

Your response

Question	Your response
General Notes about Response Organisation's Role	Confidential? – N The Advisory Committee for Scotland (ACS) advises Ofcom about the interests and opinions, in relation to communications matters, of persons living in Scotland. The response from the ACS to this consultation draws on the knowledge and expertise of ACS members and is informed by our individual experience and through discussion at our meetings. It does not represent the views of Ofcom or its staff. In our response to this consultation, we would like to reiterate our advisory remit, as it extends to Scotland, and we will therefore concentrate on those areas that we believe are of particular interest and importance to Scottish consumers, citizens, and businesses. We have set out our rationale and suggested additions/amendments below. It should be noted that where we have chosen not to supply a response to a particular question it is because we deem that there is no uniquely Scottish dimension to our response and / or that the question relates to topics that are outside of the capacity of the ACS to respond.
Section 2: The quality of mobile connectivity we want to see - What are your views on the use of the Map Your Mobile good performance metric and how should the measure evolve over time? What are your views on the usefulness of: - the 90% figure as a benchmark applicable across geographies and based on crowdsourced data?, and Whether the 90% benchmark is realistic and sufficiently ambitious?	Confidential? – N It is the opinion of the ACS that the Ofcom Map Your Mobile is a helpful tool for consumers and businesses to better understand how likely it is to achieve a mobile connection at a specific geolocation (such as a home or premises) via a particular MNO provider. However, the scope of this work programme (discussion document) specifically focuses on “mobile devices used by people on the move” and not on (mobile) connectivity in homes and offices. As such, the use of Map Your Mobile arguably has less applicability as a coverage checking tool for the general consumer “on the move” as it is hard to imagine users on the road network, for example, checking coverage expectations for their route. The ACS welcomes the “newly applied” metric of what constitutes “good performance” as more representative of users’ current day-to-day needs. Over time, these upload and download metrics will need to increase in line with typically increasing data demands arising from HD

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	and 4K video streaming and uploading. The ACS wonders how capacity is represented in the tool and how capacity can be maintained when variable numbers of users enter and are serviced by a single cell location. This point is particularly relevant for many rural areas in Scotland where cell density (and hence handover for capacity management) is limited. The ACS welcomes increasing the performance benchmark to 90% and recognises that perfect performance (100%) across all geographical regions is not practicable for technological and/or reasons of cost. Notwithstanding, we request that Ofcom, in setting performance standards for the MNOs, ensure that the 10% of areas that don't reach the performance benchmark have access to other modes of digital connectivity at a cost comparable to a mobile equivalent. The ACS is concerned that these (potential) consumers / geolocations do not get left behind from a digital connectivity perspective: this includes understanding alternative approaches (such as LEO).
Section 3: Market-led improvements in mobile network quality • What information do customers need about network quality to choose the best network for their needs, and where are the main gaps in current provision of that information? • How well does Map Your Mobile currently meet customer and stakeholder needs, and what specific improvements would make it more useful?	Confidential? – N As a general observation, the ACS encourages Ofcom to think about digital connectivity HOLISTICALLY across fixed, mobile and satellite, and the cumulative impact on consumers' day-to-day experiences of not having access to at least one form of resilient comms technology. In terms of choosing the "optimal" network for their needs, it firstly comes down to how well customers' understanding their use case in order to make informed choices. Customers' want to know that the apps they use most often will work for them ubiquitously: rather than how this translates to bandwidth and / or network speeds. Capacity, and its impact on fluctuating performance, is also important to consumers: albeit it is often confused with signal strength. Therefore, a transparent, independent and reliable tool like Map Your Mobile is a positive resource. Value for money (VfM) is another important metric for consumers. Customer and stakeholder needs for Map You Mobile may be quite different between user groups. From a

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	public consumer viewpoint, it offers a useful comparison of the potential coverage and performance between the major MNO and VMNOs. Improvement to the tool could include: • Showing cell site locations serving specific districts (as an overlay); • Predicted (modelled) signal strength to complement the new Ofcom metrics. Why might these be an improvement? Take for example a rural location: • Users might use the tool (as is) to determine which operator serves a chosen location and provides “good” performance (a measure above a certain threshold). • Assuming more than one operator meets the performance requirement, a user may wish to choose the operator that predicts the highest signal strength (and capacity). • Knowledge also of cell site locations may enable users to finely tune their decision on which operator based on their own knowledge of local topography.
Section 4: Connectivity in busy areas • What do you think are the biggest barriers to achieving better mobile performance in town and city centres and why? • What do you think should be Ofcom’s main priorities for our future work in this area? • What information would stakeholders, especially local authorities / planning authorities find useful for Ofcom to provide further insights on and why?	Confidential? – N Barriers include: • Challenges around planning and implementing cell site densification. • Commercial challenges associated with agreeing to utilise MOCN or more likely MORAN front-end sharing technologies in order to mitigate RAN infrastructure duplication. Ofcom priorities should be to: • Provide independent and impartial advice and education on mobile technology deployment solutions to estate and asset owners: e.g. local authorities. • Promote, amongst MNOs, the cost benefits of adopting MOCN or MORAN architectures.

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Section 5: Connectivity in indoor, shared public places • What do you think are the biggest barriers to achieving better mobile performance indoors and why? • What do you think should be Ofcom's main priorities for our future work in this area? • What information would you find useful for Ofcom to provide further insights on in relation to connectivity indoors and why?	Confidential? – N The biggest barriers are as stated in the paper: local planning hurdles, inconsistencies, and identifying additional suitable sites for increased densification. Ofcom might consider persuading MNOs to seek opportunities to exploit MOCN or MORAN infrastructure sharing architectures to circumvent new planning applications. The use of temporary pop-up style mobile networks should be considered to cater for large events that demand connectivity for a high volume of concurrent users. Ofcom should work with industry to ensure that the SAL licencing mechanism is fit-for-purpose to facilitate temporary mobile-like deployments to ease congestion on the public network.
Section 6: Connectivity on trains • What do you think are the biggest barriers, technical and commercial, to achieving better mobile performance on trains? Which are most significant and why? • Do you agree with our proposal to work with government to support improvements in train connectivity? • What information would you find useful for Ofcom to provide further insights on in relation to connectivity on trains and why?	Confidential? – N Potentially, the major barrier is that a standardised technology solution cannot be economically deployed ubiquitously across the entire rail network. Therefore, Ofcom, UK Government, and TOCs need to devise an holistic strategy that matches the most appropriate technical solution with the data demands across the network, the commercial realities for the TOC's and connectivity providers, and the topography along the rail lines. For example, employing LEO in rural and lower demand scenarios, and mobile and /or track-to-train solutions in high demand data regions. The ACS agrees with Ofcom's proposal to work with government to support improvements to train connectivity.
Section 7: Connectivity in rural areas • What do you think are the biggest barriers to achieving better mobile performance in rural locations and why?	The principal barrier is commercial. Current mobile phone technologies are already capable (if deployed) of meeting user performance needs across most rural locations and topologies. However, there is limited financial incentive for MNOs to provide the services required. The return on investment (the business case) is simply not fi-

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• What do you think should be Ofcom's main priorities for our future work in rural locations and what outcomes should we aim to achieve? • What solutions (technical, commercial, policy or delivery) could improve rural mobile performance? • What information would you find useful for Ofcom to provide further insights on in relation to rural connectivity and why?	nancially viable based on customer (user) derived income. This suggests government intervention / subsidisation to make the business case viable for the MNOs. A second barrier relates to securing transmitter sites that provide optimum coverage with the minimum number of cells. This may be a two-fold challenge of (i) negotiating suitable sites with landowners and (ii) securing the necessary planning consent. Ofcom's priority should focus on supporting initiatives to ensure stakeholders better understand the HOLISTIC impact on rural communities of having poor mobile coverage, poor access to high-capacity fixed networks, and the costs to consumers of alternative approaches such as LEO. Potential solutions might include: • Technical – Neutral hosting, MOCN or MOCAN. • Commercial – Incentivise MNOs to work collaboratively to share infrastructure to limit costs. • Policy – Work with government to explore standardising subsidies to consumers to ensure consumers have parity in pricing with typical mobile plans when opting to use alternate technologies (such as LEO). • Delivery – Develop, deliver, and support education initiatives aimed at consumers on how and when to access alternative technologies. From a Scottish rural perspective, the ACS considers it would be helpful for Ofcom to provide data that quantitatively highlights the cumulative impacts of sub-optimal digital communications on rural communities. For example, the compounding impact on not being able to access high-capacity gigabit fixed infrastructure AND only receiving poor mobile coverage reception.

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