

Geographic market definition and analysis in Wholesale Local Access and Leased Line Access markets

Considerations for the TAR - Non-Confidential Version

Executive summary

Ofcom's Telecoms Market Review will need to assess competitive conditions for the services included in the currently defined Wholesale Local Access (WLA) and Leased Line Access (LLA) product markets. Given increasing divergence in competitive conditions within the UK due to the overlapping roll out by smaller altnets, appropriate geographic market definition and analysis will be essential building blocks to determine appropriate regulation in different parts of the country.

In Ofcom's Wholesale Fixed Telecoms Market Review (WFTMR) in 2021, Ofcom defined sub-national geographic markets for both WLA and LLA services.

- Two geographic markets were defined for WLA services, Area 2, where there potential for material and sustainable competition, and Area 3 where this was unlikely. Area 2 was defined to be areas where the planned premise coverage of one or other of two infrastructure based rivals to BT, Virgin Media and CityFibre, exceeded 50%. Ofcom also recognised that in the future there would be areas with established competition where it would consider full or close-to-full deregulation (Area 1), but did not include any areas in this category on the basis that it was too early to draw conclusions on effective competition.
- In the LLA market Ofcom defined the same Area 2 and Area 3 geographic markets , reflecting its view that operators providing WLA services would also provide LLA services. However, Ofcom carved out areas where it considered BT already faced significant competition (the CLA and HNR areas), using an analysis of existing leased line providers.

In this paper we review the key factors that Ofcom should consider in the TAR when defining geographic markets and conducting market analysis in WLA and LLA markets, taking account of the current market situation and future market developments.

Key market developments

There have been a number of developments since WFTMR 2021 the Ofcom should take account of in its market analysis:

- Significant FTTP network roll-out by Openreach and rivals since WFTMR 2021, with rival build spread across a number of operators, both vertically integrated and wholesale only.

- Roll-out by some competitors has been slower than their previously-announced plans, and service take-up has been lower on many altnet networks than on Openreach's FTTP network.
- A recent trend of consolidation among altnets, with a number of smaller-scale altnets merging.
- Evidence that a number of FTTP altnets have chosen to focus on providing mass market services, with limited or no provision of LLA services.

Key considerations for geographic market definition and competition analysis

Network coverage is an important consideration, but a range of other factors need to be considered when determining the strength of competitive constraints on Openreach

Given the existence of high barriers to entry and expansion in WLA and LLA markets, the existing and future planned coverage of competing network operators will be one factor in defining geographic markets and measuring the strength of competition.

However **the presence of competing operators in an area may not be sufficient to impose an effective competitive constraint on Openreach.** Determining the effectiveness of competition requires a thorough evaluation of the characteristics of competing operators, including their scale, any technological and commercial advantages versus other operators, and product diversification, as recognised in relevant European Commission guidelines and by Ofcom in WFTMR 2021.

Geographic market definitions need to reflect the dynamics of the relevant product market, which may be different for WLA and LLA services

In WLA markets, it is appropriate to measure the coverage of an individual operator based on the premises that it passes or is expected to pass. However, the degree of competition in an area will not be a simple function of the number of operators present in an area, but also reflect the characteristics of each operator:

- Where an operator is a wholesale only WLA provider, vertically integrated operator which also supplies WLA services, or retail only vertically integrated operator. Retail only operators will only apply an indirect constraint on Openreach's WLA pricing.
- The actual and expected service take-up of the operator. Operators with lower take-up may impose a weaker competitive constraint, as noted in the relevant EC guidelines.
- The "total" size / coverage of the operator (i.e. across geographic areas). Evidence from WFTMR 2021 indicates that retailers have a preference for using wholesale operators who cover a large number of premises, meaning smaller-scale operators may impose a weaker competitive constraint on Openreach, as they may be less able to attract retailers onto their networks.

- Whether an operator “cherry-picks” certain types of premises or customer segments. Operators that target certain customer groups or premises are likely to impose a weaker constraint on Openreach, as they will not provide a constraint on other groups/premises.

These factors could be taken into account in market definition and competition assessment either by excluding some operators when defining markets (as Ofcom did in the WFTMR), or through placing less weight on operators whose characteristics mean they are a less effective competitive constraint in the WLA market.

For the LLA market, it is important to recognise the specific characteristics of LLA services, which suggests that **the effectiveness of competition in a given area will differ from that for WLA services**:

- While demand for mass market broadband is relatively homogeneous and predictable, demand for high-quality dedicated capacity services is unpredictable, and LL network operators may have to build out a considerable distance to connect a customer once they place an order. The relevant measure of LLA coverage is therefore whether an operator is located sufficiently close to (or is present at) end user sites of potential LLA customers (business parks, central business districts or mobile base stations), rather than whether it has a network that passes residential premises (as is appropriate for WLA services).
- Some FTTP operators providing WLA services may not also provide LLA, meaning not all WLA providers will impose a competitive constraint on Openreach for LLA services. For example, there are additional systems and processes needed to deliver high-quality LLA services (which means smaller-scale FTTP operators may not have sufficient scale to make the necessary investments), and FTTP networks designed primarily to provide WLA services may not have the capability to provide high-quality LLA services (e.g. are not built sufficiently close to LLA user sites or does not have sufficient fibre strands across the network to be able to provide a dedicated service with sufficient resilience).

It is therefore important for Ofcom to **conduct a separate geographic market analysis for the LLA market, focussing on the providers of leased line services, rather than simply applying the market boundaries for WLA services to LLA** (as Ofcom did for the Area 2 / 3 boundary in WFTMR 2021).

In practice, this could be done by considering a similar “bottom-up” approach to that used in the 2019 BCMR and by Ofcom to define the HNR and CLA LLA markets in WFTMR 2021, and using this approach to define all LLA geographic market boundaries.

The thresholds for determining whether an operator is present in a geographic area need to be carefully considered

A combination of fragmented roll out by a “long tail” of smaller-scale operators and operational difficulties in rolling out to some premises mean there may be significant pockets of premises not covered by alternative FTTP build, even in areas where rivals have rolled out in the area.

Given this, Ofcom's approach in WFTMR 2021, where it considered a relatively low coverage threshold when considering a rival as present in an area (50%), would risk defining areas as competitive even where customers have limited options across a large part of the area.

The risk of consumer harm through partial or full deregulation for customers who have no choice could be addressed by setting the coverage threshold significantly higher than the 50%.

It may also be prudent to take a cautious approach when measuring the effectiveness of competition where there is uncertainty over future competitive conditions, particularly when defining areas with “established competition”

Given the potential for competitive conditions to evolve differently from that expected, there is an inherent risk of over- and under-regulation, which Ofcom needs to balance when making regulatory decisions. If the current light-touch pricing flexibility approach is maintained for WLA and LLA services, the greater risk would appear to be under-regulation rather than over-regulation.

Given this, in markets where there is greater uncertainty over how competitive conditions will evolve, it may be prudent to take a cautious approach when defining areas where regulation could be reduced or withdrawn. This could include placing less weight on planned coverage by operators where future network build is uncertain, or placing lesser (or no) weight on operators where the constraint they will impose on Openreach going forward is less clear.

This could be particularly the case in the WLA market, where there is uncertainty over how the future build and take-up of altnets will develop over the TAR period, and uncertainty over the extent of further potential consolidation among altnets.

1 Introduction

Ofcom has begun its Telecoms Market Review (TAR), which will include a review of competitive conditions and appropriate regulation across a range of fixed telecoms markets for the period 2026-31, including in the currently defined Wholesale Local Access (WLA) and Leased Line Access (LLA) markets.

Appropriate geographic market definition and the assessment of competition in these markets will be an essential building block to ensuring appropriate and effective regulation. If geographic markets do not accurately reflect the differences in competitive conditions across areas, then this is likely to result in an inappropriate assessment of Significant Market Power (SMP), and regulation that does not appropriately address the competition issues in different areas.

In Ofcom's Wholesale Fixed Telecoms Market Review (WFTMR) in 2021, Ofcom defined sub-national geographic markets for both WLA and LLA services, reflecting its view on differences in the current and expected evolution of competition for these services in different parts of the UK.

There have been significant market developments since 2021 which are relevant for the appropriate definition of geographic markets and measurement of competition in these markets, including significant deployment of FTTP infrastructure by Openreach and a range of altnets.

In this context, Vodafone, Sky and TalkTalk ('the Clients') have commissioned Frontier to consider relevant recent developments, and identify key considerations for the TAR regarding geographic market definition and the measuring of competition in these markets.

In this paper we first review Ofcom's decisions and supporting rationale for its geographical market definition on WLA and LLA markets in WFTMR 2021, as well as its findings on SMP. We then outline the appropriate economic framework for defining geographic markets and measuring competition in these markets, which we consider is relevant for the TAR. Finally we set out our views on specific considerations regarding geographic market definition and competition analysis in each market, based on this framework and the specific market situation.

2 Ofcom's geographic market definition and SMP findings in WFTMR 2021

WLA market

In WFTMR 2021, Ofcom defined two geographic markets for WLA services:

- Area 2 – areas where there is, or there is likely to be potential for, material and sustainable competition to BT; and

- Area 3 – areas where there is not and unlikely to be potential for material and sustainable competition to BT.

Area 2 was defined based on the expected network coverage of Virgin Media and CityFibre, including their existing coverage at the time of the review, and planned roll-out over the review period (as set out in the operators network build plans).

The analysis was based on using UK postcode sectors as the relevant geographic unit, and a coverage threshold of 50%: a given postcode sector formed part of Area 2 if the planned coverage of one or both of Virgin Media and CityFibre in the sector exceeded 50%.¹ Area 3 then represented the remainder of UK, excluding the Hull area.

This approach reflected Ofcom's view that Virgin Media and CityFibre were the only altnets likely to provide material and sustainable competition to Openreach for WLA services, on the basis that²:

- They were expected to be of sufficient scale to provide a material competitive constraint, both in terms of coverage and take-up.
- As a result of such scale, these operators had the ability to attract retailers onto their networks. This reflected statements by retailers on their preference for using wholesale partners with greater coverage, which enabled the use of a smaller number of wholesalers to provide national coverage – the use of a smaller number of larger wholesalers helps minimise costs (given the significant costs involved for a retailer to onboard an additional network), helps to better ensure a consistent service offering to customers across areas, and reduces the operational challenges with working with multiple operators.
- In-line with Openreach, Virgin and CityFibre were expected to provide services to all customer groups and premises in their network footprints, rather than targeting specific types of premises or customers.
- The operators offered both broadband and leased line services over their networks.

Ofcom noted that Virgin Media did not offer WLA services at the time of the review, instead only providing retail services to mass market broadband customers, but considered that it could and would provide wholesale services during the review period. In addition there was evidence that BT had moderated its decision making in response to competition or the threat of such from Virgin Media.

Ofcom then concluded that BT had SMP in both Area 2 and Area 3. It noted that BT's WLA market share remained high in Area 2, and that whilst planned rival network build was expected to increase competition in the area over the review period, the outcomes were

¹ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.74-7.88

² Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.39-7.53

uncertain. It therefore considered that it was premature to conclude that BT had no SMP in that area.³

Consideration of “established competition”

Ofcom also considered the definition of a separate “Area 1” market where there is “established competition”. It stated that in these areas, it would be likely to remove regulation or at least significantly reduce it.⁴

It proposed to define these areas as postcode sectors where there was more than 50% coverage by at least two “established rival networks to BT”, based only on existing coverage rather than also including prospective build. Ofcom considered it would be risky to define Area 1 on the basis of prospective build, given its intention to deregulate / reduce regulation in those areas. It particularly noted the uncertainty around prospective build plans, which meant it could take time for an operator to undertake its prospective build and become an established competitor in those areas.⁵ It considered that 0.4% of UK premises could fall under that definition, based on postcode sectors with at least 50% existing coverage by both Virgin Media and CityFibre.

Ofcom however decided against defining a separate market for these premises, on the basis that competition was “not yet very well established”. This reflected:

- that Openreach continued to account for over 50% of WLA connections in these areas, and CityFibre’s share remained small; and
- altnet roll-out remained relatively small and geographically spread at the time of the review.

It therefore considered it too early to draw firm conclusions about the incremental competitive impact that the second competing operator beyond Virgin Media would have on Openreach.⁶

LLA market

Consistent with its approach for WLA services, Ofcom defined an Area 2 and Area 3 for LLA services, with the boundary between the two areas reflecting the same boundary as for WLA. Ofcom justified this on the basis that both Virgin and CityFibre planned to be “multi-service providers” i.e. that the networks owned and being built by these operators were intended to

³ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 8.132

⁴ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.69

⁵ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.69

⁶ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.108 – 7.113

provide both broadband and leased line services. This meant that both operators would be expected to provide a competitive constraint in the LLA market as well as the WLA market.⁷

It however carved out two additional geographic markets from Area 2, where it considered BT already faced significant competition: the Central London Area (CLA) and High Network Reach (HNR) areas. These were dense largely urban areas, where there were deemed to be a sufficient number of other established leased line providers located within sufficient proximity of the sites of potential LLA users to compete with BT.

- These areas were defined as postcode sectors where 65% of the potential end-user sites in the sector were within 50 metres of at least two other competing existing networks.⁸
- Ofcom decided to split these areas into the two separate markets on the basis that there was a substantially larger number of competitors to BT in the CLA than HNR, meaning competitive conditions were sufficiently distinct to justify defining separate markets.⁹

Regarding SMP findings, Ofcom concluded that BT no longer had SMP in the CLA area, but did in the HNR area, Area 2 and Area 3.

- In HNR areas Ofcom noted that the proximity of existing competing network infrastructure was likely to provide a degree of competitive pressure on BT, and that there was potential for further network deployments that would increase the strength of competition over the review period. It however concluded that the areas were not yet effectively competitive, given BT retained a high market share in these areas, and that in around 50% of cases, competing networks did not have existing duct connections to demand sites - this meant they faced additional costs when competing for businesses relative to Openreach, who already had passive infrastructure connections to the majority of potential user sites.¹⁰
- Ofcom however considered that the CLA was effectively competitive: whilst it noted that BT still retained a higher market share in these areas, it determined that the higher density of existing competing networks, and the potential for additional rival network build using PIA, meant that BT would be effectively constrained in this area over the review period.

⁷ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.130.

⁸ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.132.

⁹ On average 5.1 within 50m in the CLA vs 2.4 in HNR areas. Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 7.196.

¹⁰ Ofcom WFTMR 2021 Decision, Volume 2, paragraphs 8.255-8.256

3 Relevant economic framework for geographic market definition and measurement of competition

Geographic markets should cover areas where competitive conditions are sufficiently similar

As noted by Ofcom in WFTMR 2021, geographic markets should be defined such that the competitive conditions across the area are sufficiently similar.¹¹

This is consistent with the view of the European Commission (EC) as set out in its Recommendation on Relevant Markets and associated Staff Working document, with the Staff Working document stating that “*the relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which the conditions of competition are sufficiently homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different. On the contrary, areas in which the conditions of competition are heterogeneous do not constitute a uniform market”¹² [Emphasis added]*

If this is not the case, and competitive conditions vary significantly within a given geographic market, this can result in a distorted and inappropriate assessment of SMP, and the imposition of regulatory remedies which do not address all the relevant competition concerns in the area.

- For example, in a geographic market where it is deemed that the incumbent operator faces effective and sustainable competition, it could be appropriate to consider that no operator has SMP, and to remove any currently applicable regulation (as Ofcom chose to do for LLA services in the CLA and considers may be appropriate in WLA “Area 1”).
- However if that defined market also includes a large number of premises where the incumbent faces weaker or no competition (and thus has SMP), there is a risk that the operator abuses that dominant position absent regulation, by engaging in forms of conduct that could distort competition and/or harm consumers. As highlighted by Ofcom in WFTMR 2021, this could include exploitative behaviour (such as charging excessive prices and providing poorer quality services), and exclusionary behaviour such as discriminating between its own downstream retail arm and other retailers (e.g. choosing to offer wholesale services to its own downstream retail arm but not other retailers).¹³

¹¹ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.17

¹² European Commission, Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation, Staff Working Document, Section 2.5.

¹³ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.124

This is also consistent with the view of the EC, who has highlighted the importance of reflecting differences in competitive conditions in SMP assessments and remedies:

*“Significant variations of competitive conditions between different areas of a same country - for instance, but not limited to, differences between urban and rural areas - might therefore require the definition of separate relevant markets and eventually lead to different designations of SMP and regulatory treatment of the SMP undertakings.”*¹⁴ [Emphasis added]

Analysis used to inform geographic market definition should be conducted at a sufficiently granular level

To achieve the above, it is important that the analysis used to define geographic markets is at a sufficiently granular level.

This can be achieved through determining geographic markets by considering individual “geographical units”, which are sufficiently small that the competitive conditions within each unit are unlikely to vary significantly. Each unit can then be analysed to assess the competitive conditions within each, with geographic markets then determined by aggregating units which have similar competitive conditions. This approach is again consistent with the approach recommended by the EC.¹⁵

Assessment of competition in a given area should take into account a range of factors that drive competitive conditions

Relevant guidelines on competition assessment highlight a range of factors that are relevant in assessing the existence of competitive constraints in a market

The ECs Guidelines on Market Analysis sets out a relevant framework for measuring competition and assessing SMP in electronic communications markets.

In general, measuring competition involves considering the existence of competitive constraints on market participants. This can take two forms: (i) demand-side substitutability (which is the extent to which customers would be prepared to and are able to switch to other products, or to products in other areas), and (ii) supply-side substitutability i.e. the extent to which additional suppliers could provide the relevant product in the short-to-medium term in the area in question, without incurring significant additional costs.

In practice, in measuring the strength of competition in wholesale markets, the market share of operators is a helpful indicator – as recognised by Ofcom in WFTMR 2021, the greater the

¹⁴ EC Staff Working Document, Section 2.5

¹⁵ EC Staff Working Document, Section 2.5

number of competitors that have managed to attain a material share of the market, the stronger the indication that the intensity of competition is greater.¹⁶

However, a complete assessment requires a thorough evaluation of the economic characteristics of the relevant market.¹⁷ The EC outlines a range of criteria that are relevant in making this assessment, including:

- The existence of barriers to entry and expansion;
- Control of hard-to-duplicate infrastructure;
- The absolute and relevant size of the undertaking;
- Economies of scale and scope;
- Vertical integration;
- Technological and commercial advantages of an operator;
- Product diversification; and
- Countervailing buyer power.

The EC recognises that barriers to entry and expansion are key factors in wholesale telecoms markets, as entry often requires large infrastructure investments. It also highlights that the ability of an entrant to achieve a sufficient scale to be profitable, or the “minimum cost-efficient scale”, may be critical to determine whether entry is likely and sustainable.¹⁸

The network coverage of competing networks is an important consideration, but the measure of coverage needs to reflect the specifics of WLA and LLA services

Given the existence of high barriers to entry and expansion, the existing and future planned coverage of competing network operators will be important factors in measuring the strength of competition in WLA and LLA markets. A greater number of competing networks present in an area could be expected to lead to a greater competitive constraint on BT, all else the same.

However it is important that **the measure of coverage is tailored to the specifics of the service in question:**

- In relation to mass market broadband services, the location of potential demand is relatively predictable (i.e. the location of residential homes and SME premises), and the geographic density of that demand also often quite high (e.g. premises along residential roads / in housing estates). Network operators therefore usually find it cost-efficient to pre-determine the set of premises they plan to serve, and then “pre-build” their networks to within a very short distance of those premises (i.e. “pass” the premises). It is therefore

¹⁶ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 8.15

¹⁷ EC Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services, paragraph 57

¹⁸ EC Guidelines on market analysis and the assessment of significant market power, paragraphs 59, 62.

most relevant to measure coverage for these services by considering the proportion of premises that an operator “passes”.

- In relation to services that provide dedicated capacity (or similar), it is often less certain where demand for services will be located. A given end user may for example have a number of sites, but could want to connect only a sub-set of these sites, and may want different services or levels of capacity at different sites. This means that in providing these services, it is often more cost-efficient for network operators to only pre-build their networks to within a certain proximity of potential user locations (rather than very close to each potential location), and then build the final infrastructure to the locations once a firm order is placed. What is therefore relevant for competition is the distance to potential end user locations i.e. whether a network is located within a sufficient distance of the end user sites to consider providing them with a service.

It is also important to consider not just the coverage of operators **with infrastructure capable of providing the services in question**, but also the coverage of operators **that actually provide the service**.

- This is because having the relevant infrastructure is a necessary but not sufficient condition for providing a service, as an operator may choose not to provide a service even though it has network infrastructure that is theoretically capable of doing so.
- In relation to WLA and LLA services, this could be because a network provider may choose to focus on providing retail services to end-users using their networks, rather than providing wholesale services – this is the case for Virgin Media, who provide retail mass market broadband services over its network, but do not currently provide WLA services.
- It is also because network infrastructure may need to be tailored to provide LLA services, and additional investments required in additional systems and processes (such as for monitoring). This means that operators that provide WLA services over their networks may not choose to also provide LLA services.

For example, providing dedicated capacity services requires sufficient availability of end to end fibre strands across the operator’s network, so may require different fibre cable dimensioning compared to FTTP networks designed only to provide residential services (where strands can be shared by end users in certain parts of the network). It also requires having network flexibility points close to locations of potential users of dedicated capacity services, which may not necessarily be close to the location of residential customers. As such networks designed primarily to provide WLA services may require potentially significant additional investments in order to be “retrofitted” to provide LLA services.

- The above means that whilst it is still the case that operators with required infrastructure in an area could impose a competitive constraint (given they are capable of providing the services in future with the need for relatively less significant investment in infrastructure), the constraint is likely to be weaker than from operators who already provide these services.

A range of other factors beyond coverage need to be considered when determining the strength of competitive constraints in a given area

Consistent with the EC framework, even where a competing operator has a network presence, there are a number of other factors that are relevant in determining whether the operator is likely to impose a strong competitive constraint on Openreach.

For WLA and LLA services, these include:

- The actual and expected service take-up of the operator. As noted by the EC, this is an indicator of the potential competitive intensity created by an operator on Openreach, and could be relevant in considering the sustainability of entry.
- The “total size” / coverage of the operator (i.e. across geographic areas). As noted above, evidence from WFTMR 2021 indicates that retailers have a preference for using a smaller number of larger wholesalers, which means the overall coverage of an operator across the UK is likely to be a relevant factor regarding the demand-side substitutability of services: smaller-scale operators may impose a weaker competitive constraint on Openreach, as they may be less able to attract retailers onto their networks.
- Whether an operator already provides WLA / LLA services. As outlined above, operators that do not already offer these services are likely to impose a weaker competitive constraint on Openreach than those that do.
- The time period that an operator has provided a service for. This could be particularly important for high-quality LLA services, as it may take time for an operator to build credibility as a trusted provider of these services. This means that “newer” operators may impose a weaker competitive constraint than longer-established LLA providers.
- Whether the operator has existing infrastructure connecting to the end user. This will determine the extent to which Openreach has a material cost advantage in serving a customer relative to competing networks. It could also impact the ability of the operator to provide a services over a comparable timeframe to Openreach, as it may take time to deploy the connection to the end user location if it doesn't already have one in place, particularly where permits and building access is required.¹⁹ This was highlighted by Ofcom in WFTMR 2021 as a relevant factor particularly in its LLA assessment, where it flagged that unlike Openreach, a number of networks did not have existing duct connections to demand sites, which meant they were likely to face additional costs when competing for businesses relative to Openreach.
- Customer segment focus, in particular whether the competing operators' provide services all customers in a given area, or targets certain types of premises or customer segments. Operators that target certain customer groups or premises are likely to impose a weaker constraint on Openreach, as they will not provide a constraint on other groups/premises.

¹⁹ This may be the case even where a competing operator can use PIA access from Openreach, as building access and permits to access and dig public roads and carriageways may still be needed.

This was considered by Ofcom in WFTMR 2021, where it noted that because Hyperoptic built out to targeted locations such as multi-occupancy buildings, it would not expect its build to result in material competition where it was the only competitor to Openreach.²⁰

Market analysis should reflect a forward-looking assessment of competition

In defining markets and measuring competition, it's also important for the assessment to be forward-looking i.e. should consider both the current competitive conditions, and the expected evolution of these over the relevant review period.

This is consistent with the legal framework underpinning Ofcom's duties, which states that in defining markets, "*Ofcom must conduct a forward-looking assessment of the market, taking into account expected or foreseeable developments that may affect competition*"²¹

In practice this means that analysis should consider whether there could be an increase in competitive pressure during the review period, but also whether there is any prospect of competitive constraints decreasing over the period.

Market analysis should balance the risk of over- and under-regulation, taking into account the expected level uncertainty over the strength of competitive constraints

By nature of a forward-looking assessment, geographic market analysis, competition assessments, and the resulting decisions on appropriate remedies are being made based on outcomes that are uncertain. In particular it's possible that the actual competition conditions over the relevant review period are different from that expected at the time of the review.

This creates a risk of setting inappropriate regulation, either through under-regulating (where competition is deemed sufficient to justify removal or reducing of regulation, but turns out not to be), or over-regulating, where competition is deemed insufficient to justify relaxing regulation but turns out to be stronger than expected. Both of these can have negative effects on the market and market participants:

- Over-regulation risks stifling competitive dynamics, and can impose costs on the regulated operator (e.g. through an additional administrative burden associated with meeting regulation, such as regulatory reporting).
- On the other hand, under-regulation could leave customers and competitors exposed to abusive behaviour by the incumbent, which as noted above can result in excessive prices, lower quality services, and discrimination against or exclusion of competitors.

Regulators therefore need to strike an appropriate balance between these two risks when setting regulation, and when conducting the market definition analysis and competition assessments that underpins that. This was recognised by Ofcom in WFTMR 2021, where it noted that "*When defining markets and imposing regulation we aim to strike a balance*

²⁰ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.43

²¹ Ofcom WFTMR 2021 Decision, Annex 1, paragraph A1.16

*between not under-regulating and leaving consumers exposed to abuse, and not over-regulating and stifling the competitive dynamics”.*²²

In striking this balance, it is important to consider if there is likely to be asymmetry in risk associated with over versus under-regulation in a particular market: where the relative risk of under-regulation is higher, it is likely prudent to take a more cautious regulatory approach. In determining this it is valuable to consider:

- The extent to which regulation would reduce the ability or incentives of the regulated operator to undertake behaviour that would improve market outcomes (such as offering wholesale price discounts);
- Whether the operator would continue to face regulation in that market in other areas and/or in other markets (in which case the incremental administrative burden of regulation could be small); and
- Whether there are other factors that would limit the ability or incentive for the regulated operator to engage in abusive behaviours if regulation was removed or significantly reduced. This could include the existence of commercial agreements (which could restrict the ability of the operator to change price or QoS of products after changes in regulation), and the risk of “re-strengthening” of regulation if they do engage in abusive behaviour.

This is likely to be a particularly important consideration when regulators are considering defining areas with established competition, removing SMP designations, and considering the full or close-to-full removal of regulation, given this will mean that there is little to no remaining regulatory “safety net” to prevent abusive behaviour. This appears to be in-line with Ofcom’s approach in WFTMR 2021, where it did not include prospective build when considering the identification of areas with established competition in the WLA market, given its intention to deregulate / significantly reduce regulation in those areas and the uncertainty around future network build.

4 Specific considerations in the WLA market

4.1 Altnet FTTP build has been significant but fragmented, and with varying experiences on speed of roll-out and take-up

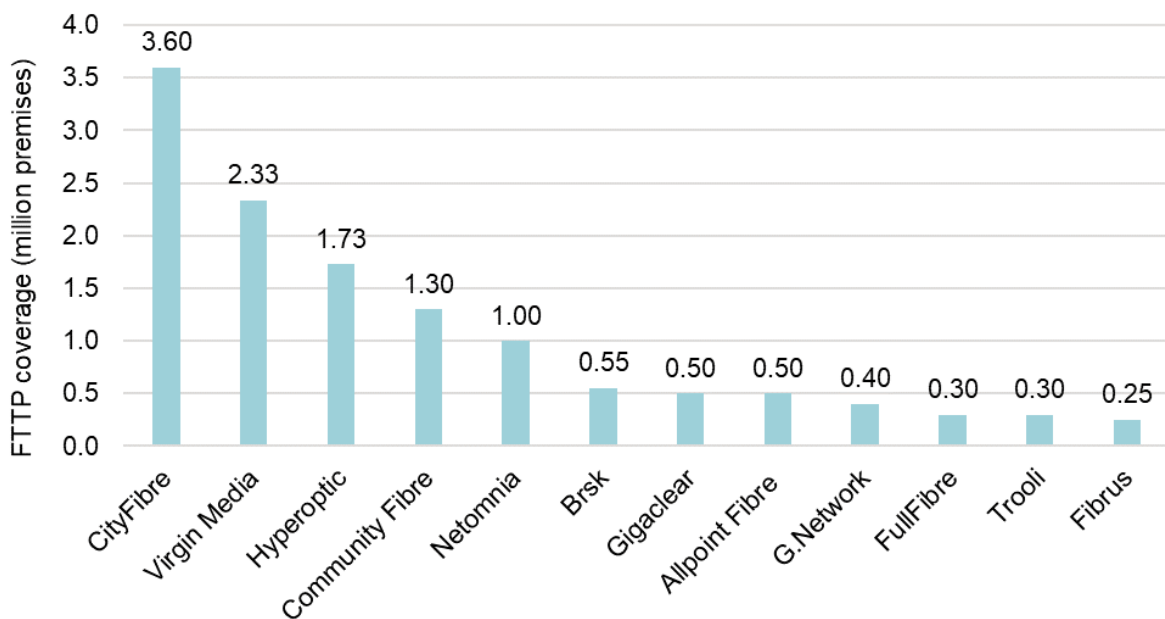
As expected by Ofcom, there has been significant roll-out of FTTP networks by competing networks to Openreach since WFTMR 2021.

²² Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.20

- Virgin Media has continued the upgrade of its DOCSIS network, covering approximately 16 million premises in the UK, to FTTP technology, and also covered an additional 830,000 premises with FTTP as of the end of 2023 via its Nexfibre joint venture.²³
- Beyond this, a report by the Independent Networks Co-operative Association (INCA), an organisation representing altnets, stated that coverage by alternative networks excluding Virgin Media and Nexfibre increased from 8.22m to 12.9m premises in 2023.²⁴

However, this build has been relatively fragmented, with evidence suggesting that a large share of altnet build has been by smaller-scale vertically integrated network operators (see chart below)²⁵, some of whom do not provide wholesale services. CityFibre, which was considered by Ofcom as a key constraint on Openreach because of its wholesale model and scale, covered 3.6m premises as of May 2024 (representing approximately 25% of the 12.9m total “non-Virgin/Nexfibre” altnet coverage).

Figure 1 UK FTTP coverage by competing networks – latest figures



Source: Public sources, including operator press releases and annual reports

Note: Coverage figures represent the latest available figures from the operators - the chart only includes operators where latest figures were available for 2023 or later. Virgin Media figures include Nexfibre. AllPoints Fibre figures include Giganet, Jurassic Fibre and Swish Fibre coverage.

²³ Virgin Media O2 UK Annual Report 2023, page 29. <https://news.virginmediao2.co.uk/wp-content/uploads/2024/05/VMED-O2-UK-Limited-FY23-Annual-Report.pdf>

²⁴ INCA, Metrics for the UK independent network sector, including results from Spring 2024 survey. www.inca.coop/sites/default/files/metrics-for-the-independent-network-sector-2024.pdf

²⁵ Whilst Nexfibre is providing wholesale services, it is currently only doing so to Virgin Media.

Roll-out by some altnets has been slower than their previously-announced plans, and service take-up has been lower on altnet networks than on Openreach's FTTP network:

- For example, Hyperopic announced in 2022 that it planned to cover 2m premises by the end of 2023²⁶, but had rolled out to approximately 1.7m premises as of July 2024²⁷. Similarly Netomnia announced in 2021 that it planned to reach 1m premises by 2023²⁸, but only reached this target in July 2024.²⁹
- In terms of take-up, data shows that average take-up across altnets was 16% as of March 2024, with take-up on CityFibre's network at 11%³⁰. This compares to take-up of 34% on Openreach's FTTP network at the same point in time.³¹
- The lower relative take-up of altnets could be partly explained by a larger share of altnet build being more recent than that of Openreach, meaning some "catch-up" may be expected as the networks mature. For example CityFibre highlighted that it has achieved 40% uptake as for the end of 2023 in its most mature network footprints.³²

In this context, there has been increasing consolidation among altnets in recent years, with mergers between a number of smaller-scale altnets since 2023. For example, Jurassic Fibre, Swish Fibre and Giganet merged under the AllPoints Fibre brand in September 2023, with mergers between Full Fibre and Digital Infrastructure, and Freedom Fibre and VX FIBER, also completed since then.

4.2 Reflecting these developments in the market analysis for WLA markets will be important

In 2021 altnet roll out was still largely nascent, leading to a large degree of uncertainty in the approach to geographic market definition and determination of SMP. However, given Openreach was found to have SMP throughout the UK and the limited divergence in the approach to remedies in Area 2 and 3, this had limited practical effect.

However in light of the significant developments outlined above and the relevant framework outlined in Section 3, we consider it important for Ofcom to review its approach. In particular:

²⁶ <https://www.ispreview.co.uk/index.php/2023/02/hyeroptics-full-fibre-broadband-covers-1-15-million-uk-homes.html>

²⁷ <https://www.hyperoptic.com/press/posts/hyperoptic-gets-backing-from-uk-infrastructure-bank-to-support-full-fibre-roll-out/>

²⁸ [Netomnia and YouFibre Secure Funding for Broadband | Netomnia](#)

²⁹ <https://www.netomnia.com/news/netomnia-passes-one-million-premises/>

³⁰ 400,000 customers on the network, versus 3.6m "premises passed" <https://cityfibre.com/news/cityfibre-exceeds-400-000-customer-connections-and-achieves-profitability>

³¹ www.bt.com/bt-plc/assets/documents/investors/financial-reporting-and-news/quarterly-results/fy24/h2/h2-fy24-release.pdf

³² <https://cityfibre.com/news/uks-largest-independent-fibre-network-reaches-100m-revenue-milestone>

- If the approach to defining markets and measuring competition is based on the number of operators in a given area, consider whether to differentiate between different types of operator, both in terms of whether they are counted, and the degree to which they are likely to be an effective competitive constraint on Openreach. This could involve:
 - Differentiating based on the operators overall network footprint, for example placing less weight on operators with smaller coverage, and those that “cherry-pick” premises and/or target only a subset of customers within an area.
 - Differentiating between wholesale only operators, such as CityFibre, vertically integrated operators which also supply wholesale services, and retail only vertically integrated operators, for example placing less weight on retail only operators who will only apply an indirect constraint on Openreach’s WLA pricing.
 - Differentiating based on the current and expected take-up of competing networks over the TAR period. Where the current and expected take-up / shares are low, it will be important to consider if Openreach faces an effective competitive constraint even if a number of competing networks are present. This would be consistent with Ofcom’s approach when considering the definition of a WLA Area 1 in WFTMR 2021.
- Consider the weight to assign to prospective build plans of altnets in different areas, and the level of certainty on the level and speed of build in light of developments over the WFTMR period. Where there is uncertainty, it would be prudent to place less weight on prospective build when considering the strength of competitive constraints on Openreach.

In considering the factors above, Ofcom should consider the potential for further consolidation among altnets, and the impact of that this would have on the competitive constraints that altnets will provide over the review period. Further consolidation has the potential to increase the strength of competition on Openreach, by increasingly the scale of altnets and in turn increasing their attractiveness to retailers, but both the level of consolidation and the extent to which this changes competitive constraints is uncertain. Even after consolidation, the scale of altnets may still not be sufficient for large retailers to consider using them for WLA services. The constraint may also take time to materialise, e.g. if retailers prefer to take time to evaluate the network and financial performance of the merged businesses before choosing to use them.

Ofcom should also consider the potential for other “lighter forms” of consolidation, such as partnerships between altnets or the use of network aggregators, both of which could give retailers access to the footprint of multiple altnets within one wholesale agreement. Whilst this is a possibility in theory, this has not yet been seen in practice, and there are a range of risks that would need to be overcome for this to take place on a meaningful scale (such as the ability to deal with differences in network design, systems and processes across altnets).

Given the inherent uncertainty on the evolution of competitive conditions that the above highlights, it will likely be appropriate for Ofcom to take a cautious approach, particularly when

it considers the definition of areas with established competition, removing the SMP designation on Openreach, and considering the full or close-to-full removal of regulation in certain areas.

Implications for the practical definition of geographic markets

One practical result of applying different weights to different operators when performing the geographic analysis, and differentiating between current and future roll-out, would be a greater number of “combinations” of operators across different geographic units. In order to avoid this resulting in the definition of a disproportionately large number of geographic markets, this may require “grouping together” different combinations of operators which are considered to result in a similar level of competitive constraint, with those groups then used as the basis for defining the geographic markets (such as the three markets considered by Ofcom in WFTMR 2021).

4.3 The appropriate geographic units and thresholds for counting operators need to be carefully considered

Ofcom’s approach to WLA geographic market definition in WFTMR 2021 was to use postcode sectors as the relevant geographic unit, and a coverage threshold of 50% set for considering a competing network present in a sector.

As noted above, competing FTTP roll-out has been conducted by a “long tail” of smaller-scale operators, and there may be operational difficulties in rolling out to some premises in a given area. This may mean that even in areas where altnet roll-out is most concentrated, there are likely to be pockets of premises where OR faces either no competition, or only competition from operators which may impose a relatively weaker competitive constraint.

It is therefore particularly important that Ofcom’s analysis of competition is conducted at a sufficiently granular level, to limit the risk that competitive conditions differ significantly within a geographic market, and the associated risks that flow from that (as outlined in Section 3). For example:

- In WFTMR 2021 Ofcom stated that a postcode sector contains approximately 3,000 premises on average.³³
- The 50% coverage threshold means that in areas where Openreach is deemed to face competition, it could be the only provider of WLA services to up to 1,500 premises, and even more in larger sectors. This number of premises could represent entire streets or large sections of towns.

The analysis could be made more precise by either (i) reducing the size of the geographic unit used (i.e. using a smaller area size than postcode sector); and/or setting the coverage

³³ Ofcom WFTMR 2021 Decision, Volume 2, paragraph 7.75

threshold significantly higher than 50%, on the assumption that de-regulation of uncompetitive areas raises more risks than over-regulation of competitive areas.

The raising of the coverage threshold could be more proportionate, given the potential complexities that using a smaller geographic unit could entail. For example, using a smaller geographic unit such as postcodes may not be practical, given postcodes are often added and removed over time, which limits the ability to apply a consistent approach over time.

5 Specific considerations in the LLA market

5.1 The approach to geographic market definition

The fact that Ofcom defined separate product markets for WLA and LLA services in WFTMR 2021 indicates that Ofcom considered the presence of an operator providing WLA services is not sufficient to constrain a monopoly operator providing LLA services, i.e. the combination of demand side and supply side substitution is insufficient. There appears to be little evidence that this has changed since the WFTMR. It's possible that some business users consider FTTP WLA services to be a substitute for lower-capacity LLA services, however this is unlikely to be the case for all LLA services, as some customers will value the specific product characteristics that LLA services provides (i.e. higher resilience, higher capacity, and fully symmetric services).

As noted in Section 2, Ofcom's decision to set the boundary of LLA Area 2 and 3 the same as the equivalent boundary in the WLA market was based on the assumption that Virgin Media and relevant FTTP altnets (e.g. CityFibre) would be "multi-service providers" i.e. that the networks owned and being built by these operators would provide both broadband and leased line services. This meant that these operators were expected to provide an equivalent competitive constraint in the LLA market as they do in the WLA market.

However in the same way that the WLA geographic market definition needs to be reassessed in the light of actual market conditions, the LLA geographic market definition also needs to be reassessed in the same way, taking account of the specific conditions relevant for LLA services.

In particular, Ofcom should consider that:

- There are additional systems and processes needed to deliver high-quality LLA services, which means smaller-scale FTTP operators may not have sufficient scale to make the necessary investments;
- Retailers of dedicated connectivity may prefer to deal with a small number of wholesale operators with wide geographic scope, or prefer to use operators that focus solely on providing LLA services and have provided these services for a sufficient period of time;
- Even where altnets roll out to an area, they may not build to (or sufficiently close to) potential leased line sites such as business parks, central business districts or mobile

base stations. altnets' network design may also mean their networks do not have the capability to provide high-quality LLA services, such as having sufficient fibre strands across the network to be able to provide a dedicated service with sufficient resilience.

This suggests that the approach to WLA and LLA geographic market definition may diverge:

- Some operators who are present in the WLA market, and may constrain Openreach in the provision of WLA services, may not be present in the LLA market or may not be seen as a viable supplier of LLA services, and so will not effectively constrain Openreach in the LLA market. This appears to be the case in practice, as we understand that a number of FTTP altnets do not currently provide LLA services, including Hyperoptic and Netomnia.
- The appropriate definition of coverage for WLA services (i.e. where networks pass residential and SME premises), is unlikely to adequately capture the degree of build close to potential LLA user locations, which is what's relevant when measuring competition for LLA services.

5.2 Ofcom should conduct a separate geographic market analysis to define all LLA markets, ensuring that this captures the specifics of competition for LLA services

Given the above, it would be appropriate for Ofcom to conduct a separate market analysis to define all LLA geographic markets, as opposed to relying on the geographic boundaries for WLA markets as Ofcom did when defining the LLA Area 2 / 3 boundary in WFTMR 2021.

This analysis should again take into account the specific characteristics of the LLA market, and focus on operators that already provide leased line services, in-line with its approach in the WLA market. Ofcom should also again consider differentiating between different types of LL operators, in terms of whether they are counted and the degree to which they are likely to be an effective competitive constraint on Openreach. Based on the factors mentioned above and in Section 3, this could include:

- Differentiating between wholesale only operators, vertically integrated operators which also supply wholesale services, and retail only vertically integrated operators;
- Differentiating based on the level of existing infrastructure that operators have to end user locations, including placing less weight on operators that have existing infrastructure to a smaller share of locations; and
- Differentiating between operators that are more or less likely to be attractive to retailers. This could be done by placing less weight on operators that are not used by a wide range of retailers, or based on the operator characteristics that drive retailers preferences (such as placing less weight on smaller-scale and/or newly-established operators)/

In practice, this could be done by considering a similar "bottom-up" approach used in the 2019 BCMR and by Ofcom to define the HNR and CLA LLA markets in WFTMR 2021, and using this approach to define all LLA geographic market boundaries.