
Digital Switchover (DSO) Programme

Radio DSO Block 11B Teesside

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1 Teesside DSO narrative

The current allocation on 11B for Teesside has been implemented with two transmitters.

The proposed block 11B allocations are shown below figure 1.1 below and include Perth & Dundee, Cumbria, Bradford & Huddersfield, Wolverhampton & Shropshire, Leicestershire, Norfolk, Bristol & Bath, Cornwall, Bournemouth and Sussex.

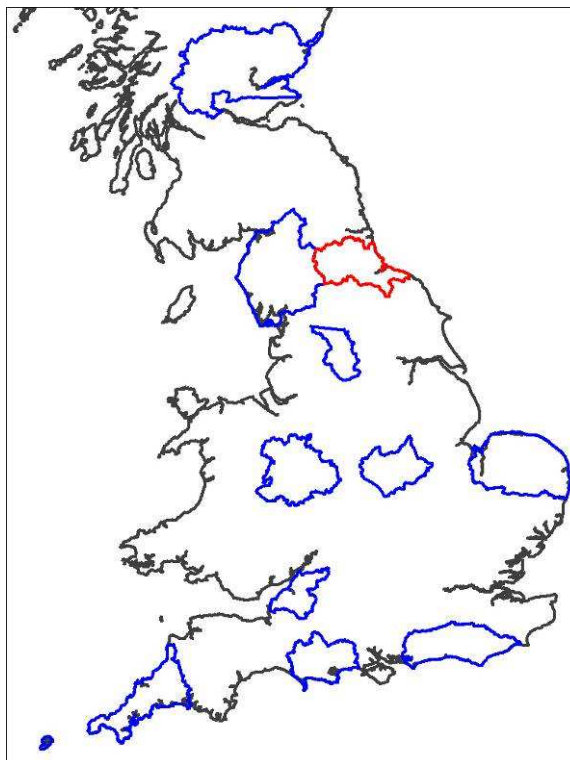


Figure 1.1: Proposed Block 11B allocations

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
Eston Nab	2kW	241	37	Yagis
Brusselton	1kW	212	41	Yagis

The coverage for the launch situation is shown in figure 2.1.

For case 2: Modified Network 1

It is proposed to share the existing BBC DAB antenna at Eston Nab to provide better coverage to the south of the area. No change is proposed at Brusselton. The coverage of the Modified Network 2 is shown in figure 2.2.

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 TFM). To achieve this five additional sites are required. The coverage of the Modified Network 2 is shown in figure 2.3.

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 meets this requirement.

1.1 Outgoing interference and sensitivity to other co-block multiplexes

There is some impact on the Cumbria, Perth & Dundee, Bradford & Huddersfield and Norfolk from the DSO proposal contained within this document.

Teesside is slightly affected by co-block interference from the Cumbria, Perth & Dundee and Bradford & Huddersfield multiplexes.

While the Cumbria and Teesside editorial areas are adjacent, they are separated by the Pennines which means they can work successfully on the same DAB block. There would be problems, however, if it was necessary to provide coverage right up to the edge of the editorial areas.

2 Coverage of the Multiplex

2.1 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

Figure 2-2 Modified Network 1

Figure 2-3 Modified Network 2

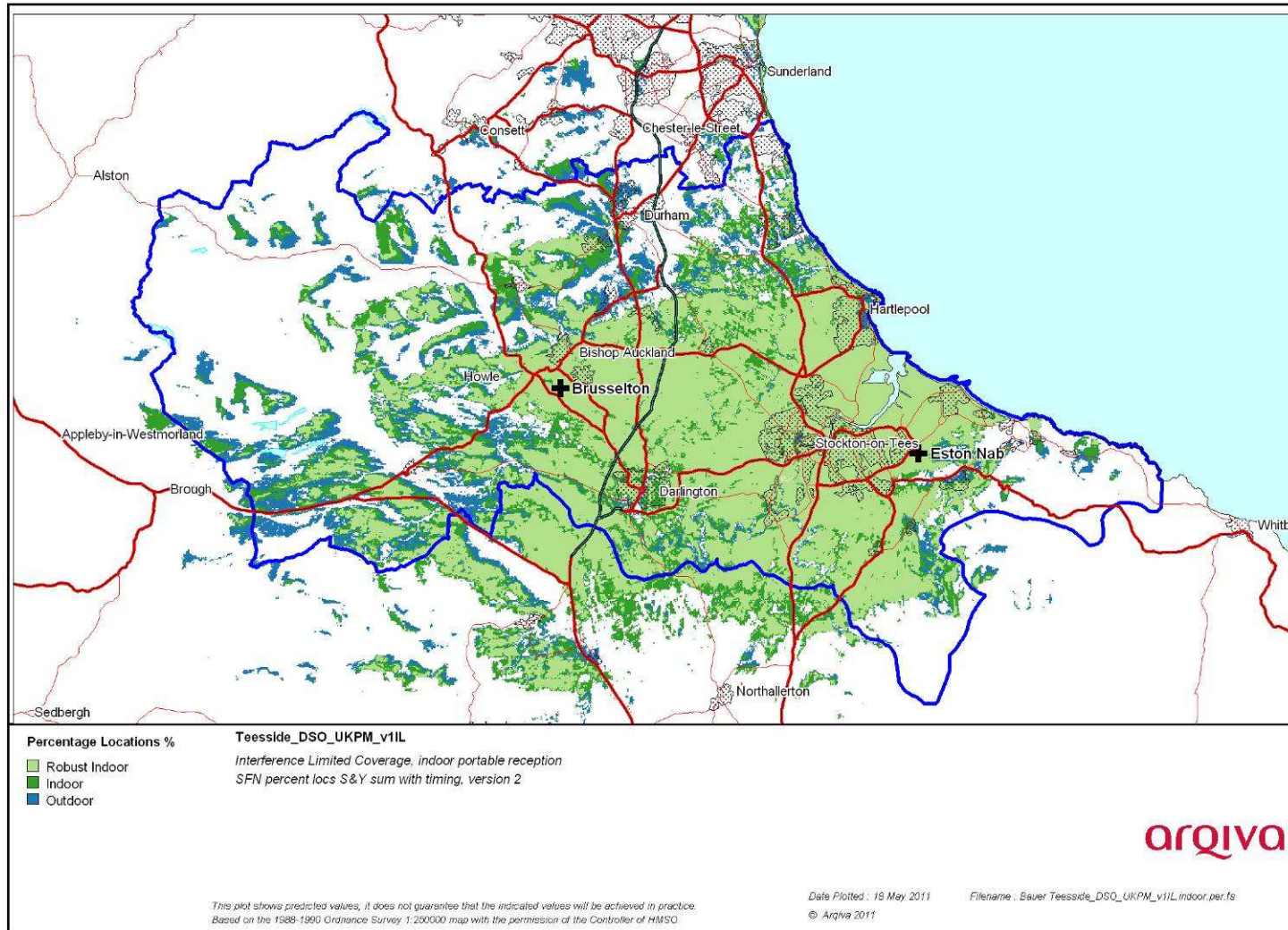


Figure 2-1. Current Situation

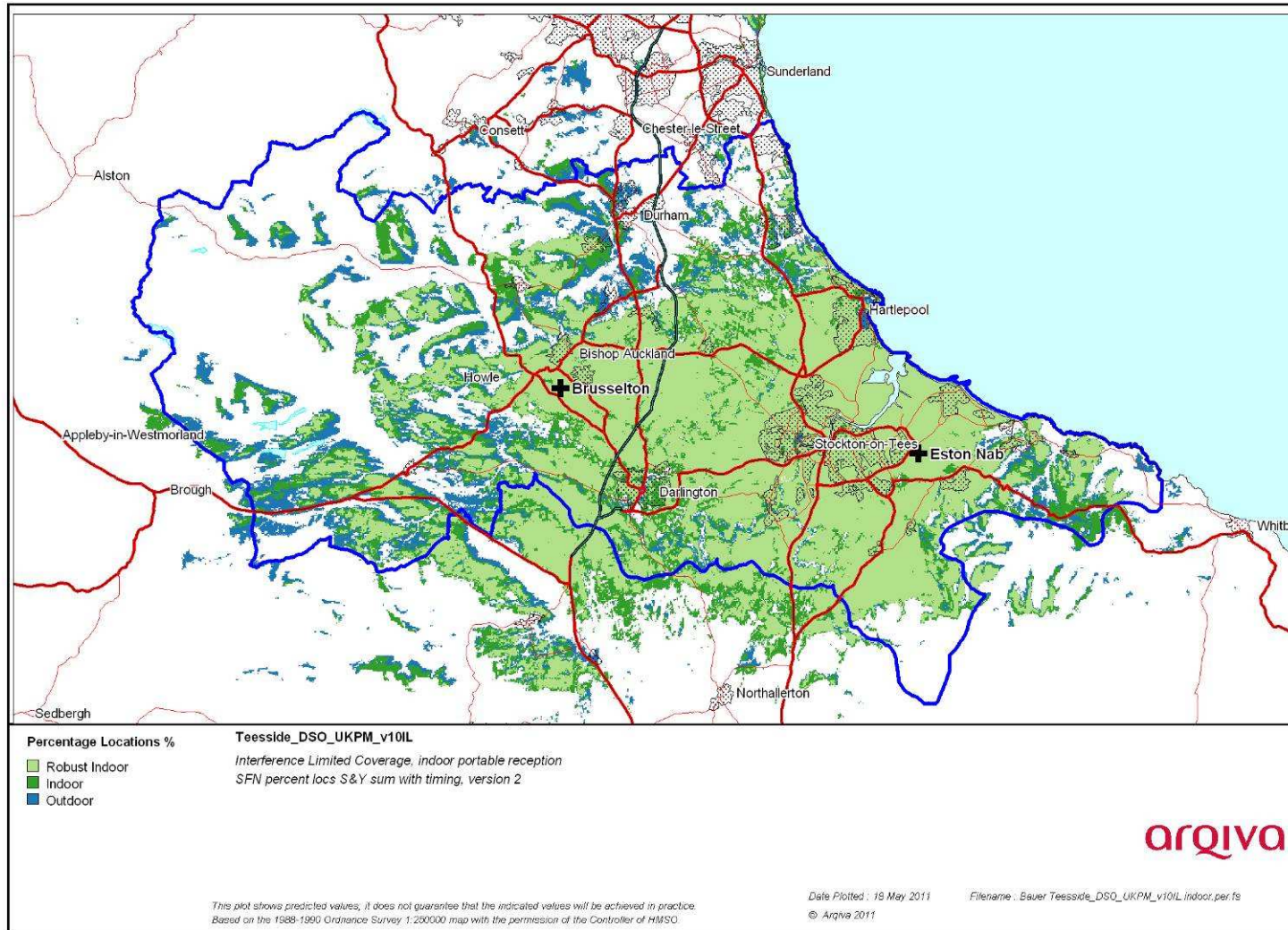


Figure 2-2 Modified Network 1

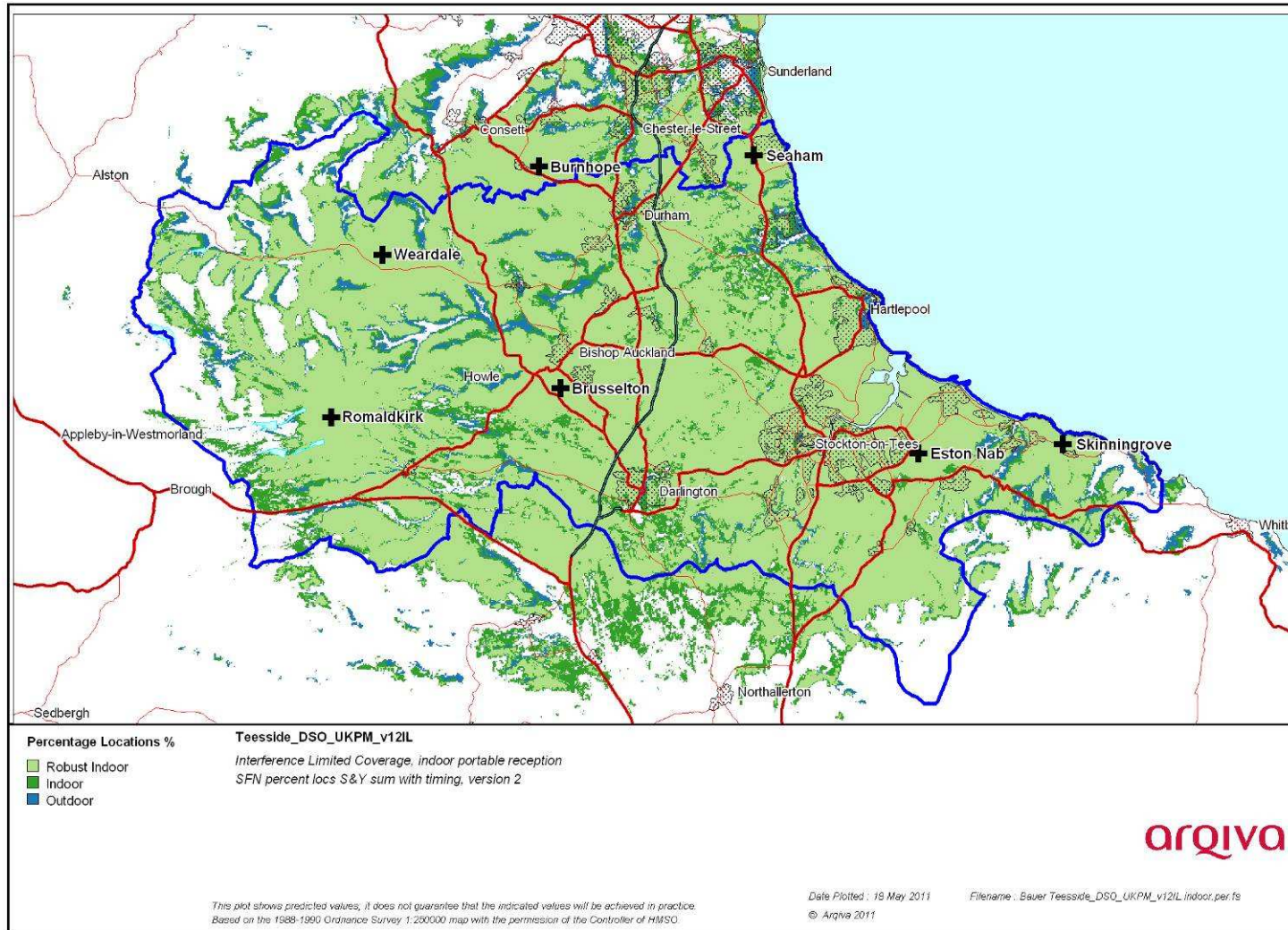


Figure 2-3 Modified Network 2

2.2 Population Coverage tables within Editorial Area

Table 2-1. Population coverage proportional indoor 1% time interference

: Total 481,010

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 (2 tx)	Shared Existing Infrastructure	-	359,311	-	-	74.70%
Eston Nab	Modified existing	280,436 (58.30%)	-	-	-	58.3%
Brusselton	Current	77,491 (16.11%)	364,437	5,126	1.06%	75.76%
Burnhope	Existing site new antenna	65,425 (13.60%)	419,400	54,963	11.43%	87.19%
Seaham	Existing site new antenna	14,443 (3.00%)	436,923	17,523	3.64%	90.83%
Weardale	Existing site new antenna	18,219 (3.79%)	446,853	9930	2.06%	92.90%
Romaldkirk	Existing site new antenna	5,772 (1.20%)	456,313	9460	1.97%	94.87%
Skinningrove	Existing site new antenna	4,810 (1.00%)	458,604	2,291	0.48%	95.34%

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

Table 2-2. Road coverage 99% location 99%T: Total roads 750.5 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 (2 tx)	Shared Existing Infrastructure	540.6	-	-	72.03%
Eston Nab	Modified existing	558.3	17.7	2.37%	74.40%
Burnhope	Existing site new antenna	603.1	44.8	5.97%	80.37%
Seaham	Existing site new antenna	617.6	14.5	1.93%	82.30%
Weardale	Existing site new antenna	666.9	49.3	6.57%	88.87%
Romaldkirk	Existing site new antenna	699.2	32.3	4.30%	93.17%
Skinningrove	Existing site new antenna	702.4	3.2	0.42%	93.60%

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

Table 2-3. Summary of Coverage within Editorial Area for each case 99% time Interference

Case	Indoor Households & (percentage coverage)	Mobile Coverage km & percentage coverage) 99% locations
1	359,311 (74.7%)	540.6 (72.03%)
2	364,437 (75.76%)	558.3 (74.4%)
3	458,604 (95.34%)	702.4 (93.60%)
4	n/a	n/a