Wiltshire Council
Where everybody matters

Agenda Item 06

Broadband Provision in Wiltshire

Interim Report December 2009

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1. Introduction

Whether in terms of everyday living or business and commerce, digital technology is now firmly placed at the heart of today's society. The government's recently published *Digital Britain*[1] report makes the point that first-generation broadband provided a boost to gross domestic product (GDP) of some 0.5%-1.0% a year. It follows from this that, at the local level, a high-quality digital infrastructure is likely to be an important driver and facilitator of economic development. There is also an ever increasing reliance on digital technology to facilitate the access to and delivery of council services.

For several years, all of the BT exchanges in Wiltshire have been DSL-enabled[2], providing a broadband service, and a number of settlements have also been served by Virgin's fibre-optic cable network. Nonetheless, both potential and actual broadband speeds vary greatly across the county, with speeds in the more advantaged areas being many times those in other areas, to the detriment of some local communities and businesses. For example, the 2008 Rural Facilities Survey[3] found that around 14% of settlements in rural Wiltshire did not have access to a broadband service with a speed of at least 2mbps[4].

Such contrasts in the quality and speed of broadband services are not, of course, confined to Wiltshire, and are of growing concern to central government. The *Digital Britain* report details two national projects aimed at upgrading the quality of broadband provision, over, respectively, the next few years and the longer term. In the first instance, the *Universal Service Commitment* (*USC*) aims to ensure the provision of "potential" broadband speeds of 2mbps across the whole of the UK by 2012. Secondly the *Final Third* project is a longer term programme to improve access to 'next generation' broadband speeds in those areas where commercial provision is unlikely to be considered viable. This will essentially involve establishing a new network infrastructure. It is not yet clear how projects "on the ground" will be formulated, commissioned or prioritised, but the Regional Development Agencies are mentioned in the funding cocktail. The council and local partners would clearly be in a strong position to make representations regarding these programmes if a solid evidence base is available.

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[1] http://www.culture.gov.uk/what_we_do/broadcasting/6216.aspx

[2] Digital Subscriber Line. A family of technologies capable of transforming ordinary phone lines into high-speed digital lines.

[3] http://www.wiltshire.gov.uk/council/researchandstatistics/researchandstatisticssocialresearchandspeciallprojects.htm

[4] Megabits per second.

2. Project Aims

This research project has been formulated to put in place the necessary evidence base, with the specific aims to;

- provide a comprehensive picture of broadband speeds throughout the county, mapping existing infrastructure which currently delivers broadband, or which could potentially be upgraded or harnessed to improve broadband delivery, and;
- provide a database of sufficient quality to permit Wiltshire Council to effectively deliver its own programmes, and for the council and local partners to lobby government, the Network Design and Procurement Group[5], the SWRDA, the infrastructure providers and others, with a view to continually improving broadband provision throughout the county.

3. Initial Results

3.1. Exchanges

There are 106 BT exchanges providing broadband services in Wiltshire (Figure 1 and Table 1). Eighty five of these exchanges are located within the county, while a further twenty one are located outside Wiltshire and provide services to areas around the county boundary. These exchanges offer a varying range of services, as set out below.

The exchanges in Trowbridge, Chippenham and Salisbury are currently enabled with BT's Wholesale Broadband Connect, which is capable of providing faster maximum speeds, and a further 3 exchanges due to be enabled with this technology in 2010 and 27 in 2011 (Figure 2)[6]. These exchanges are predominantly in north and west Wiltshire and also in the south west corner of the county.

Local Loop Unbundling (LLU) services are available through 14 of the exchanges in Wiltshire (Figure 3) [7]. LLU enables communications providers to offer a complete range of broadband and voice services without having to route through BT's main network[8]. This allows higher levels of competition and can reduce costs for consumers. Again, these exchanges are predominantly in the west of the county.

Symmetrical Digital Subscriber Line (SDSL) services are available through almost half of all exchanges in Wiltshire (40 - Figure 4)[9]. SDSL is a service for businesses that allows uploading at the same speed as downloading, making upload speeds much faster than other broadband connections.

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[5] Set up to deliver the USC and Final Third programmes.
[6] Based on information from Sam Knows (www.samknows.com).
[7] Based on information from Sam Knows (www.samknows.com).
[8] A guide to Local Loop Unbundling. BT Openreach.
[9] Based on information from Sam Knows (www.samknows.com).

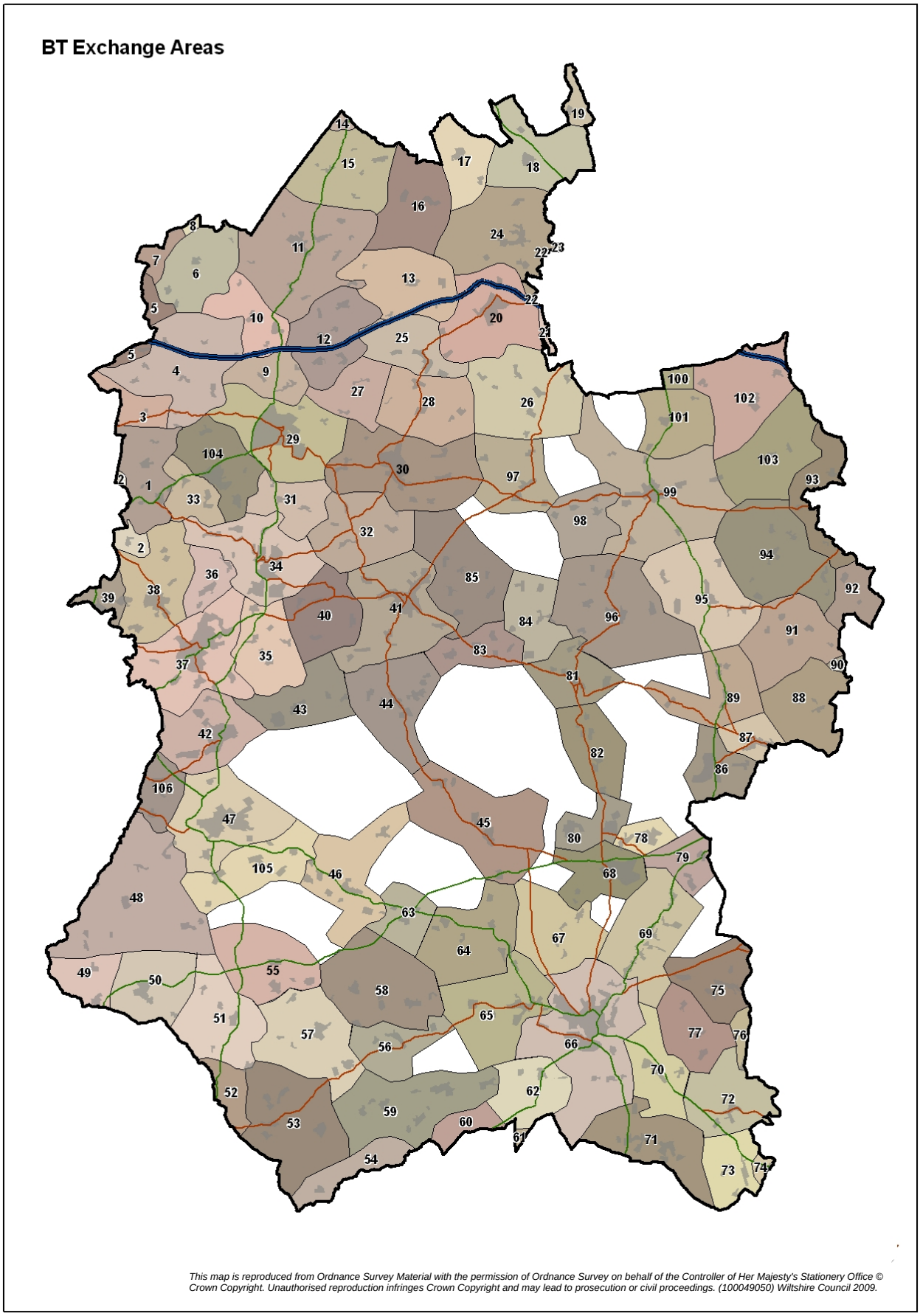

Figure 1. Areas covered by BT exchanges.

Map Label	Exchange Name
1	Box
2	Batheaston
3	Marshfield
4	Castle Combe
5	Badminton
6	Sherston
7	Didmarton
8	Westonbirt
9	Kington Langley
10	Hullavington
11	Malmesbury
12	Seagry
13	Brinkworth
14	Kemble
15	Crudwell
16	Minety
17	South Cerney
18	Cricklade
19	Kempsford
20	Wootton Bassett
21	Wroughton
22	Toothill
23	Haydon Wick
24	Purton
25	Brandenstoke
26	Broad Hinton
27	Kellaways
28	Hilmarton
29	Chippenham
30	Calne
31	Hawthorn
32	Lacock
33	Bromham
34	Melksham
35	Keevil
36	North Trowbridge
37	Trowbridge
38	Bradford on Avon
39	Limpley Stoke
40	Seend
41	Devizes
42	Westbury
43	Bratton
44	Lavington
45	Shrewton
46	Codford St Mary
47	Warminster
48	Maiden Bradley
49	Bourton
50	Mere
51	East Knoyle
52	Shaftesbury
53	Donhead
54	Handley
55	Hindon
56	Fovant
57	Tisbury
58	Teffont
59	Broadchalke
60	Martin Cross
61	Rockbourne
62	Coombe Bissett
63	Wylye
64	Stapleford
65	Wilton
66	Salisbury
67	Middle Woodford
68	Amesbury
69	Idmiston
70	Alderbury
71	Downton
72	Whiteparish
73	Earldoms
74	West Wellow
75	Winterslow
76	Lockerley
77	Farley
78	Bulford Camp
79	Cholderton
80	Durrington Walls
81	Upavon
82	Netheravon
83	Chirton
84	Woodborough
85	Cannings
86	Tidworth
87	Ludgershall
88	Chute Standen
89	Collingbourne Ducis
90	Linkenholt
91	Oxenwood
92	Inkpen
93	Hungerford
94	Great Bedwyn
95	Burbage
96	Pewsey
97	Avebury
98	Lockeridge
99	Marlborough
100	Chiseldon
101	Ogbourne St George
102	Aldbourne
103	Ramsbury
104	Corsham
105	Sutton Veny
106	Chapmanslade

Table 1. BT exchanges covering Wiltshire

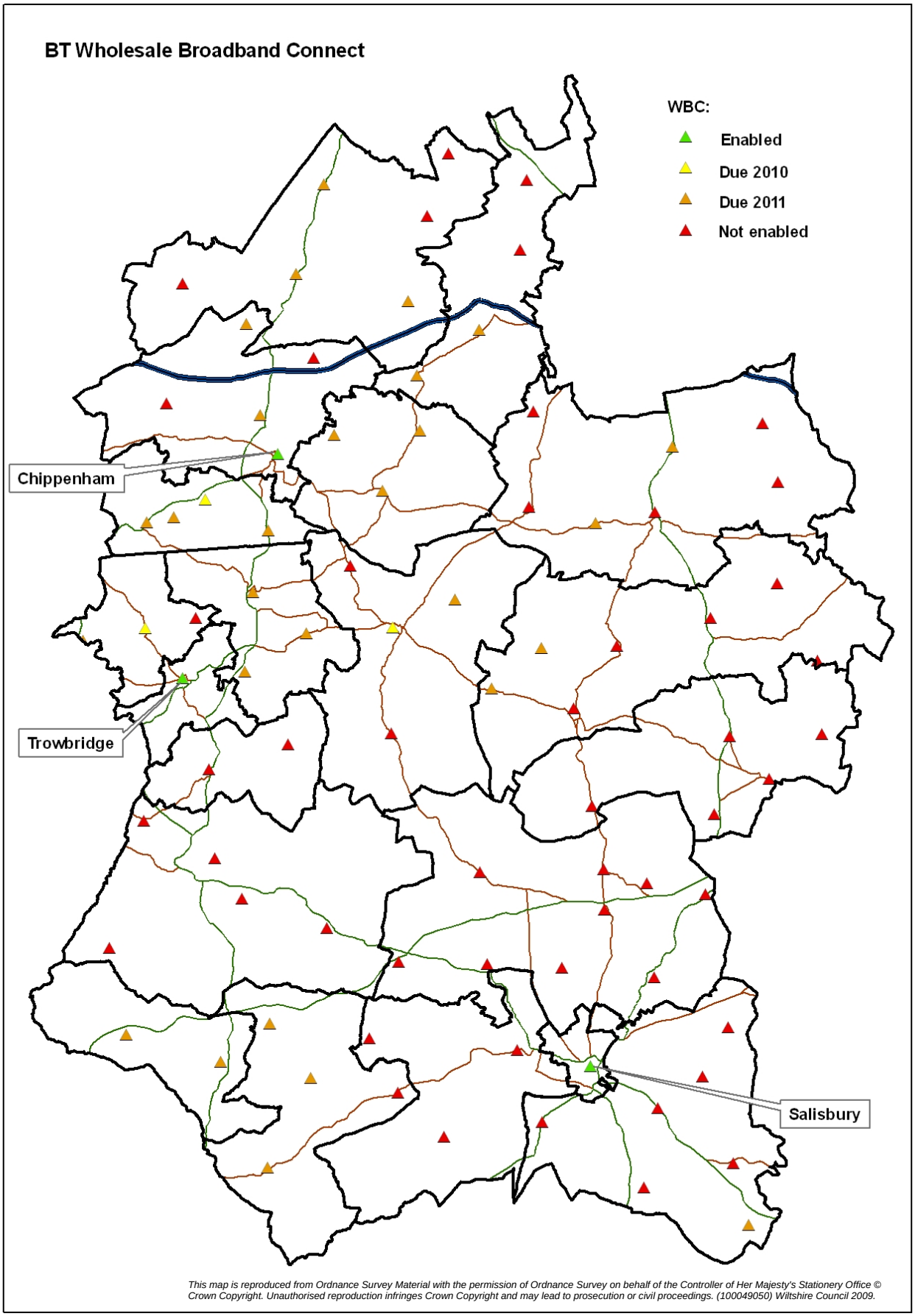

Figure 2. Wholesale Broadband Connect status of exchanges in Wiltshire.

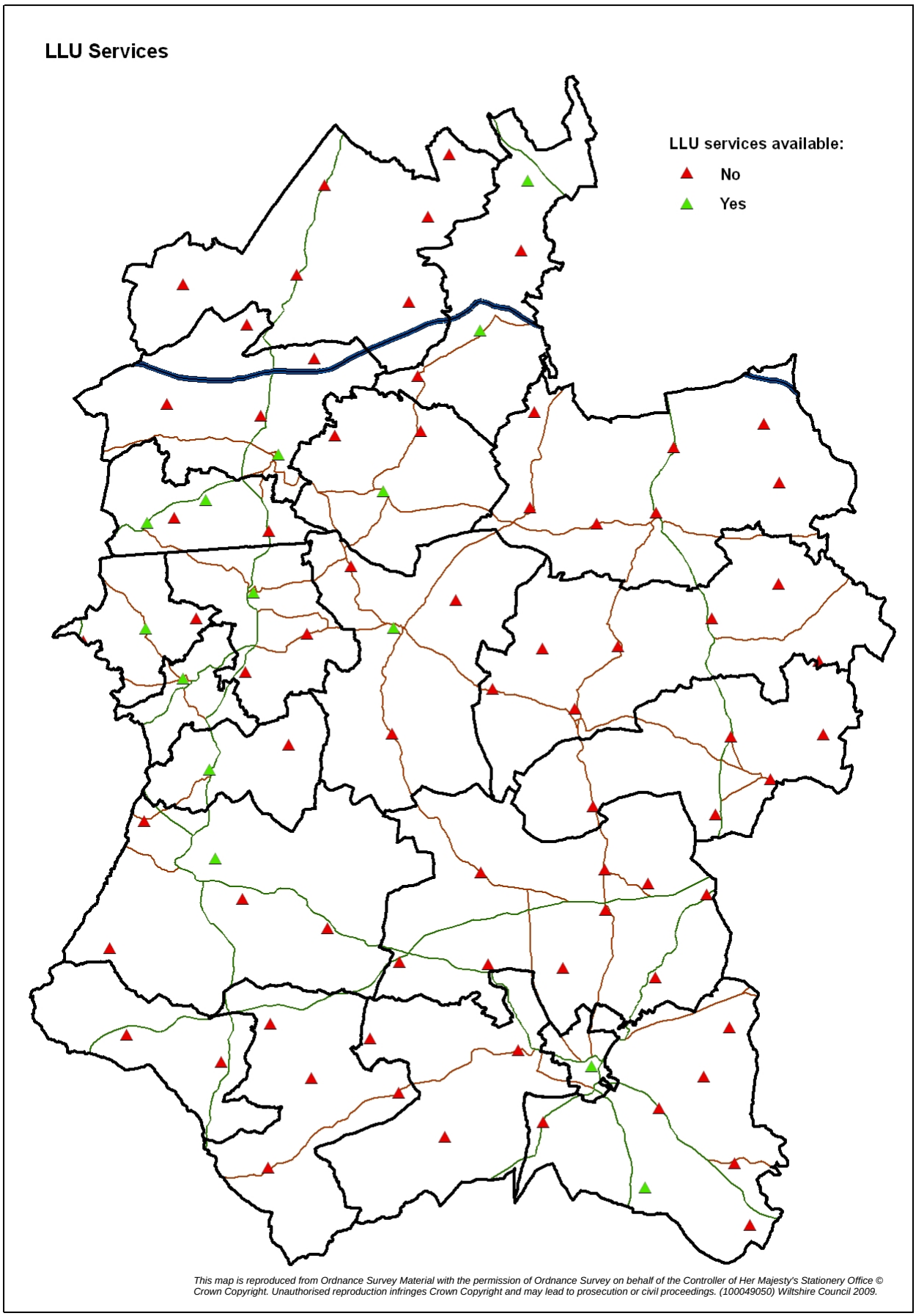

Figure 3. Local Loop Unbundling status of exchanges in Wiltshire.

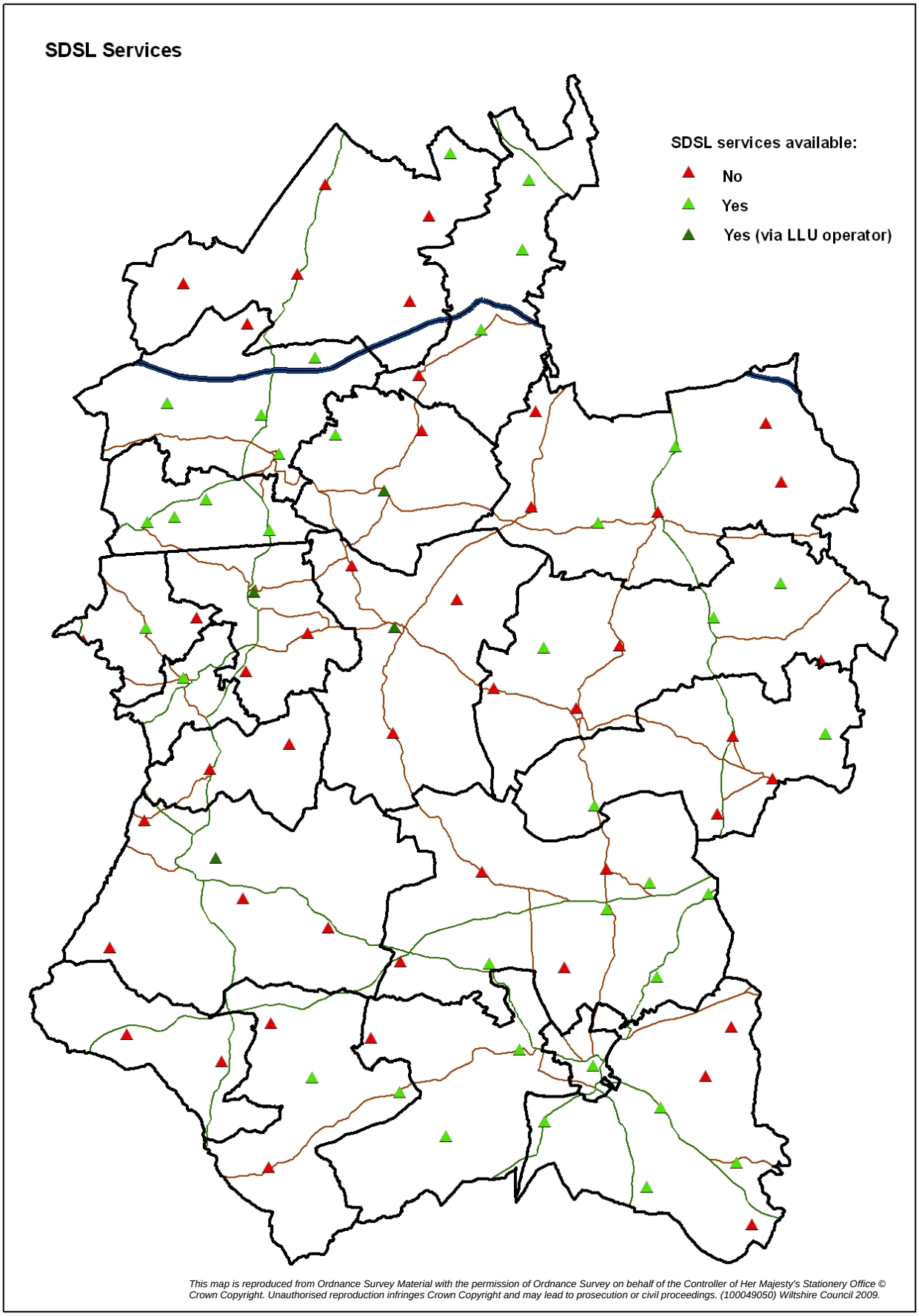

Figure 4. SDSL services available through exchanges in Wiltshire.

3.2. Broadband speeds

The potential broadband speeds achievable through the BT network for all postcodes in Wiltshire have been recorded and mapped to produce an overall picture of broadband provision in the county (Figure 5)[10].

As would be expected, areas with higher speeds are centred on the exchanges, in the towns and some villages, with relatively large, mainly rural areas in between, with speeds below 2mbps. These data indicate that around 5% of households in Wiltshire are currently unable to receive a broadband service with speeds of at least 2mbps[11].

The maximum potential speeds currently attainable in the county through the BT network (i.e. excluding cable services) are 8 to 9mbps. These speeds are currently only attainable in Trowbridge, Chippenham and Salisbury, where the exchanges are enabled with Wholesale Broadband Connect. The continued roll out of this technology over the next two years (as shown in Figure 2) should see similar higher speeds become available across much more of the county.

[10] Data obtained from the BT broadband postcode speed checker between 17th September and 25th November 2009. http://www.btbroadbandinformation.com/bt-postcode-checker. Potential speed refers to the top speed achievable at a given location.

[11] Calculated using Experian's Mosaic estimates of households for mid year 2007.

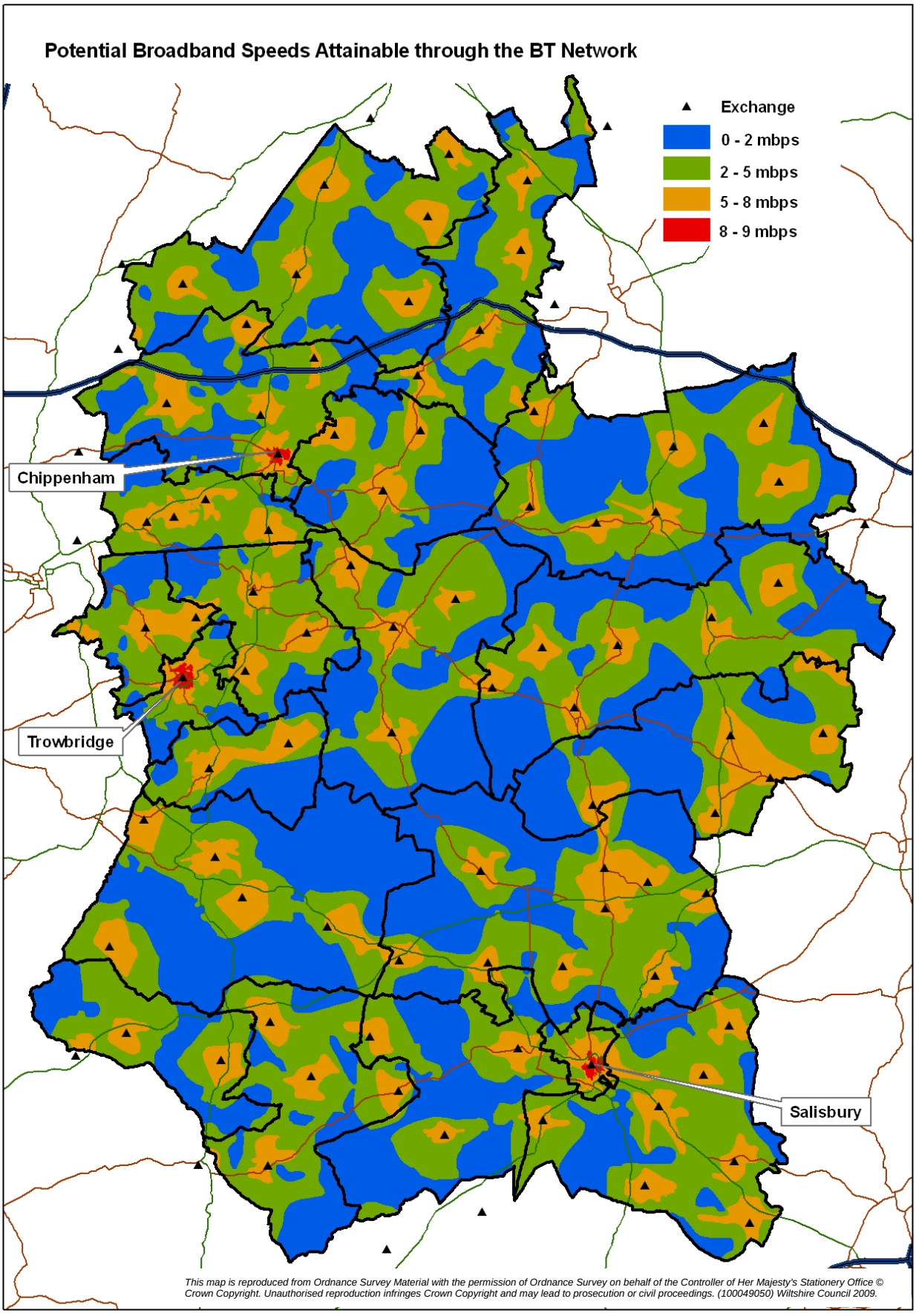

Figure 5. Potential broadband speeds attainable through the BT network.

3.3. Areas with poor or no broadband service

There are a number of locations within Wiltshire which are "very unlikely to receive a fixed 256kbps[12] or 512kbps service due to the long length of the line"[13] (Figure 6) and around 1% of households in the county fall into this category[14].

The Salisbury Plain area in central Wiltshire is the largest geographic area in the county with a poor broadband service or no service at all, but this area is very sparsely populated, given that it is largely military land. The villages and clusters of villages with a particularly poor service are highlighted on Figure 6.

[12] Kilobits per second.
[13] Based on data obtained from the BT broadband postcode speed checker between 17th September and 25th November 2009. http://www.btbroadbandinformation.com/bt-postcode-checker
[14] Calculated using Experian's Mosaic estimates of households for mid year 2007.

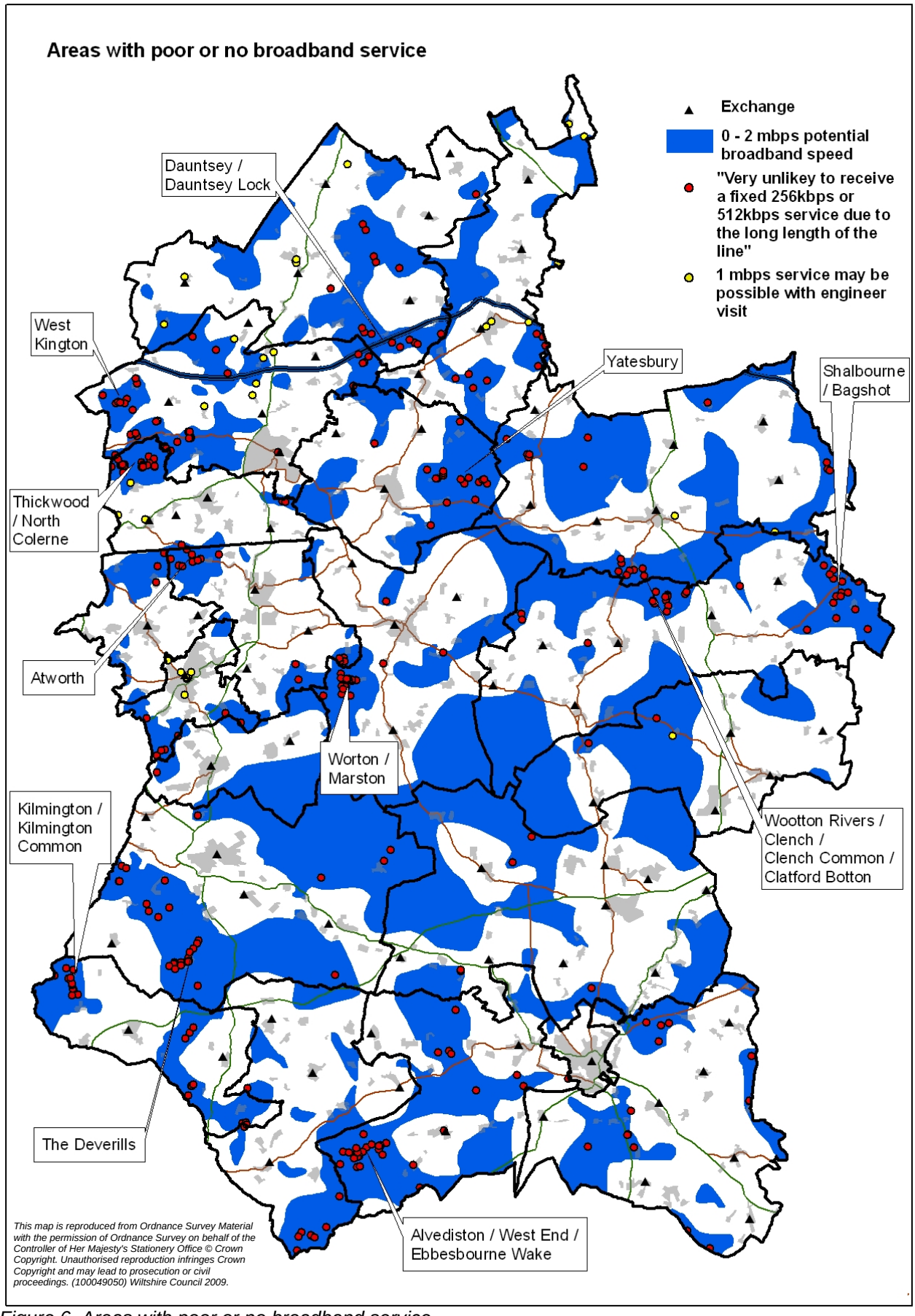

Figure 6. Areas with poor or no broadband service.

3.4. Cable services

Cable services, offering a much higher speed broadband service with headline speeds of up to 50mbps, are available in a number of the towns in Wiltshire (Figure 7). Chippenham, Devizes, Calne and Marlborough are the largest towns in the county not to have this service.

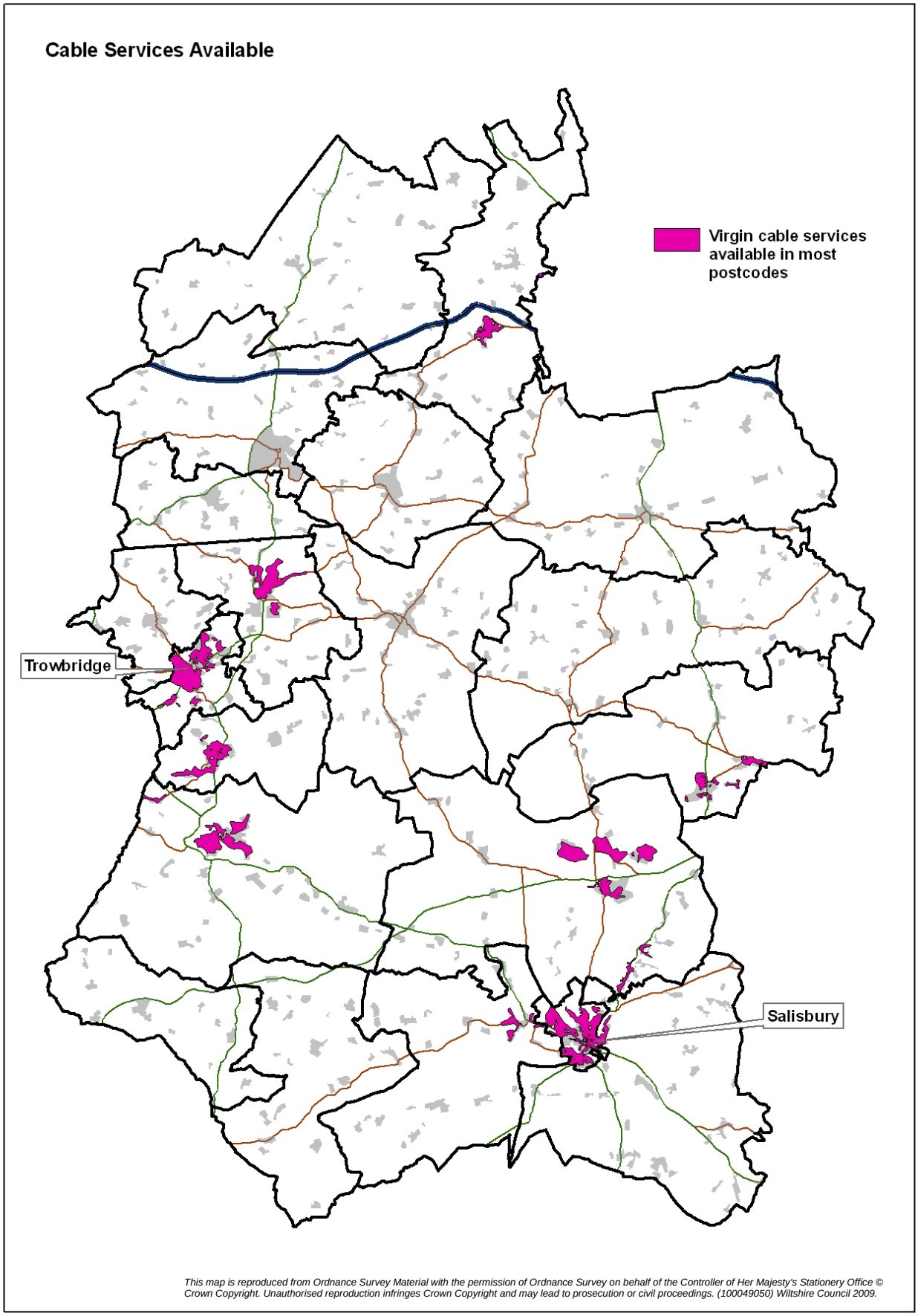

Figure 7. The availability of cable services in Wiltshire

4. Remaining Work

As an aid to the prioritisation of issues, this project will provide profiles for those areas identified as having both superior- and sub-standard broadband provision, indicating the geographical area, the number of businesses and households, the population and its socio-economic characteristics. These profiles will benchmark broadband provision against criteria relevant to the Government's *Universal Service Commitment* and the *Final Third* programmes.

The project will also provide overviews of chosen locations (settlements and employment areas) including the number of businesses, population and households, the average and range of speeds available through the BT network, the accessibility of fibre-optic cable networks and business services such as Ethernet nodes.

Further maps will be produced to show 3G coverage in the county.

The project will go on to highlight where the upgrading or harnessing of existing infrastructure could enhance broadband provision, and will also highlight local schemes, implemented elsewhere, which could potentially provide technical solutions to local broadband issues.

The project is scheduled to be completed by September 2010.