operational Policy Asset Management draft	2019
	IT Cyber Security Strategy	2018
	IT Replacements and Renewals policy	2018
Portfolio Plans	IT Portfolio Plan	2019-2020
Management and Master Plans		

2.4 Delivering on Council's Strategic Framework

2.4.1 Alignment of Outcomes, Priorities and Activity Objectives

Council's strategic framework and general implications for the activities are presented in Council's Strategic Asset Management Plan. The table below summarises key responses by the activity to contribute to the community outcomes and strategic priorities.

Key Activities	Objective
Technology Enablement	• Direct to Citizen and Suppliers digital services to enhance information accessibility • Technology services to 32 business units, providing efficient and timely services via the operation of over 600 application categorised in four core Digital Platform capabilities. This includes multiple application tiers inclusive of specialist application services. • A programme of regular application upgrades to reduce Cyber Security risks, reduce support costs and maximise Digital Platform value via iterative improvements and enhancements
Information and Records Management Services	• Management of 15.7 million digital, 30k of paper and 1600 linear meters of historical records ensuring that records are easily identifiable, secure, readily retrievable in formats which provide easy access. • The structured storage of Citizens, Property and Assets via presentations designed to analyse, report and inform so that there can be informed decision making and policy making. This appropriate sharing of information both internally and externally will provide transparency of operation while supporting a prosperous economy • The storage, collection and use of location data to allow the council to work with Public via consultation, with the aim of informing upon roadways, transportation, emergency management to permit transparency of decision-making processes.
Asset and Infrastructure Management	• The active monitoring and management of all IT Assets to ensure that they and the applications used are appropriate for the task, have regular security updates and are a part of a routine renewal and replacement programme. This activity is based upon the premise of optimal efficiency whilst ensuring financial economy

	• Managing of third party infrastructure such as Infrastructure as a Service (IaaS), Telecommunications as a Service (TaaS) and Software as a Service (SaaS) and their vendors. This activity is based upon ensuring right sized capacity is in place with up to date operating systems, that is securely monitored and in times critical need provides the council with the degree of function to continue its operational activities • Operate a secure, robust and resilient Data Network which connects council facilities with the aim of providing access, monitoring and remote response capabilities for City Critical services such as Water and Waste, the Canterbury Transport Operation Centre (CTOC) and Civil Defence obligations. Provides a secure access point for partner governmental agencies to share data. Where appropriate, also supplies Citizens with free Wi-Fi access.
Information Technology Support	• Provide IT helpdesk services to monitor systems and support Council employees with IT related incidents and request for services • Interacting with third party support where escalation is required to resolve issues • Facilitating expert advice to the business at large to enable technology to enhance business function in line with Strategic Priorities
Cyber Security Programme and Operation Services	• Employs a Cyber Security maturity continuous programme to ensure that the Cyber Security Risk to the Council and connected partners are effectively migrated. • Employs a Security Operations Centre (SOC) that actively monitors digital services for security risk threats • The Cyber Security programme provides for Security Vulnerability Assessments and Security Incident Management (SIM) when security incidents do occur

2.4.2 Activity Responses to Strategic Priorities

Council has confirmed the following strategic priorities requiring specific focus for the next LTP. In response to these priorities, this AMP includes a number of IT responses as tabulated below, with reference to the relevant section in the AMP where further detail on responses is provided. Responses to natural hazard risks and building resilience are dealt with in Section 5.

The possible activity responses outlined below are in the most part drawn from the Organisational Digital Strategy initiatives which will require a coordinated planning and delivery approach with other activity areas.

Strategic Priorities	How this activity supports progress of each strategic priority	Planned Programme of work
Manage the challenge of climate change through every means available	• The REGGE dashboard will be published and improved over the next three years to show Council efforts to support Climate change. IT in particular will look to populate data around the effective use of technology indicating power up and down times to support efficient power management	• Information Management Capability Progamme 2021 to 2023 • Microsoft 365 programme 2021 – 2022 • Information Management Capability Progamme 2021 to 2023 • Data Network redesign & monitoring programme of work 2020 to 2022

	• Enhanced Emergency Management through Digital Channels, including resilient services to support Civil Defence Emergency Management • Enhanced Business Intelligence Platforms and Spatial systems to provide intelligent insights and to support modelling the effects of climate change. These insights and models will allow planning and decision making based upon timely and accurate information. • A review of where critical infrastructure either needs to be domiciled or accessed from in light of modelling allied to a renewal program for IT data network to ensure city critical, and critical business operational services operate continue to operate despite adverse events occurring .	
Ensuring a high quality drinking water supply that is safe and sustainable	• Increased use of IT solutions to monitor water quality and improve responsiveness to adverse events • Increased use of IT solutions to strengthen analytical capability that improve service delivery, and security. • Digital monitoring of infrastructure changes to test effectiveness of storm water management plans. • Live casting of city functions including water quality and water usage to inform the community and encourage their collaboration and support • Ability for the community to view the status and progress of waterways six values (drainage, ecology, culture, landscape, recreation and heritage) • Personalisation based on digital identify allowing more targeted marketing and awareness notifications to affected neighbourhoods, river care groups and other who might support them.	• Data Network redesign & monitoring programme of work 2020 to 2022 • My Council programme of work 2021 – 2023
Enabling active citizenship and connected communities	• Focus on the citizen is a key element of the Vision for the Organisational Digital Strategy. The Strategy while providing for better digital access to Council services and better support for collaboration will also ensure that non-users of technology are not left behind • Ensure that the Digital Strategy reflects the diversity of cultures within communities so more people feel engaged in the life of the city and informed about Council services	• My Council programme of work 2023 – 2028

	• Ensure digital points of contact on community owned virtual and physical spaces. • Easy to use digital feedback tools; closing off feedback loops to build trust for further engagement. • Digital transparency of relevant policy and strategy processes. • Digital crowdsourcing initiatives capture voice of the communities	
Accelerating the momentum the city needs	• Smart Cities' strategic technology solutions for enhancing the city • IT support (data or tools) for centre city marketing and promotion • Sharing of city data to enable citizens and 3rd parties to identify opportunities to innovate for citizen benefit. • Live cast of city functions to enable citizens to respond in a timely way and contribute to knowledge of issues and mitigations. • Personalisation based on digital identities enables more targeted marketing of central city relevant to citizens and businesses.	• Information Management Capability Programme 2021 to 2023 • My Council programme of work 2023 – 2028
Ensuring rates are affordable and sustainable	• Organisation Digital Strategy aims to support financial planning with aims of optimising operational spend. • Digital support across all business units to ensure IT spend Capex and Opex ensures value for spend, and enables operational efficiencies and cost reductions • Investment programmes into renewal and replacement ensuring no large scale spikes in IT spend is required.	• Our Space programme of work 2020 – 2023 • Asset Management Programme of work 2020 – 2023

2.5 AMP Development Process

This AMP review was carried out during 2019 by asset managers, led by the Asset Management Unit (AMU) and covering all Christchurch City Council (CCC) AMPs. The broad timeline is shown below.

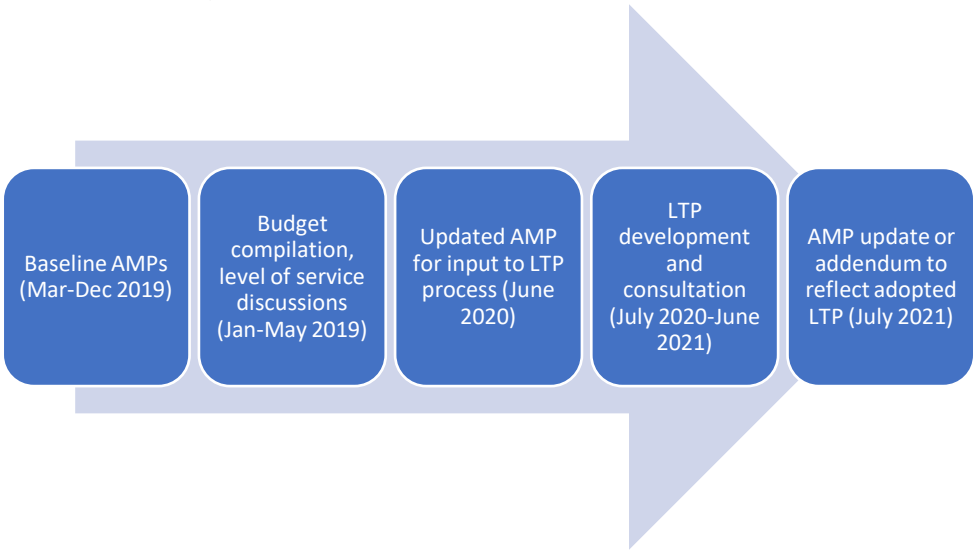


Figure 2-1: AMP Development Timeline

This AMP has been prepared as a team effort by officers dedicated to and trained in AM planning. This team has been supervised and the AMP internally reviewed by professional Council staff having over 10 years' experience in preparing AMPs with guidance from an external asset management specialist.

2.6 Navigating the AMP

The AMP follows the general format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual. It comprises a series of logical steps that sequentially and collectively build the framework for sustainable asset management for the activity it serves.

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by the organisation,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management improvement plan – the current and desired state of asset management practices and how the plan will be monitored to ensure it is meeting organisation's objectives.

3 The Services We Provide

This section outlines the drivers for the level of service requirements, sets out the proposed levels of service and performance measures, provides information on how Council has been performing in recent years against those requirements and identifies projects and programmes aimed at addressing any level of service gaps. (Levels of service gaps are where performance results achieved are consistently different from performance targets).

3.1 Level of Service Drivers

3.1.1 Customers and Stakeholders

Understanding service expectations from customers and stakeholders helps to inform what is important to customers and therefore what aspects of performance should be measured. The core focus areas from the Organisational Digital Strategy includes:

- Citizen Focus: The Citizen is our #1 focus, building trust and engagement, enhancement quality of life, supporting the growth of businesses.
- Enabling our People: Enable a digital workforce that can work more flexibly and efficiently, better understand the citizen, and make better informed decisions.
- Delivering Value: We will deliver values by providing secure data-driven solutions based on core architecture, collaborative planning across the organisation, and an effective funding model.

Customer/ Stakeholder Group	Service Expectations
Citizen IT Users *Building trust and engagement, enhancement quality of life, supporting the growth of businesses.*	IT Public services available Direct to Citizen and Supplier Digital Services to enhance information accessibility, quality and timeliness of interactions for services via Technology Enablement activities
Elected Members / Community Board IT Users	Develop environments which permit the electronic management of meetings and allow for paperless transaction of business and enhancing social media capabilities to allow greater citizen interaction Upgrading and enhance AV capabilities to encourage greater citizen participation via live streaming of council meeting
All Council IT Users *Enable a digital workforce that can work more flexibly and efficiently, better understand the citizen, and make better informed decisions.*	Quick response and resolution to IT requests and incidents via our Support Services and IT services available via Technology Enablement Services that are value for money, secure, effective and efficient via our Asset and Infrastructure Management Provide efficient and timely services. Includes operating over 600 separate applications categorised into four core Digital Platform capabilities via Technology Enablement Services Direct to Citizen and Supplier Digital Services to enhance information accessibility, quality and timeliness of interactions for services via Technology Enablement Services Ensure Council records are secure, identifiable, accessible, and easily retrievable via our Information and Record Management Services to - meet Councils obligations under the Public Records Act (PRA) and support LGOIMA requests - support business operations through reporting and analysis - support data collection, decision making, route planning, public consultations and emergency management.

Table 3-1: Customer Expectations

Council has several ways in which it seeks to identify customer expectations and the extent to which these expectations are being met. External customer satisfaction is determined by the business unit responsible for that function. IT receive feedback directly from staff who have use the support services.

This feedback, both for external and internal customers is via surveys. These include:

- Surveys which are used to gain a pulse at a certain point of time including Net Promoter Scores (monthly)
- CIO vision and shared services surveys yearly

The recent restructure of the IT Unit has seen the creation of the IT Digital Solutions channel. They will be responsible brokering customer expectations and gauging customer sentiment for the services we provide, and brokering any areas of service improvement required.

Key findings from our engagement with customers is demonstrated by the results shown in the following dashboard;

3.1.2 Legislation/Regulation

Information Technology, process and people, enable Council to meet its legislative requirements as well as policy directions from Central Government and Better Public Services provision.

Alongside customer expectations, we consider legislation, regulation and standards that impose level of service standards within a number of areas of operation. As such IT assist other business units in achieving compliance in areas of Building (consents and compliance), Health (food preparation and safety) and with generalised auditing of regulatory systems providing evidential activity as part of annual auditing processes.

In respect to direct accountability key legislation and strategic documents specific to guiding IT Unit activity are summarised in Table 3-3.

Legislation / Regulation	Impacts on Levels of Service
Public Records Act (PRA) 2005	a) to provide for the continuation of the repository of public archives called the National Archives with the name Archives New Zealand (Te Rua Mahara o te Kāwanatanga); and b) to provide for the role of the Chief Archivist in developing and supporting government recordkeeping, including making independent determinations on the disposal of public records and certain local authority archives; and c) to enable the Government to be held accountable by— d) ensuring that full and accurate records of the affairs of central and local government are created and maintained; and e) providing for the preservation of, and public access to, records of long-term value; and f) to enhance public confidence in the integrity of public records and local authority records; and g) to provide an appropriate framework within which public offices and local authorities create and maintain public records and local authority records, as the case may be; and h) through the systematic creation and preservation of public archives and local authority archives, to enhance the accessibility of records that are relevant to the historical and cultural heritage of New Zealand and to New Zealanders' sense of their national identity; and i) to encourage the spirit of partnership and goodwill envisaged by the Treaty of Waitangi (Te Tiriti o Waitangi), as provided for by section 7; and j) to support the safekeeping of private records.
Privacy Act 1993	The purpose of the Privacy Act 1993 is to promote and protect individual privacy, and in particular to establish principles on: a. collection, use, and disclosure of information relating to individuals; and b. access by individuals to information held about them. The Act covers both the public and private sectors. The Privacy Act covers "personal information", which is defined in section 2 of the Act as information about an identifiable individual. There are 12 information privacy principles (dealing with the collection, storage, use, and disclosure of personal information, and an individual's right to access his or her personal information and to request correction). Codes of practice that may modify or replace the information privacy principles (such as the Health Information Privacy Code 1994) are also issued from time to time.
Local Government Official Information and Meetings Act 1987	a) to increase progressively the availability to the public of official information held by local authorities, and to promote the open and public transaction of business at meetings of local authorities, in order— i. to enable more effective participation by the public in the actions and decisions of local authorities; and

	ii. to promote the accountability of local authority members and officials,— and thereby to enhance respect for the law and to promote good local government in New Zealand: b) to provide for proper access by each person to official information relating to that person: c) to protect official information and the deliberations of local authorities to the extent consistent with the public interest and the preservation of personal privacy.
Local Government Official Information and Meetings Amendment Act 2015	This Act amends the Local Government Official Information and Meetings Act 1987 (the **principal Act**).

Table 3-2: Legislative and Regulatory Level of Service Drivers

3.1.3 Strategic Framework

Levels of service areas for IT identified through analysis of the strategic framework include:

- IT asset management aligned to ensuring rates are affordable and sustainable
- Monitor software upgrades and mitigate the risk of sustainability
- Improve resilience (strategic priority)
- Empowering citizens to easily interact with Council services
- Build trust and an emotional connection to IT by promoting positive internal customer experiences

Measures to monitor progress towards those priorities are included in the following section.

This AMP covers a period of 5 years commencing 1 July 2019. Operational, maintenance and renewal programmes for the first 3 years are generally well defined with reasonable certainty of being implemented to budget as planned. Beyond this period, work programmes are generally based on projected trends and demands and there is less certainty with respect to scope and timing of the projects. All expenditure forecasts are based on unit costs as at 1 July 2019.

3.2 Defining and Measuring Levels of Service

3.2.1 Measuring our Levels of Service

Based on the activity objectives defined in Section 2, the following levels of service objectives have been defined:

This Internal Service supports all the Community Outcomes through the organisational support provided by this Activity to the External Services of the Council.

This is covered in Section 5 of Information Technology Activity Management Plan.

	Performance Measures	Type of Measure
Technology Enablement	1. IT Investment Roadmap 2. Internal Customer Satisfaction Surveys 3. IT Projects are well managed and supported 4. IT Enablement achieves Benefits Realisation	1. Level of Investment achieved in relation to proposed requirement in the IT Investment Roadmap 2. Achievement of an => 60% score rating 3. Achievement of an => 85% delivered within scope 4. Benefit Realisation => for 85% of all projects
Information and Records Management Services	Manage Council Corporate Records in line with the Public Records Act requirements	Compliance to the act achieves => 85% of Archives NZ Assessment / Audit
Asset and Infrastructure Management	1. Asset lifecycle compliance 2. Renewal and licensing compliance	1. All hardware is <= 1 year post warranty 2. All software is <= N – 1 of vendor version

	3. Capacity monitoring	3. Hardware and Software usage is monitored on a quality basis to determine appropriate usage and investment
Information and Communication Technology Support	1. IT Operational Resilience (Availability) 2. IT Operational Resilience (Return to Operation)	1. Key Services maintain an up time of 98% 2. Priority 1 incidents are resolved =>95% of the time within scope
Cyber Security Programme and Operation Services	1. Provide a safe and secure network 2. Cyber Security incident response 3. Cyber Security staff training	

Table 3-3: Alignment of (level of service) objectives and performance measures

3.2.2 How we are / should we be performing?

IT have defined a robust set of standards to ensure the services we provided are managed, maintained and returned to active service with minimal disruption to business activities. The tables below indicate the standards currently in place

Current - SLA - IT Operational Resilience – System Availability & Reliability FY2018 - 28

Business Service Level	Availability	Return to Operations (Incidents)			
	SLA Target within service hours	SLA Target within service hours	Impact Level 1 System Down (P1) CCC Wide, Executive, Public Facing	Impact Level 2 System Degraded (P2) Unit / Department	Impact Level 3 Urgent and Normal (P3) Individual / Team
City Critical	98%	95%	4 hours	10 hours	20 hours
Business Critical	95%	90%	10 hours	20 hours	50 hours
Business Operational	90%	80%	20 hours	50 hours	50 hours

Service Hours for IT Operational Resilience – Return to operations SLAs are:

- P1 City Critical and Business Critical SLA's will run 24 hours.
- All other SLA's will run from 07.30 am to 5.30 pm Monday to Friday, excluding holidays

Return to operations is defined to be where the business service is operational again following a system outage/interruption

Return to operations

New: Response time and frequency of communications

Priority Description	Definition	Priority	Target Response	Frequency of updates	Target Resolution FY19	Target Resolution FY20	Target SLA
Critical Business Impact **- City Critical** **- Business Critical** **- Business Operational**	An incident which requires immediate attention. • Loss of Service • System down	P1 - Critical	15 mins	30 mins	4 hours	4 hours	95%
Serious Business Impact **- City Critical** **- Business Critical** **- Business Operational**	An incident that requires urgent attention • Significant loss of functionality • Service impacted affecting more than one team • Seriously impacts the ability to perform their normal work • Has visibility to external customers	P2 - Urgent	1 hour*	1 hour*	10 hours*	10 hours*	90%
Noticeable Business impact **- City Critical** **- Business Critical** **- Business Operational**	An incident which requires attention • may involve significant risk or loss of functionality affecting a single customer • impact effecting a teams ability to meet targets • Loss of IT functionally	P3 - Important	10 hours*	10 hours*	50 hours*	30 hours*	80%
Minor Business Impact (to be added FY20) **- City Critical** **- Business Critical** **- Business Operational**	An incident which requires attention • may involve minor risk or loss of functionally affecting a single customer • No impact on teams ability or targets • No loss of IT functionally	P4 - Regular	10 hours	10 hours Or as agreed		50 hours	

Return to operations exclusion
Third party resolution and services
Scheduled Maintenance

*Within working hours (Monday to Friday 7:30am to 5:30pm)

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Current - SLA - IT Request for Service FY2018 - 28

Business Service Level	Requests for Service			
	SLA Target within service hours	Impact Level 1 (P1)	Impact Level 2 (P2)	Impact Level 3 (P3)
		CCC Wide, Executive, Public Facing	Unit / Department	Individual / Team
City Critical	95%	4 hours	10 hours	100 hours
Business Critical	90%	10 hours	100 hours	150 hours
Business Operational	80%	100 hours	150 hours	150 hours

- All SLA's for request for service will run from 07.30 am to 5.30 pm Monday to Friday, excluding holidays.

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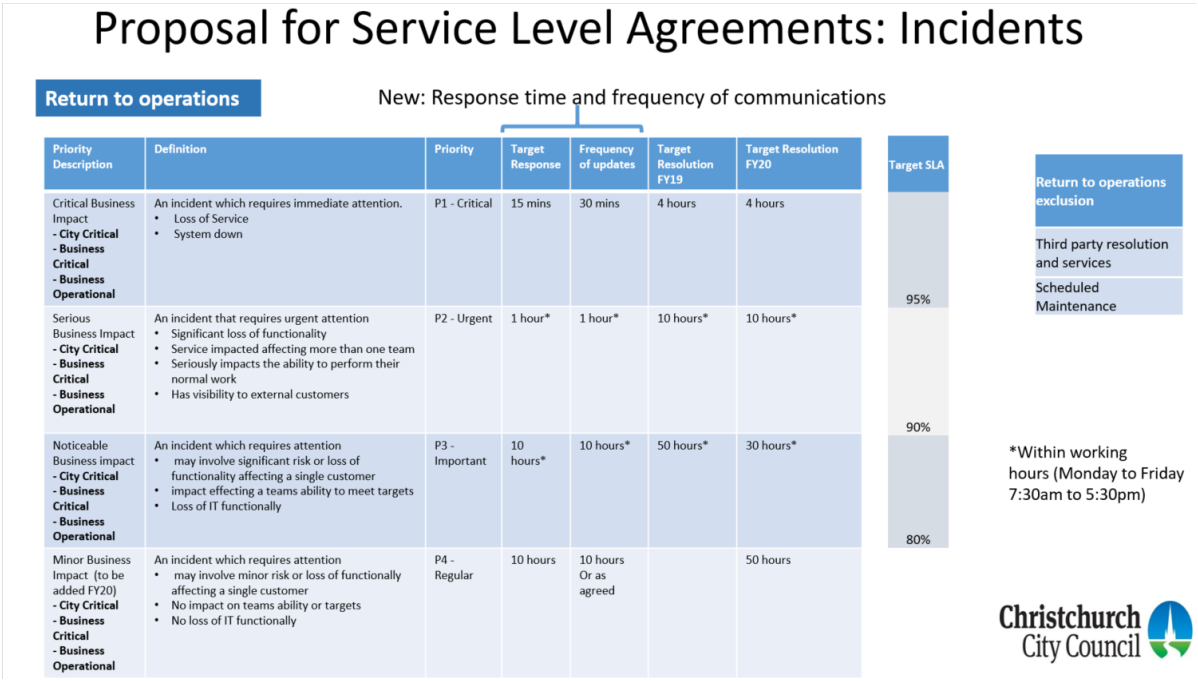
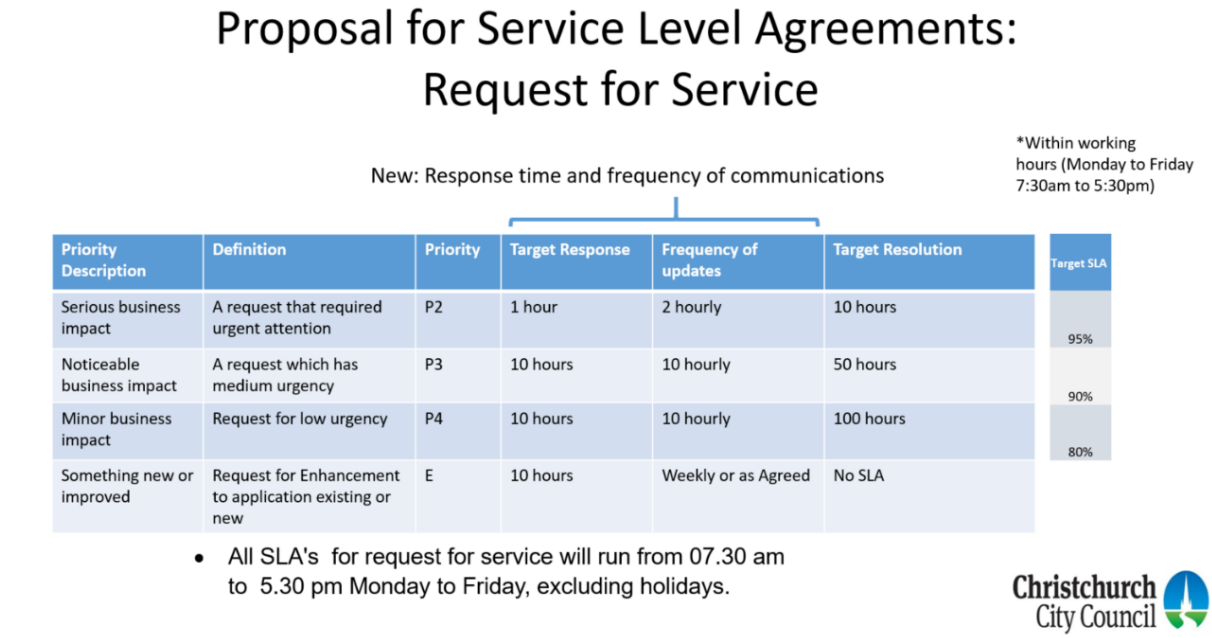




3.2.3 Performance Framework, 2021-2025

Section 3.2.1 details the areas of measurement that the IT Unit will be undertaking. The IT Performance Framework will see those measure carried forward year on year with annual review to take into account any advances made within technology enhancements to ensure a programme of continuous improvement.

3.3 Level of Service Projects and Programmes

These are the projects or programmes that are planned to close the gap between the current and target level of service.

Major Initiatives to address level of service gaps	Strategic and Level of Service Drivers	Indicative $	Year (if in existing budget)	Comments
Operational Resilience	Assessing and developing current infrastructure and solutions returned to service in the most timely fashion based on criticality	$15.0M	2020 / 2021	1. City Critical 98% within 4 hours 2. Business Operational 80% within 30 hours 3. Business Critical 95% within 10 hours
IT Asset Lifecycle compliance	To ensure that all renewal and/or replacement programmes are aligned to provide sustainable and fit for purpose procurement	$3.1M pa	2020 2021 2022	Hardware replacement =<1 year past warranty Software =< vendor version N - 1 Capacity management monitoring to monitor software usage, upgrades and patches to mitigate risk
Data Network Upgrade - New Design Future Phases	Required to provide Council with a scalable network infrastructure to respond to growing demand from new facilities, increase in cloud services, and internet of things	$2.7M	2020	

With the introduction of Zero Based Budgeting IT have redefined how they are classifying funding elements to better represent how spend translates into operational activity. The below table explains the rationale used to describe the approach that has been taken.

IT Service Categories Defined

Zero Based Budget (ZBB) Approach

Service Type	IT Support & Maintenance		IT Enhancements
	BAU	BAU +	Improve Existing Systems Implement New Systems *(when gaps)*
Category	Keep the lights on today with existing systems / services	Make sure lights are still running tomorrow for existing systems and services	- Improve citizen / employee experience in existing systems and maximise use. - Support new facility build IT requirement e.g. Metro Sport. - Modifications required to bring on new supplier contract e.g. B2B integrations. - Drive out organisation operational cost by increasing digitised process efficiencies. - Remove technical debt to reduce opex cost - Implement new systems where technology gap - Enable the Organisational Digital Strategy
Funding Type	Opex	Opex / Capex	Opex / Capex
Capital Fund	NA	R&R	BTS / CI

4 Demand for our Services

4.1 Demand Drivers

When considering how the Christchurch City Council operates it needs to be acknowledged the CCC is more like a multi-faceted corporation rather than just a single entity. With 32 business units, with some very diverse and specific technical requirements and varying client and customer expectations. The primary demand driver, from and IT perspective is ensuring, where practical, that standards systems integrate across the whole organisation, for example payroll, HR, financial systems.

This need is coupled with assisting the various business units to identify areas of synergy across other units that recognises potential areas of collaboration. This needs to take into account systems used to monitor and maintain the environments to provide quality water supply have similar components as required to maintain preserve fine works of art. In addition the same systems that are required to meet the requirements for storage and access of our data obtained from our transactional activities have similar needs for storage and access as do the historical community archives that records the progression, growth and heritage of our community. This presents challenges when designing solutions that meet the front end needs of user while optimising back end rationalisation for best financial return and value.

The additional driver for IT Unit services is a demand from both internal and external customers to access systems and services from where they are currently operating over a range of devices which are capable of facilitating their transactional requirements. This need for dynamic, accurate and timely information, upon which both internal and external knowledgeable decision making can occur drives the demand for robust, intuitive, and secure back end and front end solutions that can be accessed under a self-service model.

In conjunction with openness and transparency the demand for services from an increasingly mobile customer base will impact the type of IT infrastructure and resources needing to be employed and deployed in the future. The disruptive model of software development also requires a degree of flexibility in our ability to adapt, adopt and delete from our repertoire of solutions without causing massive disruption to business activity.

We must also cater to the full generational spectrum and be able to either directly deliver or offer solutions of delivery that encompass extreme levels of technical acceptance and competence.

4.1.1 Demographics

- Population growing – decentralisation of living
- Increased demand for modelling data for Transport, Waste, Flood Control, Health and Environmental issues based upon new population densities
- Population aging – need to profile services to cater for a mobilised “connected” society whilst still ensuring access for those less technically able
- Increased diversity of population requiring awareness of language, culture and belief systems to be understood and where practical catered for

4.1.2 Citizen and Community Engagement

- Customers will increasingly expect 24/7 access to services online.
    - They will expect quicker transactional turn around require more automated processing and improved workflows.
    - They will expect a one stop shop experience allowing them to deal with all there enquires and issue in one place which gives them a composite view of their interaction with Council.
    - They will want more convenient and flexible methods of payment in line with commercial offerings.
- Increasing demand on the Council’s online presence
    - Customers will expect more and more to interact with Council via a variety of media dependent upon the transactions they are undertaking. This may take the form of:
        - Face to face video transactions
        - Chat sessions with agents
        - On-line public meetings
        - On-line question and answer forums
        - Using Artificial Intelligence (AI) Chabot workflows for interactive transactions
        - Web based account and form management
- Reduction and consolidation of customer service points – what does this mean for the non-technical members of our community what initiatives will be required to accommodate this element of society.

- New technologies
    - What does community take up of emerging technologies mean for council?
    - How do we become fast adopters?
- Demand for citizen training & awareness in using online technology.

4.1.3 Change in Business Models

- Increased use of managed services, what does it mean for:
    - Infrastructure management
    - Funding models
    - Accountability
- Resiliency and Redundancy:
    - What does this look like
    - How do we cater for the new need
- Workforce requirements:
    - Changing skill set requirements
    - Changing workplace habits /hours of work
    - Flexibility of scaling up or down in response to increased demand / natural emergencies

4.1.4 Security and Risk

- Expectation of increased security:
    - Increasing our own security
    - Ensuring we are not a portal of insecurity to any connected partners
- Expectation of Trustworthiness:
    - Information protection:
        - Storage and data provisioning
        - Data archiving/retention and complying with privacy act
    - Factual information suppler:
        - Big Data to provide insights and inform planning and decision making
        - Community led data
        - Open data
    - Secure provider

4.1.5 Impact of Demand Drivers

Demand Driver	Impact on services
Demographics	• Improved network Infrastructure to allow greater volumes of access • Increase free Wi-Fi networks reducing user access costs • Potential user pay requirements • Potentially increase on translator and cultural services • Public provisions of systems for access
Citizen and Community Engagement	• Increased investment in forward facing systems • Increased integration between backend system to provide a single pane of glass experience for customers • Increased R & D to examine, install and deploy new emerging technologies • Public provision of systems for training
Change in Business Models	• Change of how infrastructure is funded • Increased accountability for business owners • Change of focus in respect of accountability for resiliency • Changing needs to workforce habits and skills sets requiring a re-appraisal of resourcing needs • Potential for increased data storage costs based upon what models are adopted

Security & Risk	• Potential for increased security costs • Potential for increased levels of resources • Upskilling of existing workforce • Potential for increased costs based how data is stored and accessed

Table 4-1: Potential impact of demand drivers on services

4.2 Demand Forecasts

4.2.1 Historic Demand Changes

Over the last ten years demand from an IT Unit perspective has, in the wake of natural events, been overshadowed by the need to redeploy to alternate facilities, rebuild and refurbish existing premise, commission and build new community amenities. This work was needed to ensure the reestablishment of pre-existing services whilst bringing on line new functionality to the city.

Whilst this work has seen functionality brought back to the city, to a degree this has been accomplished in factionalised and semi-independent pockets of activity, in response to the need to move quickly.
The lessons learned through this period now need to be incorporated into changed business practices that captures business drivers, allows IT to provide solutions to those requirements in a consolidated and coordinated manner.

It also needs to be acknowledged that we have a large number of legacy systems, solutions and processes that need rationalisation to reduce technical debt, increasing support costs, standardisation of solutions via a service catalogue thereby ensuring any investment made is future proofed rather than dead investment.

The greatest demand change will be the cultural shift that is required to consolidate all business IT activity within the IT Unit ensuring that a true picture of IT costs are achieved, that these costs are transparent and not clouded by “shadow” IT procurement and management.

For the IT Unit this means demand takes the form of;

- An increased awareness of business function and road maps so that solutions presented are in line with those road maps and provide sustainable pathways to future development and continuous improvement.
- Improved management of Assets, understanding to a greater degree what we have, where is it located and does this provide value for money.
- Clear guidelines on what constitutes Capex and Opex programmes so there is clear understanding of the baseline cost of “keeping the lights on”.
- Understanding and coordinating with other business partners to improve resiliency and BCP requirements.
- Clear guidelines and policies related to the management and control of all Asset Management information.
- Defined data requirements, sources and schedules for reporting Asset information.
- Auditing requirements are documented and scheduled.
- Architecture and Infrastructure requirements are clearly communicated to ensure sustainable renewal and replacement programmes.
- Improved vendor engagement to ensure service levels are met and maintained.
- Improved accountability by business owners for costs and performance within newly constituted guidelines and policies.
- Enhanced security systems and measures to protect both internal and external customers.

4.2.2 Forecast Future Demand

IT services in an environment where Community Engagement is at the forefront of thinking. If we are to be proactive to customer requirements this will require a coordinated IT approach across all business units. This will be required to ensure that any technology existing or proposed has the capacity to supply interactive data flows that build, at a high level, a profile of total business activity, whilst at a more granular level give total visibility to customers of all their dealings with council.

What these services look like is still being developed. What is known is there will need to be more emphasis on social platforms as an avenue for undertaking transactional activity. Higher use of spatial platforms will be required to plot and model in and above ground infrastructure. Monitoring solutions that provide for proactive response rather than post

event reactive response. These will need to be tied to regulatory and financial systems that ensure we are meeting statutory obligations as well as providing value for money for ratepayers.

To achieve the IT Unit needs to become a partner to other business units who is seen as an enabler as well as a value add proposition. This requires the various facets of IT to understand their internal customer base and the services they provide.

This will enable renewal and replacement programmes to be developed that ensures all systems are optimally configured at all times. It will also ensure that adequate resources are in place to facilitate deployment programmes and that these are coordinated with the business owners to minimise any impact on normal operations.

Future forecast demand will be driven by the Demand Drivers as described in section 4.1

4.3 Impact of Changing Demand on Existing Assets

As previously described in section 4.1 the diversity and complexity of operational activities provides a number of challenges for IT. How do we rationalise the needs of all parties to ensure that we are providing systems and processes that allow us to leverage of what we already own against our obligation to be prudent with our resources and finances while still providing robust, resilient solutions that do not compromise operational functionality.

In turn this need to "Get the basics right" needs to take into account the consumptive requirements of the council's customer base, the rate payer. The technologies employed by the general public to interact and transact will need to be the same technologies that IT deploy to allow the public to be informed, enabled and engaged.

Existing assets utilised by IT have varying lifecycles generally ranging from three to seven years. Assets may be "sweated" past that point but IT runs programmes for most assets of renewal and replacement that work on a four-year cycle.

In terms of a demand profile this means that we can undertake year on year planning, without this being a reactive process, determining what our forward needs are.

Pragmatically this means;

- Role based deployment. Based upon monitoring and usage devices and software can be deployed that specifically for the role the user is undertaking
    - For field based entities this may mean devices that allow direct interaction with data sources permits improved processing and more dynamic information flows
    - Defined levels of stock to cater for fix and repair needs based upon historical evidence of issues
- In place technology and mobile solutions that allow the public access to systems and information as and where required
- An enhanced network with built in redundancy and diverse routing to ensure continuity of service
- Improved Wi-Fi networks to allow improved community engagement
- Increase use of managed services, Infrastructure as a Service (IaaS), Software as a Service (SaaS), Telecommunications as a Service (TaaS) and specific applications delivered as a Cloud Based Service
- Less demand for capital investment in technological infrastructure
- A shifting of cost to operational funding streams
- A changed IT Unit workforce that concentrates on strategy and service
- Improved understanding of the operational activities of all business units to permit increased collaboration and optimisation
- Improve vendor contracts and engagement that focus on Levels of Service and Reporting
- Ensure, by contract, that vendor resiliency and redundancy is clearly understood and taking into any planning
- Review resiliency and BCP requirements in line with services provision by third parties

4.4 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of assets and providing new assets to meet demand

Demand management practices will need to include monitoring, both assets and data capture, auditing to ensure the accuracy and currency of asset information along with reporting to analysis the propositions of value add against investment and develop process, guidelines and policies to ensure future investment is based upon valid assumptions.

Opportunities identified to date for demand management are shown in the table below. Further opportunities will be developed in future revisions of this asset management plan.

Table 4-2 Demand Management Initiatives and Impacts

Initiatives	Effect (↑, ↓, ↔)	Assumptions	Impact
Service Catalogues	↓	• User based role allocation of software and hardware • Better understanding of entitlement • Decrease in service request • Improved management of services	• Standardised models of hardware / software • Improved economies of scale in procurement • Improved life cycle management • Consolidation of support cost
Improved Asset Management Programmes	↓, ↔)	• Better understanding of what we have • Ensuring deployment is appropriate • Monitoring software usage to ensure license acquisition is appropriate • Ensuring license types are appropriate for usage • Improved Vendor engagement / management • Improved lifecycle management	• Reduced level of duplication of resources • Improved allocation of resources • Allocation of software relative to actual usage requirements • Ensuring license types are value for cost • Working with vendors to ensure value for cost • Utilising existing assets to fullest extent whilst ensuring best value
Better IT Cost Transparency	↓	• Hybrid cost allocation model based on business owner / users • Better ability to adjudge optimal use of systems • Ability to model return on investment for enhancements	• Better understanding of true cost of business units • Ability to modify operations to ensure value for cost • Enhancements based upon functional requirements • Potential for decreased Operational and Capital cost

4.5 Growth Related Projects and Programmes

Any new growth, particularly in the current environment, will be driven by regional, national and global new norms. These will have to be assessed as the characteristics of the new norm manifest themselves. Current programmes in play may need to be reassessed to ensure there relevancy.

Irrespective of what forward momentum looks like we will still require some foundation investment to ensure that the systems in place are fit for purpose and provide an adequate level of future proofing and "Get the basics right". The below table indicates the foundation initiatives required to sustain growth

Major Initiatives	Project Driver	Indicative $	Year	Comments
New Data Network	• Improved network capability • Ability to up or down scale as required • Enhanced Wi-Fi network	• $8.0m Capex • $0.14m Service ongoing	2020 / 2024	

	• Improved monitoring and reporting • Future proofed network capability • Improved Security • Increased cloud based activity • Utilisation of Internet of Things (IoT) for monitoring and response	annual Opex • $0.280m Software Subscription ongoing annual Opex • $0.5m Security Subscription licensing ongoing Opex		
Renewal and Replacement Investment	• Asset management that ensures a sustainable renewable programme • Improved use of cash flow • Resource sensitive programme Our initial budget was based upon pre COVID-19 assumptions The revised budget takes into consideration financial limitations imposed by the pandemic	Initial budget • R & R - $8.73m • BTS - $7.31m • CIT - $4.43m Total $20.47m Revised budget • R & R $5.93m • BTS $4m • CIT $3.5m Total $13.43m	FY21	Partially allowed for in existing LTP budgets
Software Licensing	• Understanding who is using what and when • Adjusting deployments to fit usage • Ensuring license type equates to a value proposition	$12m+ pa Opex	2020 / 2025	

5 Managing Risk and Investing in Resilience

5.1 Council's Approach

Investing in Resilience

The Resilience Greater Christchurch Plan (RGCP) provides a framework and multi-agency actions towards a more resilience City. All Council's activities play a role in contributing to this Plan by becoming more resilient to 'disruptors'.

To build resilience in our asset networks, we need to firstly understand the potential disruptors and the impacts on our assets and services. These are outlined in Section 5.2.1.

Key projects or activities to improve resilience, that we have identified and defined sufficiently to be included in this AMP programme, are included in Section 5.2.2.

Where further investigation is required to understand the impacts of disruptors and ways to be more resilient, opportunities are identified in Section 5.2.3.

Risk Management

Council's corporate approach to managing risk is defined in its Risk Policy and assessment framework. The framework provides a means for consistently identifying, recording and assessing risks such that risk mitigations can be prioritised across Council. The risk management framework and application to AMPs is summarised in Section 4.3.3 of the SAMP.

Whilst the resilience programme focusses on the big, strategic challenges such as natural hazards and globalisation, Council's risk register (recorded in Promapp) is also intended to be used to manage higher frequency, lower probability events. For example, while another major earthquake would have very high consequences for many of Council assets, lower consequence risks such as third-party damage may be so frequent as to also warrant attention.

In Section 5.3.1 we provide a snapshot of the highest risks recorded for this activity and in 5.3.2 summarise the major mitigation actions that have been included in this AMP.

Resilience Definitions

Acute Shocks: Sudden, sharp events that threaten us e.g. the Canterbury earthquakes represent one of the most significant types of shock any place can endure.

Chronic stresses: Activity that weakens the fabric and functioning of a city on a day-to-day or cyclical basis.

Resilience is the capacity of individuals, communities, businesses, and systems to survive, adapt and grow, no matter what chronic stresses and acute shocks they experience. (100 Resilient Cities)

The Resilience Dividend: The practice of designing projects and policies to address multiple challenges at one time, improving services and/or saving resources i.e. the net social, economic and physical benefits achieved when designing initiatives and projects. (*100 Resilient Cities)*.

Multiple Dividends accrue from investment in disaster risk reduction and can: (1) Avoid or minimise losses when disasters strike. (2) Stimulate economic activity in a zone as a result of reduced disaster risk; and (3) develop co-benefits, or uses, of a specific investment.

Absorption is the ability to absorb shocks or stresses without triggering non-linear, abrupt environmental change (in the wider sense of 'environment' not just the natural environment). *New Zealand Treasury Resilience and Future Wellbeing 2018.*

Adaptation changing something in order to make it suitable for a new use or situation. In a climate change context, the UN Development Program calls it a process by which strategies to moderate, cope with and take advantage of the consequences of climatic events are enhanced, developed, and implemented. *(Oxford Dictionary).*

Mitigation is the action of reducing or minimising the severity and seriousness of any harmful impact *(Oxford Dictionary).*

Resilient Qualities are the characteristics of resilient projects and systems. The 100 Resilient Cities define these characteristics as reflective, resourceful, robust, redundant, flexible, inclusive, and integrated.

5.2 Investing in Resilience

5.2.1 Understanding our Resilience Challenges

Section 4.3 of the SAMP detailed the 'shocks and stresses' (disruptors) that provide resilience challenges for Christchurch. These disruptors have been categorized Climate Change, Globalisation, Demographic Changes, Seismicity Tsunami and Flooding.

In respect of below and above ground infrastructure each one of these categories has significances in terms of the style of remediation require to mitigate events which are either dynamic in their impact or are insidious in their manifestation. These will all require investment in time, money and resource to plan, develop, prevent and / or mitigate.

When considering the same issues for IT while each of these events have the ability to impact on services. For three of the categories the effect is generally the same. Either the service is available, customers can connect, transactional activity can still occur and staff can still operate or it's not. If not what has been prepare to mitigate the issues, what resiliency is in place and how can this be accessed.

Looking from this perspective these areas of concern can be categorized into three categories, Demographic Changes, Natural Events and Globalisation.

Table 5-1 summarises how each of these has the potential to negatively impact our assets and services:

Disruptors	**Potential Impacts on our Assets and Services**

Demographic Changes	• Community Based
	  ○ A more diversified cultural population base
	  ▪ Need for improved communication channels
	  ▪ Need for improved levels engagement
	  ○ A more dispersed city
	  ▪ Different approaches to what services are offered locally
	  ▪ Introduction of more cloud based services
	  ○ A more "mobile" populations base
	  ▪ Different approaches to allowing transactional activity
	  ▪ A consolidation of customer information to allow a "single pane" of glass
	  ▪ More app based transactional functionality
	  ▪ Different approaches to information dispersal
	  ▪ Different media approaches for engagement of rate payers
	• Internally Based
	  ○ Workplace skill requirements
	  ▪ The need to ensure adequate succession planning to stop organisational intelligence being eroded
	  ▪ The need to upskill the existing workforce as operational characteristics change to a more Managed Service model
	  ○ Potential for decreased level of appropriate skill sets
	  ▪ Competition both locally and nationally for skilled workers

Natural Events / BCP	• Resiliency
	  ○ Preparation
	  ▪ Determining what constitutes essential service
	  ▪ Determining what timelines are required for essential services to be returned to normal operations
	  ▪ Determining priority of return sequencing when more than one system compromised
	  ▪ Determining what roles constitute essential and under what circumstances
	  ▪ Determining what Facilities are critical
	  • Understanding what is available and the configuration of resources at critical facilities
	  • Understanding power constraints

	○ Design ▪ Based upon investigation provide guidelines / policy for implementation and activation of the required services ▪ Design a priority matrix which includes resourcing requirements ▪ Design training systems so that appropriate skill sets are available ○ Implementation ▪ Develop implementation plans as services require ▪ Ensure staff adequately trained ▪ Test systems at regular intervals ○ Vendor Engagement ▪ Determine what resiliency vendors have in place ▪ Mitigate any gaps between internal plans and vendor capability • Monitoring ○ Work with other business units to facilitate the creation of alert systems ○ Ensure systems have residency features that enable multi nodal dispersal of alerts
Globalisation	• Location has the potential to effect supply chains • Currency fluctuation has the potential to impact upon costs • Dissolution of trade agreements in light of political / health emergencies • Cyber-attacks either state or criminally sponsored • Increased incidents of terrorism either global or local that introduces restrictive measure • Climate changes which influence production capability

Table 5-1: Potential Impacts of Resilience Disruptors

5.2.2 Resilient Projects or Activities in this Plan

The following projects and programmes to build the resilience of our assets are already underway and/or are included in this AMP programme. These projects will position Christchurch to be better prepared for, and more resilient to, the disruptions identified in the Resilient Greater Christchurch Plan as most likely to impact community wellbeing.

Note business cases are to be completed for these approved projects.

Project 1 name: Network Monitoring & Analytics CPMS ID 45800

Project Description	A March 2019 Cisco review of the network concluded that a key area to address is the "proactive monitoring and reporting, primarily around performance and capacity management". In addition, there is currently no environmental monitoring of network infrastructure, for example the monitoring of physical access to network cabinets, and the temperature of rooms that host hardware. This impacts the ability to identify when unauthorised physical access to network infrastructure is attempted, and when environmental conditions of a host room is placing hardware at risk of failure (e.g. high temperatures).
Scope and Expected Impact	This Project will address the immediate business need and contributes to the mitigation of Risk Register R00485 Digital Network Outage, by improving the visibility of network health, the access to network infrastructure, and the monitoring of environments. The monitoring availability and capacity information will also provide a level of information for security event analysis. It contributes to the overall visibility of security on the network.
The Case for Change	Evidence base / data or provide a compelling rationale to validate the expectation that a project or activity will build resilience to a shock and/or stressor.

	TRIM://19/263443
	This investment will address the immediate business need and contributes to the mitigation of Risk Register R00485 Digital Network Outage, by improving the visibility of network health, the access to network infrastructure, and the monitoring of environments. The monitoring availability and capacity information will also provide a level of information for security event analysis. It contributes to the overall visibility of security on the network.
The Resilience Dividend	• Mitigates risks relating to the network (access and environment) protecting assets to the value of $12 million over their ten year life. • Enables any future opportunities for 3rd party monitoring of the CCC network • Improves situational awareness of the network • Citizens have trust and confidence in how we manage their information and deliver digital services
Further Opportunities	If possible, identify opportunities for future investment in resilience – information, investigation, modelling, etc.

Project 2 name: Data Network Upgrade - New Design Future Phases FY20 & FY21

Project Description	Rebuild the Council's Data network architecture so that it is capable of delivering required security and capacity / capability for internal and external customers at existing and future facilities. The Council's current Data network has grown organically over a period of several years which has resulted in a technology platform that is now significantly congested, is no longer fit for purpose, and exposes the Council to a significant level of security and business-continuity risk. In addition, the network architecture cannot be sufficiently scaled to meet the requirements expected from planned programmes of work such as SmartCities, or infrastructure developments such as the Metro Sports Centre and Canterbury Arena.

Scope and Expected Impact	Stage 1 2020-2021
	• Detailed design of the network core, branch and wireless network architectures
	• Build and migration of the network core
	• Branch and wireless hardware installation, configuration and integration across all Council sites
	• Business Outcomes
	  ○ Reduce the level of current business risk
	  ○ Reduce the complexity of the IT landscape
	  ○ Improve the cost efficiency of maintaining the required Data network architecture
	  ○ Increase technical capability to support future customer and citizen services

The Resilience Dividend	IT is an enabler of a range of services across Council. Without appropriate infrastructure in place underpinned by robust resiliency solutions the Council's ability to function is greatly compromised
Further Opportunities	N/A

Project 3 name: Move to Azure more for data warehouse / BI

Project Description	The council is beginning its journey into a more modern IT operations space, and with this comes numerous now mainstream technologies. Public cloud offerings are one area that growth opportunities are being realised that can assist in the council achieving its strategic goals. The use case for Microsoft Azure is one that complements a number of the technology strategies that the council already has. Licensing and enterprise agreements exist currently with Microsoft, and partner vendor relationships are strong to aid in the delivery capability. The foundational pillars on which a successful cloud architecture is built are:

- Security
- Performance and scalability
- Availability and recoverability
- Efficiency and operations

The Azure platform is able to deliver on all of these.

Scope and Expected Impact	This project will lay the foundational components (technical and operational) for the council to be able to start consuming Azure services in a way that empowers internal teams and stakeholders. The successful delivery of this project will enable service consumption to be performed using modern principles such as DevOps - which will help the council to be more agile in its approach to service management.
The Case for Change	Aging hardware and software lifecycles within existing council service providers mean that newer technologies are no longer viable to be consumed under a traditional hosted architecture. The Council's Business Intelligence function is looking to progress its reporting and forecasting capability. Using modern platform-based service offerings decreases the total cost of ownership of solutions, whilst at the same time giving them much deeper insights into the data for which they are analysing. In addition to this, the scalability of the cloud platform will allow for complex modelling to be run on-demand (pay-as-you-go) compared with a traditional up-front costing model.
The Resilience Dividend	- Lays the foundation for the council to deliver services is a secure, modern, and agile manner. - Can dynamically cater for the changing requirements for the council using dynamic platform capabilities. - Built in capabilities for disaster recovery, service uptime, and backup can all be leveraged based on council's requirements. - The economy of scale aids in the public cloud solutions being cost effective, and allows for modern operational practices to be adopted more simply.
Further Opportunities	The adoption of public cloud services lays the foundation for the council to move in directions that have previously not been possible. Citizens of Christchurch City and beyond, will directly benefit from the councils consumption of public cloud services. As more opportunities are realise in this space, deeper insights can be gained into how council led initiatives are delivered, improved, and managed.

Project 4 name: Global email as a service resilience/Teams/Microsoft 365 Adoption

Project Description	The council is beginning its journey into a more modern IT operations space, and with this comes numerous now mainstream technologies. Public cloud offerings are one area that growth opportunities are being realised that can assist in the council achieving its strategic goals. The use case for Microsoft 365 is one that complements a number of the technology strategies that the council already has. Licensing and enterprise agreements exist currently with Microsoft, and partner vendor relationships are strong to aid in the delivery capability. The foundational pillars on which a successful cloud architecture is built are: - Security - Performance and scalability - Availability and recoverability - Efficiency and operations

	The Microsoft 365 platform is able to deliver on all of these.
Scope and Expected Impact	This project will modernize the Microsoft productivity suite of products that the council uses amongst its staff. Current productivity offerings are managed and maintained independently of one another, and consolidating these into a single platform realises the benefit of scale. Opportunities exist for licensing models to become simpler and offer a broader set of benefits. The Microsoft 365 suite of products is constantly evolving based on global demand of services. The council has the opportunity to embrace a platform that can provide a modern workplace at all times.
The Case for Change	Aging hardware and software lifecycles within existing council service providers mean that newer technologies are no longer viable to be consumed under a traditional hosted architecture. The council's workers demand the ability to be able to work from anywhere, anytime, on any device. By migrating collaboration services infrastructure into Microsoft's 365 platform means that the council is one step closer to being able to provide that experience for its staff. The Microsoft 365 platform is also a launching pad to be able to realise other collaboration opportunities. Through the use of products such as Microsoft Teams, physical walls no longer become the boundaries for council led initiatives that extend into third parties, partners, and the community. The council needs to be seen to adopt modern ways of operating to stay relevant in a society which is based on change.
The Resilience Dividend	- Lay the foundation for the council to provide a modern collaboration suite of products to its workers that will empower them to perform their roles more simply and efficiently. - Allows for greater agility for the council to adapt to the changing modern workplace. - The Software as a Service nature of Microsoft 365 means that some of the existing hosted service offerings (Exchange and Skype for Business) challenges are removed. - The economy of scale aids in the public cloud solutions being cost effective, and allows for modern operational practices to be adopted more simply.
Further Opportunities	The adoption of public cloud services lays the foundation for the council to move in directions that have previously not been possible. Citizens of Christchurch City and beyond, will directly benefit from the councils consumption of public cloud services. As more opportunities are realise in this space, deeper insights can be gained into how council led initiatives are delivered, improved, and managed.

5.2.3 Building the case for Resilience Investment - 2021 LTP and beyond

Often, we will need to do further work to build a case for future investment in resilience e.g. information/data, policy directions, guidelines, modelling, etc. These opportunities are the basis for a potential investigatory programme of work to inform the 2024 and 2027 LTP's and are summarised in Table 5-2

Disruptor	Opportunities	Timeframe	Resources
Demographic Changes	A more diversified cultural population base	2021 / 2022	1 x BA 6 weeks
	A more dispersed city	2021 / 2022	1 x BA 6 weeks
	A more "mobile" populations base	2021 / 2022	1 x BA 6 weeks
Natural Events / BCP	• Determining what constitutes essential service • Determining what timelines are required for essential services to be returned to normal operations	2021 / 2022	1 x BA 6 weeks

	• Determining priority of return sequencing when more than one system compromised • Determine what resiliency vendors have in place		
	Determining what roles constitute essential and under what circumstances	2021 / 2022	1 x BA 6 weeks
	Determining what Facilities are critical	2021 / 2022	1 x BA 6 weeks
	Design / build solutions based upon outputs of investigation	2021 / 2022	1 x lead 2 x Technical 12 – 16 Weeks
	Implementation – commission and test	2021 / 2022	2 x Technical 8 weeks

	• Monitoring
	  ○ Work with other business units to facilitate the creation of alert systems
	  ○ Ensure systems have residency features that enable multi nodal dispersal of alerts
		2021 / 2022
		
		2024 / 2027
			Various based upon findings

Globalisation	Cyber-attacks either state or criminally sponsored	2021 / 2022	

Table 5-2: Opportunities to Improve Resilience

5.3 Managing Risks

Council's approach to managing risk is detailed in its Risk Management Policy (including a risk assessment framework) which is summarised in Section 4.3 of the SAMP as a background to the content in this Section. These risk are detailed in the Draft Long term Plan 2021 – 2031 Activity Plan - Information Technology – For 1 June 2020

5.3.1 Strategic Risks

Refer Draft Long term Plan 2021 – 2031 Activity Plan - Information Technology – For 1 June 2020

5.3.2 Asset Risks

Refer Information Technology Risk Register https://go.promapp.com/ccc/Risk/Register

5.3.3 Risk Mitigation Strategies

Risk management is inherent in all of Council's asset management processes. Significant risk management strategies for this activity include:

- Management escalation and review
  - The IT unit holds a monthly management meeting to review progress on operational activities, and intervene where required
- Asset Design and Delivery
  - For Council delivered projects, all elements are designed to ensure the following project management framework and meet defined levels of service.
    - Availability – ensuring service is designed to meet a defined availability target (agreeing availability strategies such as having standby spares for critical assets) by aligning underpinning service contracts to our service levels as part of good contract governance.
    - Capacity – managing and ensuring sufficient capacity for growth to prevent disruption to service by ensuring suppliers provide consumption trend reporting as part of good contract governance.
    - Security – by design and through routine security patching and maintenance to ensure vulnerabilities are minimised by performing regular risk audits.
    - Service Asset and Configuration Management – as builts are captured in our Service Management tool to ensure we have the information we need for changes and planning and operation support including levels of service.
    - Robustness (seismic standards) of data centres and managed environments as part of good contract governance and reporting.

        - Redundancy – designing networks, power and services to remove single points of failure as part of good design, utilising experienced third parties to review. Leverage good contract governance to monitor and review.
- Insurance
    - The general approach to insurance for IT assets is the Council's general insurance coverage
- Business Continuity and Emergency Response Planning
    - IT Unit – Business Continuity Plan
- Other specific initiatives:
    - NA

5.4 Summary of Risk and Resilience Projects

The following risk and resilience improvement projects or activities are included in the AMP programme and budgets.

Major Initiatives to improve resilience	**Project Driver**	**Indicative $**	**Year** (if in existing budget)	**Comments**
Network Infrastructure	Significant level of security and business-continuity risk, in the event of natural disasters	$8.9m	FY19-23	Business Case nearing completion

In addition to the risks indicated relative to our network infrastructure, as we move to cloud based solution a number of risk and resilience questions will be raised. As and when we contract for services we will need to considered and quantify the risk and resiliency of the environments offered by our vendors along with any connectivity requirements that ensure continuity of operations.

This will need to be done in conjunction with considering any geo-political considerations that require data sharing with governmental agencies with the country in which the data centre where hosting occurs resides.

6 How we Deliver our Services

The Information Technology Unit (ITU) is a division with the Corporate Services business unit. The ITU is tasked with the procurement, implementation and management of all information and communication technology on behalf of council at large.

ITU does not lead but provides all other units within council with the technical tools to fulfil their functional and strategic aims. This role is one of advice, enablement and stewardship.

This will be the first Asset Management Plan for ITU. Whilst Asset Management activities have traditionally been focussed on managing the purchase and tracking of existing PCs and software, this plan focus on the overall management inclusive of procurement, deployment, consumption and capacity required.

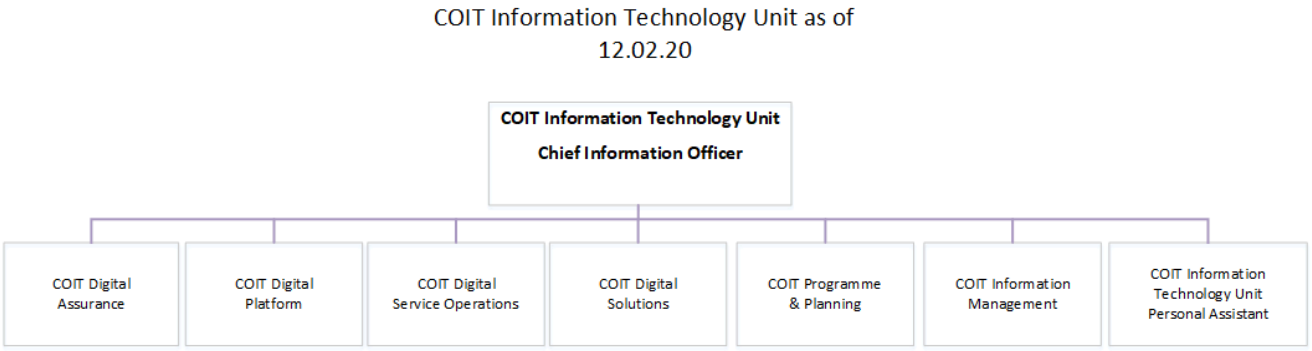
6.1 Historical Context

The fundamental role of IT over the last 30 plus years has generally been to provide an in-house service to support the provision of information and communication technologies.

In 2010, with advances in technology and an improvement in market offerings Council opted to move into a more managed service environment. Initially this involved the outsourcing the management and maintenance of our server assets via Infrastructure as a Service (IaaS) agreements. Overtime this have migrated to include Software as a Service (SaaS), Telecommunications as a Service (TaaS) and a range of cloud based enterprise solutions to enable the council to utilise scales of economy to ensure expenditure in this area provides value for cost.

Hardware and software for end user and end user functions are procured, owned and managed by the council. Hardware is largely a mix of Dell device and screens, software is a mix of individual licenses, perpetual licensing, concurrent licenses, software as a service and cloud services.

6.2 Internal Business Structure



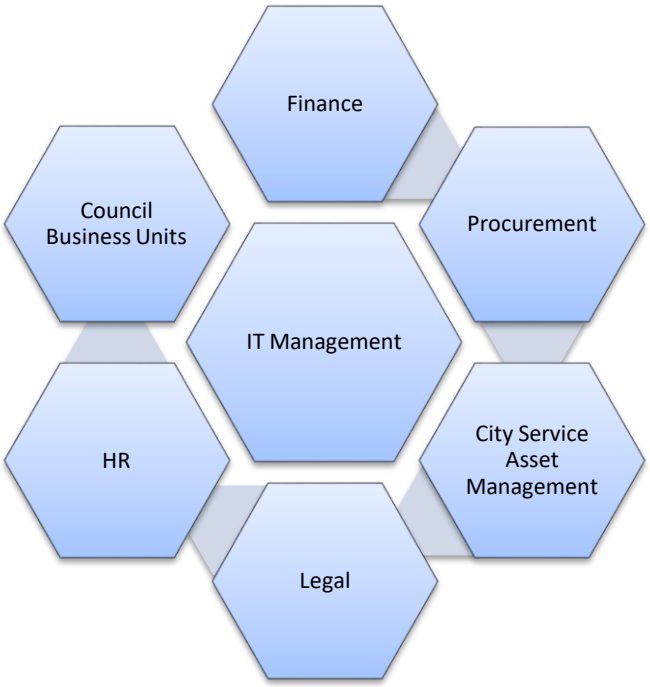
The main teams within Council with a role in service delivery is shown below.

Team	Role
Digital Solutions	Strategic leadership of the Digital Solutions function, being the function that brokers digital solution delivery between the customer and the IT Unit delivery and support functions.
Digital Platform	Strategic leadership of the Digital Platform function and ensuring the unit has a holistic technology strategy across all the Digital Platform capability.
Digital Service Operations	Strategic leadership of the Digital Service Operations and related programmes, across the Council IT Infrastructure and IT Operational Support services.
Digital Assurance	Strategic leadership of the Digital Assurance function. This position will provide an IT Unit assurance function for the Chief Information Officer (CIO) across the areas of quality, security, risk, performance, business continuity, best practice frameworks, and controls

Programme and Planning	Strategic leadership of the IT Programme & Planning function. Accountable for the overall unit capacity planning (e.g. people resource management), and asset management for both hardware and software.

Table 6-1: Council teams involved in the … Activity

The IT Unit also interfaces with departments across Council which support the asset management and service delivery functions.



6.3 External Contracts and Partners

Council engages a number of vendors to act as partners in the delivery of IT services. The rationale for the current service delivery approach is that where the pre-requisite skills sets are not available in-house or an activity is not related to core business these services need to be outsourced.

In conjunction with this approach this approach the movement to a more managed service environment has seen the shift of support resourcing more heavily geared towards level 1 and 2 with levels 3 and 4 being handle by the vendor. This realignment of workplace skills is liable to increase over time.

This approach of outsourcing of selective services and increase in Software as a Service delivery highlights the need to strengthen strategic vendor management capabilities across the IT function.

There has also been a growing tendency to customise / tailor products to be CCC specific. This has the potential where this to increase operational cost where customisation relies on specific internal skill sets.

The top 10 main contracts are summarised in Table below

Contract	Services	Management Approach	Contract Duration
CCL	Data Centre providing • Infrastructure as a Service • Email as a Service • Backup as a Service • Enterprise Voice as a Service	Monthly review level of service and consumption	3 year service contract
Spark	Network • External links	Monthly review level of service and consumption	Procure and manage over a 5-10 year life
SAP	SAP Cloud SAP Hybris	Currently under review	5 year service contract
Microsoft	AOG licensing agreement Enterprise M365 E3 • OS • Office 365 • Email • Skype for Business • SharePoint Server – Enterprise and Cloud	Monthly review level of service and consumption	3 year software agreement
	Unified Support yearly agreement • Proactive Support • Reactive Escalation Support • Consulting	Monthly review level of service and consumption	Yearly service contract
Eagle Technologies	ESRI Geospatial software • Support	Currently under review	3 year software agreement 3 year service contract
Datacom	Customer Interaction Centre Cloud Service	Quarterly review	3 year service contract
Mulesoft	Integration Cloud Service	Currently under review	3 year service contract
Infor	Pathways software • Support	Currently under review	3 year software agreement 3 year service contract
Sentient	Project PMC Service	Currently under review	3 year service contract
Hexagon	Geomedia Geospatial software • Support	Currently under review	3 year software agreement 3 year service contract
Infocentrik	HP Record Management • Support	Currently under review	3 year software agreement 3 year service contract

Table 6-2: Major Contracts for Service Delivery

6.4 Other Service Delivery Partners

CCC as part of its approach to procurement for Technology Services utilises All of Government contracts negotiated by government departments for the benefit of the public sector.

Service Delivery Agency	Role
MBIE	Centre of Excellence for e-government brokered agreements - Microsoft All of Government Agreement - All of Government Hardware Panel Agreement
DIA	Centre of Excellence for e-government brokered agreements - Telecommunications as a Service Agreement

6.5 Business Reviews Undertaken

An Organisational Digital Strategy has been investigated and developed which sets the scene for areas of focus for digital service optimisation and transformation. A proposal to realign the IT function as part of this work was implemented and took effect as of October 2019. This initiative was a direct response to looking at how we provide and deliver services.

Section 17A of the Local Government Act 2002 requires all local authorities to review the cost effectiveness of its current arrangements for delivering good quality local infrastructure, local public services and performance of regulatory functions at least every six years. IT has not undertaken a Section 17A review. This will be scheduled within the next council term.

6.6 Significant changes planned for the activity

Some of the more obvious growth activities likely to occur are;

- Increase in demand for Business Intelligence (BI)
- Increase in data required to be collected, stored and managed (e.g. IoT)
- Need to support more flexible working styles (as called out in the Digital Strategy)
- More mobile workers using field technology
- Where IT can support/impact the Sustainability agenda
- Increase in demand for technology solutions as frontline services modernise (e.g. parking technology, water quality monitoring, customer service kiosks et al)
- Increased demands from citizens and public facilities

The following table outlines what services we are proposing to change from the LTP2018-28 and why.

LTP 2018-28		
LOS ID	**LOS Description**	Target (FY18/19)
13.2.14.2	IT Operational Resilience (Availability) Business Critical	97%
13.2.14.3	It Operational Resilience (Availability) Business Operational	93%
13.2.14.5	IT Operational Resilience (Return to Operation). Business Critical	97%
13.2.14.6	IT Operational Resilience (Return to Operation). Business Operational	93%

7 Portfolio Lifecycle Management Plan

The lifecycle management plans detail how the Council plans to manage the network of assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

Section 7 provides the lifecycle management information and strategies at a portfolio level. Section 8 provides this information at an asset class level.

7.1 Asset Lifecycle Approach

Council has established a lifecycle management framework, aligned to the *International Infrastructure Management Manual* as illustrated in Figure 7-1. Section 7 and 8 are structured to align to the lifecycle stages.

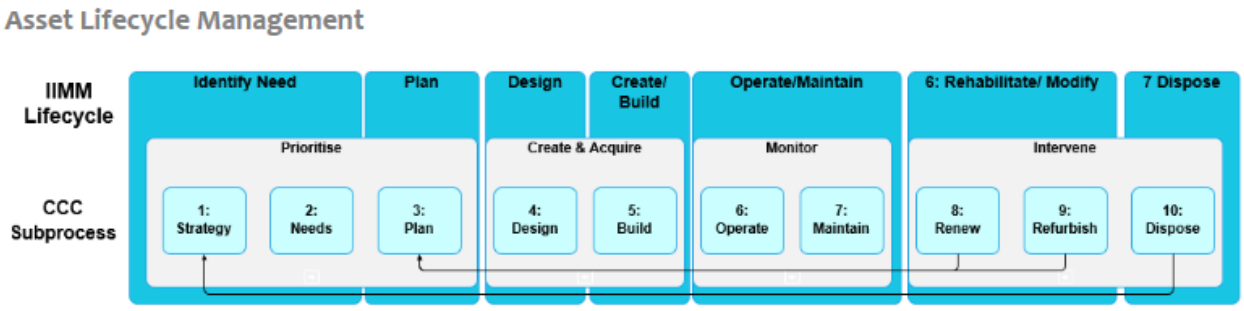


Figure 7-1: Asset Lifecycle Categories

7.2 Our Asset Portfolio

7.2.1 Key Issues and Priorities

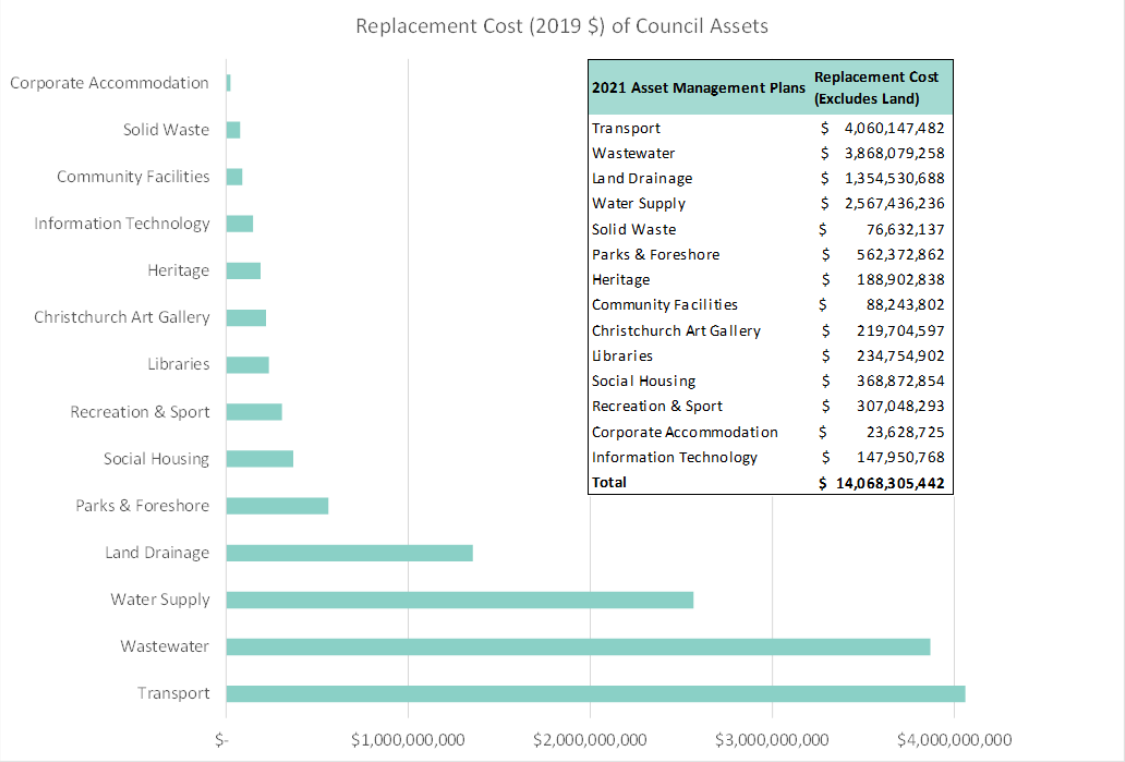
Key Issues	Priority for this Plan
Challenges with increase services relying on the data network and internet	Capex Investment Programme initiated to remediate data network to build capacity and resilience
Resilience challenges	Capex Investment Programme initiated to build capacity and resilience
Aging assets and deferred renewals	Implementing a programme of sustainable renewal and replacement
Diversity of models we offer	Implement role based deployment to standardise models offered
No accountability on managers to ensure the return of assets	Checklist to be developed and as part of exit. User and manager required to acknowledge receipt of devices
Delineation between Capex and Opex clouded	Clear guidelines to be put in place and published
ITU has no definitive way of identifying assets, their location and usage	Investigate interim utility of existing service management tool
No consumptive reporting for software	Reporting to focus on what is used and how frequently
Increasing shift toward services and cloud	Understand Capex and Opex implications, and support for a better balance between Capex and Opex
Shadow IT purchasing software either openly or on Pcards	Policy implemented that all IT related procurement is managed / overseen by IT Unit
Define data required to permit full oversight of assets inclusive of location, user and temporal views	Undertake work to improve data collection and reporting
Significant quantity of intangible assets – software and systems requiring: • Rationalisation to ensure current version in line with policy is in place • Ensuring any dependant systems are capable of operating with the current version • Visibility of end of life solutions	Design, initiate and implement an Asset Management Program that incorporates discovery functions that highlight all inherent risk and enact a plan of action that takes into account high priority issues along with a program of reducing low priority backlog

7.2.2 Location and Value

The book value of the portfolio under IT is $90 million. This represents less than 0.1% of total council assets. Location of these assets is dispersed across the wider Christchurch and Banks Peninsula regions

Service	Asset Category	Book value (incl AUC) June 2019	$ of CCC Asset base
IT	Applications	$79m	
	Desktop Fleet (PC)	$1.9m	
	Smartphones	$0.37m	
	Network	$2.2m	
	Printers	$0.46m	
	Large Displays	$0.15K	
	Other	$1.37m	
Total value IT Assets		$86m	<0.1%

Figure 7-2.1: Asset Portfolio Book Value



2021 Asset Management Plans	Replacement Cost (Excludes Land)
Transport	$ 4,060,147,482
Wastewater	$ 3,868,079,258
Land Drainage	$ 1,354,530,688
Water Supply	$ 2,567,436,236
Solid Waste	$ 76,632,137
Parks & Foreshore	$ 562,372,862
Heritage	$ 188,902,838
Community Facilities	$ 88,243,802
Christchurch Art Gallery	$ 219,704,597
Libraries	$ 234,754,902
Social Housing	$ 368,872,854
Recreation & Sport	$ 307,048,293
Corporate Accommodation	$ 23,628,725
Information Technology	$ 147,950,768
Total	**$ 14,068,305,442**

Figure 7-3.2: Asset Portfolio Replacement Value

In comparison with the book value the replacement value shows a figure in the region of $148 million. Book value will give us the current value inclusive of depreciation cycles whereas the replacement value will give us an approximate cost of total replacement within today's market.

These cost will change year on year as depreciation is applied, book value will reduce, as new assets are procured book value will rise and replacement costs will reflect the estimated cost total renewal.

Replacement cost will always reflect an inflated value against the book cost specifically if replacement is differed.

Technology generally has very short lifecycles compared to traditional infrastructure assets. Hardware lifecycles are based upon the speed with which device development occurs.

Software is also experiencing greater disruptive influences as applications are easy and cheaper to develop and deploy.

7.2.3 Critical Assets

Critical assets are those whose failure would likely result in a significant disruption to service and may include a financial, environment social cost to resolve. These therefore warrant a higher level of asset management. The criteria used for assessing criticality for IT assets are as follows;

- City Critical
- Business Critical
- Business Operational

These definitions are applied to all hardware and software solutions in order to allow appropriate return to service protocols.

7.2.4 Network Age and Lifecycle Stage

Assets employed by the ITU have varying lifecycles dependent upon type of assets, vendor lifecycle programmes and vendor best usage practices.

The Council IT Asset Replacement and Renewal Policy requires that assets are replaced within a year of the expected life. Funding limitations mean less critical, operational assets are sweated and replaced on a break fix basis. Section 8.1.1 gives a pictorial view of deferred renewal and the cost implications of that over time.

Data on IT assets will be addressed as part of a programme of work and continuous improvement inclusive of implementing programmes for sustainable renewal and replacement.

7.2.5 Asset Data Confidence

The attached table summarises the asset information available for the IT assets both in terms of completeness (% of assets for which that data type is stored) and reliability (using the A-E grading below).

Asset data is held in SAP, vFire Service Management tool configuration management databases, mobile device management systems and spreadsheets.

A scope of data required for ongoing management, monitoring and reporting is currently being developed.

This will form the basis for our improved level of control moving forward.

Confidence Grade	Description
A Highly reliable.	Data based on sound records, procedure, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%.
B Reliable.	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%.
C Uncertain.	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%.
D Very uncertain.	Data based on unconfirmed verbal reports and/or cursory inspection and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy ± 40%.
E Unknown.	None or very little data held.

Asset Category	Material / Size/type	Asset Value	Asset Age	Asset Condition	Asset Criticality	Asset Capacity
Desktop Fleet	NA	90% / B	90% / B	NA	60% / C	NA
Large Displays	NA	C	C	C	C	C
Smartphones	NA	90% / B	90% / B	NA	60% / C	NA
Network	NA	30% / D	5% / E	0% / E	0% / E	30% / D
Software	NA	90% / B	NA	NA	60% / C	NA
Servers (excludes Virtual)	NA	60% / D	70% / D	50% / C	60% / C	60% / C
Printers (excludes Follow me)	NA	80% / B	80% / B	NA	0% / E	NA / B
UPS (where CCC owned)	NA	D	D	D	E	E
Radios	NA	C	C	C	D	D
Storage (SAN, NAS, Cloud, SaaS)	NA	80% / B	80% / B	NA	0% / E	NA / B
Cameras	NA	D	D	D	D	D

Table 7-4: Asset Data Confidence (% completeness)

Levels of Service are monitored to a degree to get an indication of performance and condition. Network operational monitoring is planned as part of the Network Programme FY20. If there are issues, staff log a call via our Service Desk. Service Levels Agreements are in place based on the criticality to respond and resolve issues in an agreed time.

7.2.6 Asset Data Improvements

Once we have completed our first Asset Management Maturity Assessment (AMAM), we will design an Asset Maturity Improvement Plan (AMIP) with improvements for data quality for inclusion in the AM Improvement Plan in Section 10. Work is already underway to work in with City Services Asset Management Team to include IT in their programme of work.

7.3 Asset and Network Planning

7.3.1 Asset planning strategies

The following asset and portfolio planning practices are used to identify future portfolio requirements. There is currently no options analysis process used at the planning stage to consider optimisation across the lifecycle.

Strategy	Content	Next review
Organisational Digital Strategy	Published	TBC
IT Operating Model	Following on from IT Realignment implementation	TBA
Information Management Strategy	Draft - T Coombs	TBC
Contractual Reviews of existing IT contracts	Vendor engagement programme, ensuring all IT contracts monitored and reviewed on a regular basis based upon level of spend	2020/2021
IT Asset Management Improvement Programme	Work in progress – establish as part of restructure and new Programme and Planning Manager starting	2020/2021
IT Asset Management Guidelines and Procedures	Review and update	2020/2021
IT Asset Management	Review and update	2020/2021
IT Asset Reporting	Design and Implement	2020/2021

7.3.2 Asset Planning Improvements

It is expected once we have completed our first AMAM, we will have an AMIP which will indicate improvement strategies for inclusion in the AM Improvement Plan in Section 10. This might include the following;

- User growth modelling
    - Software
    - Device
- Server consolidation modelling
    - Size
    - Storage
    - OS
    - Enterprise System
- SaaS/Cloud trajectory modelling
- Rates scenario modelling (i.e. plan for a 0%, 2% and 5% increase)
- Contractual inflation rates (use trends on vendor costs to model)

7.4 Asset Creation (Design and Build) and Acquisition

7.4.1 Identifying and recording capital projects

New works are those works that create a new asset that did not previously exist or works which upgrade or improve an existing asset beyond its existing capacity. Assets may be developed by Council, or by developers and then handed over on completion of the development. In this AMP projects have been identified through consideration of:

- Level of service requirements (Section 3).
- Growth and demand requirements (Section 4).
- Investment in network resilience (Section 5).
- Other asset planning initiatives described in Section 7.2.

Potential projects are collated and recorded in our Portfolio Plan sheet. These come out of ongoing interaction with business units to understand and brocker there requirements.

7.4.2 Selection criteria

These projects are prioritised for inclusion on the capital works programme using the Council's Generalised Prioritisation Tool this can be referenced at TRIM://19/298386.

7.4.3 Asset Design

The design phase is where a lot of value can be added to the project. The aim is to report whole-of life costing (Capex + Opex) for the whole project when considering design options. We use todays' dollars to report, for the purposes of simplicity.

The following asset design philosophies and/or standards that are followed in designing new assets

- IT Principles
- Integration Principles
- Total Cost of Ownership aligned to best practise IRD finance models

7.4.4 Capital Investment Programme

Projected upgrade/new asset expenditures are summarised in table below.

The forecasts are based on increased demand on the data network infrastructure and storage from new facilities, increased geospatial data and IoT pilots

Project name	Funding source	Lifecycle estimated cost	Lifecycle estimated time	Capex	Opex	Expected start date	Expected delivery date
Data Network Upgrade New Design Phases FY20 & FY21	Capital R&R	$11.92m	5years	$8m	$2.92m	FY20 FY24	
IT Equipment R&R –	Capital R&R	$14m	4 years		NA	NA	NA
Software Licensing	Capital R&R	$60m	5 years		$12m		

7.4.5 Management of Vested Assets

IT work with other parts of the Council to ensure we have the relevant information about IT assets and contracts where applicable so we understand the age of the assets, the service levels and how it needs to fit into our asset management plan and resourcing.

A recent example was the Metro Bus Interchange as part of Global Settlement with the Crown.

- Handle with a Hand Over to Support process at the point of handover
- Up front set design standards for network, active equipment etc which is socialised with all the capital project managers – In effect this is the IDS (Infrastructure Design Standards) for IT
- Processes defined and documented in Promapp
- Importance of IT being involved at project inception

7.4.6 Asset Creation and Upgrade Improvements

It is expected once we have completed our first AM Maturity Assessment, we will have an AM Improvement Plan with improvements to asset creation processes for inclusion in the AM Improvement Plan in Section 10.

7.5 Operations and Maintenance

7.5.1 Portfolio-level Operations and Maintenance Strategies

The following general strategies are applied to the whole portfolio. Refer section 3.2.1 for further information.

- Extended warranties in hardware
- Maintain spares/hot standby critical equipment
- Apply patches regularly but in phases to limit impact of failed patching to service levels

- Software maintenance contracts for all production supported systems

7.5.2 Operations and Maintenance Improvements

The following improvements to operations and maintenance processes are included in the AM Improvement Plan in Section 10. Refer section 3.2.1 for further information

- Monitor impact of aged assets on availability, capacity and Level of Service
- Consolidate and rationalise where possible to reduce operational and maintenance overhead

7.6 Renewals

7.6.1 Portfolio Renewal Strategies

IT renewal strategies are currently being redeveloped to allow for a more coordinated approach to procurement, build and deployment. Renewals will work on an annualised rotational plan based on a month by month deployment. Renewal programmes will be based upon the lifecycle of the devices his will allow for improved resourcing, accurate cash flow forecasting and an improved modelling template.

7.6.2 Renewal Process Improvements

See section 7.6.1 for strategy and Section 9.11 for financials.

7.7 Asset Disposal

Disposal of equipment is covered in the IT Asset Management policy. The focus is on sustainability, reuse, recycling and waste minimisation

8 Lifecycle Management Plans

8.1 Lifecycle Management Plan

The IT Unit Asset lifecycle plans are based upon manufacturer recommendations and warranty expectations. In most instances this, in practical terms, means a lifecycle of four to five years dependent upon the commodity involved. In some instances where the equipment is not a critical component to business operations if may be "sweated" past this timeframe to improve value to cost ratios. This approach does come with inherent risk that may see support from the vendor unavailable and/or maintenance contracts become null and void. Internally resourcing costs may also escalate with the need to supply additional support and/or redeploy.

Further sub sections in this category are not relevant to IT Unit operations.

8.1.1 Aged and Condition

Generally within an IT framework hardware usually has a lifecycle of between three and five years.

In the scenario demonstrated below you have 2500 units which should be rotated on a lifecycle of 500 per annum. This ensure optimal performance and best use cash flow. As can clearly be seen if replacement is deferred cost escalate in relation to the level of deferment.

This very flat model shows a maximum increase in cost of $1,150,000 if cost are deferred for two rotations. This does not take into account potential servicing and maintenance cost which are likely to come with "sweating" the equipment or increased labour cost to service over time then the management of a large scale deployment.

Cost Of Ownership

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total Cost
500	500	500	500	500	500	500	500	500	500	
$ 750,000	$ 800,000	$ 825,000	$ 850,000	$ 875,000	$ 900,000	$ 925,000	$ 950,000	$ 975,000	$ 1,000,000	$ 8,850,000
				$ 4,100,000					$ 4,750,000	
				2500					2500	
				$ 4,375,000					$ 5,000,000	$ 9,375,000
									5000	
									$ 10,000,000	$ 10,000,000

9 Financial projections and trends

This section outlines the long-term financial requirements for the activity based on the long-term strategies and tactics described earlier in the Plan.

9.1 Operating Forecasts

9.1.1 Financial Projections

Cost are based upon current levels to date. No consideration has been given to current national or global issues likely to impact upon forward cost

Capital					
	FY-2020	Fy - 2021	FY-2022	FY-2023	FY-2024
Controllable Costs	$19,203,287	$12,749,529	$18,876,852	$21,468,713	$17,096,622
Personnel Costs	$6,744				
Office Expenses	$218,862				
Professional Advice	$3,652,216				
Operating Costs	$387,319				
Maintenance Costs	$2,645,902	$12,749,529	$18,876,852	$21,468,713	$17,096,622
Internal Reallocation	$12,292,244				
Operational / BAU					
	FY-2020	FY-2021	FY-2022	FY-2023	FY-2024
Controllable Costs	$26,723,926	$25,663,555	$24,735,884	$24,731,307	$24,790,405
Contollable Revenue	($206,750)	($224,957)	($229,681)	($190,723)	($190,723)
Controllable Costs	$26,930,676	$25,888,512	$24,965,284	$24,922,030	$24,981,128
Personnel Costs	$18,034,338	$18,483,014	$17,709,406	$17,864,233	$18,303,041
Office Expenses	$10,766,680	$10,841,154	$10,841,154	$10,674,056	$10,908,280
Professional Advice	$235,882	$175,000	$178,675	$182,427	$186,441
Operating Costs	$4,344,590	$4,103,429	$4,086,357	$4,214,889	$4,307,726
Planned Cost Savings	($179,025)	($179,025)	($182,784)	($186,622)	$190,728
Maintenance Costs	$2,171,215	$2,323,335	$2,596,701	$2,804,382	$2,866,079
Internal Reallocation	($8,443,003)	($9,858,395)	($9,798,571)	($10,329,086)	($10,540,828)

The assumptions and forward budget projections detailed here where undertaken prior to Covid-19. A reassessment of current and forward financial positioning will be updated as soon as this is available.

9.1.2 Key Assumptions

These are based upon historical costs to date. Significant risks can be associated with these assumptions given the current climate of operation

9.1.3 Significant Changes

Not applicable to IT at this point in time

9.1.4 Financial Projections

Capital investment requirements to address renewal, level of service, growth and resilience requirements are detailed in the Lifecycle sections. See section 9.1.1

9.1.5 Key Assumptions

These are based upon historical costs to date. Significant risks can be associated with these assumptions given the current climate of operation

9.2 Input Data Confidence Levels

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale in accordance with Table 9.2.

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy ± 40%
E Unknown	None or very little data held.

Table 9-1: Data Confidence Grading System

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 9-2.

Data	Confidence Assessment	Comment on Reliability of Forecasts
Operations expenditure	C	Based upon historical data with large margins for error in the current climate
Maintenance expenditure	C	Based upon historical data with large margins for error in the current climate
Renewals (asset value, lives, condition, performance)	C	Based upon historical data with large margins for error in the current climate
Upgrade/New expenditures (level of service, demand, resilience projects)	C	Based upon historical data with large margins for error in the current climate
Disposal expenditure	C	Based upon historical data with large margins for error in the current climate

Table 9-2: Data Confidence Assessment for Data used in AMP

9.3 Valuation and Depreciation

9.3.1 Valuation Basis

Not applicable to IT Unit

9.3.2 Valuation and Depreciation Forecasts

Not applicable to IT Unit

9.3.3 Depreciation / Renewal Forecast Comparison

Not applicable to IT Unit

9.4 Implications of approved ten-year budget

Not applicable to IT Unit

9.4.1 What we cannot do

Whilst the Council has prioritised decisions made in adopting the 2021 LTP to obtain the optimum benefits from its available resources current circumstances do not permit accurate forecasting from and IT perspective.

10 Continuous Improvement

10.1 Overview of the Improvement Programme

Council has made a strong commitment to the improvement of asset management practices and seeks to further improve their approach. Council acknowledges the need to focus efforts to further asset management practices over the next 2-3 years to an appropriate level of capability.

In respect of IT this commitment has been further emphasised by the employment directly into IT Asset Management a Team Leader role to assist in the facilitation of an improved asset management plan and related operational activities

10.2 Current Asset Management Maturity

This is the IT Unit's first Asset Management Plan. An internal Asset Maturity Assessment has been completed by senior IT leaders and the IT Asset team. This clearly shows that the internal perception is that we are in a Reactive verging on Control status in terms of our current management strategy.

Scoping has already begun to determine the type of data which needs to be collect, where it should reside and how it can be aggregate so that meaningful decision can be made. Our aim in this is to ensure effective and sustainable asset management practice for IT.

Future maturity levels will be set based on best appropriate practice and considering the agreed business drivers.

10.3 Improvement Plan 2020

The independent Asset Management Maturity Assessment process provides a sound basis for prioritising and monitoring improvements to current asset management practices. Our own internal assessment and conclusions need to be benchmarked against external entities and any plans critiqued before implementation tasks place.

10.4 Resourcing the improvement programme

Ongoing continuous improvement activities will be resourced through current BAU Opex funding as part of each team's core delivery, however initial data gathering, consolidation and report creation with require some extra investment.

As part of the process of our BAU engagement we have and will continue to make improvements in;

- Software Renewal – we are addressing areas of usage and consumption to inform decision making around levels of licensing to ensure that all expenditure is relative to demand. This has required the development of monitoring and reporting tools to assist with informed decision making.
- Hardware Renewal – a structured hardware renewal has been introduced, to ensure balancing fit for purpose, warranties being current, and minimising service impacts. This is coupled with a new process for e-waste management that ensures a complete overview of the lifecycle of hardware from procurement to disposal that is in line with council's social and environmental policies.
- Contract Review – all IT based contracts are being reviewed to ascertain there relevancy to the current operating environment whilst also ensuring that they still provide a value for money proposition and fit into the framework of council's procurement policies.
- Data Integrity – all information relating to technical infrastructure is being reviewed for accuracy and currency. Where the information is deficient due to previous procurement practices, attempts are being made to correct those deficiencies. This work is being undertaken prior to a migration of IT Asset information into SAP, which will allow improved financial forecasting and lifecycle management.

10.5 Monitoring and review

The improvement programme will be reported to the AMU and either included within the advancing asset management improvement programme (corporate) or within the continuous improvement programme (unit based). All improvement items will be monitored by the AMU and tracked through the Council's Asset Management Governance Board and the PDP tool.

Looking ahead

If we are to be proactive to customer requirements a coordinated approach will be needed across all business units. This will ensure that any existing or proposed technology has the capacity to supply interactive data flows that build, at a high level, a profile of total business activity, and at a more granular level give total visibility to customers of all their dealings with council.

This work is still in development, but we know there will need to be more emphasis on social platforms as an avenue for undertaking transactional activity. Higher use of spatial platforms will be required to plot and model in-ground and above ground infrastructure. Monitoring will need to be more proactive, rather than reactive after an event. These will need to be tied to regulatory and financial systems that ensure we are meeting statutory obligations and providing value for money for ratepayers.

The IT Unit needs to become a partner to other business units, as enablers and adding value. This requires us to better understand the internal customer base and the services they provide.

This will enable renewal and replacement programmes to be developed that ensure all systems are optimally configured at all times. It will also ensure that adequate resources are in place to facilitate deployment programmes and that these are coordinated with the business owners to minimise any impact on normal operations.

Growth

In the current environment, growth will be driven by regional, national and global 'new norms'. These will have to be assessed as they emerge and current programmes may need to reassessed for relevance.

Whatever our forward momentum looks like, we will need foundation investment to ensure systems are fit for purpose and provide an adequate level of future-proofing to 'get the basics right'.

Continuous improvement

We have a strong commitment to improving our asset management practices, with a focus for the next two or three years on bringing these up to an appropriate level of capability.

An IT Asset Management Team Leader role has been established to facilitate these improvements.

This is the IT Unit's first Asset Management Plan. An internal Asset Maturity Assessment has been completed and clearly shows we are in a reactive, almost control status in our current management strategy.

Our aim is to ensure effective and sustainable asset management practices for IT.

The independent Asset Management Maturity Assessment process provides a sound basis for prioritising and monitoring improvements. We need to benchmark our internal assessments and conclusions against external entities and ensure plans are critiqued before implementation.

Our continuous improvement will be resourced through current operational funding as part of core delivery, however some investment will be needed for initial data gathering, consolidation and report creation.

Funding across Council is constrained, so it will be important to plan to ensure the highest priority improvements are delivered first and that future delivery costs are well understood, with sufficient funding allocated in the Long Term Plan 2021-31.