

For my use of the mobile phone networks my need for comparison of 2G voice coverage is adequately met by the operator coverage maps. For MVNOs I've not found any meaningful difference between the performance of the operator of the base network and the MVNO for calls.

The situation is very different for data.

The T-Mobile/Orange network merger seems to have left an unusable mess where network cell to cell handovers seem poor and likely to generate data connection drops. Some measure of continuity of "ping" while traveling between cells would be useful to assess this and shame EE into making their combined infrastructure usable.

That and the assumed similar challenges for an o2/Vodafone merged network suggest that a program of data network survey by suitably equipped vehicles would be needed to generate more than anecdotal evidence.

Similarly congestion in the network should be surveyed. This requires all networks (including MVNOs) to be tested and crowd sourced data is unlikely to be usable for this as the same tests need to be repeated (ping, achievable data throughput, lost packets) over time on many different networks. As the results depend on the whole chain including those elements which are operator specific (internet peering and back hall contention and structure) they would have to be measured for, say the top 20 operators.