
Digital Switchover (DSO) Programme

Radio DSO Block 10D Humberside

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1 Humberside DSO narrative

The current Humberside local licence transmits on Block 11B and consists of three transmission sites. It is proposed in the new Ofcom block allocation plan to re-channel to 10D.

The current block 11B allocations are shown below figure 1.1 and the proposed 10D allocations in figure 1.2 below.

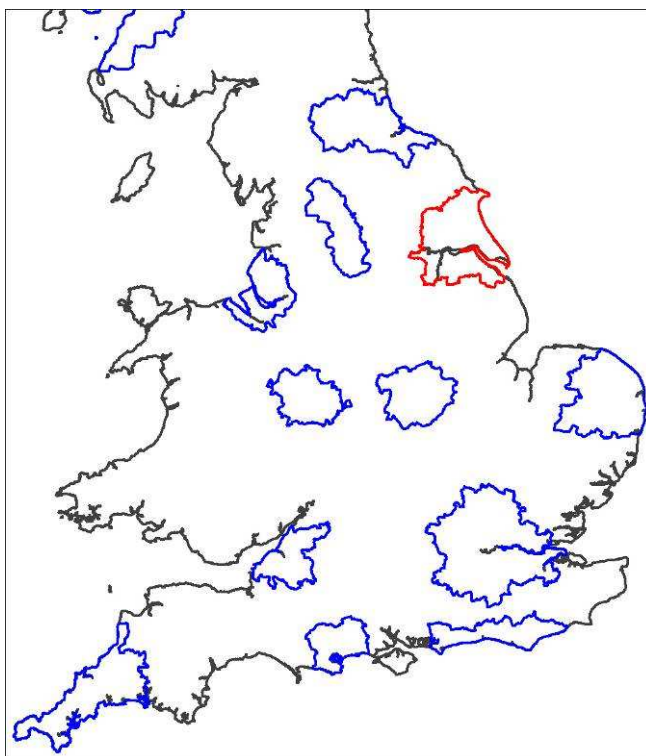


Figure 1.1: Existing Block 11B allocations

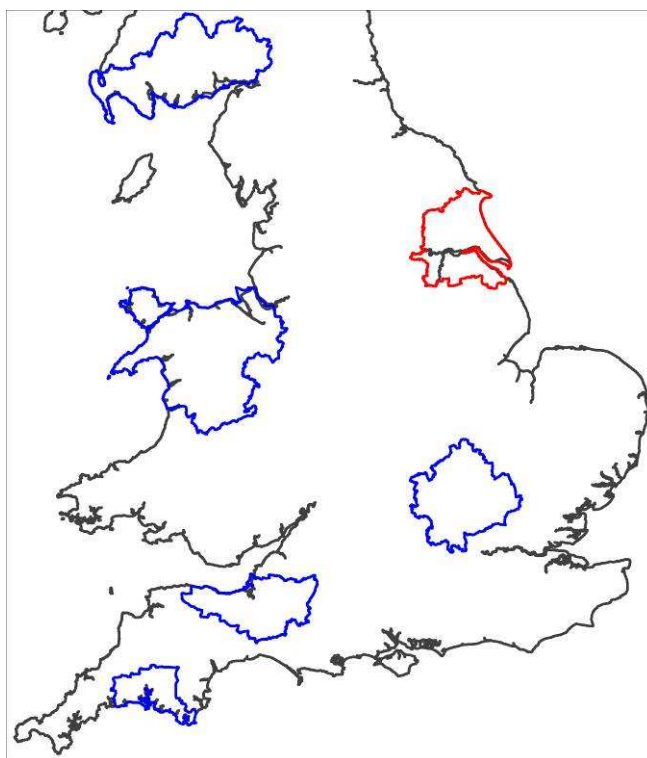


Figure 1.2: Proposed Block 10D allocations

In planning for each multiplex Ofcom have required coverage assessments:

- For each area four maps should be produced as follows:
 1. **Current Situation** - Map showing current actual coverage (or launch plans where a multiplex has not yet launched), including any transmitters which are required as part of the current licence, but which are not yet operational.
 2. **Modified Network 1** - Map showing the above, plus any improvements to existing infrastructure.
 3. **Modified Network 2** - Map of the above, plus additional smaller infill transmitters focused on areas where FM coverage is robust.
 4. **Modified Network 3** - Map of the above, plus additional transmitters to provide near universal coverage.

For case 1: Current situation

The current allocated transmission characteristics are:

Site name	ERP	Site height m a.o.d.	Antenna height a.g.l	Antenna type
Cave Wold	2.5kW	163	62	Dipoles
Grimsby	0.2kW	4	55	Dipoles
Bridlington	1kW	105	19.5	Yagis

The coverage for the existing situation is shown in figure 2.1 (Block 11B) Coverage of these three transmitters on Block 10D is shown in figure 2.3.

For case 2: Modified Network 1

Small power increases are possible at Grimsby and Bridlington but this has little effect on coverage.

For case 3: Modified Network 2

In this it was required to cover those areas currently served robustly by local FM services (BBC Local and Independent Viking FM). To achieve this six additional sites are required. The coverage of the Modified Network 2 is shown in figure 2.6.

For case 4: Modified Network 3

For this case it was required to 'fill' the multiplex to achieve near universal coverage (within practical planning limits). Modified network 2 fulfils this requirement

1.1 Outgoing interference and sensitivity to other co-block multiplexes

There is some impact on the Dumfries, Wrexham & North Wales and Herts Beds & Bucks multiplex from the DSO proposal contained within this document. Plymouth and Somerset multiplexes are unaffected.

Humberside is affected by co-block interference from Wrexham & North Wales and Herts Beds & Bucks. The Dumfries multiplex also has a small effect.

The existing service on block 11B is affected by interference to a similar extent. Both indoor and outdoor coverage is very slightly better on Block 10D

The general 'Benchmark' for indoor and outdoor co-block interference protection is for 99% time; however, as mentioned above outdoor coverage is affected more than is desirable from 1% time interference. Hence, coverage has also been assessed at 95% time for outdoor coverage only, gaining 8% in terms of road km

Coverage of the Multiplex

1.2 Coverage Maps

Coverage maps for the DAB are presented with three colours:

Blue = Mobile coverage (99% locations at 99% time)

Dark Green = Indoor coverage (80-95% locations at 99% time)

Light Green = Robust indoor coverage (>95% locations at 99% time)

Figure 2.1 Current Situation (Block 11B)

Figure 2.2 Current Situation mobile 99% time (block 11B)

Figure 2.3 Current Situation (Block 10D)

Figure 2.4 Current Situation mobile 99% time

Figure 2.5 Current Situation mobile 95% time

Figure 2.6 Modified Network 2

Figure 2.7 Modified Network 2 mobile 99% time

Figure 2.8 Modified Network 2 mobile 95% time

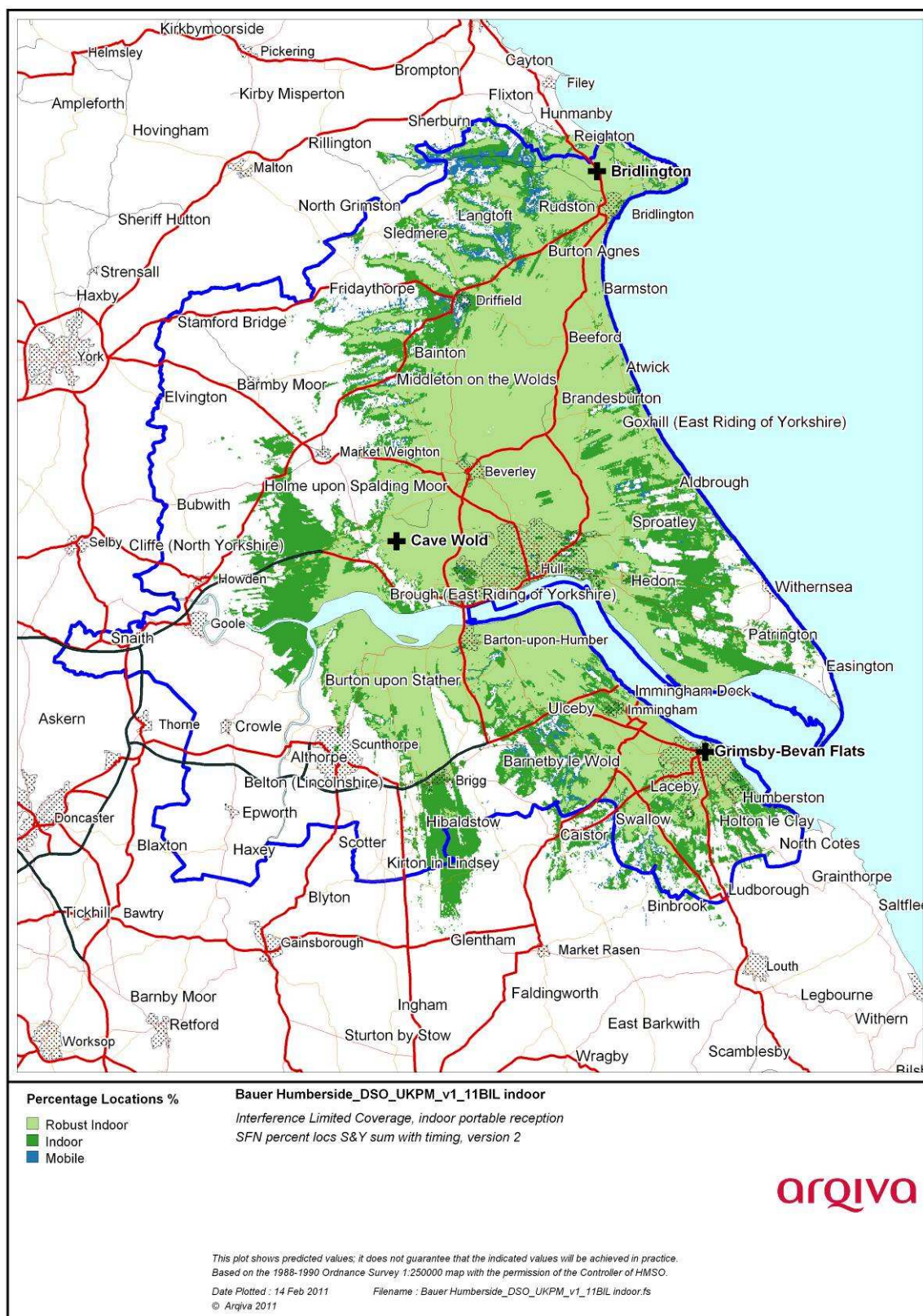


Figure 2.1 Current Situation - Block 11B

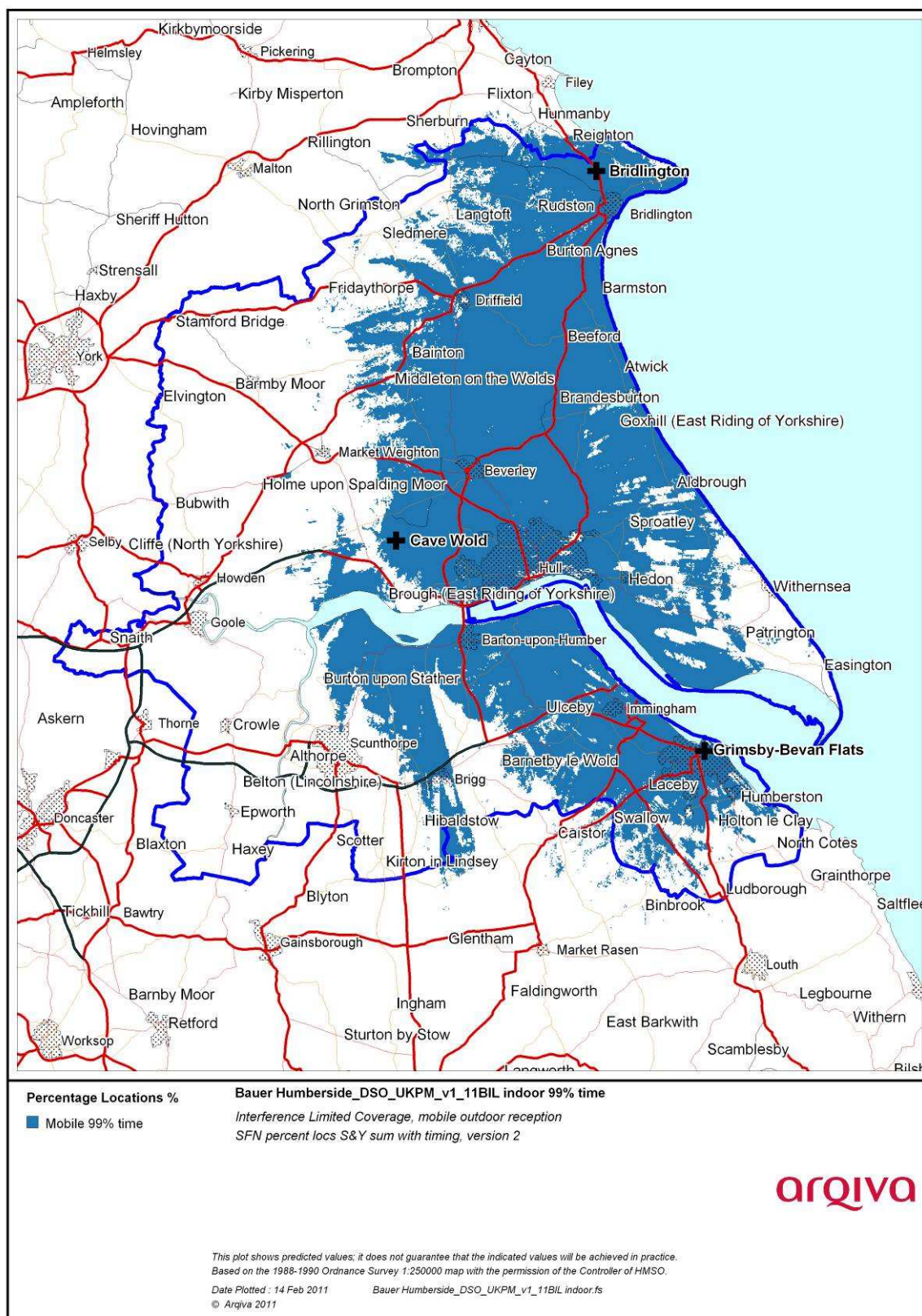


Figure 2.2 Current Situation mobile 99% time - Block 11B

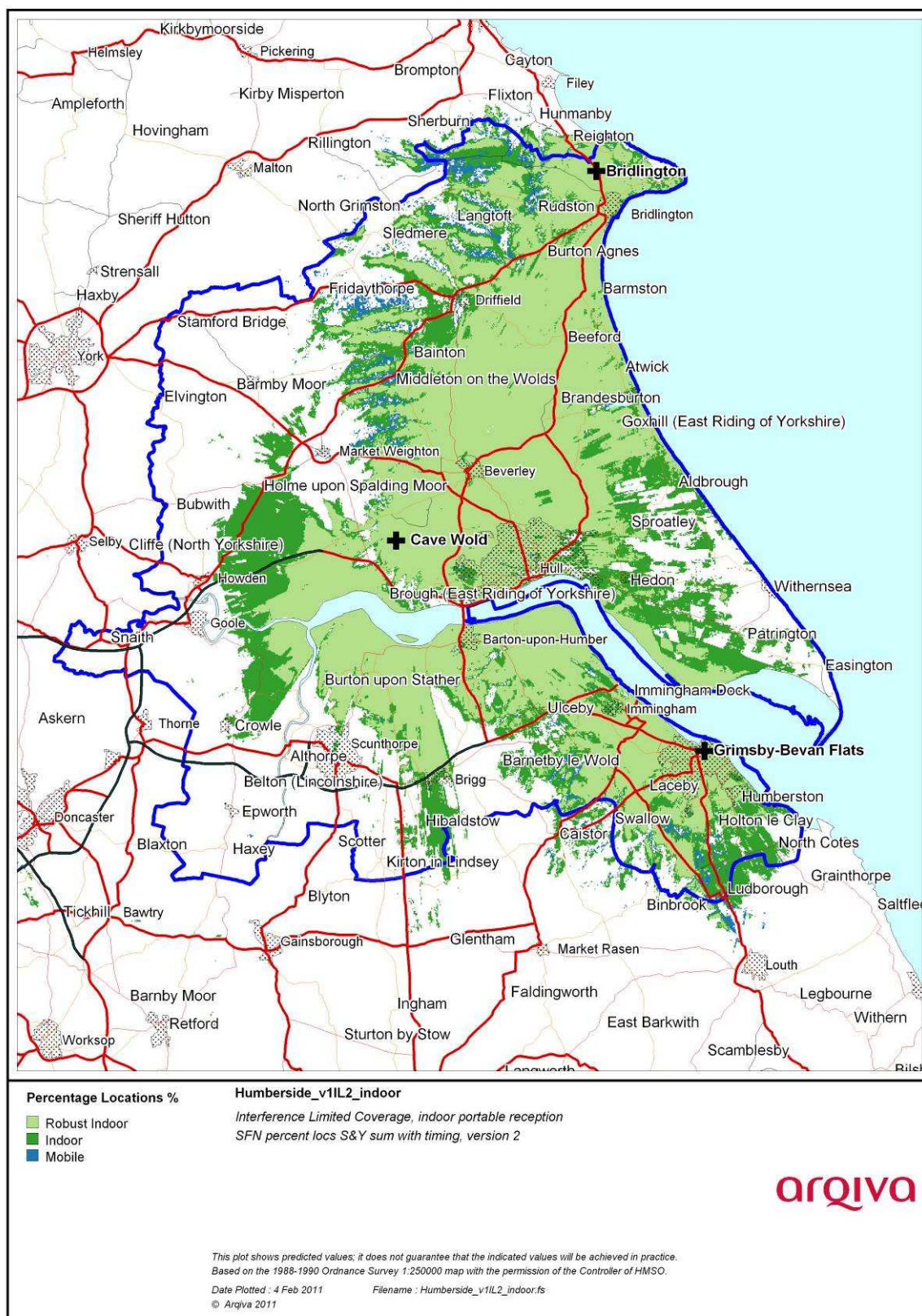


Figure 2.3 Current Situation - Block 10D

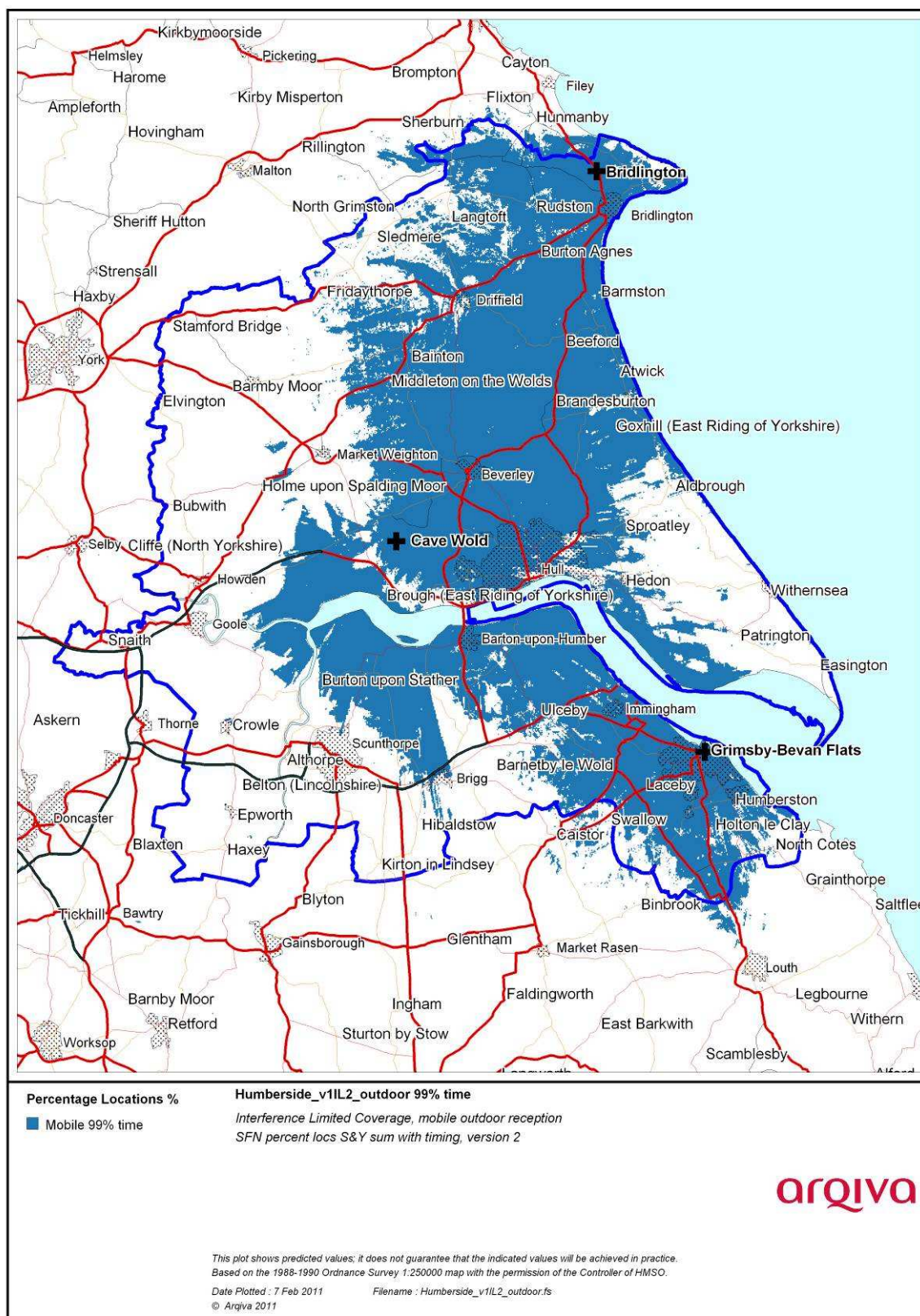


Figure 2.4 Current Situation mobile 99% time - Block 10D

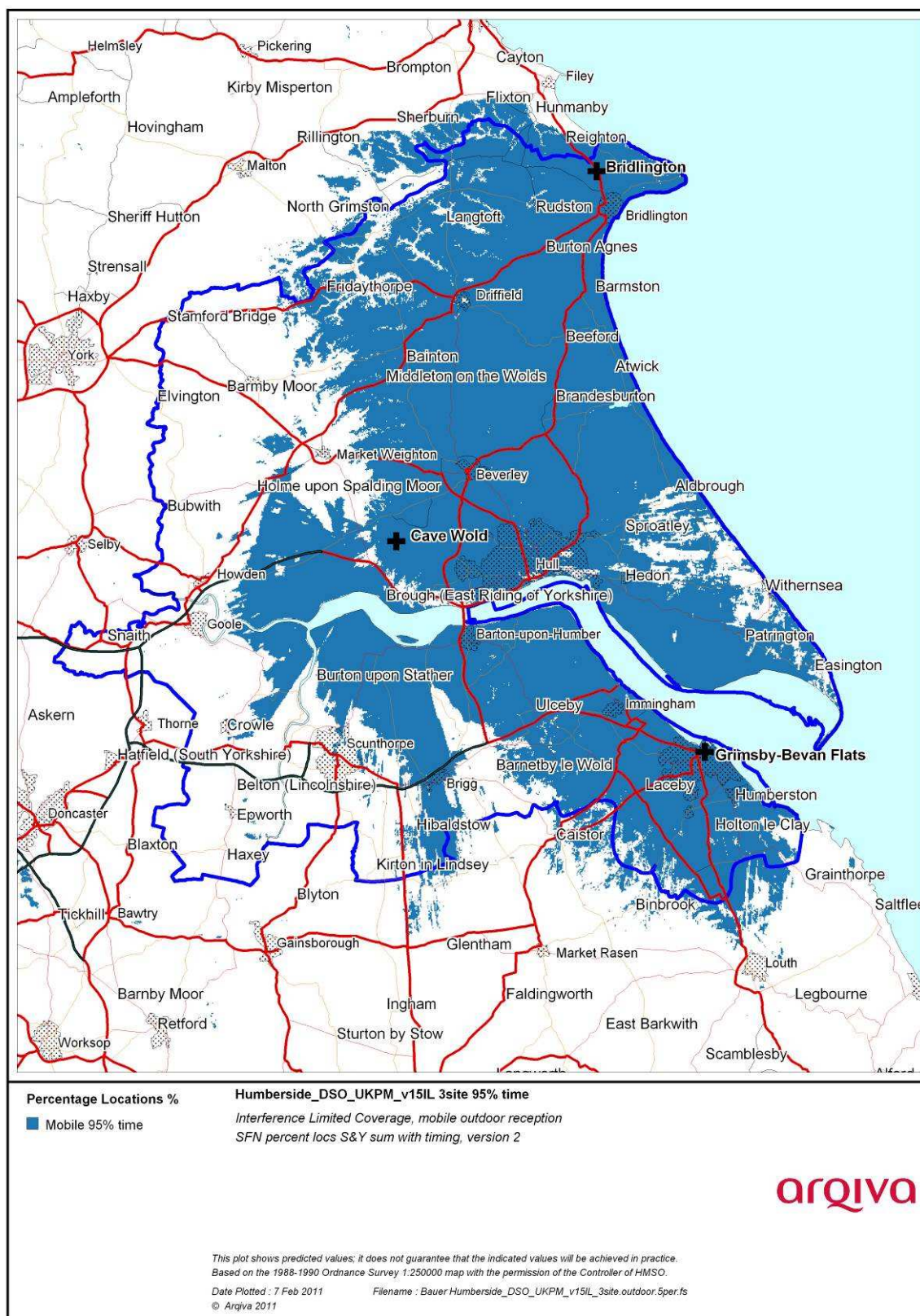


Figure 2.5 Current Situation mobile 95% time - Block 10D

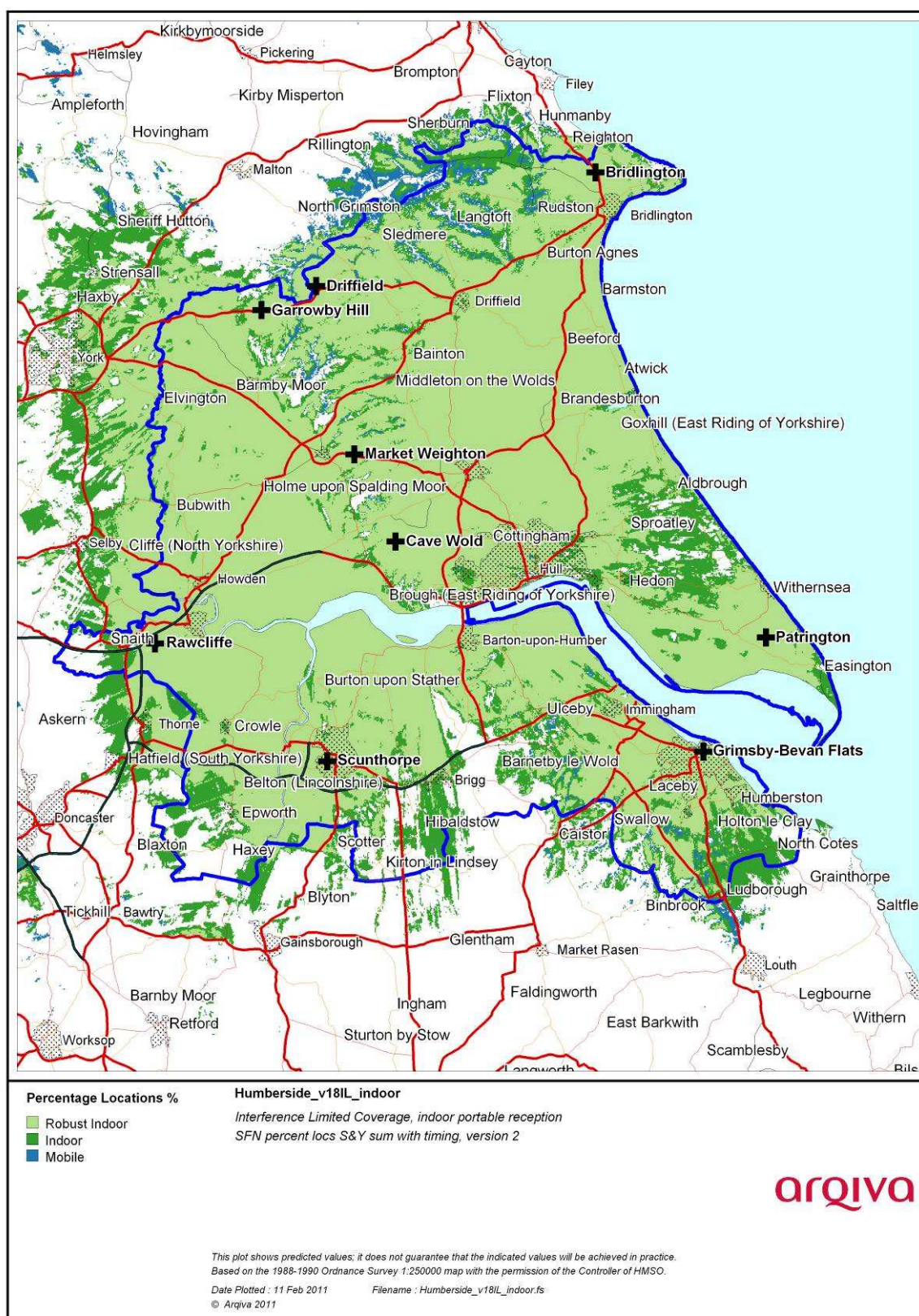


Figure 2.6 Modified Network 2

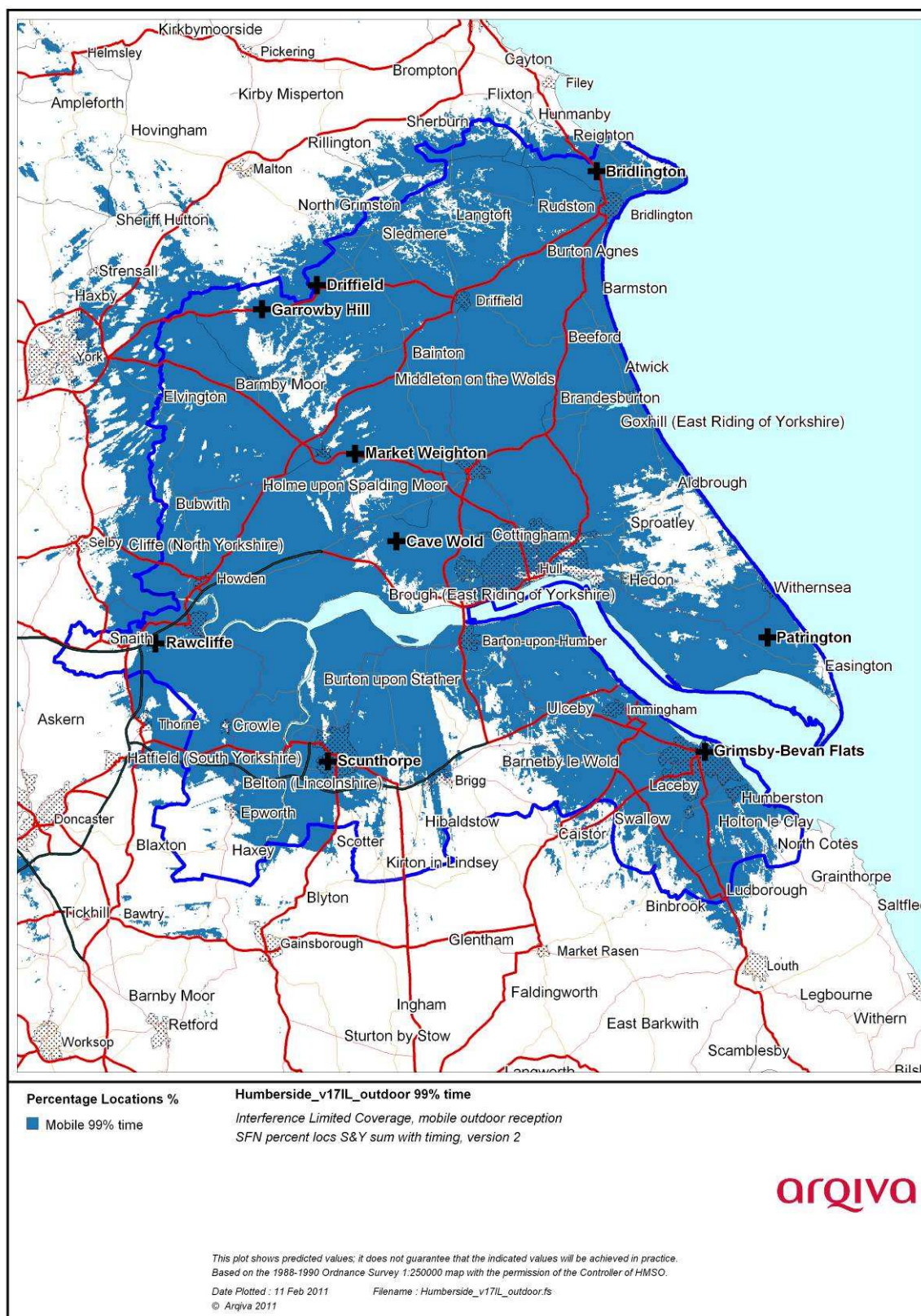


Figure 2.7 Modified Network 2 mobile 99% time

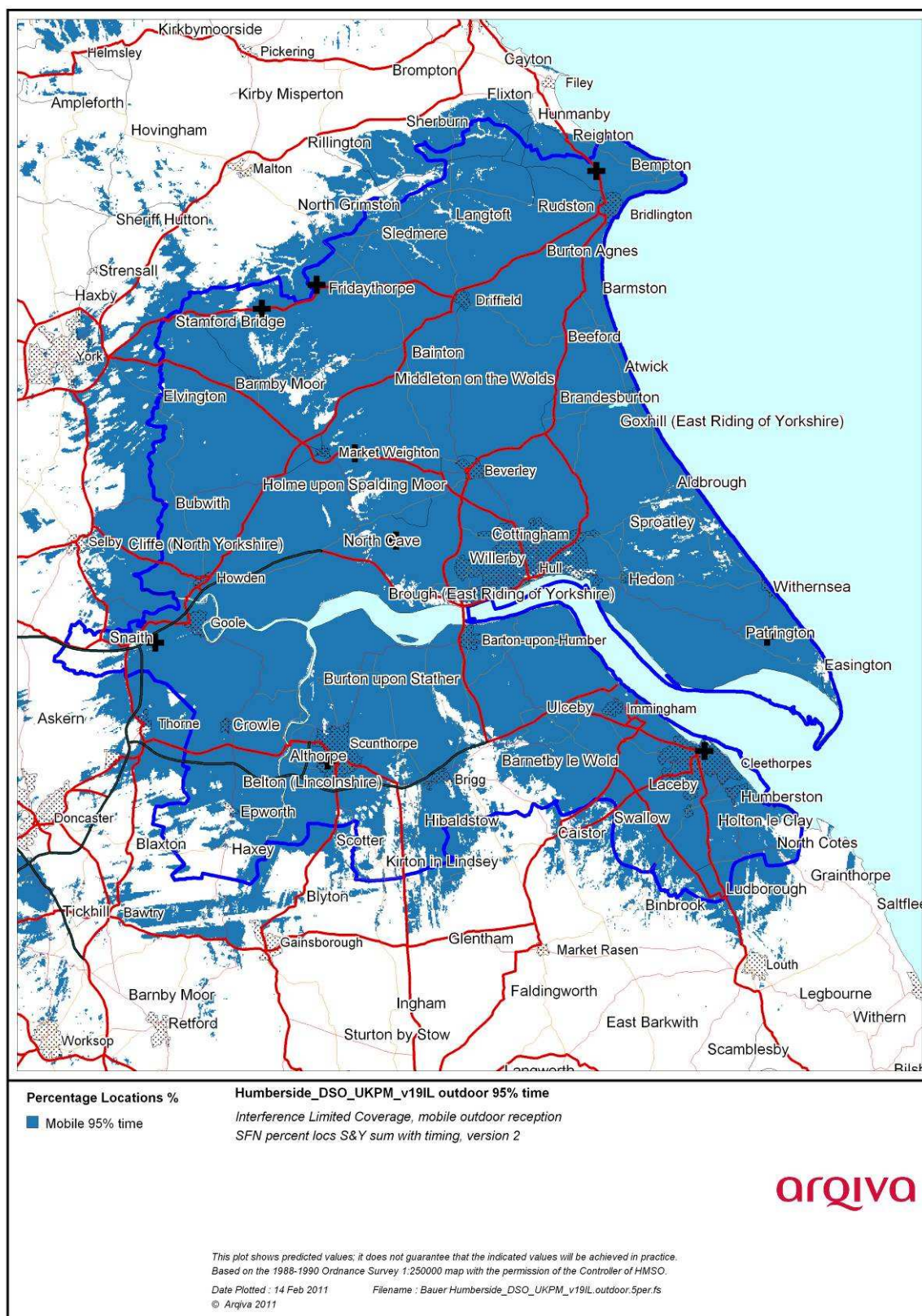


Figure 2.8 Modified Network 2 mobile 95% time

*Population Coverage tables within Editorial Area**Table 0-1. Population coverage proportional indoor 1% time interference**: Total 420,789*

Site scenario and incremental additional sites	Site type	Individual gross interference limited coverage within editorial area	Total number of households within editorial area	Incremental increase in number of households	Incremental percentage increase of population	Percentage of editorial area
Current (3 tx)	Existing Infrastructure	303,309 (72.1%)	303,309	-	-	72.1%
Cave Wold	Current	200,457 (47.6%)				
Grimsby	Current	7,067 (16.8%)				
Bridlington	Current	19,356 (4.6%)				
Scunthorpe	Existing site new antenna	37,354 (8.9%)	344,350	27,464	9.8%	81.8%
Garrowby Hill	New Site	13,603 (3.2%)	369,403	16,281	6.0%	87.8%
Rawcliffe	New Site	14,480 (3.4%)	382,091	12,688	3.0%	90.8%
Patrington	New Site	4,601 (1.1%)	389,807	7,716	1.8%	92.6%
Driffild	New Site	3,602 (0.9%)	393,148	2,085	0.8%	93.4%
Market Weighton	New Site	3,568 (0.8%)	395,781	1,035	0.6%	94.1%

Case 1	-	Yellow =	Current or planned coverage
Case 2	-	Not Applicable	Modified Network 1
Case 3	-	Yellow +Orange=	Modified Network 2
Case 4	-	Not Applicable	Modified network 3

Table 0-2. Road coverage 99% location 99%T: Total roads 793 km

Site scenario and incremental additional sites	Site Type	Total road length In km	Increase in road length in km	Incremental percentage of road length	Percentage of roads within editorial area
Current (3 tx)	Existing Infrastructure	399	-	-	50.3%
Scunthorpe	Existing site new antenna	465	65	8.3%	58.6%
Garrowby Hill	New Site	562	98	12.3%	70.9%
Rawcliffe	New Site	622	60	7.5%	78.5%
Patrinton	New Site	643	21	2.6%	91.1%
Driffield	New Site	648	6	0.7%	81.8%
Market Weighon	New Site	665	16	2.1%	83.8%

Table 0-3. Road coverage 99% location 95%T: Total roads 793 km

Site scenario and incremental additional sites	Site Type	Total road length In km	Increase in road length in km	Incremental percentage of road length	Percentage of roads within editorial area
Current (3 tx)	Existing Infrastructure	480	-	-	60.5%
Scunthorpe	Existing site new antenna	571	92	11.6%	72.1%
Garrowby Hill	New Site	669	97	12.3%	84.3%
Rawcliffe	New Site	716	47	6.0%	90.3%
Patrinton	New Site	721	5	0.6%	90.9%
Driffield	New Site	721	1	0.1%	91.0%
Market Weighon	New Site	730	8	1.1%	92.0%

Case 1	-	Yellow =	Current or planned coverage
Case 2	-	Not Applicable	Modified Network 1
Case 3	-	Yellow +Orange=	Modified Network 2
Case 4	-	Not Applicable	Modified network 3

Table 2-3. Summary of Coverage within Editorial Area for each case

Case	Indoor Households & (percentage coverage) <i>proportional 99% Time Interference Protection</i>	Mobile Coverage km & percentage coverage <i>99% Locations & 99% Time Interference Protection</i>	Mobile Coverage km & percentage coverage <i>99% Locations & 95% Time Interference Protection</i>
1 (block 11B)	301,467 (71.6%)	395 (49.8%)	
1 (block 10D)	303,309 (72.1%)	399 (50.3%)	480 (60.5%)
2	n/a	n/a	
3	395,781 (94.1%)	665 (83.8%)	727 (91.6%)
4	n/a	n/a	n/a

Case 1	-	Yellow =	Current or planned coverage
Case 2	-	Not Applicable	Modified Network 1
Case 3	-	Yellow +Orange=	Modified Network 2
Case 4	-	Not Applicable	Modified network 3