



Response to Telecommunications Amendment Bill

A REPORT PREPARED FOR TWO DEGREES MOBILE LIMITED

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Executive summary

Frontier Economics (Frontier) has been asked by Two Degrees Mobile Limited (2degrees) to consider whether the Telecommunications (TSO, Broadband, and Other Matters) Amendment Bill (the Bill) and the associated Supplementary Order Paper (SOP) could have any unintended consequences, and what implications they might have for competition in telecommunications markets in New Zealand.

Our analysis suggests that the winning bidder(s) of the Rural Broadband Initiative (RBI) process will likely enjoy two significant benefits that will enhance its ability to compete in retail markets in New Zealand. These are:

- The indirect (both tangible and intangible) benefits that come from being a network provider with increased national coverage
- The benefits that come from being the natural monopoly provider of network services in rural parts of the country.

These competitive benefits will be likely to extend beyond the rural areas where network infrastructure is deployed. These competitive benefits will also be enhanced by funding arrangements for Crown subsidies that include the requirement for the winning bidder(s) competitors to contribute toward the payment of subsidies via a Telecommunications Development Levy.

In these circumstances, it is only reasonable that other telecommunications operators should be able to share in some of the indirect benefits of increased network coverage that they are helping to contribute to. Strict access arrangements are also necessary to ensure winning bidder(s) do not take advantage of their natural monopoly control over subsidised infrastructure to distort competition in their favour in downstream retail markets.

There are a number of options available to help achieve this. These include mandating certain forms of access (such as national roaming for areas covered by subsidised cell tower deployment) be provided to competitors in exchange for government subsidies. This form of arrangement has previously been adopted in Australia, where Vodafone and Telstra were required to provide national roaming on mobile network infrastructure they built on Australian highways in exchange for government funding.

To the extent the New Zealand government intends to rely instead only on open access requirements in the form of non-discrimination and equivalence obligations, careful attention must be paid to the precise terms and conditions of these arrangements. The history of access regimes in New Zealand, Australia and many other parts of the world demonstrates that arrangements imposed on vertically-integrated network operators who also compete in downstream retail markets are fraught with difficulties. They tend to be highly contentious, and lead to long drawn-out processes that are the subject of intense regulatory gaming by

both access providers and seekers. It is also less than clear that they are adequate at controlling the market power enjoyed by providers of services over natural monopoly infrastructure. To have any chance of being effective, these regimes must be carefully designed; and impose tight and easily enforceable obligations on access providers.

Our review of the Bill and the on-going RBI process leads us to conclude that:

- The open access obligations imposed on access providers are limited and are not likely to be sufficient to promote competition in downstream markets. For instance, the undertaking regime set out in the Bill only requires an access provider to provide for non-discrimination, while leaving equivalence obligations optional.
- Both the Bill and RBI process are lacking in transparency and raise significant risks that the interests of consumers and competition will not be protected.

At a minimum, we conclude that the Bill should be amended so that any undertakings presented to the Minister should be subject to a public consultation process before a final determination is made. Further, we believe that the terms and conditions of any negotiated agreement between preferred bidders and the Ministry of Economic Development (MED) under the RBI process should be publically disclosed for comment prior to the MED finalising contracts with potential winners.

Background and introduction

Frontier Economics (Frontier) has been asked by Two Degrees Mobile Limited (2degrees) to consider whether the Telecommunications (TSO, Broadband, and Other Matters) Amendment Bill (the Bill) and the associated Supplementary Order Paper (SOP) could have any unintended consequences, and what implications they might have for competition in telecommunications markets in New Zealand.

The Bill and the associated SOP set out a number of changes to legislation and the telecommunications regulatory environment in New Zealand to:

- Enable implementation of the New Zealand government's Ultra-fast Broadband (UFB) initiative and the Rural Broadband Initiative (RBI)
- Implement reform of the Telecommunications Service Obligation (TSO) framework in New Zealand
- Address an altered telecommunications regulatory environment following the structural separation of Telecom
- Facilitate the deployment of telecommunications infrastructure, especially related to mobile operations and multi-unit complexes.

Further, the SOP provides for statutory authorisations under the *Commerce Act 1986* for both UFB and RBI implementation.

Together, these represent fundamental changes to the telecommunications policy and regulatory environment in New Zealand that will have long-lasting implications in the industry for many years to come.

In the time available to us, we have not been able to fully comment on all the economic and competition implications that will arise from the Bill and the SOP. Instead, this note focuses mostly on those clauses relating to the undertaking provisions set out in Part 2 of the Bill. Our comments are also mainly related to the process currently underway to award contracts to winning bidders under the RBI. Our comments do, however, also have relevance for contracts and undertaking arrangements entered into in relation to the UFB initiative.

Universal coverage delivers indirect benefits that should be recognised in any subsidy arrangements

The RBI will provide subsidies that will assist Chorus and Vodafone to build networks that will increase the extent of their national fixed and mobile network coverage. In turn, a network with broader national coverage provides a number of indirect benefits (both tangible and intangible) for a network operator which can strengthen its position in downstream retail markets. The importance of

coverage as a differentiator and measure of quality of service for mobile operators is clear from their advertising and marketing.¹ Claims about the extent of mobile coverage made by mobile operators have also been the subject of concern by the Commerce Commission (Commission) in the past.²

We understand that a number of indirect benefits are currently considered by the Commission in calculating the net cost of the TSO and that these types of benefits are proposed to be enshrined in legislation under section 94C of the proposed Bill. These indirect benefits, that seem to be traced originally to work by Ofcom and its predecessor Oftel in determining the net cost of the Universal Service Obligation in the United Kingdom, include the following:

- Life cycle effects – the potential that the uneconomic customer gained will become profitable in the future
- Ubiquity – additional profits from retaining or gaining customers in already profitable areas due to increased network coverage
- Brand enhancement and corporate reputation – additional profits from retaining or gaining customers because of the positive sentiment generated.³

Some other indirect benefits that we consider to be relevant in the case of the RBI include:

- Scale effects – reduced unit costs and profitability of providing services overall by the ability to spread costs over a larger customer base
- Network effects – additional profitability accruing from the benefits derived by existing customers of having new customers connected to the network.

Where a network operator is prepared to invest in network upgrades that increase its national coverage, it should normally be entitled to keep the indirect benefits that come from this investment. However, a qualification to this is that this should not be to the extent such investments are detrimental to competition and the interests of consumers, which provides a rationale for access regimes for monopoly or bottleneck infrastructure.

When a particular network operator is *subsidised*, however, to expand its network in particular areas, the level of indirect benefits should be either:

¹ See, for instance, carrier website information such as: <http://www.vodafone.co.nz/coverage/>; <http://www.vodafone.co.nz/mobile-broadband/coverage.jsp>; <http://www.telecom.co.nz/mobile/ournetwork/coverage>

² See, for instance, <http://www.comcom.govt.nz/media-releases/detail/2009/fairtradingactchargeslaidagainstvo>

³ Ofcom, 2005, *Review of the Universal Service Obligation*, Consultation document, pp. 51-52 http://stakeholders.ofcom.org.uk/binaries/consultations/uso/summary/main_web.pdf and Ofcom, 2006, *Review of the Universal Service Obligation – Statement*, <http://stakeholders.ofcom.org.uk/binaries/consultations/uso/statement/statement.pdf>

- Fully taken into account when determining the appropriate size of any subsidy (ie the net cost) if there is exclusive provision
- Shared to the extent that requirements to provide access to other operators result in these other operators gaining some of the indirect benefits.

Open access will help to ensure that indirect benefits can be shared by the other industry participants. The rationale for this is further underpinned by the arrangements that see all operators contribute to the RBI subsidy under the Bill via the Telecommunications Development Levy.

There seem to be at least two crucial issues for ensuring that the indirect benefits are shared among all potential operators. The first is not fully allocating them to the winning tender in calculating the subsidy amount if open access requirements mean these indirect benefits will be shared with other operators. Failure to recognise this will reduce the access provider's incentive to share its indirect benefits with others, as it will be reliant on retaining all the net benefits in its business case for providing the RBI. The second is designing access arrangements in a way that encourages effective entry in RBI areas so that the indirect benefits can be shared by all potential operators. Issues that go to the second of these requirements are addressed in the subsequent sections of this paper.

Vodafone and Chorus will be natural monopoly providers of fixed and wireless network services

It is highly likely that Chorus and Vodafone will be natural monopoly providers of network services in the rural areas covered by the RBI bid – at least in the short-to-medium term. This is because if it were presently economic for firms to invest in these areas, they would likely be doing so already without the need for government subsidies. It also needs to be borne in mind that these two firms are already the overwhelmingly largest providers of fixed and mobile network services in New Zealand, and their joint extension of services to uneconomical rural areas through government subsidy will help to enhance these positions.

Control over natural monopoly infrastructure brings with it the ability to distort competitive market outcomes in downstream markets. This can be achieved both via leveraging of the indirect benefits from greater national coverage referred to in the previous section into other areas of the country; and via the terms charged to competitors for access to wholesale services provided over the natural monopoly infrastructure. While both of these issues can be addressed via access arrangements, these can be very difficult to get right so that access seekers are not disadvantaged relative to the network provider.

Leaving aside deliberate efforts by incumbents to thwart access (which they have a clear incentive to do), common problems faced by access seekers in even relatively well designed access regimes include:

- information disadvantages relative to the incumbent in relation to network operations and customers
- additional processes that are reliant on the cooperation of the incumbent that can lead to delays in service
- wholesale prices for serving additional customers based on the average costs of the incumbent while the incumbent faces marginal costs.

It is on the basis of these types of difficulties that access arrangements will most successfully work if they are accompanied by operational or structural separation of the network activities of the access provider from the retail arm, and/or the imposition of a suitable access regime that includes non-discrimination and equivalence provisions, particularly concerning the network operator's retail arm. We note that under the proposed Bill, operational or structural separation is not an explicit requirement of the RBI provider; non-discrimination is (providing an undertaking is provided); and equivalence is optional. We consider issues with the latter two elements, among other concerns with the access arrangements as proposed for the RBI, in later sections of this paper.

Poorly designed access arrangements will damage competition

The previous two sections of our paper demonstrate there are two significant advantages that come from being a winning bidder in the UFB or RBI processes – the indirect benefits that come from expanded network coverage, and the ability to have control over natural monopoly infrastructure. If there is no form of regulation or control over the supply of services provided using this infrastructure, the UFB and RBI processes has the potential to negatively influence competition in downstream retail markets. This can be achieved via a number of means, including:

- denying competitors in downstream retail markets access to the types of wholesale services that would be most economically efficient to promote competition in downstream markets. In the case of mobile telecommunications services, this might include denying access to wholesale services such as co-location, national roaming, or shared radio access
- setting price and/or non-price terms and conditions of access to wholesale services in ways that inhibit the ability of competitors to effectively compete in downstream markets.

If it is accepted that the promotion of competition is an important aim of good telecommunications policy – and the purpose contained in section 156AC of the Bill suggests this is the case – then there are a number of policy options available to ensure the UFB and RBI processes will be able to increase the quality of services for consumers while still promoting competition in telecommunications markets. These include:

- Mandating an up-front requirement that certain types of wholesale access services (such as national roaming or shared radio access in) will be provided on the infrastructure deployed by a winner of government subsidies. This type of arrangement has previously applied in other jurisdictions where government subsidies have been granted to assist in the deployment of mobile network infrastructure in remote parts of the country. For instance, in Australia, Vodafone won a government contract (for A\$25 million) to supply extended GSM services on major Australian highways. Similarly, Telstra was awarded a government contract to supply extended CDMA services on major Australian highways. As part of these contracts, Vodafone and Telstra were required to provide roaming services to other Australian mobile network operators.⁴ While there is some indication that the preferred bid in the RBI process that has been put forward by Chorus and Vodafone will contain some obligations to provide a mobile co-location service, it is not clear on what terms this service will be provided (or, indeed, whether this, or another service such as national roaming, is the right service that should be provided to best promote competition in downstream markets). This is discussed in more detail below. There is no indication at this point that the winning bidder(s) will be required to provide a national roaming service on the cell towers that may be built under the RBI process.
- Separation – either structural or operational – between the wholesale and retail arms of the winning bidder(s) of the UFB or RBI processes. This type of arrangement has been preferred by the Australian government in its national broadband network (NBN) policy decisions in Australia. In discussing the details of this form of arrangement, the Department of Broadband, Communications and the Digital Economy noted that:

The National Broadband Network company will be required to offer services on a wholesale-only basis. Legislation will prevent it from providing retail services. Operating as a wholesale-only provider, the National Broadband Network company

⁴ See, *National Launch of the Vodafone Mobile Phones on Highways Project*, speech by Senator Richard Alston, Minister for Communications, Information Technology and the Arts, 28 February 2003 at http://www.dbcde.gov.au/Article/0,,0_4-2_4008-4_113642,00.html and http://www.archive.dcita.gov.au/2004/06/mobile_phones_on_regional_highways

will have no incentive to engage in anti-competitive behaviour, such as unfairly discriminating between retail providers. This will promote equivalence.⁵

While we understand Telecom has offered to structurally separate if it wins contracts under the UFB process, there does not appear to be any indication that Vodafone would be required to structurally (or even operationally) separate itself into retail and wholesale arms if it is the winner of any contracts under the RBI process.

- The inclusion of strict open access requirements for any winner of contracts under the UFB or RBI processes. These might include rigorous non-discrimination and equivalence requirements. While MED's initial request for proposals in relation to the RBI did set out a number of open access requirements, it is not clear to what extent these have been adopted in the preferred bid put forward by Chorus and Vodafone, or the extent to which they will be included in any final negotiated agreement. Further, and as discussed in greater detail below, the Bill seems only to require that a particular form of non-discrimination requirement is included in any undertakings made in relation to services provided over networks developed with the assistance of Crown funding. There is no requirement that equivalence provisions are contained in any undertakings.

Of these three options for promoting competition in telecommunications markets, we believe that structural separation is most likely to create incentives that will prevent an access provider from distorting competition in downstream markets. Whether it is the most economically efficient way of providing services to consumers in downstream markets is less clear, however, and would depend on the costs involved in implementing structural separation.

In the event this approach is not adopted, we believe careful consideration must be given to whether it would be appropriate to mandate certain forms of access on the infrastructure funded by government subsidies. In this regard, it should be noted that the argument for access to services such as national roaming is stronger in those areas covered by subsidised cell tower deployment. This is because cell towers deployed in these areas are likely to represent natural monopoly infrastructure, and there is unlikely to be competition from any other network operator to provide national roaming services in these areas.

While it is possible that simply relying on open access requirements can limit the ability of a vertically integrated access provider to distort competition in downstream markets, this will depend critically on the nature of any non-discrimination and equivalence requirements contained under these arrangements. The history of telecommunications access regimes in Australia and

⁵ Department of Broadband, Communications and the Digital Economy, *National Broadband Network: Regulatory Reform for 21st Century Broadband – Discussion Paper*, April 2009 at p. 8.

New Zealand shows that trying to promote competition via access to the infrastructure of vertically-integrated network operators is fraught with difficulties, and can be the subject of lengthy time-consuming disputes and gaming activity by both access providers and seekers. In the following section, we consider whether the arrangements set out in the Bill will, when combined with the process being followed by MED under the RBI, be likely to promote competition in telecommunications markets in New Zealand.

The Bill is limited in scope and provides for little transparency

Part 2 of the Bill sets out a number of provisions dealing with access arrangements associated with the infrastructure that will be built under the RBI. An important component of these provisions is the ability for providers of wholesale services using networks involving Crown funding to give enforceable undertakings. These undertakings can provide for non-discrimination, equivalence and other matters in relation to the supply of relevant services. Importantly, section 156AC of the Bill notes that the purpose of these provisions is to:

... promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services in New Zealand ...

Whether this purpose is achieved will depend crucially on the precise way in which any undertakings are worded and provided. However, we believe there are two critical flaws in the undertaking regime relating to services provided using networks involving Crown funding:

- The Bill is too narrow in its scope, and provides only minimal requirements on service providers
- The Bill provides for an undertaking process that lacks transparency and could lead to poor administrative decisions.

Each of these points is discussed, in turn, below.

The Bill is too narrow in scope and provides only limited requirements on access providers

The Bill only contains a limited number of requirements for what must be included in an undertaking. Importantly, while an undertaking must provide for the service provider to achieve non-discrimination in relation to the supply of relevant services and set out the rules and principles that the service provider will apply to ensure that non-discrimination is achieved, there are no mandatory requirements that an undertaking must provide for equivalence in relation to the supply of relevant services. That is, equivalence is only a factor that *may* be included in an undertaking.

Further, we believe that non-discrimination requirements are not, of themselves, sufficient to promote competition in telecommunications markets in a forward-looking sense, and are therefore not sufficient to achieve the purpose in section 156AC of the Bill. That is, the non-discrimination requirements set out in section 156AD of the Bill will only apply to services the subject of an undertaking. However, they cannot apply to services for which an access provider does not choose to offer an undertaking. So, for instance, an access provider may make an undertaking in relation to co-location of facilities provided on cell towers that have been constructed using Crown funding. However, it may be that the economics of providing services in the most remote areas of New Zealand means that co-location will not be viable for access seekers on these towers. In these circumstances, it may be that an alternative access service, such as national roaming or radio access sharing, may be the most economically efficient way to promote competition in areas serviced by these cell towers. Relevantly, because the relevant infrastructure investments require subsidisation, it is clearly not privately profitable to build this infrastructure on its own. It therefore follows that it is unlikely to be economic for other providers to invest heavily in duplicate infrastructure, suggesting that if access is to be economical, it is most likely it will need to be at a higher wholesale layer.

While section 156AR of the Bill does not appear to prevent the Commission from subsequently recommending that alternative services should be designated or specified, history shows that inquiries into whether to designate or specify telecommunications services are not quick processes, and can take a number of years to resolve.

Hence, while an undertaking in relation to one service may not harm competition of itself, an undertaking in relation to that service may not be sufficient to *promote* competition in relevant markets. Given the extent to which national coverage advantages can provide a competitive advantage to one carrier (as discussed above), any delay to the appropriate specification or designation of a service needed to promote competition in related markets could provide a significant benefit to a winning bidder. The ability for winning bidders to choose which services they will make the subject of non-discrimination undertakings, rather than having the appropriate services to which access obligations should apply determined up-front, has the potential to undermine the promotion of competition in downstream telecommunications markets.

More broadly, in the absence of any form of structural or operational separation by an access provider, the only effective way to test for non-discrimination between access seekers and the access provider's own retail arm is via some form of imputation testing arrangement. The appropriate way to undertake these tests is often the subject of dispute, and differences in approach can greatly influence views on appropriate access prices for access seekers. The Bill contains no indication of the way in which access providers will be required to demonstrate

they have achieved non-discrimination. Instead, access providers are free to propose their own principles in order to meet the requirements of section 156AD(2)(c) of the Bill. Without an opportunity to comment on the principles by which non-discrimination will be assessed (or any other part of a proposed undertaking) under the proposed Bill, however, there is significant concern that non-discrimination objectives will not be achieved. Concerns about the transparency of the RBI process and the assessment of undertakings under the Bill are discussed in more detail below.

The RBI process and the undertaking process set out in the Bill are lacking in transparency

We are greatly concerned by the lack of provisions within the Bill that would require the Minister to consult with stakeholders that will be affected by an undertaking before deciding whether it should be accepted or rejected. While the Minister is required under section 156AK of the Bill to notify his or her approval of an undertaking by notice in the Gazette, there are no requirements on the Minister to consult with interested parties prior to deciding whether to accept or reject an undertaking.

This adds to the lack of transparency that would appear to exist with respect to negotiations between the MED and preferred bidders as part of the process for selecting a supplier under the RBI. In this regard, we understand that Vodafone and Chorus have been selected as preferred bidders under the RBI process, and are now in negotiations with MED with a view to reaching a heads of agreement and final contract for the provision of services using infrastructure that will be subsidised by the Crown and other industry participants.

As indicated above, the ability to extend network coverage provides significant competitive benefits to a carrier. To ensure these arrangements do not unfairly benefit the winning bidder over other competitors in downstream retail markets – especially given those competitors will help contribute to the subsidies paid to the winning bidder – it is essential that appropriate access arrangements are put in place. In this process, however, there is very little information being made available about the specifics of the bid put forward by Chorus and Vodafone, nor the precise form of any access arrangements that will apply to the winning bidder. We understand that all that has been made publically available is one page of information about the winning bid that has been published on the MED website, and that information that has been disclosed in public statements and workshops held by Chorus and Vodafone. Yet the statements publically made about the nature of access arrangements associated with the negotiation process have been vague in the extreme. In relation to cell towers that will be part of the preferred bid, MED has disclosed only limited information, such as that:

- RBI towers will be open access, meaning that:

- Co-location will be offered at cost from day one under standard Commerce Commission non-price terms
- Towers are constructed from day one to be able to accommodate multiple Carriers' equipment
- Consumers will have wireless broadband choice from any Access Seeker who uses Vodafone fixed wireless wholesale broadband service or from any other carrier who chooses to use the tower directly
- Defined tower deployment notices with plenty of advance notice will allow other Carrier's ample planning time to co-locate if they desire
- Appropriate WiMax and WiFi operators will be able to cost effectively co-locate if they choose to
- Vodafone and Telecom will provide Layer 2 Wholesale bitstream services to any Access Seeker on a non-discriminatory basis
- The wholesale fixed wireless broadband pricing will be competitive
- Over 530 towers will be used to deliver the community coverage. 154 will be part funded by the RBI.

This information, however, raises more questions than it answers. In relation to co-location, what is meant by statements that co-location will be offered "at cost"? On what basis is cost to be determined? What cost standard is being used to determine this cost? Will incentives be in place to ensure costs are incurred on an efficient basis? How will cost be allocated between different parties that co-locate on a given tower? How will maintenance costs be incurred, calculated and apportioned?

Similarly, with respect to wholesale fixed wireless broadband pricing, what is meant by competitive pricing? Is it cost-based pricing, or is it pricing intended to deliver a margin between retail and wholesale pricing? On what basis can prices be altered over time if the winning bidder introduces new services, or develops bundled service offerings that involve discounts for acquiring a suite of services? Would wholesale prices change if the winning bidder offers a promotional discount, such as six-months free broadband for a given product?

With regard to the deployment of cell sites, on what basis is the order of cell site deployment determined? What measures are in place to ensure new cell towers under the winning RBI bid are not deployed strategically in order to enhance its competitive position in downstream retail markets? For instance, is any consideration given to the order in which cell sites will be deployed, and whether this enables a winning bidder to provide improved coverage to a major existing or potential nationwide customer who has a point of presence in a particular area in order to immediately retain or win the customer in question? Will any non-discrimination undertakings made in relation to services provided on cell towers

apply to services provided on all of the 530 towers that are the subject of the Chorus-Vodafone joint bid, or only to the 154 that will be part funded under the RBI?

These are only a small sample of the types of questions and issues that normally are considered in access arrangement considerations. While it is possible that these types of issue are being considered and addressed in negotiations between MED and the preferred bidders, there can be no confidence for other interested parties that will be affected by the outcomes of these negotiations that they are. Further, no matter how good the intentions of MED officials when negotiating with preferred bidders (or the Minister when considering undertakings), it is highly unlikely they will think of all issues that are likely to be of concern to affected parties. Importantly, it is not in the incentives of the winning bidders to offer terms and conditions that promote competition. Access providers will always have most regard to their own interests and maximising their own profits. It is well recognised that this objective is inconsistent with promoting competition, or maximising consumer and social welfare.

We believe that the terms and conditions of any proposed access arrangements (including both the form of any contractual arrangements between MED and preferred bidders, and the terms of any undertakings provided under the Bill) should be publicly released before they are agreed so that they are subject to an appropriate level of public scrutiny from interested parties, including competitors and consumers. Given the private investments made by a number of other operators who have invested significant sums of their own to compete in New Zealand telecommunications markets (and the benefits consumers have enjoyed because of this), it is only reasonable that they should be entitled to view and comment on the specifics of any arrangements being agreed between winning bidders and the government. This is especially the case given other operators and the public in general will be expected to contribute toward the payment of subsidies to the winning bidders.

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