



# Consultation paper – network footprint and demand UCLL and UBA pricing review determinations

Submission | Commerce Commission

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## Introduction

1. Thank you for the opportunity to comment on the Commission's network footprint and demand consultation (**consultation**).
2. The Commission modelled network footprint is based on the CoreLogic database of New Zealand address points rather than the location of buildings or recorded network connections. The Commission acknowledged in the updated draft that a potential difficulty with the approach is that it will include address points for which there can be no demand (i.e. vacant lots).
3. The Commission has now undertaken further investigation in to the CoreLogic database and concluded that there are 102,890 vacant address points. The Commission proposes to remove these address points from the UCLL network model as there can be no network footprint at that site. We support the Commission's proposed correction - removing vacant lots from the database means the database better reflects the network footprint.
4. However, the Commission then observes that correcting the network footprint – removing vacant sites - reduces the gap between the network footprint and demand from 8.6% to 3.6%. The Commission is referring to the gap between the network footprint (dwellings that could be connected) and access lines demanded by end users.
5. This is not a measure of unoccupied dwellings or premises without a fixed network connection. Network demand reflects demand for access lines and, in some cases, multiple lines are provided to a single address point. Therefore, the observed gap between network footprint and demand will be less than (understates) the gap between network footprint and premises without a fixed network connection (there has been no analysis of what this latter gap might be).
6. Nonetheless, the Commission is concerned that the observed gap between the premises footprint and line demand is below TERA's observations of demand to address points ratios observed in other models (typically 80%-90% of address points) and Statistics New Zealand data on unoccupied dwellings (estimated to be 7.5% of all dwellings).
7. In their attached expert report, WIK refers to evidence that small percentage gaps in the level of unoccupied dwellings are not uncommon in other jurisdictions. They advise that observed rates of unoccupied dwellings in comparable European jurisdictions have been as low as 1.5%, 1.7% and 2.6%. Similarly, they note that there are examples which exceed 7.5%
8. TERA's observations of demand to address point ratios should be understood as representing a mid-point of a wider range based on specific national factors. Accordingly we think that 3.6% represents a plausible estimate. Any adjustment to a reliable estimate based on detailed data should be based on sound reasoning and reliable relevant additional data.
9. The use of statistics, gathered for purposes other than telecommunications network demand modelling, and which are based on different sources, gathered from different database sets, and using different data definitions, data gathering methodologies and date ranges will lead to different results. In the absence of complete, reliable and relevant evidence to the contrary, Spark thinks no adjustment can reasonably be made based on the extrapolation of this aspect of Statistics New Zealand data to fix the ratio of network footprint to demand...

10. The Commission proposes to reduce modelled access line demand so that demand is equal to 7.5% less than total address points (i.e. equal to network footprint address points less unoccupied dwellings). After the proposed adjustment, the model will recognise 73,271 less access lines than actually demanded by customers and connected to the network today.
11. We don't support the Commission's proposed adjustment. The analysis mixes different sets of base data - i.e. it draws unsupported inferences relating to access line demand from Statistics NZ unoccupied residential dwelling data – and there is no reliable basis on which the Commission could make an adjustment.

## Comment

12. WIK Consult and Network Strategies have reviewed the consultation paper and neither support the Commission's proposed approach (attached).
13. WIK note that, conceptually, the Commission should not be concerned about a small gap between network coverage and demand. The appropriate network footprint should be equal to actual demand.
14. Further, WIK observe that there is no information to suggest that the gap generated by Statistics NZ is more appropriate than the one generated by CoreLogic data. Network Strategies set out a number of limitations of the Statistics NZ data in its report - for example:
  - a. Bias due to the classification of holiday homes as "empty" (which are likely never to have been connected to the network and tend to sit outside the footprint);
  - b. That a number of homes classed as "empty" would have a fixed line billed to a customer;
  - c. The proposed adjustment would likely over-state vacant business premises;

Network Strategies conclude that the Statistics NZ data is inappropriate for use in this particular situation. The proposed adjustment would over-estimate the proportion of empty dwellings and buildings (without revenue-earning fixed lines) within the Commission's network footprint, and would increase the error associated with the resultant estimated prices.

15. The Statistics NZ data is gathered in the context of the national census process. The standard classifications for that data, are set out in the document "*Statistical Standard for Occupied Dwelling Type*"<sup>1</sup>. This information is used both to monitor trends and developments in housing and institutional dwellings, and to plan for the future housing and service needs of the community, As WIK observe, the classifications of responses mean that the data are not fit for purpose when designing telecommunication access networks.
16. A careful examination of the standard shows this to be true. Spark does not think that the Statistics NZ data at the level currently being considered by the Commission is sufficiently, relevant, and complete to support an adjustment to the CoreLogic data. The key issue is that definitional issues, classification differences, and scope for measurement error mean that the Statistics NZ information simply cannot reasonably be used without detailed analysis and adjustment to ensure that an adjustment can be properly justified.
17. First, as Network Strategies set out in their expert report, and provide illustrative examples to demonstrate, the Statistics NZ data attempts to capture all private and non-private dwellings in New Zealand, while the network footprint for use in the FPP modelling process is a subset of that.

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<sup>1</sup> *Statistical Standard for Occupied Dwelling Type*, Statistics NZ 2009

Even if the empty dwelling proportion was an accurate representation of fixed access address points which should be excluded from long run demand, it is not appropriate to assume that the average level across New Zealand, is the same as the average level in the modelled area.

18. Second, the Statistics NZ standard definitions of private and non-private dwelling, and the coding process applied to these do not accord with the way in which either residential or business premises fixed access connection status would ordinarily be determined.
19. The issue of multiple dwellings at a single address point, is amplified by the way in which dwellings are defined, measurement error in the level of detail required, and judgments of survey field staff, and the manner in which dilapidated dwellings, second homes, holiday homes or baches are treated, and the classification between “residents away” and “empty” are drawn. The detail of these matters are set out in the Standard, but we point to a few examples, where we consider the data compiled for census purposes not to be appropriate for use in estimating the size of the long run gap between network coverage and demand.
  - a. This base is divided into private and non-private dwellings. Almost 20% of the defined classes of private dwellings would not represent fixed access address points, or dwellings likely to be served by fixed line access.
  - b. The standard also sets out details of the prescribed coding process, which further imply that the count of private dwellings may well not reflect address points for dwellings likely to be served separately by fixed line access.
  - c. An unoccupied dwelling is classified as 'empty' if it clearly has no current occupants and new occupants are not expected to move in on or before census night. Unoccupied dwellings that are being repaired or renovated are defined as empty dwellings. We think these should not be excluded from the class of address points for dwellings likely to be served by fixed line access in relation to an FPP model based on TSLRIC principles and when considering the network build requirements for long run demand.
  - d. Unoccupied baches or holiday homes are also defined as empty dwellings. Dilapidated dwellings, (those in a state of disrepair or ruin), are counted as empty dwellings unless occupied. While it will clearly be the case that some proportion of these, within the modelled area could be considered as address points which may be served, it is just as clear that some proportion of these will not be, and that telecommunications services would be consumed there using alternative technologies.
20. The Commission has adopted the Statistics NZ summary from its commentary, namely that 1 in 10 of the locations identified as dwellings were unoccupied, and about three quarters of these locations were classified as empty (i.e. had no occupants at all). From the discussion above, it will be clear that, Spark considers that the basis for the count of unoccupied dwellings, and for the count of empty dwellings are inconsistent with the considerations which should factor into the estimation of network footprint, or the estimation of demand.
21. Spark does not think that the evidence available means that the Commission cannot reasonably assume that the 7.5% ratio represents a sufficiently sound estimate of the “gap” between network footprint and demand to make an adjustment at this level. Network Strategies have estimated that the proposed adjustment would increase the UCLL price by approximately 4% and the UBA price by approximately 3%. For the UCLL price this equates to an increase of approximately \$1.11 per month per customer, implying an additional cost to consumers of more than \$20 million dollars per annum during the regulatory period. We believe an adjustment of this magnitude requires more complete, more reliable and more relevant evidence to support a sounder chain of reasoning. We are not aware that better evidence is available.

22. Accordingly, we urge the Commission to continue to rely on the counts of dwellings and access line demand. Accordingly there is no need to adjust the “gap” – it should be treated as 3.6% as derived from the adjustments to the CoreLogic dataset. We think this is the best available evidence to the Commission. In their expert report, WIK note that, even if you put weight on measures of unoccupied dwellings, small gaps of a few percentage points are not uncommon in other jurisdictions. For example, UK reports unoccupied dwellings of around 2.6%, and Sweden as low as 1.7%, as the proportion of total dwellings. This is not evidence of the “correct” gap, but that rather confirmation that the New Zealand observed gap sits within a plausible range, and should not cause the Commission concern.
23. Further, WIK note that even if the Commission determines that it must make an adjustment (which WIK does not support), then it is more appropriate to do this via an adjustment to network footprint. Modelled access line demand is derived from “hard” data and it would be incorrect to adjust this data. While a footprint adjustment is as arbitrary as the Commission’s proposed approach, this would address the concern at the point to which it occurs and minimises model distortions. It is not uncommon in cost modelling that the exact location of buildings is not known (i.e. address information can be newer than building data, and the usual technique is to distribute demand on to address points in a random manner.
24. We don’t support the Commission’s proposed adjustment. As discussed above, and, in detail by Network Strategies, the Statistics NZ data has a range of definitional and measurement problems that make it unreliable for the purposes of adjusting network demand data for the area modelled by the FPP.
25. More fundamentally, the Commission is mixing different sets of data that, by definition, will result in understating network demand. This is because the estimate of access line demand reflects the actual number of lines connected to the network and there can be multiple lines in to dwellings<sup>2</sup>. Therefore, access line demand will exceed the number of connected premises or dwellings connected to the network. Unless the Commission has access to comprehensive second line data from Chorus, then it cannot reasonably relate the estimate of access line demand to the Statistics NZ data. Spark alone sells a substantial number of multiple lines into premises for residential and business customers.
26. The Statistics NZ data, however includes in the count of private dwellings, a range of mobile, improvised, temporary and other dwellings, which are in many cases unlikely to represent demand for fixed telecommunications access, does not count business premise occupancy or vacancy, and finally estimates a count for empty dwellings, (which are unlikely to include unoccupied mobile, improvised or other temporary dwellings but which certainly include second homes, baches and holiday homes. Further, unless the Commission has access to sufficient and detailed information which at minimum enables a reliable adjustment of the Statistics NZ count of dwellings, the apportionment between private and non-private dwellings, the proportion of occupied dwellings which do not contribute to demand, the proportion of empty dwellings which do contribute to demand across the regulatory period, ( such as second and holiday homes, homes under repair or renovation etc.), and multiple dwellings at address points, it cannot reasonably adjust and relate the Statistics NZ data to the CoreLogic data.
27. Accordingly, we can’t draw any conclusions relating to access line demand on the basis of unoccupied dwelling data, i.e. to do so would require reconciling unoccupied dwelling data with the proportion of dwellings with a live connection to the network and multiple lines data. We already have a count of actual access line demand and this is the most reliable data. WIK note that the observed margin between all dwellings and occupied dwellings is not inconsistent with

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<sup>2</sup> The Commission notes this at around paragraph 960 of the updated UCLL draft.

the range observed overseas, and that it is not a cause for concern such that an adjustment is necessary. We agree.

## Questions

**1 Do you agree that a 3.6% gap between the UCLL footprint and demand is too small, and an adjustment should be made?**

28. No. There is no evidence to suggest that the gap has any significance.
29. In itself, the gap is not inconsistent with differentials seen between total dwellings and occupied dwellings in overseas markets. Further, the Commission is measuring dwellings against line access demand and therefore is meaningless in itself. As we do not have reliable data relating to the number of second and multiple lines in to a single premises, we do not know whether the number of live connected buildings is what we would expect to see on an efficient network.
30. As WIK notes, there is a fundamental problem with the way that the Commission treats network footprint. If the Commission were to treat the network footprint as actual demand (as is commonly done for regulatory models), then the gap cannot be a concern.

**2 We have Census data that suggests that the gap between the UCLL footprint and demand is closer to 7.5%. Do you support this statistic? Do you have any other data sources that support a different gap?**

31. The census data is measuring different things and does not suggest that the gap between footprint (based on dwelling addresses) and demand (based on actual access line demand) is closer to 7.5%. As Network Strategies notes there are significant differences in the Statistics NZ data that means it is inappropriate for making inferences relating to access lines demand.
32. Further, the Statistics NZ measure does not recognise that multiple lines are supplied to single sites. Therefore, we can make no inferences relating to whether 7.5% is more or less than we would expect to see as a proportion of access line to occupied premises measure.

**3 Do you agree with our proposed adjustment to demand? Do you have any alternative methods for implementing a gap between footprint and demand?**

33. We do not support the proposed adjustment.
34. The Commission should apply the network footprint estimate (i.e. all CoreLogic addresses less vacant addresses), and reported access line demand data. These are reported data points and do not need adjustment by unreliable derived estimates.

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END

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## **Attachment A: WIK-Consult report**

Provided as a separate document.



## Attachment B: Network Strategies report

Provided as a separate document.