

Report of the Director of Environment, Transport and Planning

Broadband management of installation process and its impact on communities, maximising connectivity in harder-to-reach / isolated areas

Summary

- 1 This report presents an overview of the roll out of full fibre broadband in York, considering the impact of the installation process on communities and how this is managed as well as the benefits of access to full fibre broadband and plans for this to be rolled out to harder to reach communities.

Background

- 2 Broadband and mobile telecommunications networks in the UK are rolled out by private operators. Telecoms operators make decisions about where and when to roll-out infrastructure based on commercial considerations. Detailed plans of where infrastructure is located, or future roll-out plans, are not generally publicly available.
- 3 Telecommunications networks include a complex range of different types of infrastructure including: fixed-line broadband network infrastructure such as telegraph poles, cabinets, and cables; and mobile network infrastructure such as ground-based masts and antennae on buildings.
- 4 Openreach, CityFibre and Virgin Media O2 are the UK's largest broadband network operators. Openreach is the part of BT that is responsible for building and operating the group's telecommunications network infrastructure. CityFibre build their own fibre network that is then

made available to a range of internet service providers. Virgin uses its separate television cable network to provide broadband services.

- 5 Most Internet Service Providers (ISPs) do not build their own network infrastructure (such as Sky, TalkTalk and other ISPs) and pay network operators for the use of their infrastructure. This allows them to offer broadband services to consumers. Some network operators are 'vertically integrated', meaning that they also act as an ISP.
- 6 These private sector led broadband investment programmes are also supported by a range of central government funded programmes which York have been and continue to be part of, and that the Council's Digital City staff lead on for the city, alongside working with the network operators to help ensure there is continuing interest and investment into York's digital connectivity landscape.
- 7 In the main these programmes are established to fund access to future proof digital connectivity in areas that are less commercially viable to the private sector and are referred to as intervention programmes within the harder to reach parts of our cities, towns, and more rural elements. We are also now seeing a second wave of investment that is helping to provide more choice and increasingly more affordable options to the ISP market.
- 8 Another challenge that York and other cities face is around helping to enable connectivity in areas with unadopted or private roads, as these often require the consent of all the potentially impacted residents on that specific road. We have had some successful outcomes within York as a result of the collaboration work involving the Council's Digital City staff, a resident willing to act as "the local champion" and one of the network operator.

Full fibre broadband rollout

- 9 Broadband connections were historically provided through fibre-to-the-cabinet (FTTC) networks. FTTC networks use fibre optic cables to carry the signal from the exchange to street cabinets, then copper wires are used from the cabinet to individual premises. FTTC is capable of providing 'superfast' broadband speeds, defined as over 24 megabits per second (Mbps), up to a maximum of around 80 Mbps.
- 10 The industry is however now rolling out fibre-to-the-premises (FTTP) networks, with York being at the forefront of this rollout. FTTP means that fibre cables are also used from the cabinet to the premises. FTTP is

capable of speeds of over 1000 Mbps. FTTP is therefore also called 'full-fibre' or 'gigabit' broadband.

- 11 In York, the Council's Digital City has worked with network providers to encourage investment in York and try to extend connectivity to harder to reach areas. This includes work with
- CityFibre;
 - Virgin Media O2;
 - Openreach;
 - Quickline Communications - awarded a contract to subsidise the rollout of Full Fibre broadband to more than 28,000 hard to reach rural homes across West Yorkshire and York as part of Project Gigabit;
 - Fusion Fibre Group - delivering Full Fibre services in the villages of Elvington, Wheldrake and Stockton on the Forest;
 - UK Fibre Networks (UKFN) – working to connect residents and businesses within York's city walls to their Full Fibre broadband network. The plan is to roll out ultrafast broadband to approximately 8,000 premises within the city walls throughout 2024 and into 2025.
- 12 For new residential developments, an amendment to Building Regulations which came into force at the end of 2022, means that the following is required:
- Gigabit-ready infrastructure necessary for gigabit-capable connections up to a network distribution point (or as close as practicable where a developer cannot access the land up to the distribution point); and
 - Subject to a £2,000 cost cap per dwelling, a gigabit-capable connection. Where a developer is unable to secure a gigabit-capable connection within the cost cap, developers must install the next fastest technology connection available.

What are the rules to install equipment?

- 13 The same general rules for installing telecoms equipment apply to both broadband infrastructure and mobile infrastructure. To install infrastructure, telecoms operators may require:
- planning permission – in limited cases, where the infrastructure is not covered by permitted development rights;

- an access agreement with the landowner to use the land (such as a wayleave or a lease) – this does not apply when equipment is installed in the adopted highway; and
- permission to conduct street works – when works take place in or have an impact on the adopted highway.

- 14 Telecoms operators must also comply with the Electronic Communications Code Regulations 2003 (referred to as the ECC), which sets additional requirements. The ECC gives telecoms operators a general right to conduct street works.
- 15 Deploying gigabit capable broadband networks involves laying new fibreoptic cables, often on or under public roads. The government estimates that street works account for 70% of the cost of fibre broadband deployment.
- 16 Street works are also a challenge for local authorities. With multiple operators building networks independently, local authorities need to coordinate works undertaken by telecoms operators, other utilities and highway maintenance works to minimise disruption to residents.
- 17 Operators can reduce the time, cost and impacts of network deployment by utilising existing infrastructure. Reforms to the ECC have made it easier to share infrastructure. To place their equipment on existing infrastructure, the operator needs the agreement of its owner (often a competitor telecoms operator), but two broadband operators have a legal obligation to share their physical infrastructure with competitors because they are former monopolists: Openreach (in the UK apart from Hull) and KCOM (in Hull). In practice this means that many operators have only sought to use Openreach assets.

Installing equipment on public roads

- 18 Telecoms companies are considered statutory undertakers (along with other utility companies). Statutory undertakers can carry out street works on public roads without the prior consent of the local highway authority (no wayleaves or agreements required).
- 19 The New Roads and Street Works Act 1991 (NRSWA) provides some powers to local highway authorities to manage how companies conduct works in the adopted highway. Statutory undertakers (and the Council's own maintenance teams) have to request street works permits from the

highway authority before they can undertake the works. Additional information about York's street works permit scheme is available here: <https://democracy.york.gov.uk/ieDecisionDetails.aspx?ID=6052>

- 20 The street works permit scheme covers a range of works in the highway, with the most disruptive activities (where a road closure is required or where works will last 11 days or more), requiring advanced notice from the undertaker at least 3 months before the works take place. Standard activities need to be notified at least 10 working days in advance and smaller works require a permit to be submitted 3 working days before the works start. Although it is not possible for utilities to provide advanced notice of emergency or urgent works, they are required to submit a permit for the works within 2 hours of the works starting on site.
- 21 The street works permit scheme enables the Council's Street Works team to coordinate requests for road space from utilities and the Council's own highway maintenance team, also taking account of events taking place in the city. It also enables the street works team to impose specific conditions on the street works permits they grant. The conditions that can be imposed are set out in statutory guidance and include:
- Limiting the days, times of day and working hours during which the works can take place (for example for works on a busy road or near a school);
 - Limiting the area used by the works (width, length, storage of materials),
 - Requirements for road/footway closures or other traffic management measures;
 - Setting out an agreed methodology for the works;
 - Requirements for publicity of the works (the statutory guidance states that *"this condition should be used by exception. It cannot be routinely applied to works. It may be appropriate at locations where it is vital that local residents/businesses are notified in advance of an activity due to the sensitivity of the location e.g. close to a school, hospital etc. or because of the times during which works will take place – e.g. night working"*).
- 22 When the works are underway, the Street Works team checks that they are undertaken in line with the conditions of the permit and that the work sites are set up to reduce the risks and disruption to highway users. The industry as a whole aims to adhere to the standards set out in "Safety at Street Works and Road Works A Code of Practice" (also called the Red Book). The Street Works team checks that live sites adhere to this code of practice and can ask for additional adjustments where possible.

23 Once the works are completed, additional inspections take place to check the quality of the reinstatements. The inspection regime is set out in the “Code of practice for street works inspections”. Utilities can be requested to address defects linked to their works following these inspections, if the works undertaken do not meet the standards set out in the “Specification for the reinstatement of openings in highways”.

How has the Street Works permit scheme helped?

24 The introduction of the Street Works permit scheme for York in 2021 has given the Street Works team more control of the works and how they are undertaken through the ability to set permit conditions and to take enforcement action (through Fixed Penalty Notices) where utilities aren't compliant.

25 The increase in revenue linked to the permit scheme as also enable the team to grow, with additional inspectors enabling a more proactive approach to ensure safety at live sites and that permit conditions are adhered to.

26 Additional inspectors have increased the team's ability to check utility reinstatements ensuring they are compliant and protecting the Council's highway assets. The permit scheme supports a robust process to ensure that where reinstatements are sub-standard, they are rectified at the cost of the utilities.

27 The opening up of the Openreach network allowing other telecoms companies to share their existing infrastructure has also allowed for a reduction in disruption and better connectivity.

How are telecoms works planned with the Street Works Team?

28 When working with telecoms companies, the Street Works team requires meetings before the works start so that requirements from the highway authorities can be set out at an early stage. The Street works team also requests “build plans” to inform these meetings and understand what works are to be carried out prior to permits requests being raised. A copy of the standard document provided to telecom companies at these meetings is included in Annex A.

Conflicting demands for highway space

- 29 The highway authority is responsible for the maintenance of the adopted highway (including adopted carriageways, footways and verges), but statutory undertakers have a right to install their apparatus in the adopted highway. This can lead to conflicting demands on a limited amount of space which serves a range of purposes including highway uses as well as amenity purposes (tree planting, car and cycle parking, private vehicular accesses to dwellings, etc).
- 30 To address some of these issues, a range of guidance documents has been adopted by the utility sector, including:
- Guidelines on the Positioning and Colour Coding of Underground Utilities' Apparatus
 - Guidelines on the Positioning of Underground Utilities Apparatus for New Development Sites
 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees
 - Guidelines on Environmental Good Practice
 - Guidelines on Co-ordination, Co-operation & Communication
- 31 Although the guidelines can be helpful in reducing conflicts between competing uses, making changes to the adopted highway, including creating dropped kerbs and planting trees, can be difficult where utilities are buried, sometimes requiring utility diversions which significantly increase the cost of such schemes.

Consultation

- 32 No consultation was undertaken as this is report to the Economy, Place, Access and Transport Scrutiny Committee.

Options

- 33 No options are identified as this is report to the Economy, Place, Access and Transport Scrutiny Committee, providing background information on "broadband, management of installation process and its impact on communities, maximising connectivity in harder-to-reach / isolated areas". The paper aims to support a discussion on these issues by the Committee.

Analysis

34 As above, no options are identified in this report to the Economy, Place, Access and Transport Scrutiny Committee.

Council Plan

35 Gaining access to full fibre broadband (or broadband capable of high internet speeds) for residents and businesses in York supports a range of priorities and objectives of the Council Plan, including:

- The 4 core commitments: Equalities and Human Rights, Affordability, Climate and Health; and
- Plan priorities such as Education and skills: High quality skills and learning for all, Economy: A fair, thriving, green economy for all, Sustainability: Cutting carbon, enhancing the environment for our future

Implications

36 The following implications have been identified:

- **Financial** - The installation of fibre networks and other telecoms network generates some income for the Council in the form of Street work permits, inspection fees and fines where applicable. This income is monitored as the legislation does not allow local authority to make a profit from these fees and charges. Any surplus is to be applied to transport priorities and schemes within the authority.

Government funding has supported some of the investment currently being rolled out in York through a range of projects including Project Gigabit, a government-funded programme, which aims to support the deployment of Full Fibre in hard-to-reach areas across the UK.

- **Human Resources (HR)** – No HR implications identified.
- **Equalities** - No implications identified for this report. In terms of broadband installation, road works can have significant implications for access to dwellings and premises, especially for people who live with a disability and their families and carers. The Department for Transport' s “Safety at Street Works and Road Works A Code of Practice” (red book) aims to reduce these impacts by setting out what is expected of utility companies and their contractors in terms of diversion routes, available width, availability of ramps, etc. The Council can request improvements to site set ups when the Street Works inspector visit the site but utilities are under no legal

obligations to comply with additional requests which are not included in the Red Book.

An example of such a request in York is the Street Works team generally asking utilities to avoid using “cyclists dismount” signs (which comply with the Red Book), asking them to use “narrow lanes do not overtake cyclists” signage instead. This is because some cyclists use their bike as a mobility aid or carry children or equipment on their bike which would make it difficult for them to dismount and push their bikes. This is generally well understood by the utilities and their contractors working in York and “cyclists dismount” signs are now very rarely used.

- **Legal** - No legal implications identified.
- **Crime and Disorder** - No crime and disorder implications identified.
- **Information Technology (IT)** – The ICT staff implications are identified within this report as access to improved and future proof broadband services is now seen as the 4th utility and has positive implications for residents, businesses and visitors.

An example from [uswitch](#) sets this in perspective: *“a massive 100GB video game would take almost 8 hours to download on 30Mbps (note: Fibre to the cabinet achieves speeds between 30 and 70Mbps), and that’s assuming there are no other connected devices in your home that’ll be consuming internet data at the same time. On 1Gbps, it would take 14 minutes (full fibre connections supply 1Gbps and above)”*.

- **Property** - No property implications identified.
- **Other** - No other implications identified

Risk Management

37 No risk identified linked to this report to the Economy, Place, Access and Transport Scrutiny Committee.

Recommendations

38 No recommendations are identified as this is report to the Economy, Place, Access and Transport Scrutiny Committee, providing background information on “broadband, management of installation process and its impact on communities, maximising connectivity in harder-to-reach / isolated areas”. The paper aims to support a discussion on these issues by the Committee.

Contact Details

Author:

Helene Vergereau
Head of Highway Access
and Development
Helene.vergereau@york.gov.uk

Roy Grant
Head of ICT
Roy.grant@york.gov.uk

Chief Officer Responsible for the report:

James Gilchrist
Director of Environment, Transport and Planning

Report Approved

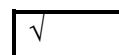


Date 15/10/2024

Specialist Implications Officer(s) - *Not applicable*

Wards Affected: *List wards or tick box to indicate all*

All



For further information please contact the author of the report

Background Papers:

All relevant background papers must be listed here.

House of Commons Library, “Building broadband and mobile infrastructure”, March 2024 (<https://researchbriefings.files.parliament.uk/documents/CBP-9156/CBP-9156.pdf>)

Department for Transport, “Code of practice for the co-ordination of street works and works for road purposes and related matters”, April 2023
(www.gov.uk/government/publications/street-works-co-ordination)

Department for Transport, “Statutory guidance for highway authority permit schemes: permit scheme conditions”, March 2023
(www.gov.uk/government/publications/street-works-permit-schemes-conditions)

Department for Transport, “Code of practice for street works inspections”, March 2023
(<https://assets.publishing.service.gov.uk/media/643579a1877741001368d7f8/code-of-practice-for-street-works-inspections-april-2023.pdf>)

Department for Transport, “Safety at Street Works and Road Works A Code of Practice”, October 2013
(<https://assets.publishing.service.gov.uk/media/5a7d8038e5274a676d532707/safety-at-streetworks.pdf>)

Department for Transport, “Specification for the reinstatement of openings in highways (fourth edition)”, May 2020
(<https://www.gov.uk/government/publications/specification-for-the-reinstatement-of-openings-in-highways>)

NJUG/Street Works UK guidance:
<https://streetworks.org.uk/resources/publications/>

Executive decision 14/01/2021: Street Works – Changing from Noticing to a Permitting Scheme
<https://democracy.york.gov.uk/ieDecisionDetails.aspx?ID=6052>

Digital York: www.digitalyork.org/

Project Gigabit: www.gov.uk/guidance/project-gigabit-uk-gigabit-programme

Gigabit Broadband voucher scheme:
www.gov.uk/government/publications/gigabit-broadband-voucher-scheme-information/gigabit-broadband-voucher-scheme-information

Annexes

Annex A - Programme Requirement and Permit Conditions for all telecoms works within the City of York Highway Authority

Abbreviations

ECC - Electronic Communications Code Regulations 2003

FTTC - fibre-to the-cabinet

FTTP - fibre-to-the-premises

GB - Gigabite

GBPS – Gigabite per second

ICT - Information and communication technology

ISP - Internet service provider

MB - Megabite

MBPS – Megabite per second

NJUG – National Joint Utilities Group

NRSA - New Roads and Street Works Act 1991