




# NOTSPOTS

A study of Britain's broadband-free areas



First published in Great Britain in 2006 by the Community Broadband Network Ltd. Registered Office: Rutherford House, Manchester Science Park, Manchester M15 6GG

Email: [info@broadband-uk.coop](mailto:info@broadband-uk.coop)

Administrative enquiries to CBN Ltd, 58 Harvard Road, London SE13 6SF

© Copyright 2006 Community Broadband Network Ltd

All rights reserved. Apart from any fair dealing for the purpose of private study, research, criticism or review, as permitted under the Copyright, Designs and Patents Act 1988, no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, electrical, chemical, mechanical, optical, photocopying, recording or otherwise, without the prior written permission of the copyright owner. Enquiries should be addressed to the publishers.

# Contents

<b>Foreword</b>	<b>1</b>
<b>Executive Summary</b>	<b>2</b>
<b>Methodology</b>	<b>4</b>
Internet questionnaire	4
<b>The Regions</b>	<b>5</b>
North East England	6
North West England	7
Yorkshire & Humber	8
East Midlands	9
West Midlands	10
East of England	11
South West England	11
South East England	12
London	12
Wales	13
Scotland	13
<b>The Reasons</b>	<b>14</b>
Non-enabled Exchanges	14
Line-sharing	15
Line Length	16
Line Quality	17
Fibre-optic infrastructure	18
Reliability	19
<b>Feedback</b>	<b>20</b>
<b>Appendices</b>	<b>21</b>
Regional Maps	21
West Midlands	21
East of England	22
East Midlands	23
London	24
North West England	25
North East England	26
South East England	27
South West England	28
Yorkshire & Humber	29
Scotland	30
Wales	31
<b>About the Team</b>	<b>32</b>
CBN	32
ABC	32
Avanti Broadband	32
<b>Acknowledgements</b>	<b>34</b>
<b>Do you know CBN?</b>	<b>35</b>
Consulting Services	35
Events	35

## Foreword

The UK has one of the most extensive first-generation broadband infrastructures in the world, yet there remain persistent reports of people and businesses that seem unable to benefit. Whilst it is true that various studies have been carried out into aspects of this issue, to this point there has been little real independent study of the overall scale of the problem.

Do these “notspots” only affect a very small number of areas, or are they more widespread? And what are the root causes? Understanding these issues will, we hope, help government, regulators, industry players, and communities plan to provide the world’s first truly ubiquitous broadband landscape through policy, investment and innovation.

The Community Broadband Network in conjunction with the Access to Broadband Campaign carried out this study, with sponsorship from Avanti Broadband. The key element in the methodology was an online survey at [www.notspot.info](http://www.notspot.info). Consequently the results should be treated as a sample of broadband notspots around the UK. Further research is needed to definitively map the full scale of this problem.

## Executive Summary

It is undoubtedly true that broadband coverage in the UK has grown at an astounding rate over the last two years. According to BT, the telephone exchanges covering more than 99% of their customers now have broadband capabilities, and the remaining un-enabled exchanges account for fewer than 100,000 customers.

While there is no reason to question this, it is only a part of the overall picture that makes up the UK's broadband landscape. Within the area covered by any given exchange, there may exist areas that for a variety of reasons may not be able to receive a reliable broadband service. Unfortunately, these are also areas typically not served by other mainstream broadband operators such as the cable companies.

There are four core reasons often given for not being able to receive a reliable ADSL service; distance from the exchange, the quality of the wires, line sharing, and fibre-optic cables in the local loop. Nationally the survey found that about half of those completing the survey lived too far from their telephone exchange to get a broadband service.

We conducted our research by online questionnaire and so were reliant on individuals finding out about the survey and reporting problems in their areas. Through this methodology we have uncovered over 1,200 notspots spread throughout Great Britain, with the following regional distribution:

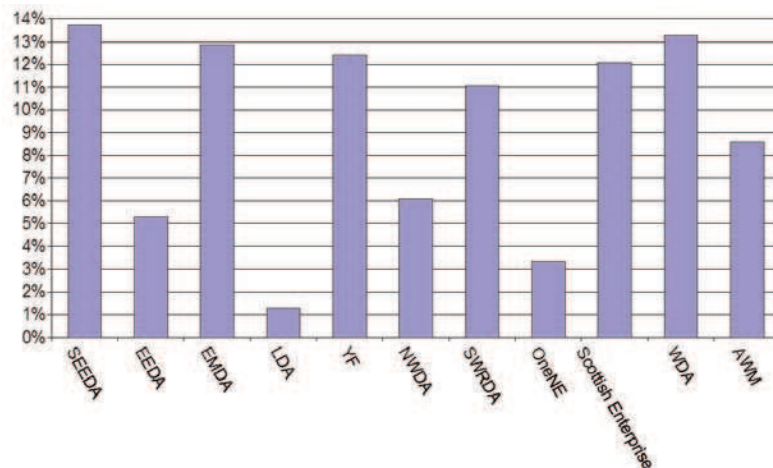
South East (SEEDA)	23%
London (LDA)	5%
South West (SWRDA)	10%
East Anglia (EEDA)	9%
East Midlands (EMDA)	6%
West Midlands (AWM)	9%
Yorkshire (YF)	10%
North West (NWDA)	8%
North East (ONE NorthEast)	2%
Scotland (Scottish Executive)	10%
Wales (Welsh Assembly)	8%

The reasons given for not being able to receive an adequate service were:

Line length	49%
Line quality	23%
Service not available	8%
Fibre-optic cables	5%
Aluminium cables	5%
Line sharing	5%
Exchange capacity issues	3%
Cable company issues	2%

Many of these notspots, both urban and rural, are becoming increasingly difficult to resolve using traditional technologies and architectures. Causes of notspots may be loosely categorised as either transient or persistent. For example, fibre-optic cables might be considered a transient issue as fibre will ultimately form the basis of future broadband provision, and BT already has a copper-overlay programme underway.

Line length and quality, on the other hand, may be considered persistent – current architectures are likely to exacerbate the problem and are expensive to resolve. For example, whilst improvements in signal processors may increase the reach of xDSL at the margin, it is unlikely to overcome the scale of problems being reported to the survey. Indeed, in feeding our hunger for broadband, higher speed variants are likely to exacerbate the problem, with an increasingly privileged few benefiting from higher bandwidth, unless the technology can be moved closer to the consumer or alternative solutions deployed.



The survey suggests that about 80% of notspots fall into the persistent category, with some significant regional variations. While 90% of notspots in Wales and the West Midlands would appear to be persistent, in London this figure is 60%. This distribution is further widened when the data is adjusted for the regional populations (inset), with the South East demonstrating four times the number of persistent broadband problems than the North East of England.

When viewed in this manner it becomes clear why competitive LLU broadband operators are focusing on London, and perhaps offers a warning that many parts of the UK are significantly less likely to see infrastructure-level competition. The London area has shorter line lengths and fewer other persistent barriers, offering LLU operators more certainty when unbundling an exchange than anywhere else in the UK; some London exchanges now host seven broadband operators at a time when about 80% of the UK's exchanges host only BT.

Alternative architectures and technologies will be required if the UK is to have a truly ubiquitous and competitive broadband landscape, and that tailored regional strategies will become more important. This needs to be reflected in both commercial and public strategies.

We believe this survey is a useful contribution to the picture of Broadband Britain in mid 2006. Access to broadband has become an economic and social imperative for many businesses and citizens. Consequently areas that cannot get broadband are likely to be disadvantaged. Without clear policy interventions these problems will be exacerbated as we move towards higher bandwidth next generation access services.

## Methodology

There is no single, authoritative source for the UK's broadband coverage, and many attempts to discover the remaining notspots have demonstrated just how complex, time-consuming, and difficult it is to build an accurate picture.

The authors wanted this report to be as accurate as possible, and any findings to be based on sound research methods; facts have been double-sourced wherever possible, with anecdotal evidence used to support scientific or engineering assumptions.

This report draws on much of the work already done, and where possible the processes used have been critiqued to highlight the assumptions and possible weaknesses in the methods. This was done to ensure that when combined with other studies, the resulting information does not reinforce errors; rather it attempts to eradicate them.

### Internet questionnaire

The backbone of the study was an internet-based survey publicised via a variety of media including The Register, the Sunday Times, Sunday Telegraph, BBC television's Breakfast News, and Radio 4's You & Yours programme.

Whilst BT's network is clearly the most universal of the UK's infrastructures, the survey, hosted at [www.notspot.info](http://www.notspot.info), set out to identify notspots and their causes in as broad a manner as possible. Questions were generated to uncover location, cause, and commentary, irrespective of technology, provider, or location.

This approach, while not exhaustive, does identify notspots where there is an identifiable demand; generally people won't respond to a survey of this nature unless they feel strongly about the issues and would like to see a positive resolution.

It does however mean that it is difficult to challenge or support BT's claim of 99.8% broadband coverage. Existing published information states that about 5% of BT's network, for example, contains aluminium cables and this is reflected in the survey. It is also reported that 40,000 households are affected by TPN, and this amounts to about 5% of the survey findings. It might, therefore, be extrapolated that overall 800,000 homes may not currently be able to receive a reliable broadband service or about 3% of the UK. While this figure shadows Adit's findings from a study undertaken in Northumberland (see below), there are possibly too many assumptions and the approach limits the certainty of this figure.