

In 2012 we developed a Community Plan to both reflect the vision and address concerns of residents of Pen Selwood. In the questionnaire circulated as part of the Community Plan process 76% of respondents stated they use the internet and email regularly. 64% of them are not satisfied with their broadband speed and that percentage is higher for people working from home. This note sets out what we have learned since.

### A survey of broadband speeds

As a result of this dissatisfaction we conducted a survey to measure broadband speed at 20 dwellings distributed around the parish.

All the participants get their broadband service delivered via the Bourton telephone exchange via BT Openreach copper wiring, regardless of their internet service provider. The exchange at Bourton is capable of delivering up to 8Mb/s so we cannot get high speed broadband which is delivered via fibre optic cable. In order to ensure a reliable speed, service providers adapt the speed to individual servers. This speed is always less than the capability of the exchange speed, because data is lost when sent via copper wire and has to be resent many times.

Speeds of 7 Mb/s are attained in the village and the average is about 3.3 Mb/s for download speed. Maximum variations were between 7.8 Mb/s and 0.5 Mb/s. Upload speeds are slower (about 10% of average download speed or 0.36Mb/s). This does not seem to vary with download speed. This is a deliberate choice of service providers as customers historically have downloaded much more (emails, webpages, music, videos, documents) than they send or upload.

We found that download and upload speeds for an individual are generally quite constant regardless of time of day or day of week, suggesting there is no significant peak time to avoid.

While there is a gradual drop in speed with distance from the exchange, the difference in speed between neighbours outweighs this trend. We have mapped download speeds and cannot yet identify a pattern. We'd like to collect more data to see if we can make sense of the variations.

We don't yet know how much the speeds are affected by the setup in the house compared to the BT infrastructure. Further details are available on the village website at <http://penselwood.ning.com/events/broadband-in-pen>

### High speed broadband under evaluation

There is much in the press about rural broadband. We in Pen Selwood are unlikely to see this before the end of 2016. Here is what we know.

On January 29th 2013 Connecting Devon and Somerset signed a contract with BT. The deal will:

- secure a £94 million investment to transform broadband speeds for businesses and residents
- ensure around 90% of premises have access to fibre optic broadband by the end of 2016, and
- deliver a minimum of 2Mbps for all premises by the end of 2016.

See more at: <http://www.connectingdevonandsomerset.co.uk>

In a rural location it is unlikely that we will get total fibre optic cable to the house. Rather it is likely we will get a part-fibre, part-copper solution. Fibre will be used to the exchange and possibly to cabinets in the street. Copper will still be the final link from the cabinet to our home or business.

The Connecting Devon and Somerset website indicates that the Bourton exchange is currently being evaluated as part of a government funded programme.

The Dorset website <http://mapping.dorsetforyou.com/superfast/availability/map> is more specific and states that *"Superfast broadband will be available in Bourton by Summer 2016"*.

Unfortunately there is no information across the county boundary, but it is reasonable to assume that if the exchange is upgraded then we should benefit from improved service.

### Next steps

1. We can help those with the slowest speeds with the intent of improving the speed and learning likely steps to improve speed for others. The process will include identifying the entry point of the telephone line to the house, measuring speed [use BT speed test as much as possible], interrogating the router for line statistics, and if necessary using a comparative router/ computer setup. If we cannot achieve improvements then we can consider sharing the cost of a telecoms engineer to check the wiring inside the houses. A recommended engineer is Bill Hussey <[bill.hussey@btopenworld.com](mailto:bill.hussey@btopenworld.com)>
2. At the same time we can add to our map of speeds by collecting single reading of broadband speed from as many households in the parish as possible, and offer to take the readings for people and check obvious problems if desired.
3. It is becoming clearer that BT cables do not follow a simple route. We will request a wiring map to determine routes of telephone lines to determine if there is a pattern to poor speeds. If we cannot obtain a map then we'll walk the routes to create a map.
4. Present evidence of issues to the right level in BT and to Connecting Devon and Somerset. We need to determine the right entry point and who to discuss this with. Request some clear plan of who is responsible for high speed broadband coming to Pen given the exchange is in Dorset.

Our aim is to get a reasonable broadband speed for everyone in Pen Selwood in the short term whether that means adjusting their in-house setup or lobbying the service providers. Any improvements achieved now will make us fit for when high speed broadband eventually arrives.