



WOLVERHAMPTON 5G TOOLKIT

Our digital future
Wolverhampton's digital strategy

A digital toolkit to provide information, resources and guidance for businesses, local enterprise, telecoms providers, residents, builders and developers.



CITY OF
WOLVERHAMPTON
COUNCIL



Contents

- P3** Readyng Wolverhampton for a 5G connected future
- P4** Digital and 5G projects in Wolverhampton
- P5** Full fibre and 5G support available to residents and businesses
- P8** Full fibre and 5G support available to builders and developers
- P9** Full fibre and 5G support available to telecoms companies
- P10** Recommendations, approaches and key messages
- P14** FAQs
- P17** Additional resources
- P18** Thank you and contact details

Readying Wolverhampton for a 5G connected future

City of Wolverhampton Council is committed to supporting the rollout of digital infrastructure to futureproof and enhance the reputation of Wolverhampton as a place to live, run a business and invest.

Digital infrastructure has become the backbone of a modern thriving economy, driving productivity, spreading growth, ensuring agile and efficient public services and a thriving social and business environment.

It is believed that COVID-19 has accelerated the adoption of digital services by between 2-5 years, and connectivity is now deemed critical to levelling up the economy, and driving public and private recovery, growth and innovation.

'Driven by Digital' is a cross cutting scheme in Wolverhampton's 'Relighting Our City' recovery commitment, and a key element in making the city a major player in UK's digital market and generating new opportunities and jobs. Driven by Digital recognises the city's position at the forefront of digital

infrastructure and innovation and the importance of digital skills and connectivity to ensure residents can access services, and interact with friends and family.

We are working in partnership with West Midlands 5G (WM5G), a part of the West Midlands Combined Authority set up to accelerate the benefits of 5G throughout the region.

Together we are making our ambition a reality through numerous projects that improve connectivity for everyone and create new opportunities for local businesses and enterprise, helping them reap the benefits of 5G.

We are pleased that Wolverhampton will be home to one of the region's three 5SPRING 5G acceleration facilities. These accelerators have been developed to help facilitate collaboration between businesses, entrepreneurs and local authorities in helping to solve problems and explore exciting, commercially scalable opportunities.

This will help bring innovation, opportunities and business to Wolverhampton, supporting its ambition of becoming a leading digital city ready for the future. We will continue to work closely with key stakeholders including the University of Wolverhampton and Royal Wolverhampton NHS Trust to support innovation through 5G.

We have developed this digital toolkit to provide information, resources and guidance for residents, businesses, local enterprise partnerships, telecoms providers, builders and developers who are keen to get involved or learn more about this work.

We hope you find this document useful and that you will join us in our mission to shape Wolverhampton's digital future.



Councillor Louise Miles
Cabinet Member
for Resources



Robert Franks
Managing Director of West
Midlands 5G Limited

Digital and 5G projects in Wolverhampton

There are several ongoing and long term commitments to make Wolverhampton a leader in 5G and digital technologies. Together, City of Wolverhampton Council and WM5G are already delivering the rollout of full fibre broadband and wireless connectivity solutions across the city.

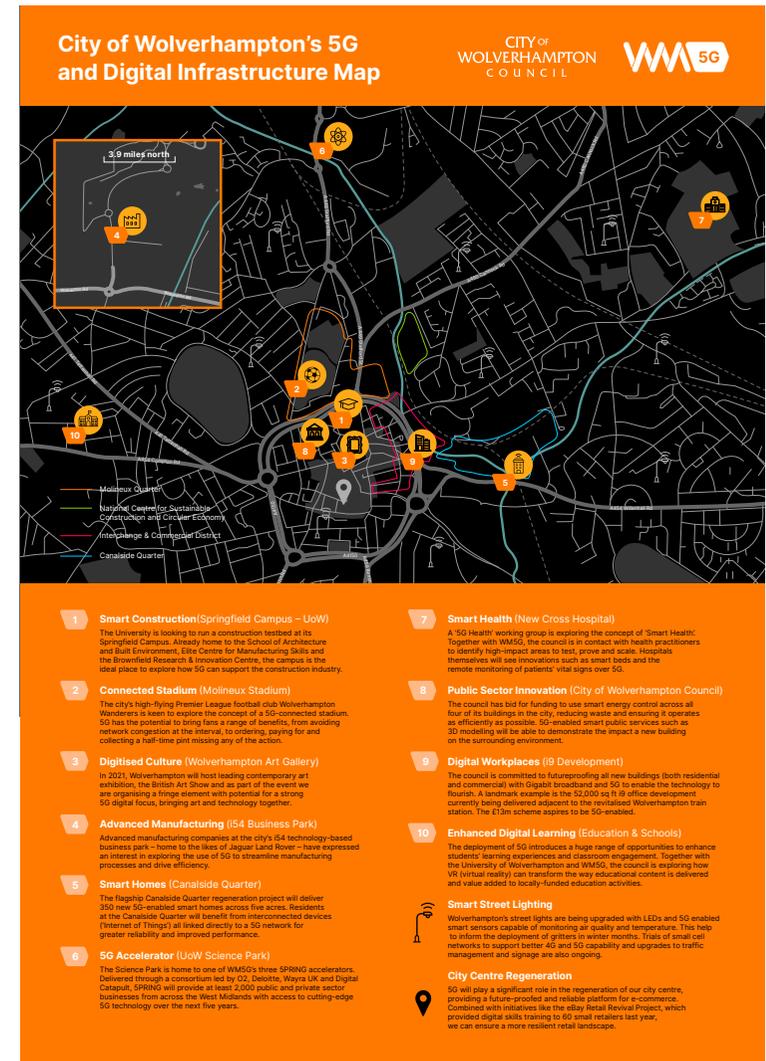
Our ambition is to support provision of full fibre broadband to all premises across Wolverhampton as soon as possible to ensure everyone has access to the fastest and most reliable broadband available.

We will also support the deployment of 5G to make the city fully 5G connected, ensuring the best possible static and on-the-move connectivity.

To fast-track this ambition, we are working closely with WM5G on a number of projects to accelerate the rollout to of 5G and identify new applications that will benefit residents, businesses and visitors in the near future.

Work to date has explored areas such as healthcare, transport and manufacturing, but trials across the city continue to explore exactly what's possible in a digitally connected city.

Here are some of the current projects >



Fibre and 5G support available to residents

With faster broadband speeds, residents will be able to enjoy better internet for working from home, accessing and interacting with services, leisure, entertainment and ongoing improvements will soon revolutionise daily life through adoption of smart technologies.

These networks will make it possible to enlist the use of smart devices such as self-driving cars, smart healthcare devices, and virtual reality while unlocking the potential of the Internet of Things. 5G connected sensors and artificial intelligence will make our cities operate smarter, reduce pollution and help improve safety and wellbeing.

To ensure residents can feel the benefits of 5G and gigabit broadband sooner we are committed to supporting an intense period of development on the network whilst ensuring minimal disruption while paving way for the digital future.

There are plenty of resources available to residents who wants to find out more about 5G and learn how it will impact them, including:

- [Ofcom](#)
- [Public Health England](#)
- [UK5G](#)

Residents who haven't yet gained access to full fibre broadband can express an interest in developing their local area's connectivity by speaking to providers including:

- [Community Fibre Partnership](#)
- [Project Lightning](#)
- [CityFibre](#)

There is also support available to those seeking to get online to improve their digital skills. Resources are available through:

www.digitalwolves.co.uk
www.bt.com/skillsfortomorrow

Fibre and 5G support available to businesses

Our ambition is to make Wolverhampton a fully connected city where businesses will be equipped with a network to meet the future demand for digital connectivity.

This includes anything from online business applications and internet connected devices to cloud data storage, voice and video conferencing and flexible working. The COVID crisis has accelerated the adoption of digital services and is considered critical to levelling up our economy to power economic and social recovery.

Digitally enabled technologies can help organisations create new revenue streams and opportunities, streamline processes, meet environmental goals and remain connected to customers, suppliers and employees.

We are supporting entrepreneurs and businesses of all sizes and welcome their involvement with 5PRING, the UK's first 5G commercial application accelerators with bases in Wolverhampton, Birmingham and Coventry.

Working in partnership with West Midlands 5G and industry partners such as O2, Deloitte, Wayra, and Digital Catapult; 5PRING helps organisations of all sizes harness the power of 5G to deliver growth and innovation to West Midlands and beyond.

Each of the three facilities across the region has a centrally-located office and demonstration spaces with access to cutting-edge 5G technology both in the building and outside to a range of several kilometres. Expert commercial and technical support will also be on hand.

Wolverhampton's 5PRING Application Accelerator is located at the University of Wolverhampton Science Park and is taking applications from businesses keen to explore how 5G and greater connectivity could benefit their organisation.

We expect at least 2,000 private sector businesses and public sector organisations from Wolverhampton, the West Midlands and beyond to benefit from using the 5G accelerators.

Businesses of all sizes can register their interest or to get involved with the Wolverhampton 5PRING facility by visiting www.5spring.org.

Full fibre and 5G support available to builders and developers

We are working with developers and construction companies to encourage the implementation and consideration of fibre and 5G. Wolverhampton is quickly becoming one of the UK's fastest growing cities with several multi-million-pound regeneration projects taking place.

Good fibre connectivity is becoming increasingly important for house buyers and businesses, with many viewing it as an essential service firmly taking the place as the 'fourth utility' after water, electricity and gas.

As households and businesses are getting more connected and reliant on internet powered devices, it's critical developers and planners embed future proofed digital infrastructure into new projects.

Many telecoms providers will install fibre free of charge or at minimum cost depending on the size of the scheme, so

this should be a key consideration for any new building developments taking place in and around the city.

Commercial developers should also note that some modern office buildings can act as a Faraday cage, interfering with 5G reception. Therefore, inbuilding infrastructure can sometimes be required to ensure tenants can access 5G.

Builders can learn about what different providers offer and find the latest information on:

- **Openreach** - Fibre for Developers
- **Virgin Media** - Property Developers
- **City Fibre** - Property Developers
- **Hyperoptic** - Property Developers

City of Wolverhampton Council recommends builders consider granting access to more than one infrastructure

provider in order to offer maximum choice for residents/tenants and minimises disruption caused by future rollouts.

Builders who wish to explore new ways to incorporate 5G and 5G enabled technologies in their work can register their interest to get involved with the Wolverhampton 5PRING facility by visiting: www.5spring.org

Wolverhampton's new Grade A office space I9 is applying for wired score status, an industry recognised rating of the quality of a buildings digital connectivity.

Full fibre and 5G support available to telecoms companies

City of Wolverhampton Council and West Midlands 5G are working with all four Mobile Network Operators and infrastructure providers to deliver network coverage across the city.

The Council's aim is to support the rollout of future-proofed digital infrastructure by simplifying processes and standardising agreements in line with the **Electronic Communications Code (2017)**.

To date, City of Wolverhampton Council and WM5G have helped create a more streamlined pathway and simplify the process of installing 5G, making it easier for network providers to deploy the infrastructure necessary to achieve a truly connected city.

Our partnership with WM5G has allowed us to facilitate access to a wider range of assets, simplifying processes and standardising lease agreements and

valuation supporting the Electronic Communications Code. This work has helped remove and reduce existing barriers, making it easier and more affordable to gain access to available assets suitable for 5G and fibre.

By providing this kind of support to telecoms companies, the city has been able to vastly improve connectivity and speed up the process to make 5G available to residents and businesses at scale.

We have adopted an approach to accelerate the installation of full-fibre broadband including a standard non-exclusive block wayleave agreement, subject to agreement of the rollout plan and process.

Working with WM5G, Wolverhampton has introduced new systems including identifying suitable assets, agreeing a commercial model and improving access arrangements.

Please contact: digital.infrastructure@wolverhampton.gov.uk

Please note that for some work specific licenses may be required to redirect traffic. Telecoms providers can learn more and apply for temporary traffic management via the **City of Wolverhampton website** where they can also apply for a **Highways License**.

Recommendations, approaches and key messages

As City of Wolverhampton Council is supporting the rollout of digital infrastructure to futureproof the city, it is vital that Local Enterprise Partnerships (LEPs) and other partners share our vision and communicate in a unified voice to businesses, citizens and other stakeholders.

To ensure our digital strategy reaches its full potential we need overarching involvement from LEPs and their stakeholders, local businesses and, when ready, citizens.

To help communicate this mission effectively we have developed some useful points to consider and include when talking about Wolverhampton, 5G and digital infrastructure within:

- Press releases and other media facing content
- Social media
- Advertising
- Presentations
- Direct mail to residents and businesses
- Information about the support City of Wolverhampton Council and WM5G's offer to citizens, businesses, builders and telecommunications providers

We hope that by using shared key messages, FAQs, colour and visuals when talking about our region's work we can ensure an aligned voice and approach, building excitement and gravitas around the city and its digital offering.

Key messages for Wolverhampton's 5G work

Below are some of our key messages that can be shared through your own engagements with stakeholders.

- 5G and digital connectivity helps us build a brighter future for Wolverhampton, making it a great place to live, run and business and invest.
- Improved digital connectivity will create new opportunities, better jobs and investment within the city.
- 5G and gigabit broadband makes new smart technologies possible both in the home and at our workplaces.
- Wolverhampton's public and private spaces will benefit from ultra-reliable, gigabit internet, meaning smarter infrastructure and communities.
- Every area of society will benefit from better connectivity.

Key messages for Wolverhampton's 5G work

Key considerations for press releases and media facing content:

- Where possible include Wolverhampton's key messages for 5G and digital infrastructure and consider how these align with your mission and work.
- Where possible and relevant, feel free to reference recent digital developments, projects or initiatives and highlight how these have supported or may support your work. You can find the latest information on the [DigitalWolves](#) website on the [WM5G](#) website.
- If you would like to include a comment from either organisation within your press release, please contact communications@wolverhampton.gov or enquiries@wm5g.org.uk

Key messages for Wolverhampton's 5G work



Key considerations for social media

- Keep messages short and positive
- Use visuals to showcase innovation and generate interest
- Highlight benefits and seek to educate through your messages
- Do not engage in arguments or undermining others' opinions
- Share, engage and tag (where suitable) City of Wolverhampton Council (@DigitalWolves) and West Midlands 5G (@WestMids5G)
- Consider following and engaging with some other useful accounts
- Some of these accounts include: ►

City of Wolverhampton Council	@DigitalWolves and @WolvesCouncil
WM5G	@WestMids5G
Ofcom	@Ofcom
UK5G	@UK_5G
5PRING	@5PRING_WM
Wayra	@WayraUK
Deloitte	@DeloitteUK
Digital Catapult	@DigiCatapult
Telefonica UK (O2)	@TelefonicaUK
EE	@EE
Vodafone	@Vodafoneuknews
BT Group	@BTGroup
Three UK	@ThreeUk
Ericsson	@Ericsson and @EricssonIoT

Key considerations for advertising

For queries related to advertising please contact communication@wolverhampton.gov.uk or enquiries@wm5g.org.uk

FAQs

We know there are many questions being asked about 5G, it is important that we provide clear and accurate information to avoid confusion. Please see below a list of frequently asked questions that we have compiled to provide clarity:

What is 5G and how is it different from 4G?

5G is the next generation of mobile broadband and will provide the capacity for massive data growth.

With 5G, you will see exponentially faster download and upload speeds. Latency (or the time it takes devices to communicate with each other via wireless networks) will also drastically decrease. 5G's low power consumption will allow connected objects to operate for months or years without the need for human assistance.

What are the benefits 5G can bring?

5G improves speed, reduces latency and increases capacity which allows more devices to be connected at once. This opens the possibility of Internet of Things (IoT) services, many of which will help councils and businesses deliver services more effectively.

We are working closely with WM5G through ongoing projects and by encouraging businesses of all sizes to get involved with their 5sprinG facility to test 5G use cases and applications across a range of different areas.

What will 5G be able to do which current networks can't?

As 5G is 5-10 times faster than 4G, it can guarantee very short delays in delivering content while enabling many more devices to be connected at the same time. This is important as more and more objects become connected to the internet.

The speed and capacity of 5G means we can unlock the Internet of Things and new technological innovation and applications in all areas of society including transport and logistics, health and social care, environmental monitoring, manufacturing, smart retailing, autonomous vehicles and smart homes.

When will 5G networks arrive?

Wolverhampton is one of the leading cities in the UK when it comes to 5G connectivity. All four Mobile Network Operators have announced rollout in the city in 2020.

How will 5G make a difference to Wolverhampton?

City of Wolverhampton Council is working with West Midlands 5G (part of the West Midlands Combined Authority), which has created the UK's first region-wide testbed for the technology, which is helping to futureproof digital infrastructure and support businesses in thriving.

FAQs

Is 5G going to impact on my health?

5G, like 4G, 3G and 2G, uses radio waves to transmit and receive data. It is similar to other man-made electromagnetic fields such as TV and radio transmissions, communications by emergency services, medical and factory equipment, electronic car keys, baby monitors, WIFI and any household appliance that uses electricity.

The World Health Organisation (WHO) states: "To date, and after much research performed, no adverse health effect has been linked with exposure to wireless technologies (such as 5G)."

All 5G equipment installed in the UK meets the standards set by The International Commission of Non-Ionizing Radiation Protection (ICNIRP), the industry body tasked with setting the exposure limits to safeguard health and ensure public safety.

How safe is 5G (if living close to a mast)?

There is no scientific evidence of 5G posing a risk to human health, so living or working near a mast should not be considered a concern. All masts in the UK are compliant with the regulations and guidelines set by The International Commission of Non-Ionizing Radiation Protection (ICNIRP), the industry body tasked with setting the public exposure guidelines to ensure health and safety. These standards are recommended to the telecommunications industry by the World Health Organisation, the EU and the UK Government.

Mobile phone base stations use physical barriers and cabinets to prevent the public getting too close to the electrical equipment generating and transmitting the radio signal to provide an additional level of safety to those living nearby.

What safety guidelines does the UK adhere to?

The UK adheres to the same international standards as recommended by the World Health Organisation and the European Union. These are set out by The International Commission of Non-Ionizing Radiation Protection (ICNIRP).

Their guidelines are not technology specific and look at all radiofrequencies up to 300 GHz.

Will 5G networks be secure and safe for users?

Operators providing 5G services will comply with all statutory requirements regarding security issues, this means whichever part of the network you use, you will be safe in the knowledge that your privacy is maintained.

FAQs

Will 5G require new infrastructure and what does these look like?

The initial rollout of 5G will be based on the modifying or strengthening current mobile network sites. This will be supplemented with 5G masts and small cells to cover gaps in coverage where the broader network cannot reach. These small cells will provide additional capacity in high density transit areas such as railway stations and sports stadiums where bigger masts cannot be installed.

5G masts will be installed in locations to maximise coverage and ensure residents and businesses can get good signals. Mobile Network Operators sign up to the [Code of Best Practice](#) which outlines how they must develop networks responsibly, undertake appropriate community engagement and suitable pre-application consultation with resident and community representatives as well as ensuring equipment is designed in line with local planning policies.

What will happen to any Huawei infrastructure planned or currently in the city?

City of Wolverhampton Council is working in accordance with the government's decision to remove Huawei from UK 5G networks by 2027. From December 31st 2020, there will be a total ban on the purchase of any new 5G infrastructure from Huawei and network providers are encouraged to replace any infrastructure already installed as soon as possible.

Additional resources

Further information

- [Barrier Busting Case Study](#)
- [Connected Map](#)
- [Connectivity Case Study](#)
- [The Electronic Communications Code Case Study](#)
- [National Policy Planning Framework](#)

Social media assets

- [Examples of City of Wolverhampton Council posts](#)
- Examples of WM5G posts [Twitter](#) [LinkedIn](#)

Printable posters

- [Wolverhampton's 5G and Digital Infrastructure Map](#)
[Connected map downloads](#)



Thank you

On behalf of City of Wolverhampton Council and West Midlands 5G we would like to thank you for using this toolkit as a resource to explore 5G and how it may apply to you, your organisation, customers or local community.

We hope you have found this guide helpful in making decisions around 5G and it will help unlock growth in Wolverhampton.

If you would like to register your interest or to get involved with the Wolverhampton 5PRING facility visit: www.5spring.org

For any queries or collaboration requests, please don't hesitate to get in touch:

City of Wolverhampton Council:
digital.infrastructure@wolverhampton.gov.uk

West Midlands 5G:
enquiries@wm5g.org.uk

Readying Wolverhampton for a 5G connected future