# Digital Connectivity Strategy for Essex –Draft v9, November 2021

## 1. Foreword

Essex County Council recognises that digital connectivity is a key foundation for the future of our county. We will build this future on our three guiding principles: Renewal, Equality and Ambition. These will be at the heart of everything we do as a council, and everything we do with our partners.

The Covid 19 pandemic has brought us many complex challenges and our economy needs to recover, but the pandemic has also created a great opportunity to boost the adoption of digital technology. People now have fewer concerns about internet-based services. We are more comfortable than ever before to work and learn online. Essex wants to build on this momentum to make our public services easier and faster to use, to grow our economy and to make our county an even better place to live.

Fast internet for everyone is part of our economic Renewal objectives for Essex. We want to make sure that as our businesses recover from the impact of Covid 19 they can take advantage of the best digital connections in the country. This will allow then to build their competitive advantage and make our county the best place in the UK to live and work.  New technologies like 5G and the Internet of Things will revolutionise the way we do things.

As we drive the deployment of faster digital connections, we will maintain a strong focus on Equality. In our New Normal world everyone will have access to fast internet services and there will be broad opportunities to learn or develop digital skills. No-one should be excluded due to their financial or educational status.

Our new Everyone's Essex plan sets out four strategic aims and 20 commitments for Essex County Council (ECC) to deliver over the next 4 years. As part of the Strong, Inclusive and Sustainable Economy strategic aim, a key commitment is to deliver and maintain high quality infrastructure to improve opportunities for people living in Essex.  This Digital Connectivity Strategy for Essex sets out ECC's ambition to lead, drive and inspire work across the county to create first class digital infrastructure and to achieve the widespread adoption of digital technologies by Essex residents and businesses.

This Strategy is an open invitation to our partners in Essex and beyond to collaborate with us and each other to drive digital connectivity and the adoption of digital technology.  We want to work with the public sector as well as with industry and voluntary organisations. We believe that we have a shared goal: to make Essex a great place to live, learn, work and play.

## 2. Summary

The county of Essex is taking action to kick-start our digital economy. Our broadband programme has already boosted connections to 140,000 homes and businesses. We now need to drive the further expansion of digital infrastructure and the widespread adoption of digital technologies. Strategic initiatives are needed to meet the increased demand for fast internet services. We also want to capitalise on the momentum for digital business models created by the coronavirus pandemic.

This Digital Connectivity Strategy sets out our approach for the next four years. It supports Essex County Council's strategic aims:

- to enable inclusive economic growth,
- to help people get the best start in live and age well,
- to help create a great place to live and work,
- to transform our public services to achieve more with less.

Our ambition is to unite the Essex public sector in the spirit of shared strategic principles. We will seek to align our digital ambitions and to combine our purchasing power. We will clearly define our needs and speak with one voice to government and the commercial market.

We will create a range of initiatives to support a faster rollout of fixed and mobile broadband infrastructure. This will ensure that by 2025 every property in Essex can access a 4G mobile signal as well as superfast fixed broadband.

We will also speed up the deployment of gigabit broadband. The aim is to make this available to more than 85% of all premises by 2025.

Excellent digital connectivity across the county of Essex will be the foundation of a digitally enabled society. Alongside our focus on rapid infrastructure deployment, we will implement further strategic initiatives. These will focus on driving digital inclusion and boosting the wide adoption of digital technology, as well as developing digital skills among the Essex workforce. We will also provide targeted support for Essex businesses as they emerge from the coronavirus pandemic. This will help them to rebuild or re-think their activities and to take full advantage of new digital business models.

This Strategy has an early focus on collaboration between the County Council and key partners. Eventually our actions will touch all parts of the county and transform the lives of our residents. All Essex businesses will be able to drive innovation and adopt industry-leading technologies.

## 3. The Benefits of Excellent Digital Connectivity

### 3.1 Serving Urban as well as Rural Areas

Excellent digital connectivity is now one of the key foundations for a successful and futureproof economy. All town centres need excellent digital connectivity to support positive change, such as the introduction of flexible business spaces and a move towards a wider range of uses to support community, educational, residential, and cultural objectives. Essex councils are actively working on town centre regeneration projects for many of our towns. WE also have plans for several new Garden Communities which have the potential to take full advantage of digital connectivity and associated tools for smart living and working.

During the recent pandemic, demand for fast internet connectivity grew significantly in rural and residential areas. It is now widely expected that even with a future easing of movement restrictions, many of the more widely adopted remote working practices will continue, as businesses seek to rationalise office space and cut operational costs. In addition, more than 20% of Essex businesses are based in rural areas. Fast digital connectivity must reach all parts of the county, so that employers and employees in urban as well as rural geographies can have an equal opportunity to contribute to the Essex economy.

### 3.2 Skills for the Digital Age

The wider adoption of new tools and working practices brings with it a set of new challenges for digital skills across all parts of the population. Young people need positive opportunities to build their skills for the future. Existing members of the workforce may require help to adapt their skills and take advantage of a re-shaped job market. Vulnerable people of all ages must be offered the support they need to access digital services and opportunities, so that they can manage and improve their personal circumstances and get the help they need. Good connectivity will provide Essex residents with access to a growing global market for fully remote workers. It also creates new opportunities to adopt individual and flexible working patterns. Our focus will be on digital literacy in the future workforce to champion flexible working and digital structures. Specific action is needed to support digital skills in the workforce. This will enable more people to work from home and will support Essex businesses in launching or improving digital services. With such a broad set of needs across all Essex residents, universal access to fast internet services has become a necessity.

The increased availability of gigabit-capable fixed broadband services and the emergence of ultrafast wireless connectivity such as 5G occurs at a time of rapidly growing demand for the implementation of green growth and net-zero carbon business solutions. This combination offers a particularly strong opportunity to build a local base of relevant skills for this sector and drive increased employment as well as inward investment.

### 3.3 Business Growth, Innovation and Inward Investment

Essex has an ambition to become a centre of digital innovation in the UK and wishes to grow digital businesses within the county as well as attract larger regional or global players. We have identified key sectors where we will seek to drive growth, such as medical and green technologies. Excellent digital connectivity across the Essex geography, with enhanced services such as 5G available at key locations, will be a key part of our inward investment strategy and will underpin the growth plans for Essex.

Essex businesses continue to face the challenge of competitors from within and from outside the UK. Excellent digital connectivity in our county will provide a foundation from which to build competitive advantage, based on innovation and technology-enabled business models. We understand that business decisions are driven by an assessment of the potential financial returns to be realised versus the risk involved. We need to work with local businesses to help them recognise the opportunities offered by connectivity-related technology, such 5G and the Internet of Things (IoT). This approach needs to be complemented by education initiatives designed to develop and attract skills and talent for the digital age. We want to position Essex as a place of innovation, attracting expertise and investment from elsewhere in the UK and the world.

## 3.4 Leveraging Local Innovation

Local Essex initiatives such as Essex County Council's Adult Social Care Digital Programme, the Digital Innovation Zone in West Essex and East Hertfordshire (DIZ) or the Association of South Essex Local Authorities (ASELA), are already driving forward projects to support the adoption of digital technologies in a variety of settings. These initiatives also draw in the private sector and potential new investors in Essex. Clear strategic support for such local collaborations, will be crucial for developing a vibrant and innovative local economy.

## 3.5 Sustainability and Green Growth

Near-ubiquitous and fast digital connectivity will be a game-changer for sustainability and the green economy. 5G technology can deliver a fast and reliable service, move large volumes of data instantly and to connect a large number of devices. Connectivity like this, paired with Internet of Things (IoT) technology to gather data and artificial intelligence (AI) to analyse and act on the information will deliver transformative change in a variety of settings. Digital solutions to enable smart transport, environmental monitoring to manage pollution and flood risks, and energy management implemented as part of sustainable housing projects are just some of a broad range of applications that can be enabled by faster digital connections. Faster mobile connectivity and greater adoption of 5G and IoT technology will also support our ability to recognise emergency situations early and manage our responses more effectively. Our focus will be on using excellent digital connectivity to support the Essex delivery of the Prime Minister's ten-point plan for achieving a carbon net-zero position for the UK by 2050.

## 3.6 Connected Health Care

Health care is one of the biggest potential beneficiaries from faster fixed and mobile digital connectivity in the short term. Care technology to support independent living and remote health monitoring is widely recognised as a sector that is set to be transformed by improved digital connectivity.

During the coronavirus pandemic, previously existing barriers preventing the wider adoption of remote GP consultations have been overcome, with most GPs offering telephone appointments with the option of a video call. Primary Care Networks will link primary care organisations with community, mental health, social care, pharmacy, hospital and voluntary services in their local areas to enable joined-up and streamlined care provision. Faster connectivity will support the rollout of a virtual desktop solution for primary care staff and enable seamless remote working, shared workspaces and access on the move for these key healthcare workers. NHS Digital is preparing a range of nationwide digital transformation initiatives for the NHS. In Essex, the new Princess Alexandra Hospital in Harlow, including its outpatient services, has an ambition to become the most digitally enabled hospital in the UK.

Digital health and care services will be revolutionised by the introduction of an effective Shared Care Record paired with ubiquitous and reliable digital connectivity. Real time access and processing of updates to care records will ensure that accurate health and social care information on longer-term or ad-hoc service users is always available to health practitioners and other supporting services, enabling them to deliver efficient and seamless services.

## 3.7 Digital Technology Adoption in the Public Sector

The public sector is a set of anchor institutions for the Essex economy. It has comprehensive buying power, a large workforce and a broad variety of activities.

Connectivity is one of the pillars that supports an effective, integrated and digital public sector. Alongside digital skills, mature information sharing frameworks and common standards it allows digital transformation to move at pace. The consumption of cutting-edge digital technologies such as Artificial Intelligence & Machine Learning, corporate adoption of the Internet of Things, and cloud/edge computing are all reliant on the provision of digital

connectivity at a scale that can enable a large organisation to successfully embed them within its overall digital service provision.

Aligning public sector digital initiatives under one strategic umbrella will help focus resources, exploit synergies and inspire next steps. Working together as one, the Essex public sector can leverage its combined size and power to secure funding support from government as well as resources and delivery expertise from the private sector.

## 3.8  Digital Inclusion and Equality

In the current global climate, the delivery of Digital Inclusion across Essex is more important than ever. Organisations are accelerating their digital strategies and transformations at previously unimagined rates. The ability to access digitally delivered services has evolved organically. It is now imperative to enable all citizens to use online services, irrespective of their financial, educational or social status. Digital Inclusion initiatives will ensure that that people in Essex have access to affordable equipment and connectivity and can complement this with the skills and confidence to take advantage of digital services and employment opportunities.

# 4.  National and Local Context for Digital Connectivity

## 4.1  Superfast rollout

The national UK Superfast Broadband Programme has been delivering faster broadband connections to premises with less than superfast (30Mb/s) download speeds since 2011, and the national target of reaching 95% superfast broadband coverage across the UK was achieved in December 2017. The County Council's Superfast Essex Programme has established a strong track record of successful infrastructure delivery in collaboration with government, Essex districts and boroughs and commercial partners. This was recognised when Superfast Essex secured the Best Superfast Programme award at the Connected Britain national industry conference in 2019. At the end of 2020, the superfast broadband rollout in Essex is on track to reach 99% of all premises in Essex by 2022. This does mean that some 8,000 premises in very hard-to-reach areas of the county still have poor broadband speeds and no current upgrade plans. These premises remain our priority and a fast and effective approach will be designed to reach them as soon as possible.

## 4.2  Gigabit-capable fixed broadband networks

Most of the superfast connectivity in Essex is currently being delivered via a part-copper solution. Using parts of the existing copper telephone network to deliver broadband services means a limitation to around 80Mb/s on the download speeds that can be achieved. Full-fibre broadband and some other technology solutions can reach up to 1,000Mb/s, also referred to as ultrafast or gigabit speeds.

In 2020, the government set a target to reach 85% of the UK with gigabit speeds by 2025, with the remainder to follow as soon as possible thereafter. The Department for Digital, Culture, Media and Sport (DCMS) and within it the Building Digital UK (BDUK) agency is engaging closely with local government bodies across the UK as well as with the commercial marketplace to shape a plan to deliver this target. Mainstream and alternative broadband network operators across the UK are rising to the challenge and accelerating their own commercially funded rollouts. During 2019 and 2020, a sharp increase in broadband deployments has been observed in Essex, with existing networks expanding their activities and new operators entering the county for the first time.

The remaining part of the Superfast Essex deployment, due to be completed in 2022, is also focused on gigabit speeds and deploying full-fibre technology. In addition, separate Local Full-Fibre Networks (LFFN) projects in South Essex, West Essex and Colchester are connecting public-sector buildings and the surrounding areas to gigabit-capable infrastructure.

Based on the above known activity, it is expected that by 2023, around 80% of Essex premises will have access to gigabit broadband speeds. This means that to reach the national target of 85% coverage, effective public intervention will be needed over the next four years to reach at least a further 5% of Essex with Gigabit speeds. Essex County Council will work in close collaboration with public sector partners and commercial broadband networks to put plans in place and achieve and exceed this target by 2025.

## 4.3  Mobile networks and 5G

In addition to excellent fixed connections, more geographically dispersed business operations and services delivered on the move will also require fast, reliable and widely available mobile connections. Within five years, users will no longer expect to see a difference in service quality when using fixed or mobile internet connections. Currently, a strong 4G connection is sufficient for many mobile business applications, but the availability of 4G services needs to be expanded further, and to achieve true equality between the speed and reliability of a fixed and a mobile connection, widespread access to 5G services will be required and expected.

The transformational opportunities offered by 5G technology are mostly linked to devices which are not operated by a human. Sensors, alert services and control units for autonomous machines – these are the devices where ubiquitous and reliable mobile connectivity is set to make an enormous difference. They will herald a step change in the way our economy works, the way our public services operate and the way we live our lives. We will work closely with the commercial mobile network operators to seek ubiquitous 4G coverage and to support a fast rollout of 5G in Essex. We will help identify the key areas of demand and work with the operators to see them served as soon as possible.

## 4.4 Leveraging UK Government Subsidy Schemes for Essex

### Project Gigabit

Under Project Gigabit, the UK government plans to invest £5bn in its programme to reach virtually all of the UK with gigabit-capable internet connections. Some £1.2bn of the overall allocation will be committed for investment by 2025. The national target is to reach 85% of the UK. The key driver for this less ambitious initial goal is a recognition that industry capacity to deliver these rollouts on a national level is limited.

In Essex, market capacity is available. Therefore an opportunity exists to move ahead of the market and secure the government investment needed to meet our local needs within the next four years. We can build on the excellent delivery record of the Superfast Essex programme in collaboration with BDUK. Our strong existing engagement with the local supplier market and active support for the growth ambitions of new broadband networks in the county will form the backbone of our work to guide the commercial rollout to our target areas as soon as possible.

Under the Project Gigabit programme, BDUK is developing several subsidy mechanisms to complement and extend the commercially driven gigabit network deployments. The first interventions are to be launched in 2021. Essex will be at the forefront of this work, driving to exceed 85% gigabit coverage in the county by 2025.

### Mobile Networks and SRN

In parallel to the plans for expanding gigabit-capable connections to fixed addresses, the government is also working on a programme to expand 4G mobile coverage. Under the Shared Rural Network (SRN) programme the government is working with the four main UK mobile network operators, EE, Vodafone, O2 and Three. SRN will invest in a network of new and existing phone masts, overseen by a jointly owned company. The ambition is for all four operators to deliver 95 per cent combined coverage across the whole of the UK by the end of 2025, so that consumers can rely on their own provider's network wherever they are. While the key objective is to extend 4G coverage, operators are also expected to deploy 5G technology on the new sites. Where Total Not Spots (with no coverage from any network) are identified, public funding will be made available by BDUK to support the infrastructure deployment.

Essex will maintain active engagement with the mobile network operators to support their local rollout plans under the SRN as well as those that are commercially driven. Feedback and support from local stakeholders and planning authorities will be provided to the suppliers as part of an ongoing dialogue with the networks. We will also create a single point of contact for escalations, so that any barriers to a faster mobile rollout can be removed where possible. In Essex we will seek to reach near 100% coverage of 4G and complement this with 5G coverage of over 50% by 2025.

## 5. Our Strategic Objectives and Principles

Excellent digital connectivity across Essex cannot be delivered by a single organisation. It must be achieved through collaboration. This Digital Connectivity Strategy is an invitation to all our partners in Essex to work together to achieve this goal. We recognise that each organisation has its own strategic and operational context. This Strategy sets out a set of principles. These are designed to be a starting point and guide for an ongoing collaboration.

## 5.1 Strategic Principles to guide our collaborative work

We have consulted with the telecommunications industry to understand what actions we should take. This has shaped our understanding of what is needed to support a faster rollout of digital infrastructure in Essex. Our conclusions are also informed by research and feedback from our public and private sector partners as well as our own experience. We plan to base our collaborations on the following principles:

1 - Digital technology is part of everything we do

Sustained adoption of digital technology will underpin the success and prosperity of the county of Essex. Our shared goals across the public sector focus on economic prosperity, health and wellbeing, public safety and security. We work together to drive the rollout of infrastructure, to embed digital inclusion and to promote the adoption of digital business models.

2 – Demand drives infrastructure deployment

The rollout of faster telecommunications networks is demand driven. We will work to ensure that network operators understand the digital connectivity needs of the Essex public sector, voluntary sector, and our business community. We will work with the market to accelerate deployment in identified areas of need.

3 – We champion digital inclusion and adoption

We will actively drive the adoption of digital tools for service delivery within the public sector and collaborate to leverage synergies between our organisations. Digital inclusion initiatives will ensure that all members of our society have the access and skills needed to engage with our emerging digital society.

4 - Collaboration with the private sector will boost business adoption

The private sector has a key role to play in developing a digital economy for Essex. We will work proactively with technology specialists to showcase digital business opportunities. We will put in place a range of mechanisms to support Essex businesses as they adopt and exploit new digital tools and fast connectivity services.

5 – Active Engagement with government

We support the government's ambitions for rolling out gigabit-capable telecommunications infrastructure. Where possible we will create a consolidated view of the digital connectivity requirements for Essex. Our digital initiatives will be aligned with each other support the focused and effective investment of public funds.

6 – The Essex public sector speaks with one voice

The Essex Public Sector works together to speak with one voice to the market and the government. We believe that defining the county's digital needs clearly and consistently will achieve faster deployment of gigabit-capable infrastructure. It will also help us to secure the skills and resources needed to drive large-scale digital innovation.

7 – Active support for telecommunications network operators

We engage actively with the telecommunications network operators. We will provide a single point of contact to ensure barriers to a fast rollout can be recognised and removed. Buildings and land owned by the public sector will be available for the deployment of telecommunications equipment wherever this is practicable. Local Planning Authorities and Highways Authorities will work pro-actively to support the expansion of mobile networks in Essex.

## 5.2 Infrastructure Delivery Targets

This Digital Connectivity Strategy is focused on achieving a broad range of benefits for the county of Essex by enabling excellent internet access across the county. Digital Connectivity will create the foundation for future related initiatives to realise the wider socio-economic benefits anticipated in this Strategy.

Our initial targets are focused on infrastructure delivery. By the end of 2025 we will see:

- ° Superfast speeds available at all premises in Essex
- ° Gigabit-capable services available at more than 85% of premises in Essex
- ° 4G services available at over 99% of the Essex geography
- ° 5G services available at all key employment locations and in identified priority areas

## 6. Our Plan of Action

Essex County Council has created a detailed Action Plan to begin the work towards the objectives of this strategy. This plan builds on our many existing links and ongoing work with our partners in Essex. We want to develop these relationships into a targeted collaboration towards our shared goals.  Our plan is available separately and this will grow and evolve as we progress on our journey.

Achieving excellent digital connectivity is only one element of our plans. This Digital Connectivity Strategy has close links and interactions with other strategies and initiatives within Essex. We recognise that each organisation in the county has its own operational context and strategic priorities.

This Strategy is an invitation to our partners to join the conversation.