



The Great Rural Revival

Chapter One:

How digital connectivity has the potential
to transform the UK's rural tourism industry

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Executive Summary

Representing more than 90 % of the UK's landmass, the countryside is a key cornerstone of the UK. One consequence of the pandemic was millions of Brits discovering new corners of the countryside or falling in love with it all over again as they holidayed closer to home. But rural communities bring more than just beautiful landscapes and access to nature in all its glory. In 2022 alone, rural UK businesses generated over £620 billion in turnover, proving just how critical they are to not just our society, but the economy at large; a factor that's more important than ever as the UK navigates inflation and recessionary pressures.

Rural communities across the UK have advanced in part thanks to the feats of fixed and mobile connectivity. Dubbed 'The Great Revival', this period in history is the result of a decade of intense fixed and mobile network rollout to new areas across the UK. Crucial sectors have been able to thrive, and new opportunities have emerged within previously isolated regions.

However, there remains a serious divide between rural and urban communities when it comes to the availability of digital connectivity. Challenging planning requirements, unique infrastructure requirements, lower population densities and difficult terrain hinders its rollout across rural Britain. The following report brings to life the significant benefits that bridging this divide offers rural communities, businesses and the wider economy. At a time when communities across the UK are struggling, this new analysis demonstrates how improved rural connectivity could herald a true Great Rural Revival.



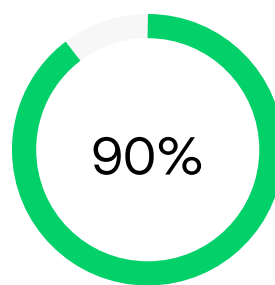
The Rural Context

The majority of the UK's landmass is considered rural; 90% of England is made up of rural areas and 98% of Scotland. These rural areas are classified using the official Rural Urban Classification which defines areas as rural if they fall outside of settlements with more than 10,000 residents in England and more than 3,000 in Scotland.

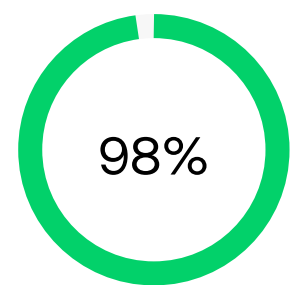
Over the last decade, the UK telecoms sector has invested heavily in the rollout of rural connectivity, with fibre being rolled out to more rural areas than ever before and 92% of the UK landmass having access to good geographic coverage from at least one mobile operator¹. The extent of the headway has led to new opportunities in certain sectors and within previously isolated regions.

For example, agriculture has benefited from precise monitoring of crops and soil and smart livestock tracking, which is enabling targeted and resource-efficient responses thanks to new technology powered by digital connectivity. Meanwhile, factories, many of which are based in rural areas, are beginning to benefit from a new wave of automation, made possible thanks to ultra reliable, ultrafast connectivity.

Yet despite these examples of positive progress, a digital divide still exists between rural and urban communities when it comes to the availability and reliability of high-speed fixed and mobile services. If the digital divide were to be bridged, the result will have a significant impact, not only to local residents, but tourists, businesses and the rural economy at large.



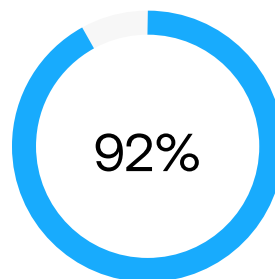
of England is made up of rural areas



of Scotland is made up of rural areas

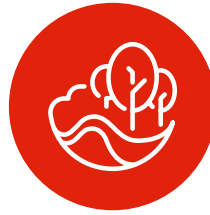


Investment in the rollout of rural connectivity means:



of the UK landmass has access to good geographic coverage from at least one mobile operator

¹ [Connected Nations 2023. Ofcom, 2023](#)



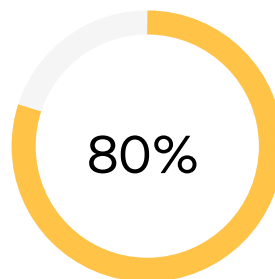
A Rural Mission

At Virgin Media O2, we remain committed to improving rural connectivity, having rolled out reliable 4G coverage across more than 50 rural sites as part of the £1bn Shared Rural Network Programme, with planning consent secured for works at a further 100 sites.

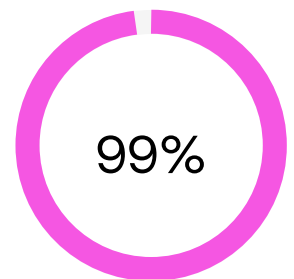
We continue to invest in the upgrade and expansion of our footprint – we are on target to cover 80% of the country with full fibre while on the mobile side we are on track to provide more than half of the UK's outdoor population with 5G by the end of 2023, while 99% of the population can already access our 4G network.

We are constantly striving to provide the best possible customer experiences through technology. As part of our next-generation test and trails programme, we are applying the latest connectivity innovations to specific rural areas. This allows us to explore and expedite the impacts of improved connectivity on the UK rural economy.

To better understand the transformational impact these investments could have in rural areas, Virgin Media O2 has undertaken a year-long research project to understand the potential for rural communities should excellent digital connectivity become a reality.



of the country will be able to access our full fibre services by 2028



of the population already benefit from our 4G network



We are on track to provide more than half of the UK's outdoor population with 5G by the end of 2023

Methodology

We commissioned Cebr to model the economic impact of a potential increase in the level of rural digital connectivity.

We surveyed 1,096 rural business decision makers about tasks related to digital connectivity. The results were broken down by the industries in scope (agriculture, tourism, and manufacturing). The survey consisted of both quantitative questions to help generate the data required to model the impacts of improved digital connectivity, and qualitative questions to provide further insight into the challenges faced by rural businesses.

Using this survey data, we were able to derive the difference of quality in rural and urban connectivity, calculating how much turnover and employment could increase if rural businesses had excellent digital connectivity. We then scaled these results to the size of the 2022 UK economy.

We presented two different sets of results: the effects on the rural economy if businesses had perfect connectivity, and the effects if they reached the urban level of connectivity. Results were further broken down by major UK region and industries. We also modelled the effects of having periods of complete loss of service, and how mitigating these could lead to further turnover increase.

Lastly, we estimated how the availability of video calls at work can save employees time and how the lack of need to travel to conferences can increase productivity further.



Key Findings:

The Rural Forecast

The principal finding is that, if rural businesses had access to excellent² digital connectivity, the sector would grow turnover by 10.5% - a rise of £65.1 billion across businesses in current prices. Further, employment in rural areas would grow by 6.8%, equivalent to creating 284,000 new jobs.

We analysed four major rural industries in detail; agriculture, manufacturing, small business, and tourism. In this first instalment of *The Great Rural Revival*, we are taking a closer look at the potential opportunity for the tourism sector. Among all industries analysed, rural tourism stands to see the greatest relative increase in turnover, with the potential to grow 9.9%. This represents a huge opportunity for the UK economy, worth in excess of £842 million.

Our comprehensive economic modelling from Cebr proves that improvements to rural connectivity will deliver tangible benefits for all of us. We're committed to continuing investing to bring our services and networks to more places than ever, tackling not-spots and providing the reliable services that so much of modern life depends upon.

With the right frameworks and processes in place, we could go further still. By removing obstacles in the planning process, network rollout could be accelerated, helping rural areas to fulfil their potential. Making it easier, faster and lower cost to invest in the infrastructure required to deliver essential connectivity would unlock jobs, growth and improve the lives of people living in rural communities.

² Excellent connectivity was defined as a score of '10' for both fixed and mobile connectivity when survey respondents were asked to rate the quality of their connectivity. This was then used alongside questions around anticipated turnover and employment changes to calculate the impact to the rural economy as a whole.



£65.1 billion

potential for UK economy through improved rural connectivity

“At a time when communities across the UK are struggling, our analysis demonstrates how improved rural connectivity could herald a Great Rural Revival. The last decade has seen fixed and mobile networks rolled out to new corners of the UK, and our analysis reveals the transformational potential of connectivity could unlock over £65 billion of new growth in rural areas.

In order to deliver the rural connectivity benefits in full, we need the support of industry partners, the UK government, planning authorities and landowners to remove obstacles to infrastructure rollout and enable us to deliver the network upgrades that will help bridge the connectivity divide that currently exists between rural and urban communities. Through working together, we can provide faster and more reliable coverage than ever before unlocking new jobs and growth in the process.”

Jeanie York, Chief Technology Officer
at Virgin Media O2



The Potential Boost for UK Tourism

Britain's countryside is famed around the world for its undulating valleys, unspoilt coastline and ancient monuments. From the rugged Scottish Highlands to pristine Cornish beaches, our rural regions play host to millions of visitors each year.

Research estimates that rural tourism continues to contribute £4 billion in GVA to the UK economy. However, the Great Rural Revival research highlights that, with technology and digital connectivity rapidly changing the way people travel, the rural tourism industry could unlock a new wave of transformational growth by embracing the benefits of a better connected future.

To illustrate, the modern holidaymaker is accustomed to app-based booking and contactless payments, both of which rely on strong connectivity. It's now estimated that 85% of inbound visitors to the UK book their travel online, while over half (56%) use location technology to find the must-see attractions. Social media also plays an important role in offering businesses new opportunities to engage directly with visitors.

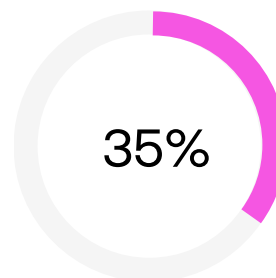
For these reasons, amongst all the industries we analysed, rural tourism would see the greatest relative increase in turnover. With excellent* digital connectivity, rural businesses could see turnover increase by 9.9% - equivalent to £842 million per year.

Improved connectivity in rural areas will also continue to drive significant uptake of remote working. We found that over the past five years the popularity of working from home among those working in the rural tourism sector has increased by 35% - more than any other industry analysed - helping to save 2,439 tonnes of CO2e through reduced commuting. The total monetised benefits of this, plus air quality improvements and congestion reduction are estimated to be worth £1.4 million.



£842m

Potential turnover increase with excellent digital connectivity



Remote working has increased by more than 35% in rural tourism firms



Conclusions

We set out to uncover the economic and social benefits that improved rural connectivity could bring to the UK.

Our analysis demonstrates how, across the industries examined, improved connectivity could transform the growth potential of rural areas, supercharge the economy and create new jobs in previously disconnected areas.

With billions of pounds of investment already being poured into improving rural connectivity, the situation is set to improve significantly in the coming years. Yet we could go further. With better collaboration between policy makers, planning authorities and landlords, this investment could be accelerated, truly unlocking a Great Rural Revival.

Robert Beauchamp,
Managing Economist Cebr comments

“Our findings highlight how improved digital connectivity could unleash growth in the rural economy. These impacts would mainly be felt outside London, in regions like the North West, South West, and Yorkshire & the Humber. Improved connectivity could allow rural businesses to be more efficient, make full use of digital technologies, and create more jobs to strengthen the rural economy. Without improved rural connectivity, problems which could be solved will instead remain and the opportunities related to better connectivity would not be realised, meaning rural communities will continue to underperform relative to their urban counterparts.”



Our Work:

Connectivity-Enabled Innovation in Rural Areas

To help realise the benefits that enhanced connectivity can bring to rural tourism, Virgin Media O2 has partnered with the Welsh Government and rural coverage experts Wavemobile to bring next generation connectivity to historic not-spots.

At South Stack, a nature reserve and popular tourist destination in rural Wales managed by the Royal Society for the Protection of Birds (RSPB), a new technology has brought permanent mobile connectivity to the area for the first time. Visitors can now reliably access mobile signal in the area and card payments can be taken at the visitor centre in a boost to the local economy.

Wales' Economy Minister,
Vaughan Gething MS said:

“It’s great to see Virgin Media O2 and Wavemobile continue to invest in R&D in Wales, supporting the Morlais tidal energy project and addressing a historically challenging mobile notspot.

Bringing reliable 4G connectivity to the area will not only dramatically improve the mobile signal for the local community, businesses and visitors - enabling them to use online services using the very latest Internet of Things technology, but using satellite technology will also ensure the development does not negatively impact marine wildlife.”

The isolated area is benefitting from connectivity after Virgin Media O2 brought together a range of technologies to offer services in a cost-effective way. Typically, mobile phone masts require a fibre cable to carry calls, SMS, and data to and from the phone mast – a connection known in the industry as ‘backhaul’ – but that is not viable in this extremely remote location. Instead, Starlink’s network of low-earth orbit satellites are providing backhaul services to a Wavemobile radio, enabling Virgin Media O2 to provide a reliable and high-speed mobile network to the area.

The equipment is the size of a shoebox and takes as little as five minutes to install. It can provide 4G coverage to an area of several kilometers.

The service enables near real-time tracking of wildlife, using special ultra-low power LoRaWAN sensors³ and a technique called Time Difference of Arrival (TDoA)⁴, enabling the RSPB to track a bird’s location, or when they’re nesting or feeding.

3 LoRaWAN sensors are IoT devices that integrate measurement capability and the transmission of this data through a public or private LoRaWAN network. All LoRaWAN sensors are compatible with all available public or private LoRaWAN networks, and all LoRaWAN compatible gateways.

4 TDoA is a positioning methodology that determines the difference between the time-of-arrival (ToA) of radio signals. TDoA is used in a real-time location system (RTLS) to accurately calculate the location of tracked entities, such as tracking tags affixed to personnel or key assets, in real time.

