
Digital Switchover (DSO) Programme

Radio DSO Block 10D Somerset

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1 Somerset DSO narrative

The current allocation on 10B for Somerset has not been implemented.

The proposed Block 10D allocations are shown below and include Plymouth, Herts Beds & Bucks, Humberside, Wrexham & North Wales, Dumfries & Galloway and Inverness.

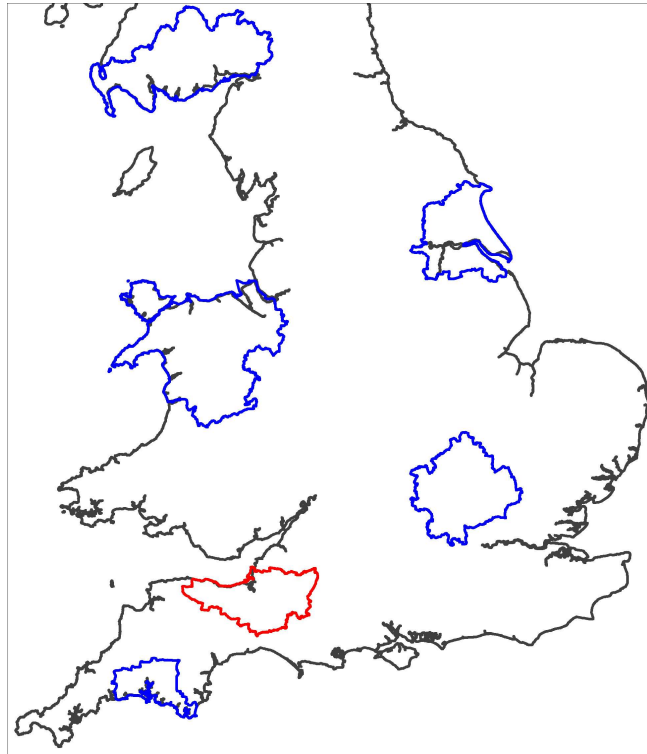


Figure 1.1: Proposed Block 10D allocations

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
Mendip	2kW	302	220	Cardioid
Taunton	1kW	131	19	Dipoles

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

For case 2: Modified Network 1

Not applicable as this network is not yet in service.

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 Heart West Country). To achieve this three additional sites are required. The coverage of the Modified Network 2 is shown in figure 2.2.

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). To achieve this coverage an additional 9 sites (a total of 14) will be required. This is shown in figure 2.3.

1.1 Outgoing interference and sensitivity to other co-block multiplexes

There is some impact on the Herts Beds & Bucks multiplex around the M25 from the DSO proposal contained within this document. Plymouth and Humberside multiplexes are unaffected.

Somerset is slightly affected by co-block interference from Herts Beds & Bucks, Humberside and North Wales multiplexes.

There is a restriction on the Somerset multiplex in the Administrative Declaration with France. This specifies the signal levels into Bretagne-Est (F__00702). The proposed network (with Plymouth) slightly exceeds the agreed level at 2 test points of the allotment.

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 2

Figure 2-3 Modified Network 3

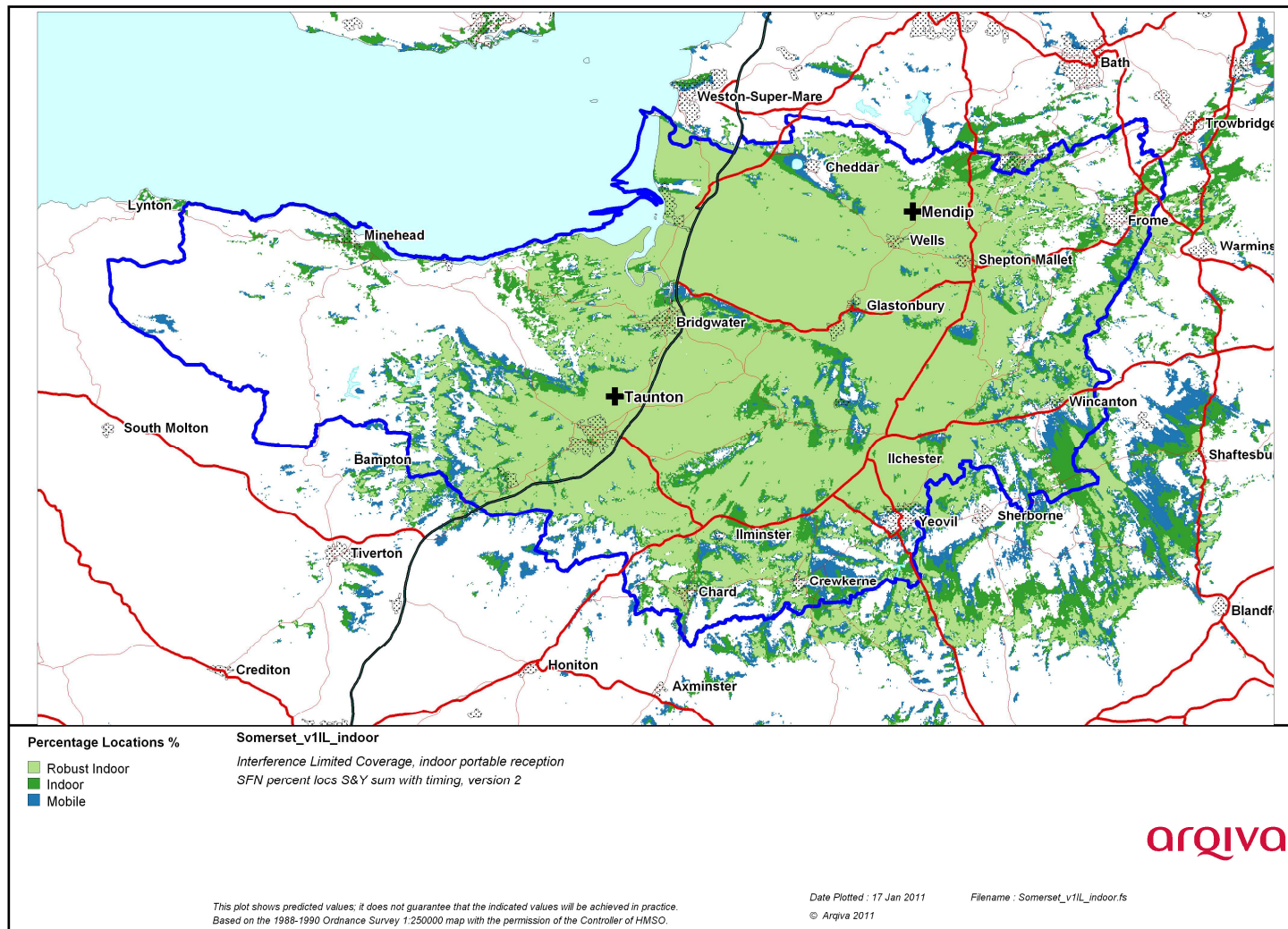


Figure 2-1. Current Situation

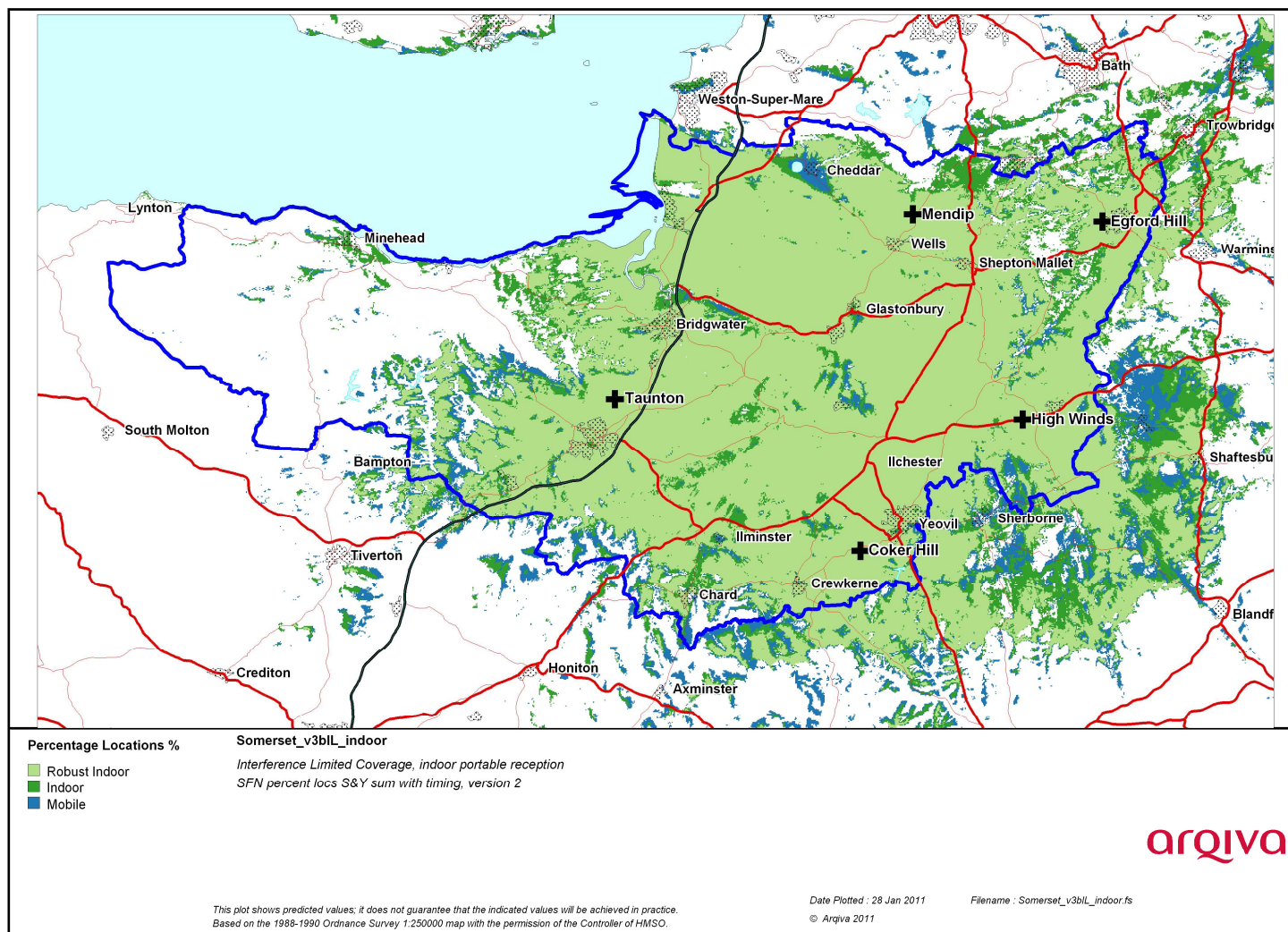


Figure 2-2 Modified Network 2

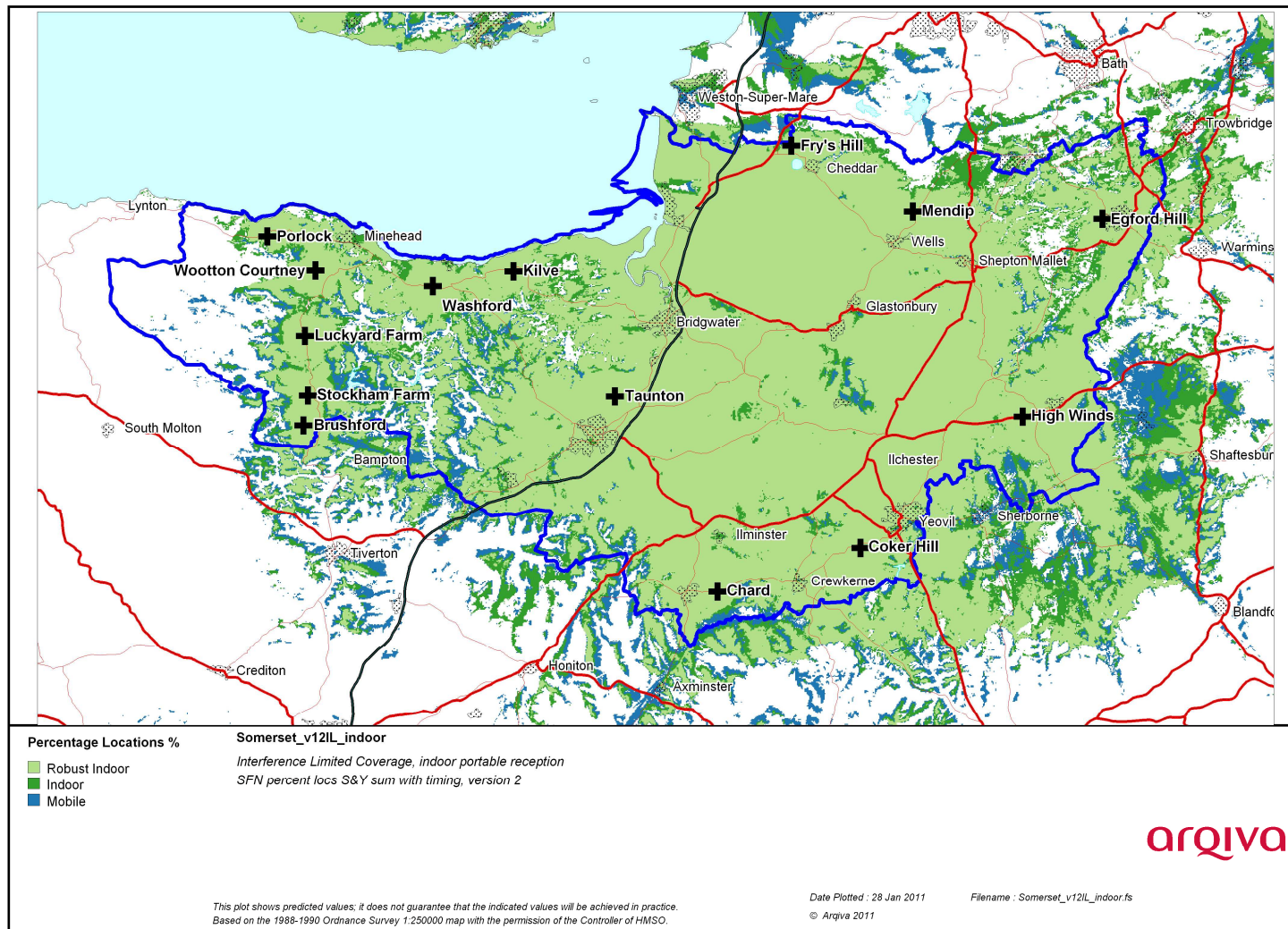


Figure 2-3 Modified Network 3

2.2 Population Coverage tables within Editorial Area

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

: Total 238,887

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	167,246 (70.0%)	167,246	-	-	70.0%
Mendip	Current	129,993 (54.4%)				
Taunton DAB	Current	45,428 (19.0%)				
Coker Hill	Shared Existing Infrastructure	38,529 (16.1%)	191,812	24,566	10.3%	80.3%
Egford Hill	Existing site new antenna	14,223 (6.0%)	202,619	10,807	4.5%	84.8%
Washford	Existing site new antenna	4,487 (1.9%)	209,608	6,989	2.9%	87.7%
Chard	Existing site new antenna	12,353 (5.2%)	215,493	5,935	2.5%	90.2%
Fry's Hill	New Site	17,864 (7.5%)	219,368	3,888	1.7%	91.9%
High Winds	New Site	4,710 (2.0%)	222,115	2,741	1.1%	93.0%
Porlock	Existing site new antenna	1,081 (0.5%)	223,580	1,465	0.6%	93.6%
Brushford	Existing site new antenna	1,035 (0.4%)	224,785	1,205	0.5%	94.1%
Wootton Courtney	Existing site new antenna	461 (0.2%)	225,839	1,055	0.5%	94.6%
Kilve	Existing site new antenna	284 (0.1%)	226,458	619	0.2%	94.8%
Luckyard Farm	New Site	230 (0.1%)	226,779	320	0.1%	95.0%
Stockham Farm	New Site	164 (0.1%)	226,914	135	0.0%	95.0%

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

Table 2-2. Road coverage 99% location 99%T: Total roads 752 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	564	-	-	75.0%
Coker Hill	Shared Existing Infrastructure	586	22	2.9%	77.9%
Egford Hill	Existing site new antenna	614	28	3.7%	81.6%
Washford	Existing site new antenna	641	27	3.6%	85.2%
Chard	Existing site new antenna	649	8	1.0%	86.2%
Fry's Hill	New Site	652	3	0.5%	86.7%
High Winds	New Site	662	10	1.3%	88.0%
Porlock	Existing site new antenna	671	9	1.2%	89.2%
Brushford	Existing site new antenna	675	4	0.6%	89.8%
Wootton Courtney	Existing site new antenna	685	9	1.2%	91.0%
Kilve	Existing site new antenna	689	4	0.6%	91.6%
Luckyard Farm	New Site	697	8	1.0%	92.6%
Stockham Farm	New Site	699	2	0.4%	93.0%

Case 1	-	Yellow =	Current or planned coverage
Case 2	-	Not Applicable	Modified Network 1
Case 3	-	Yellow +Orange=	Modified Network 2
Case 4	-	Yellow + Orange + Green=	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	167,246 (70.0%)	564 (75.0%)
2	n/a	n/a
3	205,524 (86.0%)	623 (82.9%)
4	226,971 (95.0%)	699 (93.0%)

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