

Chapter 13

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Goosnargh / Bleasdale / Inglewhite / Oakenclough / Chipping / The Hodder Valley / Calder Vale / Nether Wyresdale

Goosnargh

Going way back to 2005-6, a group of people and businesses in the geographically large parish of Goosnargh struggled to get internet access despite being close to Preston. The main problem was old aluminium telephone cables, which BT would not replace. The businesses in the area were very rural, and despite much pleading and lobbying over several years, there was no help available for them. The BT engineers spent months trying to patch up the lines but to no avail.



David Ford with a brew and his treasured B4RN spade.

A connection speed of half a meg was possible only with a fair wind, and then only in some small pockets of habitation.

David Ford had relocated to the area in 2005. He had bought a lovely property, intending to do it up and work from home. He assumed (wrongly) that he could get some form of broadband there, as he was used to working on the internet. It was horrendous, there was no broadband service at all. Just dial-up and even that at just 56k was poor!

Talking to locals, David learned about Paul Vinson from Goosnargh, also known as Billy Broadband, a local fixer-upper. Paul had built his own wifi network in the area to supply businesses that were desperate for the same reason David was. Paul had single-handedly built several masts for line of sight and bought a broadband connection via several phone lines to serve the masts. Then, from the mast, the message is sent to the customer using Ubiquity wifi transmitters and receivers. Between them, David and Paul devised a plan to get a connection for David. It originated in Broughton, and used three 'hops' to get it up to David's house. The first hop was on a farmer's grain silo, and two more got them to David. They managed to get a 30Mbps download feed to him, but as is usual with BT, the upload was dire. The latency was poor, about 80ms. At least it worked, and David could get on with his job.

David was managing a large business with 950 staff and had a large team of people supporting a business rescue and turnaround, revitalising and relocating a company. Access to the team was essential if he did not want to stay in hotels, and multiple sites were involved, so online meetings were integral to the regular update process. He was also responsible for online products and catalogues and constructing a new multi-million-pound facility. With schematics, construction drawings and marketing/branding materials, the low BT upload speed became a severe problem for communicating, especially with the contractors.

David and Paul had relocated the antennas when people moved, trees grew or weather interfered with the signal, etc, but when other Goosnargh and Inglewhite residents discovered what they had done, more and more people started wanting a wi-fi feed too.

By 2009, Paul had about 30 customers on the service, all fed from their own link in another village. They worked together and Paul put masts up ‘everywhere’ to get connections to different remote locations, including even sending the service 16 miles over to a business at Glasson Dock, which could not get service any other way. Paul’s son, Andy, joined in as he was a techie, and David, who by training is an electronics engineer, also helped with the networking. They became inundated with requests.

Another wi-fi company in the area offered a service, but it was patchy and cost more.

David eventually realised even his wi-fi connection was not good enough, especially the slow upload speeds. In 2007, he had been appointed executive director of the British Standards Institution (BSI), and had worldwide responsibility for the business, including the renowned “Kitemark” stamp of Quality Assurance. Running a global business with over 80% of his time involving global travel. David preferred to work from home as much as possible and not in London.

In his offices on the 17th floor of the BSI building in London, he had a blazingly fast fibre internet connection due to the BSI office’s location directly over Gunnersbury tube station. This made him even more aware of just how poor it was in his home area, and he vowed to do something to improve it.

Other businesses he visited as head of BSI told him of their internet problems, and being often in London and with regular connections to the government anyway, he became very active in the political arena, using his position to talk to the politicians, local councils, and social media. David even gave evidence to the House of Lords and other government committees, but his evidence and that of other professionals appeared to be ignored, as BT’s lobbying of government and ministers to allow the company to “sweat their copper asset” was constant and effective. Meanwhile other businesses he visited across the UK told him that with the poor internet in the UK they could not compete effectively and were falling behind competitors in other countries.

By 2008, David had already realised that broadband would become the fourth utility. Around Goosnargh and Inglewhite, he had got to know many of the local businesses due to helping Paul with his wifi network, and these businesses were all crying out for more. David bought industrial 3G access points with outdoor antennas and trialled these, but they were not very good. He found out about the WenNet network, a wireless network further north, which had laid the first rural fibre themselves, so he got in touch with Chris Conder, and she told him about B4RN. He immediately contacted Barry Forde, who said that regrettably, it would not be possible to connect B4RN with Goosnargh. It was just too far away. B4RN was just starting up, so Goosnargh was not in any of their plans. David was still very keen to understand what was possible for his local area of Goosnargh and Inglewhite. He had been attending many of the same conferences Barry attended and had repeatedly nagged Barry on behalf of his local businesses.

Barry did want to help, but there were just not enough hours in the day to help the whole country, and he had to concentrate on the network he had planned out. Goosnargh was over 20 miles away as the crow flies and the other side of fells and a big river or two.

So Barry still said no.

Undaunted, David and Paul had also heard about Craig Brass from further north at Lonsdale Net and asked him if they could share his breakout point on the Geo (now Zayo) fibre. But unfortunately he needed too much



Paul and his son Andy, at the showtell day.



David at a showtell day.

money to make it worthwhile.

Using the connections he had made while at BSI, David went straight to Geo/Zayo, where Annette told him they would have to raise £17,000 to make the join, then pay £1,600 a month, then £400 a month for rack space at Telecity to go out to the internet. David knew the tiny network could not ever afford that operating expense, so in September 2014, he negotiated a 'charity rate' using his business skills and secured this advantageous rate for three years.

It was great to finally get the backhaul (internet feed) they needed, but this now created a huge problem. Paul and David had to quickly and cheaply build their own fibre network from scratch...

They had attended several B4RN show/tell days, and picked the brains of the people in B4RN they met to find out what they did not already know. There was a lot!

David and Paul realised soon after these visits that they simply could not afford most of the equipment or infrastructure types that B4RN had, so they would have to make something work with only what they had, very basic tools, and importantly, on an extremely thin shoestring of a budget.

Goosnargh was also a challenge, mainly because it is a very rural and huge parish (one of England's largest) but without any real focal centre or village to this huge area. That meant there was little organised community spirit.

So in a huge leap of faith, in 2014, David and Paul formed a company that became a community interest company, Gigabit CIC. They created a website and gradually assembled a small working group of enthusiasts. They worked hard over the next 6 months to find the money within the community to pay for supplies. Adrian Rhodes, Graham Kirkham and David put in lots of money and other resources, and others put in whatever they could.

They initially raised about £100k to get going. Paul did all the digging with David, and David used his old tractor to do the moling. David had already engaged with some key suppliers at the conferences, and with their enthusiasm (and some persuasion from Chris), they also persuaded Barry to tell them about some other suppliers which they did not know about.

At first, all of their ducts were 20mm alkathene water pipes, which they could source quickly and locally, but they worked well. They could not at first blow the fibre through as they had not got the money for the equipment needed, but they could manually push/pull fibre or blow string through with a vacuum cleaner and



David's Steyr tractor and a borrowed mole plough.



January 2016 · Th' 'ut. Kitted out by Paul, was soon cladded and cosy.



Tom Rigg doing the splices to bring Goosnargh hub live.



David got his own fuser, fusing many of the bullets and customers' fibres.

then get the fibre through.

Their main plan was to connect three cheese factories and a cheese distribution business with Paul's main mast. The companies would provide the base load to support the connections to any houses along their route.

They decided that, seeing the B4RN speeds, they would build it as close to the B4RN model as they could, with no GPON (splitters), no throttling or limiting usage, but managed switches and honest point-to-point connections for everyone.

Barry advised them to buy Genexis routers, which B4RN was using, so they did exactly that.

David says Barry was brilliant and very helpful (if sometimes a bit frustrating!), but officially B4RN was not involved at this stage.

They just cracked on as fast as they could and got 10 businesses and at least 25 homes built out. A local farmer, Fred Riding, let them through his land to get the Zayo fibre feed over to the cabinet and supported the project.

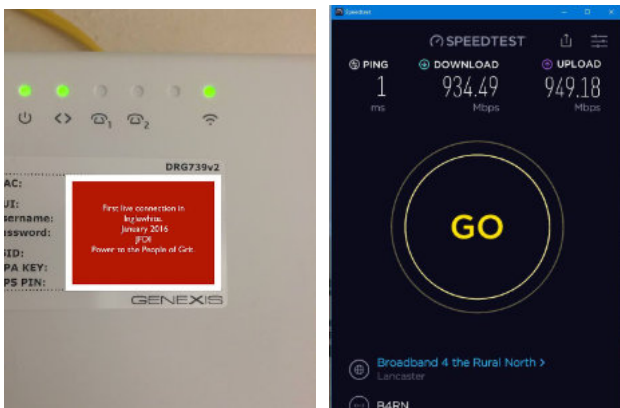
A photo shows the first mole plough on the back of David's old tractor they used to get from the Zayo (was Geo) breakout point to the cabinet. They built their own cabinet out of a shed that Paul had sawed in half, and thanks to the generosity of Adrian Rhodes, they had erected this on a small patch of Adrian's land. As well as being a significant investor, Adrian has supported the project throughout, wanting to give back something to the community.

Paul put a rack in the shed for their switches and trays, and it had a chair, a table and heater, plus the all-important kettle. It was possibly the best and cosiest cabinet yet!

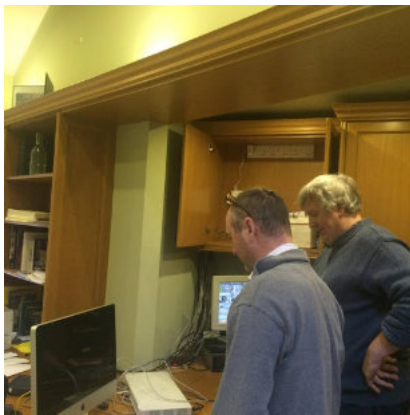
David and Paul dug over to the breakout point on the Zayo fibre and were then ready to be connected.



The only cheese press with a spade. The first live customer's business.



First customers went live in January 2016. Great ping.



David and Adrian Rhodes testing the new live connection.



David doing an unconventional install.

Tom Rigg from B4RN was a fantastic help technically, and also made the final fusing, working late at night to bring Goosnargh live.

David and Paul then went around installing the boxes into the properties and splicing all the connections to bullets and into the properties. The local volunteers started helping in some areas, and gradually, the Gigabit network took shape.

Gigabit CIC had then begun to set up their own billing system and customer services etc. (a real problem for this small group) and needed to quickly get more customers to be viable.

Barry was aware of all this but could not join them into the B4RN network as Goosnargh parish was not contiguous to B4RN, and there were no digs anywhere near them. It was simply too far away from Quernmore at this time.

The first business to come live was Carron Lodge Cheese - a great celebration, an award of the Lindsey spade on the cheese press outside, and the obligatory speed test to prove it had happened.

They were delighted with the results of all their hard labour. The latency alone proved how good it all was.

There was, however, a B4RN breakout point nearby at Bleasdale.

David also noticed that B4RN's rack at Telecity was next to the rented Gigabit rack, and he thought that might help B4RN.

By this time, Tom Rigg had become COO at B4RN and he helped tip the balance towards including Gigabit's network, so between him and David they eventually persuaded Barry to take them on.

The mechanism to transfer the network over to B4RN was complex, primarily because of the CIC-regulated structure, which needed to be dissolved without liabilities. In the end, David and the other

investors in the Gigabit CIC ensured that B4RN could more easily buy the infrastructure by gifting much of their equipment to B4RN, and by putting their network on the B4RN system, thus exchanging their investment in Gigabit for long-term investment in B4RN.

David and Paul had effectively snuck into B4RN by the back door. However, B4RN had also by then seen this as a quick way to get significantly more resilience into the network by having additional breakout points feeding the network in different directions, so it ended up as a significant win-win for both parties.

It was not the ideal way of building a B4RN network though, and lengthy negotiations were needed between Gigabit CIC and B4RN due to the low-cost shoestring network - which was actually quite reliable but completely non-standard!

However, lessons were learned and everyone then realised this was a good thing to do.

The new B4RN Goosnargh entity was called B4BIG - and covered Bleasdale, Inglewhite and Goosnargh, hence BIG!



B4BIG sign.



The Bleasdale village meeting.

After some meetings held by David and Paul in the Bleasdale parish hall, B4BIG extended their network up to Bleasdale with the invaluable support of Jeremy 'Jake' Duckworth.

Paul and David did the initial work to plan and ensure the Bleasdale routes could be dug, and ensured that it also joined the connection to the other existing B4RN/Zayo breakout point on the fell road at Bleasdale - for that added B4RN resilience.

David did the first chunk of the moling right across the fell to that Zayo breakout point. Roger Clark soon joined to do much of the rest of moling/digging work right across the Bleasdale estate. Some other local farmers joined in, and together they had a hard core of at least 6 volunteers.

David continued to act as the local B4RN evangelist talking to the various local groups, going over to Chipping to inspire them, and Paul Hunt, the local Longridge postmaster, then capably took up the challenge and spread the word even further. He laid the plans to get a cabinet about five miles away, at Chipping village hall.

Roger Clark, Jake Duckworth the estate owner, with Paul and David's initial help then got the dig back down towards Beacon Fell. Edward Hibbert joined the tribe, and, with Paul helped extend the network north from Whitechapel and on to Loud Bridge and Bleasdale. Most importantly, he dealt with all the many wayleaves. He was extremely good at that, with only one fail. Jeremy raised the finances, and put a lot of hard physical work in himself to the benefit of both the estate and the local community.

Back near Inglewhite, David remembers a particularly wet week working in the mud with Paul, with Paul's ancient digger, digging up a stony track to Latus Hall in heavy rain and driving sleet to serve just 6 houses. It was best described as a 'bonding experience' which took place on the way to Carron Lodge Cheese.



David (also soaked), took this photo of Paul on the Latus Hall stone dig.

They got Carron Lodge on the new Gigabit fibre connection first, and then Paul and Edward managed to get the connection through Whitechapel to Loud Bridge and the Waddecar scout camp.

David says that early on, he and Paul sometimes had a 'hell of a dig' to get around the stony areas and remembers one morning when he used half a box of shear bolts to get across just one field.

David moled much of the early part of the Bleasdale connection, and around the various locations, he achieved nearly 1500 metres on weekends when the weather was OK and he was allowed in fields. This was often restricted to tight "windows of time" due to silage or stock. Often, farmers gave him very little notice.

The best bit of moling David remembers was 3.5 kilometres in one morning over lovely fell ground, and he said when you looked backwards, 'You would hardly know we had been there'.

Roger Clark, helped by Gavin Henderson, who farms on the estate, also did much of the digging on the estate and was one of the several very hardy stalwarts



Tough steep dig through the woods.



Sub-ducting (water pipe) through the woods.



Digging up from the breakout point.



Roger Clark or Gavin Henderson moleing with a view.

who helped dig, mostly by hand, a long way up a very steep hill through thick woodland.

Even though this was in summer, this was very wet ground, full of rocks and tree roots so it was really hard going. It was essential though to get to the Zayo connection point down by the road.

On 5 July 2016 the B4BIG website reported as follows:

‘On Saturday up at Bleasdale the men of grit dug uphill through a wood, out through a wet peaty bog and then up onto the fell, where the mole plough took over, and laid the rest of the 800m of conduit... That was then ably assisted in a difficult cut under the stream through very rocky ground by another digger.

‘Big, big thanks particularly to Brian Clark, Michael Carroll, the Faradays and also to Jeremy D for his unstinting support and the digging, but also to Lisa D for the bacon butties and the beer.. Thanks too are due to all the volunteers - who know who they are.

‘Together we can get this done...

‘Dig for a Gig...’

Bleasdale was particularly spectacular because of all the amazing views.

None of the homes or businesses in this area had vouchers (these were not available then), so all credit to Jeremy ‘Jake’ and the others for raising the shares and investment to pay for it all.

At the time, David commented to the local press that ‘If you allow businesses to have this great connection, they can then expand and grow, and this helps the local community and local economy too, often creating local jobs and revenue, enabling rural businesses to thrive’.

These local businesses were all happy to invest



A tidy mole trench at Bleasdale by David and his little Massey Ferguson.



The drag mole on Paul's tractor, in action at Loud Bridge.



The A Team.



Tony and Stuart putting in a chamber near School House, Inglewhite Rd.

rather than just pay a telco large amounts of money with no return on their investment, with many companies being very supportive of the project in other ways.

Edward Hibbert was one of the residents of Loud Bridge who had been asking David and Paul if they could join their Gigabit network, and by August 2017, this was being absorbed into B4RN.

Edward knew he desperately needed B4RN himself and knew others would soon too. He says if he had just left it to B4RN, it would have been 5 more years before it would happen.

He also says if it was not for the early determination of David and Paul, and their connection point near Inglewhite, they may still not have been connected today.

At this point David's own business now needed him, and so he had to limit his engagement with the projects. But he still continued to volunteer his help as and when he could.

Paul and David had in years previously held various meetings in village halls, but it had been difficult to convince B4RN that it was possible to join onto this project. After the Gigabit CIC was absorbed by B4RN, Edward negotiated further and eventually managed to get permission to dig. Edward held meetings at the Green Man pub in Inglewhite near where the cabinet was and managed to raise over £138k in investments.

They also now had the benefit of the early vouchers for businesses, and they got a few of those. It was hard to convince people that it would work, but he enjoyed it and met some amazing people who ended up as friends.

Because the rest of the B4RN network was quite a long way off the locals had not heard much about it and there was simply no B4RN infrastructure south



Tony Swidenbank and Graham.



Tony's trench.



Belt and braces, duct run through spare copper pipe under the flags.



Paul Parsons blowing fibre into house fibre ducts.

of the fells.

Edward had to get all the wayleaves and help sort out the routes. He is a techie person and invented procedures to map the different landowners so that he knew who to contact and who was willing to let the duct through.

Gill Hall at Butler's Cheese was extremely supportive at this point.

Mike Meredith came on board at just the right time to help Edward with the dig organisation; he had just retired from a civils type company and knew what needed to happen to get the duct from A to B. He was a 'godsend in the build phase and organising diggers'.

The house digs were done by the householders, and a pair of volunteers Stuart Kidson and Tony Lund. They had a great line in friendly bickering, Edward recalls.

They also fitted house kits, and David Ford then fused many of them.

This project had a few downsides: due to the rapid take up of B4RN in other areas they were often very short of resources, but they understood the issues and worked with them.

Edward says every community has the trauma of going from the JFDI get-it-done phase into the streamlining of a professional company, and there is no easy way to learn the tricks. If it was not for the JFDI then the project would never have happened, and he got great pleasure from being part of it and is very happy.

Tony Swidenbank, a very experienced contractor, was employed by B4RN using the money B4BIG had raised, and that made the operation much more efficient. It was a very wet year, but farmers were impressed by Tony's equipment and the skill with which he used it so as not to leave an impact on their



Phil putting a chamber in.



The new cabinet arrives at Inglewhite.



Alistair Adams Huset and Joseph Brown splicing the core.



Bruce 'the blow' on one of the core routes.

fields. The first landowner to give permission was Colin Singleton, and it is thought that because of him the other farmers 'saw the light'.

Edward says the first is always the hardest.

With the time he spent on it, his worst moment was when they had dug a route and filled it in and had forgotten to lay a customer duct in the trench.

Once they had the ducting in they ordered the blowing and fusing teams to get the core live. This is a quote from their Facebook page:

"288 strand fibre costs about a fiver per metre. It is going in about 60 metres a minute, so that is three hundred quid per minute. That is why we need investors to build the network as well as sweat."

The B4RN civils then put a new cabinet in place to replace the cosy Gigabit hut at Inglewhite, to standardise the installation. The fusers finished the job and all was good.

Edward says he is very happy he spent the time on it all, but it is quite an anti-climax when you realise it is finished, and you end up looking for something else to get stuck into. He does not have to worry about internet access anymore, since it just works.

He wants to namecheck Phil Ackroyd RIP, who never lived to see the fruits of his spade, but his legacy lives on.



Bruce fusing fibre, working with his leg in a cast.



Ken Partington plus spade award.



Wayne Pye with his spade award.

Eventually, Inglewhite village, with Ken Partington leading, decided to join on, and thanks to the duct David and Paul had previously laid running past them, this was accomplished and they came live in 2020.

By this time B4RN had changed to Zyxel routers as you can see from one of Ken's installs, all ready to feed the Netgear switch which takes ethernet through the property. Very posh!



A house install in Inglewhite.

Wayne Pye was also instrumental in digging to many properties in the Whitechapel area and getting them connected. He was also awarded the MBE spade.

Bleasdale



The Bleasdale Lindsey spade on the signpost.



Jeremy Duckworth owned the Bleasdale estate, and was very keen to get decent internet access to it. He worked a lot with David in the early days to get it dug up to the estate, and arranged for a cabinet at the village hall.

Simon Dunn had now been taken on by B4RN as the electrician to commission the cabinets and he did Bleasdale.



Jeremy Duckworth with his spade award.

The volunteers dug down to the breakout chamber



Ben and Peter with their MBE spade awards.

leading up to Bleasdale estate. This chamber would eventually connect to the Inglewhite cabinet.

Some of the land was easy to mole, and great progress was made.

The blowers and fusers arrived and houses started to get connected—the views from this area are amazing, you can actually see Blackpool tower on a clear day. Bleasdale dug in over 42 km of duct.



The fuser's view on a house install. Blackpool tower in the distance.



Cute sign in the woods.



Hugh Tamlin and Robert Staveley fusing a core bullet.



Simon arrives and installs the electrics in the cabinet.



Tom Rigg did the live link to the internet backbone at Bleasdale chamber.



The Bleasdale cabinet arrives.

Oakenclough

This is a really amazing story, and a bit different from any of the others.

Oakenclough is an area that is split between two parishes, Bleasdale and Calder Vale. Bleasdale had invited Shaun Lewis to a meeting to talk about getting the connection to them, including the side of the road that Shaun lived on, but they never got that far. A year after the meeting Shaun decided to take matters into his own hands. He had just sold his business so he had time to do it, so he thought 'If I want something to happen I had better make it happen'. And so begins the story. The spring of 2018.

This group had no vouchers, they did it all themselves.

It also took place when a lot of other groups were 'in build' and demanding most of the B4RN resources, and B4RN itself was gearing up for the voucher scheme (which was another year away) and Shaun remembers dealing with B4RN was very difficult. He compares it to 'a scoutmaster being promoted to general', which, to be fair, is just what it seemed to be. The procedures were being tightened up, health and safety was a major consideration, new staff had to be trained, and everyone was doing their best. He appreciated all that but it was still very difficult he says. Shaun's approach is that of a bulldozer, not a kitten, and he desperately wanted to Get Going. He spoke to the Bleasdale champion who reckoned that about £17k would get the duct to them, but the quote from B4RN came through at £38k. He talked to all the residents and got many to invest in B4RN, but was still £9k short. He had contractors ready to dig, and summer was passing. 'If we do not do it soon it will be winter, and the farmers will not let us on the land' he says.

He bypassed the normal routes of communication and spoke to the finance manager at B4RN, gave him a cheque from his own funds for the missing £9k and they agreed that if no further investment was raised that he could cash the cheque. That meant he could start.

Oakenclough did not have a tribe, they just had three like-minded souls with amazing skills. The three worked together and just co-opted in the extra talents and volunteers they needed without involving them in endless meetings as Shaun could not cope with that. Each project seems to have its own way of working, but this one is pretty unique. Between them the three members had the time and the skills to do most of the project.

Shaun often said, 'The IQ of a meeting is inversely proportional to the number of people attending'. Controversial indeed, but a committee of 3 worked for them. Elaine Johnstone was a civil engineer and she knew what she was doing. She did all the tube maps so that everyone else knew what went where. She took her turn following the digging contractor and making sure it was all done right when Shaun could not be there. Graham Hulme (pictured with Richard Hopkinson below) was a geography teacher, and he did all the maps and routes. He also helped with the build. Shaun insisted the contractors had somebody local with them, to make sure wayleaves were followed, to sort out any problems, and to keep them supplied with tea. He said they worked even better if you took them cake as well as tea.

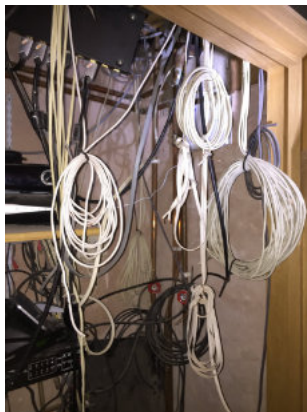
Shaun sorted the wayleaves and planned detours with his team where there were problems. He had a few landowners at the start who wanted paying, and that is not possible with the B4RN approach. The way he got round them was to talk to their wives, and all the problems went away. The womenfolk knew it was their best



Graham Hulme with Richard Hopkinson get MBE awards.



Tidy mole plough.



Ready for the future, ethernet to every room.



Superb house installation.

shot at getting broadband for their farms, businesses, children and grandchildren. The men got bulldozed too. In actual fact Shaun says a lot of ‘tact and diplomacy’ made it happen.

A local farmer, Roger Clarke, who had done a lot of digging work in Bleasdale, gave confidence to landowners, and was chosen to be their main contractor. Lots of local farmers had diggers and some of them dug their own bits for free, which kept costs down. Their small team pulled people in when there was a job to do, and they all did it willingly to get B4RN into their community. He simply asked them and they did it and he avoided meetings.

One great volunteer was Richard Hopkinson who drilled all the houses and installed the boxes on the walls. One of the houses Stuart took the fusers to was certainly going to make the most of their connection, they were in the process of building a comms room and had run ethernet to every room.

When the fusers came Stuart took them round to pre-booked appointments, and kept the install day running efficiently.

Stuart is also pictured next to the blue Oakenclough Lindsey spade on the school fence. The bag on his back contained his lunch, but the volunteer doing the fusing reports that he took it home with him in the evening, having not had time all day to eat any of it.

They got the connection to their school via a long detour around Longhouse farm and a road crossing because of another landowner’s reluctance to issue a wayleave. But eventually they got it all done in a record time of 10 weeks from start to finish, laying 17 kilometres of duct. The houses and school came live in November 2018.

The fusers were also impressed by the quality of the house installations done by Richard. Duct was encased in a stronger sub-duct and some very thick



Stuart (pictured outside the church they had just connected).



Stuart pictured at the school.



The Oakenclough spade.



An open day with Jorj from B4RN for the Calder Vale visitors.

walls drilled through neatly. Will Dehany said all their ducts blew very well, which is praise indeed, and the installs were of a high standard.

Shaun liaised with Tom Walmsley at Calder Vale, and they held an information day at the school in December 2019. Jorj helped organise the event, and he told them he had already arranged for a chamber to be dug to a handover point at Marsdens Farm ready for Calder Vale to dig to meet them.

He got told off by B4RN as they had stipulated a small chamber, but he knew it would need a large one so he did it anyway and says he is 'not sorry'. (He did the same at the end of another long route ready for the Scorton link to come in for resilience). He is not sorry about that either.

At the time all the B4RN staff were busy and mostly unavailable to give advice, so they did what they thought was appropriate and sensible.

Shaun says when Covid came the phone went mad with other areas asking for connections, but they were all different parishes and had to go through the B4RN process.

The Calder Vale team came to try out the service at the school and ask questions, and then pushed harder to make a start on their own project, also asking Roger to dig for them too.

By that time B4RN was employing more staff and information and training became more available.

Shaun says the connection is brilliant, and if he ever moved out of the B4RN area he would start another project to get it.

B4RN did not need to cash his cheque.



Goosnargh Village

The Dig for a Gig project in Goosnargh had originally started in 2013/2014 as an independent self-build project, and became Gigabit CIC. This project has since enabled a lot of subsequent connectivity for parishes to connect to B4RN.

Unfortunately, as the largest parish by area in the country, and with limited funding available the team

could only cover part of the parish. In contrast to this early “JFDI” and piecemeal approach adopted by Gigabit CIC, the B4RN projects cover the whole parish.

The majority of the population of Goosnargh parish live in Whittingham & Goosnargh, which is the largest village and at the extreme south of the parish, and oddly with a parish boundary with Whittingham running through the middle of it. With hindsight, if there was ever a parish land area that was not designed to work like the rest of B4RN’s projects, Goosnargh is it!

Just north of Goosnargh and on the way up to Bleasdale, it is a very rural area indeed. Unlike Goosnargh village, many houses and businesses were very badly served by phone lines and the lack of normal internet from BT. These more remote businesses and properties had as a result become reliant on Paul Vinson’s wi-fi network.

Four years after it was formed in 2013, in 2017 the original CIC then officially became part of B4RN. With this new support, and renamed B4BIG, the volunteers continued to make really good progress in the north of the parish, extending the B4RN network out towards Bleasdale and Chipping etc. Because the Zayo backhaul connection was already in place at the Inglewhite cabinet, the various digs also helped provide the connections and backhaul for these new main B4RN trunk routes.

In 2018, the volunteers had initiated a B4RN project to try finish off the whole parish, but unfortunately it did not succeed as a result of some challenges over vouchers, funding and BT’s ‘land grab’ tactics. Because the more recent Goosnargh activists were also persistent and dedicated, they eventually managed to find a compromise. There was insufficient demand in the main village for B4RN, since the majority of villagers appeared reasonably happy with what they had, so two new routes were planned and then built to just serve the outlier houses and businesses that really needed it. Unfortunately, because one landowner refused a wayleave, a third, much-needed route could not be built.

Jeff Jefferson was a key member of the Goosnargh Village B4RN team. He says: ‘My involvement with B4RN started a few years before the Goosnargh project as I was a customer of Paul Vinson’s private wi-fi network. Paul was able to tell me of the trials and tribulations that he and David Ford had with B4RN over the years, trying to get them to extend the network down to the rest of Goosnargh. After much badgering over nearly eighteen months by David and Paul, B4RN finally agreed to hold a meeting for interested parties in Goosnargh village hall in February 2022. B4RN was represented by CEO Mike Lee, COO Tom Rigg and Nick Hall (Civils). There was quite a good attendance and lots of interest. Several further meetings took place

Work by the volunteers, which was by now a small select group comprising Paul Vinson, Grant Rhodes and Jeff Jefferson then started in earnest. Paul had been heavily involved along with David and landowners in the area so he took on the responsibility of getting the many wayleaves required, along with distributing B4RN publications. Grant provided valuable technical know-how and took on the Goosnargh Lane area to try and obtain wayleaves and distribute publications whilst Jeff concentrated on the Mill Lane area. To keep everyone updated the team posted on the Your Goosnargh website and the B4BIG Facebook group with regular updates on WhatsApp threads.

Grant says, ‘When we got involved there was a very high build cost being thrown around. We attended multiple meetings at B4RN, discussed the costs, had direct discussions with Tom at B4RN, and tried to get a direct connection to the village hall. The village was showing vouchers available and we had signed a few up, but we were still short so needed investment from the local council or parish. So, we ran it past them, looking for a small investment from them and also asked if we could put the cabinet at the village hall. They agreed to a meet for the business case etc, and then frustratingly, they abruptly cancelled on us on the day of the meeting - stating it ‘wasn’t in the parishes’ best interest at the time. Unfortunately, this scuppered the plan to reach the village hall.



‘So, as you may be able to see from the maps, the outlying houses got connected to the main cabinet



This photo has not been photoshopped! It is the mole used for most of the Chipping dig.



A big group dig brought out lots of people to help.

Chipping

Because Bleasdale had got online Chipping decided to join on to the branch. Paul Hunt, who was the local postmaster, had heard about it all on a bus with the Goosnargh group to the test match at Old Trafford, and thought it sounded great. This was about 2016.

In September he arranged a meeting at the village hall in Chipping, and Edward and David, who had been the mentors did a presentation with Barry for them all. 50 people came, and Barry told them what was needed and if they were up for it then B4RN would add them to the network. They were up for it and Barry produced the maps in January 2017.

Chipping raised £200k to start the project. Paul and his community formed the Chipping Chain Gang. They got a Facebook group to keep people in the loop, and they had a route champ for each leg, and some helped on all the routes. They got the wayleaves sorted and started digging in August 2017 and the cabinet came that autumn.

They had a core of 6, with numerous little groups doing their own patches. They organised group digs and big working parties where needed. Farmers did some of the digging, and John Stott (also a farmer and contractor) did the majority of it.

The main difficulty was the window of opportunity for digging; often there were crops in the field or too much livestock, but John knew the score and could work round it, getting a few hundred metres at a time dug when conditions allowed. John was a member of the team, and volunteered for lots of jobs, as well as being the main contractor.

In those early days a lot of people did their own house digs and the volunteers would help too, or they worked in a group to do patches of houses.

The volunteers laid the duct and dug in the chambers



Using subduct where it could not be buried deep.



Tea break and team meeting.



Hilary and Paul house install.



Paul helping to go under a wall..



Yes it is through.

on the housing estates.

They used subduct for extra protection where they could not dig too deep. John Stott was busy getting the core routes dug, Steve Foster did the road moles and Tony Swidenbank did drills under rivers for them.

They dug under walls, and did the house installs, the photo shows Stan doing one with Hilary. Stan moved to Cumbria shortly afterwards and was instrumental in getting B4RN in his new area, and now works for B4RN.

After big work days they joined up for a brew and chin wag.

They got all the duct round the houses near the cabinet first, and the first customers started to come live.

Martin Butters installed most of the house kits in the early days, but when Paul retired from the PO (and Covid hit) he then took on the house kit job.

This is the view from one of the first houses connected to Chipping; you can actually see Ingleborough in the distance, which was the current northern end of the network, which shows how it is spread out and how remote the area actually is.

Half way through the project in 2019 the



The view of Ingleborough from the first live house in Chipping.

Ducting the estate at Chipping



Measuring out the ducts.



Digging another trench.



400 flags lifted and duct trenched under them.



Trenching alongside the cobbled paths.



Digging where possible.



More flags.



Cleaning up and re-laying cobbles.



Tidy job.



Trenching in a lawn.



Digging in a round chamber.



Digging in a big chamber.



Barbara and Hilary learning to fuse at Melling..

government voucher scheme came in, and that meant that householders could get dig grants from B4RN to pay someone to do the house installs for them.

This caused the project a few headaches, because areas they had already been through with the core duct were not eligible for a voucher, and it upset the villagers. Their meetings were held in the pub, and Paul noted that the gossip around the vouchers was becoming divisive and causing difficulties.

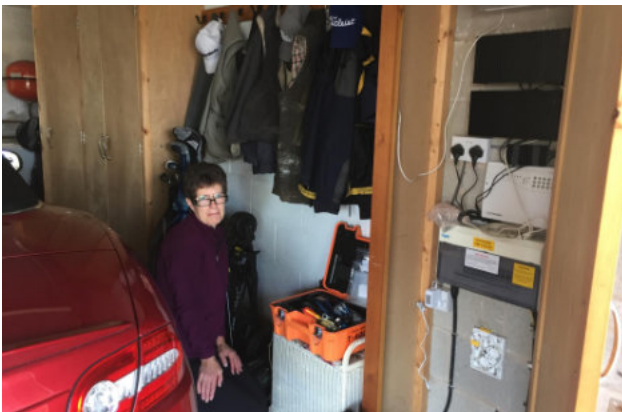
Also some people had got vouchers on routes they had not got to, and use-by deadlines were running out on valid vouchers, and that caused stress too. They had to re-apply for a few of them. The voucher scheme did take the pressure off raising money though, and meant they could pay people to do some of the work. Some communities at this point paid people out of the grant to dig their gardens, and some had a community charity set up and put the money in that. Chipping did neither, Paul carried on fitting kits for free and the volunteers kept helping out.

Once the initial installs were done, areas came on in dribs and drabs as they got to them, so several volunteers went to Melling to get trained to blow their own house fibres and to fuse them. John blew the house fibres and Hilary learned to fuse. She and Barbara had arranged all the house installs in their area and then continued to help others. Barbara was also the chief bookkeeper. They also learned to patch their customers in to the cabinet. This cut down on the time waiting for B4RN fusers to come, and they got their own equipment to do the work.

Hilary was fed up with her internet. She lives on one of the many small estates in Chipping, small blocks of houses in a group. She asked Paul every time she saw him in the pub when would B4RN get up her estate. Paul said a champion was needed in that area to gauge interest and get the ball rolling. Although desperate for better internet Hilary kept saying she



Barbara doing the paperwork.



Hilary fusing the customer.



The Chipping tree, by Paul Hunt. Its branches reaching out...



Barbara and Hilary patching customers in the cabinet.

was too busy as she worked full time. But one night after one too many lagers she caved in and said she would be a champion.

Barbara and Hilary made a great team. They went to meetings to find out what to do and set about it. Hilary roped her husband and son into the team and they blitzed their estate. Hilary, Andy and Tom set to with gusto and lifted and relaid over 400 flags round the houses to lay duct. In different bits they had volunteers helping too. There was a mixture of take up, a lot of people were quite content with the internet they had already, and 'a few were scared of losing BT Sport'. There were quite a lot of Apathetic people, and the Adopters could not awaken them at this point, but they got duct to all the houses they could and left it as close as they could to those they could not reach. Steve Seed helped Andy with the digging.

Paul and Martin Butters did most of the house kit installations for them.

Hilary has carried on helping new customers and also helps with any repairs in the area. She has also helped nearby projects to get going and by doing some fusing for them. She also shared her fusing machine with the Calder Vale group until they got their own.

Paul reckons that 423 or 50% of the area took the service initially, but more than 90% have the duct to their houses/boundary. They have spent 6 years on the project. They have also given nearby projects assistance and encouragement.

The following volunteers have significantly helped the Chipping Chain gang B4RN project over an extended period:

Hilary Dickinson, John Stott, Andrew Hutcheson, Steve Seed, David Hall, Peter Chambers, Ray Metcalf, Carol Griffin, Martin Hawkins, Robin Underwood, Graham Crichton, Martin Bleasdale,



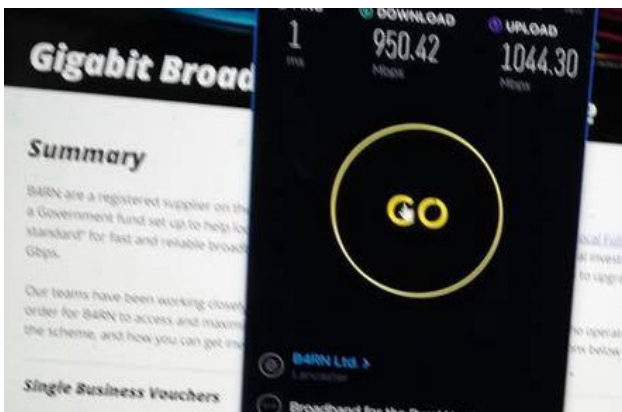
Tea breaks essential.



The Chipping team on an awards tour.



The Chipping Show ground now has a connection.



The speed test at the village hall.

Stan Jenkins, Martin Butters, Barbara Hoyle, Graham Frost.

Paul says they have met people from all walks of life, people they would never have met despite living in the same area. They met them in wellies and mud.

He says they are seriously impressed with the response times if there is a problem with the network, because from when they first started reliance on broadband as a utility has increased tremendously, and Covid proved how vital a service it is.

They held an event in their village hall to show the service off, and had a big map on the wall where people could put pins where they lived. They put a speed test on the Chipping Chain Gang facebook page along with all the news as it happened.

Chipping had joined the Goosnargh network, and this opened up the route to the Hodder Valley.

They dug in over 100 kms of duct.



Digging the duct into Chipping.

Chipping Village hall event



Villagers gather at the BYOD day event to try out the connection.



Planning ways to build out the network.



From A to B. How far? How do we do it? What if we did this bit first?

The Hodder Valley

Whitewell / Dunsop Bridge / Newton / Slaidburn

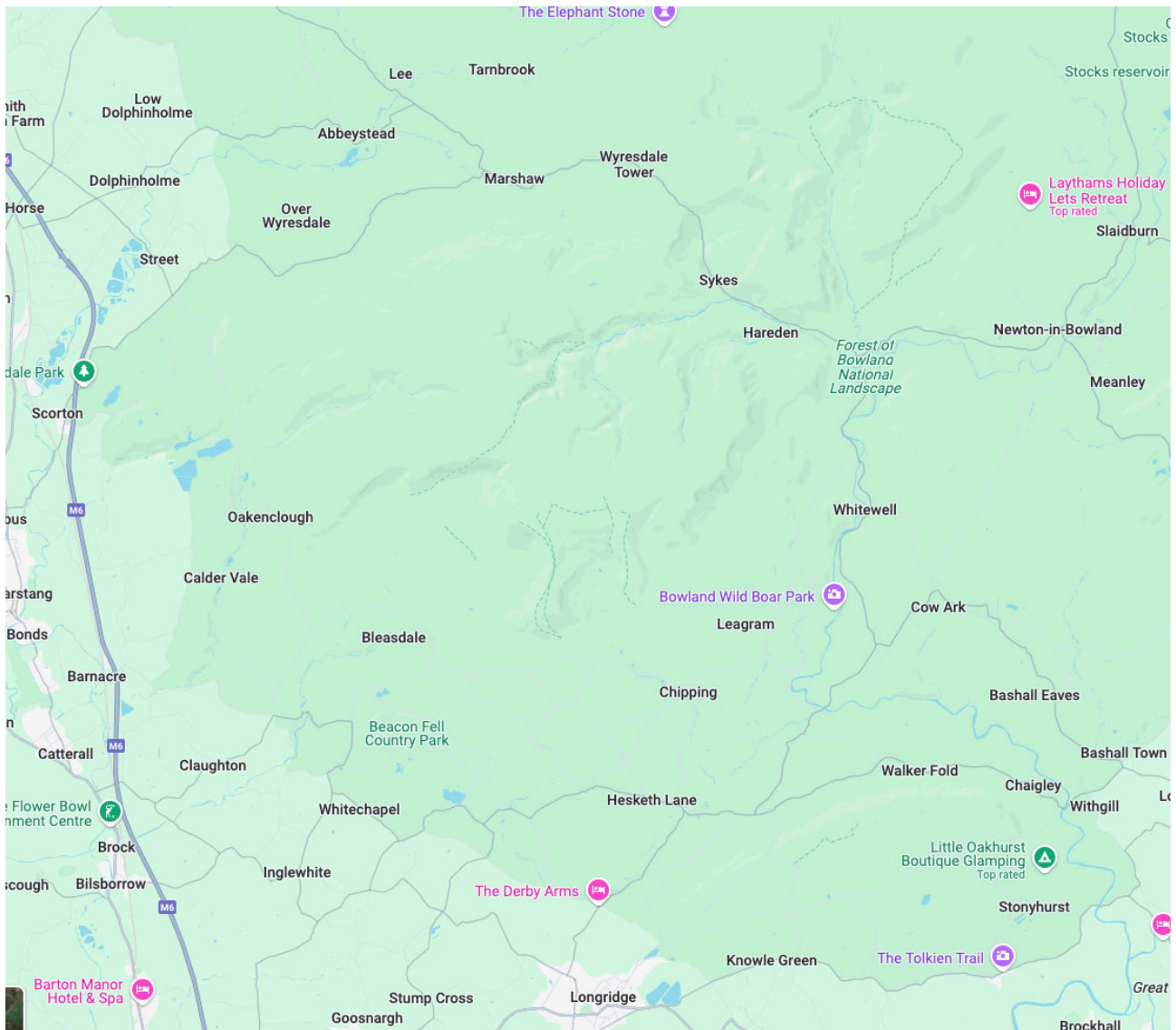
The route went on from Chipping down the Hodder Valley, all the way to Slaidburn, a project which started in 2018. There were no vouchers at this time, though they did appear later.

Cath Halstead, B4RN community engagement and development officer said ‘It’s brilliant how the local community has come together to help plan, design, fund and build this network. The Dunsop Bridge community have become a great volunteer team and the landowners in the area, including United Utilities and the Duchy of Lancaster, have been incredibly supportive in allowing the B4RN Network across their land. Everyone’s commitment to this community project has enabled B4RN to plan and build across miles of land to bring the B4RN network to Dunsop Bridge and beyond.

‘The Plan, developed by Edward Wilman, our B4RN Network mapper and planner for the project, covered some difficult ground and some interesting challenges and working with the local knowledge of the group, landowners, farmers and the contractor and digging teams these have been overcome. A great team effort’.



Photos by Peter Costello.



As you can see from this map, this project covered a very large area, with very sparse populations. There were live B4RN networks in Over Wyresdale but no open route to join them yet. With the Inglewhite cabinet going live, Chipping saw a chance to join there. In turn, this opened up the route for the Hodder Valley. There was no funding to help them, and no EIS support for taxpayers if they bought shares. It is a testament to their determination that it ever worked, but it did. If you look at the map, from Chipping it first went to Whitewell, and then to Dunsop Bridge which is half way between Whitewell and Newton. When business vouchers started in 2019 the project took on a new impetus, as the businesses were desperate and each business voucher helped 10 residential customers.

Whitewell

Charlie Bowman owned the Inn at Whitewell. He championed the route that went all the way to the cabinet at Dunsop Bridge, from Chipping.

Over 63 kilometres were dug for Whitewell to the Dunsop Bridge cabinet. Charlie worked tirelessly, and even learned to fuse the customers.



The famous Inn at Whitewell.



Charlie Bowman fusing connections at Whitewell.

Dunsop Bridge

Richard Astle was the main Activist for the area, and he says this is how it all started:

‘The catalyst for the whole project was a public meeting held in Newton on 18 February 2018, organised by Newton Parish Council, with Dave Ryall from B4RN. It was particularly well-attended and it quickly became apparent the project was going to be much bigger than a small network centred on Newton, as there was interest in all five of the local parishes along the Hodder valley.

‘This was favoured by B4RN because, apart from incorporating a far larger population, it would extend the existing network from Chipping almost to Tosside, leaving only a short section to connect to the existing network in Rathmell and thus providing vital network resilience, a key objective for B4RN’.

Richard got involved because he was retired and had time and was interested.

There were a lot of people on the parish council who wanted to get it going but they all had jobs and had not the time to devote to it.

People then seemed to lose interest, so it all needed gearing up a bit. Richard went round all the houses, encouraging people to sign up and invest if they could.



The rainbow at Chipping reaches Dunsop Bridge village hall.



The Valley road.



Barry arrives to blow the fibre.



John gets his MBE spade award.



John fusing.



Barry from B4RN blowing fibre.

They managed to get a coordinator in each village. The project encompassed Whitewell with Charlie Bowman, Dunsop Bridge with Stephen Bennet, Newton with Richard, Slaidburn with Edward Ireland, and Julian Valentine as volunteer for Easington, which is east of Slaidburn and finishes a mile or so short of Tosside.

Richard liaised with B4RN. They all got the wayleaves for their own parishes and raised as much investment as they could.

A lot of the project was done during Covid, and David Spencer recalls, 'It was a good time, April 2021 in Newton, when digging trenches was a welcome outdoor activity amidst the restrictions of the Covid pandemic which was still forcing many of us to work from home'.

Stephen Bennet became the coordinator for the Dunsop Bridge area. He had been to the original parish meeting at Newton village hall and was excited and wanted to get involved. He recalls there was a year's delay from that meeting before anything really got started. A lot of this was down to the B4RN organisational issues as the prospect of voucher funding was being absorbed into the planning and costing of projects. Nevertheless he went round all the village (about 50 houses) and the outlying farms to check wayleaves and gather interest.

Two major landowners were prepared to invest heavily, but ordinary householders did not have as much interest. They had an adequate service from BT as they lived so close to the exchange in the village. Stephen says he was regarded as a salesman and treated with scepticism. The outlying properties 'were on the equivalent of dial-up'. However Geoff Walker on an outlying farm was desperate and they made sure they got to him, and left duct ready at the boundary of all the farms and houses. Most of the houses had Sky satellite dishes and so were served for television too. He says take-up was around the 50% mark, but some people were tech savvy and saw



Stephen installs his own router.



Volunteer fusing a house connection.



David fusing in Newton.



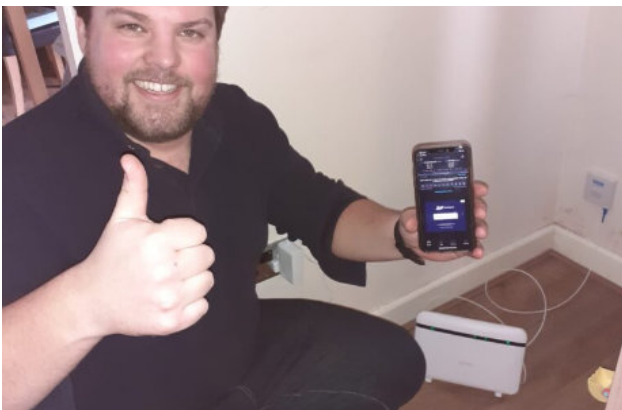
Lawn protected with sheeting.



A tidy dig.



Tea time in the sun.



A happy customer goes live in Dunsop Bridge.



Stephen installs his new router.



Stephen practicing his fusing in a tea break



The centre of our world.



Dunsop Bridge cabinet.

the potential of a true fibre service, both on their usage and property value. The local estate paid for all the estate houses to get a connection and invested heavily.

The team had not been told at the start that they would have to raise money to pay for the project, but luckily vouchers came in for businesses in 2019 and that eased the burden somewhat and made it possible.

Steve and John Whitney volunteered to dig to the village houses who could not do their own, and Tom Wells who worked for the Duchy did all their houses. They installed all the house kits too. Jorj and Barry came to blow the fibres. When the house fusers came they had a go at fusing too and did their own connections.

Steve Foster did the mole ploughing and was really great to work with.

The hardy volunteers of Dunsop Bridge have helped B4RN reach the centre of Great Britain! National Grid reference SD 63770 56550 is famed for being the exact centre of GB and its 401 associated isles.

The B4RN planners decided on two cabinets for the Valley, Whitewell would be on the Dunsop Bridge cabinet, and Newton on the Slaidburn one. Charlie had started getting it to Whitewell, so the core was on its way and the cabinets were installed ready for the core.



Slaidburn cabinet.



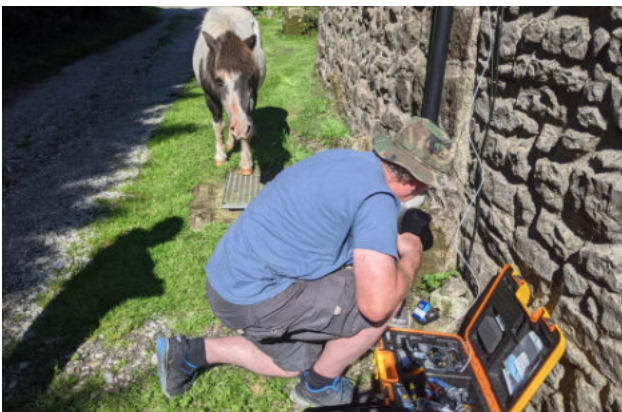
Newton village green.



Martin gets his MBE spade.



Richard and David get their spade awards.



David fusing with an audience.

They had never known how much money they would need to raise, and they found that because contractors would be doing the digging they would have to raise far more money. Some areas raised more than they needed and together they managed to finance it all. There were some business vouchers which helped as well.

Newton

Newton had a long wait for moleplough contractors, it was in 2021 that B4RN finally let the major cores start through to Slaidburn. Richard says Steve Foster and he walked the routes and Richard introduced him to all the farmers who told him where problems to avoid were. By November 2021 he could report, 'All core routes finally complete. Well done all'.

They had problems with routes losing vouchers and it left a bad taste. Some people were very confused and irritated and Richard got involved to help them resolve the issues. They had vouchers lapsing, and had to be re-applied for. He found it very frustrating dealing with B4RN at this time, but he really enjoyed working with Steve and carried on, though he says it 'was not an easy path'. They had problems with some of the land agents on some big estates, which caused 3 months of delays, but most landowners and the farmers were brilliant.

Then they had delays because of Covid. Everything seemed to be against this project, but they persevered and got there in the end.

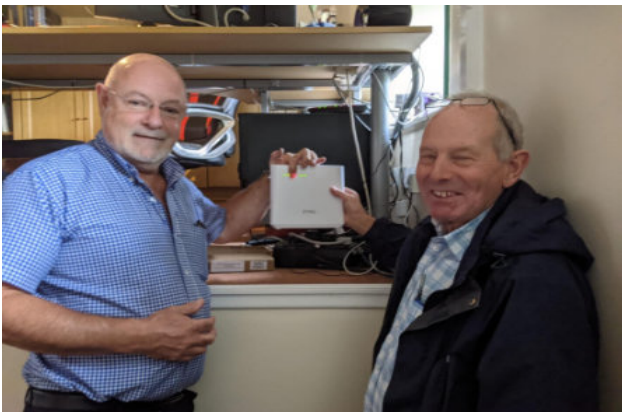
They had house kit volunteers, who worked in pairs, trained by B4RN. On fusing days David helped out. They had about 20 diggers on Saturdays helping with the core and the garden digs, and lots of fun with garden barbecues and bacon butties. These Saturdays made more community events happen, all continuing to this day. The project builds a lot of cohesion in a scattered community. Richard fitted the first router and then went to the cabinet to patch in the customers, with training from Flick.



David sitting down on the job.



Flick and Sarah from B4RN.



Richard (right) and the first happy customer.



Richard patching the first customer with Flick.

Richard says connecting all the houses who wanted the service became easier as they learned what was needed, and he became very confident with tube maps of the ducting routes.

Once they started installing more people signed up, with 98 out of 130 properties taking service initially. All the others had duct left at their boundaries. He communicated with everyone via email. They did not do social media.

Richard says infill is a lot harder, as B4RN contractors have to do it all from scratch. He can supply them with details of where the duct was left, and as houses change hands everyone wants it.

Flick and Sarah from B4RN helped them on many occasions. The overall timescale from start to finish was Feb 2018 to December 2023

The only unplanned outage they had was on a bank holiday Sunday, when a farmer cut through a big 192 fibre core duct. It was replaced and spliced both ends within 24 hours, which amazed everyone who was used to phone lines being down for weeks. They are all very proud of the network they built.

They got duct into the forest in Tosside, and hopefully this will one day join up with Rathmel.

Slaidburn

Edward Ireland and Rob Glendinning had attended the meeting at Newton in early 2018. Edward agreed to be the champion for Slaidburn. Andrew Cowkin joined them once he got the cast off his leg. A long period of meetings with Dave Ryall from B4RN ensued, and they had many problems to overcome. The delays meant vouchers expired and then came Covid and lockdowns, making getting the internet even more important. They recall that nobody was keeping them informed and giving them the information they needed. The project to reach



The rig.



Starting the digs to the houses.



Bony dig.



Round Chamber install.



Many dig days.

Dunsop Bridge was difficult, Charlie from Whitewell had a very long dig to do to reach his patch to hand over to Dunsop, and then the long route through Newton had to get to Slaidburn. It all took longer than they thought it would. Edward set to and did flyers, he went to every property to explain what B4RN was all about to try to raise interest and also investment.

The middle of the village was very Apathetic, most of them had FTTC and they thought it was sufficient for their needs.

A lot of the houses were estate houses, and unlike the Duchy and other estates. The Slaidburn estate did not see the point of anything better than what was available. Eventually many of their tenants must have persuaded them that something better was needed, and only B4RN was prepared to deliver it. It took until 2021 to get the core dig started and they started installing house kits and doing garden digs in 2022.

They left duct at the boundary of every house, whether the residents wanted it or not, as they did not want to have to go back to do any of the digs again. They helped the older people with their installs. They had been to a volunteer day at B4RN and learned how to do the installs properly. At this point Rob was indispensable because he had a long drill. Edward and Rob worked Saturdays and Sundays and Rob bought a mini digger for some of the bigger gardens or places where the contractors would struggle. Andrew proved to be an awesome digger man. People kept their dig grants and they did the work for free, or helped householders to do their own.

Halfway through, with no warning at all, B4RN put the price of the service up from £30 to £33. This was a big shock, and caused a lot of bad feeling, as B4RN had never put the price up before. In actual fact it was only a 1% per year increase over the past 10 years, when other ISPs were raising prices every year, but



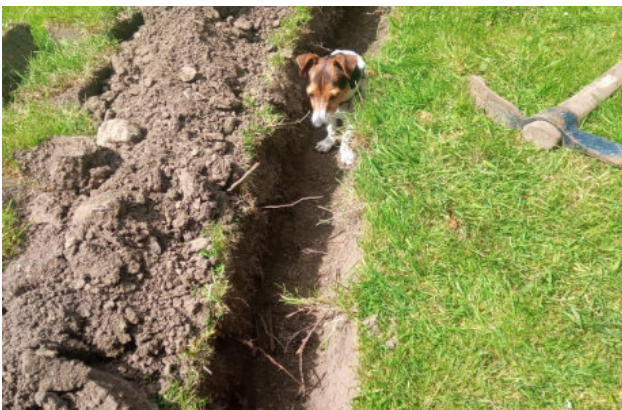
Very long digs by Steve Foster. At last he is back.



Very tidy work in a garden.



Digging to the chamber.



The measuring Jack Russell.

they had sold the project to the people on the understanding that B4RN had never raised prices so this was a big shock to them all. They spent a lot of time calming the troubled waters and everyone got over it in the end thanks to Edward and Rob.

Another disaster was looming, and it hit them in the summer. The project had run out of money. Projects in those days could start to build when they had reached a certain percentage of the total needed to complete, as it was always found that more investment always came once people could see it was underway. This did not work in the case of Slaidburn, where there were not enough people who could see the benefits of having such a good service, when the one they had seemed sufficient for their needs.

The double whammy was that Steve Foster, who was the contractor putting the core into Slaidburn, was sent off to another project in Cumbria that was time-specific and had a lot of vouchers, and Cumbria topped up the vouchers so all the contractors were moved up there.

The Hodder project without any money did not stand a chance, so Edward set out to get more investment and get Steve back. It took six months, but there are some very community-minded people in Slaidburn, and although they had already invested, they put in even more.

What really upset everyone was the fact that nobody from B4RN had told them that the project was underfunded, and they had no warning. They actually met with senior managers who apologised and lessons were learnt. There were many mitigating circumstances and unfortunate coincidences that contributed to this infernal situation, but, as with the price rise, they took it on the chin, and working with B4RN they all got things back on track.

They carried on digging round the village and Reuben Parsons invented the measuring gauge for house digs. A Jack Russell is now the standard depth



Garden digging.



Careful digging for customers.



Digging and more digging.



Tea time.

needed in a lawn.

6 months later Steve Foster came back to them. This time he stayed, and from February to October 2023 he completed the join and dug the other routes.

One of them went right to Tosside, ready for them to start their project when they are ready, and join up to Rathmell.

They fitted the house kits and dug the gardens on all the routes. On 25th July 2023 they had their directional drill under the River Hodder, and they fitted their last house kit in December 2023. They remember doing an install at a farmhouse and they had to pull a couch out of the way to drill through. Andrew picked up a toy rat and cried, 'It's a rat, it's a rat' and the farmer's wife freaked. They were also accused of 'sexual harassment' when they told another farmer's wife they had 'come to fix her up'. They admit to having a lot of fun amongst all the headaches. At the Hodder Valley show they set up an outdoor wifi unit, so all the stalls could use their card machines as there is no mobile signal there. They really enjoyed showing off their network.

They had lots of volunteers helping to install the cabinet at Slaidburn, this would feed back to Newton and join the Dunsop Bridge route back to Chipping.

They connected their church, and went round the village digging to all the houses and installing them.

Pickaxes, mattocks, spades and trowels were needed. B4RN contractors did the field digs and the road crossings for them. They used their own mini digger within the village and hand-dug a lot of properties to the house wall, and fitted the boxes.

Many days were spent getting all the houses connected. Very thick walls, cobbles and flags had to be dug through or under, and massive drill bits were needed. They also did their own version of FTTC. Fibre To The Caravan.



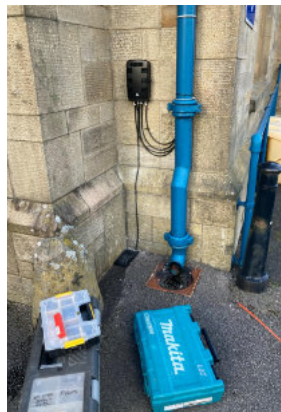
The dig down to the Slaidburn cabinet, before and after.



Almost there.



Pickaxes needed.



Duct in and box on wall of church.



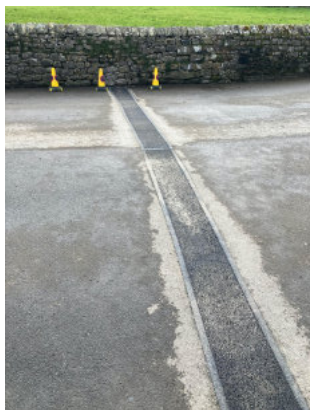
Fran Brown blowing the core duct.



The road crossing..

Frank came to blow the fibre when they had got all their ducts in. Because the cabinet at Slaidburn was already live the customers came on as soon as the fusers had visited.

The Newton and Slaidburn groups dug over 76 kilometres of duct. The total dig for the Hodder project was over 140 kilometres of trenching, which is a fantastic achievement. Well done to all.



Crossing done and chamber installed.



Steve Foster's rig at close of day.



FTTC. Fibre To The Church.



Under the wall.



FTTC. Fibre To The Caravan.



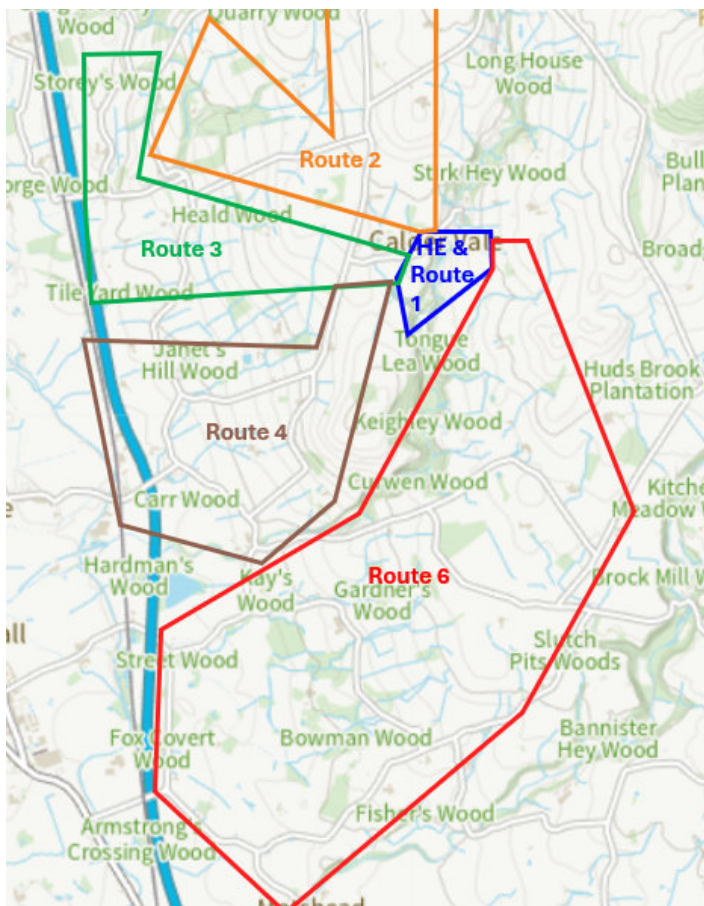
Discussion on walls.



The long drill. Plus audience.



A house install. Big drill needed.



The plan.

John Ibison gathered together interested people for meetings at the local school, whereupon the level of interest became apparent, which led to the calling of a public meeting at which Dave Ryall from B4RN delivered a very informative presentation. This led to the formation of a working group headed by local resident Tom Walmsley, which began work on a proposal to provide B4RN service for the wards.

The proposed project entailed digging in over 36 km of ducts passing 376 potential properties. The plan comprised 6 Routes: The Head End (HE) Route and Route 1 (Calder Vale Central); Route 2 (Barnacre North); Route 3 (Barnacre South); Route 4 (Calder Vale East to the Creameries) and Route 6 (Claughton-on-Brock). Individual champions were appointed for each route.

The first major step was to establish a register of interest to check that 50% of the community was interested and thereby enable detailed planning to commence. Volunteers went house-to-house with specially designed questionnaires to gauge and record the level of interest, which proved to be over the 50% threshold.

Having secured the interest, the next task was to encourage local residents and investors to invest in B4RN to fund the project. A big boost was the announcement of the first voucher scheme, which provided government support for installation of broadband infrastructure, but there was a problem—some properties within the project area were eligible for vouchers, and some were not, which caused major headaches. However, there were a large number of high value small and medium enterprise (SME) businesses on Route 4 and Route 6, which qualified for business vouchers, the value of which compensated for the lack of complete voucher eligibility, and helped meet the voucher scheme minimum requirement of 1 business for every 10 residential properties.

Calder Vale

Local councillor John Ibison, who was very concerned about the villages in his ward which had very poor broadband service and mobile coverage, began making enquiries which led him to Broadband For the Rural North - B4RN.

John's ward consisted of two parishes, Calder Vale and Barnacre. Originally, John's vision was to improve services in Calder Vale, but it grew to include almost the whole ward. John Hallas, the parish clerk from Claughton-on-Brock which adjoins the Calder ward, was also keen to improve services in his village, so joined forces with John. This provided an opportunity to increase the number of potential customers, including many farm businesses, and thereby helped to make the financial case for B4RN service.



During the period of the project there were three major changes in the B4RN method of delivery. All were the result of differing government approaches to delivering broadband to rural areas, and this caused a few problems, delays and misunderstandings. Apart from some areas not getting a voucher when their neighbours could, the B4RN dig grants also created their own problems. These grants were intended to recompense home owners who could not undertake the final dig from their boundary to their properties, or install the house kits, and had to employ contractors to do it. The dig grants were paid once the customer's service went live and B4RN had claimed the government grant.

In Calder Vale, a team of trained volunteers, directed by the working group, undertook most of the final dig and installation work, on the understanding that the property owners would donate at least some of their grant to the working group to fund the consumables such as drill bits, fixings, tools etc. This worked well in some instances, but backfired in other ways, as some of the householders did not make a donation and just kept the money to offset the connection charge.

It was early days of learning to utilise the vouchers to get the best result. Because of all the problems this caused, B4RN changed this method, another good learning curve and a better way was found.



The HE and Route 1 were first off the mark to create the cabinet and interconnection with the live Bleasdale area at Oakencloough. This provided the core capability for the rest of the project. The rest of the routes then followed on as soon as they were planned and funding confirmed.

During the project the whole community was kept informed of progress through several channels. These included banners to remind residents that work had commenced, a website and a Facebook page, as well as a monthly newsletter produced by one of the volunteers.

A Bring Your Own Device (BYOD) and information day was organised by the working group, in conjunction with Jorj Haston from B4RN, at St John's Primary School in Oakencloough, close to Calder Vale. The school already had B4RN service, so residents



Bring Your Own Device (BYOD).



The rainbow starts the project work.



Hard core delivery.



Chamber delivery and base mould for the plinth.

could try out the service for themselves, obtain further information, and register their interest if they wished.

The event was quite successful and, along with the questionnaire activity, helped the working group to generate sufficient expressions of interest to enable the project to proceed. There were, however, some problems obtaining wayleaves (not everyone in the village was a supporter) which in some cases delayed the project. However, where there is a will there is a way, and a workaround was always found through the goodwill of other land and property owners. When delays caused vouchers to expire, Amy Lis of the B4RN voucher team worked wonders in obtaining replacements.

Head End & Route 1 - Calder Vale Central - Route Champions Tom Walmsley / Tim Forshaw / John Ibison

Tom Walmsley was the lead for Calder Vale; he remembers them all working together with Tim Forshaw doing a huge amount of work mainly in the Calder Vale area and the terraces. Tim had 30 years experience in the telecommunications industry, going from apprentice technician to installation and maintenance engineer to development engineer at BT's Research Laboratories at Martlesham Heath, where he was developing, by coincidence, broadband technologies. Tim got involved with the project early on because, as he himself said, it would have been rude not to! The team nicknamed Tim Engineer in Chief. As well as helping with the practical, backbreaking work, Tim assisted with tube maps, posters, banners, ran the Facebook page set up by Christina Campion and produced the monthly newsletter.

Half a ton of rainbow hard core was delivered for the Head End (HE) cabinet plinth. The site chosen for the HE cabinet was next to Calder Vale Club, the proprietors of which were very supportive of the project and accommodated meetings of the working



Delivery of supplies.



Site foreman.



Starting the Head End dig.



Clearing the site and digging out the chambers.

group.

Parishioners who had trailers collected supplies for the project.

The working party, which comprised quite a number of local, strong volunteers, had their own site supervisor for the building of the cabinet plinth.

Jorj Haston from B4RN delivered several training sessions to augment their skills with the knowledge and information to install the cabinet plinth correctly. Jorj remained on hand for advice and help.

The site was cleared and the pits dug for the HE chambers.

Andy Mortimer was an experienced digger driver which proved invaluable for digging the pits and associated trenches.

John was already au fait with the plinth and chamber construction methods from his previous career planning networks, so he had a good idea of how it should all fit together. After the plinth was completed, B4RN staff delivered the cabinet and installed it on the plinth.

Refreshments were always on hand to keep the volunteers going.

Roger Clarke was contracted to undertake the core



Tom Walmsley, Alan Wrathall, Joe Gornal and Alan Wrathall Jr.

Building the plinth for the cabinet



Getting the base ready for concrete.



Concrete going in.



Chambers dug in next to the plinth.



Caroline Mortimer is handing out our delicious home-made biscuits.



And the farmers helped too.



Cabinet delivered.



Finished plinth and chambers.



Roger Clarke.



Subducting the core duct.



Roger's dig.



One of the volunteer dig teams at Victoria Terrace.

digs as he already had B4RN experience in Bleasdale.

John Ibison had a mini digger and worked with John Procter to do the messy bits—they also dug an awful lot by hand where a digger could not go, with Tom and the gang helping.

The B4RN civils team installed the road crossings, and also fed the core ducts under Calder Vale's main river bridge.

Once the core ducting was installed, the volunteer dig team dug in the branch ducts to all the houses, most of which were terraces.

Tim worked with the B4RN planners, civils team and landowners to tailor the Route 1 network design to the challenges presented by long terraces, one of which comprised 19 dwellings. Commonality of



B4RN civils getting over the river.



A volunteer dig team installing a chamber in Victoria Terrace.



Tim Forshaw helping to install 16mm duct feeding Victoria Terrace.



Volunteer dig teams working on Mount Pleasant.



James and Alan helping to install 55mm duct on Mount Pleasant.

duct routes was key so as to make the most of each duct trench, so Tim produced A3-size, laminated tube maps and detailed plans, as well as chamber schedules, to assist the contractors and dig team. He also helped to supervise road crossings, in liaison with Nick Hall, head of B4RN's civils team, and assisted the contractors in laying the 7mm ducts, ensuring all were accurately labelled, which was most important, especially as one route comprised twenty two 7mm ducts, each destined for a different property.

From this point, Tim, ably assisted by James Butler, installed ducts to each property, as well as house kits in those properties that wanted B4RN service, including the Methodist Church, Village Hall and Mission Room. The task involved a great deal of ladder work, so Tim's training and experience came in very handy. Tim and James worked tirelessly throughout the long, hot summer of 2020, for which they were rewarded with the treasured spade!

This part of the project coincided with the pandemic lockdowns which called for adherence to Covid-19 restrictions, including wearing face masks and social distancing, all of which were an added complication for the project. However, forward planning, attention to detail and plenty of stamina ensured the work progressed.

A 7mm duct was provisioned to each house, whether or not service was required, so as to 'future proof' the infrastructure and make it easy to provide services to other houses in the future. This has proved invaluable for B4RN's infill team because many properties are tenanted and often change hands, so providing service for a new tenant is straightforward as there is no need to run a new duct from the chamber. Tim kept records of everything he did and gladly supplies engineers with all the details.

B4RN broadband made a huge difference in Calder Vale. Prior to B4RN, the village was a broadband



Kurt, one of Roger Clark's team, installing multiple ducts from Head End.



A dig team clearing the way through brush prior to a core duct install.



Tim having been presented with his spade award.



James helping Frank with the blow.

backwater. Most residents could only obtain less than 1 Mbps, which was very frustrating, especially for households with multiple users. Frustrations became even more acute during Covid lockdown, with the need for simultaneous homeschooling and home working.

When the B4RN service went live in June 2020, the difference was phenomenal and immediate, with families astounded at what they could all do simultaneously with a 1000 Mbps symmetric connection. This included a couple, both of whom were college tutors, and had to upload their lesson resources to the college server. This used to take all night, but suddenly took a fraction of a second. Families and home workers expressed their gratitude to the volunteers for making a huge difference to their lives. Calder Vale now has world-class broadband, a factor which makes the village a far more attractive place to live and work, as estate agents point out that broadband speed is a very important factor for potential purchasers and tenants.. Tim says, 'B4RN completely took over my life for a while' as he and others helped Roger Clark get the main core in, then ducted up all the terraces, about 60 houses in all.

The B4RN blowing team arrived to blow fibre into the houses. Frank and Will sorted out any snags and got the job done, and the fusers brought all the houses live. James, who had fitted the house kits with



Frank Brown arrives to blow the house fibres from the chamber.



Will Dehany waiting to catch the fibre, watched by James.



And the fibre arrives.



Guy Campion fusing the outdoor connection.



Jorj Haston fusing the customer connection in the house.

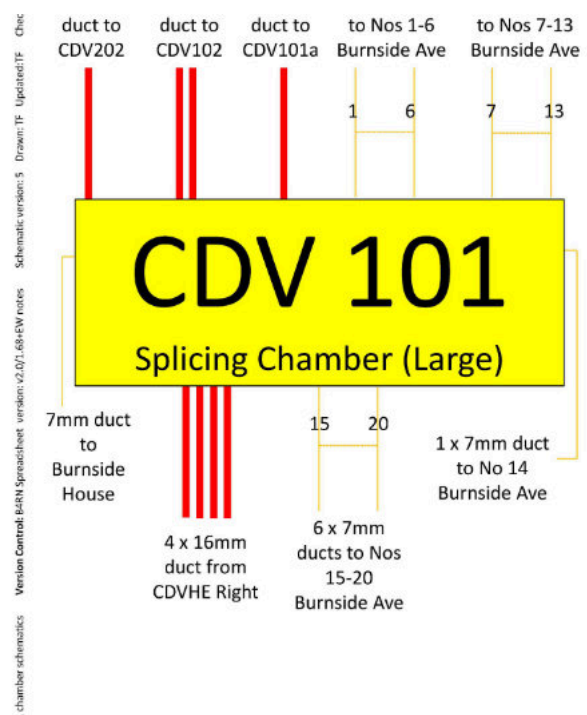
Tim, helped them all out. Jorj Haston from B4RN fused in customer's houses, and Guy Campion fused the outdoor connections.

When the project was finished, Tom Walmsley was amazed that the team, as he said, 'could just walk away and it all just worked'. He says B4RN is a brilliant network and looks after them all very well. A new customer moved in this month and wanted the service and the B4RN VoIP phone too, and it was all done there and then in a few hours over the phone; he was very impressed.

They have had outages where farmers or contractors have cut their line, but repairs have been very quick and dealt with efficiently, with customers kept updated. It is all very reassuring and a source of pride that they built their own network, and that it is so good and being run so well.

Route 6 - Claughton-on-Brock -

By Christina Campion



An example of a chamber schedule, designed to assist ducting teams during duct installation. The chamber schedules align with the tube maps.

Job done.



James and Tim doing house installations.



Jorj waiting for air to identify house ducts as Will blows them through.



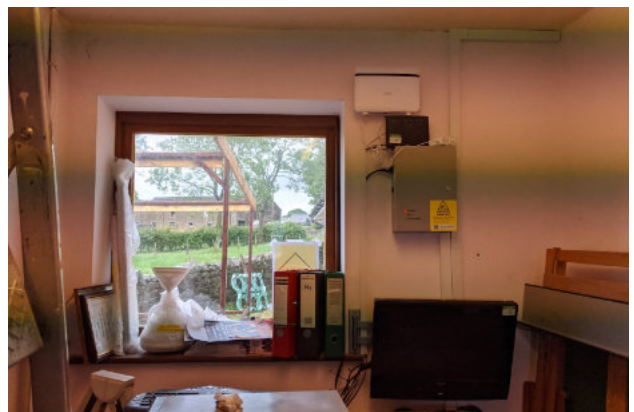
Will fitted the external house box and threaded the fibre through.



Will fitted the internal box to the village hall.



Will and Jorj at the finished cabinet install.



The router put on the wall covering the internal entry point.



Will patching the customers.



Tea break on fusing day.

Christina and Guy Campion were the route champions for the Claughton-on-Brock parish.

Route 6 was the most extensive route but was also predominantly rural so not hampered by urban infrastructure in the way that the HE and Route 1 were.

Early on, the decision was taken to ring-fence all the activity on Route 6 so it could be planned and delivered independently of the other routes. This allowed the other volunteers to concentrate on solving the core Calder Vale challenges. This increased the workload on us, but simplified the decision making and control of the planning and delivery.

Getting the sign-up of the minimum 50% of the properties in the Route 6 area was the first step, and working with John Hallas we delivered flyers to the entire catchment area, then held a sign-up session at Claughton Memorial Village Hall to help people through the process. John and the parish council continued to help with the communications throughout the deployment and funded the B4RN banners to publicise the project.

A large proportion of the parish, and all the farms, are part of the Claughton Estate. Francis Fitzherbert-Brockholes, the major landowner, was very supportive of the project. This meant that route planning and wayleave agreement was really well-integrated between the various farms.

A small number of property owners did their own house dig / kit fit, and one resident, Bill Dennison, created a mild steel drilling template for the house kit fit, and came up with the idea of a bright yellow sign at the point of entry to the property to help the main duct dig team to spot the drop off point. The



Each property had a laminated sign indicating duct installation.

template was handed round the parish and laminated signs issued out to everyone to mark their curtilage entry point.

The estate team, Chris Gornall and John Cowell, were given the thankless task of digging the ducts in, and fitting the house kits, to all the estate properties which were the vast majority of the route. They were helped in the task by the hire of a duct digging mole. They also did some of the remaining properties, funded by their owners from the dig grants. As well as making sure all the house kits were in place early, it also meant that they were all of a consistent high standard, which made blowing and fusing much easier.

The network engineering planning changed several times with the maturing B4RN strategy for route resilience, and a physical constraint at the start of Route 6 linked to the infamous Calder

Vale bridge crossing, which was our route back to the cabinet. Edward Willman in the B4RN network engineering team with his encyclopaedic knowledge was a constant help in redesigning and replanning the route, and the associated planning spreadsheet.

The net result of all that was that even before the HE / Route 1 work was complete, all the Route 6 network planning, tube maps, area maps, duct labelling and drop off points were in place, gas main crossings approved and the civils work identified for scheduling. This also allowed Roger Clark's core duct dig team to walk the entire route prior to start and modify it for ease of build.

Cath Halstead at B4RN was a big help in navigating the approval process in B4RN to agree the Route 6 start, even though the voucher process was in a state of flux.

Simon Brockholes acted as quartermaster for the ordering, collection and distribution of materials for Route 6, and continued to help on other routes when they started.

Work finally started on the core duct dig itself in June 2020, in the middle of the pandemic.



A bright sunny start to Route 6 near Cobble Hey.

By October, fibre blowing to houses started with us working with Frank Brown in some terrible weather, and often into the pitch dark. Because of the extent of Route 6 and distance between properties we often needed to draft in help in the form of Simon Brockholes and make use of walky-talky radios to avoid too much stop/start as we moved between properties.

We learned the hard way the effect that water ingress into the ducts has on the ability to blow fibre, and the arcane art of determining blockages in extended 7mm ducts with Frank's divining skills. Some of the following photos from Christina show:

Chopping out a blocked duct on the core 288 fibre—a tight squeeze at the best of times—Christina &



Frank Brown blowing core fibre.



Frank blowing house fibre.



Chopping out a blocked duct on the core 288 fibre.



Christina agreeing a new route with the landowner.

the B4RN team with Frank out of sight trying to blow the fibre.

Christina agreeing a new route with the landowner so Roger Clark could dig the new trench to the chamber after the core had to be re-routed from a damaged road crossing.

Frank & Christina trying to locate the re-routed core to reconnect the 16mm duct to the next chamber. Good job we had head torches and Roger had floodlights on the digger, it was a late night!

In early November, we were ready for house splicing so Will Dehany and Chris gave us the in-depth fusing and router deployment training: 'watch one, do one, and off you go!'



Radios were essential when blowing house fibre.



Frank & Christina trying to locate the re-routed core with head-torches.



No time to stop for a brew! Guy multi-tasking.



The fusing kit with Christina in the loft.



The fusing kit with Christina in the garden.

We did all the installs on Route 6 over the next few weeks, and after the patching training, put everyone on service by the end of November, in perfect time for Christmas.

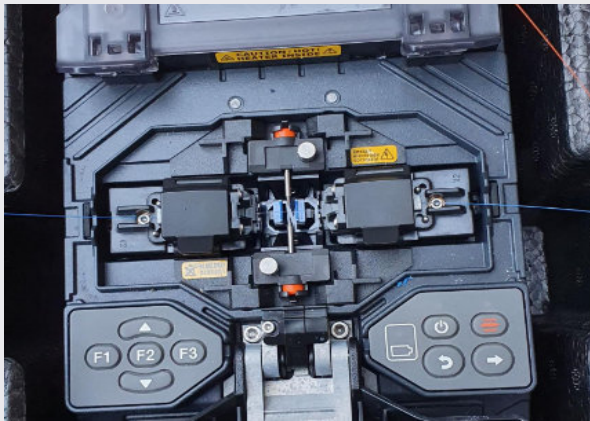
Some locations were more unusual than others! It required a ladder to get up to the loft.

With all the skills under our belts, and Route 6 finished, we rolled onto all the other routes and did the blowing, splicing, router deployment and patching for the majority of properties as well as additions on Route 1 and other local areas when the B4RN team were struggling for resources. With Frank Brown temporarily out of action we worked with Barry Cheeseman for some of the routes, but sadly he did not bring any improvement in the weather.

One of the biggest issues we faced was the availability of the fusing kit - at first we had to drive a return trip of over an hour to Chipping to collect and return the kit. After a minor sense of humour failure on our part we managed to acquire a set for a short period to help get people on service, but it remained a problem throughout and definitely provided an avoidable irritation factor! Cath and Ashley were always on hand to help overcome some of the process issues.

In the first year following getting everyone on service we had a few glitches, mostly due to farm activity where the duct was accidentally damaged, but B4RN are always straight onto the problem with field service engineers, and over time have really improved the comms to users when there is an issue that affects everyone.

Where does it go??? Getting people patched into the cabinet and watching the service light up was the most rewarding part—and a relief that all the hard work was worth it.



The fusing kit where the magic happens.



Seeing the light.

The B4RN team had to repair and reroute a severed duct after the first ploughing post install. Service was restored in just a few hours after B4RN spotted the outage remotely and sent the team out.

Feedback has been overwhelmingly positive, from the improvement in basic service to the responsiveness when things go wrong, and how helpful B4RN has been helping people to switch to the new voice service.

From a personal perspective it was a great opportunity to meet everyone in the neighbourhood, which is often difficult in a rural area, and also to learn a few skills and make the most of some old ones.



The B4RN team repairing and rerouting a severed duct.



The original dig.

Route 2 - Barnacre North - Route Champions Liz & Archie Russell

Archie Russell was involved from the start. He did a lot of canvassing in April 2019, and went round chatting to everyone, and with Liz attended the meetings in Calder Vale. The main task of the volunteers initially was to raise the funding needed for the project. As the cabinet was to be sited at Calder Vale village hall it was sensible to start there, and Barnacre and Claughton volunteers helped out to get everything started. Liz's brother John Procter actually wore out a spade digging down the steep hillsides into the valley, digging under tree roots and removing rocks to lay ducting where it was impossible to get diggers in.



The early work.

Covid started and Liz was really desperate to get a decent connection. She runs a business, and the farms and properties in the area also needed a good connection. Once they had reached the target £50,000, Liz and John went to Melling and picked up some ducting. They had started the dig from Strickens Lane to the four properties at Birks Farm. during the summer of 2019, but there was no sign yet of any duct from Calder Vale coming to join up to it.



Steve Foster's rig.

There was no support from B4RN at this time and it seemed like nobody in the village was interested in the other routes. The majority of the funding for the combined project had come from the routes extending out of the village, and it did not seem logical to Liz, but she was very busy up to lockdown and did not have the time to be a champion for everyone.

Basically her area, part of which was done a year

before by her family, was rudderless. With lockdown and working from home, Liz found she had more time, but she also found out that she was actually a social person, and really missed other people.

She started to try to find out what to do to get her connection.

Enter stage right, Wonder Woman. Christina Campion had got her route done by sheer determination, and one of Liz's businesses was on a farm on that route. Liz needed an internet connection for the biomass boiler and industrial dryer on the farm on Route 6 (Claughton Estate) and the quality of the B4RN connection and the speed of installation, helped by Chris Campion and Claughton Estate, hardened her resolve.

Christina taught her the tricks and inspired her. Liz discovered Cath Halstead at B4RN, and together they walked the proposed route 2 on a lovely summer's day. It started as simply to find a route from Calder to her farm, but Cath persuaded her to become the route champion and JFDI all.

Christina helped her with tube maps and spreadsheets, and Liz got going. B4RN provided other data and she visited all the farmers again and finalised routes and organised the digging. She freely admits that being allowed to go out with a mask on as telecoms is classed as a vital industry helped her cope with lockdown.

Because of some reports of bad digging in Bleasdale the farmers were often reluctant to let anyone dig on their land, but Liz persuaded them to do it themselves, like she and her brother had done.

Wes Cornall did all the digging on his own land and neighbouring farms on the eastern length of Route 2 to reach most of the properties. He did a great job, and that inspired and gave more confidence to others with the digging.

Eric Leach, owner of Barnacre Lodge and surrounding properties and land on the western end of Route 2, set to and installed ducting to all his properties. He put two lads on the job for three months, and they dug a lot of the route in. Eric was pleased with their work as they cleared a lot of land at the back of Terry Sharples, and he said it looked a lot better when it was finished. Terry Sharples joined on from there with his own residence, his daughter's, and several holiday cottages. Several other residences were also connected. At this western end, Route 2 joined up with Nether Wyresdale.

Meanwhile, back on the eastern leg of Route 2 we were still struggling with wayleaves/permission from United Utilities, to allow us to duct under the road to reach the Board House and Sconce Cottage.

We only had one absentee landowner who refused wayleaves, so they went round his land. It cost them more time and money, but working with the farmers they found shorter and better routes which made up the difference. Basically Route 2 joined Route 1 as it came into Calder, so it was very close to them, and then it split in two different directions. At one side it would join to Nether Wyresdale, and at the other it would join to Route 3.

Liz recalls in the new year of 2022, a certain parcel of land could only be done if the ground was frozen, otherwise it would have to wait until spring when the land dried up. It was important to get this done, because it joined the central piece of Route 2 with the extreme west end which had already been dug. The farmer whose land it was was most particular. Cath told Liz about a fantastic mole plough man who never left a mess.



Guy connecting ducts in the small chamber.



Frosty fleet.



Liz in a very muddy site sorting ducts in a large chamber.

It was vital that no mess was made. Liz was texting him all over Christmas to make sure when the temperature was right that he would come. Steve Foster came when they had a three day window of frost and got the job done. The farmer watched every stage, and was absolutely delighted. The photo is of Guy connecting ducts in the small chamber adjacent to Burns Farm.

Liz says, 'Mole ploughing continued, with Steve laying duct across Birks Farm. The hill in the background with the wood on the horizon is where we took duct across to Burns Farm. The picture of me in the large chamber shows how muddy it was prior to Christmas and the varied house and core ducts that went into this chamber (CDV204), adjacent to Long Lane on Birks Farm.

John Procter allowed ducting to be dug the full length of his farm which showed great generosity considering the difficulties we had with some land-



Steve heading up the hill.



Fence reached, time to dig.



Tea break for the work party.



Christina fusing.



Christina fusing by torchlight.

owners. As well as wearing out his spade digging by hand in the difficult areas in Calder Vale, he is proud that the work has transformed lives by giving hyper-fast internet to this rural community.

Word spread and the other farmers wanted Steve too, and he did more work for them and joined up their duct to the Nether Wyresdale project, giving resilience to both networks.

Route 2 also continued, to join to Route 3, where Joyce took over, and Christina and Liz helped her too.

Liz and Archie helped all the homeowners to dig their gardens and fix the house kits. B4RN also had Will Dehany, he came and did quite a few too. Christina and Guy helped Frank Brown blow the fibre, with some challenging runs to deal with and plenty of head scratching and cold hands. The record length of 2f house fibre was just over a kilometre, which resulted in a nervous wait at the house end with time for a brew, but was testament to the quality of the 7mm duct install, and there were cheers over the radio when it appeared. Christina and Guy then fused all the house connections for them and did the service patching in the cabinet, whilst the B4RN core team did the main bullet splices.

Guy produced some router deployment training notes, and did a training session at Liz's farm. After that Liz went round installing routers for many of the residents on Route 2, and properties started to come live. She says she had formed relationships with all the people and wanted to be there at the finish line, and share the joy when the lights come on and all their hard work is rewarded. They are all totally delighted with the connection, which went from a nominal 2 mbps to 1000 mbps, and are thrilled to be part of the B4RN network of people.



The Creamery Industrial Estate & Kenlis Road.

Route 4 - Calder Vale East to The Creameries

- by Route Champion Tim Hotchkiss

I sold and retired from my Creamery Industrial Estate-based air brake remanufacturing business in 2005 but retained the property interest and was still managing the estate when I was a B4RN volunteer.

The Openreach broadband connection was woefully slow, and repeated requests to improve this service had fallen on deaf ears—it will happen when it happens, I was told! A couple of businesses bit the bullet and bought leased lines, paying tens of thousands of pounds for them.

The Calder Vale project was underway by this time. We had assurances from Cllr John Ibison that B4RN fibre supplying properties to the west of the M6 motorway on Route 4, including our industrial estate could be available within 6 months. Unfortunately, as time passed this became a rolling 6-month period with connection not getting any sooner; nor was anything happening with Openreach either!

To try and speed up matters, I was already acting in minor volunteer support roles. Not fully knowing what was involved, but on the assurances that work on Route 4 was already well advanced and help would always be available, I agreed to take over as route champion. I, rather naively, thinking that all the clever

stuff would be done by B4RN and I would just have to keep doing the legwork.

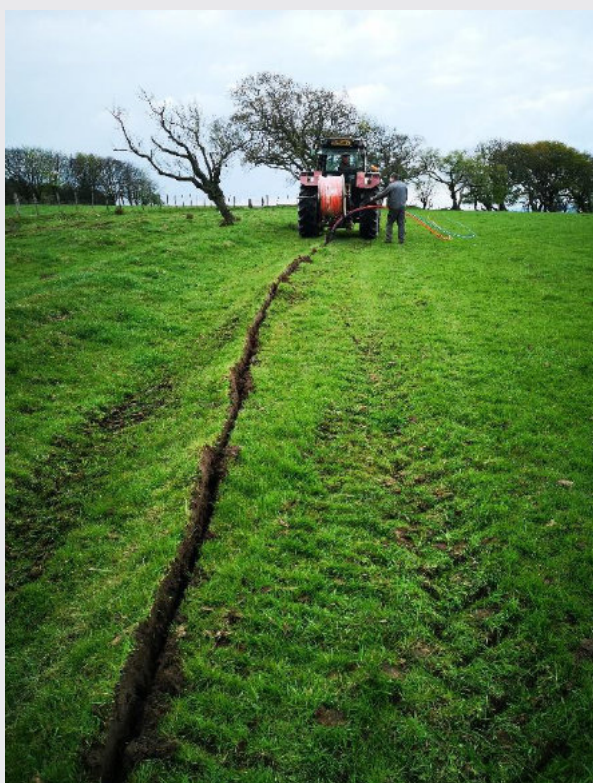
How wrong I was. I had no idea then of just how demanding and frustrating it would become, how hands-on it would be, or the multitude of problems that would arise. To me Route 4 became 'TPC' - The Poisoned Chalice.

I certainly never expected being a route champion would require so much self-learning of background knowledge. With few exceptions, the answers expected to the many questions I had to ask of different people at all levels within B4RN either never came, were non-committal or contradictory and misleading

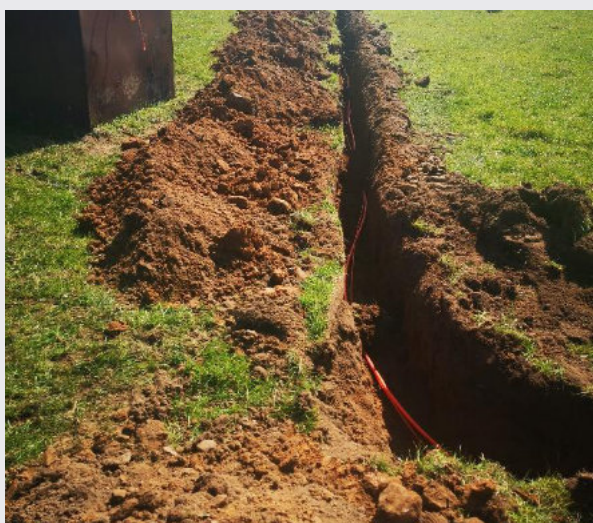
or just wrong. Fortunately, Chris and Guy Campion and Tim Forshaw were usually on hand to help me.

I soon discovered that Route 4 being 'well advanced' was also perhaps being a little economical with the truth. To start with there were still over twenty wayleaves outstanding, some harder to obtain than others. Difficulties encountered involved landowners living overseas or away from the local area, husbands and wives disagreeing over whether a wayleave should be granted, landowners who had had previous bad experiences with utility companies on their property, house owners who did not want B4RN and were making sure their neighbours could not have it either, a demand for money and not to mention becoming unwittingly involved in a rather acrimonious landlord/tenant dispute and a boundary disagreement! Early on we also had a case of attempted sabotage to handle where someone had intentionally diverted a surface water sewer so that it would flood the main CDV400 chamber.

These teething problems were followed by difficulties establishing the actual route on the ground, sourcing a contractor (eventually Roger Clark) to undertake the work, finding a way across the M6 motorway, getting road crossings done and whether or not we could use BT ducts etc.etc. etc.



Mole plough run above Sullom Side.



Open trench at Eccles farm.

Then we had the need to first understand and then suggest changes to the route spreadsheet, prepare tube maps (initially under the watchful eye of Tim Forshaw) and persuade daughter Catherine to prepare and print them out.

Working out the ducting, chamber and fittings hardware requirements and collecting all from Melling, with the help of Andrew Atkinson's truck and trailer, via Katie Johnson in B4RN stores. Storing securely at the Creamery Industrial Estate and arranging to get all this equipment on site ready for Roger Clark's men.

Getting Frank Brown to blow the fibre, contractors/volunteers/homeowners to fit the new house kits and Chris Campion and Guy to splice at the properties and then connect (patch) in the main head cabinet.



Creamery Estate chamber.



Creamery Estate MDU.

I am not known for my manual dexterity but I assisted Tom Walmsley fitting wall ducting in Calder Vale and Tim Forshaw with house kits throughout the route then fitted the majority of routers myself (just as the design was changing and there were quality issues with the replacements!)

Because things were taking longer than expected and I was continually being chased about when B4RN would be available, I decided to keep all prospective users on the route up to date by sending out a monthly progress map to them all.

There were times throughout this process when I considered resigning, but that smooth-talking



Christina fusing the customer end of the connection.



Tim and Frank blowing core fibre.

Christina Campion (secretly known to me as Wonder Woman) kept persuading me to continue, always after she had managed to resolve what had appeared to me to be some insurmountable problem I had with B4RN. I did eventually resign before Route 4 was completed because all progress had ground to a halt and a farmer had cancelled his wayleave, demanding a payoff and leaving us with no apparent way to easily get fibre the rest of the way down to the industrial estate. This issue too was eventually resolved following a visit from Michael Lee & Cath Halstead but clinched, I later discovered, by the farmer's formidable close neighbour who explained rather forcefully that the lack of a B4RN connection to her home would have a detrimental effect on her children's education!

Following this, and without further input from me, the connection through to the Creamery Industrial Estate was miraculously completed within two weeks!

I perhaps should have resigned sooner! Particularly impressive here was that the last main fibre was blown all the way from Calder Vale in one go without splicing. Photo shows Frank and me blowing the fibre on a particularly wet day.

Ultimately my primary aim was achieved, though looking back I still do not know how we managed to overcome all the troubles along the way.

Take a bow Wonder Woman and also Alan Wrathall Snr, a retired farmer whose local knowledge and contacts and ever willingness to assist proved invaluable.

Route 4 had provided over 50% of the initial investment B4RN required for construction of the whole CDV project to begin. It comprised over sixty live connections, with at least as many again ducts at the boundary of every property passed en route, and spares left mainly on the Creamery Estate. It is just a

pity that we were telling some businesses that they could have the Static IP Address they needed when at the time it was never a possibility. This cost both the project and me personally much needed credibility when up against Openreach, who by this time had started installing overhead fibre in the area.

The fact that Route 4 reached completion is nothing short of a miracle, and all businesses on the Creamery Industrial Estate who are connected are pleased with the improvement in internet speeds so, despite the challenges, the project was worthwhile. However, as you will have read from my experiences working on TPC, there were repeated communication issues with all levels of B4RN, which I am hoping, for the sake of both B4RN volunteers and service users, have now been addressed.

Route 3 - Barnacre South

By Christina Champion

By the time Route 3 was ready for work, the processes were fairly well-understood and this was the final section of the overall project. Route 3 was the smallest route in terms of properties but very rural so still required over 3km of digging.

The route also included Barnacre Church and village hall so it was an important boost for the community. Route champions Joyce Cotton and John Ibison got the wayleaves agreed and the sign-ups in place.

Barry Cheeseman was fibre-blower in chief with Frank out of action, so Christina & Guy pitched in in support, with John Ibison's teenage son getting some interesting work experience.

Chris and Guy did the fusing, dodging the usual badly-timed torrential rain, and resorting to fusing under golf umbrellas at times.

We also got some excellent brews on this route, with proper tea pots, milk jugs and biscuits; people have no idea how welcome that is, especially on a cold, wet day.

Joyce and John did the router deployment and so brought live the final group of houses in our area to enjoy the hyperfast connection to the rest of the world.

So from two determined individuals, David and Paul in Goosnargh, this chapter's branch reached right over to Slaidburn, and Oakenclough, and covered all of Bleasdale. Thanks to Shaun at Oakenclough, the Calder Vale project happened. The challenge now was to connect it to Abbeystead and Quernmore, making everything in the area more resilient.

The last story in this chapter is where Flick (Felicity Greenwood) was bullied into joining the B4RNstormers. She first appeared as a volunteer, and helped Nether Wyresdale get connected. B4RN then saw her potential, and employed her as one of the first co-ordinators, to help communities get through the pain barrier of building their networks. The Nether Wyresdale project became the key link in the circle round the fells you can see in the picture below. Very shortly a figure of eight will complete the network plan when the Slaidburn link connects to Rathmell, which in turn is fed from the northern end of B4RN.



The map of the area covered by the Hodder valley and Chipping projects.

Nether Wyresdale

Another project slightly different from the normal...



A community dig day in Nether Wyresdale.

Jorj Haston kept saying to her sister Felicity Greenwood, ‘your internet is rubbish’.

Flick (Felicity) had lived at Street, a hamlet between Dolphinhholme and Scorton for a few years, and had seen leaflets pushed through her door about B4RN but did not know what it was all about.

She worked in school catering in Lancashire and the rural schools had really good internet from B4RN but she had not connected the two. In February 21019 she changed jobs to be a school photographer, and discovered what Jorj was saying was true, her internet was rubbish.

She would sit in her car, outside the local pub, connect to the B4RN Wifi and upload huge files of school photos in seconds, rather than wait 8 hours at home for a ‘Upload Failed’ message.

She was also paying for a phone line that nobody used.

The internet came down that old copper line, and that was her total understanding of how things worked. She set about to learn.

Jorj had been one of the volunteers in Brookhouse, and then took a job at B4RN. She explained to her sister how B4RN worked, so Flick made her mind up to get a connection. Flick wanted to join her house on the existing Dolphinhholme route, but B4RN wanted the whole area doing, as with other projects, the rule was Everybody or Nobody.

Apparently when they looked into it all there was an area in between Calder Vale, Bleasdale and Dolphinhholme that had never got off the ground, despite some of the community trying to get it started, but to no avail.

That became the Nether Wyresdale project. In August 2019 they held a community meeting at Wyresdale Park in Scorton. The turn out was good and interest was high. Jorj said to Flick why not take it on? She offered to help and mentor her sister, and so Flick decided to give it a go.

They had several meetings at the Fleece. At one of them, when she was trying to organise things and explain what was needed, one of the men said, ‘This is all well and good, but where is the man to lead it, to drive this



Steve moleploughing.



Steve Foster.



Flick.

forward?’ This made her all the more determined to make sure it succeeded.

Initially she was told she would have to raise £50k from the local community, which with about 75 properties seemed doable, and she went round them all, held local meetings at the Fleece, and they raised the money. But in the meantime the planners at B4RN realised they now had the perfect opportunity to provide not only Nether Wyresdale with a seriously resilient link, they could also improve the resilience of Calder Vale, Bleasdale, and Dolphinholme, so the project costs went up.

Flick still did not have much idea about how the project would be built, she just knew it could not start without money.

By this time Covid had hit, and she was furloughed, so she had more time to learn and to work towards the project’s success. Raising another £50k from a community who had been told they only had to raise £50k in the first place was going to be difficult. For the next 10 days she visited all the people who had signed up and she actually raised another £80k.

They started building in June 2020, and it was a really hot summer.

Lucky for Flick her assigned contractor was Steve Foster, who was very experienced and very patient with new champions. They walked the routes and he explained how stuff was done.

Jorj showed her how to do duct maps so she could be sure the right ducts were in the trenches, and chambers put in the right places. She marked routes out with bits of scrap duct. She literally learned on the job. She took duct to every single property, 85% of which took the service immediately, with some coming on later once they saw how good it was.

By then dig grants were being issued, and this project actually used them well. There were not a lot



Flick and Cath Halstead tidying up a mole trench.



The cabinet install.



Frank and Flick blowing house fibre.



The core fusers Ronan and Rob arrive to fuse the core fibres.

of volunteers prepared to dig everyone's gardens or fit house kits, so the people used the grants to pay others to do it for them.

Jorj brought Barry from Heversham and David from Levens to fit house kits and the householders paid them directly out of their grants.

A lot of people dug their own gardens, and there were a few community digs or gardeners doing them for the householders. Flick coordinated all this and made sure the contractors turned up when the householders expected them, which was quite an exercise in logistics.

The cabinet was originally planned to go at the other side of the motorway where their local school was, but the BT duct (via PIA) would mean the fibre in and out would be in the same duct, and not as resilient, nor was the PIA duct large enough to carry all the fibre. They found another place next to an electric substation, so the B4RN civils built the plinth there, and a smaller fibre went over the M6 Swan bridge to give Scorton school a free connection.

At this point Flick still did not know what fibre actually was, but Frank soon put her straight. She helped him on the blows, and then came the fusing.

She learnt quickly how to fuse the fibre, so from a complete novice with no real interest she was fast becoming an expert, having seen a project through from start to finish.



Alex and Matt fusing the core into the cabinet.



Flick got her spade MBE.



Flick fusing house connections.



Flick putting customer fibre in the splicing machine by torchlight.



Jorj, Steve, Flick and the farmer. 'you can't tell where it is!'

The first customers came live at Christmas, 6 months after the dig started.

Where is the man indeed!

Flick is very grateful to everyone who helped make this project happen, especially her sister Jorj who helped her at every stage of the process.

In February 2021 when her project was complete, Flick applied for the role of Project Build Coordinator with B4RN and has been building new projects ever since.

Flick got her spade MBE and stood on the Swan bridge where her fibres had gone to the village school.

She continued the digs to join on to the three parishes, and in total they dug 23 kms of trenches.

FOR THE FIBRE DUTCHESS

BUILDING A B4RN NETWORK IS THE MOST CHALLENGING, YET REWARDING PROJECT.

TOGETHER YOU HAVE BUILT A COMMUNITY FIBRE TO THE PROPERTY NETWORK, BUT ALSO RE-BUILT YOUR LOCAL COMMUNITY LEAVING A LONG LASTING LEGACY.

WELL DONE.