



October 11

Economic and Social Impact of Broadband in Berkshire

Prepared by Adroit Economics

For and on behalf of

Thames Valley Berkshire (TVB) Local
Economic Partnership (LEP)

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1. Introduction

- 1.1 The Community Broadband Network (CBN) and Adroit Economics were commissioned by Thames Valley Berkshire Local Economic Partnership (TVB LEP) to provide estimates of the economic and social impacts of broadband across the County as a whole and in each constituent local authority. The information is required to support preparation of a broadband plan which **TBV** LEP needs to submit to BDUK¹ in order to secure broadband gap funding grant that Government has allocated to the area.

Approach and method

- 1.2 To provide these data, we have utilised two models developed by Adroit Economics for e-skills UK, the IT sector skills council:
- A model that estimates the economic impact of optimisation of ICTs by businesses, across the economy. The model estimates ICT-driven GVA and employment uplifts at the level of the UK, the nations, the English regions and city regions. The model also estimates the proportion of this uplift attributable to 'faster broadband'. The model can be applied to any bespoke geography, such as to counties, constituent local authorities or to parts of local authority areas.
 - A model that estimates the social (and associated economic) benefits of addressing digital exclusion, again at the level of the UK, the nations, the English regions and city regions

Data sources

- 1.3 Both models draw on a range of data sources, including publicly available Government statistics on employment, population and households. We are grateful for the help of TVB LEP, West Berkshire and Slough local authorities in accessing and providing some of these data to use.
- 1.4 Further detail of both models is provided at the beginning of sections 2 and 3 in the report and full detail can be found on the e-skills UK website

Focussing the analysis on black, grey and white areas in each constituent local authority area

- 1.5 Current BDUK funding for broadband infrastructure is intended to gap-fund commercial deployment in those areas that are currently and are likely to remain underserved by the market. To identify which areas are under-served, BDUK has adopted the EU system of colour coding areas as black, grey and white. White areas are those which are most under-served². BDUK has applied the colour coding in the UK at the level of post codes and has developed the following definition of black, grey and white areas, with reference to next generation access (NGA).

¹ Broadband Delivery UK, the Government agency charged with delivery of the Government's broadband policy. BDUK sits within the Department of Culture, Media and Sport (DCMS).

² The EU has accepted that white areas are subject to recognised 'market failure' in terms of provision of competitive broadband services, and as a consequence, the EU has accepted that provision of grant by national governments to assist the market in provision of broadband network infrastructure to enable provision of competitive services, is an acceptable State aid, whereas provision of grant to assist development in grey or black areas, is not an acceptable State aid. Hence, BDUK funding needs to focus on addressing provision in white areas only.

Definition of black, grey and white areas applied to NGA**Black**

- its estimated VDSL speed > 15 mbit/s AND it is scheduled to be upgraded by BT AND it is not an 'exchange only' line,
- and if it is on Virgin Media,

Grey

- its estimated VDSL speed > 15 mbit/s AND it is scheduled to be upgraded by BT AND it is not an 'exchange only' line,
- or if it is on Virgin Media,

White

- Neither of the conditions apply

- 1.6 Broadband plans therefore need to identify the extent and importance of addressing broadband provision in white areas. We have therefore specifically modelled the economic and social impacts of ICTs and of broadband at the level of black, grey and white areas for Berkshire as a whole and for each constituent local authority.
- 1.7 This report sets out the headline results of the analysis.
- 1.8 If you have any questions or require further information, please do not hesitate to contact the authors:
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2. Summary

Economic benefits of broadband

- Optimisation of advanced ICTs by businesses across Berkshire will generate an additional £1.2bn GVA over the next 5 to 7 years, which equates to c.17,000 jobs
 - = The county's white areas account for £154m of this GVA uplift (2,300 of these jobs)
 - = West Berkshire is the local authority with the largest white areas, comprising the highest proportion of total local authority jobs and GVA and hence accounting for the most significant ICT-driven GVA uplift and associated jobs
- Quadrupling of broadband speeds and 10% additional penetration in Berkshires 'white areas' will generate an additional £150m GVA over the next 2 years

Social benefits of broadband

- There are over 140,000 people and 44,000 households in Berkshire that can be regarded as digitally excluded.
- If these are able to access the internet, the benefits could be significant
 - = Just under 1,000 students would achieve better GCSE results (equating to increased lifetime earnings of £112m)
 - = c.400 unemployed would find new jobs more easily (equating to increased lifetime earnings of just under £5m)
 - = Public sector would save £25m pa in transaction costs if the digitally excluded were able to access the internet and undertake similar numbers of transactions on line as the digitally included currently do
 - = There would be 120,000 less visits to the GP per year, resulting in cost savings to the NHS of c.£5.5m pa

3. Results – economic impact of broadband in Berkshire

- 3.1 We have calculated employment and GVA³ in the white, grey and black areas⁴ in each local authority in Berkshire; we have then estimated potential increases in GVA (and employment) resulting from full adoption and exploitation of ICTs by businesses...and have calculated what proportion of these GVA uplifts are linked to faster broadband.

Method

- 3.2 We have calculated this using the model Adroit Economics developed for e-skills UK (the IT sector skills council) in 2007/8. The model estimates the additional GVA (and associated jobs) likely to be generated if businesses across the economy (particularly small businesses) fully optimise and exploit advanced ICTs. The model estimates the GVA (and employment) uplifts for the UK as a whole, for our nations, for the English regions and city regions. It can also be applied to county/LEP areas and to bespoke geographies, such as white, grey and black areas in any county, LEP area, city or town.
- 3.3 The model was updated for e-skills by Adroit in 2010, to take account of the latest evidence on the impact of ICTs on productivity, innovation and enterprise and was then updated in 2011 to take account of the latest productivity forecasts for the UK (provided by Experian) and, for the first time, to estimate the importance of and contribution of faster broadband, based on the latest evidence available

Quadrupling of broadband speeds and 10% additional penetration in Berkshires 'white areas' will generate an additional £150m GVA over the next 2 years⁵

Results

- 3.4 The following table provides the results of this analysis for Berkshire as a whole, by white grey and black areas (breakdowns for constituent local authorities are provided in the appendices)
- The latest employment data (BSRE 2008) suggests there are just under 400,000 jobs FTE in Berkshire, of which the majority (64%) are in those parts of the county designated 'grey' by BDUK; 23% are in black areas and **14% of jobs are in white areas** (the most underserved areas in terms of current broadband provision)
 - We estimate that £23bn GVA is generated across the Berkshire economy (using 2012 productivity forecasts)⁶, of which 67% is generated by businesses in grey areas, 21% in black areas and **12% of Berkshire GVA is generated in white areas**
 - On the assumption that all businesses fully optimise the latest available ICTs, the e-skills model estimates that GVA will increase by 4-6%, on average over the next 5 to 7 years. The rate of increase varies by industry sector and the total quantum of increase will be a function of this and of the size of the industry sector
 - The e-skills model estimates that GVA could increase by just under £1.3bn across Berkshire over the next 5-7 years, if all businesses optimise advanced ICTs. This equates to c.17,700 additional jobs. Of this, Berkshire's black areas account for £230m GVA uplift (c.3,500

³ Gross Value Added – the most commonly used measure of economic productivity

⁴ A geographic classification system developed by the EU and adopted by the UK Government to define level of current broadband provision (and associated competition and service choice). Black areas are those that have two or more providers, grey have one provider and white areas have no or limited provision. BDUK (Broadband Delivery UK), within DCMS, has applied the coding system at the level of individual post codes.

⁵ Study of 33 OECD countries by Ericsson, Arthur D. Little and Chalmers University of Technology

⁶ The latest available data from ONS (2009) indicates that total GVA for England is £730bn, of which the Southeast region (in which Berkshire is located) is £131bn. The e-skills UK model, using 2012 productivity forecasts, calculates total GVA for England as £910bn of which the Southeast region is £163bn. The above figures are based on the e-skills UK 2012 figures.

jobs); grey areas account for c.£900m (c.12,000 jobs) and **white areas account for £154m (c.2,400 jobs)** resulting from optimisation of ICTs by businesses

- Availability of comparable competitive broadband services is an essential component of modern ICTs and businesses in those areas that do not have access to competitive services will, by definition, not be able to optimise their investment in and use of ICTs. This applies particularly to the white areas – hence, if steps are not taken to ensure businesses in Berkshire’s white areas cannot access comparable competitive broadband services, then the estimated ICT-driven GVA uplift of c.£150m (c.2,400 jobs) will not be realised.
- Drawing on the latest evidence of the impact of broadband speed on GVA, the e-skills model estimates that for Berkshire as a whole. Overall, faster and more extensive broadband accounts for approximately a third (or more⁷) of the above ICT-driven GVA-uplifts
 - = Doubling broadband speed across the County will generate an additional c.£70m GVA over the next 2 to 3 years
 - = Quadrupling broadband speeds will generate an additional c.£140m GVA
 - = Increasing penetration by 10% will generate an additional c.£235m GVA
 - = ...and a combination of 8 times faster broadband coupled with 10% increased penetration will generate an additional £375m GVA
- **The white areas, by definition, will have most need of faster broadband and greater penetration.** Applying these metrics to Berkshire’s white areas suggests that quadrupling of broadband speeds coupled with 10% increased penetration **will generate an additional c. £50m GVA over the next two years.**

Economic impact of broadband				
	<i>White</i>	<i>Grey</i>	<i>Black</i>	<i>Total</i>
Total employment FTE	51,870	243,333	87,491	382,693
	14%	64%	23%	100%
Total GVA 2012 estimates £m	2,926	15,643	4,899	23,468
	12%	67%	21%	100%
ICT GVA uplift £m	154	898	229	1,281
ICT GVA uplift %	5.3%	5.7%	4.7%	5.5%
Equivalent jobs - FTE	2,377	11,866	3,435	17,677
Doubling of broadband speeds will generate 0.3% additional GVA over 2 years (£m)	9	47	15	70
Quadrupling of broadband speeds will generate 0.6% additional GVA over 2 years (£m)	18	94	29	141
10% increased penetration of broadband will generate 1% additional GVA (£m)	29	156	49	235
Quadrupling of speeds coupled with 10% increased penetration will generate 1.6% additional GVA (£m)	47	250	78	375

⁷ If broadband speeds and penetration increase, beyond the figures used in this calculation, impacts on GVA will be greater.

- 3.5 The ICT GVA uplift figure (in row 3 of the above table) is calculated using the e-skills ICT impact model described above. Essentially the model estimates the additional GVA that will be generated in a local economy if all businesses adopt and fully exploit advanced ICTs, over the next 5 to 7 years.
- 3.6 The GVA uplift derives from improved productivity, innovation and enterprise. Access to and use of broadband and the internet is but one component of advanced ICTs, but it is an increasingly important and essential component of advanced ICTs. The GVA uplift therefore derives from access to and use of competitive broadband along with all other components of advanced ICTs (hardware devices, software, applications, content and services)...all fully optimised and integrated with individual businesses.
- 3.7 Figures in rows 6 onwards in the above table then seek to estimate the element of the GVA uplift that is directly attributable to faster broadband.
- 3.8 ***The issue for broadband plans is that firms in white areas, by definition, are unlikely to be able to optimise advanced ICTs if they cannot access advanced competitive broadband...hence the potential GVA (and associated employment) uplifts will not be realised by firms in white areas, unless broadband provision is addressed***

The picture differs between local authorities in Berkshire

The extent of ICT-driven and broadband-drive GVA uplift and jobs differs between local authorities in Berkshire depending on size of each authorities economy and its industrial structure. Moreover, the extent of and importance of white areas differs between authorities

Comparing white areas by local authority

- 3.9 The following table extracts the results of our analysis for the white areas (only) of each local authority in Berkshire. Key points to note are:
- White area employment and GVA accounts for the largest share of total employment and GVA in West Berkshire - 40% of West Berkshire employment (c.28,000 jobs) is in white areas and 36% of GVA (£1.6bn) is generated in white areas. In all the other districts the white area share of employment and GVA is much smaller, between 9-10% in general. The white areas in the other authorities have much smaller shares
 - This pattern is broadly repeated regarding ICT-driven GVA uplift, with West Berkshire's white-area GVA uplift (£82m) equalling 34.6% of total GVA uplift in the authority, accounting for the largest proportion of white area share total uplift in each respective local authority
 - Similarly, West Berkshire white areas account for the largest proportion of GA uplift associated with faster broadband – quadrupling of broadband speeds in West Berkshire's white areas coupled with increased penetration of 10% is estimated to generate an additional £25m GVA over the next 2 years or so.

Comparing white areas by local authority						
	Wokingham	Windsor and Maidenhead	West Berkshire	Slough	Reading	Braknell Forest
Total employment FTE	4,089	5,244	28,502	9,886	58	4,093
White area share of total local authority employment	7%	9%	39%	14%	0.07%	9%
Total GVA 2012 estimates £m	199	443	1,598	489	4	195
White area share of total local authority GVA	6%	12%	36%	10%	0.08%	7%
ICT GVA uplift £m	8.8	29.7	82.6	24.1	0.1	8.7
ICT GVA uplift %	4.4%	6.7%	5.2%	4.9%	3.8%	4.5%
Share of ICT GVA uplift by area of total in the LA	5.3%	15.3%	34.6%	8.6%	0.1%	5.4%
Equivalent jobs - FTE	151	303	1,282	469	2	171
Doubling of broadband speeds will generate 0.3% additional GVA over 2 years (£m)	0.6	1.3	4.8	1.5	0.01	0.6
Quadrupling of broadband speeds will generate 0.6% additional GVA over 2 years (£m)	1.2	2.7	9.6	2.9	0.02	1.2
10% increased penetration of broadband will generate 1% additional GVA (£m)	2.0	4.4	16.0	4.9	0.04	1.9
Quadrupling of speeds coupled with 10% increased penetration will generate 1.6% additional GVA (£m)	3.18	7.08	25.56	7.82	0.06	3.12

Local Authority	Employment FTE (%)	GVA 2012 est (%)	ICT GVA uplift %
Wokingham	7%	6%	4.4%
Windsor and Maidenhead	9%	12%	6.7%
West Berkshire	39%	36%	5.2%
Slough	14%	10%	4.9%
Reading	0.07%	0.08%	3.8%
Braknell Forest	9%	7%	4.5%

Source: Adroit Economics modelling of employment, GVA and ICT-driven GVA uplift in Berkshire's local authorities' white areas

4. Results – social impact of broadband in Berkshire

4.1 We have estimated the social (and associated) economic benefits of addressing digital exclusion across Berkshire, for the white, grey and black areas of each constituent local authority.

Method

4.2 To do this, we used the model developed by Adroit Economics for e-skills UK (the IT sector skills council). The model essentially applies the national metrics provided in PWC's report to Martha Lane-Fox⁸, to regions, city regions, counties and to bespoke geographies within these, such as white, grey and black areas.

4.3 The model applies some (not all of the benefits) identified in the PWC report – for example:

- Improved educational attainment (and associated increased lifetime earnings) if digital exclusion is fully addressed
- Increased access to work (and associated increased lifetime earnings), if digital exclusions is fully addressed
- Household savings from shopping on line
- Reduced public sector transaction costs through increased transactions on-line
- Reduced visits to the GP and associated cost savings to the NHS via increased access to health information on-line

Results – Berkshire as a whole

4.4 The following table shows the results for Berkshire as a whole, by white, grey and black area. Key points to note are:

- There are over 140,000 people and 44,000 households in Berkshire that can be regarded as digitally excluded.
- If these are able to access the internet, the benefits could be significant
 - = Just under 1,000 students would achieve better GCSE results (equating to increased lifetime earnings of £112m)
 - = c.400 unemployed would find new jobs more easily (equating to increased lifetime earnings of just under £5m)
 - = Public sector would save £25m pa in transaction costs if the digitally excluded were able to access the internet and undertake similar numbers of transactions on line as the digitally included currently do
 - = There would be 120,000 less visits to the GP per year, resulting in cost savings to the NHS of c.£5.5m pa

⁸ The UK's digital inclusion champion, appointed by the Government <http://raceonline2012.org/>

The benefits of addressing digital exclusion in Berkshire's white, grey and black areas								
	White	Grey	Black	Total	White	Grey	Black	Total
Adults (16+) who've never accessed the internet (m)	22,166	63,279	58,001	143,446	15.45%	44.11%	40.43%	100%
No adults aged 65+ who've never accessed the internet	13,875	39,476	33,478	86,829	15.98%	45.46%	38.56%	100%
Unemployed adults who've never accessed the internet	692	3,026	3,465	7,183	9.64%	42.13%	48.23%	100%
Digitally excluded households	6,931	19,303	17,944	44,178	15.69%	43.69%	40.62%	100%
Children in digitally excluded households	3,479	8,844	8,507	20,830	16.70%	42.46%	40.84%	100%
improved GCSE results	157	398	383	937	16.70%	42.46%	40.84%	100%
additional lifetime earnings (discounted) £m	18.79	47.76	45.94	112.48	16.70%	42.46%	40.84%	100%
20% of those improving at GCSEs will go on to A levels	31	80	77	187	16.70%	42.46%	40.84%	100%
additional lifetime earnings (discounted) £m	2.57	6.53	6.28	15.37	16.70%	42.46%	40.84%	100%
% of digitally excluded unemployed adults who would be helped into work if they became digitally included	38	166	191	395	9.64%	42.13%	48.23%	100%
additional lifetime earnings (discounted) £m	0.47	2.07	2.37	4.91	9.64%	42.13%	48.23%	100%
Saving per digitally excluded household pa £m	3.88	10.81	10.05	24.74	15.69%	43.69%	40.62%	100%
Saving to govt if digitally excluded undertook all transactions on line (assuming ave of 24 transactions per person £m)	4.00	11.39	9.66	25.05	15.98%	45.46%	38.56%	100%
GP visit reductions of digital exclusion were fully addressed	23,496	68,322	59,192	151,009	15.56%	45.24%	39.20%	100%
Cost savings to NHS if digital exclusion were fully addressed	0.85	2.46	2.13	5.44	15.56%	45.24%	39.20%	100%

Results – white areas

- 4.5 Digital exclusion occurs across the county. It is not particularly concentrated in white areas, and neither are the benefits of addressing digital exclusion. Digital exclusion will have something to do with lack of connectivity (which by definition is a primary issue in white areas), but it also has a lot to do with age, economic status and level of deprivation.

4.6 This said, if broadband access is improved in the county's white areas, it is very likely that digital exclusion will reduce significantly. The following table shows the specific benefits of this, for each local authority area.

Benefits of addressing digital exclusion in Berkshire's white areas						
	Bracknell Forest 001A	Reading 006A	Slough 003G	West Berkshire 001A	Windsor and Maidenhead 002E	Wokingham 001A
Adults (16+) who've never accessed the internet (m)	3,346	509	723	10,946	2,295	4,348
No adults aged 65+ who've never accessed the internet	1,372	323	308	7,539	1,563	2,769
Unemployed adults who've never accessed the internet	132	39	64	290	69	98
Digitally excluded households	1,166	164	252	3,402	677	1,271
Children in digitally excluded households	628	79	136	1,641	329	666
improved GCSE results	28	4	6	74	15	30
additional lifetime earnings (discounted) £m	3.39	0.43	0.73	8.86	1.78	3.60
20% of those improving at GCSEs will go on to A levels	6	1	1	15	3	6
additional lifetime earnings (discounted) £m	0.46	0.06	0.10	1.21	0.24	0.49
% of digitally excluded unemployed adults who would be helped into work if they became digitally included	7	2	4	16	4	5
additional lifetime earnings (discounted) £m	0.09	0.03	0.04	0.20	0.05	0.07
Saving per digitally excluded household pa £m	0.65	0.09	0.14	1.90	0.38	0.71
Saving to govt if digitally excluded undertook all transactions on line (assuming ave of 24 transactions per person £m)	0.40	0.09	0.09	2.17	0.45	0.80
GP visit reductions of digital exclusion were fully addressed	2,412	579	590	12,648	2,634	4,634
Cost savings to NHS if digital exclusion were fully addressed	0.09	0.02	0.02	0.46	0.09	0.17

5. Appendices – detailed results

5.1 The following two tables provide further detail

- Table A1: shows ICT and broadband economic impacts for each local authority, by white, grey and black areas
- Table A2: shows the benefits of addressing digital exclusion across Berkshire, by white, grey and black areas
- Table A3: shows the benefits of addressing digital exclusion across Berkshire, by the white, grey and black areas of each constituent local authority
- Table A4: shows the benefits of addressing digital exclusion across Berkshire, by each constituent local authority

Table A1: Berkshire – Economic Impact of ICTs and of Broadband on white, grey and black areas

	White						Grey						Black						Totals			
	Wokingham	Windsor and Maidenhead	West Berkshire	Slough	Reading	Braknell Forest	Wokingham	Windsor and Maidenhead	West Berkshire	Slough	Reading	Braknell Forest	Wokingham	Windsor and Maidenhead	West Berkshire	Slough	Reading	Braknell Forest	White	Grey	Black	Total
Total employment FTE	4,089	5,244	28,502	9,886	58	4,093	22,725	43,954	38,166	49,622	50,318	38,549	28,107	11,870	5,859	9,473	27,113	5,070	51,870	243,333	87,491	382,693
	8%	10%	55%	19%	0%	8%	9%	18%	16%	20%	21%	16%	32%	14%	7%	11%	31%	6%	14%	64%	23%	100%
Total GVA 2012 estimates £m	199	443	1,598	489	4	195	1,362	2,437	2,535	3,793	3,151	2,364	1,639	726	290	502	1,448	293	2,926	15,643	4,899	23,468
	7%	15%	55%	17%	0%	7%	9%	16%	16%	24%	20%	15%	33%	15%	6%	10%	30%	6%	12%	67%	21%	100%
ICT GVA uplift £m	8.8	29.7	82.6	24.1	0.1	8.7	76.8	124.7	144.5	233.9	183.8	134.0	81.0	39.0	11.5	22.0	58.8	16.9	154	898	229	1,281
ICT GVA uplift %	4.4%	6.7%	5.2%	4.9%	3.8%	4.5%	5.6%	5.1%	5.7%	6.2%	5.8%	5.7%	4.9%	5.4%	4.0%	4.4%	4.1%	5.8%	5.3%	5.7%	4.7%	5.5%
Equivalent jobs - FTE	151	303	1,282	469	2	171	1,068	1,961	1,769	2,604	2,634	1,831	1,240	561	196	353	833	252	2,377	11,866	3,435	17,677
Doubling of broadband speeds will generate 0.3% additional GVA over 2 years	0.6	1.3	4.8	1.5	0.0	0.6	4.1	7.3	7.6	11.4	9.5	7.1	4.9	2.2	0.9	1.5	4.3	0.9	9	47	15	70
Quadrupling of broadband speeds will generate 0.6% additional GVA over 2 years	1.2	2.7	9.6	2.9	0.0	1.2	8.2	14.6	15.2	22.8	18.9	14.2	9.8	4.4	1.7	3.0	8.7	1.8	18	94	29	141

10% increased penetration of broadband will generate 1% additional GVA	2.0	4.4	16.0	4.9	0.0	1.9	13.6	24.4	25.4	37.9	31.5	23.6	16.4	7.3	2.9	5.0	14.5	2.9	29	156	49	235
Quadrupling of speeds coupled with 10% increased penetration will generate 1.6% additional GVA	3.18	7.08	25.56	7.82	0.06	3.12	21.79	39.00	40.56	60.69	50.42	37.82	26.23	11.61	4.64	8.03	23.17	4.69	47	250	78	375

Table A2: Benefits of addressing digital exclusion in Berkshire’s white, grey and black areas

Berkshire LEP	White						Grey						Black						Total
	Bracknell Forest 001A	Reading 006A	Slough 003G	West Berkshire 001A	Windsor and Maidenhead 002E	Wokingham 001A	Bracknell Forest 001A	Reading 006A	Slough 003G	West Berkshire 001A	Windsor and Maidenhead 002E	Wokingham 001A	Bracknell Forest 001A	Reading 006A	Slough 003G	West Berkshire 001A	Windsor and Maidenhead 002E	Wokingham 001A	
Households 2001	8,328	1,171	1,801	24,297	4,834	9,078	24,061	10,358	22,398	18,082	37,880	25,098	11,074	46,134	20,885	15,200	11,655	23,226	315,560
households with dependent children 2001	2,966	374	640	7,746	1,554	3,143	7,715	2,738	7,082	5,177	10,516	8,521	3,798	12,930	7,595	5,047	3,416	7,371	98,329
Adults - (16+) total Jan 2009	15,932	2,423	3,442	52,124	10,928	20,703	52,887	23,274	48,640	37,731	80,191	58,606	22,818	99,136	48,552	31,283	23,719	50,688	683,077
Unemployed (16-64) 2011	253	75	124	558	132	189	927	789	1,649	764	1,135	556	528	2,931	1,557	516	425	706	13,814
No adults aged 65+ 2009	2,144	505	481	11,780	2,442	4,327	10,902	3,731	7,689	8,093	18,883	12,383	3,851	16,808	8,134	7,336	5,333	10,848	135,670
Adults (16+) who've never accessed the internet (m)	3,346	509	723	10,946	2,295	4,348	11,106	4,888	10,214	7,924	16,840	12,307	4,792	20,819	10,196	6,569	4,981	10,644	143,446
No adults aged 65+ who've never accessed the internet	1,372	323	308	7,539	1,563	2,769	6,977	2,388	4,921	5,180	12,085	7,925	2,465	10,757	5,206	4,695	3,413	6,943	86,829
Unemployed adults who've never	132	39	64	290	69	98	482	410	857	397	590	289	275	1,524	810	268	221	367	7,183

accessed the internet																				
Digitally excluded households	1,166	164	252	3,402	677	1,271	3,369	1,450	3,136	2,531	5,303	3,514	1,550	6,459	2,924	2,128	1,632	3,252	44,178	
Children in digitally excluded households	628	79	136	1,641	329	666	1,634	580	1,500	1,097	2,228	1,805	805	2,739	1,609	1,069	724	1,561	20,830	
improved GCSE results	28	4	6	74	15	30	74	26	68	49	100	81	36	123	72	48	33	70	937	
additional lifetime earnings (discounted) £m	3.39	0.43	0.73	8.86	1.78	3.60	8.83	3.13	8.10	5.92	12.03	9.75	4.34	14.79	8.69	5.77	3.91	8.43	112.48	
20% of those improving at GCSEs will go on to A levels	6	1	1	15	3	6	15	5	14	10	20	16	7	25	14	10	7	14	187	
additional lifetime earnings (discounted) £m	0.46	0.06	0.10	1.21	0.24	0.49	1.21	0.43	1.11	0.81	1.64	1.33	0.59	2.02	1.19	0.79	0.53	1.15	15.37	
% of digitally excluded unemployed adults who would be helped into work if they became digitally included	7	2	4	16	4	5	27	23	47	22	32	16	15	84	45	15	12	20	395	
additional lifetime earnings (discounted) £m	0.09	0.03	0.04	0.20	0.05	0.07	0.33	0.28	0.59	0.27	0.40	0.20	0.19	1.04	0.55	0.18	0.15	0.25	4.91	

Saving per digitally excluded household pa £m	0.65	0.09	0.14	1.90	0.38	0.71	1.89	0.81	1.76	1.42	2.97	1.97	0.87	3.62	1.64	1.19	0.91	1.82	24.74
Saving to govt if digitally excluded undertook all transactions on line (assuming ave of 24 transactions per person £m)	0.40	0.09	0.09	2.17	0.45	0.80	2.01	0.69	1.42	1.49	3.49	2.29	0.71	3.10	1.50	1.35	0.98	2.00	25.05
GP visit reductions of digital exclusion were fully addressed	2,412	579	590	12,648	2,634	4,634	12,002	4,449	9,185	8,965	20,448	13,273	4,385	19,591	9,581	7,998	5,851	11,786	151,009
Cost savings to NHS if digital exclusion were fully addressed	0.09	0.02	0.02	0.46	0.09	0.17	0.43	0.16	0.33	0.32	0.74	0.48	0.16	0.71	0.34	0.29	0.21	0.42	5.44

Table A3: Benefits of addressing digital exclusion in Berkshire – in each constituent local authority, by white, grey and black areas

	White	Grey	Black	White	Grey	Black	White	Grey	Black	White	Grey	Black	White	Grey	Black	White	Grey	Black	Total
	Bracknell Forest 001A	Bracknell Forest 001A	Bracknell Forest 001A	Reading 006A	Reading 006A	Reading 006A	Slough 003G	Slough 003G	Slough 003G	West Berkshire 001A	West Berkshire 001A	West Berkshire 001A	Windsor and Maidenhead 002E	Windsor and Maidenhead 002E	Windsor and Maidenhead 002E	Wokingham 001A	Wokingham 001A	Wokingham 001A	Total
Households 2001	8,328	24,061	11,074	1,171	10,358	46,134	1,801	22,398	20,885	24,297	18,082	15,200	4,834	37,880	11,655	9,078	25,098	23,226	315,560
households with dependent children 2001	2,966	7,715	3,798	374	2,738	12,930	640	7,082	7,595	7,746	5,177	5,047	1,554	10,516	3,416	3,143	8,521	7,371	98,329
Adults - (16+) total Jan 2009	15,932	52,887	22,818	2,423	23,274	99,136	3,442	48,640	48,552	52,124	37,731	31,283	10,928	80,191	23,719	20,703	58,606	50,688	683,077
Unemployed (16-64) 2011	253	927	528	75	789	2,931	124	1,649	1,557	558	764	516	132	1,135	425	189	556	706	13,814
No adults aged 65+ 2009	2,144	10,902	3,851	505	3,731	16,808	481	7,689	8,134	11,780	8,093	7,336	2,442	18,883	5,333	4,327	12,383	10,848	135,670
Adults (16+) who've never accessed the internet (m)	3,346	11,106	4,792	509	4,888	20,819	723	10,214	10,196	10,946	7,924	6,569	2,295	16,840	4,981	4,348	12,307	10,644	143,446
No adults aged 65+ who've never accessed the internet	1,372	6,977	2,465	323	2,388	10,757	308	4,921	5,206	7,539	5,180	4,695	1,563	12,085	3,413	2,769	7,925	6,943	86,829
Unemployed adults who've never accessed the	132	482	275	39	410	1,524	64	857	810	290	397	268	69	590	221	98	289	367	7,183

internet																			
Digitally excluded households	1,166	3,369	1,550	164	1,450	6,459	252	3,136	2,924	3,402	2,531	2,128	677	5,303	1,632	1,271	3,514	3,252	44,178
Children in digitally excluded households	628	1,634	805	79	580	2,739	136	1,500	1,609	1,641	1,097	1,069	329	2,228	724	666	1,805	1,561	20,830
improved GCSE results	28	74	36	4	26	123	6	68	72	74	49	48	15	100	33	30	81	70	937
additional lifetime earnings (discounted) £m	3.39	8.83	4.34	0.43	3.13	14.79	0.73	8.10	8.69	8.86	5.92	5.77	1.78	12.03	3.91	3.60	9.75	8.43	112.48
20% of those improving at GCSEs will go on to A levels	6	15	7	1	5	25	1	14	14	15	10	10	3	20	7	6	16	14	187
additional lifetime earnings (discounted) £m	0.46	1.21	0.59	0.06	0.43	2.02	0.10	1.11	1.19	1.21	0.81	0.79	0.24	1.64	0.53	0.49	1.33	1.15	15.37
% of digitally excluded unemployed adults who would be helped into work if they became digitally included	7	27	15	2	23	84	4	47	45	16	22	15	4	32	12	5	16	20	395
additional lifetime earnings (discounted) £m	0.09	0.33	0.19	0.03	0.28	1.04	0.04	0.59	0.55	0.20	0.27	0.18	0.05	0.40	0.15	0.07	0.20	0.25	4.91

Saving per digitally excluded household pa £m	0.65	1.89	0.87	0.09	0.81	3.62	0.14	1.76	1.64	1.90	1.42	1.19	0.38	2.97	0.91	0.71	1.97	1.82	24.74
Saving to govt if digitally excluded undertook all transactions on line (assuming ave of 24 transactions per person £m)	0.40	2.01	0.71	0.09	0.69	3.10	0.09	1.42	1.50	2.17	1.49	1.35	0.45	3.49	0.98	0.80	2.29	2.00	25.05
GP visit reductions of digital exclusion were fully addressed	2,412	12,002	4,385	579	4,449	19,591	590	9,185	9,581	12,648	8,965	7,998	2,634	20,448	5,851	4,634	13,273	11,786	151,009
Cost savings to NHS if digital exclusion were fully addressed	0.09	0.43	0.16	0.02	0.16	0.71	0.02	0.33	0.34	0.46	0.32	0.29	0.09	0.74	0.21	0.17	0.48	0.42	5.44

Table A4: Benefits of addressing digital exclusion in Berkshire, for each constituent local authority

	<i>Bracknell Forest 001A</i>	<i>Reading 006A</i>	<i>Slough 003G</i>	<i>West Berkshire 001A</i>	<i>Windsor and Maidenhead 002E</i>	<i>Wokingham 001A</i>	<i>Total</i>	<i>Bracknell Forest 001A</i>	<i>Reading 006A</i>	<i>Slough 003G</i>	<i>West Berkshire 001A</i>	<i>Windsor and Maidenhead 002E</i>	<i>Wokingham 001A</i>	<i>Total</i>
Households 2001	43,463	57,663	45,084	57,579	54,369	57,402	315,560	13.8%	18.3%	14.3%	18.2%	17.2%	18.2%	100%
households with dependent children 2001	14,479	16,042	15,317	17,970	15,486	19,035	98,329	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%
Adults - (16+) total Jan 2009	91,637	124,833	100,634	121,138	114,838	129,997	683,077	13.4%	18.3%	14.7%	17.7%	16.8%	19.0%	100%
Unemployed (16-64) 2011	1,708	3,795	3,330	1,838	1,692	1,451	13,814	12.4%	27.5%	24.1%	13.3%	12.2%	10.5%	100%
No adults aged 65+ 2009	16,897	21,044	16,304	27,209	26,658	27,558	135,670	12.5%	15.5%	12.0%	20.1%	19.6%	20.3%	100%
Adults (16+) who've never accessed the internet (m)	19,244	26,215	21,133	25,439	24,116	27,299	143,446	13.4%	18.3%	14.7%	17.7%	16.8%	19.0%	100%
No adults aged 65+ who've never accessed the internet	10,814	13,468	10,435	17,414	17,061	17,637	86,829	12.5%	15.5%	12.0%	20.1%	19.6%	20.3%	100%
Unemployed adults who've never accessed the internet	888	1,973	1,732	956	880	755	7,183	12.4%	27.5%	24.1%	13.3%	12.2%	10.5%	100%
Digitally excluded households	6,085	8,073	6,312	8,061	7,612	8,036	44,178	13.8%	18.3%	14.3%	18.2%	17.2%	18.2%	100%
Children in digitally excluded households	3,067	3,398	3,245	3,807	3,281	4,032	20,830	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%
improved GCSE results	138	153	146	171	148	181	937	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%
additional lifetime earnings (discounted) £m	16.56	18.35	17.52	20.56	17.72	21.78	112.48	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%
20% of those improving at GCSEs will go on to A levels	28	31	29	34	30	36	187	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%
additional lifetime earnings (discounted) £m	2.26	2.51	2.39	2.81	2.42	2.98	15.37	14.7%	16.3%	15.6%	18.3%	15.7%	19.4%	100%

% of digitally excluded unemployed adults who would be helped into work if they became digitally included	49	109	95	53	48	41	395	12.4%	27.5%	24.1%	13.3%	12.2%	10.5%	100%
additional lifetime earnings (discounted) £m	0.61	1.35	1.18	0.65	0.60	0.52	4.91	12.4%	27.5%	24.1%	13.3%	12.2%	10.5%	100%
Saving per digitally excluded household pa £m	3.41	4.52	3.53	4.51	4.26	4.50	24.74	13.8%	18.3%	14.3%	18.2%	17.2%	18.2%	100%
Saving to govt if digitally excluded undertook all transactions on line (assuming ave of 24 transactions per person £m)	3.12	3.89	3.01	5.02	4.92	5.09	25.05	12.5%	15.5%	12.0%	20.1%	19.6%	20.3%	100%
GP visit reductions of digital exclusion were fully addressed	18,798	24,619	19,356	29,610	28,932	29,693	151,009	12.4%	16.3%	12.8%	19.6%	19.2%	19.7%	100%
Cost savings to NHS if digital exclusion were fully addressed	0.68	0.89	0.70	1.07	1.04	1.07	5.44	12.4%	16.3%	12.8%	19.6%	19.2%	19.7%	100%

