



Rutland
County Council

Digital Rutland Strategy 2019-2022



digitalrutland

Version V1.0

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Foreword

Back in 2011 the majority of premises in Rutland were connected over copper networks with average download speeds of 5.8 Mbits/ps compared to 7.09 Mbits/ps across all local authority areas. Some 22.1% of our premises had access to speeds of less than 2Mbps (the universal commitment level) and with 0% coverage of superfast broadband. As a result we were placed in the lowest ranked 14% of local authorities areas in the UK. (Source: Ofcom-uk-broadband speed-data-2011).

As an early rural pilot to the Broadband Delivery UK programme our focus under the Digital Rutland project was firstly on delivering next generation fibre broadband connectivity capable of at least 15Mbps and then on enabling superfast broadband (24Mbps) to as many Rutland premises as possible.

Together with commercial provision superfast coverage is now available to c. 96% of Rutland premises and we expect this to rise to over 97% on completion of Phase 3. Our take up rates over the subsidised networks are one of the highest in the Country at over 65%. We continue to actively promote the government's Better Broadband Voucher and Gigabit Voucher schemes available to eligible premises in the hardest to reach areas that cannot economically be served by fibre broadband under our programme.

As a County we are now looking to the future with the availability and demand for data intensive services increasing and a growing number of devices connected to the Internet. In the midst of significant budgetary challenges we and our public sector partners need to determine how we can best deliver services in smarter, better and more cost effective ways whilst best meeting the needs of our residents across all age groups.

Although the majority of our business may be small they operate in regional, national and international markets and are increasingly dependent on fast connections that can increase business efficiency and competitiveness, reduce costs and put them on an equitable footing with their urban counterparts.

It is also important as we move forward that our local communities are able to benefit from and take advantage of the best available infrastructure (both fixed and mobile). This means ensuring that we build on progress made to date but that we also look towards our future requirements being served by full fibre (gigabit capable) networks wherever possible. Our strategy is ambitious but realistic and achievable and we look forward to the opportunity of working with key partners and stakeholders to deliver over the period to 2022.

Cllr. Oliver Hemsley



Leader, Rutland County Council

1.0 Our Vision

Our Digital Strategy 2019-22 will focus on supporting the Council’s vision, high level priorities and key objectives set out in the Corporate Plan 2016-2020.

“Rutland is a great place to live, learn, work, play and visit”

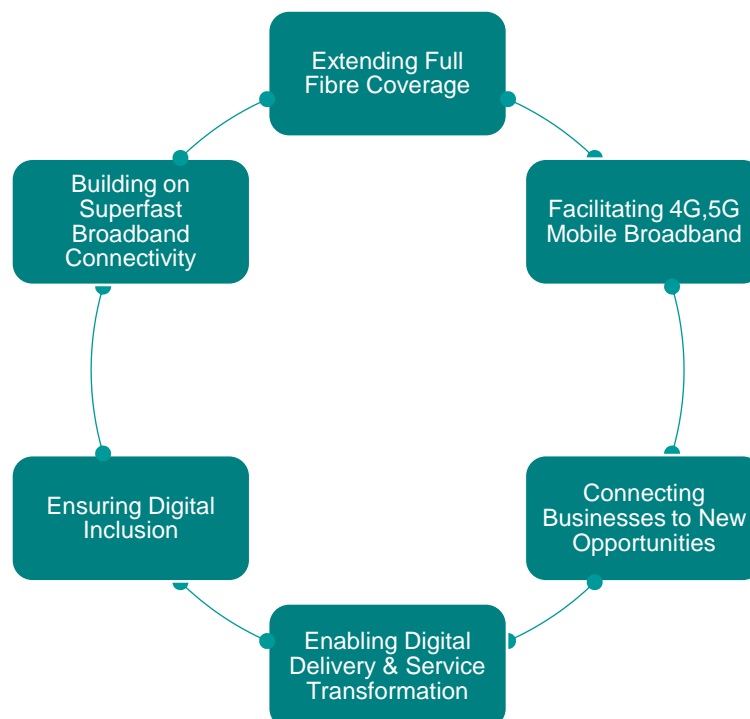
People & Places

- Delivering sustainable growth, supported by appropriate housing, employment, learning opportunities and infrastructure (including other Public Services)
- Safeguarding the most vulnerable and supporting the health and well-being needs of our community
- Planning and supporting future population and economic growth to allow businesses, individuals, families and communities to reach their full potential

Resources

- Ensuring the Council’s medium term financial plan is balanced and based on delivering the best possible value for the Rutland pound

2.0 Overview - Our Digital Strategy Aims



3.0 Aim 1: Building on Superfast Broadband Connectivity

Superfast Broadband

3.1 The UK Government has delivered on its ambition to provide superfast broadband coverage to 95% of UK premises which it defines as download speeds of at least 24 megabits per second (Mbps). The government expects to reach over 97% coverage by 2020 when the delivery of the co-funded Broadband Delivery UK (BDUK) and local authority programmes completes.

3.2 Table 1 below shows the breakdown of Superfast and Fibre coverage at May 2019 for Rutland and UK. Following completion of Phase 3 of the Digital Rutland Superfast broadband roll out this is expected to rise to over 97% from its current position.

Table 1. Rutland, UK Superfast and Fibre Coverage

	Rutland	UK
Superfast UK(>24Mbps)	96.29%	96.07%
Superfast EU(>30Mbps)	95.17%	95.2%
Ultrafast (> 100Mbps)	19.67%	56.78%
'Fibre' partial/full at any speed	99.87%	98.18%
Below 2Mbps	0.38%	0.57%
Below 10Mbps down	1.09%	1.72%
Below 10Mbps down, 1Mbps up (Legal USO)	0.92%	2.80%
Below 15Mbps (high Speed broadband)	2.96%	2.53%
Full Fibre	19.67%	7.52%

Source: ThinkBroadband <https://labs.thinkbroadband.com/local/rutland,E06000017>

3.3 In line with all BDUK programmes the majority of delivery under the Digital Rutland project has been mainly over Fibre-to-the-Cabinet (FTTC) technology, which is a part-fibre, part-copper technology: fibre optic cables run from the exchange to a street cabinet, and existing copper telephone lines connect the cabinet to the premises. As we have reached further out into the more rural parts of the County some of this delivery has required investment in more costly full fibre networks.

3.4 Full-fibre networks, also referred to as fibre-to-the-premises (FTTP) or fibre-to-the-home (FTTH), consist of fibre optic cables running from the local exchange directly to each premises and does not degrade with distance from the exchange. Fibre optic cables use light signals to carry data, so the signals travel very fast with significantly less signal loss with distance compared to copper wires. Therefore, much higher download and upload speeds are possible. Full fibre technology is capable of delivering speeds up to 1 gigabit per second (Gbit/ps).

3.5 Table 2 below illustrates the type of household activity that can be undertaken with different connection speeds.

Table 2. Activity by Download Speed

Activity	10Mbit/ps	30Mbit/ps	300Mbit/ps	1Gbit/ps
Streaming Music	Yes	Yes	Yes	Yes
Downloading an album	1-2 minutes	30-60 secs	<10 secs	<5 secs
Streaming an HD movie	Yes	Yes	Yes	Yes
Downloading an HD movie	1-11/2 hrs	30 mins	< 5 mins	<2 mins
Streaming and ultra HD movie	No	Yes	Yes	Yes
Downloading an ultra HD movie	5 hrs	11/2 – 2 hrs	<15 mins	< 5 mins

Source: Ofcom Connected Nations 2017 December 2017. Estimates assume exclusive use of the broadband connection. If others are using the connection at the same time, content may take longer to download or may stream at lower quality.

Take Up of Fibre Services in Rutland

3.6 Rutland has one of the highest take up rates of fibre broadband in the UK at 65.4%¹. Under a gainshare arrangement higher than expected take up generates a funding clawback which can be used to further improve broadband infrastructure in the County.

3.7 Our high take up rates have been driven by high employment and self-employment rates, higher socio-economic profiles, demand from businesses (including home based) and from those who commute to cities but also work from home. A demand stimulation project carried out between January and March 2019, jointly funded by the UK government and the Council, is expected to realise further take up.

3.8 We will build on the lessons learned from the demand stimulation project utilising the materials produced (case studies, video, social media marketing materials and feedback from workshops) to promote coverage and the availability of faster broadband services. We will continue to work with local communities, parish councils and other intermediaries to ensure that the maximum benefit is derived from the public sector investment made to date. ²

¹ Data at December 2018 (<https://docs.google.com/spreadsheets/d/1Hs00bNsyRV1WoOt-fow3rsNXzpcKg26AsOWvk1bvJRk/edit#gid=0>)

² <https://www.rutland.gov.uk/my-community/digital-rutland/connecting-to-faster-broadband/>

4.0 Aim 2: Accelerating Full Fibre Coverage in Rutland

The Case for Full Fibre

4.1 Growing dependence on and demand for data intensive digital services will require high bandwidth capacity and more resilient internet connections in the future. By 2020, the volume of global internet traffic is expected to be 95 times that of 2005. In the UK, fixed internet traffic is set to double every two years³, whilst mobile data traffic increases at a rate of 42% per year⁴.

4.2 The UK's digital infrastructure must be able to support this rapid increase in traffic , providing sufficient capacity to ensure data can flow at volume , speed and reliability required to meet the demands of modern life.

4.3 Table 3 below shows fixed broadband average data usage by line speed.

Table 3: Fixed Broadband Average Data Use by Line Speed (GBits) and Average Data Use (GBits), All Local Authorities, and Rutland.

Average Date Use by Line Speed	10M bp/s	10< 30Mbps	30<300M bp/s	>= 30Mbps	>=300Mb p/s	Average
All Local Authorities	128	223	288	288	298	223
Rutland	66	175	228	226	22	175

Source: Connected Nations Report 2018 <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2018/interactive-report>

4.4 The future of high-speed and high-quality connectivity in Rutland also therefore lies in deeper, more extensive full fibre networks.

4.5 In addition to providing access to high speeds, full-fibre is also the most reliable broadband technology currently available. Full-fibre connections experience fewer operating faults than copper-based networks and are cheaper to run and maintain. Full-fibre connections are also less likely to slow down when many people use the network⁵.

4.6 Full-fibre broadband will be increasingly important to Rutland residents and businesses, as they demand more from their communications services over the coming decade and beyond. However, full-fibre networks are usually expensive to deploy, because they require new infrastructure to be built and the commercial business case particularly in rural areas such as Rutland is challenging.

Improving and Accelerating Full Fibre Coverage

³ Fixed Internet traffic worldwide: forecasts and analysis 2013-2018. Analysys Mason (2013).

⁴ https://www.ofcom.org.uk/_data/assets/pdf_file/0033/79584/update-strategy-mobile-spectrum.pdf

⁵ Ofcom, Building a full-fibre future , 26 April 2018.

4.7 The UK government is committed to supporting investment in high quality, reliable connectivity so that communities can benefit from faster economic growth and greater social inclusion. The FTIR (Future Telecoms Infrastructure review) sets out the government's target of 15 million premises by 2025 and nationwide full fibre coverage by 2033.

4.8 The government anticipates that c.90% of its 2033 target will be met through commercial delivery leaving 10% of the UK (the most rural areas) requiring some kind of public stimulus.

4.9 Full fibre coverage in Rutland is currently at 19.67%⁶, well above the UK figure of 7.57%. This relatively high figure is accounted for by commercial provision in our larger housing developments (Oakham North), smaller scale commercial development elsewhere (e.g. Lyddington, Essendine, parts of Uppingham) and through the later phases of the Digital Rutland project.

4.10 However higher costs of deployment in rural areas create both demand and supply side barriers, likely to limit any further commercial expansion. If left to market forces Rutland will increasingly over time find its position weakened relative to that of our more urban neighbours.

4.11 Our intention is to address this challenge through a number of mechanisms:

- a) Policy Shift – an updated Local Plan which sets out our requirement on full fibre provision in new housing developments going forward.
- b) Facilitating greater collaboration and awareness
 - Engaging with housing developers at the earliest opportunity in the planning process on their plans for telecommunications provision as we do for other utilities.
 - Making sure developers are aware of 'no cost' new build FTTP infrastructure offered by major telecommunication providers in helping to meet customer expectations of high quality broadband infrastructure.
 - Monitor the outcome of the UK government consultation on New Build developments: Delivering gigabit –capable connections⁷.
 - Taking a "One Council" approach across service areas (economic development, planning and highways teams) to facilitate roll out of both mobile and fixed broadband infrastructure.
 - Ensuring awareness of the government's new digital connectivity portal both internally and externally.⁸

⁶ Coverage at May 2019 Source: Think Broadband <https://labs.thinkbroadband.com/local/rutland,E06000017>

⁷

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752145/New_Build_Developments_Delivering_Gigabit_Capable_Connections_Condoc_FINAL_2_.pdf, Closed 21 Dec 2018.

⁸ <https://www.gov.uk/guidance/digital-connectivity-portal>

- c) Through our Local Full Fibre Networks Project part funded by the UK government⁹
- To provide full fibre (gigabit capable) connectivity to public sector buildings in Rutland and thereby stimulating further commercial deployment through operators creating additional points of connections and access networks made available to local premises.
 - Our ambition is to achieve up to c.50% coverage through this stimulus.
- d) Adopting a barrier busting approach to commercial roll out
- Assisting rather than inhibiting commercial roll out of full fibre.
 - Encouraging works co-ordination wherever practically possible.
 - Clearly articulating our expectations on street works and reinstatement standards – get it right first time approach.
 - Taking a proactive and collaborative approach to identify and find solutions to network build - both fixed and mobile.
 - Identifying a ‘Digital Champion’ within the Council.
- e) Identifying local ‘Digital Champions to help us work with local communities to aggregate demand and encourage take up of the Government’s Gigabit Voucher Scheme – referred to in Section 4.12 below.

Stimulating Take Up of Full Fibre

4.12 Delivering better full fibre coverage is only part of our ambitions- we need to ensure that local residents, businesses and stakeholders understand the benefits and applications that access to gigabit capable broadband can enable into the future. This should encourage take up of full fibre services as these become available to ensure that the benefits and opportunities are maximised.

4.13 As part of our Digital Strategy we will develop a demand stimulation plan will be including providing impartial information on benefits of full fibre, a link back to our new full fibre Digital Rutland webpage, showcasing businesses and residents already benefitting from gigabit capable networks. It will complement the work under our Local Full Fibre Networks project roll out.

4.14 The government’s £67m Gigabit Broadband Voucher Scheme is part of the wider plan to get more homes and businesses connected to full fibre broadband. Gigabit vouchers contribute to the installation costs of upgrading to a full fibre connection. Eligible businesses and residents can register with a broadband services supplier to benefit from a contribution of up to £2500 per business and £500 per residential

⁹ Department of Culture , Media and Sport Challenge Fund ,Wave 3 Project announced March 2019
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785618/WMS_final_Commons.pdf

property. We will continue to promote the availability of the Gigabit Voucher Scheme¹⁰ on our Digital Rutland webpages, through social media and through local digital champions.

4.15 The government has recently announced that from May 2019, premises in the harder to reach places in the UK may be eligible for additional funding¹¹. Rural premises with broadband speeds of less than 30Mbps can collaborate as part of a group to access vouchers worth up to £3500 for each small and medium sized business and up to £1500 per residential premise to support the cost of installing new gigabit-capable connections.

4.16 Full fibre (gigabit capable) connectivity to public sector buildings will provide further commercial stimulus as nearby businesses and residential properties and those along the fibre routes will be within easier reach of full fibre. The gigabit voucher scheme and the enhanced rural voucher is then better able to be accessed to help address any remaining end user connection costs.

4.17 We will also work with registered suppliers on the voucher scheme to promote the availability of the scheme and with local communities and business groups to raise awareness on the potential to form groups to aggregate the vouchers and receive the additional funding outlined in 4.14 above.

5.0 Aim 3: Facilitating 4G and 5G Mobile Broadband Networks

Mobile Services

5.1 Mobile services are an increasingly important part of people's lives and how business is connected. Third generation of mobile systems, launched in the UK in 2003 provide low speed data transmission and supports multi-media applications such as video, audio and internet access , alongside conventional voice services. Fourth generation of mobile systems, launched in the UK in 2012 were designed to provide faster data download and upload speeds on mobile networks and can also support VoIP services.

5.2 A growing number of domestic users are opting for smart phones to get online rather than via fixed broadband so that poor 4G coverage has a digital inclusion dimension and makes progress on 4G coverage equally important as fixed broadband coverage. Mobile services also support health and care staff working with people in their own homes across the County. Digital innovation is increasingly held back by the ability to actually use those technologies in the field.

¹⁰ <https://gigabitvoucher.culture.gov.uk>

¹¹ <https://gigabitvoucher.culture.gov.uk/rural/>

5.3 Key findings in the Connected Nations report 2018 which tracks annually progress in fixed and mobile services in the UK shows that 91% of the UK landmass has access to good 4G mobile coverage from at least one operator while 66% has coverage from all four mobile network operators. Within this, individual operator coverage varies, with the highest being 84% and the lowest 74%¹². Some 23% of homes and businesses in the UK do not have good indoor coverage from all operators

5.4 Ofcom’s online coverage checker and app enables people to identify which operators provide a good connection in the locations that matter most to them. They can then choose the operator that best meets their needs.¹³

5.5 The government has committed to extending geographic coverage to 95% of the UK by 2022 to address ‘not spots’ with changes to the Electronic Communications Code and to planning laws to make it easier and cheaper to deploy mobile infrastructure. They continue to work with Ofcom on options to further extend and improve coverage including the auctioning of low frequency 800 Mhz spectrum which provides for better reach and penetration of signals indoors.

5.6 The following Tables show the growth of data traffic over 4G and the extent of 4G coverage in Rutland from the four major operators (“EE”, “Three”, “02” and Vodafone) compared to all Local Authorities. Unless otherwise stated all data is sourced from the Connected Nations Report 2018 Interactive Data (<https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2018/interactive-report>).

5.7 The Ofcom define coverage for 2G, 3G and, 4G networks based on the minimum signal strength required to deliver a 98% probability of making a 90 second telephone call successfully. In the case of 4G specifically, their definition also delivers a 98% chance of getting a download speed of at least 2Mbit/s.¹⁴

Table 4. Mobile Data Traffic Usage- Total and 4G Data: Local Authorities (All), Rutland

	April 2012	June 2016	June 2017	May 2018
Local Authorities(All) UK Total Data Traffic	19.7k	105k	156k	212k
Local Authorities (All) UK 4G Data Traffic	-	63k	115k	179k

¹² https://www.ofcom.org.uk/data/assets/pdf_file/0020/130736/Connected-Nations-2018-main-report.pdf

¹³ <https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/advice/ofcom-checker>

¹⁴ <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2018/methodology>

Rutland Total Data Traffic	-	40k	69k	115k
Rutland 4G Data Traffic	-	10k	35k	91k

Table 5. Geographic Coverage (%) of Premises by Networks, 4G: Local Authorities (All), Rutland

	June 2017	Jan 2018	May 2018	Sept 2018
<u>Local Authorities(All) UK</u>				
At least one operator	80%	88%	89%	91%
All 4 operators	49%	62%	64%	66%
Complete Not Spot	20%	12%	11%	9%
<u>Rutland</u>				
At least one	99%	100%	100%	100%
All	60%	90%	91%	92%
Complete Not Spot	1%	0%	0%	0%

Table 6. 4G Indoor Coverage (%) by Networks, Local Authorities (All), Rutland

	June 2017	Jan 2018	May 2018	Sept 2018
<u>Local Authorities (All) UK</u>				
At least one operator	97%	99%	99%	99%
All four operators	65%	74%	76%	77%
Complete Not Spot	3%	1%	1%	1%
<u>Rutland</u>				
At least one operator	87%	97%	97%	97%
All four operators	7%	24%	38%	38%
Complete Not Spot	13%	3%	3%	3%

Table 7. Coverage 4G, All Roads (in Vehicle) Local Authorities (All), Rutland

	June 2017	Jan 2018	May 2018	Sept 2018
<u>Local Authority (All) UK</u>				
At least one operator	86%	93%	94%	95%
All four operators	40%	53%	55%	57%
Complete not spot	14%	7%	6%	5%
<u>Rutland</u>				
At least one operator	98%	100%	100%	100%
All four operators	27%	51%	57%	57%
Complete not spot	2%	0%	0%	0%

Table 8. Comparison of Rutland 4G coverage across all 4 Operators with Near Neighbours

Local Authority Area	4G by premises services from all Operators (4G_prem-in_4)	4G A&B roads Service from all Operators (4G-abrd_in_4)
Rutland	38%	57%
Peterborough	85%	73%
Harborough	60%	62%
Melton	39%	47%
North Kesteven	57%	39%
South Holland	55%	33%
South Kesteven	76%	73%
Corby	70%	72%
East Northamptonshire	75%	68%
Northampton	82%	87%
South Northamptonshire	61%	74%

5.8 Whilst the OfCom data above suggests we do not have any “not spots” evidence from users demonstrates that areas in the County fail to access any signal for mobile phone access let alone 3G or 4G data.

5.9 Tables 6, 7 & 8 above show that indoor coverage of 4G and coverage across roads from all 4 operators presents particular issues for Rutland when compared to all local authorities and with our near neighbours. As a stated above this presents issues in delivering effective care which is technology dependent.

5.10 Engagement has already taken place with three of the major network operators to understand their current roll out plans for 3G and 4G in Rutland, how they intend to improve coverage further and address current issues (e.g. poor indoor signal quality). We will continue to meet with operators to monitor progress over the period to 2022.

Accelerating High Quality Mobile Broadband

5.11 The government would also like the UK to be a world leader in 5G, with the majority of the population covered by a 5G signal by 2027. This is the next generation of mobile connectivity, and is currently in development. It is expected to represent a significant upgrade: providing ultrafast, low latency, and more reliable mobile connectivity, able to handle ever-increasing data requirements.

5.12 The Future Telecoms Infrastructure Review states that this is likely to be deployed as an intricate patchwork of technologies and will utilise a range of spectrum frequencies. The technical capabilities and performance characteristics of 5G are such that it is expected to deliver faster and better mobile broadband services to consumers and businesses and to enable innovative new services for industry sectors including manufacturing, transport, immersive technologies and healthcare.

5.13 Facilitating high quality mobile broadband infrastructure presents huge opportunity to boost productivity and grow the economy in Rutland. In addition to giving businesses high quality connectivity, it will also support the development of the Internet of Things: the rapidly-increasing number of connected devices, from connected cars to digital health applications.

5.14 New full fibre infrastructure will play a crucial role in the commercial roll out of 4G and particularly in the future deployment of 5G in Rutland which will require extensive use of small cells (essentially mini base stations) that are connected to the core network by fibre backhaul. Pushing out the full fibre footprint through our Local Full Fibre Networks project will have the additional benefit therefore of supporting future mobile development in Rutland.

Integration of Mobile and Fixed Broadband

5.15 Although it has many important applications, limitations on the spectrum required to deliver Gigabit speeds through 5G and the shared nature of the medium are also likely to limit its potential to act as an alternative to very high capacity fixed connections.

5.16 Our strategy is therefore to help facilitate the availability of both high quality fixed and mobile broadband providing maximum flexibility to assist our residents as they move around the County and enabling our business leaders to successfully operate their business from any location.

5.17 Data from the Ofcom Connected Nations Report 2018 has for the first time mapped coverage across mobile, fixed and wireless networks and we will continue to monitor progression in Rutland.

Table 9: Networks overlap: Blended data on fixed, mobile and fixed wireless (FWA) as a % of premises:

	Mobile, Fixed and FWA	Mobile and Fixed	Fixed only	FWA only	Mobile Only	No Mobile, Fixed or FWA	Fixed and FWA	Mobile and FWA
Local Authority (All)	2.9%	94.2%	0.4%	2.1%	0.1%	0.0%	0.0%	0.1%
Rutland	0.0%	97.0%	1.5%	0.0%	1.5%	0.0%	0.0%	0.0%

Source: <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2018/interactive-report>

6.0 Aim 4: Connecting Businesses to New Opportunities

Supporting Technology Businesses

6.1 Rutland has many niche services, design, manufacturing engineering, and technology businesses spread around the County. These types of business are dependent on efficient, reliable and fast broadband to remain competitive and grow in regional, national and international markets.

6.2 New firms are also an important component of a successful and dynamic economy (providing employment, income and GVA). Those areas with high business birth rates experience more rapid employment growth. However the business birth rate in Rutland has been below the UK rate. Access to full fibre networks will help support and attract new technology based start-up businesses into the County.

Supporting Innovation and Knowledge Transfer

6.3 Recent research shows that the UK's business community, most particularly its small and medium sized companies, could benefit enormously from full-fibre

roll out. Access to full-fibre could unlock £4.5bn in business productivity, innovation and access to new markets in these locations; a further £2.3bn in growth could be driven from catalysing new business start-ups; while the increased ability for companies to support flexible working could add £1.9bn.¹⁵

6.4 Although the majority of our businesses may be small they operate in regional, national and international supply chains and are increasingly dependent on fast connections that can increase business efficiency and competitiveness, reduce costs and put us on an equitable footing with businesses in urban areas. We will promote innovation and knowledge transfer programmes to ensure that our businesses are best placed to understand and exploit new technologies which operate over high speed infrastructure.

Increasing Innovation and Productivity

6.5 Data on innovation at the local authority level is unavailable. However we recognise that innovation is essential for raising productivity and increasing competitiveness and market share. There is a limited R&D based in the surrounding area with which Rutland businesses can engage. The profile of business by size also limits this.

6.6 Facilitating virtual linkages to the wider geography (e.g. Enterprise Zones, Science Parks, HE facilities, business clusters) over improved full fibre broadband infrastructure will provide greater visibility and critical mass to enable collaborations outside of the County. We will also connect businesses to regional business support and grant funding programmes (current or emerging) to facilitate the adoption of new technologies and processes better served by these full fibre networks.

6.7 Productivity values in Rutland average £34,000 and are below the East of England average of £39,200. Productivity is also a clear driver in raising average wages. Baseline Econometric forecasts for Gross Value Added (GVA) over the period 2011-21 show 1.6% growth for Rutland compared to 2.1% for Peterborough, 1.7% for the East Midlands, 1.9% for Eastern and 1.8% for the United Kingdom.¹⁶

6.8 The UK Broadband Impact Study 2013 estimated that the availability and take up of faster broadband speeds will add circa £17 billion to the UK's annual GVA by 2024. This level of uplift contributes an average of 0.07% points to real annual GVA growth over this period. The GVA impacts attributable to the current round of publicly funded fixed intervention rises to about £6.3 billion per annum by 2024 which is equivalent to an uplift of 0.03% points on the UK's real annual GVA growth. Research from the

¹⁵ The Economic Impact of Full-Fibre Infrastructure in 100 UK Towns and Cities – 12.03.18
<https://cityfibre-electricstudiolt.netdna-ssl.com/wp-content/uploads/2018/03/The-Economic-Impact-of-Full-Fibre-Infrastructure-in-100-UK-Towns-and-Cities-12.03.18.pdf>

¹⁶ Source Experian , taken from the Peterborough SHMA July 2014

FTTH Council in the US suggests that providing full-fibre to just half of all premises in a location could result in a 1.1% rise in annual GDP.

6.9 The study also forecasts that £20 in net economic impact will be returned for every £1 of public intervention in fixed broadband infrastructure. Economic benefits through faster broadband speeds will come from productivity growth, safeguarding of local employment, teleworker productivity, labour force participation and network construction impacts. If applied to Rutland this would give an investment return of circa £44m to Rutland's economy for the £2.2m of public sector investment.

7.0 Aim 5: Enabling Digital Delivery and Service Transformation

Digital Delivery

7.1 Digital technology has increasingly become all-pervasive in society. It offers new ways for organisations to understand their customers' needs, to design services around those customer needs, and to provide more flexible, targeted services, available at customers' convenience.

7.2 Digital delivery channels are maturing: the national NHS App has already been launched in Rutland and enables patients to book appointments, order prescriptions, see their medical records, record their preferences and find self-care information. Such developments offer service improvements to their users, but risk increasing the divide between the digital haves and have nots if infrastructure does not keep pace.

7.3 Providing high quality fixed and mobile broadband increases the ability to deliver public services more efficiently and to facilitate the "Internet of Things" whereby devices are talking to each other without human intervention and beneficial to both health and well-being particularly for our most vulnerable residents.

7.4 Technology supports and enables better health, education and economic outcomes deemed critical to closing inequality gaps. Developing and strengthening partnerships with other organisations including blue light, health, education, community and voluntary organisations and businesses to ensure that services are co-ordinated to maximise the collective impact of projects and resources

Service Transformation in the Council

7.5 Our Council IT Strategy 2018-2020 provides a technology platform to support and innovate the way that the Council works so the IT positively impacts all stakeholders in the context of our strategic priorities and our Medium Term Financial Plan.

7.6 The IT strategy comprises seven elements:

- Channel Shift – Migrating services to web channels that are accessible and easily usable on the devices used by our customers
- Working Anywhere – From any location from any device
- Protecting Us – A secure network protecting data, staff and our assets
- Quality Equipment – To allow staff to deliver services
- Modern IT – with applications that support service areas
- Innovation – Helping service areas be innovative in their delivery
- Proactive Service – A service delivering good service to our customers

7.7 However, it is essential that as online service provision increases that our residents who do not currently have digital access are not excluded from accessing Council services and we outline how we will address this in Section 8.0. This also involves ensuring that people with limited digital access e.g. slow connection, low data limits or small format devices are not disadvantaged.

Working with Key Partners to Deliver Services More Effectively

7.8 Many services provided by the Council and partner organisations in Rutland are already being provided online. For example, residents are being encouraged to manage their benefits on line, many schools expect pupils to be able to complete homework online and a growing range of GP services are now available to Rutland patients online, including appointment booking, prescription ordering and viewing medical records.

7.9 In education faster more reliable broadband connections can remove one of the major barriers to the effective use of technology in curriculum delivery. In addition it allows schools to access off-site cloud computing to more cheaply serve back office and IT functions.

7.10 Our Digital Rutland Local Full Fibre Network project will provide full fibre connectivity to strategically located public sector buildings across Rutland to enable these assets to deliver services (health, education, public and community) in a smarter more efficient and accessible way and to extend the range of community services that can be provided into the future to benefit our local communities.

8.0 Aim 6: Ensuring Digital Inclusion

Digital Exclusion Risk

8.1 Our digital strategy will help ensure that a broader cross-section of the Rutland population are able to engage in the digital economy. It will help support people from our more deprived communities to have the confidence and capability to access and use digital channels to find work and training, and to develop the digital skills needed to access higher skilled, higher paid employment.

8.2 Digital exclusion is the inability to access online products or services or to use mainstream forms of digital technology. This disproportionately affects vulnerable

people, low income groups, the elderly and more marginalised communities in society and may be for a variety of reasons including lack of awareness and skills, affordability of devices or connection, unstable housing circumstances or security concerns. This creates a strong correlation between digital exclusion and social exclusion. Data for Rutland made up of eight core digital and social metrics shows the likelihood of overall digital exclusion is medium.¹⁷

Improving Digital Skills

8.3 Our aim is to support residents in the County who are still not currently online or who face constraints to their online access to access the internet and develop their digital skills. The strategy aims to achieve this through developing projects that build on the existing support provided by the Council and partner organisations. Our focus will be on increasing digital skills for older people, people with disabilities, social housing tenants and residents on low incomes who are more likely to be digitally excluded.

8.4 The rapid rate of technological innovations requires the current workforce to continually update their skills to equip them for emerging roles in the sectors in which they work, which have been influenced by new technologies. Digital skills range from those that enable basic social interaction (communication skills, literacy, smartphone usage etc.) though to skills that enable interaction with systems and services (for example e-commerce and e-government services) through to skills that match the needs of employers and which maximise employability.

8.5 In 2014 almost 90% of new jobs nationally required digital skills, with 72% of employers stating that they were unwilling to interview candidates who do not have basic IT skills. In 2016 it was estimated that within the next 10 to 20 years, 90% of jobs will require some sort of digital skills¹⁸. Digital skills underpin growth across the UK economy and are vital to ensuring global competitiveness and productivity. Where people have the skills to use these effectively then digital technologies can open up new opportunities and assist in social mobility.¹⁹

8.6 Through supporting residents to develop basic digital skills, we can help support the continued economic growth of the County and help residents on lower incomes to access employment. We will also monitor the intention of government to introduce improved basic digital skills qualifications at two levels – beginner and essential and the roll out a nationwide entitlement for all adults without basic digital skills to enrol on the new qualifications free of charge from 2020.

Increasing Digital Access

¹⁷ <http://heatmap.thetechpartnership.com/?area=Rutland&metric=total>

¹⁸

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499031/Review_of_Publicly_Funded_Digital_Skills_Qualifications_2016_FINAL.pdf

¹⁹ UKFORCE 2014. Digital Skills Taskforce call for evidence: Submission from the UK forum for Computing Education (UKforCE). UK forum for Computing Education. Available: <http://ukforce.org.uk/wp-content/uploads/2014/06/Digital-Skills-Taskforce-UKforCE-submission-Updated.pdf>. [Accessed July 25 2015].

8.7 The need for basic digital skills is also becoming increasingly important for accessing welfare services, where benefits recipients will have to apply online for Universal Credit. Other advantages that digital skills bring include savings on household bills (for example through e-billing and the ability to more easily compare utility providers) and the ability to access training support and information on health and well-being online. Transacting online can also save transport costs and mean that services remain accessible where there are access challenges, as in many rural parts of Rutland.

8.8 Online access is also valuable in helping people who are living with disability or ill health to manage independently at home, reducing their need for third party and social care support (e.g. by doing the weekly shop online). Increasingly assistive technologies supporting independent living rely on access to the Internet, whether it is apps that enable family to check in on an elderly relative with dementia or digital assistants used to control the lighting and heating. Online access can also help to support wellbeing for largely housebound individuals by reducing social isolation, enabling people including carers to stay in touch with family, friends and the wider community, and to make new social connections or pursue leisure interests at minimal cost, enriching day to day life.

8.9 Digital access can also increase incomes in the longer term, by helping to address the educational attainment gap currently experienced by young people from lower income families. Data in 2018 shows that there are circa 125(4.7% of pupils) claiming free school meals²⁰.

8.10 We are committed to continuing to promote digital access to ensure that residents can access digital services provided by the Council and partners, as part of reducing poverty and inequality in Rutland and to support continued economic growth.

8.11 Our programmes to date include:

- Increasing broadband coverage through our Digital Rutland project
- Encouraging improvements to telephony services , especially 4G, as a means to access online services where households choose this route over fixed broadband, working to ensure this is possible wherever they live in Rutland
- Ensuring the online services of the Council and other public providers are mobile friendly, to ensure ease of access whatever device a member of the public is using to get online
- Adopting the gov.uk standards for online content for the Council website and Rutland Information Service which is clear and accessible to as wide a range of the population as possible

²⁰ <https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2018>

- Providing free internet access – Rutland’s Library Service provides free wi-fi and public access suites of library computers in Oakham, Uppingham, Ketton and Ryhall, which includes printing facilities and photocopying
- Providing free internet access at Rutland County Council’s reception for people to look up Council information or undertake online transactions (e.g. register to vote, pay Council Tax).
- Oakham Library hosts regular volunteer-led basic IT training sessions in partnership with Age UK, advising people on how to use their personal devices to get online and providing basic troubleshooting – and also “try before you buy” demos of mobile devices
- Rutland libraries provide online digital resources including e-books and e-audio loans (over 5,000 titles available), and authoritative resources such as Britannica, the Dictionary of National Biography, Access to Research (academic level materials) the British Newspaper Archive and British History Online
- Oakham Library hosts weekly volunteer-led family history research sessions. These include providing advice on online family history resources, which are available for free in the libraries, including Ancestry and Find My Past
- Jobcentre Plus run fortnightly sessions at Oakham Library to support job seekers
- Shaw Trust also run fortnightly sessions at Oakham Library for people needing additional help securing employment
- Provision of adult learning facilities at Oakham Enterprise Park(Rutland Adult Learning and Skills Service (RALSS)) which allows for people who digitally excluded to use 40 computers access to the internet
- Provision of IT courses with a discount for low income families at RALSS
- Additionally for those who can access the internet there are on-line learning tools for Functional Skills
- Oakham Medical Practice who have joined up with a local school to provide volunteer assistance to patients who want to sign up for online GP services
- Investigating how children in Rutland can be supported who don’t have online access (e.g. because parents are online via mobile phones so that no fixed broadband is available or no device is available to them).

8.12 We will continue to invest, and to work with others, to reduce digital exclusion and empower as many of our residents as possible to take advantage of the opportunities digital and online services provide.

9.0 Strategic Alignment

9.1 Alignment with National Policies, Programmes for Full Fibre Connectivity

Alignment with and supporting delivery of National Objectives:

UK Policy / Programmes	Key Objectives
Future Telecoms Infrastructure Review (FTIR)	<ul style="list-style-type: none"> • Target to build a UK-wide full-fibre network by 2033, with 15 million premises connected by 2025. • Target for 5G access to the majority of the population by 2027
DCMS Local Full Fibre Networks-Challenge Fund Programme (Rutland announced as Wave 3 project – March 2019)	<p>Strategic Objective</p> <ul style="list-style-type: none"> • To stimulate more commercial investment to deliver more gigabit capable connectivity <p>Delivery Objectives</p> <ol style="list-style-type: none"> a) Directly maximising the availability and benefit of gigabit capable broadband services to public sector, business and residential users b) Improving commercial investment conditions, in local areas e.g. improve the business case for the market to provide more gigabit capable broadband
National Gigabit Broadband Voucher Scheme	<ul style="list-style-type: none"> • Government voucher scheme providing funding to help small businesses and local communities meet the installation cost of faster connections using gigabit-capable infrastructure
Better Broadband Voucher Scheme	<ul style="list-style-type: none"> • Government voucher scheme to provide funding to help sub 2Mbps premises in the hardest to reach areas access at least a 10Mbps service
Universal Service Obligation	<ul style="list-style-type: none"> • Would give everyone a legal right to request a decent broadband connection defined as 10Mbps up to a reasonable cost threshold ²¹

²¹ <https://www.ofcom.org.uk/consultations-and-statements/category-1/delivering-broadband-universal-service>

9.2 Alignment of the Digital Rutland Strategy 2019-2022 with other Local Strategies & Plans

Linkages with other strategic objectives and delivery plans:

Strategy/Plan	Key Objectives
RCC Corporate Plan Objectives 2016-2020	<ul style="list-style-type: none"> • Delivering sustainable growth supported by appropriate housing, employment and infrastructure • Planning and supporting future population and economic growth to allow businesses, individuals, families and communities to reach their full potential.
Economic Development Growth Strategy 2014-2021	<ul style="list-style-type: none"> • Enterprise and Innovation: To retain, attract and grow successful businesses and ensure our businesses have the capacity to innovate, exploit technology and improve productivity. • Education, Employment and Skills: To maximise prosperity for all • Land, Development and Infrastructure : To provide the right physical environment for sustainable growth including high speed broadband and addressing poor 3G and 4G mobile broadband. • Inward Investment: To raise the profile of Rutland as a place to visit and do business.
Rutland Local Plan to 2036 Review underway following consultation	<p>Identifies the provision for additional new housing, employment and other development that may be needed over the extended plan period.</p> <p>Will set out our <u>full fibre requirements</u> for new development sites.</p>
Peterborough Sub-Regional Strategic Housing Market Assessment (2014) and (2017 update):	<ul style="list-style-type: none"> • To assess the population forecast from 37,000 in 2015 to 41,000 in 2036 (ONS 2013 – based projections) and housing growth requirement - currently 1906 homes. • Forecasts further 1500 jobs requirement from 2011 to 2031. • Further potential employment growth up to 2036.

Strategy/Plan	Key Objectives
Rutland Educational Framework 2017-2020:	<ul style="list-style-type: none"> Incorporates ambitions with the Council's Corporate Plan for sustainable growth supported by appropriate learning opportunities
Rutland Joint Health & Wellbeing Strategy 2016-2020	<ul style="list-style-type: none"> To enable key agencies to develop joined-up commissioning and delivery plans. Key priorities include extending healthy life expectancy, reducing health inequalities and integration of health and social care services
<p>Moving Rutland Forward Rutland's Fourth Local Transport Plan (Draft Version)</p> <p>2018-2036</p>	<p>To deliver a transport network and services that support the vision :</p> <ul style="list-style-type: none"> Facilitate delivery of sustainable population and economic growth -providing resilient and adaptable infrastructure and services that cater for our most vulnerable residents , whilst boosting the vitality of our economy Meet the needs of our most vulnerable residents <ul style="list-style-type: none"> - providing an efficient network of passenger transport services <p>LIRS2: Enhancing promotion and communication of information, infrastructure and services</p> <p>LIRS 2: Embracing technological advances that support greener, safer and more flexible travel. Give consideration to technological advances that may improve road safety.</p>
Rutland Draft Passenger Transport Strategy	<ul style="list-style-type: none"> Improving passenger transport information and infrastructure to increase awareness including consideration of real time electronic display boards Consider the use of smart ticketing , smart technology
Strategic Plan for Culture and Leisure in Rutland 2017-2020	<ul style="list-style-type: none"> Our public, private and voluntary cultural infrastructure, from our libraries, galleries and sports venues, to our museums, historic assets, play areas and recreational spaces, will engage residents in rewarding and enriching activities. Our services will provide access for all, with a special focus on young families, the increasing aging population, and new service populations. We will have particular regard to groups that encounter barriers to making the most of culture and leisure opportunities.
Neighbourhood Plans	<ul style="list-style-type: none"> Aspirations for Digital Connectivity within existing and emerging Neighbourhood Plans

10.0 Expected Benefits

10.1 For the Council

- Ensuring all our assets have access to full fibre connectivity
- Facilitating an ICT transformation strategy in which services can exploit new software and on-line processes to improve the quality of life and outcomes for residents
- Creating an agile and mobile workforce that is more responsive to the needs of vulnerable groups
- Maintaining and improving the level of service to our residents in the face of rising service demands and challenging financial budgets.

10.2 For the County

- Ensuring other public sector assets have access to full fibre infrastructure
- Stimulating further commercial deployment to increase full fibre coverage
- Positioning Rutland as an exemplar rural county with the best available fixed and mobile infrastructure
- Attracting, retaining and growing businesses in the County due to high quality digital infrastructure
- Raising the social and economic prospects of our residents
- Facilitating economic growth , increased productivity and innovation
- Supporting the health and wellbeing of our most vulnerable residents and the sustainability of health and care services

11.0 Next Steps

Our next steps will be:

- To provide a summary sheet for PR&Comms and website use
- To develop a comprehensive action plan and timescales for delivery
- To ensure emerging Council strategies cross-refer to the Digital Rutland Strategy where relevant.

12.0 Summary of Key Actions

Table 4.

Building on Superfast Broadband Connectivity	Accelerating Full Fibre Coverage	Facilitating 4G,5G Mobile Broadband	Connecting Businesses to New Opportunities	Enabling Digital Delivery & Service Transformation	Ensuring Digital Inclusion
Delivery of Phase 3 by Summer 2019	Policy Shift – Local Plan Review to 2036 on requirement for full fibre in new developments	Continue network operator engagement. Monitor delivery plans for 3G,4G and improved indoor coverage	Bring SMEs within commercial reach of full fibre as a consequence of LFFN project delivery.	Provide high quality broadband infrastructure to key public sector buildings through LFFN project	Develop digital access plan in partnership with key stakeholders.
Continue to raise awareness of superfast broadband coverage and 3 step guide to ordering.	Facilitating Greater Collaboration and Awareness with networks providers and developers	Lobby government to address indoor coverage issues and inter-operability	Continue to attract new technology businesses	Champion Digital Connectivity and Delivery in Council Plans and Strategies	Support development of digital skills to empower residents particularly those most at risk
Encourage further take up of services through direct and community engagement.	Delivery of our Local Full Fibre Project (LFFN project) by March 2021.	Create Digital Rutland webpage on mobile broadband providing FAQs & impartial advice.	Promote availability of regional support programmes to deploy new technology dependent processes.	Develop, & Strengthen organisational partnerships to deliver digital services more effectively	Increase free digital access points.
Promote the benefits of take up through social media and other platforms.	Barrier Busting approach to assisting commercial roll out.	Stimulate commercial roll out of 4G ,emerging 5G mobile broadband	Facilitate virtual linkages with Enterprise Zones , R&D base	Support public sector asset holders to provide new services over upgraded networks.	Work with key partners to provide digital inclusion support to our most vulnerable residents
Support residents and businesses to exploit benefits	Identifying Local Digital Champions to promote take up of Gigabit Voucher Scheme	Barrier Busting approach to assist not hinder commercial operator plans	Connect businesses to technology grant opportunities	Ensure council services remain accessible to all	Ensure digital services are accessible to all.
Monitor progress of USO legal obligation from 2020	Support demand side stimulation and take up of Gigabit Vouchers	Monitor progress to 2022	Support demand side stimulation and take up of Gigabit Vouchers	Monitor progress to 2022	Monitor progress to 2022

13.0 Glossary

DCMS /BDUK	Department for Digital, Culture, Media and Sport/ Building Digital UK a section within DCMS
Full Fibre Coverage	Services that provide a fibre optic cable and where the network has been rolled out to a 'lead in' that will serve the consumer end premise and where the consumer would expect to pay a standard installation charge.
FTIR	Future Telecomms Infrastructure Review
FTTC	Fibre to the Cabinet
FTTH	Fibre to the Home
FTTP	Fibre to the Premises
GBits/ps	Gigabit(1,000,000,000) unit of measurement for digital storage/transfer
GVA	Gross Value Added
ICT	Information and Communications Technology
IT	Information Technology
LFFN	Local Full Fibre Networks – Capable of delivering gigabit services
LFFN project	Local Full Fibre Networks Project funded by UK government and Rutland County Council
Mhz	Megahertz is a unit of electromagnetic wave frequency equal to one million hertz(1,000,000 Hz)
Mbits/ps	Megabits(1,000,000,000) unit of measurement for digital storage/transfer
Ofcom	Office for Communications(Regulator for Communications Services)
RALSS	Rutland Adult Learning Service
SFFB	Superfast Broadband defined as 24Mbps download speed in the UK and 30Mbps by the European Union
SMEs	Small to Medium Enterprises
UK	United Kingdom
VoIP	Voice over Internet protocols
3G ,4G &5G	3rd,4 th ,5 th Generation mobile networks

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A large print of this draft strategy is available upon request