

UK broadband speeds research 2010

Ed Richards, Chief Executive

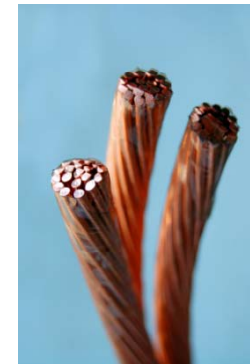
26 July 2010

We have taken a number of initiatives in relation to broadband speeds

- **June 2008:** Agreement of the Voluntary Code of Practice on broadband speeds
- **December 2008:** Code came into force
- **January 2009:** Publication of initial research report
- **July 2009:** Publication of second research report
- **March 2010:** Statement on delivering super-fast broadband in the UK
- **July 2010:** Publication of this research report, strengthened Code, updated consumer guide

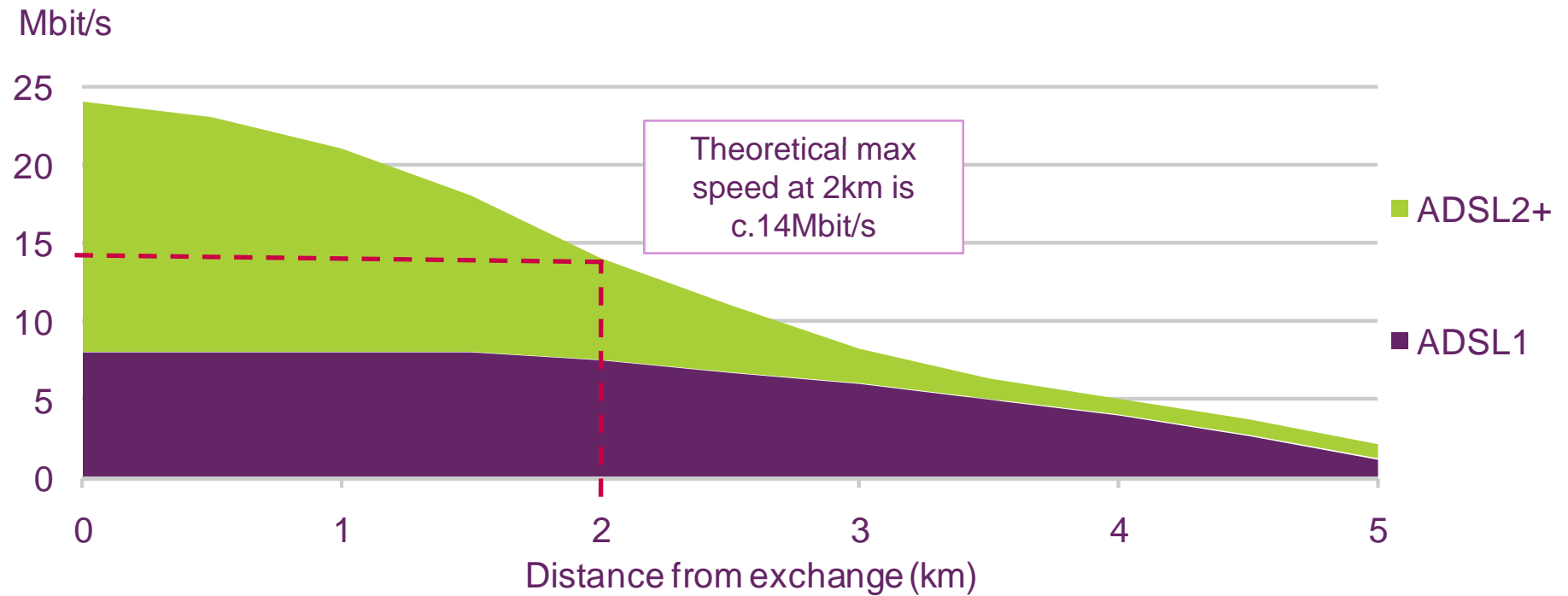
Most broadband connections continue to use copper

- 65% of UK households have fixed-line broadband
- More than three quarters are DSL - utilising copper wires designed for phone calls rather than high-speed data
- Consumers are connecting more devices to the internet
- Use of high-bandwidth services is continually growing
- Fibre deeper into the network is next step



DSL broadband slows down over longer lines

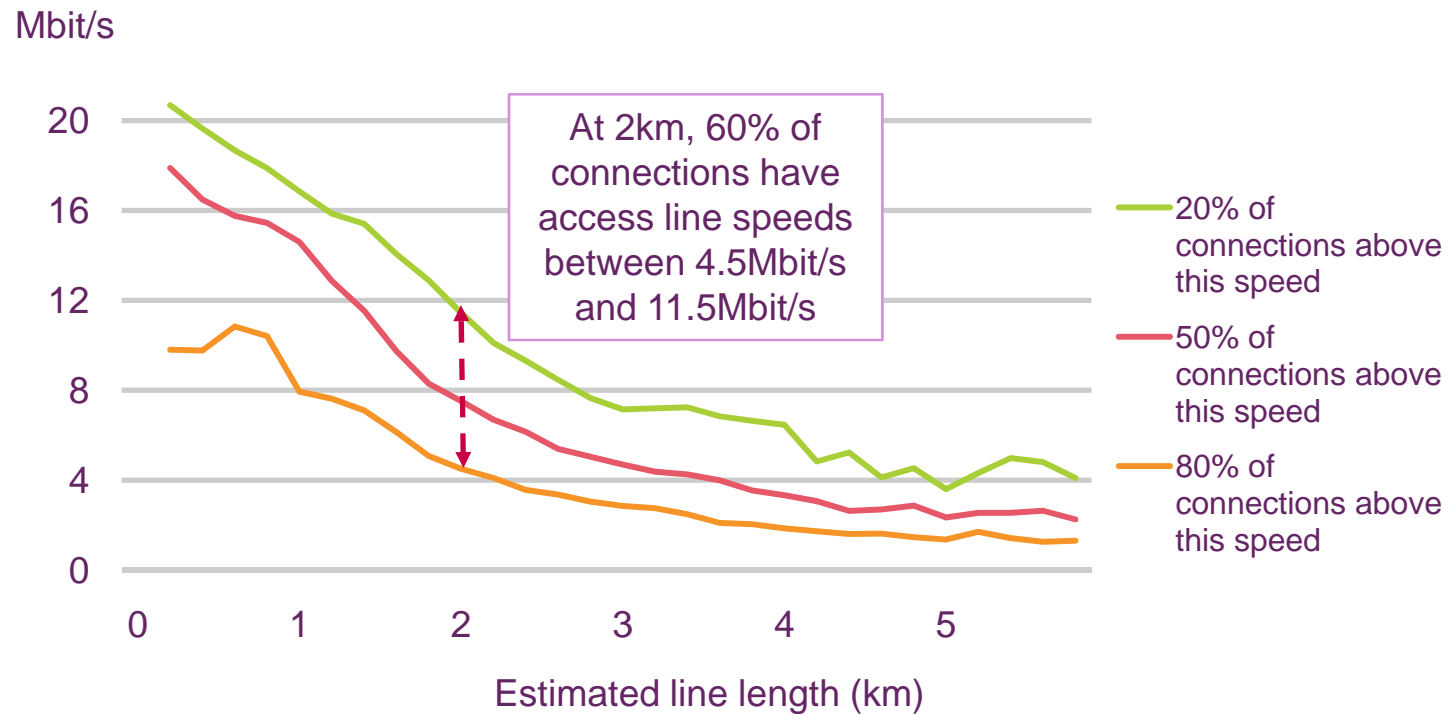
Theoretical access line speeds for ADSL1 and ADSL2+ broadband services



Source: Ofcom

Interference also slows down broadband speeds

Distribution of access line speeds for ADSL2+ broadband services



Source: Ofcom calculations based on data provided by two DSL operators

Slow broadband speeds matter to consumers

- 90% of consumers are satisfied with their overall broadband service
- 80% are satisfied with the speed of their service
- But...
- 24% of consumers say they receive slower speeds than they expected
- Slow speeds are the most common complaint to ISPs (27% of all complaints)

Sources: Ofcom technology tracker, Q1 2010; Ofcom Consumer Complaints Market Research, November 2009

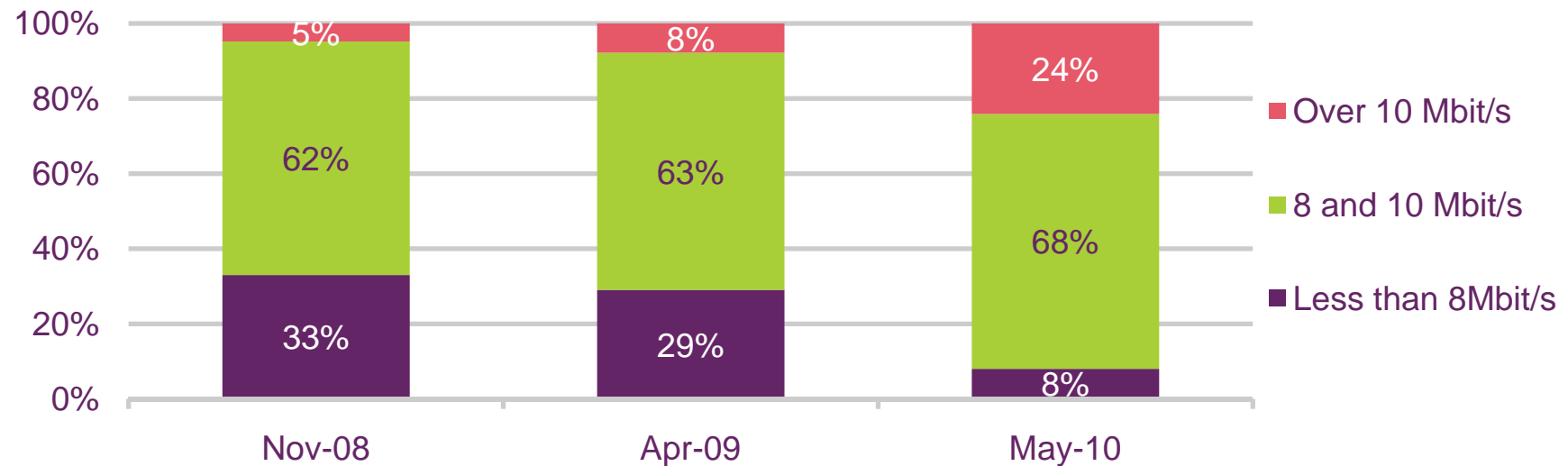
Our research methodology is robust and accurate

- Research conducted with SamKnows
- Over 1,500 UK broadband users, over 18 million tests in May 2010
- Hardware monitoring unit connected to routers
- ISPs compared on a like-for-like basis
- What are the findings?

Consumers have moved to higher speed packages

UK residential broadband connections by headline speed

Proportion of connections (%)

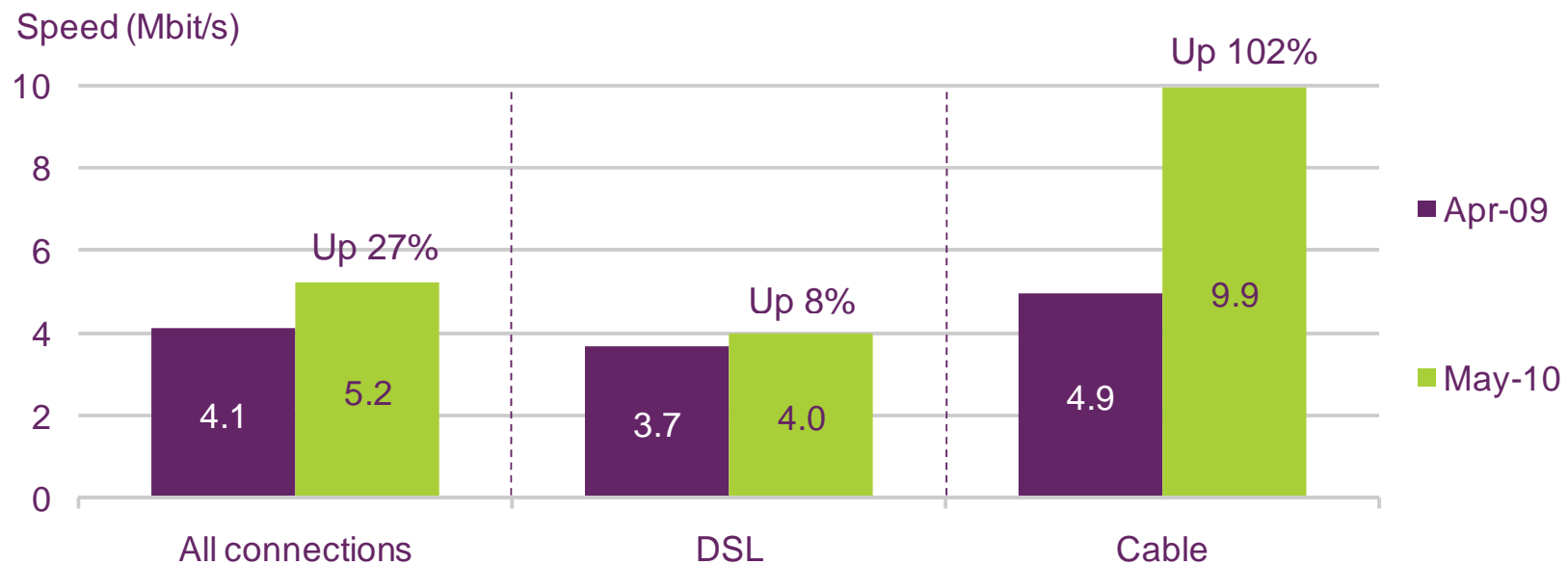


Source: Ofcom

Note: Based on data provided by the UK's largest ISPs by retail market share (representing over 90% of the total market)

Actual speeds up by 27% between April 2009 and May 2010

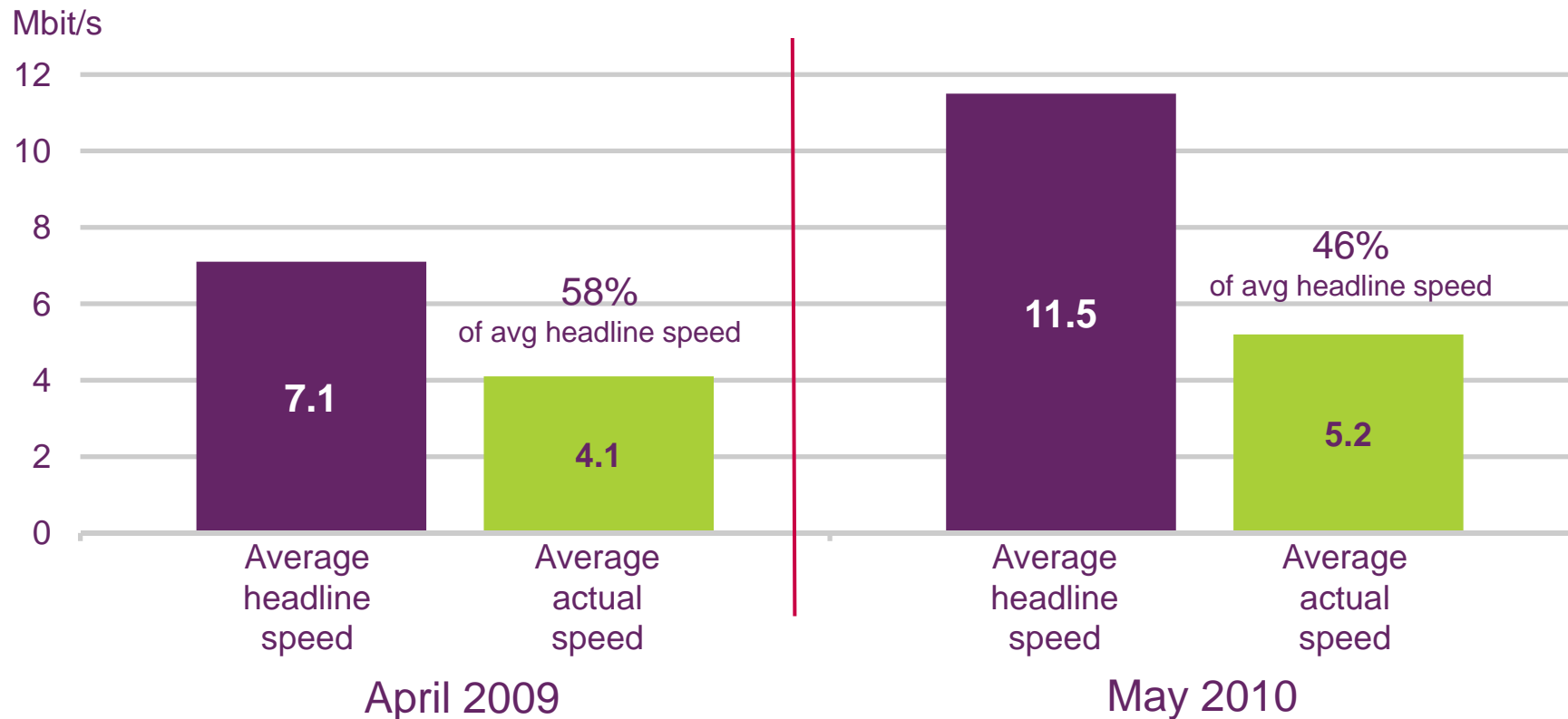
Average download speeds for DSL and cable broadband connections, May 2010



Source: Headline speeds based on operator data / Actual speed from SamKnows measurement data for all panel members with connections in April 2009 and May 2010 (single-thread tests)

The gap between actual and headline speeds has increased

Average download throughput and headline speeds

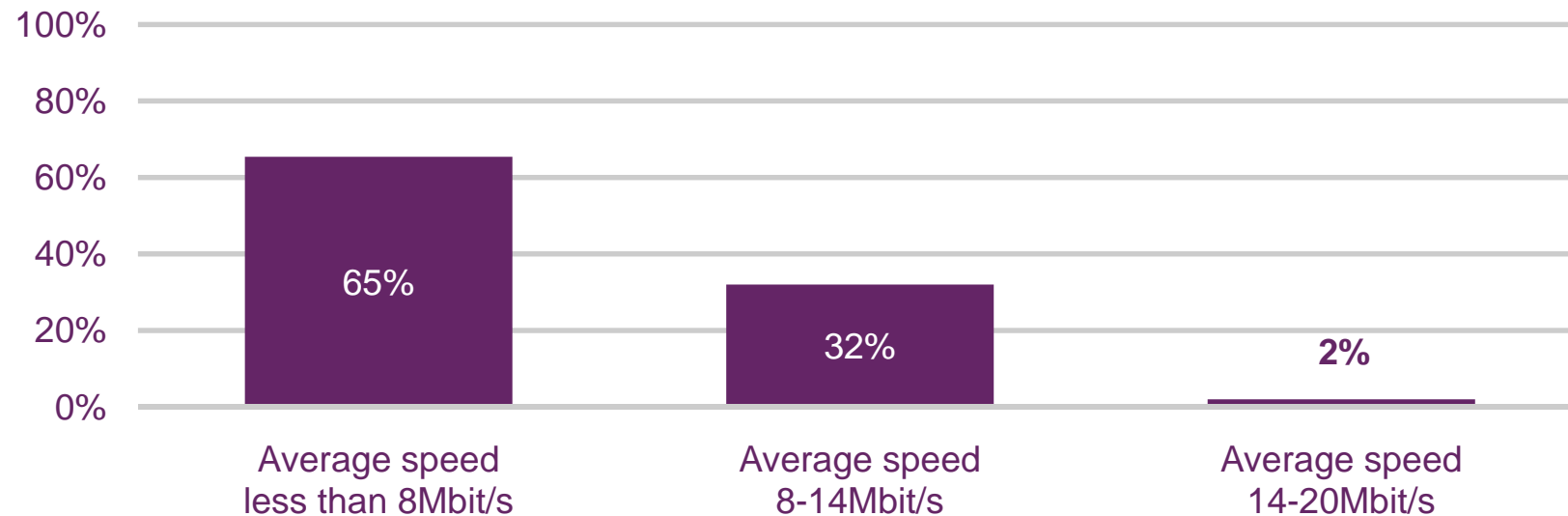


Source: Headline speeds based on operator data / Actual speed from SamKnows measurement data for all panel members with connections in April 2009 and May 2010 (single-thread tests)

Most 'up to' 20Mbit/s DSL packages deliver less than 8Mbit/s

Distribution of average download speeds for consumers on 'up to' 20Mbit/s and 24Mbit/s DSL packages, May 2010

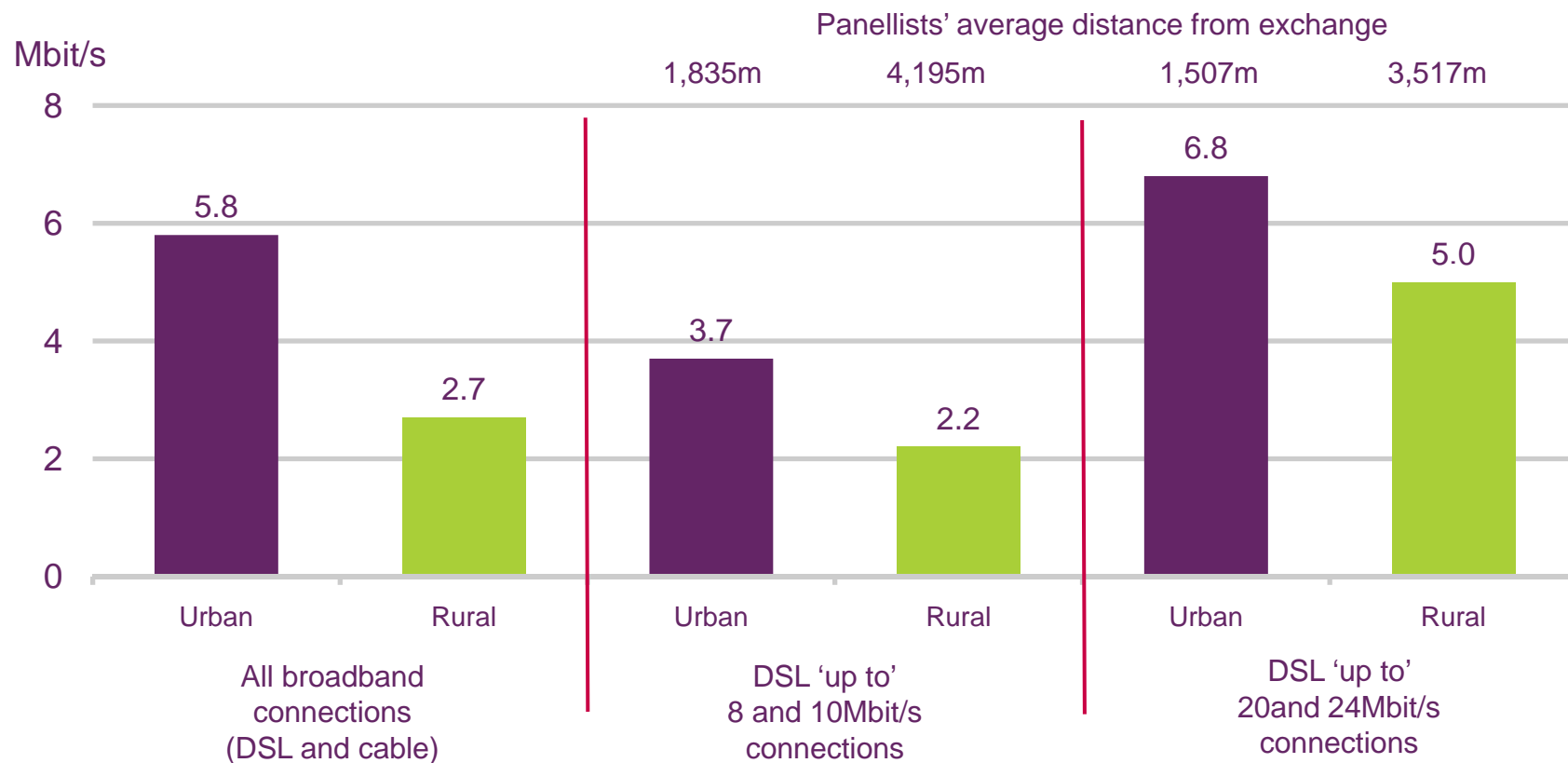
Proportion of panellists



Source: SamKnows measurement data for all panel members with a connection in May 2010 (single-thread tests)

Average speeds in rural areas are half those in urban areas

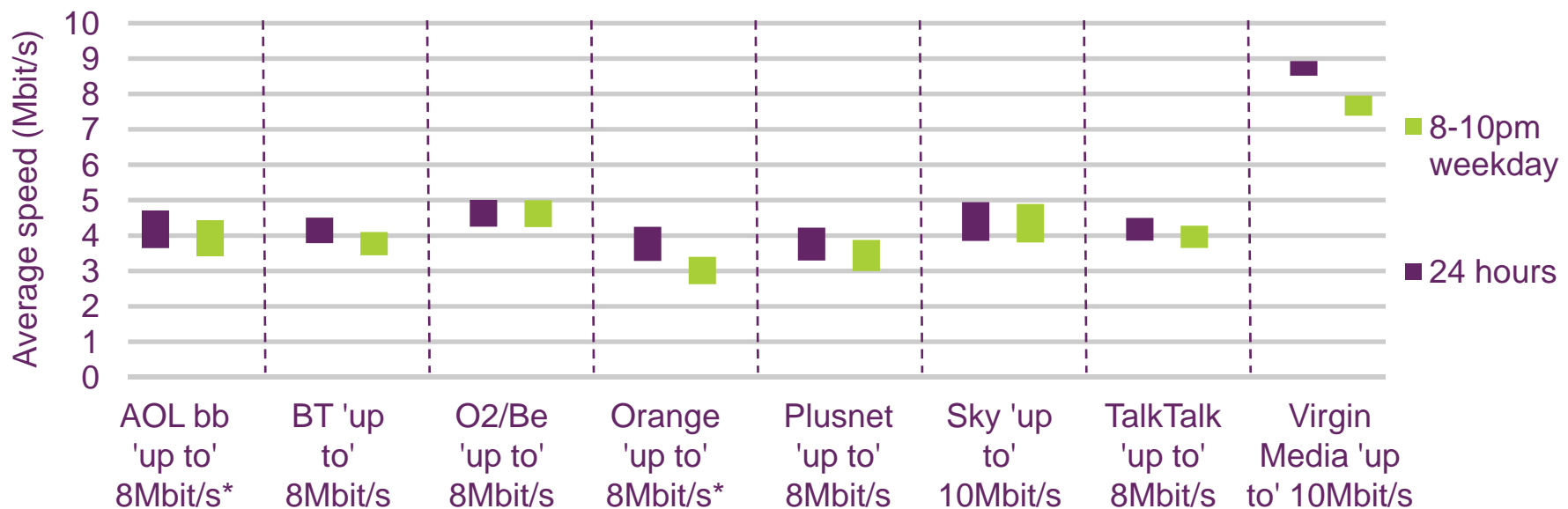
Average download throughput speeds in rural and urban areas, May 2010



Source: SamKnows measurement data for all panel members with a connection in May 2010 (single-thread tests)

Cable 10Mbit/s services are twice as fast as comparable DSL packages

Average download throughput speeds for 8/10Mbit/s packages by ISP, overall and in the peak period



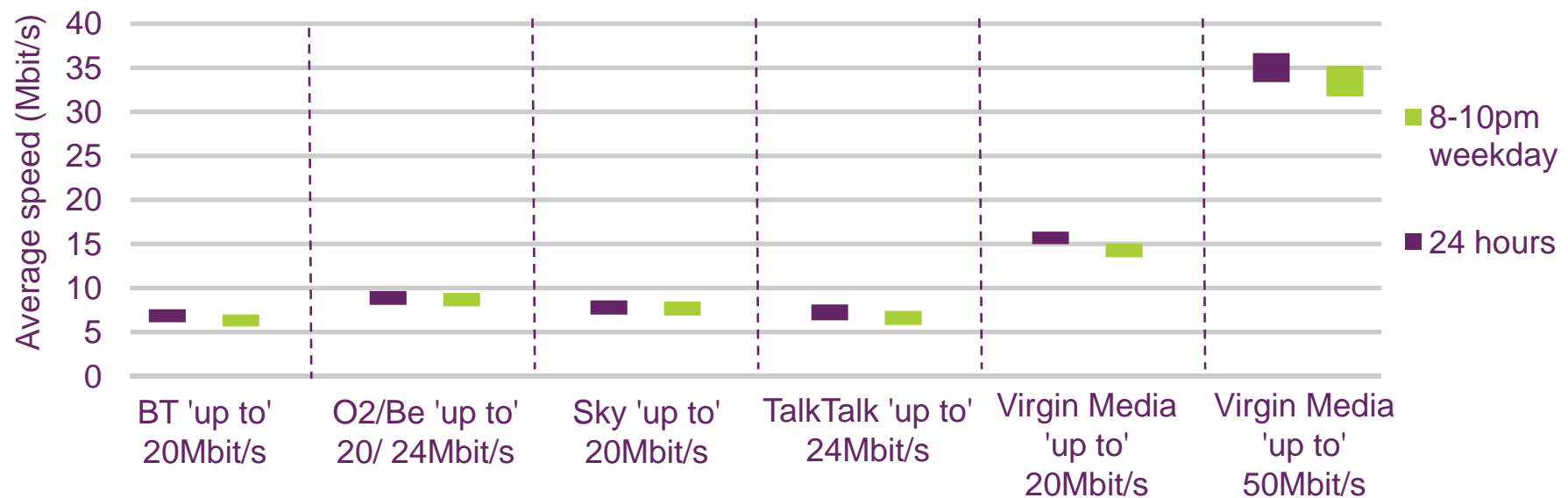
Source: SamKnows measurement data for all panel members with a connection in May 2010 (single-thread tests)

*Caution: small sample size (<50)

Notes: (1) Only includes DSL customers within 5km of the exchange; (2) Includes on-net customers only for LLU operators (3) data for DSL operators have been weighted to normalise for distance and exchange; data for Virgin Media's cable service have been weighted to normalise for region and rural/urban; (4) the range shown represents a 95% confidence interval around the mean.

Constraints of copper lines mean average speeds for 'up to' 20/24Mbit/s DSL packages are under 10Mbit/s

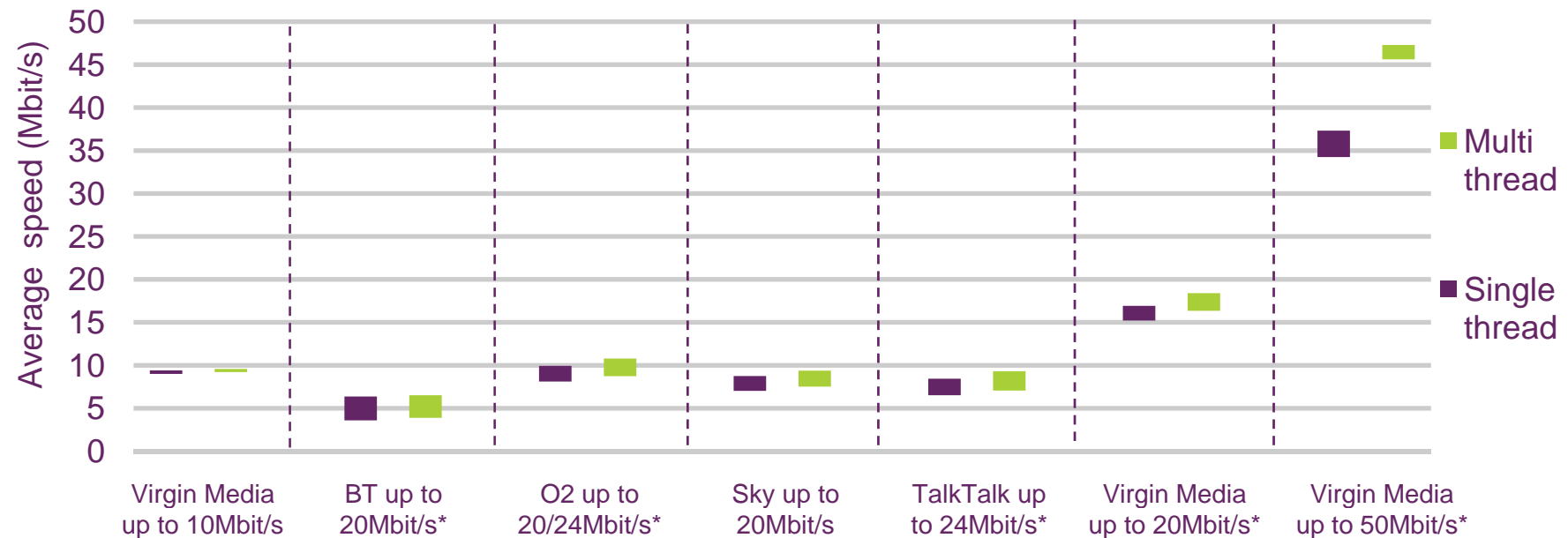
Average download throughput speeds for high-speed packages by ISP, overall and in the peak period



Source: SamKnows measurement data for all panel members with a connection in May 2010 (single-thread tests) *Caution: small sample size (<100) Notes: (1) Only includes DSL customers within 5km of the exchange; (2) Includes on-net customers only for LLU operators (3) data for DSL operators have been weighted to normalise for distance and exchange; data for Virgin Media's cable service have been weighted to normalise for region and rural/urban; (4) the range shown represents a 95% confidence interval around the mean;

Fastest speeds are delivered in off-peak periods when multiple files are downloaded simultaneously

Average download throughput speeds for cable and 20/24Mbit/s DSL connections by ISP, single and multi-thread test results, 4am to 6am



Source: SamKnows measurement data for all panel members with a connection in May 2010; Notes: (1) Only includes DSL customers within 5km of the exchange; (2) Includes on-net customers only for LLU operators; (3) Data for ADSL1 up to 2Mbit/s and ADSL1 and ADSL2+ up to 8Mbit/s have been weighted by distance from exchange; data for ADSL2+ services up to 16Mbit/s and all cable services have been weighted by region and rural/urban; (4) The range shown represents a 95% confidence interval

* Single-thread tests involved testing the speed of download of one file, multi-thread tests of three files simultaneously. Both are relevant to the user experience: single-thread tests replicate one PC downloading a single file; multi-thread tests replicate web page downloads, peer-to-peer configurations or multiple PCs simultaneously downloading files using the same broadband connection.

New Code expected to bring further benefits for consumers

	Current Code	Updated Code
Line speed estimate	Inconsistent, potentially inaccurate	More accuracy and consistency with standard range for estimates
Resolution of problems	Some good practice, some less good	Fault logged if speed is significantly below estimate – incentive to resolve
Options for consumers	Move to lower speed if available	Change package or leave provider (within 3 months) if significantly below estimated range

Broadband advertising is currently under review

- Committee on Advertising Practice is undertaking a review of how broadband is advertised
- Our view is that speeds should only be advertised if they are achievable by at least some customers
 - some ISPs continue to advertise speeds (e.g. 'up to' 24Mbit/s) which no customers can actually ever receive in practice
- Advertising should also include a 'Typical Speed Range' (TSR)
 - TSR would be based on a standard methodology similar to APRs in financial services or MPG in motoring

Ofcom's aim is to help consumers at each stage of the decision-making process and to facilitate faster broadband

