**A submission by the Ofcom Advisory Committee for Scotland in response to Ofcom's Measuring Mobile Voice and Data Quality of Experience Consultation.**

The Ofcom Advisory Committee for Scotland (ACS) welcomes the opportunity to respond to this consultation. This paper is intended mainly to highlight issues of particular importance in Scotland, essentially around our relatively unique economic geography.

A key concern is the way the data analysis has been done for this consultation, which we consider does not represent the situation in Scotland accurately. As discussed in Ofcom's Economic Geography Report, Markets and Intervention, Scotland has the majority (90%) of its population living at a population density as high as that in for example England. The final 10%, however, live at a hugely lower population density than the final 10% of the population in any other country in the UK.

ACS considers that the main issue is that statistical data which only offers the option to consider Scotland, as a whole, or compares UK rural with UK urban, cannot demonstrate the problems faced by Scotland's rural 10%. In Scotland's densely populated urban areas, there is generally excellent mobile coverage, and a good choice of mobile providers, albeit increased network usage and mobile data demand is putting pressure on networks in the same way as it is affecting QofE in other urban centres in the UK. In Scotland's vast rural areas, there is usually a minimal choice of provider, often none, and with very variable coverage and a high call drop. The situation in Scotland's rural areas is generally far worse than in rural areas of other nations. Figures such as Figure 2 and Figure 4 in the CFI do nothing to make this clear.

In summary, ACS does not consider it is helpful to make comparisons using a breakdown of figures by nation, unless Scotland urban is distinguished from Scotland rural in the breakdown. To say, for example, in 2.19 that 'There are no statistically significant differences between users living in rural and urban locations' is frankly unbelievable in the Scottish context and indicates a

problem with the statistics being used in the analysis. Perhaps there is a need to revisit how we define rural in the context of mobile communications. It cannot just be distance from a town or city, it would need to be something like population density calculated on a sufficiently small scale, for example by postcode or the number of other dwellings within a 500 m radius.

There is also the issue that in rural areas users tend to have a lower expectation of mobile performance than those in urban areas, and are often just glad to have some kind of signal. QofE data is not the whole story, and we would urge better-planned collation and presentation of QofS data based on actual statistics or validated MNO statistics based on predicted performance, rather than relying wholly on subjective surveys to avoid such bias.

It might be helpful for Ofcom to examine progress on MIP in Scotland and which MNOs are making a material contribution to coverage improvements.

1. **What information would be valuable to consumers when purchasing mobile services?**

    a) Coverage on A roads and motorways, as a minimum by county, but ideally at a granularity of 1 km of road, from each provider. This would make it clear who was providing a service in rural areas. It would also be useful to measure the spectrum band being used, the degree of cell overlap and signal strength. This is particularly important in Scotland, which has small, dense population centres often separated by large areas with a very low population density and therefore often poor mobile coverage over long stretches of road.
    b) As above, but for railway lines, calculated as a percentage of railway line covered in each county, or shown on a map at a granularity of 1 km of line.
    c) Ofcom might usefully liaise with independent business service providers in Scotland in order to ascertain the QofE issues faced by their business customers. Issues such as which MNOs offer the best

coverage, service and price profiles in Scotland and which rural areas are particularly affected by poor coverage relative to business requirements are of key importance to these customers. There is relevant information gathered as part of the Communications Market Survey and other research, but the Scottish Chambers of Commerce and the Federation of Small Businesses might also be consulted annually on members' views of service provider performance. This data would also need to be collated on an urban and rural basis.

d) For users in Scotland's densely populated urban areas, information on in-building penetration, actual broadband performance and dropped calls are all important in making an informed decision. These would probably need to be on a postcode basis to be of benefit to users, or ideally the 100m square grid used by mobile operators in online coverage checkers, provided the data is actually calculated on such a granular basis, and not calculated over say a square km and then presented on a 100m square basis.

   For this data, the information would need to be split to cover the 'normal' working day and other periods, for example perhaps 9am -1 pm, 1pm-5 pm, 5pm – 11pm and 11pm – 9am.

e) Specific urban and rural information on Complaints in Scotland on coverage and other variables might usefully be required of MNOs by Ofcom.

**2. What data would be required to produce this consumer information? How we could best collect that data?**

**Basic coverage data**

Data on basic coverage on A roads, motorways and railway lines could be collected relatively easily through drive testing. All it requires is the signal strength on a phone from each of the MNOs to be recorded as a vehicle is

driven along the A road network, or on a train as it travels along each line. This could be done annually and published.

We consider this would be the best way to do this in Scotland, though appreciate the large number and density of A roads in for example England may make this too expensive there. It may also be less relevant in England due to the fact that many more areas are close to population centres. For example the Primary Route network (indicated by green road signs) would not be sufficient in Scotland, as it only covers a relatively small proportion of our A roads, though it might be suitable in England where it covers a much bigger proportion of the geographical area. Perhaps a definition such as only A roads passing through areas with a population density below a certain amount should be considered.

**Detailed granular service metrics**

For detailed data on QofS, the MNOs are the obvious source, and should be expected to provide real rather than predicted data. We would encourage Ofcom to work as closely as possible with the MNOs to find a dataset that is compatible with all of their systems, as well as resolve any concerns around commercial confidentiality etc.

It would be clearly be best if this was an industry initiative, but it would appear some incentives or coordinating inputs are required to encourage this. Is it too late to include a requirement to provide such data as part of the 4G license conditions? If MNOs have to work together to find a way to provide such data for 4G, it would probably be relatively simple for them to add in the 2G and 3G data to that.

If none of this is possible, and there appears to be a lack of will among MNOs to provide this data, presumably there would need to be a change in legislation or in Ofcom’s remit and funding to ensure that such data can be obtained and presented to the public.

**Summary**

Yet again, ACS sees the need to draw attention to Scotland's geography. It is vital that Scotland urban is considered separately from Scotland rural in any analysis if useful results are to be obtained. While 90% of Scotland's population lives in densely populated urban areas (with a population density similar to that of 90% of those in, for example, England), 500,000 people in Scotland live at an average population density of around 6 people per $km^2$, far lower than anywhere else in the UK. (Scotland covers one third of the land area of the UK, but contains only a twelfth of the population of the UK. By comparison, in England that final 10% of the population lives at an average population density of over 40 people per $km^2$.)

Scotland urban has much the same needs and requirements as the rest of the UK, and QoE metrics are important here. For the 500,000 people in Scotland's rural areas, information on basic mobile coverage is what is required, and this is not just coverage immediately outside dwellings, it is coverage on their daily journeys. QoE is not relevant if only one operator offers you any service at all. Scotland rural needs far better information on basic coverage by operators before QoE can become a relevant metric, and detailed information on coverage on the main road and rail (particularly road) network is key here.

**Ofcom Advisory Committee for Scotland**
**26 February 2013**