



**Promoting investment and competition in fibre networks**

*TalkTalk submission*

**March 2019**

**NON-CONFIDENTIAL**

# 1 Summary

- 1.1 This document is TalkTalk's response to Ofcom's consultation paper, dated 11 December 2018, entitled '*Promoting investment and competition in fibre networks: Approach to geographic markets*' which outlines Ofcom's proposed approach to geographic market analysis in the upcoming Access Review.
- 1.2 TalkTalk is well placed to comment on Ofcom's future regulatory structure proposals, which are intended to incentivise investment in FTTP networks. We offer the unique perspective of being a provider of broadband to over 4 million homes and businesses; the second largest retailer of leased lines in the UK, and an non-incumbent constructor of FTTP networks via our FibreNation subsidiary. We are therefore active as a non-incumbent provider or customer in every one of the markets under consideration by Ofcom.
- 1.3 TalkTalk has significant concerns regarding Ofcom's proposals for defining geographic market(s). Rather than define markets based on strategic concerns, we urge Ofcom to conduct appropriate empirical and modelling analysis to determine, objectively, what the appropriate geographic market should be. In particular:
- market definition is a systematic economic exercise necessary to define relevant markets for the purpose of determining SMP, and then, if appropriate, impose remedies. The first part of that exercise is product market definition, which should be conducted prior to geographic market analysis. Ofcom appears, however, to have presumed a particular single product market without the required analysis, on the basis of strategic considerations. If this is the case then it is procedurally and legally unsound. Indeed, we believe the current choice of putative product market is inconsistent with the available evidence. A robust and evidenced analysis is particularly important in this case because of other changes, including the move from a three year to a five year review period and the integration of the WLA and BCMR reviews into a single review.
  - if Ofcom has not come to a conclusion on the appropriate product market, as we hope, it should provide analysis of how geographic market definition might change under an alternative product market definition or, if it would not change, why it would not.
  - Ofcom proposes to group the vast majority of areas in the UK into a single category which it labels 'potentially competitive', despite large differences in both the current conditions of competition in these areas, and the likelihood and timing of additional competition. Areas range from BT+0 with no other operator currently proposing to enter, to BT+2 areas where Ofcom considers BT retains SMP. Including these areas in a single category is wrong economically and legally, since it does not conform to any sensible notion of an area having 'sufficiently homogeneous' competitive conditions. It is also unclear whether Ofcom believes that the 'potentially competitive' category is an economic market in the sense usually meant in regulatory economics. We urge Ofcom to conduct a far more detailed and sophisticated analysis of the levels of actual and potential competition or else risk significant regulatory errors.
  - Ofcom's estimate of the proportion of the country which is 'potentially competitive' by 2026—around 70%— is far beyond any reasonable expectation of the capacity of altnet operators to roll out FTTP networks over the next seven years, even in the most propitious circumstances. This points to Ofcom categorising areas which are,

and will remain, uncompetitive as potentially competitive. Ofcom should ground its expectations of competition in economic modelling and data to a much greater extent than seems currently to be the case.

- Ofcom proposes to use postcode sectors, each containing around 3,000 premises, as the basic geographic unit for its analysis. These areas are too large, and will often contain wide variations in the number of competitors and degree of competition within them. Ofcom should use a smaller geographic unit, which offers greater granularity and which is more likely to have constant levels of competition.
- when considering what proportion of premises in an area an altnet should pass in order to constrain BT and potentially lead to a no SMP finding in an area, Ofcom should conduct appropriate economic modelling to determine the threshold. We believe such modelling will lead to a threshold well above its current tentative proposal of 65%. Given that an unregulated BT will be able to set different prices depending on the level of local competition, the required proportion will be much higher than this. Ofcom should base the precise level on economic modelling, rather than simply reading across the proportion used in previous consultations in other markets.

1.4 These flaws and omissions in the consultation are significant. Following this consultation, Ofcom should:

- launch a separate consultation on product market definition, the first building block in the process of determining in which areas Openreach is likely to hold SMP;
- following responses to that consultation Ofcom should reconsult on geographic market definition, having conducted the empirical and modelling work set out in this submission;
- and only then move on to an SMP assessment.

1.5 This approach is feasible with more than two years before the new charge controls are due to come into effect. If Ofcom continues with its current approach, it risks both excessive prices to consumers (from under-regulation in some areas) and reduced investment incentives (due to over-regulation and mis-calibrated regulation)<sup>1</sup> in others.

## 2 Approach to market assessment

2.1 TalkTalk considers that Ofcom's approach to assessing the relevant economic markets, including product market definition, geographic market definition, and SMP assessment, should be clear, evidence based, and only deviate from the standard approach, refined over many years, with strong justification. Regulatory predictability is a hard-won asset that Ofcom should not dilute unless absolutely necessary.

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<sup>1</sup> Reduced investment can be a result of both over and under-regulation; the latter effect can arise because under-regulation reduces the ability of firms such as TalkTalk, Sky and Vodafone to sponsor network build through their portable consumer bases.

- 2.2 Defining economic markets is a vital first step in undertaking any *ex ante* regulation in the utilities sector. In the absence of appropriate market definition, SMP assessments are likely themselves to be incorrect, leading to under- and over-regulation. This directly harms consumers and leads to inefficient incentives to invest.
- 2.3 Market definition is a systematic process, based on the economic logic of the sector under consideration and available quantitative data. It should reflect the extent and patterns of substitution, both between products purchased by consumers, and between products produced by competing firms and firms in related markets. It does not reflect other factors beyond the behaviour of current and prospective market actors; in particular, it is neutral to political, policy, or strategic concerns.
- 2.4 In terms of the order in which market assessment proceeds, it should generally be as follows, reflecting the logical flow of the manner in which building blocks act as inputs to one another:
- product market definition—which products, if any, act as effective competitive constraints on the product under regulatory scrutiny;
  - geographic market definition—how far are consumers willing to travel to purchase the product and/or over what geographic area are the conditions of competition homogeneous;
  - market power assessment—which firms, if any, hold market power within the economic markets previously defined.
- 2.5 In the event that one or more firms is found to hold significant market power within an economic market, there is then a further stage of determining which remedies are appropriate in order to constrain that market power to the benefit of consumers of the products.
- 2.6 It is important that the assessment proceeds in this order. Jumping ahead of the process—for example, attempting to assess SMP without having defined the markets in which that SMP is held—is liable to lead to errors, as Ofcom will not have the correct evidential base to reach such a finding. It may also lead to pressure on Ofcom to reach the ‘right’ findings for earlier stages in the process, as they will need to align with the previously consulted-on outcomes for later stages.

### **3 Ofcom appears to have prejudged the relevant product market definition**

#### **3.0 Lack of analysis to support purported product market definition**

- 3.1 Below we comment on Ofcom’s product market definition since, although Ofcom are not consulting on it directly, it is linked to geographic market definition and so an important preceding step to defining geographic markets.
- 3.2 It is standard practice in market definition to define product markets before moving on to define geographic markets. This is for the basic reason that until it is understood what

products customers are purchasing as substitutes for one another, there is no reasonable way to understand how far customers are willing to travel to purchase those products, or how consistent the geographic conditions of competition are for them.

- 3.3 In this instance, however, Ofcom has not conducted an economic product market definition exercise, or indeed any meaningful product market definition exercise. It explains this as follows:

*Given our strategy, as set out above, and the types of fibre networks we expect to be built, our intention is to consider a single product market for downstream wholesale network services. [§3.29]*

- 3.4 At §3.30, Ofcom then sets out that despite this statement that there is a single product market for wholesale network services, leased line networks should not be considered to be substitutable for access networks:

*... as a general rule, we do not consider that existing leased line networks should be considered to be multi-service networks, or to be substitutable for them, unless there is clear evidence to the contrary. Accordingly, when identifying [the degree of competition] we will not include networks that support only leased lines.*

- 3.5 The combination of these two contradictory paragraphs makes Ofcom's market definition fundamentally unclear. §3.29 states that there is a single product market for wholesale network services, based on Ofcom's strategy, whereas §3.30 states that there is a rebuttable presumption that leased line networks do not constrain multi-service networks (and are therefore presumably in a different product market). Ofcom's arguments appear internally inconsistent. In what follows, TalkTalk has interpreted these paragraphs in accordance with its reading of them; it would be helpful for Ofcom to clarify these important building blocks of its analysis.

- 3.6 The approach proposed also potentially conflicts with Ofcom's current thinking in other reviews.<sup>2</sup> For example, in the current Passive Infrastructure Market Review consultation, Ofcom's proposed focal market (and, indeed, proposed product market) is all passive infrastructure, irrespective of whether it is for a multi-service or a leased line network:

*We begin with a focal product of wholesale access to telecoms physical infrastructure for deploying a telecoms network. (PIMR, §3.24)*

*The focal product encompasses all telecoms physical infrastructure used to host fixed elements of a network irrespective of the current owner or operator of that infrastructure. All telecoms physical infrastructure has in fact been used by a telecoms provider to deploy a telecoms network and is therefore potentially suitable for access seekers to deploy new telecoms networks. We recognise that there are differences between different operators' telecoms physical infrastructure which could affect their relative attractiveness to an access seeker looking to deploy a new telecoms network. (PIMR, §3.27)*

*We propose that the product market is the supply of wholesale access to telecoms physical infrastructure for deploying a telecoms network (PIMR, §3.54)*

- 3.7 There is an obvious and direct conflict between these paragraphs and §3.30 of the geographic markets consultation. In the PIMR, Ofcom concludes that leased line networks do

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<sup>2</sup> It conflicts with §3.30, but does not conflict with §3.29.

not constrain multi-service networks; in this consultation at §3.29, Ofcom appears to state that they are part of the same economic market. As TalkTalk points out at §§2.16-2.17 of its PIMR response, the correct finding is likely to be that of §3.30 of the geographic markets consultation; meaning that both §3.29 of the geographic markets consultation and §3.54 of the PIMR are incorrect.

- 3.8 While we understand that the putative product definition included within the consultation may not be final, it is deeply concerning that Ofcom has seemingly proposed inconsistent market definitions both within the same review document, and between contemporaneous consultations on similar issues.
- 3.9 Moreover, Ofcom's proposed approach at §3.29, of setting product market definition on the basis of its '*strategy*', would be prejudiced and unlawful. Product market definition is systematic and based on economic analysis supported by empirical data. As the European Commission's Notice on market definition states:

*Market definition is a tool to identify and define the boundaries of competition between firms. It serves to establish the framework within which competition policy is applied by the Commission. The main purpose of market definition is to identify in a systematic way the competitive constraints that the undertakings involved face. The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure.<sup>3</sup>*

- 3.10 Similarly, as set out by the European Commission at §33 of its Communication on SMP assessment in telecoms networks:<sup>4</sup>

*According to settled case-law, the relevant product market comprises all products or services that are sufficiently interchangeable or substitutable, not only in terms of their objective characteristics, their prices or their intended use, but also in terms of the conditions of competition and/or the structure of supply and demand in the market in question. Products or services that are only interchangeable to a small or relative degree do not form part of the same market. NRAs should thus commence the exercise of defining the relevant product or service market by grouping together products or services that are used by consumers for the same purpose (end use).*

- 3.11 Ofcom has not yet done this, nor considered the extent of demand and supply-side substitution between different networks. It has also not considered whether all multi-use networks are equal and constrain one another, or if there might be asymmetries between different types of networks. For example, it is not immediately obvious that by the end of the regulatory period an FTTP network capable of 1Gbps or more will be subject to effective competitive constraints from DOCSIS-based coaxial networks.

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<sup>3</sup> European Commission Notice on the definition of relevant market for the purposes of Community competition law (97/C 372/03), at §2

<sup>4</sup> European Commission (2018), *Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services*, 7 May.

3.12 In any case, it is not clear why Ofcom's 'strategy' dictates that it must adopt a particular market definition without empirical analysis. What market definition will best achieve its strategy is an empirical question. We believe that Ofcom's proposed market definition will not promote the investment that Ofcom desires to see, even if it were appropriate to set market definition on the basis of strategic considerations, which it is not. Ofcom sets out its strategy at §2.7 of its consultation as follows:

*Our strategy is to promote investment in and competition between these ultrafast networks. Accordingly, we need to structure the regulatory obligations we will impose under the ex ante framework in such a way as to support this strategy. Compared with our historical approach, this will require us to think about the markets that we regulate differently.*

3.13 Finally, Ofcom's general approach is to start from consumer markets, and then work backwards up the supply chain to determine demand- and supply-side substitution between products. In the current consultation, Ofcom has not taken that approach, which is both the most accurate approach, and the approach which best ensures regulatory consistency. Ofcom should return to such an economically rational approach.

### 3.1 Failure to consult on purported product market definition

3.14 Ofcom's approach raises a number of issues:

- market definition is an objective, evidence-based exercise. It is wholly inappropriate for the market definition to be shaped in any way by a 'strategy'. The only place in the regulatory process for regulatory discretion and Ofcom's strategy to influence the approach is at the remedies stage (albeit within bounds);
- if it were appropriate for Ofcom to adjust remedies to serve a particular strategic objective then Ofcom would have to consult on that matter. Ofcom have yet to explain what regulatory remedies are required to fulfil its strategic objectives, or why such remedies are the most appropriate to meet consumer interests (including promoting investment)<sup>5</sup>. Such a consultation would need to include the options considered and the costs and benefits of the chosen approach;
- by announcing an 'intention' to choose a particular product market without any consultation, Ofcom is failing to consult on proposals at a formative stage, as it is legally required to. Ofcom has betrayed its closed mind on the issue of product market definition. TalkTalk would welcome discussions with Ofcom as to how this might be dealt with, as the way to proceed on product market definition in the face of Ofcom having made a prejudiced decision without consultation is unclear.

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<sup>5</sup> Ofcom's Strategic Policy Position in July 2018 was not such a consultation. First, it was a statement not consultation and second, it merely indicated changes in the regulatory approach e.g. reviewing business and residential markets together, more geographic differentiation. The only consulted and agreed element is to promote FTTP investment. How that is achieved has yet to be described or consulted upon.

## 3.2 Appropriate product market definition methodology

- 3.15 When undertaking a proper product market definition, Ofcom should adopt the hypothetical monopolist test as an objective method of determining the boundaries of relevant economic markets. This approach rightly removes subjective elements such as 'strategy' or product features<sup>6</sup> from the analysis to the greatest extent possible, and instead focusses on the competitive constraints on a hypothetical monopolist, in a manner consistent with the Commission Notice.
- 3.16 This test requires that Ofcom focus on which products would act as sufficient competitive constraints on a focal product that they would make it unprofitable for a hypothetical monopolist of the focal product to raise prices by 5-10% over a sustained period. If there are no such products—that is, if it would be profitable to raise the price of the focal product by 5-10% because there would be insufficient substitution to other products—then the focal product is itself an economic product market. If not, the market should be enlarged to the closest substitute product and the test repeated with the enlarged product set.
- 3.17 The choice of initial focal products is also important. The focal product should be the narrowest conceivable product market. In this case, it is clear that Ofcom has not adopted the narrowest conceivable focal product markets (e.g. broadband access as a focal market and leased lines as focal market) since it has presumed these as a single market. There consequently seem likely to be two focal markets which should be considered in product market definition—the segment of leased line networks, and the segment of multi-service networks. This is the approach recommended by TalkTalk in our PIMR response (see §2.14 of that submission), and is consistent with the approach proposed by BEREC (2011) '*When analysing FMS in an asymmetric substitution situation, an NRA should start by identifying the focal product considering their national market conditions*'.<sup>7</sup>
- 3.18 It is important to note that the appropriate product market definition may be asymmetric: the fact that product A acts as a competitive constraint on product B does not automatically mean that product B acts as a competitive constraint on product A. This would be consistent with Ofcom's comments at §3.30 of the consultation, which are that multi-service networks may constrain leased line networks, but not vice versa.
- 3.19 Ofcom should therefore abandon its preliminary conclusion of the product market contained within the consultation, and should instead start again by conducting an objective economic analysis based around the two focal markets of leased line networks and multi-service networks which is independent of Ofcom's 'strategy'.
- 3.20 TalkTalk considers that the appropriate product market definition is likely to be asymmetric, with multi-service networks constraining leased lines, but not vice versa. However, this is an empirical question, and should be addressed by Ofcom using economic modelling and analysis on the costs of amending leased line networks to be able to offer the full range of services provided by multi-service networks.

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<sup>6</sup> Ibid at footnote 2. Product features are *indirectly* relevant to the extent that they may impact customer substitution, but not directly relevant if they do not impact demand- or supply-side substitutability.

<sup>7</sup> BEREC (2011), '*BEREC report on impact of fixed-mobile substitution in market definition*', December, at page 13.



3.21 In summary there are two primary procedural flaws in Ofcom’s product market definition:

- Ofcom has presumed a product market definition rather than conducting an objective evidence-based analysis. This is both procedurally and legally unsound; and,
- Ofcom has shown itself to be prejudiced – therefore, it will need to pay particular attention to ensuring that its product market definition is sound.

3.22 We expect that a proper and unprejudiced market definition exercise is likely to lead to a conclusion that there are two separate product markets, consistent with Ofcom’s analysis:

- a market for all networks (based on a focal market of leased lines networks);
- a market for multi-use networks only (based on a focal market of multi-use networks).

3.23 We would expect that there may be different geographic market definitions in these two markets, given the different number of competing operators which will be found based on them and the different technical and physical nature of the infrastructure.

## 4 Ofcom’s proposed categorisation of geographic areas is inappropriate

4.1 Ofcom proposes, at §2.17, to assign geographic areas into three categories:

- ‘*Competitive areas*’, also called Category 1 areas, the definition of which requires at least two competitors to BT in the area, and a further assessment to identify whether there is SMP.
- ‘*Potentially competitive areas*’, also called Category 2 areas, which are those areas where either there is already two competitors to BT, but BT has SMP; one competitor to BT; no competitors, but plans for an operator to deploy; or where Ofcom ‘*consider[s] that future rollout could be economic*’.<sup>8</sup>
- ‘*Non-competitive areas*’, also called Category 3 areas, where there are no existing networks, no operator plans to build, and where Ofcom’s view is that build is uneconomic.

4.2 TalkTalk disagrees with this categorisation, which we consider will lead to misdefined markets with widely differing levels of competition included in a single category. Such mis-definition will harm consumers and distort and undermine FTTP investment incentives.

4.3 In an exercise such as this, Ofcom should be seeking to group areas with very similar levels of competition. This does not appear to be Ofcom’s proposed approach. The grouping is crude and consequently will prevent Ofcom from imposing appropriate remedies.

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<sup>8</sup> In what follows, TalkTalk takes ‘potentially competitive’ to mean that there is a realistic prospect that no operator will hold SMP in the area by the end of the regulatory period.

- 4.4 This section sets out the revisions which Ofcom should make to its categorisation. In summary, we consider that Ofcom should adopt a more refined categorisation for regulatory purposes with more than three categories of area, based on appropriately detailed technical and market modelling. This would reflect the different competitive dynamics in various areas, the varying levels of constraint which BT is likely to face in them and that Ofcom may want to adjust remedies to reflect the differing need to promote investment.
- 4.5 The process of geographic market definition in telecoms markets is largely one of agglomerating areas in order to make the analysis tractable. In such markets, there will be little or no demand-side substitution, as residential customers and small business customers are most unlikely to move premises in order to obtain a different choice of fixed line telecoms providers. Similarly, supply-side substitution will be very limited, due to the high and sunk costs of digging. The BCMR found that altnets might be willing to extend their networks by 50m in order to meet a new contract, although TalkTalk demonstrated in our January 2019 BCMR submission that this was excessive, and that altnets would actually be willing to extend their networks only by less than 10m if price were 5-10% above the competitive level.
- 4.6 Therefore, in practice, each premises is a separate economic market. The process of agglomerating thus effectively relies on grouping areas together where conditions of competition are very similar so that appropriate remedies can be applied.<sup>9</sup> However, Ofcom does not propose this. Rather, in its current consultation it proposes to group together areas with very different levels of competition.

#### 4.1 Category 2 areas

- 4.7 The most concerning issues come in relation to the 'potentially competitive areas'. In these areas, Ofcom groups together different areas with very different levels of both actual and potential competition. Taking just the extreme cases of a series of different potential groupings, it can be seen that the areas are palpably very different:
- areas where there are already two competitor networks to Openreach, but where for the time being Openreach still holds SMP (for example, because its market share remains meaningfully in excess of 50%). In many cases, such areas might be expected to transition rapidly to effectively competitive conditions, at which point SMP obligations on Openreach would be released. However, as there is already an entrant network in such areas, it is unlikely to be important to provide high powered incentives for new investment; and,
  - areas where at present there is only Openreach, and where there are no confirmed plans to invest, but where Ofcom considers that the conditions are potentially suitable for investment to take place at some point in the future.

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<sup>9</sup> As Gual sets out, this is the approach used by the FCC in the United States: '*as with the definition of the relevant product market, the FCC focuses on demand substitutability. This leads to markets that should be narrowly defined (on a point-to-point basis) on the grounds of the limited substitutability between calls with different originations and destinations. Since this approach could yield a very large number of markets, aggregation proceeds by considering jointly all consumers that face a comparatively similar competitive situation*'. Gual, J. (2002), *Market Definition in the Telecoms Industry*, paper prepared for DG COMP, at page 27.

- 4.8 Ofcom cannot plausibly argue that these two cases, and the range of other situations which lie between them, have sufficiently homogeneous conditions of competition, enabling them to be grouped together for the purposes of geographic market definition.<sup>10</sup> In terms of the actual number of competitors, they range between BT+2 and BT+0, with additional differences in the likelihood of additional investment beyond these numbers. Indeed, some Category 2 areas may never see entry at all, and may remain a permanent BT monopoly.
- 4.9 Furthermore, there appears to be a contradiction between §2.19 of the consultation, which states that BT+2 areas should not be grouped with BT+1 areas where further expansion is planned and §2.23, which states:
- Category 2 is broad and could include a range of scenarios, from areas with two alternative ultrafast networks already present (but not yet providing effective competition) to areas with no current or planned alternative networks.*
- 4.10 After stating that BT+2 areas should not be grouped with other areas, Ofcom then appears to propose the possibility of grouping BT+2 areas in with BT+1 and BT+0 areas, if the BT+2 areas are not already fully competitive. At the very least, Ofcom should clarify its position in this respect.
- 4.11 In any case, such broad categories are likely to lead to considerable errors being made. Unless the remedy itself is sensitive to the level of competition within an area, it is highly unlikely that it will be appropriate to apply the same remedies in a BT+2 area which is expected to be competitive within the next two years as in a BT+0 area which no operator has identified as a potential area for investment. A BT+1 area where there is no prospect of investment is likely to be different from both of these. Any errors of remedy appropriateness will harm consumers through incorrect application of SMP conditions, and will further create inefficient investment incentives.
- 4.12 By adopting, in the absence of any supporting evidence, a very broad Category 2 market definition, Ofcom is effectively tying its own hands in the imposition of appropriate remedies. Unless Ofcom can commit to adopting remedies that are responsive, during the review period, to changes in the level of competition within an area, then the proposed Category 2 will implicitly force Ofcom to under-regulate in some areas, while at the same time over-regulating in others. This is legally and economically wrong, and will harm both consumers and investment.
- 4.13 In reality, large parts of Category 2 are not potentially competitive within the period of the Access Review. There should be no automatic presumption that areas where Virgin Media presently is active, alongside BT, are in any sense potentially competitive; they are not competitive at present, and in the absence of further altnet investment they will not become competitive. In BT+1 areas, there should be a realistic prospect of altnet investment in the near future before there is a case to define them as part of a market with a meaningfully different regulatory structure to the present one.
- 4.14 Ofcom's attempted justification for categorising such widely divergent areas into the same group is in two parts (§2.23):

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<sup>10</sup> See Commission Notice on the definition of relevant markets for the purposes of Community competition law, [97/C 372/03] at article 8, which sets out this requirement.

*we are not in a position to assess the likelihood of network build plans being carried out in part or in full, or the extent to which existing or planned networks will ultimately provide effective competition to Openreach.*

*we do not believe that we can accurately predict the number of networks that will emerge in a given area. In any case we wish to promote alternative ultrafast network build whether this results in BT plus one alternative network or BT plus two (or more) alternative networks in an area. Either outcome would lead to significant improvements in network level competition and in consumer choice, and so we would expect to have the same approach to remedies in all areas where there are reasonable prospects of such investment occurring.*

- 4.15 Ofcom therefore appears to make two core points. The first is about the difficulty of determining where investment is likely to occur in future; the second about Ofcom's strategic objective of incentivising investment in FTTP networks whether or not Virgin Media is already present in that area. We deal with these in turn below.

#### **4.1.1 *Difficulty in determining where investment will take place***

- 4.16 TalkTalk agrees that it is difficult for Ofcom to determine precisely where investment will occur. However, Ofcom appears at present to be somewhat defeatist as to its ability to determine where investment is more or less likely to happen during the regulatory period. Even if it cannot determine precisely where investment will happen, it should be able to determine the broad parameters of the likelihood that a given area will see investment. Ofcom is effectively saying that if it cannot perfectly predict where investment is likely to occur in the next regulatory period, it should abandon any meaningful attempt to make any predictions at all.
- 4.17 Ofcom is correct, at §§3.34-3.44, to have a certain degree of caution in interpreting areas in which rollout has started as being the same as those in which rollout has been concluded. Build plans will tend to evolve over time, and may be rescoped even after being started for a range of reasons. A good recent example of this is Virgin Media's Project Lightning, which was reduced in speed and scope even after plans had been signed off and rollout in many areas was already underway.<sup>11</sup>
- 4.18 At §§3.45-3.49, Ofcom goes on to discuss the factors which can influence the likelihood of rollout in areas where there has not yet been a plan for network build finalised by any altnet. §3.46 discusses a range of such factors, some of which are quantitative (such as demographics) but others of which are qualitative (such a local council support). However, at §3.48 Ofcom proposes to omit the complexity of considering a range of factors, and instead to simply consider areas '*geographic areas of sufficient size and density of premises*'.
- 4.19 TalkTalk considers that this is overly simplistic. There are many factors other than the density of premises which will influence rollout, and by adopting such a univariate approach, Ofcom risks making a series of errors (potentially both type 1 and type 2). We suggest below the analytical approach Ofcom should implement to minimise such errors.

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<sup>11</sup> See, for example, <https://www.ispreview.co.uk/index.php/2018/08/virgin-media-uk-not-planning-to-speed-up-cable-network-expansion.html>

- 4.20 Ofcom should therefore consider what other factors could be taken into account while retaining a tractable form of analysis. This will to a considerable extent depend upon what data sources Ofcom can identify which can readily be imported into a mapping approach. However, in TalkTalk's experience, census data can be readily integrated into mapping software, and the demographic characteristics of a given local area thereby obtained. Ofcom should therefore undertake analysis to determine which demographic factors will tend to increase rollout, and then add them into its modelling of likely areas.
- 4.21 Ofcom should also use the same model to test the areas in which operators have stated that they intend to build. If Ofcom's model indicates that these areas would be unlikely to be profitable options, then this should indicate that they need to investigate further how committed operators are to rolling out in these areas, or to recalibrate their model to better reflect commercial realities.
- 4.22 Once Ofcom has built a more predictive model, it should then integrate likely capacity constraints into its view of the market. In the period up until 2026, there will not be sufficient capacity in the UK FTTP sector to roll out to all areas which are profitable, and certainly not to 70% of the country. Ofcom should investigate the extent of these capacity constraints, and determine the maximum reasonable extent of rollout by the end of the regulatory period. It should then align the extent of the potentially competitive area with the broad scope of this capacity. For example, if Ofcom finds that the maximum possible extent of altnet FTTP rollout by March 2026 is 40% of UK premises, then it is implausible that more than around 50% of UK premises are in a 'potentially competitive' area. Even if rollout is potentially profitable in the long term, if it will not happen in the current regulatory period, then this is a matter for Ofcom's next market review cycle. The least profitable areas where there is potential long-term competition should therefore be treated as uncompetitive in the current review period.
- 4.23 TalkTalk notes that in its consultation document, Ofcom has provided no detail of its expectations as to the extent of roll-out by the end of the regulatory period. This is an important piece of evidence which has not been referred to. Ofcom should release this expectation, and as much of the supporting analysis for it as it possible without breaching commercial confidentiality, as soon as practicable, to allow it to be tested and commented on by market participants.
- 4.24 Ofcom's current approach is therefore unjustifiable. It should conduct detailed analysis into the areas where investment is likely in order to refine its current approach. Given that there is over two years until the new charge controls are due to come into effect, there should be no time constraint which precludes such an approach.

#### **4.1.2 *No difficulty in determining where investment has happened***

- 4.25 In its §2.23, Ofcom sets out that it is likely to find it difficult to determine where investment may happen in the future. However, that does not mean that it will find it difficult to determine where investment *has* happened, or where it *is* happening at the time a decision is made.
- 4.26 Consequently, even if Ofcom concludes that it can adduce no information which would enable it to determine future patterns of investment (and, as section 4.1.1 above sets out, it should be able to adduce such information), then this will not preclude it from being able to

determine the current state of competition at any given time. Indeed, it already does so in various telecoms markets, including the BCMR, WLA and WBA markets. In all these cases, Ofcom is able to determine the present level of competition at either a postcode sector or exchange level.

- 4.27 It is clear that, irrespective of the likelihood of future network investment, the current number of competitors and market shares in an area is likely to be informative as to the state of competition over the five year period of the next review, if only because the number of competing networks will not fall over time.<sup>12</sup>
- 4.28 Similarly, it will not be difficult for Ofcom to determine where investment is currently taking place, or due to take place in the next few months. Planning and streetworks applications need to be submitted to local authorities months in advance of network rollout, and it takes a considerable period of time to roll out FTTP to the substantial majority of premises in any large settlement. Ofcom should therefore have excellent visibility of the next 6-12 months of roll-out, as in most cases it will already be ongoing.
- 4.29 Overall, therefore, even if Ofcom had no information regarding the likelihood of uncommitted roll-out in different geographic areas, it should still take into account committed roll-out. Any streetworks which have received local authority approval should be considered committed, as they will be highly likely to proceed.
- 4.30 Ofcom's statement that *'we do not believe that we can accurately predict the number of networks that will emerge in a given area'* is incorrect. Where investment is already occurring in an area, which would have the effect (for instance) of taking an area from BT+1 to BT+2, then Ofcom can be sure that there will be BT+2 networks in that area.

#### **4.1.3 *Ofcom's wish to promote network investment is irrelevant to market definition***

- 4.31 As a further reason for defining a very wide and heterogeneous area in the potentially competitive category, Ofcom cites its desire to promote network competition and bring new entry in both BT+0 and BT+1 areas (§2.23). As it says *'Category 2 is broad... however, we do not consider it appropriate to identify narrower subcategories... [as] we wish to promote alternative ultrafast network build whether this results in BT plus one alternative network or BT plus two (or more) alternative networks in an area.'*
- 4.32 In doing this, we are concerned that Ofcom is deviating from the regulatory process which it is required to follow. In §2.23(b) Ofcom appears to elide market definition—an empirical economic exercise in which policy and strategic objectives are of no relevance—and the remedies stage, which can properly take account of such objectives. The market definition adopted must be independent of the remedies which Ofcom thinks it might choose or its 'strategy'. Indeed, defining markets on the basis of desired remedies or outcomes amounts to prejudice—Ofcom has not consulted on its proposed remedies, and so cannot legitimately know at present what remedies it will adopt.

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<sup>12</sup> The costs of network roll-out are fixed and sunk, which means that there will be no exit even for operators with very low market shares. This was seen through the multiple bankruptcies of Virgin Media's predecessor organisations, which did not lead to exit.

- 4.33 If, after conducting market definition and SMP assessment, Ofcom finds that there is SMP in one or more markets which it has defined on the basis of economic considerations, then Ofcom has some margin of discretion within which it can choose the remedies for that SMP to reflect its strategic objectives. However, by bringing its proposed remedies and strategic outcomes into the market definition exercise, Ofcom is able to effectively presume SMP even in markets where a proper economic exercise would find no such SMP (or *vice versa*). It is not open to Ofcom to make such presumptions; doing so amounts to prejudice and bias.
- 4.34 Consequently, Ofcom must abandon the second part of its rationale for its proposed definition of a potentially competitive area. It cannot legally or economically rely on its strategic goals when determining the boundaries of the relevant market. These goals can only be taken into account when determining which remedies are appropriate to counteract any SMP which has been found.

## 4.2 Competitive areas

- 4.35 TalkTalk agrees with Ofcom's proposed approach to competitive areas which it defines as areas where there are BT+2 and where other metrics such as market share support a finding that the area is effectively competitive, set out at §§2.18-2.20 of the consultation.
- 4.36 By definition, there will need to be more than two networks competing in an area, beyond that of Openreach, for that area to be effectively competitive. With only two competitors, it is a mathematical certainty that one of them will have a market share of at least 50%, creating a presumption of dominance. Moreover, telecoms networks are characterised by high barriers to entry, including large fixed and sunk costs and strong economies of scale and density. Indeed, even three operators may be insufficient to lead to competitive outcomes even in the long run, and this prospect should be investigated further by Ofcom.
- 4.37 There are also high switching costs at the consumer level, as changing between networks will generally require that there are works undertaken to take the broadband line across customers' gardens, and new network termination equipment will need to be installed in the customer's home. This will mean that switching will involve both time commitment from the customer (who will need to be present while the works are taking place) and will probably involve meaningful lead times due to the need to book engineering resource.
- 4.38 For all these reasons, it is TalkTalk's view that an operator with a market share in excess of 50% in a correctly-defined product market and geographic area is likely to hold SMP in that market. We would therefore amplify the points made by Ofcom in §2.20 of the consultation: there will likely be a wide range of cases where two operators in a postcode sector will be insufficient to lead to conditions of effective competition in a postcode sector. The finding of two operators which have each passed a given minimum proportion of homes within a postcode sector is merely a necessary (but insufficient) condition to find no SMP, which in the absence of further analysis cannot be presumed to alleviate Openreach's SMP. Ofcom should consult in full detail on SMP once it has engaged properly with product and geographic market definition, and should refrain from reaching even provisional conclusions on SMP until it has done so.
- 4.39 Even in 'competitive' areas, BT may be able to exert SMP by engaging in price discrimination, despite low measured market shares in Ofcom's preferred geographic units. This is dealt

with in more detail at section 5.1 below, which considers the prospects for geographic price discrimination.

### 4.3 Ofcom's proposed regulatory approach maximises categorisation errors

4.40 Ofcom's current proposals appear to ossify a view of the world in 2021 for the next five years, irrespective of actual market developments. This raises significant risks of errors in remedies, as Ofcom's evidence base in 2020 is unlikely to be a good representation of actual events by 2026. This is exacerbated by Ofcom's proposal to group together most of the country in one category (category 2), irrespective of actual levels of current and prospective competition.

4.41 The manner in which Ofcom appears minded to deal with this is to specify the category 2 area as widely as possible, in order to avoid any possibility that there is an area which is potentially competitive, but is misclassified as uncompetitive. Equally, however, Ofcom's proposed approach will make two types of errors, both of which are likely to be endemic:

- there will be a large number of areas which are treated as potentially competitive, but will actually become competitive at some point in the regulatory period, and therefore will be excessively regulated from the point when they become competitive (type 2 errors);<sup>13</sup>
- there will be an even larger number of areas, which are treated as potentially competitive, but which see no entry in the regulatory period (type 1 errors), and which are therefore uncompetitive throughout the period.

4.42 There are two primary causes of these errors:

- the level of competition changes during the course of the review period yet Ofcom proposes to apply the same regulation throughout the period; and
- Ofcom's categorisation and remedies rely on forecasts of how much and where FTTP might be rolled-out which will inevitably be inaccurate, particularly over extended time horizons.

4.43 Both of these errors are potentially costly to consumers and entrants, depending upon the remedies which Ofcom eventually chooses to adopt. Type 1 errors directly reduce consumer welfare through higher prices and reduced downstream competition.<sup>14</sup> They may also act to reduce altnet FTTP investment by reducing the scale of non-vertically integrated operators' consumer bases, making it more difficult for a new network to gain critical mass. Type 2 errors will tend to reduce returns to investors and so will reduce the quantity of investment undertaken, potentially lowering welfare through reduced competition and dynamic efficiency. In effect, by having a single 'potentially competitive' grouping throughout the regulatory period, Ofcom's structure will greatly increase the number of type 1 and type 2

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<sup>13</sup> In TalkTalk's taxonomy, there could be multiple moves for a given area, from "BT+1 potentially competitive but uncommitted" to "BT+1 potentially competitive with committed entry" to "BT+2 but not yet competitive" and finally to being a competitive area where BT no longer holds SMP.

<sup>14</sup> Depending upon the regulatory remedies imposed by Ofcom, there may also be a loss of welfare through lower than optimal quality of service.



errors compared to a better calibrated system where there are finer gradations of different areas based on current and prospective competitive conditions.

- 4.44 The aim of Ofcom’s regulatory structure should be to minimise the net sum of welfare losses to consumers through both types of error. This can be challenging, since in all inference-based analysis there is generally a trade off between type 1 and type 2 errors. In this case, **both** type 1 and type 2 errors will tend to reduce the level of altnet FTTP investment, frustrating Ofcom’s strategy. Ofcom’s incorrect geographic market definition will increase the volume of such errors; Ofcom should therefore revise its analytical approach to geographic market definition.<sup>15</sup>

#### 4.4 Category 3 areas

- 4.45 Ofcom notes at §2.25 that non-competitive areas “*will typically be rural areas, villages and smaller towns and will be areas where there is currently no existing alternative network and there are limited prospects of significant network rollout (other than by Openreach)*”.
- 4.46 TalkTalk agrees that, since these areas by definition have no other networks in addition to BT, BT will hold SMP in any reasonable analysis of the market.
- 4.47 The proposed area is also far too narrow a view of the areas in which there is no realistic prospect of entry during the regulatory period from 2021-26.<sup>16</sup> As pointed out at §4.22 above, there will be capacity constraints in the next five years due to multiple bottlenecks in rolling out FTTP, which mean that there is no realistic prospect that altnet FTTP will achieve 70% coverage by 2026. As such, there will be large portions of the country where it is already near-certain that altnet FTTP investment will have occurred by 2026, well above the 30% currently tentatively proposed by Ofcom (§1.17).
- 4.48 Ofcom should therefore expand category 3 on the basis of the analysis of the likely extent of roll-out outlined above at section 4.1.1. Where it determines that a postcode sector has only a low chance of seeing altnet FTTP investment in the next regulatory period, it should assign this to category 3. Alternatively, this may be able to be dealt with via the creation of a separate category of areas where there is currently no competition, and where entry is unlikely by March 2026, but may be viable after that time.

## 5 The threshold for assessing whether a network is present in an area should be high

- 5.1 Ofcom sets out its approach to determining whether a network is ‘present’ in an area at §2.30 and section 3 of its consultation.

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<sup>15</sup> There will also be a role for remedies in reducing the impact of type 1 and type 2 errors on consumers and investment.

<sup>16</sup> Entry after 2026 is of no relevance, as it will come under the following charge control period, and as such Ofcom will be able to set remedies in the 2026 regulatory review to incentivise entry in areas which are potentially competitive from 2026.

- 5.2 The ‘presence’ of a network in an area should reflect whether it is able to provide an effective competitive constraint on a hypothetical monopolist. That is, the network presence threshold should primarily be grounded in the economic logic of the SSNIP test—would two firms, each of which had a coverage just meeting the minimum threshold, be sufficient to constrain the average price of Openreach to within 10% of the competitive level?<sup>17</sup>
- 5.3 It is important to ground the threshold in this way. Without such a systematic approach there is a risk that Ofcom makes incorrect SMP findings, allowing BT’s SMP to proceed unconstrained. Conversely, economic underpinnings to the network presence threshold will both lead to better outcomes for consumers, and reinforce Ofcom’s proposals against appeals.
- 5.4 Ofcom’s proposals in this regard are fundamentally flawed, as set out in this section. In particular, Ofcom seems to have not taken any account of (let alone give due regard to) the prospect that in a Category 1 area, BT might engage in geographic price discrimination which would have the effect of pushing prices in some uncompetitive pockets well in excess of the competitive level.
- 5.5 Moreover, Ofcom’s proposed 65% threshold is not based on appropriate modelling of what creates an effective competitive constraint, and is likely to be below the level at which there would be an effective constraint even if there were a price averaging obligation or for some other reason BT was unable to engage in geographic price discrimination, as it may be more profitable for BT to make supernormal profits in 35% of the geographic area while allowing its volumes to decline in the competitive 65% as rivals win business from it.
- 5.6 This section deals with these two issues in turn.

### 5.1 Ofcom has failed to consider the potential for geographic price discrimination

- 5.7 Ofcom’s consideration of the coverage threshold for a network to be considered as present is brief, and is set out at §§3.21-3.25. The core of its argument is at §3.22:

*[The] proportion of the premises within a postcode sector... needs to cover sufficient premises in the area to provide a competitive constraint, but we would not expect it would need to achieve complete coverage of every premises within the area to achieve this. This suggests a significant proportion of premises should be covered but we do not consider that it is necessary for 100% of premises to be covered.*

- 5.8 Ofcom then proceeds at §3.23 to note that a ‘relatively lower threshold’ may be more appropriate, in light of its strategic goal to promote network competition and rollout, and a greater concern with type 1 errors than with type 2 errors (see §4.38, above).
- 5.9 However, Ofcom does not acknowledge the possibility that within a geographic unit, BT may choose to set a different price to different premises, based on whether there is competition to serve those premises. This means that BT may simultaneously be able to predate against entrants, lowering their returns and creating reputational barriers to entry by altnets, while

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<sup>17</sup> The choice of two operators in this test reflects that Ofcom considers a minimum of two operators is required for a market to be in Category 1.

exploiting customers for whom there is no competition, enabling BT to earn supernormal returns overall even in 'competitive' areas.

- 5.10 Ofcom should therefore conduct a specific analysis of the scope for geographic price discrimination by BT based on the extent of competition.<sup>18</sup> This is likely to find that there is considerable scope for such discrimination, which will point towards a requirement for a high coverage threshold, limiting the extent to which customers for whom there is no active competition can be exploited by BT.<sup>19</sup> [S<]
- 5.11 If Ofcom does not consider that BT would not price discriminate in geographic areas where it is not found to have SMP, it should explain in detail, supported by economic analysis, why BT would not do so. It is not sufficient for Ofcom to assert, without supporting evidence, that it does not consider that it would be in BT's best interests to discriminate.

## 5.2 Ofcom's tentatively proposed 65% threshold is improperly justified and is likely to be too low

- 5.12 At §§3.24-3.25 Ofcom sets out that it has used a threshold of 65% in various WBA Reviews for determining whether Virgin Media's cable network was likely to be able to act as a competitive constraint on BT. Ofcom then proceeds to use this to calibrate its illustrative analysis in section 4 of the consultation paper. As such, this subsection proceeds on the basis that this is Ofcom's tentative proposal, as it has been used by Ofcom in this consultation and there is no sensitivity analysis or alternative option presented.

- 5.13 In understanding the 65% threshold used in various WBA market reviews, it is worth understanding its genesis. As Ofcom sets out at §4.68 of the 2018 WBA Review:

*In the 2008, 2010 and 2014 WBA Statements, we concluded that Virgin Media should be counted as having a presence in an exchange area if its network was able to supply more than 65% of the premises in that exchange area. In our 2008 statement, we considered that in order to provide a competitive constraint in an exchange area, Virgin Media must be able to supply above 50% of premises but not necessarily as many as 90%. We checked a range of sensitivities between these levels (including our chosen 65% threshold) and found that the choice of threshold did not make a significant difference to the market sizes. A 65% coverage threshold also means that Virgin Media is able to serve a clear majority of premises in that exchange area.*

- 5.14 That is, the 65% threshold is not a new evidenced decision of the 2018 WBA Statement, but rather is a repetition of a decision of the 2008 WBA Review. However, even that 2008 WBA

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<sup>18</sup> Historically, of course, this would not have been a profitable approach for BT to adopt, as Ofcom's cost-reflective price caps have meant that it could not vary its price without expecting to earn returns below its WACC.

<sup>19</sup> Even in order to avoid all price discrimination, there is unlikely to be a need to set a coverage threshold of 100%. There will come a point at which the costs of discriminating (in terms of menu costs, the costs of indentifying competitive and non-competitive premises, and the complexity costs of operating different pricing structures) will outweigh the benefits to BT, in terms of increased profits, from discriminating. It would be useful for Ofcom, while considering the possibility of geographic price discrimination, to undertake a quantitative assessment of these costs in order to inform the appropriate coverage threshold.

review did not provide a detailed justification for the choice of a 65% threshold, but rather selected it from a broader range partly on the basis that the precise choice of threshold made little difference to the market definition, and partly on the basis that there should be competition at a 'clear majority' of premises. Ofcom should only adopt that figure in the current review if it conducts a similar analysis which would demonstrate that there is little difference in outcomes between a 60% threshold (the lowest proportion which could realistically be taken to represent a 'clear majority') and a 90% majority (the top end of Ofcom's range in the 2008 WBA review). However, in the current case TalkTalk believes that this is implausible, particularly if Ofcom retains postcode sectors as its current geographic unit (see section 6 below).

- 5.15 Moreover, even if Ofcom was able to conduct an analysis that demonstrated that outcomes were the same or at least strikingly similar for all thresholds between 60% and 90%, it does not hold that the correct proportion is the same in local access and business connectivity markets as it is in wholesale broadband markets. This would require an analysis of the proportion of competitive overlap which would be required to act as a competitive constraint on a hypothetical monopolist of leased lines in an area, sufficient to constrain prices to no more than 5-10% in excess of the competitive level. This analysis would need to take account of the fact that it may be more profitable to be a monopolist, at inflated prices, in part of a geographic area than to set a price which enables it to compete across the whole area.
- 5.16 As such, TalkTalk considers that it is inappropriate to pay any regard to the 65% threshold used by Ofcom in successive WBA reviews, which are irrelevant to the matter at hand. It should instead conduct a modelling exercise to determine the profit-maximising approach which BT would adopt under a modified greenfield scenario, where there is no restriction on it engaging in geographic price discrimination.
- 5.17 This modelling exercise should focus on the profit maximising strategy which could be adopted by BT, and should consider what degree of overlap is likely to be necessary to restrain BT, or a hypothetical monopolist, by raising prices by more than 5-10% across the whole geographic unit under consideration. Given that demand for broadband is inelastic, and that the unconstrained monopoly price is therefore likely to consequently be high, the degree of overlap likely to be needed to constrain a hypothetical monopolist from increasing prices by 5% or more is likely to be well above 65%.
- 5.18 Finally, Ofcom in its geographic unit analysis hypothesises that '*conditions of competition are not likely to vary widely*' within the geographic units which it is considering adopting. If this is the case, then Ofcom should be comfortable setting a very high threshold indeed—perhaps 90%— for the proportion of homes which will need to be covered within a geographic area in order for a competitor to be effective.<sup>20</sup> This will reflect that in general most areas will be close to 0% or close to 100% coverage. This is an important interaction between the coverage threshold and the granularity of the geographic area of assessment.

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<sup>20</sup> For the avoidance of doubt, TalkTalk does not consider that this will be the case, as set out in section 6. However, this demonstrates the inconsistency of Ofcom's own analysis on these two issues.

## 6 Postcode sectors are too large an area to be used when determining the competitiveness of a geography

6.1 Ofcom sets out at §§3.7-3.20 its analysis of the possible geographic units which could be used when assessing the level of competitiveness. It reaches the tentative conclusion of using postcode sectors. The rationale for using postcode sectors rather than a more granular analysis is as follows (§3.15):

*Network deployments are unlikely to be planned to match precisely onto postcode sectors. However, whilst some premises/ postcodes within each postcode sector may be missed by any specific deployment, we think the footprint of postcode sectors will be sufficiently granular that conditions of competition are not likely to vary widely within a postcode sector. This is because once a network operator starts a network rollout, their plan is likely to cover an area larger than typical postcode sectors in the areas where build is attractive, so the deployment will cover the entirety of several postcode sectors. However, at the edge of the deployment, there could be postcode sectors that are only partially covered.*

6.2 It also sets out an alternative argument for exchange areas, but acknowledges that ‘they have a larger footprint that may cover a greater mix of competitive conditions in terms of the number of competing networks that are present’ (§3.17).

6.3 Ofcom seems to suggest therefore that an FTTP operator will cover all premises within a postcode sector except for postcode sectors at the edge of a footprint. This assumption of the likely extent of rollout within a postcode sector is unlikely to be representative of most areas, based on TalkTalk’s experience of rolling out its FTTP network in York:

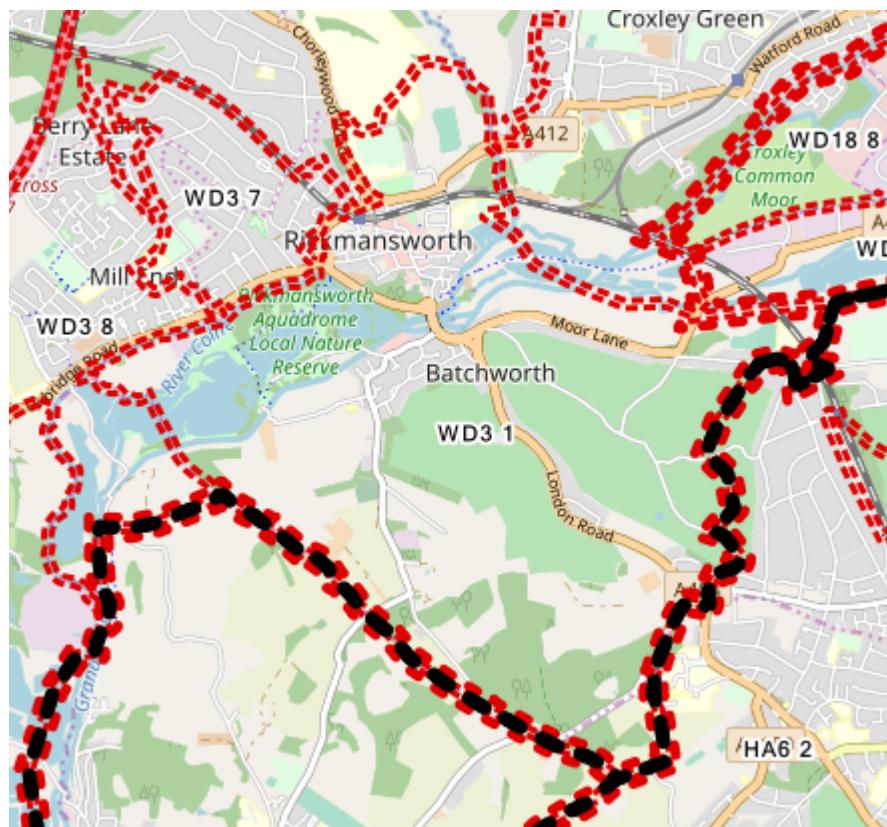
- there will be some streets which are not covered, even in the middle of a roll-out, because of street or topographical conditions. For example, TalkTalk has not rolled out in the centre of York because of the prevalence of cobbled streets, which are excessively expensive to dig under;
- there will be privately owned streets where it may be too difficult to obtain wayleaves. The same can be true of business parks;
- in areas where there are very long driveways, it may be uneconomic to build down a street, as the cost of connection may be excessive relative to the returns which can be made;
- some blocks of flats or split buildings in an area may not be served, because of difficulties with internal wiring or obtaining wayleaves;
- there may be physical obstacles in the way, such as motorways, lakes or rivers, with an operator serving one side of the obstacle, but not the other;
- postcode sectors can be split across multiple mid-sized settlements, or a small portion of a larger settlement and numerous smaller villages.

6.4 Ofcom correctly points out that FWA may in the medium to long term be used in conjunction with FTTP to fill in what would otherwise be holes in coverage. However, there can be no guarantee that most or all FTTP builders will choose to use this technology, which will add a further element of complexity to their networks, nor when they will choose to do so. To date, there have been no large scale developments in the UK which mix together FTTP and FWA, and it is unclear when and if such developments will launch. Until it sees such

developments, Ofcom should be sceptical as to their scale and impact and should focus on FTTP as the technology which is actually being used in practice.

- 6.5 As an example, consider the WD3 1 postcode sector on the edge of London. The River Chess runs through the middle of this postcode sector, along with two nature reserves. The postcode sector covers two discrete settlements—the south-east corner of Rickmansworth, and, on the other side of the river, the suburb of Batchworth. There is also a thin ribbon of housing along London Road, sandwiched between two golf courses. In this area, it is entirely plausible that an operator decides to roll out in Rickmansworth on the north side of the Chess, but not in Batchworth, let alone to the properties along London Road.<sup>21</sup>

**Figure 6.1: WD3 1 Postcode sector**



- 6.6 This example demonstrates that even within the M25 there will be areas where conditions of competition may not be homogeneous within a postcode sector. Moving into suburban or semi-rural areas, the problem of potentially divergent competitive conditions is likely to be exacerbated, as the physical area covered by a postcode sector increases.
- 6.7 The central issue is that there is no neat mapping of individual postcode sectors to a single conurbation. Rather, particularly in smaller towns, a typical postcode sector will cover both a part of the town, and a substantial area of countryside or surrounding villages. In such

<sup>21</sup> Many other similar examples can be found. For example, the CB11 3 postcode sector is primarily rural, but also encompasses a large part of the town of Saffron Walden. Again, it is plausible to think that an operator might choose to roll out in Saffron Walden, but not in the other larger settlements in the postcode sector such as Newport.

towns, every postcode sector containing rollout will be *'at the edge of the deployment'*, and contain heterogeneous competitive conditions.

- 6.8 TalkTalk also notes that Ofcom has provided no evidence for its assertion that *'conditions of competition are not likely to vary widely within a postcode sector'*. Although Ofcom correctly argues that deployments are typically likely to be larger than a postcode sector, for the reasons set out at §6.3 above, this does not imply that the whole, or even the substantial majority, of any particular postcode sector will be covered. If Ofcom wishes to assert this, it should demonstrate it using data from altnet rollouts which have so far occurred.
- 6.9 TalkTalk agrees that the larger the geographic unit chosen by Ofcom, the greater the range of competitive conditions, and therefore the greater the danger of under- or over-regulation in specific parts of that geographic unit.<sup>22</sup> In general, therefore, Ofcom's preference should be to choose smaller geographic units where the choice of unit is not entirely clear cut.
- 6.10 This is reinforced by the analysis at section 5 above. In order to avoid pockets of unconstrained SMP, Ofcom will either have to impose a geographic price averaging obligation even in areas which it has found to be 'competitive', or it will have to adopt a very granular approach to regulation.
- 6.11 The most appropriate reaction to this divergence in appropriate remedies is to choose granular geographic units for assessing SMP. The more granular the unit chosen, the less competitive conditions are likely to diverge.
- 6.12 Consequently, in order to meet the need to ensure that competitive conditions are broadly homogeneous across the geographic unit chosen, Ofcom should adopt a much more granular unit than either postcode sectors or copper exchanges. The most appropriate approach is likely to be to adopt the 1.6m individual postcodes in the UK, which could then be grouped into larger units for the purposes of remedies where there are multiple contiguous postcodes each of which have the same conditions of competition. However, this is a very different proposal from that currently put forward by Ofcom, and should be reconsidered on, preferably once Ofcom has acquired data to support the likely extent of rollout and its homogeneity within postcode sectors and individual postcodes.

## 7 Conclusion

- 7.1 In conclusion, we believe Ofcom must conduct significantly more empirical and modelling research before reaching even preliminary conclusions on product and geographic market definition and methodology. In particular, Ofcom should undertake:
- assessment of the relevant product market(s) through application of the hypothetical monopolist test;

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<sup>22</sup> In line with the assessment at section 4.3 above on type 1 and type 2 errors and their costs.

- detailed geographic and demographic analysis, on the basis of regions smaller than postcode sectors, of the likelihood of new investment along with the current level of competition;
- calibration of the likelihood of new investment across the UK based on national capacity constraints;
- calibration of the likelihood of new investment by detailed analysis of geographic areas where new investment has been committed;
- detailed modelling of the scale of alternative network rollout within a region sufficient to undermine SMP both with and without the possibility of geographic price discrimination;
- modelling of the profit-maximising approach which BT would adopt under a modified greenfield scenario, to determine the relevant network penetration threshold;
- assessment of conditions of competition and hence SMP at the more granular level of individual postcodes.

7.2 In the absence of this analysis, Ofcom will undoubtedly misdefine markets and misdiagnose SMP, and will result in imposing inappropriate remedies to the cost of both consumers and efficient investment incentives.