SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Abraham Moss Centre	Site Address:	Land at Abraham Moss Centre, Crescent Road, Crumpsall, Manchester, M8 5UJ
National Grid Reference:	E: 384682 N: 401638		
Site Ref Number:	CTIL_121818-26_ TEF_92747_VF_1942	Site Type:[1]	Macro

2. Pre Application Check List

Site Selection (for New Sites only)
(Would not generally apply to upgrades/alterations to existing site including redevelopment or replacement of an existing site to facilitate an upgrade or sharing with another operator)

Was a local planning authority mast register available to check for suitable sites by the operator or the local planning authority?		No
If no explain why: This is an upgrade to an existing site.		
Were industry site databases checked for suitable sites by the operator:		No
If no explain why: This is an upgrade to an existing site.		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	Yes
Date of pre-application contact:	29/01/2021
Name of contact:	Janine Renshaw-Livesey

[1] Macro or Micro

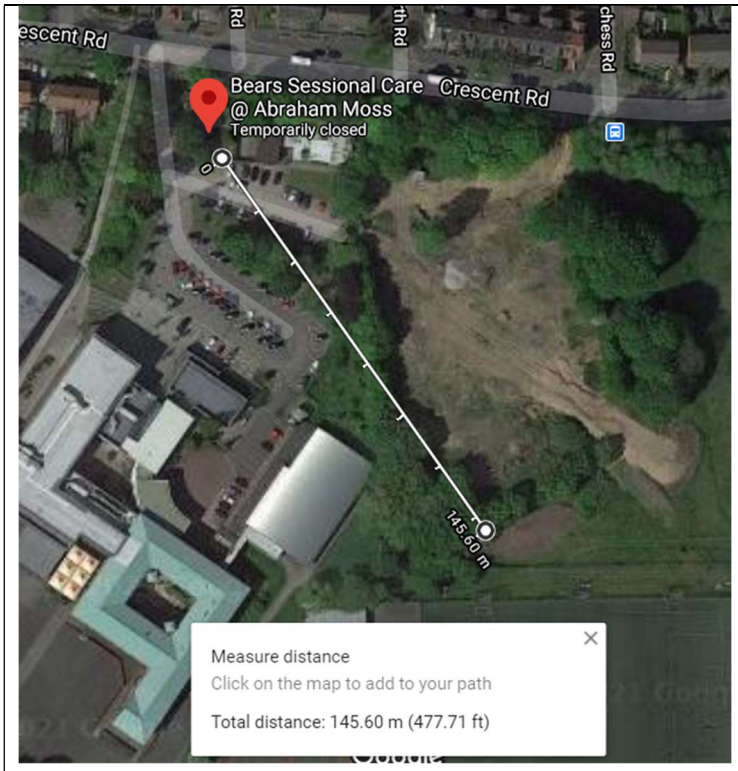
Summary of outcome/Main issues raised:
A letter and copy of the proposal drawings were sent to the Local Planning Authority on 29/01/2021. A response was received from Janine Renshaw-Livesey on 01/02/2021 stating: *"I cannot identify the site without a location plan that indicates where the roads are. If there has been a previous consent granted if you give me the ref number that will help me locate the site. Thanks"* We provided the reference number of the previous consent (101948/FO/2013/N1) but received a further response on 03/02/2021 stating: *"I have looked at the previous approved scheme and I need a larger location plan showing at least 2 street names. I can't assess the proposal in relation to the street scene. Thanks"* Due to the positioning of the site centrally adjacent to the Abraham Moss Community School/Manchester College Campus, we are unable to provide a location plan which shows two street names without the location of the mast itself being too small to identify. As such, we have amended the location plan to annotate the nearby buildings and sports pitches to aid the Local Planning Authority in locating/mapping the application site. No further responses were received.

Community Consultation

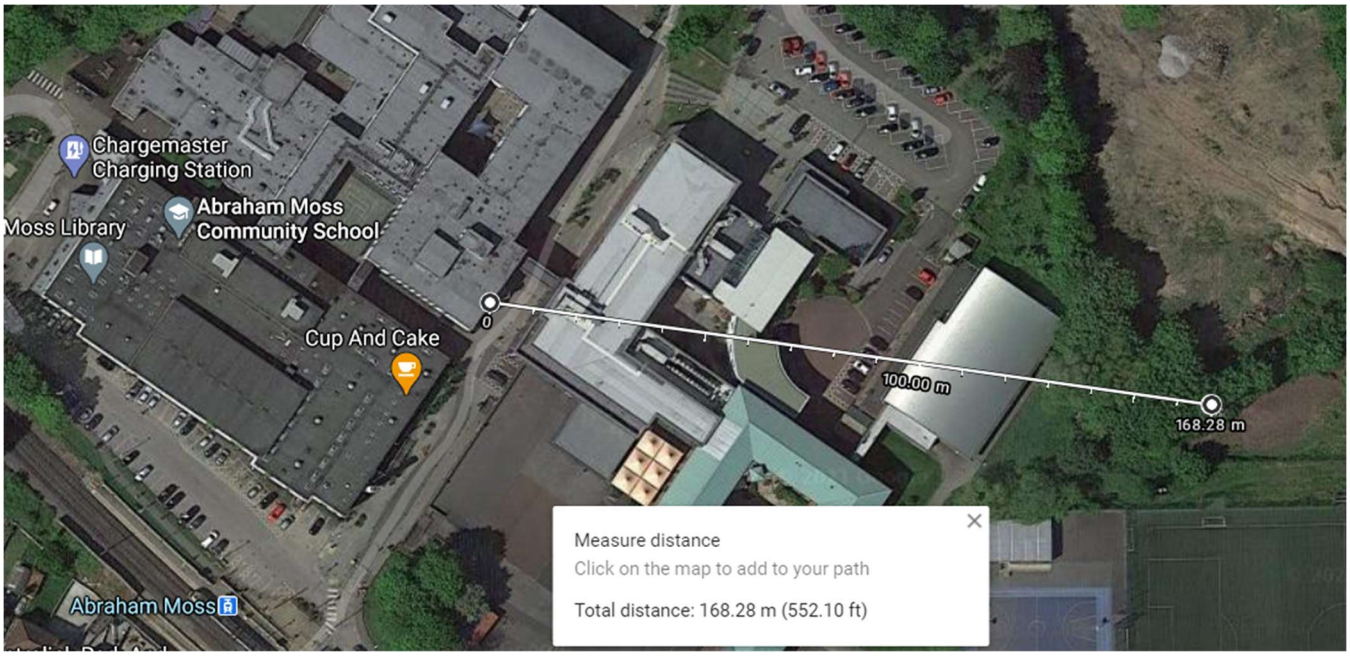
Rating of Site under Traffic Light Model:	~~Red~~	Amber	~~Green~~
Outline of consultation carried out: Pre-application consultation was carried out with the local ward councillors for Crumpsall (Councillors Fiaz Riasat, Nasrin Ali and Richard Leese CBE), and the Blackley and Broughton MP Graham Stringer. A copy of the proposed plans together with a covering letter were sent to these parties on 29/01/2021.			
Summary of outcome/main issues raised (include copies of relevant correspondence): No specific comments have been received to date.			

School/College

Location of site in relation to school/college (include name of school/college):
Bears Sessional Care @ Abraham Moss, 179-185 Crescent Road, Crumpsall, Manchester, M8 5UL – located approximately 145 metres to the north west of the application site



Abraham Moss Community School, Crescent Road, Crumpsall, Manchester, M8 5UF – located approximately 168 metres to the west of the application site



Outline of consultation carried out with school/college (include evidence of consultation):

A copy of the proposed plans together with a covering letter were sent to the manager of the nursery and Headteacher/Chair of School Governor of the school on 29/01/2021.

Summary of outcome/main issues raised (include copies of main correspondence):

No responses have been received to date.

Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator consultation (only required for an application for prior approval)

Will the structure be within 3km of an aerodrome or airfield?		No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?		No
Details of response: N/A		

Developer's Notice

Copy of Developer's Notice enclosed?		No – Full planning application – Article 14 notice sent 25/02/2021
Date served	Article 14 notification was sent to the owner(s) by email on 25/02/2021.	

3. Proposed Development

The proposed site:
Background Telefónica UK Ltd has entered into an agreement with Vodafone Ltd pursuant to which the two companies jointly operate and manage a single network grid across the UK. These arrangements are overseen by Cornerstone Telecommunications Infrastructure Ltd (Cornerstone) which is a joint venture company owned by Telefónica UK Ltd and Vodafone Ltd ("the operators"). The agreement allows both organisations to pool their basic network infrastructure, while running two, independent, nationwide networks allowing consumer choice. As part of Telefónica's continued network improvement programme, there is a specific requirement for an upgrade to its existing installation at Abraham Moss Centre, to provide improved 2G, 3G, 4G and new 5G coverage and capacity, ensuring that this area of the city continues to have access to the latest technologies. This is in line with its legal obligations, as well as the Government aspirations for the UK to be a world leader in 5G. In addition, the site has been designed to enable Vodafone to utilise this radio base station for new 5G service provision as well, whilst also maintaining and enhancing its 2G, 3G and 4G coverage that it is currently providing from this existing radio base station. The site is located within a compound to the north of the sports pitches and east of the campus buildings at Abraham Moss Community School and Manchester College Campus. Abraham Moss tram station is located to the south west of the application site. The area surrounding the campus and tram station is predominantly residential. There are existing mature trees surrounding the telecommunications equipment.

Enclose map showing the cell centre and adjoining cells if appropriate:
The amendments to the existing, established ground based installation will enable enhanced 2G, 3G and 4G coverage and capacity to the surrounding area as well as new 5G service provision for Vodafone to ensure high quality customer experience is obtained as demands on the network increase and technologies change. In addition, due to the design, Telefonica will be able to maintain and enhance its existing 2G, 3G and 4G coverage whilst also being to provide 5G service provision to the immediate area in and around this part of Crumpsall. The minor amendments to the existing installation, by utilising the existing monopole, will ensure minimal changes to the visual amenity of the area.

Type of Structure: Monopole with open antenna headframe	
Description: The installation of 6 no. Telefonica antennas with an antenna top height of 22.5m, and ancillary development thereto, including the installation of 15 no. Telefonica Remote Radio Units (RRUs), 9 no. Vodafone Remote Radio Units (RRUs), 2 no. 0.3 metre diameter dishes and 1 no. GPS module, and the relocation of 6 no. existing Vodafone antennas, 6 no. existing Vodafone Remote Radio Units (RRUs), 1 no. 0.3 metre diameter dish and 1 no. GPS module, on a replacement antenna headframe on the existing monopole.	
Overall Height: Approximately 23.5 metres (to the top of the dish support poles)	
Height of existing building *(where applicable):*	N/A
Equipment Housing: As existing	
Length:	N/A
Width:	N/A
Height:	N/A
Materials *(as applicable):*	
Tower/mast etc – type of material and external colour:	N/A - Monopole to be retained.
Equipment housing – type of material and external colour:	As existing, equipment cabinets located within an existing equipment cabin.

Reasons for choice of design and siting, making reference to pre-application responses:
The existing radio base station at Abraham Moss Centre has been in situ for a number of years and has become an established part of the streetscene. Technology advances (including 5G service provision) and additional demands on the operator's mobile network system in the area have meant that additional antennas need to be installed on this existing monopole to facilitate all the data that is required to be carried for mobile superfast broadband. This enables customers to continue to be able to use their handheld devices for the purposes in which they have become accustomed, and now rely on in the modern world we live in, a similar scenario to the reliance on gas and electricity. Vodafone requires new 5G technology to be installed into its network in this cell area. This site is currently being utilised by Telefonica as well to provide 2G, 3G and 4G service provision. This operator also needs to be able to provide 5G technology in this area. Due to the large data that is carried by this new technology the existing antennas cannot be utilised for 5G as well as 2G,

Classification: Unrestricted

3G and 4G services. In addition, the existing headframe is not structurally capable of supporting all the operators' latest technologies. Therefore a new antenna headframe is required to ensure that the latest technologies can be provided to the surrounding area. The amendments to the existing scheme are essential in order that customer's handheld devices continue to operate for the purposes in which they have become accustomed, accessible wherever they are whether that is indoors or outside.

To minimise the impact on the surrounding area, the new antennas and relocated existing antennas on to a replacement headframe will resemble as closely as possible the existing antennas already in situ. They will be located in approximately the same location at the top of the monopole. The new antennas need to be slightly bigger in order to support the latest technologies and the high-speed data and capacity needed for customers' handheld devices to continue to operate for the purposes in which they were purchased.

The top height of the antennas will remain at 22.5m, the same as the existing antennas. The proposed dishes will be located above the antennas at the same height as the existing transmission dish. Therefore the installation will not be any taller than that currently in situ. The antennas cannot be reduced in height as they would be blocked by the surrounding trees and urban clutter and would not be able to reach their target coverage area, and the dishes are unable to be mounted any lower as they require a clear line of sight. Therefore existing customers would have a poor user experience if the installation were to be reduced in height, with buffering and dropped calls becoming a significant issue.

The antennas are proposed to remain open and not shielded as this provides the optimal service provision to the surrounding area. If the antennas were to be shrouded, they would not be as efficient at providing the latest technologies to this cell area. Thus an additional installation would likely to be required in this cell area which would lead to the proliferation of masts contrary to the NPPF. Given the site's established location, predominantly shielded by existing mature trees and foliage, this loss in service provision if the antennas were to be shielded would not be justified. As such, the replacement antenna headframe and new antennas have been designed to resemble as closely as possible the existing apparatus which is already in situ, whilst providing the latest high quality, reliable service provision to this area of Crumpsall.

The new RRUs will be located behind the antennas on the replacement antenna headframe. They are small for telecommunications apparatus, approximately the size of a shoe box. They are designed to act like a booster to make the antennas more efficient and reduce the amount and size of equipment cabinets at ground level. They further reduce the overall amount of apparatus required at this radio base station minimising the visual impact on the area. Given this site's location, which is predominantly shielded from view from nearby public vantage points, coupled with the position of the RRUs, ensures that this ancillary development to the existing installation will not appear overly prominent in the surrounding area.

It is therefore considered that the proposal before you strikes a good balance between environmental impact and operational considerations. The proposed height and design represents the best compromise between the visual impact of the proposal on the surrounding area and meeting the multi technical requirements for the site. Taking all matters into account, it is considered that these minor amendments to the existing installation, on an established radio base station site, to enable the enhancement of 2G, 3G and 4G service provision and new 5G coverage to the surrounding area, would not appear out of place within its surroundings and would provide enhanced high quality, reliable and secure coverage and capacity, delivering the capability for a multi hi-tech service from an existing ground based installation.

Classification: Unrestricted

Technical Information

International Commission on Non-Ionizing Radiation Protection Declaration attached (see below) International Commission on Non-Ionizing Radiation Protection public compliance is determined by mathematical calculation and implemented by careful location of antennas, access restrictions and/or barriers and signage as necessary. Members of the public cannot unknowingly enter areas close to the antennas where exposure may exceed the relevant guidelines. When determining compliance the emissions from all mobile phone network operators on or near to the site are taken into account. In order to minimise interference within its own network and with other radio networks, Vodafone Limited and Telefonica UK Limited operates its network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision As part of Vodafone and Telefonica's network, the radio base station that is the subject of this application will be configured to operate in this way. All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference. The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.	Yes	

4. Technical Justification

Enclose predictive coverage plots if appropriate, e.g. to show coverage improvement. Proposals to improve capacity will not generally require coverage plots.

Reason(s) why site required e.g. coverage, upgrade, capacity

A mobile phone transmitter is designed to cover a specific area and links its coverage to the next site in the network, creating a patchwork of overlapping coverage 'cells' across the country. So, if a person is on the move, the network will transfer their calls from one site to the next. However, in certain areas there will be gaps between these cells, resulting in a loss of coverage. This can be for a variety of reasons, the most common being topography or buildings which block the path of the signal. The operators' network rollout programme is designed to identify and address these gaps within their coverage and ensure that people can use their phones whenever and wherever they are.

There is a specific requirement to upgrade the existing radio base station at this location to enable Vodafone to enhance its 2G, 3G and 4G coverage and capacity to this busy and highly populated area of Crumpsall, close to Abraham Moss Community School/Manchester College Campus and the busy Abraham Moss tram stop, and provide new 5G service provision. Furthermore, the installation will be designed so that Telefonica can continue to utilise the same installation and provide new 5G coverage to its network whilst improving its 2G, 3G and 4G services. This negates the need for further radio base stations in the vicinity for either of these two operators.

5. Site Selection Process

In accordance with the licence obligations and advice in the National Planning Policy Framework and the Code of Best Practice in England the applicant's network rollout team investigated the following siting and design options using this sequential approach to site selection:

- Upgrading their own existing base stations;
- Using existing telecommunications structures belonging to another communications operator. i.e. Mast and/ or site sharing, co-location;
- Installations on existing high buildings or structures including National Grid pylons;
- Using small scale equipment; and finally
- Erecting a new ground based mast site – (1st) Camouflaging or disguising equipment. (2nd) A conventional installation e.g. a lattice mast and compound.

The applicant's site selection strategy is to keep the overall environmental impact to a minimum. Utilising existing masts is always progressed where it is technically and legally possible and where it is the local planning authority's preferred environmental solution. New sites are only developed where there are no viable or accessible alternatives or it is the local planning authority's preferred approach. The feasibility of the acquisition, build and maintenance of the site also needs to be taken into account.

In accordance with the above sequential approach, the proposal is to upgrade the existing radio base station in this location to provide enhanced 2G, 3G and 4G coverage and new 5G service provision.

Site Type	Site name and address	National Grid Reference	Reason for not choosing site
N/A	N/A	N/A	N/A

If no alternative site options have been investigated, please explain why:

As referred to above, the applicant has taken a sequential approach and is seeking to retain the existing radio base station including the monopole, whilst replacing the antenna headframe and adding 6 new Telefonica antennas and ancillary development thereto in approximately the same locations as the existing antennas to minimise the impact on the surrounding area.

These minor amendments to the existing radio base station will ensure that the latest superfast technologies will be able to be accessed by users in this area, in line with the operators' legal license obligations, and the Government's aspirations that everyone has access to the information super highway network, that the UK becomes a world leader in 5G and the customers' expectations that their handheld devices are able to operate wherever they are located whether that be indoors or outside.

It is considered that utilising an existing established radio base station installation is preferable to pursuing a second base station within the immediate vicinity, as it would reduce the visual impact therefore preserving the character and appearance of the surrounding area. Given the makeup of the area and the siting of existing telecoms infrastructure on the site, it was established that the upgrading of facilities through the use of existing infrastructure would be the most viable solution. Based on this sequential approach no other sites have been considered.

Land use planning designations:

No specific land use designations.

Environmental Information

No specific environmental considerations identified to date.

Additional relevant information (include planning policy and material considerations):

National Planning Guidance

Planning policy is provided at the national level by the National Planning Policy Framework (NPPF). It is a material consideration in planning decisions.

It is not necessary to quote extensively from this document but the following points are highlighted.

National Planning Policy Framework (February 2019)

The Government's National Planning Policy Framework (NPPF) was published on 24 July 2018 and updates the 2012 version. In February 2019 the NPPF was revised again, with minor alterations to wording relating to housing supply and not any parts relating to telecommunications. The Government's latest thinking continues to strongly support communications infrastructure. The NPPF remains very supportive of high quality communications. Indeed, a whole chapter is dedicated to high quality communications, emphasising the importance that the Government attaches to digital connectivity. Paragraph 112 states that advanced, high quality and reliable communications infrastructure is essential

for economic growth and social well-being. This wording echoes guidance set out in paragraph 42 of the 2012 version of NPPF. However, it also includes the importance of *reliable* communications infrastructure for both economic growth *and social well-being*.

The NPPF continues to support the expansion of electronic communications networks at paragraph 112. It notes that policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time. The economic and social benefits of providing high quality and reliable communications infrastructure are well documented and can be found later in this Supporting Information Statement.

The NPPF makes reference to 5G:

'*Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G)…'*

With the above in mind, the Government is already forward thinking the evolution of data networks and seeks planning decisions to take account of this. 5G technology provides increased speed of data and more capacity in the network, to ensure that handheld devices can continue to be used for the purposes in which they were purchased. This will bring even greater economic and social benefits to the area.

Paragraph 113 of the NPPF retains the requirement to minimise the number of installations consistent with the efficient operation of the network but also includes being consistent with the needs of consumers and providing reasonable capacity for future expansion.

Paragraph 116 of the NPPF retains the guidance set out in paragraph 46 of the 2012 NPPF version which relates to determining applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure.

At the heart of the NPPF is the retained presumption in favour of sustainable development (para 11). For decision-taking this means approving development proposals that accord with an up-to-date development plan without delay or where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless the application of policies within the revised Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed or any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the revised Framework taken as a whole.

The NPPF continues to provide guidance on decision-making. At paragraph 38 it states that:

*'Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including…*permission in principle*, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible'*.

The NPPF builds on the aspiration to build a strong, competitive economy. Paragraph 80 states:

> *'Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking in to account both local business needs and wider opportunities for development. The approach taken, should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation[40]'…*

Footnote 40 of the NPPF states:

'The Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, identifies a number of Grand Challenges facing all nations, and sets out a delivery programme to make the UK a leader in four of these: artificial intelligence and big data; clean growth; future mobility and catering for an ageing society. HM Government (2017) Industrial Strategy: Building a Britain fit for the future'.

Code of Best Practice on Mobile Network Development in England (24 November 2016)

The Code of Best Practice has been fully revised in November 2016 and is now even more supportive of mobile network provision in line with Government aspirations that everyone should have access to the information super highway no matter where they are located whether that be in rural or urban areas. This Code provides guidance to mobile network operators, their agents and contractors and equally to all local planning authorities in England. It supersedes the Code of Best Practice on Mobile Phone Network Development (2013).

The principal aim of this Code is to ensure that the Government's objective of supporting high quality communications infrastructure, which is vital to continued economic prosperity and social inclusion for all, is met. The development of such infrastructure must be achieved in a timely and efficient manner, and in a way which balances connectivity imperatives and the economic, community and social benefits that this brings with the environmental considerations that can be associated with such development.

Section 2 of the Code highlights the Government's Communications Policy and Planning Policy. It acknowledges that the continued expansion and development of mobile networks is a key element of the National Infrastructure Delivery Plan 2016 – 2021. This recognises that digital communications are now a crucial component of everyday life, with improvements in connectivity being key to a vibrant economy (para 2.1).

Paragraph 2.2 goes on to state that consumers, businesses and public bodies increasingly rely on mobile communications and expect to receive a signal wherever they are. The Code indicates that recent changes in planning policy [and regulation] are intended to align with Government communications policy, where the ultimate goal is to achieve mobile coverage wherever it is needed. Section 2 of this Code also reiterates NPPF guidance in strongly supporting high quality communications infrastructure, which is seen as essential for sustainable economic growth.

Section 3 of this Code acknowledges that there are special operational and technical considerations associated with mobile network development, which have changed over time

due to changes in technology and associated changes in demand. The Code acknowledges that there remains a reliance on radio masts to provide the main umbrella of coverage. Paragraph 3.1 explains that radio signals operate like light and must “see” over the target coverage area, they cannot be hidden and so there will always be a degree of visual impact.

Paragraph 3.2 clearly indicates that in assessing the visual impact, greater emphasis than previously should now be placed on the radio planning requirements to achieve mobile coverage (as shown in the recent changes to permitted development rights, at the end of November 2016, and the reduced test in the most recent NPPF.

Paragraph 3.3 goes on to highlight that the [operator systems tend to be demand-led or to fulfil coverage obligations. With the ever increasing demand for data hungry applications available to a range of connected devices, such as smart phones and tablets, the requirement to upgrade and improve networks through changes to existing sites and the development of new sites is constant. As most parts of the country move on to a superfast highway, so the need to bring coverage to ‘not spots’ and improve coverage in ‘partial not spots’ intensifies.

Paragraph 3.4 of The Code provides advice to local Planning authorities who are concerned about proposals, stating that they should not ‘look for problems’ but should work proactively with the Mobile Network Operators to find solutions, in line with paragraph 187 of the NPPF.

Paragraph 4.1 of the Code acknowledges that customer expectations have evolved with technology. The expectation is that they will always be connected and able to access services in exactly the same way as fixed broadband for personal, educational and business purposes.

Paragraph 4.2 acknowledges that data, i.e. using the internet, puts increased demand on capacity and therefore the need for additional base stations to keep abreast of customer demand. However, changes in working practices for the operators, in line with national guidance, streamlining networks, sharing base stations has reduced the overall amount of infrastructure required.

The Code goes on to acknowledge that operators maximise the use of their existing network infrastructure for the provision of 4G services and are similarly upgrading their 3G network infrastructure to improve capacity and coverage. However, the revised Code continues to advise that this does not mean that there will not be a need for any new base stations. Indeed, for example, more base stations will be needed in areas where there has previously been only limited or no coverage and where coverage and capacity needs to be enhanced in line with Government commitments and customer demand.

Similarly, some new sites will be required to replace existing sites that are lost, for example, through redevelopment of an existing building. Some masts may need to be redeveloped or replaced to enable an upgrade in services to take place.

Section 5 relates to mobile connectivity in the 21st Century, explaining that mobile phones and other devices are now everywhere. Mobile connectivity is not just making calls and texts but also mobile broadband. The majority of mobile phones in the UK are Internet-enabled smartphones and large numbers of people also now own tablet devices. People are increasingly choosing to access the internet using a mobile device even when they have fixed broadband connection available.

The Code acknowledges that by the second decade of the 21st Century, the greatest increase in traffic across mobile networks was in data i.e. internet use (para 5.3). Paragraph 5.4 states that in terms of the wider economic impact of mobile connectivity, research by Deloitte on the economic impact of mobile broadband across a range of countries, showed that a doubling of mobile data use leads to an increase of 0.5% in the Gross Domestic Product per capita, while another study put the benefit of 4G mobile broadband to the UK economy at £75 billion over a decade.

Section 5 of the Code goes on to highlight that connectivity promotes social inclusion. In recent years, more people rely on a mobile phone than they rely on a landline. Furthermore, people on lower incomes are even more likely to live in a mobile only household, or to access the Internet using a mobile connection (para 5.5).

The Code illustrates that mobile connectivity helps in the delivery of public services e.g. to access Central and Local Government via online services, acknowledging that lives are more likely to be saved when a 999 call is made from a mobile than from a landline, Telehealth is becoming increasingly important and text message reminders also improve compliance with medication and keeping NHS appointments.

Good mobile connectivity also promotes sustainability e.g. it reduces the need to travel and thus carbon emissions (para 5.7). The Code continues to support mobile telecommunications network as it is seen as a crucial piece of national infrastructure in economic, community and social terms (para 5.8).

Paragraph 5.9 states that there is a need to continually upgrade and improve mobile networks, which will not function without the necessary infrastructure on which they rely. This is driven by increasing consumer demand for data, improved connectivity and more capacity, together with Government aspirations for improving connectivity and coverage.

The Code provides guidance on siting and appearance principles at Appendix A. It sets out a number of design principles in respect of telecommunications development. However, the code acknowledges that the options for design used by an operator will be affected by site conditions including requirement to link the site to the network, landscape features and coverage and capacity requirements. The main options for the operator include:

Mast and/or site sharing (including redevelopment of a site to enable upgrade or sharing with another operator);

- Installation on existing buildings and structures;
- Erecting new ground based masts;
- Camouflaging or disguising equipment where appropriate;
- Using small scale equipment (although small cells themselves are generally used to address capacity issues as opposed to providing coverage).

The Code in Appendix A acknowledges that it has been a long standing Government policy objective to support the sharing of masts and sites. Operators also aim to site share wherever viable.

Concerning the erection of new ground based masts; The Code at Appendix A page 27 provides examples of where the environmental and visual impact of the mast can be greatly reduced.

- Placing the mast near similar structures. For example, industrial and commercial premises, road signs and lamp posts;
- Placing a mast within or adjacent to an existing group of trees. This option is more successfully implemented in or near wooded areas. It should also be noted that the top of the mast placed in trees will need to be above the tree-line in order for the equipment to work for the allowance of future tree growth;
- Using simple and unfussy designs. Masts which have complex designs are more likely to dominate and be in discord with the landscape and have adverse visual impacts, and
- Appropriate colouring. Masts seen against the sky are best left in their galvanised state or painted pale grey. Against a wooded backdrop, a matt green or brown colour scheme would be more applicable.

The Code continues to support sympathetic design and camouflaging including concealing antennas in familiar features such as flagpoles, street lamp posts, telegraph pole style designs and signs.

Local Planning Policy

The statutory development plan as defined by the Planning and Compulsory Purchase Act 2004 comprises the extant Unitary Development Policies of the Manchester Unitary Development Plan and the Manchester Core Strategy Development Plan Document.

Manchester Unitary Development Plan (July 1995)

The Manchester Unitary Development Plan (UDP) was adopted in July 1995 as the strategy document which set out guidelines for all development in Manchester and provided a framework from which to base decisions about planning applications.

The Manchester Core Strategy was adopted on 11 July 2012 which is the key development plan document in the LDF. It replaces significant elements of the UDP. However, a number of policies remain extant following the adoption of the Core Strategy including Policy DC 17.1 relating to telecommunications.

Policy DC 17.1 states that applications for telecommunications development will normally be approved if the Council can be satisfied that the development has been sited and designed to minimise its impact on residential amenity and in environmentally sensitive areas. Wherever possible the Council will expect the potential of existing buildings and masts, including the sharing of such facilities, to be fully explored before agreeing to additional separate development.

In the justification to Policy DC 17.1 the Council recognises the need for Manchester to be at the forefront in the field of telecommunications. The Council therefore starts from the presumption in favour of sustainable development and investment in the telecommunication systems serving the city. Equally, it wishes to ensure that new developments are brought forward in a way which protects residential amenity and minimises the visual impact of such development particularly in conservation areas and other environmentally sensitive areas in parks and the river valleys. The Council is also concerned to make maximum possible use of

existing buildings and facilities by encouraging operators to share facilities wherever possible in order to avoid unsightly duplication and clutter.

In relation to this Policy, the proposed equipment will visually look very similar to the existing. The replacement headframe and additional antennas and ancillary development will enable the provision of 2G, 3G, 4G and 5G coverage for both Vodafone and Telefonica to this busy area within Crumpsall, close to the busy transport hub of Abraham Moss tram stop, which is in full compliance with the policy's expectation of the utilisation of an existing radio base station on an existing structure, and promotes site sharing.

Manchester Core Strategy DPD July 2012

The Manchester Core Strategy was adopted in July 2012 and sets out the long term strategic policies for Manchester's future development and will form the framework that planning applications will be assessed against.

The Core Strategy Vision states that:

'By 2027 Manchester will be:

- A successful and accessible city in the front rank of cities in Europe and the world.
- A city with a growing economy driven by the strength of the Regional Centre and Manchester Airport which supports a successful City Region. The knowledge based economy flourishes with an entrepreneurial community, characterised by a fully skilled, inclusive working population.
- Meeting the challenge of climate change at the forefront of environmental initiatives and improvement and continuing to deliver sustainable development and a more effective green infrastructure.
- A city with an increased and sustainable healthy population and a community which both benefits from and drives the City's productivity upwards.
- A city with neighbourhoods where people choose to live all their lives.

In order to help meet this vision the Core Strategy sets out a number of spatial objectives.

Spatial Objective SO1 relates to spatial principles and aims to provide a framework within which sustainable development of the city can contribute to halting climate change.

Spatial Objective SO2 relates to the economy and supports a significant further improvement of the City's economic performance and spread the benefits of this growth across the City to reduce economic, environmental and social disparities, and to help create inclusive communities.

SO4 relates to Centres and aims to provide a network of distinctive, attractive and high quality centres, strengthening local identity, providing essential services close to homes and local access to healthy foods.

Policy SO1 relates to spatial principles and states inter alia that development in all parts of the City should:

- Make a positive contribution to neighbourhoods of choice including making a positive contribution to the health, safety and well-being of residents.
- Considering the needs of all members of the community regardless of age, gender, disability, sexuality, religion, culture, ethnicity or income.
- Minimise emissions.
- Improve access to jobs, services, education and open space by being located to reduce the need to travel.

Policy EC1 relates to employment and economic growth in Manchester. The policy states that the priorities for economic growth include:

- Ensuring the continued social, economic and environmental regeneration of the city.
- Ensuring the connectivity to international markets for the import and export of goods to ensure competitiveness in international markets.

Policy DM1 relates to development management. It is a general design policy which is not specifically related to telecommunications but contains some relevance for such applications. The policy states that all development should have regard to the following inter alia:

- Appropriate siting, layout, scale, form, massing, materials and detail.
- Impact on the surrounding areas in terms of design, scale and appearance of the proposed development. Development should have regard to the character of the surrounding area.
- Effects on amenity including privacy, light, noise, vibration, air quality, odours, litter, vermin, road safety and traffic generation.

Greater Manchester Digital Strategy 2018-2020

The foreword to this Digital Strategy states:

> 'We live in a world where the number of digital devices has now passed the number of people. Digital technology is now shaping every aspect of our lives in ways which were inconceivable a generation ago: how we work, travel, shop, access services, meet people, communicate and are entertained.
>
> Greater Manchester has always been a pioneer city region, with an eye for opportunity and the drive and pragmatism to seek out new solutions to old problems with almost 80000 digital and digital-intense creative businesses in Greater Manchester employing more than 82300 people generating £4.1bn of economic growth annually.
>
> In the Greater Manchester Strategy we set a clear ambition to be a world-leading digital city region, and committed to taking an open, innovative and connective approach to delivering that ambition.
>
> …to be a digital City-Region with a Difference and drive real change together, from the bottom up. We can only be a world leading city-region if we bridge the digital divide. Progress must be universal; geographically, socially and economically…using digital to connect young people to opportunity or tackle homelessness…we will capitalise on Greater Manchester's unique ability to use digital to connect and enhance our other high value sectors such as creative industries, health innovation and advanced manufacturing and materials.

The GM Digital Strategy asks why it is vital for Greater Manchester to be a leading digital City-Region and quotes:

> *"The future vitality of cities is increasingly based on their ability to use digital networks in intelligent, strategic ways*" (Aspen Institute, Washington).

The Strategy goes on to state that:

> *…'digital technology has catalysed the interconnection of the global economy, with the internet enabling the free exchange of goods and services, providing consumers with greater choice and businesses with access to skills, resources and customers. As a result, people are now accessing more digital content and services from outside their own country, cross-border payments increasing, and small companies are more easily becoming more "multi-national".*
>
> *Digital technology is increasingly the backbone of all industries, regardless of the nature and type of business. Embracing digital technology throughout all sectors, geographies and occupations is fundamental to Greater Manchester's current and future international competitiveness*'.
>
> *"We want to be recognised as an international thought leader and do-er in digital innovation and adoption across our economy and communities"…*
>
> *'This strategy is therefore founded on evidence that becoming a leading digital city-region is imperative to deliver our wider vision. We must do it to deliver the economic, social and inclusion improvements we need and want to see. We can do it because we have the vision, leadership and both the industrial and political will, coupled with strong academic, industrial and community foundations and an exciting and disruptive set of emerging activities and technology'.*

The Digital Strategy sets out the Greater Manchester Vision: A city with a Difference:

> *"It would be fantastic if we led the country in encouraging digital innovation which supports businesses and investment, creating jobs and opportunity, but focusing on improving outcomes for people such as loneliness or homelessness in our soci*ety.
>
> *I don't want Manchester to be just a smart city – I want it to be the smartest city"* (Andy Burnham Mayor of Greater Manchester).

The strategy goes on to state that the Vision for Greater Manchester is '*to be one of the best places in the world for developing and harnessing digital technology* and to be recognised as being a top 5 European Digital City Region by 2020 which:

- Empowers and enables residents to have the highest quality of life; and
- Supports the creation of high quality jobs and achieves the maximum possible productivity levels'.

This strategy for Greater Manchester is an open, connected and innovative city region….

'*Our Vision for Greater Manchester is holistic, with digital technology driving improvement across all areas of economy and society. A world-leading digital city is therefore, one which its businesses, public service providers and citizens are using digital technology by default and to the fullest: to grow their businesses and improve productivity to access skills, training and employment opportunities, to address global challenges that have a local impact, such as ill health, social isolation, homelessness and pollution; to improve the quality and value for money of public service*s'.

The Strategy sets out the Goals and Measures. Goal 6 relates to Digital Infrastructure and aims that by 2022-23 the average download speed across fibre, mobile and wireless will exceed 100Mbps.

The benefits for delivering this strategy are noted as:

- For young people, better connected insights on children's development from the very early years right through to leaving school, a transformative range of career opportunities and a means through which they can be accessed;
- For Working Age Population, the ability to access broader range of high quality job opportunities, and set up own business more easily;
- For business owners and investors, for greater range of opportunities to access the technology and support to digitise, opportunities to physically and digitally collaborate will be readily accessible and there will be more readily available flow of talent, capital and support to new innovative ideas and a market place that defines and presents problems and commissions solutions rather than buying off the shelf products and services.
- For Older people, there will be more support and solutions to social isolation, more ease and control for you and your family in terms of managing your own health care; and
- For all residents, a city that works around you in terms of living your life, where you can move around the city more easily and safely, improvements in, for example treating illness, improving air quality due to insights from pooled data, greater control over how and when you access public services.

Greater Manchester is aiming to become a world leading digital city by 2020. Greater Manchester plays a fundamental role in driving economic growth.

The Strategy notes that in terms of mobile internet, despite good public Wi-Fi coverage in most public buildings across Greater Manchester, and on Metrolink and many buses, Wi-Fi provision is patchy in public places and there are still barriers to access (registration requirements and cost) in many parts of Greater Manchester.

The Strategy also acknowledges that digital exclusion is closely linked with social exclusion.

The Greater Manchester Action Plan for Infrastructure at 8.1 States that the connectivity which Greater Manchester requires is to increase average mobile and fixed broadband internet speeds and aims to improve call and mobile coverage including securing a national 5G test bed status thus positioning Greater Manchester at the forefront of next generation 5G mobile.

The strategy notes 5 digital enablers: Social Networks, Mobile internet/apps, digital health, infotainment and e-commerce.

Greater Manchester Local Industrial Strategy (June 2019)

This Local Industrial Strategy sets out how Greater Manchester (GM) will forge its future. It states that it will build on GM's position as a 'leading European digital city-region; enable the digitalisation of all sectors; and capitalise on the links between digital and creative industries that feed internationally significant clusters in broadcasting, content creation and media, and maximise growing assets in cyber security.

It aims to put in place the integrated 21st century infrastructure needed for digital driven, clean and inclusive growth.

A top 5 city-region for the digital economy in Europe, with full fibre broadband and 5G coverage.

The Strategy states that GM will take a 'Made Smarter' approach to all industries, supporting forms to adopt new digital and creative techniques and enabling the digitalisation of all sectors.

The strategy has a specific section relating to infrastructure and acknowledges its importance:

> '…The city-region now aims to upgrade, integrate and future-proof its infrastructure, to create a 21st century city-region with extreme digital connectivity, clean and inclusive growth and – through work with others – improved access to national and global markets.
> Existing partnerships are working to improve digital infrastructure in the city-region to meet national targets of roll out of 5G technologies for most people by 2027'.

The Local Industrial Strategy sets out an objective to ensure the vision for infrastructure is met:

- World-class connectivity – digitally and through an integrated transport network within all parts of GM.

To achieve the ambitions of the GM Local Industrial Strategy it identifies actions around 5 foundations of productivity: Infrastructure, Ideas, People, Business Environment and Places. These are noted as being essential attributes of every successful economy. It also identifies opportunities grouped under 4 Grand Challenges – Artificial Intelligence and Data, the Ageing Society, Future Mobility and Clean Growth.

The Vision for the Digital, Creative and Media is set out in the Local Industrial Strategy and reproduced below:

> '*GM will be a leading European digital City-Region, with the infrastructure, skills and networks needed to digitise all sectors, and internationally significant clusters in broadcasting, content creation and media and cyber security'*.

To help meet the vision the strategy states that GM will continue to transform the digital connectivity of the city-region to drive economic growth and innovation, working with Government to meet national targets of full roll-out of 5G technologies for most people by 2027.

The Local Industrial Strategy acknowledges that GM will aim to become one of the best digitally connected city-regions in the UK. It fully supports the development of 5G networks.

Greater Manchester Infrastructure Framework 2040 (GMCA)

This is a pre-cursor to the GM Infrastructure Strategy. The aim is to focus on developing infrastructure which ultimately improves the lives of all those living and working within Greater Manchester.

The Infrastructure Framework acknowledges a number of key challenges, one of which is digital and the need to provide pervasive, affordable, resilient digital connectivity. The Framework notes that 'Digital technology is increasingly the backbone of the major industries and our daily lives'.

The Framework goes on to states that approaching 2040, GM will need to be a Smart and digitally ready City Region. To achieve this, and support on-going digitalisation, the region will require resilient fixed connectivity (through fixed fibre) supported by 5G (and subsequent technologies). It will also need to streamline the process for installation of new infrastructure within the street space.

The Framework notes the vision for the GM Infrastructure Strategy:

> *'Develop and maintain a holistic infrastructure system that is robust, accommodates sustainable growth and supports the ambitions of the Greater Manchester Strategy to make "Greater Manchester one of the best places in the world to grow up, get on and grow old*".
>
> The Greater Manchester Infrastructure Strategy should seek to:
>
> - *Support the lives and well-being of people, communities and the environment within Greater Manchester.*
> - *Be age-friendly and support the economic and social participation of both young and old.*
> - *Support strategically identified growth for parts and communities within Greater Manchester.*
> - *Be flexible, robust and met the existing and future needs of the communities and technological change.*
> - *Provide world-class connections and access to opportunity for all.*
> - *Provide world-class digital infrastructure which provides a platform for GM to embrace emerging technological and societal changes.*
> - *Support a carbon-neutral GM and be economically, environmentally and socially sustainable.*

The Framework identifies a key infrastructure trend to 2040 as Digital (Telecommunications Operators) including mobile infrastructure:

- As the population and employment is due to rise:
  - more people will mean more homes and businesses, and more consumers of digital services.
  - There will be a growing demand for high-speed, resilient data connectivity to facilitate changing patterns such as shopping patterns moving online, whilst flexible working becomes more prevalent.
- Changing workforce:

- More productive, higher skilled, higher paid jobs more specialised and skill activities needs digital infrastructure to support higher skilled industries – which may require increased digital infrastructure.

- Environmental Change:
  - Improving efficiencies of buildings and appliances. The use of smarter technologies within each infrastructure sector will look to improve efficiencies further.

The Framework comments on digitalisation noting the importance of it and how it has transformed the way in which we go about our everyday lives:

> '*We live in an increasingly digital world. Technologies that are visionary today rapidly become part of everyday life tomorrow. In turn, people's expectations are rising constantly. "Digital" now encompasses an increasing array of technologies, from sensors, smartphones and robots, to augmented reality, cloud computing and data analytics. These technologies are changing the way in which we live and places we live in. Digital technologies are being used to make cities more smooth running, more productive, and more democratic. The pervasiveness of digital technology in our lives represents a major change. For these technologies to function effectively, it is fundamental that a robust and diverse underpinning infrastructure is installed that ensures a future-proofed platform for the development of these and many new technologies for years to come.*
>
> *As our homes, businesses and cities become more reliant on digital technology to function the robustness of these systems becomes even more critical'.*

The Framework states that '*anyone in GM should be able to access resilient, seamless connectivity at a speed they need anywhere and anytime'*.

- New technologies, artificial intelligence and atomisation:
  - Improvements in artificial intelligence and atomisation technologies will transform infrastructure sectors and business markets.
  - Digital infrastructure will be crucial to supporting future technology and a Smart City Region.
  - Embracing digital technology throughout all sectors, geographies and occupations is fundamental to GM's current and future international competiveness.

The Framework acknowledges that the vision of moving to a smart and digitally-ready city-region requires future digital infrastructure to be strong fixed resilient connectivity, supported by 5G (and beyond), big data systems and other nascent technologies such as Artificial Intelligence and machine learning. Without connectivity it is acknowledged that processing the sheer volumes of data necessary to create a network of communicating devices will be impossible. As such, the Framework states that big improvements are required to increase the provision of wired and wireless (through 5G or subsequent technologies and Wi-Fi provision) across GM. Without the more basic technology solutions (such as passive fibre connectivity and 5G) the smart-region solutions and value-added outcomes will struggle to be brought to fruition.

The Framework notes that 5G roll out is expected from 2020. However, the timing and costs of roll out is uncertain and international standards have yet to be agreed. It is possible that

there will only be one network upon which providers deliver their services or that each provider might need to invest.

With regards to the Regional Centre if Challenge 8 is to be met to provide pervasive, affordable, resilient digital connectivity the challenge is early roll out of 5G especially in areas where mobile data use is congested such as the Regional Centre.

The Framework also states that GMCA and the Districts together with digital and telecommunication providers need to drive forward opportunities to promote connectivity and uptake in the Regional Centre.

Online Nation 2020 Report (June 2020)

Online Nation is an annual research report, published for the first time in 2019. Using research produced both by Ofcom and others, it looks at what people in the UK are doing online, how they are served by online content providers and platforms, and their experiences of using the internet, alongside business models and industry trends. As well as looking at long-term trends, this year's report includes more recent data looking at online behaviour in the UK during the coronavirus (Covid-19) pandemic.

The Report sets out its findings:

With respect to the consumer and industry it found that time spent online, and associated revenues grew in 2019.

- In September 2019 the average time spent online each day by adults aged 18+ was 3 hours 29 minutes. In comparison, on average, adults spent 3 hours 19 minutes watching TV on a TV set each day,2 and 2 hours 40 minutes listening to radio each day.
- 71% of all measured time spent online was on smartphones. 35% of internet users only accessed the internet on mobile devices (smartphone or tablet).
- Just 13% of adults do not use the internet
- In 2020, a fifth (22%) of UK adults have a smart speaker in the home and 11% of all UK households own some kind of 'smart home' technology (including devices such as smart home security, smart lighting and smart heating).

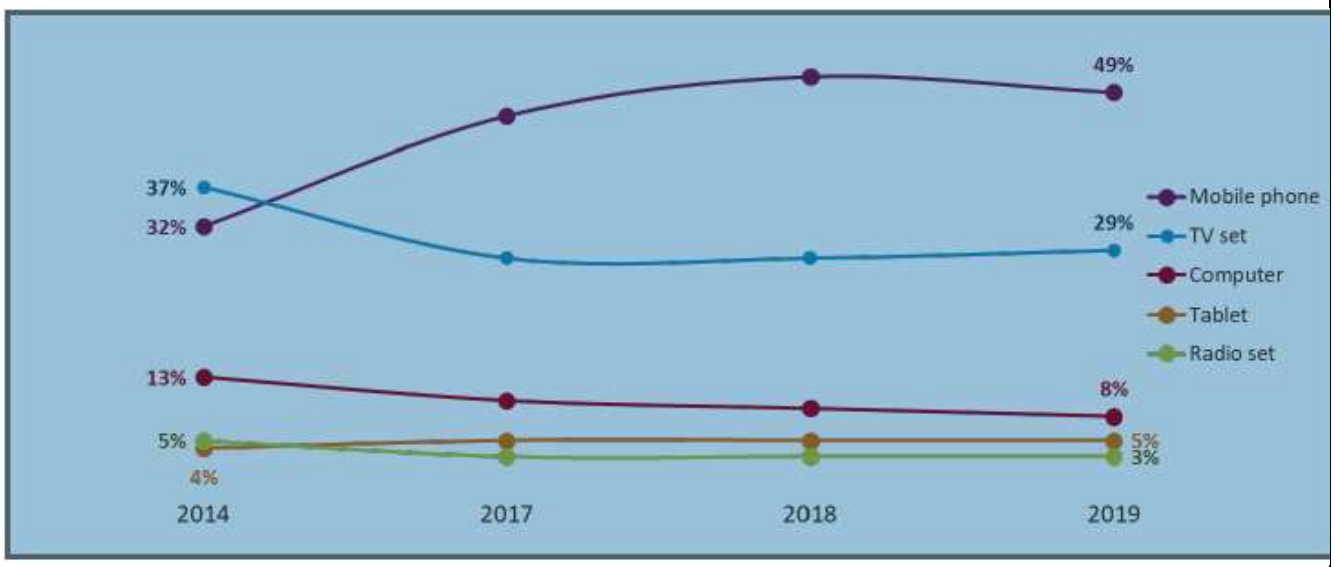
Key Matrics Online Consumer Market

UK online consumer market	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Internet take-up (%)	76	79	80	82	85	86	88	87	87	89
Smartphone take-up (%)	27	39	51	61	66	71	76	78	79	82
Tablet take-up (%)	2	11	24	44	54	59	58	58	54	52
Laptop take-up (%)	55	61	62	63	65	64	64	63	60	57
Consideration that the smartphone is the most important device for internet access (%)	n/a	n/a	n/a	32	32	38	46	48	52	60

As the table above highlights 60% of the consumer market consider Smartphones are now the most important device for internet access.

In September 2019, 81% of all measured time spent online was on a mobile device (both tablet and Smartphone).

The table below indicates the most-missed device among adults: 2014-2019 were it be taken away from them. As can be seen, nearly half of all adults say that their mobile device is the device they would miss most were it taken away from them.



Source: Ofcom Adults' Media Literacy Tracker 2014-2019

The Report found that social media and messaging sites reach 98% of the UK adult digital population. On average, visitors aged 18+ spent 49 minutes per person per day on social media sites, considerably more time on average than in key areas such as news sites (12 minutes per user), e-commerce sites (14 minutes) and even gaming sites (31 minutes).

Ninety-two per cent of time spent on social media sites took place on a mobile device (smartphones and tablets) rather than on a computer, compared to 81% of total time spent online.

The Ofcom Connected Nations 2019 Report (published December 2019 and reissued in March 2020) measures progress in broadband and mobile services in the UK and highlights the work Ofcom is doing, alongside UK and devolved governments and communications companies, to improve the availability of these services. Ofcom has aspirations for people in the UK to be able to easily access good broadband and mobile connections wherever they live, work and travel.

The report notes that over the last few years, the availability and take up of superfast and ultrafast broadband and the coverage and take-up of 4G mobile services have dramatically increased. The UK holds a leading position on current 4G mobile network coverage compared with other large European countries. It highlights that this demonstrates that policy and regulatory decisions made in the past few years have supported investment in new networks and technology and delivered a good outcome for consumers.

The Report goes on to state in the Overview that '*emphasis must now turn to the initiatives needed to ensure that the next wave of network deployment can meet future needs as quickly as possible by further extending the reach of full fibre and mobile networks*' (emphasis added).

The Connected Nations Report 2019 found that 5G services have been launched by all four mobile network operators over the past year and are now operating in over 40 towns and cities across the UK. Initial offerings are focused on densely populated areas. As well as providing improved broadband services for consumers via public networks, future 5G networks could provide specialist services to organisations and businesses.

The report highlights that the UK is a 5G leader in Europe, because it is one of the first countries where all of the Mobile Network Operators have started 5G deployment. These initial 5G networks target mobile broadband services, providing several enhancements over 4G networks, including higher speeds and the capability to deliver extra capacity where needed, such as in urban areas or sports stadiums. It goes on to state that future evolutions of these initial 5G networks will enable additional services that rely on a near instantaneous network response and need high reliability, with applications in sectors such as manufacturing, logistics, agriculture, transport/automotive, energy, media and entertainment and healthcare. Examples include controlling vehicles at distance e.g. in mines, or enabling robots in automated factories to communicate with each other.

The Report acknowledges that 5G roll out has so far focused on areas with higher populations, where capacity demands are likely to be greatest. In the near term, operators are likely to continue rollout in areas where 5G will deliver significant quality of service improvements needed to meet consumer demand.

The Report highlights the benefits of 5G for organisations and businesses noting that Public mobile networks, in addition to providing broadband services for consumers, could also be used to provide specialist services to organisations and businesses. Organisations and businesses could also decide to access 5G services via a local private 5G network, either self-deployed or deployed by a third party.

The Report also notes that 4G carries 90% of data traffic, but only 21% of voice traffic, with 3G and 2G carrying 73% and 6% of voice traffic respectively. The vast majority of traffic (82%) is generated in urban areas, and data growth in these urban areas is continuing rapidly, up 35% on 2018.

Planning Assessment

The main issues arising from this application to upgrade the existing installation at Abraham Moss Centre, is whether the proposed additional antennas would be a visually obtrusive feature which would be detrimental to the character and appearance of the area, and whether any perceived harm would outweigh the significant social and economic benefits associated with the increased service provision attributed to the proposal and other valid material considerations as outlined within NPPF, the extant Manchester UDP policies including Policy DC17.1, the Manchester Core Strategy, its vision, the relevant spatial objectives, policies SP1, EC1 and DM1 as well as the Greater Manchester Digital Strategy, the Greater Manchester Infrastructure Framework, and the Greater Manchester Local Industrial Strategy which fully supports Greater Manchester's position as a leading European digital city-region and the development of 5G networks.

The principle of siting a monopole with an open head frame has already been accepted by the Council several years ago in this location. An upgrade, relating to the replacement of the original monopole with a 22.8 metre high replacement lattice tower and associated ancillary equipment, was approved in April 2013 (LPA reference 101948/FO/2013/N1). The existing monopole will remain in situ with just the headframe being replaced in order to support the additional 6 no. Telefonica antennas, the 6 no. relocated Vodafone antennas and the new and relocated RRUs and dishes. The additional antennas are required in order to bring 5G in to the area and improve the existing 2G, 3G and 4G coverage and capacity in this cell area.

The proposed minor amendments to the existing installation are in full accordance with Policy DC17.1 of the Manchester UDP which supports the utilisation of existing masts including the sharing of such facilities by both operators. The changes to the existing antenna layout will ensure that 5G is able to be provided for both operators without an additional installation in this part of Crumpsall, maximising the use of existing facilities and sharing facilities avoiding duplication and clutter. Policy DC17.1 has a presumption in favour of sustainable development and investment of telecommunications systems serving the city. The proposed amendments fully comply with this policy aspiration.

The proposed amendments have been carefully considered. To this end, the top height of the antennas will remain the same at 22.5m above ground level, the new antennas will resemble as closely as possible the existing antennas already in situ and they will be located in approximately the same position as the existing antennas at the top of the existing monopole. The new antennas will be made from the same type of materials, same colour and a similar size to the existing antennas although they will need to be slightly bigger and wider in order to support all the latest technologies on the one installation. This minimises visual amenity in line with Policy DC17.1 of the Manchester UDP and will not detrimentally affect the character of the surrounding area in line with Policy DM1 of the Manchester Core Strategy.

In line with Policy DM1 of the Manchester Core Strategy, the proposed minor amendments to the existing installation are part of essential infrastructure and therefore will not cause any loss of privacy nor will any occupants of nearby properties be overlooked. The column and antennas do not emit any noise, odour, vibration, artificial light or disturbance from air. The proposed changes will not cause any traffic generation as it is not a visitor destination. Maintenance of the equipment cabinets is usually once a year, where the engineer can walk to site with hand held tools and will be no more regular than is currently the case. The site is located on private land away from the highway. This ensures that there will be no loss of highway safety in line with Policy DM1 of the Manchester Core Strategy.

Government guidance states that in order to limit visual intrusion, the number of radio and telecommunication masts and the sites should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. Use of existing masts, buildings and other structures for new electronic communications capability should be encouraged. Where new sites are required equipment should be sympathetically designed and camouflaged where appropriate.

This is an existing radio base station which enables two operators, Vodafone and Telefonica to continue to utilise the same installation to maintain and enhance high quality service provision to the Crumpsall area of Manchester. The amendments to this site are needed to ensure the latest 3G and 4G services are available to the operator's customers as well as the new 5G technology enabling access to the latest superfast data in this area of Manchester as technologies change and greater demands on the network are experienced as more people use their handheld devices to stream data and access the internet. The upgrade will ensure

greater capacity in the network and as such prevent the requirement for an additional installation elsewhere within this cell area.

The proposed upgrade to the existing radio base station will enhance Vodafone's customer experience by providing improved 2G, 3G and 4G coverage and capacity as well as new 5G services to the surrounding area of Crumpsall. It will enable their customers to continue to utilise their handheld devices for the purposes in which they have become accustomed, as well as being able to access the latest technology wherever they are whether that be indoors or outside. The upgrade will also enable Telefonica to continue to utilise the site and provide enhanced coverage and capacity for their customers too, negating the need for an additional installation in this cell area for either operator. This is in full accordance with the NPPF and The Code of Best Practice. It offers the best environmental solution, limiting the amount of new sites required whilst allowing the two operators to continue to utilise the same existing established site, limiting the visual intrusion in the area. This is in full accordance with NPPF and the Code of Best Practice, as well as Policy DC17.1 of the Manchester UDP.

The additional antennas are required to ensure that all the operators' latest technologies can be provided from the existing radio base station. Given the installation is predominantly shielded from view by existing trees and foliage from public vantage points, that the overall antenna height will remain the same at 22.5m, and that the appearance will be as similar as possible to the existing antennas, then the replacement headframe and additional antennas will not be significantly prominent over and above the current situation. The upgraded site will also help reduce the varying levels of coverage for 2 operators in the Crumpsall area and boost the signal for its customers.

Lack of Coverage – Material Consideration

In accordance with the NPPF, the proposed upgrade to the existing installation is significant to enable continuous coverage of the telecommunication network, ensuring that this area of Manchester continues to get the mobile coverage it needs for Vodafone and Telefonica customers as well as new 5G coverage. It will also maintain and improve coverage for the Mobile Virtual Network Operator's (MVNOs) which use the Vodafone and Telefonica network which includes VOXI, Lebara Mobile and Talkmobile on the Vodafone network and GiffGaff, Tesco Mobile, Sky Mobile, Talk Talk Mobile, and Lyca Mobile on the Telefonica network. So the proposal will not only provide a service for two operators but those who buy network space off them, which is at least 3 with Vodafone and 5 with Telefonica. This will provide a choice for those customers who consider the level of coverage in their area when selecting which operator they agree future contracts with.

The current proposals will facilitate the development of an advanced broadband telecommunications infrastructure in line with National Government guidance contained within the NPPF which supports infrastructure especially where growth takes place. It will also fully comply with Policy EC1 which supports development which improves digital infrastructure delivery to businesses and residents. By providing the latest 4G technology and new 5G service provision the proposals will also help meet the aspiration of the Greater Manchester Digital Strategy to be a world-leading digital city region. Embracing digital technology throughout all sectors, geographies and occupations is fundamental to Greater Manchester's current and future international competitiveness according to the Digital Strategy. Becoming a leading digital city-region is imperative to delivering the Greater Manchester Digital Strategy Vision of delivering the economic, social and inclusion improvements it needs and wants. It will help Manchester become the smartest city, an aspiration of the Greater Manchester Mayor. Digital growth plays a fundamental role in driving economic growth.

Providing 5G coverage in this area of the regional city will also be in line with the aspiration of the Greater Manchester Local Industrial Strategy to be one of the top 5 city-regions for the digital economy in Europe, with full fibre broadband and 5G coverage. It will also support the Greater Manchester Local Industrial Strategy aim to upgrade, integrate and future-proof its infrastructure to create a 21st century city-region with extreme digital connectivity, clean and inclusive growth and improved access to national and global markets. The proposals will also support the Greater Manchester Local Industrial Strategy of having world-class connectivity digitally with the infrastructure to digitalise all sectors. As a result the Local Industrial Strategy fully supports the development of 5G networks.

New 5G coverage in this part of the city will also fully comply with the Greater Manchester Infrastructure Framework by helping to provide pervasive, affordable, resilient digital connectivity. The proposals will also help Greater Manchester to be a smart and digitally ready city-region, where resilient fixed connectivity supported by 5G service provision is required.

In line with the Greater Manchester Infrastructure Framework which fully supports the development of 5G, the proposals will provide world-class connections and access to opportunity for all in this cell area, as well as providing world-class digital infrastructure which provides the platform for Greater Manchester to embrace emerging technologies and societal changes. As noted in the Infrastructure Framework 5G infrastructure is fundamental to enable digital technologies to function. The proposals will ensure that any Vodafone and Telefonica customer in this cell area will be able to access resilient, seamless connectivity at a speed they need anywhere at any time. Without the more basic technology solutions such as 5G, the Framework acknowledges that smart-region solutions and value-added outcomes will struggle to be brought to fruition.

Mobiles can only work with a network of base stations in place where people want to use their mobile phones or other wireless devices. Without base stations, the mobile phones and other devices we rely on simply won't work.

Without this new radio base station the operator's customers would experience increasing numbers of dropped calls and buffering unable to access the internet on their handheld devices. They would also not be able to access the 5G network, a demand which is increasing rapidly as customers update their handheld devices to ones that are 5G compatible. If the 5G network is not available then the customers' would not be able to utilise these handheld devices for the purposes in which they were purchased. This is contrary to the Core Strategy Policy EC1 which seeks to improve digital infrastructure delivery to businesses and residents. It would also be contrary to the aspirations of Central Government which aspires to everyone having access to the superfast highway network wherever they are.

The proposed upgrade to the existing radio base station is in full conformity with the Greater Manchester Infrastructure Framework, the Greater Manchester Local Industrial Strategy and the Greater Manchester Digital Strategy whose ambitions for the city-region are to be a world-leading digital city-region to help capitalise on economic, social and inclusion improvements that the Greater Manchester region wants and needs, which aims to upgrade, integrate and future-proof its infrastructure, to create a 21st century city-region with extreme digital connectivity. It will help meet their aim of Greater Manchester becoming one of the best digitally connected city-regions in the UK, where development of the 5G network is fully supported.

The proposed amendments to the existing installation will help improve the area's economic prosperity, strengthen the urban economy's by supporting local businesses to start, grow, adapt and diversify. It will support a better environment for today and tomorrow by reducing the need to travel and in turn minimise carbon emissions, a key ambition of the Core Strategy Vision, the Digital Strategy, the Infrastructure Framework and the Local Industrial Strategy. The radio base station will support the delivery of healthcare provision and accessibility by enabling people greater access to online services, NHS appointment reminders, reminders to take medicines, make appointments etc.

By enhancing the 2G, 3G and 4G service provision to the surrounding area and providing new 5G coverage into the operator's network, this would fully support the Greater Manchester's Digital Strategy, Local Industrial Strategy and the Infrastructure Framework. It will also be in accordance with Policy EC1 of the Manchester Core Strategy as it will improve the digital infrastructure.

The way 5G works, it is closely connected with the Smart City agenda and will enable centralized control of lots of different street infrastructure owned or managed by councils, such as street lights, water meters and bus stops. Manchester is fully committed to being a smart city and being a world-leading digital city region, as highlighted in the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. As such it needs the 21st century infrastructure to enable this objective to become a reality. An upgraded installation in this location enabling 5G service provision to the Crumpsall area will ensure that this aspiration is fully met.

The Councillor's Guide to Digital Connectivity notes that a survey conducted by the Confederation of British Industry found that 81% of firms said that they see more reliable mobile connectivity as essential. Studies have also shown that mobile broadband is associated with positive impacts nationally, such as higher GDP and increased employment.

Therefore the Government fully supports high quality communications infrastructure, even more so with the advent of 5G. The NPPF continues to strongly support telecommunications connectivity and states at paragraph 112 that local planning authorities should support the expansion of electronic communications networks. It acknowledges that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being.

The demand for mobile data in the UK is increasing rapidly, and as households and businesses become increasingly reliant on mobile connectivity, the infrastructure must be in place to ensure supply does not become a constraint on future demand.

An installation in this location will fill the current gap in the latest high quality service provision and enable Vodafone, Telefonica and MVNOs who buy network space off these operators to maintain access to their handheld devices wherever they are for the purposes in which they were purchased. This is fully in line with the Government's aspirations that everyone has access to the superfast communications network, the NPPF, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy.

Access to the internet in whatever medium now impacts every facet of our lives but only benefits those who can access and use it. The benefits of internet connectivity are key for both residents and businesses alike and an upgrade to the existing established radio base station in this location providing the latest 2G, 3G, 4G and 5G technologies will support Greater Manchester's aspirations to be a world-leading digital city-region and one which promotes the

growth of the digital sector, increasing digital inclusion, so all people can access services, education and training.

In line with guidance contained within the NPPF, the Council's UDP Policy DC17.1 which supports investment in the telecommunications systems serving the city, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy an upgraded radio base station in this location will enable fast, reliable, secure internet accessibility wherever the user is located. The upgraded installation in this location would fully meet the latest operators' coverage and capacity requirements for 3G, 4G and new 5G provision. This would be wholly in line with the Government's latest aspirations to strongly support advanced, high quality and reliable communications infrastructure, essential for economic growth and social well-being. Where the NPPF notes that decisions should support the expansion of electronic communications networks. An installation outside this search area, regardless of whether there are existing sites, would not allow the operator to provide their desired level of coverage and therefore would not adequately maintain and provide new coverage and capacity.

As part of the operators 4G licence obligations, many customers will benefit significantly from a vastly improved service provision in this locality. They will be able to gain access to the very latest technologies and connectivity, including 5G, to high speed data services. The importance of which is fully highlighted in the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. Indeed, these documents acknowledge that Digital technology has catalysed the interconnection of the global economy, with the internet enabling the free exchange of goods and services, providing consumers with greater choice and businesses with access to skills, resources and customers. The minor amendments to the existing installation in this location will help Manchester meet its ambition of being the Smartest city.

The Code of Best Practice acknowledges that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which we rely. With increasing consumer demand and the Government's aspirations for high quality communications infrastructure it is ever more important to improve connectivity and capacity.

The Code of Best Practice acknowledges that there will be times when there is a need for a new radio base station, where sites have been lost, where areas have limited or no coverage and where coverage and capacity need to be enhanced. This application is one such example where there is a need to enhance 3G and 4G provision and provide new 5G services within this area.

In the Code of Best Practice it acknowledges *'the pressure on networks to upgrade and improve networks through changes to existing sites and the development of new sites is constant. With the increasing consumer demand and the Government's ambitious aspirations it is becoming more important to improve connectivity and capacity. This is due to the ever increasing demand for data hungry applications to be available to a range of connected devices, such as smartphones and tablet computers. However, The Code notes that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which they rely'.* Therefore there is a significant need to locate the equipment in this area.

The Online Nation 2020 Report highlights the importance of continued access to the latest technology on mobile devices, with 35% of the internet users only accessing the internet on mobile devices (Smartphone or tablet).

The Report goes on to note that 60% of the consumer market consider smartphones are now the most important device for internet access. In September 2019, 81% of time spent online was on a mobile device (both tablet and Smartphone). Furthermore, nearly half of all adults consider that their mobile device is the device they would miss most if it were taken away.

The Online Nation 2020 Report found that until early this year, online video calling was used much less than other online communication services, with 35% of online adults using online video calling at least weekly in the 12 months to February 2020. In May 2020, this had doubled to 71% of online adult consumers using online video calling services at least weekly, with 38% using them at least daily. Their research suggests that 7% of adult internet users used video calling for the first time as a result of the coronavirus pandemic.

Consumers in the UK continue to decrease their use of landline calls in favour of using mobile calls and mobile data. Between 2012 and 2018, the total volume of outgoing landline calls in the UK more than halved, decreasing by 59 billion minutes, from 103 to 44 billion minutes. Over the same period the volume of outgoing mobile phone calls increased, but only by 29 billion minutes, from 132 to 161 billion minutes. This suggests that consumers are not simply substituting landline calls with mobile networks calls. There are indications that they are substituting at least some landline calls with online voice and video calls. On smartphones, online calling can offer a lower cost alternative to making calls using a voice tariff: 87% of UK adults who have ever used online voice or video calls did so using a smartphone.

The operator not only has a license requirement to provide a certain level of 2G/3G/4G coverage to the population the operators' are obliged to meet the growing consumer demand for 5G coverage, especially as more people are purchasing 5G enabled devices, in line with their license obligations and the operators competitive market driven "requirement" to provide a high quality service. Customers expect to be able to access their portable hand held devices wherever they are, whether that be indoors or outside. There is currently no 5G service provision that is provided by Vodafone and Telefonica in this cell area. The least impact on the surrounding environment in order to fill this gap is by upgrading the existing installation at Abraham Moss Centre.

It is therefore imperative that the operator continues to invest in ensuring that the latest technologies are available on its network, so that customers are able to continue to use their handheld devices wherever they are, for whatever reason, for the purposes in which they were purchased.

Economic and Social Benefits

The NPPF strongly supports sustainable development, as does the authority's Core Strategy and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. Mobile communication plays a significant role in sustainable development. Being able to access the internet via a mobile device allows people to access a wide range of central and local government services buy groceries, manage finances, apply for jobs/university, and carry out school projects, send emails, download applications, send and receive instant messages, participate in social media, streaming and downloading data to name just a few of the benefits of being able to use an internet enabled handheld device. It also allows people to work from home or on the move without needing to return to the office. Residents and businesses will enjoy better accessibility, assisting home-base working by improving the electronic means of communication and the roll-out of high-speed broadband helping to promote live-work development. This reduces travel time, carbon emissions and increases the

speed in which information is processed/shared. The proposals therefore fully comply with NPPF and the Local Plan Core Strategy including its Vision and Policy EC1, to minimise the effects of climate change reducing the need to travel and therefore the carbon footprint. It will support a carbon-neutral Greater Manchester and be economically, environmentally and socially sustainable in line with the GM Infrastructure Framework.

In such instances, as described above, the NPPF supports development that improves the economic, social and environmental conditions in the area. Enhancing the 2G, 3G and 4G coverage and capacity in this area and providing new 5G services will fully meet this national policy objective. Continuing to transform the digital connectivity of the city-region to drive economic growth and innovation, working to meet national targets of full roll-out of 5G technology for most people by 2027 will comply with the ambitions of the Greater Manchester Local Industrial Strategy.

Mobile connectivity is essential to the future success of the economy. The combined value of 4G and 5G mobile connectivity is estimated to add £18.5bn to the economy by 2026 (Councils and Connectivity Sept 2018). Mobile connectivity is essential to creating a better society. Digital inclusion can help people gain employment, become more financially secure and improve health and well-being. Mobile connectivity is essential to fulfilling the potential of new technologies. Innovations such as artificial intelligence and connected cars will change how we work, spend our leisure time and run our public services. This is in full accordance with Policy SP1 of the Manchester Core Strategy which supports development which makes a positive contribution to the health, safety and well-being of residents, and which considers the needs of all members of the community, as well as improving access to jobs, services, and education, whilst being able to reduce the need to travel.

The proposals fully comply with Policy EC1 of the Manchester Core strategy which supports continued economic growth. Providing the latest digital infrastructure to enable improvements in digital technology empowers and enables residents to have the highest quality of life, supports the creation of high quality jobs and achieves the maximum productivity levels. It will help Greater Manchester achieve its ambition of being a world-leading digital city and one which its businesses, public service providers and citizens are using digital technology by default and to the fullest to grow their businesses and improve productivity to access skills, training and employment opportunities to address global challenges that have a local impact such as ill health, social isolation, homelessness and pollution; to improve living standards and well-being; and to improve the quality and value for money of public services.

There is a demand for mobile connectivity in areas where geography, logistics or economics – or a combination of all 3, make it difficult. Mobile network capacity needs to grow to meet the demand of mobile users, who are consuming ever increasing amounts of data.

Paragraph 38 of the revised NPPF states that:

> *'Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including…*permission in principle*, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible'*.

Providing improved 3G and 4G coverage and capacity and new 5G service provision in this area will fully meet paragraph 38 of the NPPF, Manchester Core Strategy Policy SP1 and the

Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy which aspires Greater Manchester to be a world-leading digital city-region, and Manchester to be the Smartest City. These strategies and the Framework also support strengthening digital and data infrastructure (including 5G), and using data to help address challenges.

The social and economic benefits are a significant material consideration which should be weighed against the visual impact associated with a radio base station in this location. HM Treasury outlined such benefits in its report '*Fixing the Foundations: Creating a More Prosperous Nation*' – July 2015. Paragraph 7.1 of the plan stated that reliable and high quality fixed and mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. They enable new and more efficient business processes, access to new markets and support flexible working and working from home.

Paragraph 7.2 goes on to highlight strong support for high quality communications infrastructure. It states

> '*by reducing red tape and barriers to investment, the Government will support the market to deliver the internationally competitive fixed and mobile digital communications infrastructure the UK's businesses need to thrive and grow, and which will enable the UK to remain at the forefront of the digital economy. The Government is working with business so that the market can play the lead role in delivering against the ambitions set out in the Digital Communications Infrastructure Strategy, published March, of near universal 4G and ultrafast broadband coverage.'*

Indeed, MPs have noted in parliament that the UKs Superfast Broadband connectivity was 'relatively poor' and businesses were losing out from patchy coverage.

The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. People expect to be connected where they live, work, visit and travel. That is why the Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G.

This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage. As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies which is also acknowledged in the published Greater Manchester Local Industrial Strategy. Enabling and planning for 5G implementation is central to achieving the Government's objective to deliver property at the local level and enable all places to share in the proceeds of growth.

The Government is determined to ensure the UK receives the coverage and connectivity it needs. To this end, the Government wants to be a world leader in 5G, the next generation of wireless connectivity, and for communities to benefit from the investments in the new technology. The GM aspirations align with the Government objectives of being a world leader in 5G. The proposed installation will fully support these national and local aspirations.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before. More than any previous generation of mobile networks, 5G has the potential to improve the way people live, work and travel, and to deliver significant benefits to the economy and industry through the ability to connect more devices to the Internet at the same time, creating the so-called "Internet of Things". This will enable communities to manage

traffic flow and control energy usage, monitor patient health remotely, and increase productivity for business and farmers, all through the real-time management of data.

The Local Government Association (LGA) has produced a Councillor's Guide to Digital Connectivity and sets out some of the benefits of 5G technology:

- Faster mobile broadband and a more consistent experience in congested areas with a very high number of devices.
- Industrial applications, enabling businesses to improve their productivity, for example through predictive maintenance and real-time analytics.
- Internet of Things (IoT) services, many of which will help council's and businesses deliver services more efficiently including:
    - Transport and logistics: connected parcels and fleet tracking.
    - Health and social care.
    - Environmental monitoring: sensors monitoring air quality and water pollution in real-time.
    - Smart agriculture and smart animal farming, smart retailing.
    - Connected and autonomous cars: allowing cars to communicate with each other, other road users and even the road infrastructure.

Further to the Government's commitment to improve connectivity, on 24th November 2016 the new permitted development rights for telecommunication operators came in to force, designed to lift the restrictions on mobile operators such is the significance and weight the Government place upon the benefits attached to modern connectivity.

A National Needs Assessment – A Vision for UK Infrastructure was also published in October 2016 (https://www.ice.org.uk/getattachment/media-and-policy/policy/national-needs-assessment-a-vision-for-uk-infrastr/National-Needs-Assessment-PDF-(1).pdf.aspx). It sets out the infrastructure needs for the UK which includes the importance of digital technology. An extract of this assessment can be found below:

> *'A lack of digital connectivity has a detrimental effect on business operations, productivity and output and hence competitiveness in the global market place. Securing digital connectivity is thus critical to the UK's long term prosperity. A key challenge for the digital sector is a persistent digital divide between those who have access to the latest technologies and those who do not, with resulting social and economic exclusion, particularly as dependence on e-services and digital communications increases'*

The Assessment goes on to note that '*Universal digital connectivity would serve as an equaliser of economic opportunity in that it enables participation in a modern digital economy*'. Therefore this Needs Assessment further explains the consequences of a lack of coverage and the effects this has on social and economic prosperity. This clearly highlights the importance of maintaining and enhancing high quality 2G, 3G and 4G coverage and capacity in Crumpsall as well as providing new 5G in this area, where the social and economic benefits will outweigh the environmental considerations.

The Government's continued strong support for connectivity is further evidenced by the DCMS who launched their UK wide Digital Connectivity Portal on 20 December 2018. The Digital connectivity portal provides guidance for local authorities and network providers on improving connectivity in local areas. The Government wants everyone in the UK to benefit from world-

class connectivity no matter where they live, work or travel. The Future Telecommunications Infrastructure Review outlines a package of measures to create the right market and policy conditions to deliver world-class connectivity for citizens and businesses. As a result, the pressure to provide an upgrade to the existing radio base station in Crumpsall to provide enhanced 2G, 3G, 4G and new 5G is significant.

On the 23 September 2020, the Digital Infrastructure Minister Matt Warman MP spoke about the ongoing work by the Government and telecoms industry to boost the UK's world class digital connectivity in his keynote speech at Connected Britain 2020[2]

> *…'I'd like to take this opportunity to thank everyone in the industry for their tireless efforts at keeping us all connected through an unprecedented period of disruption.*
>
> *…COVID has altered the way we live, work and most importantly, stay connected with our family and friends. The digital infrastructure that keeps us all connected was essential to our daily way of life under lockdown – and is now more important than ever as we head into recovery. Many of these changes – such as increased working from home – will stay with us for the foreseeable future.*
>
> *People have referred to the internet as "the fourth utility" – and it's true. For countless people across the country, having fast and reliable broadband and a good mobile connection is as essential and vital to our daily lives as gas, water and electricity.*
>
> *That's why I'm committed to working with you to ensure the entire nation has access to world-class, next generation gigabit connectivity that is secure and resilient enough to deal with all sorts of future challenges.*
>
> *This Government is ambitious for the UK's digital infrastructure.*
>
> *And because we know that more citizens are increasingly living their lives online, we will be one of the earliest adopters of 5G coverage, with the majority of the population able to access 5G by 2027.*
>
> *...We know how important local authorities are to the delivery of digital infrastructure, which is why I have written to them, together with the Local Government Minister, to outline how they can work more effectively with the industry…*
>
> *….Turning to 5G, while the commercial rollout of 5G continues at pace, we're pushing ahead with plans to make sure all sorts of industries benefit from this game-changing technology.*
>
> *….since the start of the 5G Testbeds and trials programme, we've now funded 24 5G testbeds across the UK. Between them, those testbeds have trialled almost 70 different 5G technologies, products and applications. And more importantly than ever, we are investing in a range of sectors to foster, build and grow 5G cross wider industry...*
>
> *…The world is in the middle of a digital revolution. COVID has accelerated this process, digitising almost every part of our everyday lives and making the infrastructure*

[2] https://www.gov.uk/government/speeches/matt-warmans-keynote-speech-at-connected-britain-2020?utm_source=01ad07cc-6884-4d9b-a0ca-8c212f0a4289&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate

that connects us more important than ever. That's why it is at the top of the government's agenda…

This Keynote Speech my Mat Warman MP highlights the importance that Government places on 5G and advanced, reliable, high quality 5G technology. To prevent this technology from being brought into the area would be contrary to the Government's key aims.

On the 1 October 2020, as part of the Speed up Britain Campaign, The Centre of Policy Studies Report published '*Upwardly Mobile: How the UK can gain the full benefits of the 5G revolution*'[3]. The report identifies what the 5G opportunities are and what the Government needs to do so we can all benefit from this vital new technology. It states that delays to the rollout of 5G could cost the country tens of billions of pounds in lost economic output. The former Government advisers Alex Jackman and Nick King argue that Government's 'levelling up' agenda and the UK's recovery from the COVID-19 pandemic is at risk without a faster 5G rollout – to the tune of £41 billion.

The report highlights that if delays continue at their current rate, by 2027, over 11 million households and businesses could be missing out on vital digital connectivity. Improving digital infrastructure supports the Government's 'levelling up' agenda, by helping local areas to retain and attract businesses and talent as well as by reducing regional inequalities.

The report states that '*the UK must have a functioning network to now support the recovery from the pandemic, empowering businesses and communities with wider coverage, and preparing the ground for the services that 5G can provide'*.

Using analysis by the independent consultancy Policy Points, the report estimates that if 5G coverage reaches a quarter more of the population than the Government's current target of 51%, it will produce GDP gains of £41.7 billion by 2027. It highlights that the difference between the UK being a leader and a laggard in 5G adoption could be as much as £173 billion in incremental GDP over the coming decade, as estimated by the Future Communications Challenge Group.

The manufacturing, construction and agricultural sectors have been hit particularly hard by the pandemic, and these would benefit significantly from improved connectivity. However, onerous planning rules and loopholes in existing legislation are slowing down the infrastructure upgrades needed to make the most of this mobile revolution in these much-needed industries.

Digital networks and services have underpinned our resilience to the COVID-19 pandemic and they will drive our recovery. By expanding them, we deliver not only immediate benefits but also the essential foundation stone for future prosperity.

The report highlights that while 5G promises to create economic benefits through increased capacity, reliability and speed – vastly improving business productivity and removing barriers imposed by poor digital connectivity – the system is plagued by red tape.

The report acknowledges that the gains are not just at national level. A more extensive digital infrastructure helps local areas to attract and retain businesses and talent, thereby playing a vital role in reducing regional inequalities. Providing a supportive environment for digital infrastructure is one of the few things the Government can do that costs little, boosts growth

[3] https://www.cps.org.uk/research/upwardly-mobile

and helps level up the UK….the key is speed. **The faster a network is built, the bigger the regional gains** (emphasis added). The telecommunications industry faces challenges on this front. The COVID-19 pandemic has increased demand on networks but delayed the availability of new spectrum to provide additional capacity.

The report notes that the reliability and reach of 4G is more important than ever. It is needed both to quench immediate demand, and also to facilitate future 5G rollout, as the underlying passive infrastructure will initially support both technologies. Every failure to provide better coverage not only presents an immediate opportunity loss for local business and consumers but also has a bigger downstream economic impact. It acknowledges that productivity gains to business, equality gains for regions and economic gains for the country are only as achievable as the networks they can access.

The report recommended that the Government should reform the strategic planning framework to compel local authorities to ensure that the needs of future mobile connectivity are adequately addressed in Local Plans and that new developments are assessed on how they might impact, or could support, local connectivity.

The proposed installation in this location will allow the operator to provide new and improved high quality 2G, 3G and 4G coverage and capacity and new 5G service provision supporting the Government's aim of '*focusing on ensuring that everyone is connected to the information superhighway*'. This fully meets the aspirations of the NPPF, and the Greater Manchester Digital Strategy, Industrial Strategy and Infrastructure Framework.

An upgraded installation in this location providing 5G will ensure that the expansion of the electronic communications network is facilitated and that high quality communications infrastructure is provided to the immediate area. This is in full accordance with the operator's 4G license obligations and the Greater Manchester aims and aspirations to be a smart city region and have high quality 5G infrastructure, promoting and growing the digital sector and increasing digital inclusion.

Practical Applications of 5G Connectivity as Example of Material Socio-Economic Benefit:-

Education

The relationship between 5G and education is evolving at a massive rate with educators exploring the relevance of Virtual Reality (VR) technologies for education and training. Crucially, VR can support remote learning, allowing students a presence in the classroom even when working elsewhere.

5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high definition images and video), increased capacity and heightened security will also allow learning on the job, thanks to technologies such as Augmented Reality (AR) goggles, which can give engineers real-time instructions on how to fix a machine on a production line, for example.

Health

Patients across the country are now becoming accustomed to relying on remote healthcare services such as NHS 111, virtual GP appointments, and ordering online deliveries of essential medical supplies.

5G will prove critical in providing the infrastructure required to deliver remote health services over the next decade. By design, 5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high definition images and video), increased capacity and heightened security are going to be fundamental in scaling the patient benefits of remote healthcare and keeping medical records secure and private. For instance, trials have shown that connecting ambulance crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.

The proposed upgrade to the existing installation in this location will allow the operator to provide improved high quality 2G, 3G and 4G coverage and capacity and new 5G service provision supporting the Government's aim of '*focusing on ensuring that everyone is connected to the information superhighway*'. This fully meets the aspirations of the NPPF, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy.

An upgrade to the existing installation in this location will ensure that the expansion of the electronic communications network is facilitated and that high quality communications infrastructure is provided to the immediate area. This is in full accordance with the operator's 4G license obligations and the Council's aims and aspirations to be a smart city and have high quality 5G infrastructure, promoting and growing the digital sector and increasing digital inclusion.

Summary

The principle of this ground based monopole with open antenna head frame has already been considered acceptable by the Council. The proposed amendments to the existing scheme are essential and will enhance the customer experience for Vodafone and Telefonica to ensure that both operators' customers are able to continue to utilise their handheld devices for the purposes in which they were purchased, whilst also enabling new 5G service provision to be provided.

On balance, the amendments to the radio base station will not have a detrimental impact on the visual amenity of the surrounding streetscene as the changes to the existing installation are not significant. However, these amendments will provide enhanced 2G, 3G and 4G coverage and capacity to the surrounding area and new 5G coverage. Thus providing a high quality service to its customers and access to the latest technologies whenever and wherever they are. Any limited harm will be outweighed by the benefits associated with providing and maintaining the latest high quality communications in line with NPPF and the Government's strong commitment to a world leader in 5G. If the challenge is to be met to provide pervasive, affordable, resilient digital connectivity, the challenge is early roll out of 5G especially in areas where mobile data use is congested such as here in the regional centre.

Site selection was progressed in accordance with the applicants licence obligations, advice in NNPF and the Code of Best Practice and represents the least environmentally intrusive, technically suitable, available option.

The social and economic benefits of providing reliable and high quality mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. This is fully supported by the NPPF, the Government and the Council's UDP and Core Strategy. These benefits are strong material considerations which outweigh any minor loss of visual amenity to the surrounding area.

We confirm that the submitted drawings have been checked for accuracy.

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