Digital Strategy

Buckinghamshire LEP

May 2020

Table of Contents

Foreword

In July 2019, we published our Local Industrial Strategy for Buckinghamshire which outlined the aims and aspirations for our local economy, our businesses and our workforce. Throughout the production of this strategy document, the global epidemic of COVID-19 has shown the importance of our workforce, and the capacity and adaptability of our local businesses which have worked to support one another and the vital care industries.

As we begin to look at the recovery and restoration of our economy, it is important to ensure that the future of business in Buckinghamshire is built on principles of sustainability and digital adoption, so that it is ready to adopt the principles of the fourth industrial revolution. Over the course of the lockdown period, many businesses relied on their digital infrastructure and the digital skills of their employees to ensure that they could continue to operate and to keep the economy moving forward.

However, despite the tremendous work which has taken place to develop our digital infrastructure and the digital skills of the workforce over the previous decade, there are still connectivity “not spots”, and skills can be improved further still.

This strategy has been created to address these issues and to provide a vision for a digital Buckinghamshire which underpins and enhances the Local Industrial Strategy. To this end, Buckinghamshire has a responsibility to ensure that:

- its residents have the digital skills to access online support and information which has been so critical throughout the early months of 2020;
- its workforce is not only digitally literate, but has the advanced skills that businesses need;
- superfast and gigabit-capable digital infrastructure is available for businesses and residents to access the wealth of online information, services and social interactions available to them; and
- we continue to inspire digital innovators, whilst providing the tools they need to continue to develop our economy as we venture into Industry4.0.

Background

Digital Infrastructure and Innovation in Buckinghamshire

The digital revolution continues to remain one of the largest driving forces in the nation's economy and has driven the 4th industrial revolution. A symbiotic relationship between digital technology and general industrial output has meant that investment in one will almost certainly lead to large improvements in the capability of the other, and Buckinghamshire is an example of this.

Investment in digital infrastructure has seen superfast fixed broadband coverage (greater than 24Mb/sec) move from 68.6% of its premises in January 2013, through to 96.1% of its premises by January 2020. [1] The county has also become a testbed for emerging 5G businesses and innovative technology clusters.

In order to achieve the aims of the Local Industrial Strategy, Buckinghamshire needs to ensure that it remains attractive to businesses. In part it can achieve this by providing the best digital infrastructure available, and then by continuing to support business growth through the collaborative efforts of Buckinghamshire Council, Buckinghamshire Local Enterprise Partnership, and the local Growth Hub, Buckinghamshire Business First.

To support this Buckinghamshire's Enterprise Zones have successfully created the innovation space and growth capabilities which cannot be easily replicated in highly urbanised areas due to space limitations. These Enterprise Zones allow for the clustering of some of the industries such as space exploration and High Tech Engineering which have been described as key to the ultimate growth of the UK economy. These clusters also allow experienced and established businesses to assist in the growth of fledging entrepreneurs and SMEs through knowledge share and commercial investment.

Digital and The Grand Challenges

AI and data

- In order for the Artificial Intelligence sector to be truly effective, the county's digital skills and infrastructure need to be enhanced to ensure that relevant companies have access to the necessary capabilities to take advantage of future developments in this industry as well as having the skills to access it. The development of fibre infrastructure is key to the enhancement of Big Data accessibility and capabilities for small and medium size enterprises.

Ageing society

- Buckinghamshire is no exception to the general trend of an ageing population. One of the main aims of the Local Industrial Strategy was to support the development of MedTech. The role of digital infrastructure in supporting this sector was clearly outlined by the Department for Digital, Culture, Media & Sport. DCMS stated that the chief beneficiaries of their Superfast Broadband Programmes had been the education and health sectors, where gains in turnover per worker were 4.7 and 3.7 percent respectively.[2] In order to enhance the full capabilities of this sector, digital infrastructure will need to underpin its growth.

[1] 'Buckinghamshire Superfast and Fibre Coverage', *Think Broadband,* http://www.labs.thinkbroadband.com [accessed 8 April 2020].
[2] Department for Digital, Culture, Media & Sport, *Evaluation of the Economic Impact and Public Value of the Superfast Broadband Programme: Final Report* (August 2018), p.38.

Clean growth

- A higher level of digital connectivity not only allows businesses to expand their operations when necessary, thereby allowing economic growth without the need for physical expansion; but it also reduces the need for commuting for individual employees. According to Ofcom, employees with Fibre-to-the-Premise work from home, on average, 12.8 days per month, compared to 10.2 days for DSL users.[3] Not only is FTTP an enabler of clean growth, but it is also estimated that teleworking will create approximately 60 million hours of leisure time per annum in the UK by 2024, encouraging a happier working environment.[4]

Future of mobility

- The UK is currently undergoing some major transport infrastructure programmes which will impact Buckinghamshire, such as HS2 and East-West Rail as well as the potential expressway. Each of these present an opportunity to build upon the successful trials conducted along the Trans-Pennine route. where Network Rail telecom installed fibre infrastructure along the route, using these items to develop a backhaul system for 5G. Not only does this allow commuters to access work documents during travel, but also allows for communities close to the route to have access to a fibre spine which could be extended to cover local businesses and residents.

The Impact of a Digital Economy

A recent report from the Centre for Economics and Business Research (Cebr) has looked at digital on the national economy.[5] Through this research, they have estimated that if Britain was to deploy full fibre to every premise by the UK government's target of 2025, there would be a gross value added (GVA) uplift of £59billion to the national economy. They anticipate that this would allow a further 400,000 people to work from home when they choose to do so and negates the need for everyday commuting. Further, the value of additional time saved from reduced commuting levels could equate to almost £3 billion in additional GVA by 2038, whilst representing a carbon reduction of 360,000 tonnes. In addition to this, an additional 500,000 people would be added to the workforce through online opportunities providing more choices for groups like new parents, over-65s and carers. This shows the clear links between digital infrastructure and its ability to stimulate and support the economy. However, in order to realise the above, the national economy needs to ensure that it is providing the workforce and public with the digital skills necessary to take advantage of these changes.

COVID-19

Due to the ongoing pandemic caused by COVID-19, the shape of the workforce has changed dramatically over an incredibly short period of time. Within weeks, as the lockdown took effect, businesses began to allow their workforces to remotely work wherever possible. Prior to 2019, only 30% of the UK workforce had ever spent one or more days working from home or away from their offices, whilst currently, huge proportions of the UK workforce are doing just that.

It is also apparent that the situation is not consistent across all areas of employment, or for different groups of employees. Some industrial sectors, such as transportation and storage, accommodation and food services, and wholesale, retail and repair provide relatively few opportunities for people to work from home. Other industrial sectors, such as information and communication, professional, scientific and technical activities, financial and insurance activities, and

[3] Ofcom, *The Benefits of Ultrafast Broadband Deployment* (20 February 2018), p.54.
[4] Ibid., p.54.
[5] Openreach and Cebr, *Full Fibre Broadband: A Platform for Growth* (October 2019).

real estate activities, provide far more homeworking opportunities. Occupations requiring higher qualifications and experience are more likely to provide homeworking opportunities than elementary and manual occupations. Younger workers are the least likely to be working from home, whereas those who continue to work beyond State Pension age are increasingly likely to be working from home.

The current situation requires an update to current digital strategies as businesses are required to work in formats that have hitherto been untested, whilst a different working style is required of the workforce. It seems to be a safe prediction that COVID-19 is set to change UK culture and business operating practices permanently, and Buckinghamshire must prepare to meet these challenges.

Building A Connected Buckinghamshire

Creating a Level Playing-field

In order to ensure that all businesses can take advantage of the possibilities enabled through the fourth industrial revolution, Buckinghamshire has to create a level playing-field for digital infrastructure. This is particularly critical for SMEs and micro-businesses which often do not begin with permanent office locations, but work from residential premises. As such, the aims for digital infrastructure should be split between all premises, and specific business premises and business parks.

Since 2013, Buckinghamshire LEP and Buckinghamshire's Councils have partnered with Openreach, central government and Hertfordshire County Council through the Connected Counties programme. This programme has created over 50,000 superfast (≥24mbps) connections in Buckinghamshire, and pushed the percentage of premises with superfast broadband from 68.2% in 2013 to 96.3% in May 2020. In order to ensure that residents in the area continue to have high levels of connectivity, Buckinghamshire will work to continue rolling out to the remaining 3.7% of premises in the county whose connectivity remains quite poor. Ensuring that residents have access to this level of broadband is key to ensuring that they continue to have access to online learning opportunities, social interactions, and are able to take advantage of flexible working opportunities.

Preparing for Future Connectivity Needs

Whilst the past decade has seen vast improvements in the levels of superfast connectivity, it is clear that these speeds are only meeting current demand, and cannot be considered the basis of a future-proofed Buckinghamshire. Central government have announced aims of creating a gigabit-capable Britain by 2025, although industry leads have advised that the original target of 2032 is already difficult, but expect that this target is achievable. Whilst 96.3% of Buckinghamshire premises can achieve superfast (≥24mbps) speeds, currently only 7.3% can access gigabit-capable (≥1,000mbps) connections; whilst investments from commercial operators in major UK cities has meant that the national UK gigabit connectivity level is at 19%. In order to ensure that Buckinghamshire can act as an innovation playground for new businesses, new ideas and new technologies, this gap needs to be mitigated and corrected.

Building Digital UK (BDUK) part of the Department for Digital, Culture, Media & Sport, has outlined its aim to allow for the free market to accommodate 80% of premises in their commercial plans, whilst the final 20% of premises would require public sector subsidisation. Original estimations were for the free market to provide to 90% of premises, at an expected cost to the UK public purse of between £3-5billion; however, no further funding has been announced for the change in policy. From Buckinghamshire's experience, two contracts were required to subsidise over 50,000 superfast connections, representing approximately 19% of all Buckinghamshire premises. It should also be noted that in rural areas, problems will remain regarding the increased development costs due to terrain and the distances needing to be covered between premise clusters.

In order to ensure that Buckinghamshire does not remain a superfast county in a gigabit nation, significant work is needed in order to understand the commercial aspirations of suppliers in the area, which will in turn highlight areas where no supplier will improve connectivity. To this end, Buckinghamshire LEP will work with BDUK and the Association of Directors for Environment, Economy, Planning & Transport (ADEPT) to understand future public programmes of digital infrastructure rollout. This will be key to input into BDUK's programme of work on how to create a gigabit Britain,

and ensuring that our areas that are currently too expensive or difficult to reach with superfast solutions, are prioritised for investment in future public programmes.

Buckinghamshire's Broadband Team has continuously worked with individual community areas to support them through Community Fibre Partnerships, which allow them to request bespoke connectivity-solutions on a demand-driven basis. The creation of a Community Fibre Partnership team within Buckinghamshire will allow us to create events and work with local communities to come together and apply for publicly-available voucher schemes as a group in order to lower the aggregate funding needed for superfast and gigabit-capable broadband in their area.

Furthermore, in order to enhance the success of future Community Fibre Partnership's, whilst we will continue to make use of central government's Rural Gigabit Voucher Scheme, we will look to create a dedicated local funding pot as additional funding for these partnerships. As at April 2020, Buckinghamshire residents and businesses had secured £1.1million worth of funding towards improved digital connectivity through central government's two main voucher schemes. In order to further enhance these schemes, and make them viable for more remote communities, Buckinghamshire will create a dedicated fund for improving connectivity. The Buckinghamshire Rural Business Broadband Fund would be controlled and distribute by the LEP for priority areas to ensure that connectivity is improved there. This fund would "top-up" central government vouchers so that truly rural communities can be supported in gaining superfast and gigabit-capable broadband speeds.

In addition to progressing with further superfast connections, Buckinghamshire LEP will also work with Buckinghamshire Council on guidelines for developers regarding digital connectivity. Several broadband suppliers provide discounts or will waive connection fees, depending on development sizes, if contacted at the start of the build process. Doing this will ensure lower costs for connecting residents and businesses, and will stop the difficulties associated with retrofitting broadband connections into sites that have been newly established. It is similarly expected that new developments will consider cellular coverage and mobile data availability, due to the requirements of businesses and residents. This is vital to ensuring that our digital connectivity levels are not lowered as an adverse effect of our plans for housing and business growth over the coming decades.

Aims for Building A Connected Buckinghamshire

- To work with the Department for Digital, Culture, Media & Sport on their plans for establishing a gigabit-capable Britain, and to ensure that Buckinghamshire is prioritised.
    - Buckinghamshire Local Enterprise Partnership is a member of the Digital Working Group for ADEPT which DCMS uses as a Task & Finish Group for the digital connectivity aims of central government.
    - Buckinghamshire will work with DCMS to ensure that the final 3.7% of premises without superfast connectivity will either be provided with this, or will be prioritised for early gigabit-rollout as part of the next programmes of work.
- To work directly with communities that wish to improve their digital connectivity through Community Fibre Partnerships, creating bespoke solutions for individual areas.
- To create a locally-funded and dedicated voucher system for residents and businesses to bid into in order to support connectivity-improvement costs for their premises.
- To create a digital-connectivity tool for businesses and residents to access, providing information on whether their specific premise is scheduled to have its connectivity improved within the coming two years; based on data collected from annual Open Market Reviews with broadband suppliers.

    - In order to progress with the above, the Buckinghamshire Broadband Team will need to expand to incorporate a role to lead on Community Fibre Partnerships and a local voucher scheme, as well as have resource for data manipulation and collection for annual Open Market Reviews.
- To work with Buckinghamshire Council to establish guidelines for planning permissions which incorporate broadband in new developments.

Businesses in Buckinghamshire

Are all Businesses Now Digital?

Following the advent of the internet, the nature of communication was irrevocably changed, not just for individuals, but also for businesses. Whether through marketing strategies, data-storage or ordering systems, almost all businesses are now a digital business in some way. That is why it is critical that Buckinghamshire provides the digital infrastructure that residents and businesses need, as well as ensures that the skills levels of residents, employees and employers are suitable, and equip businesses with the abilities to take advantage of the fourth industrial revolution.

Furthermore, as Buckinghamshire works to create a level playing-field for businesses throughout the county, some specific needs should be highlighted for digital innovator businesses. This is vital, as although some businesses will require and take advantage of a digital presence, their requirements are vastly different to some of the businesses located within Buckinghamshire's Enterprise Zones.

Buckinghamshire as an Innovation Playground

Buckinghamshire's Local Industrial Strategy states the aim of 'building on Buckinghamshire's unique capabilities and connect[ing] the innovation and entrepreneurial ecosystems [in place] to support ambitious businesses to rapidly translate new ideas into knowledge-driven growth in the area'. Nowhere is this aim more applicable than in the Enterprise Zones that exist throughout the county.

In order to build the foundations of success for our Local Industrial Strategy to thrive overall, we must ensure that there is a strong base of digital infrastructure, as well as a skilled workforce, so that businesses continue to be attracted to the thriving local economy. Specifically, further investment is needed in the following, with bespoke digital solutions created for the anticipated needs for future growth:

- Westcott Space Propulsion Cluster, and wider Enterprise Zone;
- Pinewood Studios and the National Film and Television School Creative Cluster;
- Silverstone Park and Technology Cluster; and
- Digital health, med-tech and artificial intelligence (AI) at the Stoke Mandeville Cluster.

These bespoke plans to enable further growth through a growth in skills, infrastructure and capabilities are vital to ensure that Buckinghamshire continues to build towards its ambition and not to its current reality. For instance, several digital infrastructure providers will provide reduced or zero cost fees for new build developments on a site; however, they will only consider current capacity needs, which can, in turn, slow development and reduce the attractiveness of a site to potential businesses. Bespoke digital solution plans would highlight the value for the eventual site, and would build in a programme of necessary work with suppliers to ensure that growth takes place with the best infrastructure available.

Furthermore, whilst more acknowledgement has been given to fixed gigabit-capable networks, discussions with local businesses have shown interest in secondary resilience networks. Buckinghamshire will work to ensure that, whilst full fibre or gigabit-capable networks are in place for businesses that require this, secondary networks utilising 4G and 5G technology, as well as wireless solutions, will also be made available. This is particularly important in areas like Westcott where some

businesses will have high requirements, such as the Space Applications Catapult, whilst other co-located businesses will simply not require the same level of bandwidth. These two systems will allow businesses to have bespoke connectivity packages based on their needs; whilst a gigabit-enabled network will ensure that any potential growth in their business will be catered for.

In addition to this, the use of the Enterprise Zones, as well as core educational facilities in the area, as locations for digital innovation hubs is key to ensuring that the micro and SME economy in Buckinghamshire can have access to the latest digital technologies. The 5G Step-Out Centre in Westcott provides an example of where businesses can access 5G networks and use the dedicated collaboration space to develop new use cases for the technology; a privilege that many would find unaffordable without this resource.

Whilst the above cannot be considered the only factors involved in encouraging businesses to relocate to Enterprise Zones in Buckinghamshire, they should be seen as some of the necessary steps to becoming more attractive areas for innovation. In order to enhance this further, Buckinghamshire LEP will work with the Enterprise Zones regarding business rates retention in order to ensure that these promote and actively encourage businesses to consider these areas for their offices.

The Oxford-Cambridge Arc

The placement of Buckinghamshire at the heart of the Oxford-Cambridge arc highlights the valuable position we hold at the centre of this economic asset for the UK. The Local Industrial Strategy refers to a network of "Living Labs" across the Arc, working to help address the Grand Challenges outlined by central government. In order to emphasise this further, Buckinghamshire LEP will work to create a more substantial link, including digital platforms, between all of the business parks, Enterprise Zones, research centres and universities across the Arc. This will allow for more effective clustering of businesses which can create and promote their own knowledge transfer network, and can direct research into the skillset needs of businesses as the economy evolves.

Furthermore, the creation of the above knowledge transfer network will support and encourage the development of individual projects. For instance, the work being established within the Aylesbury Garden Town development, as well as the SMART Connected Community project in Fairford Leys, which look to include 5G, electric vehicles and autonomous vehicle integration. Individual project such as these could benefit from further collaboration with the businesses and research centres from across the Arc.

Aims for Businesses in Buckinghamshire

- To create digital solution plans for all Enterprise Zones in Buckinghamshire, highlighting the perceived infrastructure, skills and capacity needs of these areas to sustain and encourage the desired growth.
    - These plans would be shared and discussed with potential suppliers to ensure that growth plans are realistic and timely.
- To ensure that each Enterprise Zone is enabled with full fibre or gigabit-capable technologies for each business located there.
- To ensure that each Enterprise Zone is enabled with mobile data coverage or an alternative wireless broadband connection, as a secondary system for individual business choice.
- To ensure that all businesses in Buckinghamshire have the ability to access digital innovation and incubation hubs to trial new ideas or use cases for the latest technology.

- To review the business rates associated with the Enterprise Zones and business parks across the county to ensure that these are attracting the businesses outlined within the Local Industrial Strategy.
- To create strong links between Enterprise Zones, business parks, research centres and universities across the Arc to encourage collaborative growth across the region.
    - This would be achieved partially through the creation of a digital knowledge transfer network between the sites; which would include a collaboration area for upcoming projects and open bids for central government funding.

Digital Skills and Social Responsibility

An Articulation of Digital Skill Levels

A large problem with understanding the digital skills of the current workforce and how the makeup of the economy's needs will change over time is the ill-defined nature of the word digital, especially when the term is used to describe an individual or their skillset. For instance, the vague dictionary-definition of digital alone can reveal the inherent problems of talking about a digital workforce; as Oxford Dictionaries define it as 'involving or relating to the use of computer technology'.[6] This calls into question whether workforces specialised in Agile methodology can be classified as digital, or whether it refers solely to skillsets such as programming and coding. For the purposes of this document, digital skills specifically refers to those that enable a user to access digital technology, although there is an appreciation for the culture in which this is most effective.

In order to appropriately discuss the abilities of the workforce in Buckinghamshire and how the changing level of technology will shape digital skillsets over the coming decades, residents have been split into five categories:

- Digitally Aware
    - Individuals who are aware of different digital technology and may be aware of their advantages, but who have no experience using them. An example of this would be an individual who does not have a smart phone or access to broadband.
- Digitally Literate
    - Individuals who sometimes accesses digital technology for personal reasons when necessary. An example of this would be an individual who uses social media and search engines, but has no further cause to use digital technology.
- Digitally Competent
    - Individuals who are required to use digital technology in their personal or professional lives, but are limited to core programmes. An example of this would be an individual who uses software for emails, word processing documents and spreadsheets, but has no cause to use complex databases.
- Digitally Advanced
    - Individuals who have specialised in an individual digital field, and would likely be recognised amongst their colleagues as the "go-to" person for that topic. An example of this would be an individual with a specialist ability, such as social media marketing, Big Data analytics or complex database creation.
- Digital Expert
    - Individuals who have complex, specialist digital skills such as coding and programming of websites and tools; particularly prevalent in high-tech industries. An example of this would be an individual who is hired to specifically create a new mobile application for an organisation, or a digital engineering technician.

Furthermore, it is important to acknowledge that there is a separate group who act as Digital Innovators in the county who are responsible for developing new digital products, services and

[6] 'Definition of Digital in English', *Oxford Dictionaries,* http://en.oxforddictionaries.com [accessed 27 November 2018].

pathways for their companies. However, due to the difficulties of establishing an accurate skillset for this grouping, they are not included in detail within this section.

Ensuring Digital is Accessible to All

It is clear that the digital world and its contents are only becoming more prominent and more important in our daily lives, not simply for social interactions, but also for learning and working. The COVID-19 pandemic and its lockdown forced the UK economy to operate in an entirely different way than most companies were previously used to. The need for remote working became vital, fuelling conversations about digital infrastructure and national bandwidth, but the importance of digital skills appears to have been underestimated. This is also true for those outside of businesses, as central government trialled NHS111 Digital and NHS COVID-19 App assume that the public have access to, and the capabilities to work with, digital technologies and smart devices in order to access vital information for health services.

Buckinghamshire needs to ensure that its residents and businesses have the digital literacy levels necessary to take full advantage of the expected changes which will occur through Industry 4.0, as well as the wealth of information currently available online. Digital skillsets need to be viewed as a sliding scale, as particular skills will always be required of some, but not all individuals; whereas a basic skill level has become increasingly necessary for individuals to engage with businesses, government and with friends and family. As such, Buckinghamshire LEP will work with external suppliers to explore options to improve the digital skillsets of communities to ensure that we raise the level of digital literacy in the county, and that all residents have the capability to access online facilities and assistance when necessary.

Furthermore, Buckinghamshire LEP will work with the universities, research centres and businesses offering apprenticeships to ensure that the workforce is digitally competent with clearly signposted routes to move into the digitally advanced and expert categories. The fourth industrial revolution will be based on data, and will look at the blurring of boundaries between physical, digital and biological worlds, requiring the workforce to have keen digital skills to take advantage of these changes. This revolution will require adaptability, and so a keen promotion of lifelong learning is needed for our workforce. Future areas of business growth should be highlighted to current and future employees so that they can look to gain the skillsets which will ensure that they are prepared for the changing needs of the economy.

To this end, it is vital that Buckinghamshire ensures that its residents have access to the e-learning opportunities available through organisations like Open University, whilst involving core local businesses and research institutions in shaping the skills offering to our workforce.

Businesses and Corporate Social Responsibility

As Buckinghamshire expands its businesses parks and Enterprise Zones, it should ensure that some of the innovative solutions which are being developed are initially trialled in towns and villages throughout Buckinghamshire. Due to the rural nature of the county, several locally-created or assisted projects trial their new technologies in nearby cities or larger towns. Whilst this is understandable, the UK has only 69 established cities, while England and Wales alone have 1,186 towns, revealing that any solutions which are established and successful within towns have an appropriate business model that is replicable on a far greater-scale than models which are based solely on cities. This would allow us to target and attract businesses based on local needs and allow for home-grown solutions to the issues which are directly facing our local businesses and residents.

Aims for Digital Skills and Social Responsibility

- To work with the Skills Advisory Panel to establish a digital skills matrix, to better understand the skills of the groups outlined in this section and match these to known skills needs and gaps in the county.
- To engage with external suppliers on skill solutions to engage communities in improving digital literacy levels.
    - It is clear that some organisations, such as Barclay's, have created organisations to assist with digital literacy levels in other areas of the UK.
- To work with local businesses, universities and research institutes to ensure that lifelong learning opportunities are available to the workforce through a variety of qualifications and learning methods.
    - Buckinghamshire LEP would work with local businesses to ensure that businesses are involved in any apprenticeships available to learners so that they can garner experience from some of the key industries in the local and national economy.
- To ensure that new and innovative solutions which are developed through the support of Enterprise Zones and business parks and first trialled within Buckinghamshire.

Buckinghamshire the Place

Transport and Connectivity

Previously most elements of connectivity have been focused on moving either individuals or materials from one geographical location to another, but as this century advances, more and more information is moved digitally rather than physically. Whilst roads and rail remain key infrastructure for the UK, we need to ensure that any future transport and physical connectivity improvements are enabled with the digital infrastructure necessary to further enhance the digital agenda of the region. For instance, where new roads are being developed, the provision of incorporated ducting which can be commercialised and made available to utilities and broadband infrastructure providers in order to ensure that new housing and business developments can easily be reached without extensive road closures. The same should be done for all rail infrastructure being developed in the area, as the cost of retrofitting these arrangements can be many-times more expensive and more time-consuming than preparing for this connectivity in the first instance.

Changes to Working Practices and the Environment

Due to the advancements in technology capabilities, broadband infrastructure and to changing desired working practices, remote working has become far more accepted in workplace culture. This has been further demonstrated by the COVID-19 pandemic, where office workers have largely been moved to online remote working, using digital means to facilitate video-conferencing and continue with their regular working patterns. This is particularly important in Buckinghamshire due to the number of commuters who choose to live within the county, but work either across the Oxford-Cambridge Arc, or in London.

The impact of home working on the environment is vitally important for organisations who wish to become carbon neutral, and more generally for industries and government who wish to lower carbon emissions. The estimated impact of full fibre broadband being installed to all premises is that over 300million commuting trips could be saved each year, amounting to 3billion fewer kilometres travelled by car, and the equivalent of a carbon reduction of 360,000 tonnes.[7] Due to this, Buckinghamshire will continue to deploy digital infrastructure solutions as a means to mitigate the carbon impact of commuting.

Aims for Buckinghamshire the Place

- To work with Buckinghamshire Council to ensure that any new transport infrastructure is created with ducting suitable for digital cables.
    - This ducting can be commercialised and used as a revenue stream, as has been successful for other councils in the country.
- To work with providers of major rail network projects to ensure that broadband elements are incorporated for commuters to benefit from.

[7] Openreach and Cebr, *Full Fibre Broadband: A Platform for Growth* (October 2019), p.8.