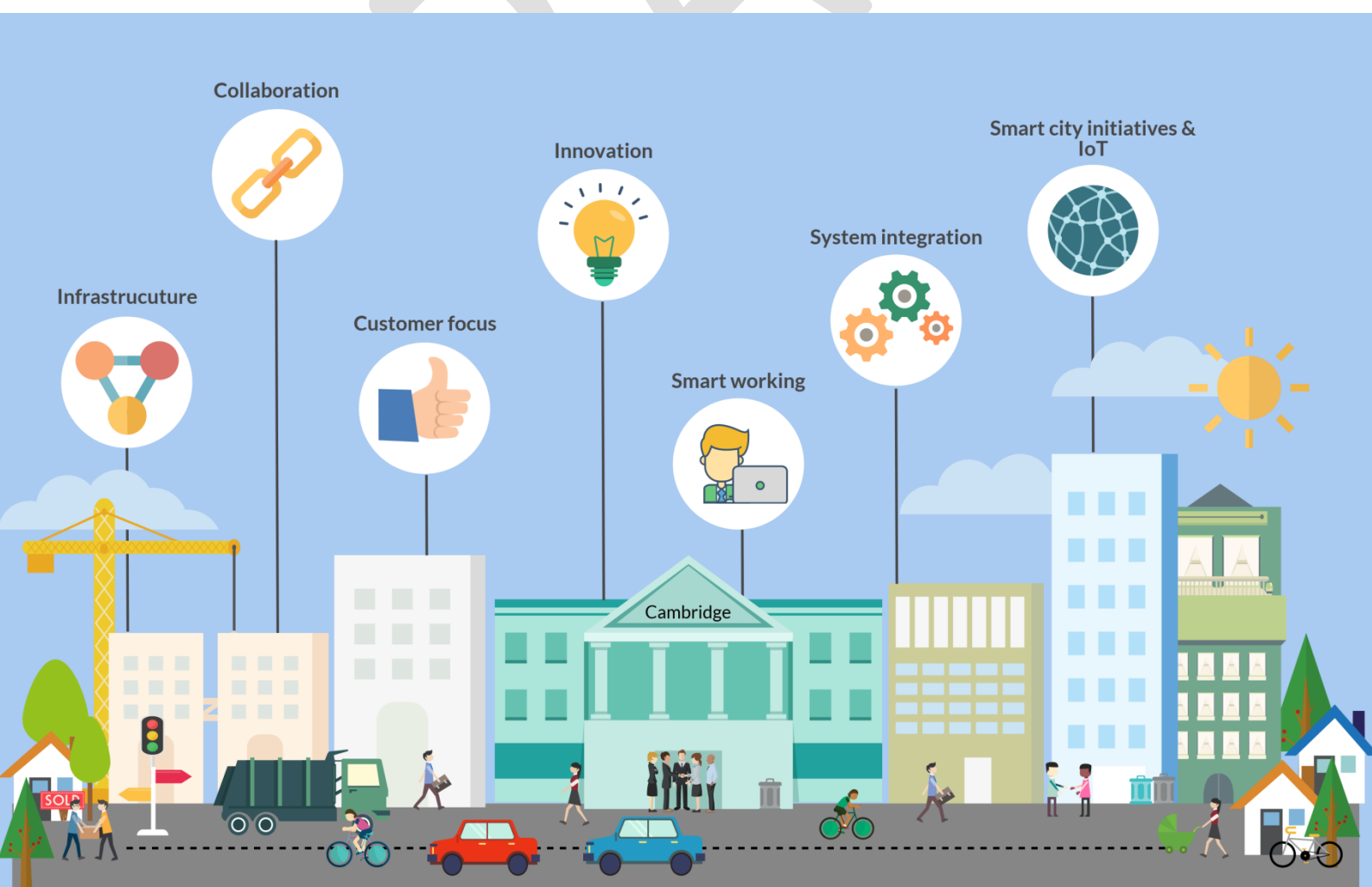# Cambridge City Council

DRAFT Digital transformation strategy

Digital Council, Smart city

Foreword from the Leader of Cambridge City Council

Our Vision: Digital Council, Smart city

Cambridge is a city of considerable magic. It is a place with a history of discovery and innovation dating back hundreds of years. From Newton, Darwin, Alan Turing, Crick, Watson and Franklin to Stephen Hawking and many others, researchers at the University of Cambridge have been at the forefront of major breakthroughs in science.

In the past 60 years this research strength has facilitated the Cambridge Phenomenon, the growth of one of the pre-eminent science and tech industry clusters in the world, with global companies such as ARM, Amazon, Microsoft, Google and Raspberry Pi among over 1,500 others contributing to a uniquely creative innovation ecosystem.

This spirit of innovation - and the application of data, technology, and a digital mind-set - can be at the heart of a transformation in the way that Cambridge City Council, its neighbours and partners provide information and services to, and engage with, those who live, work and study in the area.

If we are bold in our leadership, our investment and our ambition, our transformation journey could achieve our vision of an insight-driven and collaborative partnership between providers and users, and everyone who shares the council's vision of "One Cambridge, fair for all".

Councillor Lewis Herbert, Leader, Cambridge City Council

Context: Cambridge and its City Council: Past, present and future

PAST

Cambridge City Council traces its origins back even further than the University of Cambridge, to King John's charter of 1201. Since then, the Council has been playing a central role in safeguarding its citizens, their trade and their rights.

PRESENT

The Council of the early 21st century employs around 800 staff directly, and provides a wide range of services to a rapidly-growing and increasingly-diverse city. The population of the city has grown from around 109,000 in 2001 to around 132,500 in 2018.

The City Council provides planning, housing, waste collection, environmental health, street cleaning and many other services, in addition to managing and maintaining many of the city's open public spaces.

The City's economy, as described above, has been buoyant and successful, creating significant revenues for the UK government, and bringing great prosperity to those fortunate enough to be at the heart of the Cambridge Cluster. However, this wealth is in contrast to the poverty experienced by some in the city, leading to Cambridge being characterised as the most unequal city in the UK.

The Council is determined to play its part in addressing this inequality through an Anti-Poverty Strategy that includes a Digital Access Strategy, continued support for discretionary services that support the city's varied communities and most vulnerable residents, and a creative approach to addressing the city's chronic housing affordability crisis.

However, since 2010, in common with all other councils, Cambridge City Council's core funding from Government has been decreasing, and is expected to end completely by 2020.

This context, of a rapidly expanding population with complex and changing needs and shrinking Government funding, has meant the Council has had to embark on a process of service reviews, efficiency and transformation to maintain key service standards.

Technology has played a part in this, with the use of route-optimisation technology to make waste collection routes more efficient, online council tax applications and a range of other service-specific back office systems. But to date this has been implemented in a somewhat opportunistic fashion – going forward, we aspire to be more strategic in our approach.

FUTURE – the role of information technology & digital thinking

Going forward, with our ICT services delivered in partnership with our neighbouring councils in South Cambridgeshire and Huntingdonshire, we need to adopt a more strategic, co-ordinated approach. We need to invest, together wherever possible, in an ICT infrastructure that facilitates seamless and efficient customer journeys, and realises savings for the council.

We need to provide service channels and transaction options that reflect the online world our residents inhabit and expect when doing business with any large organisation. Our services need to be available as and when our customers need to engage with them, as far as our capacity & resources permit. They need to be designed in such a way that there are as few hand-off points and junctions as possible.

In this way, our customers will increasingly be able to choose the time, manner and nature of the key transactions they conduct with us. And the Council will be able to replace costly, labour-intensive tasks with automated and self-service options.

This channel shift is not a new or particularly innovative concept in itself. Nor will it happen overnight. But it will require a transformation in the way we think about our services holistically, with the customer's needs at the heart of everything we do, if we are to realise the full extent of the benefits available to us from these digital customer services.

More ambitiously, we need to look beyond this level of direct service provision to grasp the potential of digital thinking, big data and smart city concepts to create an environment in which services can be co-designed in an agile way for a variety of service-providers (including residents and communities themselves) to deliver the outcomes we are seeking to achieve.

A digital approach to deliver One Cambridge, Fair for All

Our Digital strategy will focus on achieving the council's vision and key objectives:

Cambridge City Council has a clear vision to lead a united city, in which a dynamic economy and prosperity are combined with social justice and equality.

The vision has three main aims: to make Cambridge "fair for all", to make it "a great place to live, learn and work", and "caring for the planet". Our annual statement and Corporate Plan outline how we will achieve our vision, under seven themes:

- **Delivering sustainable prosperity for Cambridge and fair shares for all**

- **Tackling the city's housing crisis and delivering our planning objectives**

- **Making Cambridge safer and more inclusive**

- **Investing in improving transport and tackling congestion**

- **Protecting our city's unique quality of life**

- **Tackling climate change, and making Cambridge cleaner and greener**

- **Protecting essential services and transforming council delivery**

Adopting a coherent, digital by design approach to our service transformation will enable us to achieve these objectives more efficiently and effectively. We will be able to improve our customers' experience and increase their opportunities for engagement.

For instance, we will be better equipped to deliver **sustainable prosperity and fair shares for all** when we are able to bring together the insights that emerge from analysing different data sets. This will help us and our partners to develop a more rounded picture of emerging needs and economic and demographic trends.

If we are able to join our data sets safely and securely with other public agencies (for instance through the ground-breaking *Culture Card* project) we will be able to develop a more comprehensive single view of our customers, and break down organisational silos and boundaries to provide genuinely customer-centred solutions and outcomes.

Our **digital access** strategy will also help ensure that a broader cross-section of the population are able to engage in the digital economy through giving people from our more deprived communities the confidence and capability to use digital channels to find work, training and better deals for their daily expenses. We also plan to deliver skills that our residents can bring into the workplace, potentially including coding.

Similarly, developing the skills, capability and connectedness of our tenants (and prospective tenants) will enable us to both understand current and evolving **housing** need, and respond more promptly and efficiently to service requests (e.g. for repairs and maintenance).

As we **plan** our new communities and neighbourhoods and business centres, we have the opportunity to design genuinely smart, and sustainable, communities, designed for the styles of connected living that residents will increasingly expect in the 21st century.

This may include not just working towards universal high speed broadband, wireless and mobile connectivity (with our partners in Connecting Cambridgeshire), but could also involve taking advantage of sensors, the Internet of Things and smart city thinking (with our Smart Cambridge partners and others) to create the possibility of low carbon communities where intelligent mobility and resource efficiency are designed in from the outset.

We have the opportunity to make Cambridge **safer and more inclusive** by ensuring that everyone has the capacity and capability to connect with their families, neighbours and communities of interest through digital channels; and by providing open data and forums that allow communities to co-design and collaborate in the provision of public goods, services and outcomes.

The City Council can facilitate, through this digital strategy, increased community capacity to maintain Cambridge as a world-class city, where caring for our people and our precious environment is a shared endeavour.

As partners in the Greater Cambridge Partnership and the Cambridgeshire and Peterborough Combined Authority, we will continue to invest in smart and sustainable **transport** solutions that allow people, goods and ideas to move more freely around the city region.

This will include smart and innovative approaches to tackling congestion, reducing pollution and connecting not just people with their places of work, but researchers, entrepreneurs and innovators with their partners and collaborators.

We will be better placed to protect the City's unique **quality of life**, and ensuring it is enjoyed by all, by sharing more data more openly on what matters to people, how they use cultural facilities and assets, and creating space for ideas to flourish. The city will become more open and readable to a wider cross-section of our communities as digital cultural projects bring the full range of the city's built, natural and cultural assets into view.

We will be able to manage **climate change** more effectively if it becomes possible to share better and more open data on energy use and emissions from across not only the City Council's estate, but the wider city. Where appropriate, we and our partners will explore opportunities to deploy smart and innovative low energy, carbon-reducing technologies, and monitor their impact.

We will be have the opportunity to work with partners to map the tree canopy as it evolves, and develop better, resident-centred systems for alerting people and agencies to changing risks from flooding, extreme temperatures and drought.

By providing online services that are available as and when customers need them, we will reduce the need for residents to travel to our offices to interact with us, achieving both convenient and sustainable services.

City Councillors will be able to carry out their duties more efficiently, at times of the day/week that suit their busy lives. They will be able to interact with residents and officers more reliably and quickly, potentially using a range of techniques and technology to manage committee agenda in a paperless way, to track their resident case load online or even take part in meetings remotely.

Finally, and perhaps most fundamentally, we will adopt a digital by design approach to our **transformation** agenda, one that drives costly, low value, slow, error-prone manual processes out of our systems; uses low cost, agile applications; and by putting the customer at the centre, provides a more cost-effective approach to seamless end-to-end service.

Priority actions to build a digital council and benefit residents

- Redesign website to further improve the customer experience

- Implement customer portal to provide a single sign-on and simplified user journey

- Implement new systems for waste collection, streets & open spaces and housing

- Recruit Digital Inclusion Projects Officer and continue funding digital inclusion projects to help disadvantaged residents get online

- Recruit a Data Scientist to build our capacity to analyse our data more effectively

Potential savings for the City Council

NESTA have estimated that by adopting a genuine, pan-council approach to digital by design, the average upper tier council could eliminate 40% of its 2015 budgets. For a district council such as Cambridge City, the scope for savings may be different, given that we do not have primary responsibility for providing the most costly personal services and social care. But we do expect to see significant potential for cost reduction from a strategic digital approach to service transformation.

Significant channel shift from more expensive channels to digital is possible when digital services are optimised. There is extensive literature about the potential for channel shift in local authorities (particularly from the Local Government Association in its '*Delivering Better Local Online Transactional Services*' report). The report suggests that financial benefits offered by channel shift to councils could be significant:

•   Circa £100,000 if email transactions were shifted to digital

•   Circa £800,000 if channel shift were implemented aggressively as per the approach taken by the London Borough of Newham.

The City Council's Digital Programme Board and Business Transformation Programme Board will ensure that projected savings and other benefits are detailed in business cases as far as possible, and that the realisation of benefits is tracked through the lifetime of projects by the Programme Office.

Four key themes of our digital strategy

We have structured our digital strategy around four themes:

Digital Citizen Services

Connected Citizens, Smart City Collaborators

Future Council: Digital Teams, Smart City Innovators

Core ICT & Digital Strategy: Data, tools, systems, applications & processes

Digital Customer Services

The relative costs of customer contacts via different channels are well-established. SOCITM estimated them as follows in 2011:

15p   £2.83   £8.62

Produced by Richard Overy. Data Source: Socitm Insight
better served February 2011, Symbols: CC-BY The Noun Project

Re-engineering business processes to create lean, seamless customer journeys and automated back-office systems clearly allows the council to not only achieve significant savings but also to provide better, smoother, quicker customer service. Removing clunky manual processes and re-keying reduces the risk of error and increases the speed of processing.

Well-designed online processes that utilise customer insight (and ultimately are co-created with users in an agile, interactive process) provide the fast, trusted, reliable experience that customers expect, as well as reducing the need for them to travel to council offices for time-consuming face-to-face conversations. Our web strategy will help ensure a coherent, customer-focussed approach to this transformation.

By utilising open source, cloud-based applications the Council can increase its online security as well as reducing its costs.

By developing analytical skills and infrastructure in the council, we can use data to drive insight and then foresight about customer needs, so that we increasingly design services more efficiently to meet those needs. Thus digital customer services create a virtuous cycle of feedback, investment and continuous improvement. In time, advances in artificial intelligence and bots may take this process further.

We will aim to eliminate the significant proportion of current customer contacts that are generated by customers chasing up previous contacts and transactions. By adopting best practice in giving customers ability to track progress with their issue online, rather than having to phone to find out if a transaction has been completed or issue resolved, we will reduce the time and cost lost to this "failure demand".

There are a small number of key customer transactions and services that currently create a high proportion of customer contacts with the Council, and which potentially lend themselves most immediately to digital transformation. These include housing advice, housing repairs, council tax, benefits and waste collection[1].

The 3C ICT Digital Customer Services strategy aims to provide "an approach that will

• Work for the benefit of all partners and end customers.

• Dovetail with the capabilities of the 3C service.

• Work with existing web technology platforms.

• Work at a pace that is not overly disruptive to the business."

The long-term vision is the nirvana that our major customer-facing transactions are provided through intuitive and seamless digital solutions that are so easy to use that they are the preferred channel for everyone who can get online. We will, however, continue to meet the needs of those who are unable to engage with us digitally.

By adopting principles of "simplify, standardise, share", and by focussing on outcomes rather than services, we will move to the structured, sequenced approach to transformation that delivers maximum benefit from our investment.

We will build and maintain a real-time understanding of the services our residents and customers most need, and will prioritise investment in the digitisation of those services that benefit the greatest numbers of residents, are most adaptable to digital delivery, and offer the greatest benefits. We will review our offering regularly as our customers' needs, expectations and capabilities evolve.

This will ensure greater value for money from our investments, ensuring that we secure the full productivity gains that can flow from online services, enabling us to serve our growing population with lower per-head costs.

Next generation?

In the future, we will seek to take advantage of emerging digital trends and opportunities potentially including Artificial Intelligence, machine-readable and interactive application forms, bots, voice recognition customer contact systems, drones and automation to further reduce costs, eliminate low-value manual tasks, and provide better customer services.

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[1] We have already implemented online systems for council tax and benefits, and many customers have been happy to use these. We will continue to explore ways to build on this progress to further reduce the need for more expensive forms of customer contact

The type of city we want to live, work & study in:

Connected Citizens, Smart City Collaborators

In the future, a more structured approach to creating a digital council will create new possibilities for digital engagement.

We have already started webcasting Council meetings, and will continue to explore ways to utilise new technology to ensure more residents are better informed about what the council is doing and proposing, and better able to engage in shaping and influencing council services and strategies through new forms of digital democracy.

We will also equip councillors with the tools to conduct their council business – and engage with constituents - at times/from locations that better fit with their multi-dimensional lives.

Developments such as crowd sourcing policies, and crowd-funding projects, create a vision of a 21st century community that is better connected, more resilient and more self-sufficient.

We plan to open up more of the data we hold, not least through partnership initiatives such as *Cambridgeshire Insight*, to allow community-level uses of big data and open data to derive further insights and applications. The traffic survey by the Greater Cambridge Partnership in summer 2017, and release of the anonymised Automatic Number Plate Recognition (ANPR) data gathered from that survey, provides an example of this open data approach that we can build on.

By providing more of this data in open, usable formats and as-close-as-possible to real time, we will build accountability and trust in public services, both of which can sometimes be in short supply. This, again, will allow more informed and constructive debate and inputs by community groups, interest groups and residents.

In a similar way, by adopting digital by design and agile principles that put the customer first, we will be able to open up our policy development and service improvement processes so that increasingly our service users, residents and communities are co-designing services, using their unique customer insights to design and deliver better services. By being user-focussed they will be more efficient, create less waste and cost less.

As the city of Cambridge grows, while the Council's core Government funding vanishes, might this digital thinking enable the prosperous and less-prosperous parts of the city to cross the divide and build a united Cambridge, where prosperity is shared and the needs of all are better understood and better met?

Our Digital Inclusion Strategy sets out how we will continue to invest in projects to ensure that as many of our residents as possible are able to become connected citizens.

In the short term, the General Data Protection Regulations require us to identify our information assets. Our recruitment of a data scientist will help us to cleanse and share that data to allow the insights described above.

Big and Open: harnessing the power of data

By understanding, gathering, sharing and analysing data from across the full range of council services (and, in due course, our partners) we expect to derive new insights into what our customers really want, and how they want to engage with the council and use its services.

From this insight, we will begin to develop foresight, as we understand the trends in how people respond to services and interventions.

From foresight we will begin to be able to predict needs and responses.

And from prediction, we will ultimately be able to invest in a more surgical way in preventative services that ultimately reduce the cost of supporting the complex needs of our most vulnerable and troubled families and individuals.

Partnering for a seamless customer experience across the public service

In the same way that we will seek to collaborate internally and with our residents, we will also need to collaborate with the evolving landscape of partner councils and other agencies to further drive service improvements and cost reduction.

The *Connecting Cambridgeshire* partnership has been highly effective in bringing broadband connectivity to previously unconnected parts of the County, and we will continue to work with our partners to ensure the area benefits from the fastest and most widespread connectivity infrastructure possible within technical and financial limits.

Similarly we will continue to work as part of the *Smart Cambridge* group under the Greater Cambridge Partnership, aligning with business and academic experts to bring the best new smart solutions to Greater Cambridge.

In terms of partnership working, we need to think about outcomes, rather than services and institutions, as we develop virtual shared services with customers at their centre, and build the capacity of our communities themselves to self-serve. By working in this way and with our partners (including the new Cambridgeshire & Peterborough Combined Authority) we will be able to put the customer at the centre of our partnerships, break down silos and barriers, and create a seamless virtual public service.

Who are the council's main public sector partners?

Safety and security

Of course, new opportunities bring new risks and threats too – we will work closely with our ICT advisors and others to ensure we remain aware of such risks, to ensure our residents' data safety, and their security, is paramount.

The type of council we need to be in the future: Digital Teams, Smart City Innovators

Cambridge City Council has a strong track record and identity as both the democratic heart of the city for over eight hundred years, and a provider of crucial services for the city and its people. The digital transformation we are experiencing will enable us to continue to play both roles as we move forward into a world of increasing complexity and, at times, uncertainty.

As we build new service models, and new partnerships, to deliver better services more efficiently, we will embrace the potential that digital provides.

We have recognised in our Organisational Development strategy that we need to develop a more fluid, dynamic and vibrant culture which embraces and enables innovation. Nowhere is this truer than in the realm of digital transformation.

Skills, capacity & capability

We will need to invest in a broad-based digital skills development programme to utilise the infrastructure we are investing in and the opportunities it provides for delivering better customer services. And we will need to challenge ourselves to develop a culture which embraces and utilises all that is best in the digital sphere.

Our teams of staff and managers need to have the skills, capacity, capability and culture to consistently recognise the power of digital thinking, customer-centric process design and agile development, in order to achieve the vision set out above. We will need to recruit people with these skills, and train/develop the people already here who want to move forward on this journey. And we will need to evolve our management culture and processes to enable us to adapt to new, flexible and dynamic ways of working.

We need to raise the level of awareness and ability to utilise data more consistently, to understand customer and wider-world trends, to anticipate, plan for and deliver services that better meet changing needs. This will require a high degree of comfort with data analysis, customer focus and agile project management skills.

We need those managers and teams across the whole council to contribute to a road map of business process reviews and digitisation that reduce costs and deliver customer-centred services.

We know that good design of digital services encourages take-up, so we need to incorporate gamification, socialisation and loyalty into our online services. We need to make self-service so easy that is the most attractive option, thereby managing demand for more expensive forms of interaction.

Investment & transformation

Investment in strong core digital infrastructure will also enable greater flexibility for our people through the implementation of robust remote working systems ("Council Anywhere"), aligned to our Office Accommodation Strategy.

We need to ensure that digital is at the heart of our transformation programme, so that it enables a comprehensive alignment of customer benefits, process improvement and staff up-skilling.

Digital business processes

We need to apply the same thinking to our internal transactions and business processes that we do to our external customer-facing processes. Our new Financial Management System will take us further along a road we have started down with our ICT and Business Support portals. We will look to process re-engineer, and digitise, high volume internal transactions to achieve the same benefits of customer flexibility and cost efficiency.

Plan-Do-Check-Adjust

Crucially, with the pace of change in both what technology can do for us and our understanding of how to apply it, this strategy will evolve and iterate over time. We can have a reasonable degree of certainty over what we are planning to do in the short term.

But, in keeping with an agile approach, we will review the effectiveness of our initial investments on an annual basis to ensure we are learning lessons and keeping up to date with both our residents and our changing digital world.

Core ICT service strategy: Digital Council, data, systems, applications & tools

Core ICT strategy

This strategy builds on the ICT and Digital Strategy developed by our shared 3C ICT service. The core of that strategy explains the benefits from progressing through a shared "technology roadmap" to a "lean, always available, transparent and focussed ICT service that empowers everyone to get the most out of ICT."

These benefits include:

•   Reduced IT support burden resulting in the ability to develop space for further improvement and system automation. By reducing our current support burden it will create opportunities to develop the service offering further improvements for our partners, customers and even potential partners.

•   Reduced support issues due to system incompatibility, for the end customer this results in fewer support issues due to incompatible hardware and/or software.

•   Improved system reliability resulting in reduced downtime for the end customer.

•   Reduced staff/support operative training times and costs.

•   Improved and more efficient inter-council, cross-council communication and collaboration.

•   Lower support and maintenance costs.

•   Simpler budgeting and cost management.

•   Improved vendor bargaining power.

•   Facilitates a single approach to IT governance, IT Security, Business Continuity support and Disaster Recovery operations.

In all of this, we will need to adopt an approach to technology based on "simplify, standardise, share", rather than seeking to develop our own bespoke solutions or lock ourselves into expensive proprietary products.

In particular, we will need to engage effectively in the 3C ICT Technology Road Map to exploit the opportunities to do things at scale that may not be viable for us acting alone.

Releasing capacity to achieve strategic transformation

The chart below illustrates how deploying a tactical e-forms package to deliver a large number of services quickly could create capacity to implement the strategic vision.
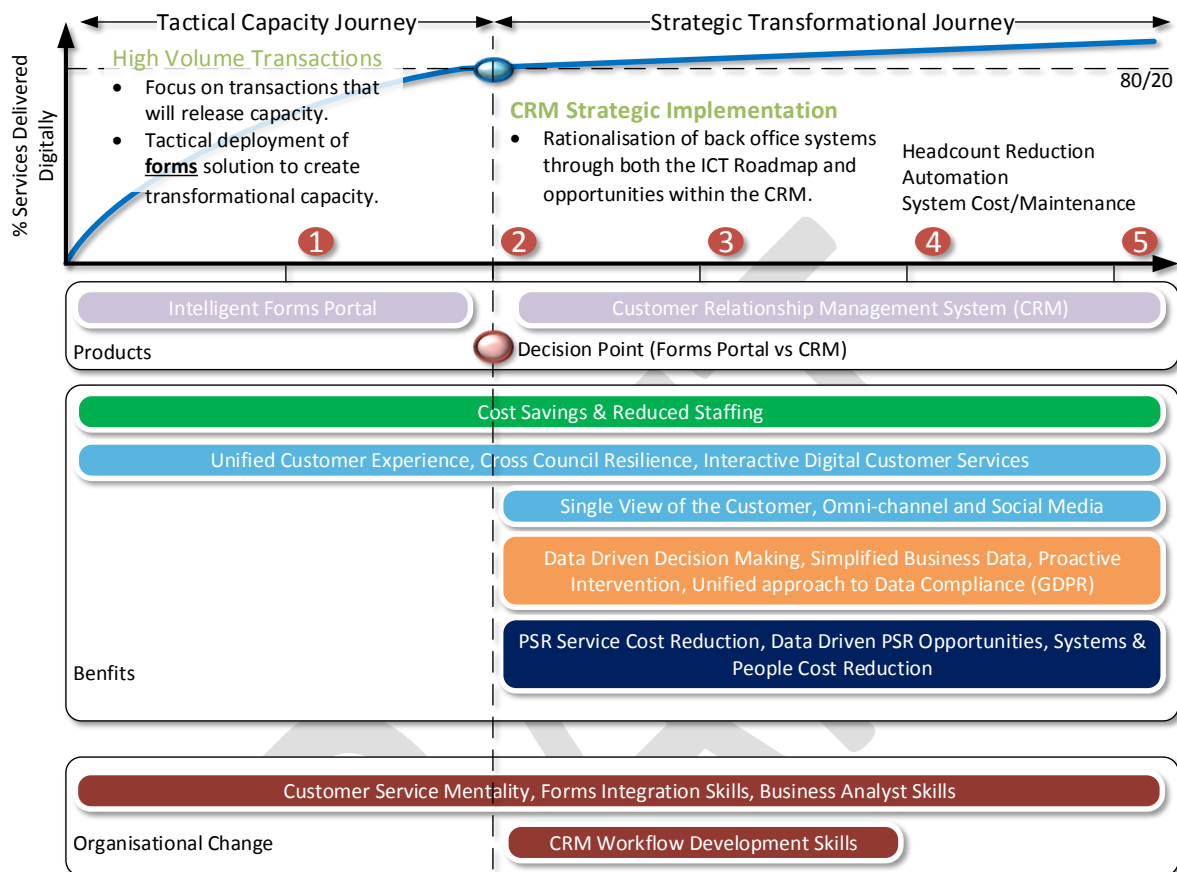
Investment, governance, leadership and delivery

Cambridge City Council has invested, through its Budget Setting Report 2018, in the underpinning technology to move towards this vision. The Budget Setting Report also allocated additional funds to the Business Transformation Fund, to help fund business process reviews to inform new systems and approaches that will in turn deliver benefits.

The City Council has created governance structures, including a dedicated Digital Programme Board and an ICT Programme Board, sitting under the over-arching Business Transformation Programme Board supported by a Transformation Programme Office. These structures will be kept under review to ensure they provide most effective governance and oversight.

These structures and controls will develop and oversee implementation of a number of the projects associated with this digital transformation strategy and ensure this investment is coherent and co-ordinated, and is planned and managed to realise optimum benefits.

Political leadership will come from the Executive Councillor for Finance and Resources, who leads on digital transformation from within his portfolio, and the other Executive Councillors who will lead digital transformation within their own portfolios.

At officer level, the 3C ICT Service, the City Council's intelligent client, Heads of Service and managers across the Council, the Business Transformation Programme Office and the City Council's Digital & Web Manager will all have key roles to play in the different actions that will deliver the strategy.

In these ways the Council has made a leadership commitment, and put a governance arrangement in place that will help ensure sustained focus on delivering the benefits for Cambridge's residents, and the Council, that a digital approach offers.

Further detail on key aspects of our digital ambitions are contained in our Web Strategy and Digital Access Strategy.