

Chorus submission – consultation on RP1 expenditure proposal

12 March 2021

C H ● R U S

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Executive summary

Chorus welcomes the consultation on our expenditure proposal. This process plays a key role in ensuring there is a transparent review of our fibre plans for the first regulatory period. Fibre-to-the-home is a generational technology update, which has the potential to unlock material social and economic gains for New Zealanders. Already:

- fibre has overtaken copper as the primary way we connect to the internet, with 62% uptake to date, exceeding all expectations
- average fibre speeds are over 240 megabits per second with 17% of fibre consumers having already chosen 1,000 megabit (1 gigabit) services and monthly data use is over 400 gigabytes
- we're connecting the first consumers to our new 2 and 4 gigabit Hyperfibre services and are trialling 8 gigabit services, with 25 gigabit services on the horizon
- our fibre services are enabling significant opportunities for Kiwi businesses both in terms of productivity gains and the development of new sectors, such as gaming and film production.

COVID-19 underlined the importance of continued investment in capacity and new products to keep ahead of fast changing consumer demands. The pace of change will accelerate in coming years as fast fibre services proliferate in the developed world. We're in a period of rapid growth in consumer demand for broadband speed and data use.

Our goal is to anticipate and meet that demand as well to simplify the end-to-end experience for consumers. The improvements in our customer satisfaction scores in recent years show steady progress towards this goal, but there's plenty more we need to do. As an open access wholesaler this means we also have a part to play in promoting consumer interests by enabling vibrant and competitive retail markets. Recent product developments such as our wi-fi enabled network terminal and enhanced support for peering services will advance greater competition and consumer outcomes.

The expenditure proposal comes as we enter the final stages of the Ultra-Fast Broadband (**UFB**) initiative build and redouble our efforts to connect New Zealand to fibre. This is a critical time for Chorus and New Zealand's transition to fibre and the Commission's decisions this year will be instrumental in shaping our collective success.

Our submission addresses the questions in the Commission's consultation paper (the consultation paper).¹ In particular, we emphasise:

- customer incentives and retention expenditure - promotes competition and is to the benefit of consumers. The expenditure is efficient and consistent with good telecommunications industry practice, helps overcome barriers to fibre adoption and enables consumers to benefit from greater choice and better services
- corporate capex - our 'ring-fencing' of some corporate capex ensures we have the ability to invest in Fibre Fixed Line Access Services (**FFLAS**) to meet the future needs

¹ Commerce Commission (12 February 2021) Chorus' price quality path from 1 January 2022 – Consultation on Chorus' proposed expenditure.

of consumers. This expenditure relates to the IT, customer experience and physical network investment required to support those future services²

- labour opex - a separate process to establish the initial asset value (**IAV**) will determine the allocators and allocations we expect to apply for both the IAV and expenditure for our first regulatory (**RP1**) proposal. We applied provisional allocations to our RP1 expenditure as the IAV process was still pending. Additional factors affecting labour opex as we enter RP1 include:
 - lower capitalisation of labour and related costs as we transition from build to operate together with increased focus on optimisation and lifecycle management of a larger fibre network
 - as allocations are dynamic over time it is expected the share of common costs allocated to FFLAS will increase during RP1 as more customers connect to fibre.

We respond below to the questions raised in the consultation paper in the order they were presented.

² The consultation paper refers to this expenditure as 'innovation' spend. This spend is part of our corporate capex subcategory. And we prefer that it is referred to as longer horizon product improvement as 'innovation' could be potentially confusing.

Proposal framework

Response to Question 1 of the consultation paper which seeks:

"... views on the overall appropriateness of Chorus' expenditure proposal and on whether it will deliver outcomes to the long-term benefit of end-users with specific reference to the areas raised in paragraph 56. We are also interested in specific issues you think the Commission should focus on in its evaluation."

Legal framework

1. We broadly support the Commission's proposed approach to evaluating our expenditure proposal.
2. Consistent with our previous submissions, we support the Commission seeking to apply the principle of proportionate scrutiny where it considers it appropriate, e.g. contractually committed UFB spend.³

Expenditure with potential competition impacts

3. Chorus' fibre network is enabling strong pro-competitive outcomes in New Zealand's telecommunications markets. The underlying goal for the UFB roll-out was to create a world-class open access fibre platform for retail competition. UFB has achieved this and been a great success - with around 90 retail service providers (**RSPs**) with a range of offerings and current levels of fibre adoption far beyond initial expectations.
4. Chorus has strong incentives to build on that success and offer better and faster services as technology develops. Our proposal builds on current services and we are confident will continue to support competition. For New Zealanders to access the full benefits of the fibre network, the Commission's decisions on our expenditure proposal and revenue allowance need to maintain our incentives to innovate and promote fibre services to end-users.
5. As noted in our submission on the competition consultation,⁴ when the Commission considers any competition questions associated with our expenditure proposal, it should:
 - use an appropriate, and complete, framework for assessing competition risks. We support the use of the Commission's full four-step approach. This would include a

³ See also Chorus (16 July 2019), Fibre emerging views submission, at [328] and [345]-[347]; Chorus (21 December 2018) Process and issues submission, at [75.3]; Chorus (28 January 2020) Submission on the Commerce Commission's Draft Determination [379].

⁴ Chorus (25 February 2021), Survey on Promoting competition in telecommunications markets as part of ID and PQ regulation; and Chorus (25 February 2021), Additional document for survey on Promoting competition in telecommunications markets as part of ID and PQ regulation.

robust analysis of relevant markets and the current state of competition in those markets before assessing risks to competition and potential solutions

- consider the full suite of regulatory and legal tools available to manage competition risks including the Commerce Act, the Fibre Deeds, and the Telecommunications Act. Interventions through price-quality or information disclosure regulation would only be justified where existing tools are insufficient to manage a competition risk.
6. The consultation paper raises a potential competition risk relating to Chorus' investment in layer 1 assets that rival firms may use to deliver their own layer 2 services. This is a theory of harm only; there is no realistic prospect of competitive harm arising from our investment in layer 2 assets for the following reasons:
- our network design means it would be to Chorus' detriment to underinvest in layer 1 services. Layer 1 services are an input for both our own layer 2 services and any competing layer 2 services. A strategy of underinvestment in layer 1 services would have negative implications for Chorus' own layer 2 business and would not be rational
 - Chorus sets layer 1 prices in a way that makes us indifferent to whether we serve customers at layer 1 or layer 2. This means we have no incentive to underinvest in the ancillary services required to provide layer 1 access
 - our equivalence obligations prevent us from distorting competition in downstream markets by requiring our layer 2 business to compete with third-party access seekers on an equal footing in terms of upstream inputs.
7. The consultation paper also raises a potential competition risk relating to Chorus' incentive payments. This is discussed below.
8. We note that there are several parallel workstreams required to implement price-quality regulation (**PQR**) ahead of 1 January 2022. One of these workstreams is the Commission's work on developing a framework for understanding the role of PQR in promoting competition. This raises a sequencing question given that the Commission appears to be seeking to apply some of this thinking to its assessment of our RP1 proposal. Our expectation is that any such framework would be fully developed and transparent to market participants before being applied.

Expenditure where forecast certainty is lower

9. Our forecasts in a few investment areas are of lower certainty due to nature of the expenditure, which can be reactive to demand and affected by the speed of technology uptake and change. We also comment on these points in our responses to questions 6 to 9 below.
10. We have plans in place to mitigate these uncertainties and in some cases regulatory mechanisms such as the connection capex adjustment also apply to address volume uncertainty.
11. We also take account of uncertainties in our planning across expenditure areas by adopting a prioritised portfolio approach, where the relative priority of expenditure is kept under review and adjusted as appropriate. This approach is supported by substitutability within the base capex allowance.

Labour cost – expenditure and allocation

Response to Question 2 of the consultation paper:

"We want to know whether you agree with this estimated allocation of labour costs to FFLAS for FY20. We welcome your views."

Allocation

12. The consultation paper raises queries with estimated allocation of labour opex to FFLAS for FY20.⁵
13. A separate Commission process during 2021 will establish the IAV, also known as the 'starting RAB'. This process will allocate assets existing and expenditure prior to the commencement of RP1 on 1 January 2022. The IAV process will include determining allocators and allocations which are expected to apply for both historical assets and expenditure (within the IAV) and future expenditure set out in our December 2020 RP1 proposal.
14. As the IAV process was still pending at the point we submitted our RP1 proposal we had to apply provisional allocators and allocations to our RP1 expenditure.⁶ This was understood by the Commission and transparent in our proposal.⁷
15. There is a clear expectation that RP1 allocators and allocations would be updated during 2021 to reflect final allocations flowing from the IAV process.
16. This update would not affect Chorus's proposed expenditure, simply its allocation between FFLAS and non-FFLAS services.
17. We also note that allocations are dynamic over time. So, it can be expected that more of our costs will be allocated to FFLAS during RP1 as fibre connections grow and we migrate customers off copper.

Labour cost forecast for RP1

18. The consultation paper notes the increase in labour opex expenditure over RP1. Several factors contribute to this:
 - the shift in business focus and expenditure from building the UFB network to maintaining and optimising the built network. This will entail a shift in capability,

⁵ The Commission states in its consultation paper, at paragraph 58 that 'Chorus estimates that FFLAS labour opex was 91.25% of FY20 total opex'. We wish to clarify that this statement and should be 'Chorus estimates that FFLAS labour opex was 91.25% of FY20 total *labour* opex'.

⁶ Allocators and allocations applied in the RP1 proposal were consistent with our November 2020 draft IAV version (noting these continued to be refined and were still subject to assurance and certification).

⁷ Refer to Chorus expenditure proposal documents: Our Fibre Plans, Investment Summary, page 107; Modelling and Cost Allocation Report page 8; and A3. Short form responses in response to request A47.1, page 28.

specifically growing our capacity and capability to operate and optimise lifecycle management of the completed and more heavily utilised network

- progressing the migration of customers from our copper network to fibre services where available, and servicing a larger network and higher number of customers
- implementation of the new price-quality and information disclosure regulatory regimes within Chorus.

19. Together, these key factors alter the allocation, level and balance between capex, opex and total expenditure (totex). More specifically:

- as network build ramps down and installation growth slows, capex declines significantly. As this occurs, the proportion of remaining labour and labour-related overhead costs (IT systems and property costs) that are capitalised reduces, with a higher proportion treated as opex
- the transitions outlined above require a different mix of capabilities and resourcing. This includes a higher proportion of complex installations, growing focus and investment in asset management capability and automation of high-volume transactional activities.

20. In summary, total internal and external labour costs decline significantly during RP1, but a higher proportion of remaining labour and related costs are (1) treated as opex and (2) allocated to FFLAS services.

Customer incentive and retention capex

Response to Question 3 of the consultation paper:

"We welcome your views on customer retention and incentive capex, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice. We are also interested in views on any competition impacts of this spend on relevant telecommunication markets and whether further information is required to assess Chorus proposed expenditure in this area."

Consistency with the expenditure objective and GTIP

21. Our customer retention and incentive capex (referred to generally as 'incentives') meets the expenditure objective, reflects good telecommunications industry practice (**GTIP**), and supports the development of competition. It is also consistent with outcomes in workably competitive markets. Incentives strengthen Chorus and RSPs' ability to promote fibre and service upgrades.

22. Incentives can also strengthen the ability of those RSPs without alternative access networks to compete more effectively with those RSPs that do. Therefore, we expect

mobile network operators (MNOs) to express concerns with Chorus' expenditure in this area. We encourage the Commission to treat these claims with caution.

23. In its recent submission on the competition consultation, Spark makes unsubstantiated claims that our incentive payments are market distorting.⁸ It claims that we can use incentives to price below cost because the regulatory framework ensures these costs are recovered over future regulatory periods. These claims are without merit.
24. As explained below, incentives are a common feature of workably competitive markets. Chorus does not have "guaranteed revenues" that we can recover in future regulatory periods. We are facing increasing competition from unregulated fixed wireless technology and face a real asset stranding risk.
25. As recognised in the consultation paper, the Independent Verifier found that Chorus' proposed expenditure for customer incentives reflected the efficient costs that a prudent fibre network operator would incur to deliver regulated FFLAS at an appropriate quality, having regard to GTIP.
26. We agree with the Independent Verifier's assessment and note that all expenditure in this area is subject to:
 - cost benefit test: to ensure any expenditure has a positive net present value (NPV). We note this is a commercial cost benefit test that does not include the significant positive externalities accruing to consumers, retailers, and New Zealand society. We believe that including this wider set of benefits would materially improve the positive NPV of current and planned expenditure in this area
 - Commerce Act tests: to ensure compliance with our obligations under the Commerce Act.
27. The consultation paper picks up on the Independent Verifier's observation that some additional information should be provided for understanding our forecasting approach in the incentives model component of customer retention.
28. We note that our forecasting of incentives is based on forecast connections volumes, multiplied by the cost of the incentives. As outlined above, all expenditure in this area is subject to two tests that address prudence and efficiency and competition impacts respectively.

Competition impacts

29. The consultation paper seeks views on any competition impacts of proposed incentives and retention expenditure.
30. The offering of incentives is consistent with behaviour that would be observed in a workably competitive market. We believe the planned expenditure supports the long-term benefit of end users as:
 - incentive payments are necessary to encourage consumers to migrate to our fibre network and adopt better or new services. A key role of incentives is to help offset

⁸ Spark, (25 February 2021), 'Promoting competition in telecommunications markets as part of fibre information disclosure (ID) and price quality (PQ) regulation', Survey Response – Commerce Commission.

cost and other barriers that inhibit the promotion of fibre service by RSPs and adoption of fibre services by end users

- a material reduction or cessation of Chorus incentive and retention investment would:
 - hamstringing Chorus from promoting fibre services, the broadband 'gold standard', to consumers. We strongly believe this would slow *and* reduce consumer uptake of fibre services *and* subsequent upgrades to better or new fibre services
 - reduce the relative attractiveness of fibre services at a critical and vulnerable stage
 - weaken the ability of independent retailers to promote open-access fibre services and compete with self-supply of wireless alternatives by vertically integrated mobile network operators
 - have a logical consequence of weakening overall retail market competition due to reduced incentive and scope for product and price innovation, and lead to higher prices for end users over time
- we regularly see RSPs pass on incentives to their end user customers. RSPs use incentives to encourage customer uptake and plan changes
- the incentive expenditure supports efficient utilisation of the fibre network enabling a virtuous cycle of improved incentives for Chorus to innovate and invest flowing into enhanced services and choice against a backdrop of lower costs per end user.

31. A further benefit of this expenditure is to allow faster recovery of network costs and to reduce the risk of asset stranding. This improves investor confidence, supporting ongoing investment and innovation by Chorus.

Corporate capex

Response to Question 4 of the consultation paper:

"We welcome your views on corporate IT and support capex, and in particular the component relating to innovation spend. This includes whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice."

32. The Commission invites views on whether Chorus' proposed corporate capex⁹ meets the expenditure objective and reflects good telecommunications industry practice

⁹ The Corporate capex subcategory fits within our IT and Support category of expenditure. We note the Corporate subcategory of capex includes capex sometimes referred to as 'innovation'. And it also contains a very small amount of spend for Business capex (e.g. office fitout work).

(GTIP). The Commission notes the Independent Verifier's comment that proper controls should be put in place to prevent investment in uneconomic projects.

33. We agree with the Independent Verifier's comment and note that:

- our proposal explains that Chorus has 'ring-fenced' this corporate capex investment for IT, customer experience and physical network investment required to support future FFLAS services and we carry this across into our proposal.¹⁰ The decision to ring-fence this expenditure flows from our experience that this important but not urgent investment in future products and customer services tends to be deprioritised to accommodate urgent investment, particularly when we have been managing capital and labour constraints during the post-demerger and UFB build periods
- ring-fencing of this expenditure is intended to mitigate this risk and ensure this IT, customer experience and physical network investment goes ahead, given its importance to our business
- appropriate controls to avoid uneconomic investment exist in the form of Chorus' Capital Governance Team (CGT). The CGT is an Executive-level group that governs Chorus' capital expenditure decision making, delivery and investment performance. In our view, the controls provided by the CGT are fit for purpose.

34. We are open to ring-fencing the relevant expenditure (\$38m) within the base capex allowance and/or reporting to the Commission on this investment through information disclosures. Ordinarily we would be wary of such bespoke arrangements, which can add complexity or adversely affect efficient decision making. However, we consider (1) the inherent uncertainty over this type of product improvement expenditure warrants special consideration and (2) the complexity and decision-making risks are reduced by the Commission's decision not to apply a base capex efficiency mechanism in RP1.¹¹

Investing in future product improvement

35. Our ring-fenced corporate capex for IT, customer experience and physical network costs is also referred to as 'innovation' capex in some contexts, including in the consultation paper.¹² Reference to this expenditure as 'innovation' is potentially confusing, and we suggest referring to this type of expenditure as 'longer horizon product improvement' in future.

36. In this respect, while sometimes labelled 'innovation', we caution against any perception that this is an allowance for innovation generally. Our view is that innovation occurs in many facets across our business and supply chain continuously. This innovation is driven by intense technological and competitive dynamics, which shape, and are shaped, by rapidly evolving consumer preferences and requirements.

¹⁰ Refer to Our Fibre Plans, Investment summary, 9.9.3.

¹¹ While we support efficiency incentives, they can result in windfall gains or losses where expenditure materially departs from plan. This risk is elevated in areas of higher forecast uncertainty such as this.

¹² Refer to Our Fibre Plans, Investment summary, 9.9.3 to 9.9.4 where we referred to 'innovation' as this was a response to an information request from the Commission for the purposes of our proposal.

37. In this context, innovation is not a special activity – it is the lifeblood of our industry and our business. We don't need an allowance to 'innovate', it is just what we do. However, we do need the ability to focus on the longer term and make the IT, customer experience and physical network investments required to deliver products to meet the future needs and wants of consumers.
38. Our role as an open access wholesaler means our product improvements can support thriving and increasingly diverse broadband competition. Examples of recent product improvements that will advance greater competition and consumer outcomes are our product developments in wi-fi enabled network terminals and enhanced support for peering services.

Promoting innovation

39. Ensuring regulated firms have incentives to innovate and invest to provide services at a quality and price that consumers want is at the heart of this regulatory framework.
40. We note the Commission's reference to Part 4 and its treatment of 'innovation' allowances in that context. We understand the Commission's reasoning and broadly agree with its conclusions.
41. We are concerned that this is an issue of terminology rather substance and is obscuring the fundamental issues:
- provision to invest in future product improvement and platform development is essential to our ability to meet the future needs of end users and to capitalise on the world-leading infrastructure we have built in partnership with the Crown
 - we are open to special regulatory arrangements to mitigate any Commission concerns and would be happy to work on a solution here. In doing so, we would be mindful of the risks of unintended consequences.
42. Moreover, any risk is transitory as, once a product can be robustly reflected in forecasts, we will factor these into future expenditure proposals, which are subject to ongoing stakeholder and Commission scrutiny. A current example of this is our new Hyperfibre product, the costs of which are known and included in our expenditure proposal.

Business IT capex and related opex

Response to Question 5 of the consultation paper:

"We welcome your views on Business IT capex as well as the related opex sub-categories, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice."

43. Business IT capex covers our investment in systems and platforms needed for day to day business activities.
44. The consultation paper notes the Independent Verifier's point that business IT optimisation investment is not currently directly linked to equivalent or larger negative step changes in opex. Our view is that business IT optimisation capex investment is not solely focused on generating opex efficiencies. The investment benefits customers (RSPs) and consumers directly or indirectly (by reducing Chorus costs over time) through:
- customer and consumer value: directly benefits customers and consumers by improving processes, reducing effort and creating efficiencies
 - Chorus capex and opex efficiency: indirectly benefits customers and consumers by lowering Chorus' costs over time. This investment enables Chorus efficiency gains in the form of reduced capex or opex (in a specific year or over time) and may improve performance or the pace of IT delivery.
45. Our proposal includes significant top-down and 'unsolutioned' capex and opex efficiencies to be realised through an operating model review. IT optimisation investment is a key enabler of these efficiencies.
46. To support the Commission's evaluation, we can provide historical trends in benefits realisation, which we use in our forecast assumptions and explain the linkage between this investment and capex and opex efficiencies built into our RP1 proposal.

Introducing business IT capex and related opex

47. We manage the investment across five IT domains that support business activities. We forecast two classes of investment in these systems (customer experience and optimisation; lifecycle and compliance).
48. Our 5 business IT domains are:
- business intelligence – business data repository, analysis and reporting tools
 - end-user compute – desktop hardware and systems for staff
 - enterprise applications – billing, finance, human resources and other core systems
 - infrastructure – datacentre and office network services

- integration and applications – systems for application integration, file transfer and contact centre telephony.

49. Our business IT optimisation investment focuses on solutions that unlock opportunities to optimise our operations. This includes initiatives to optimise tools and end-to-end processes to ensure we operate effectively and efficiently. This approach to investing in IT capability to improve efficiency is quite typical for modern utilities. Similar to other organisations, we look to:

- integrate and automate processes to reduce human overhead, intervention and errors
- improve quality of information to provide faster processes and better insight for decision making
- rationalise systems or infrastructure to remove duplication or right-size costs
- identify and invest in establishing new and emerging technology to grow capability to help defer or reduce expenditure in other areas.

50. We continue to evaluate, adopt and implement improvement initiatives where these can be demonstrated as being financially sound. Our historical IT investments have been driven by the managed transition and exit from Spark. These projects have required large multi-year investments to develop our own in-house capability. Since our demerger from Spark, we have yielded increasing annual benefits through these initiatives. As we have developed and 'bedded-down' our own standalone systems, we have seen more and more opportunities to optimise these systems.

Independent Verifier comments

51. We understand the point raised in by the Independent Verifier (and quoted in the consultation paper) is that we have not sufficiently linked step changes or adjustments from business IT optimisation capex investment into our related opex forecast. And therefore, the Commission raises a question about the extent of our business IT capex and related opex.

52. We acknowledge the technical point raised by the Independent Verifier that there is not a direct linkage between IT optimisation investment directed at business efficiency and capex and/or opex reductions.

53. However, we disagree in substance as we consider this investment is an important enabler of major operating model changes that will be implemented during RP1. Those changes:

- will yield capex and opex efficiency gains exceeding the enabling investment and are already factored into our expenditure proposal; and
- can be linked at a top-down level, but we cannot link to specific efficiency initiatives at this stage.

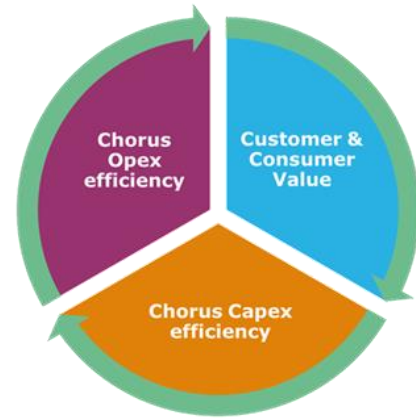
54. We note that our operating model review is progressing, and we expect it will be possible to directly link IT enabling investment and capex and opex efficiencies for the next calendar year. We can explain now, the objectives and macro level implications of our operating model review and, if necessary, provide specific linkages between IT enabling investment and those efficiencies.

Understanding IT optimisation investment

55. We thought it useful to expand on material provided in our proposal to help the Commission and stakeholders understand the driver and benefit of our IT optimisation investment. The balance of this section is intended to do that.

56. Our optimisation activities are not solely focused on opex efficiencies. When considering the benefits of IT-driven improvement initiatives for business planning, we think about this in these three interlinked ways:

- Customer and consumer value;
- Chorus capex efficiency; and
- Chorus opex efficiency.



Customer and consumer value

57. When we think about customers and consumers, we typically think about their 'effort' when they are dealing with a Chorus process. In relation to business IT capex we consider customers as both internal customers (staff, contractors) and external customers. Sometimes, reducing effort for customers creates cost efficiencies and benefits in terms of customer wellbeing (which feeds back into efficiency and effectiveness with operating costs).

58. An example of this includes improving and automating Chorus processes to reduce human overhead, intervention and errors. This generates benefits for external customers, and this can also generate efficiency benefits for Chorus (internal customers). However, such benefits can be difficult to measure and have no direct line of sight to cost savings.

Capex efficiency

59. We invest business IT capex for creation or enhancement of IT assets that support the operation of Chorus. Similarly, IT capability can be enhanced or created to improve the pace at which IT capability is delivered. Examples of this are:

- tooling to drive collaboration across teams who simultaneously work on complex projects and operations; and
- automation of functions like testing and software release to reduce the amount of time a project takes to deliver its outcomes.

60. The benefits of these improvements can be a reduction of capital required within a financial year, or the more efficient use of the same amount of capital to deliver more change and drive earlier realisation of benefits. So, savings from business IT capex optimisation are not always directly linked to opex reductions. Savings will often reduce capital or be reinvested.

Opex efficiency

61. We do have some business IT capex optimisation spend that is directed to reducing related operating costs, as per the examples given in the introduction to this section, above.
62. Whilst opex-related benefits could result in a visible negative step change in the opex forecast, this may not be within the IT operating expenditure, nor may it be visible 'instantly'. Many projects also have longer lead times before benefits are realised, so investment made in RP1 may not show its benefits until RP2 or beyond.
63. We consider that our business IT capex optimisation spend is needed to support labour cost reductions included in our business plan. This includes increasing automation and systemisation of our processes. An example is automating the intact connections process (where physical installs are already done, and the end user is just 'lighting up' the service or switching between RSPs). This example will deliver significant benefits to end users and some efficiency to Chorus (reduced labour).¹³ These labour reductions are enabled in part by the proposed IT optimisation investment.
64. Business IT optimisation spend in aggregate is difficult ex ante to link to opex step changes or adjustments. When developing individual business cases, we can give line-of-sight to budget savings, customer and consumer value and/or capital optimisation and value. Business cases are not approved if they do not offer benefits.
65. We can also show our historical trends over time with benefits realisation. Future benefits are harder to directly demonstrate, especially beyond the 18-month horizon, as technology is fast-paced and exact timing and delivery of projects is not always known beyond that horizon.

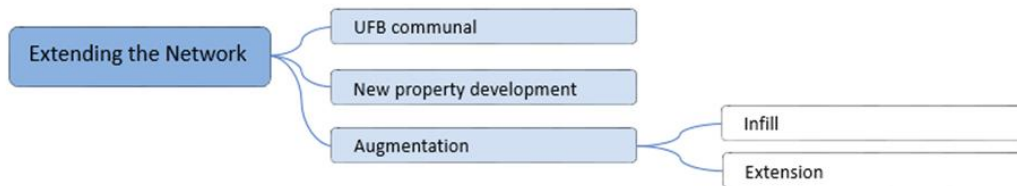
Communal fibre access augmentation

Response to Question 6 of the consultation paper:

"We welcome your views on augmentation capex, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice. We also welcome views on whether this expenditure would be best treated as individual capex."

66. Communal fibre access augmentation is as subcategory of our extending the network expenditure category. It includes infill works, which build the network to premises within the existing UFB footprint and extending the network to towns or communities that did not meet the threshold for the UFB 2/2+ contract.

¹³ Refer to section above titled 'Labour cost – expenditure and allocation.'

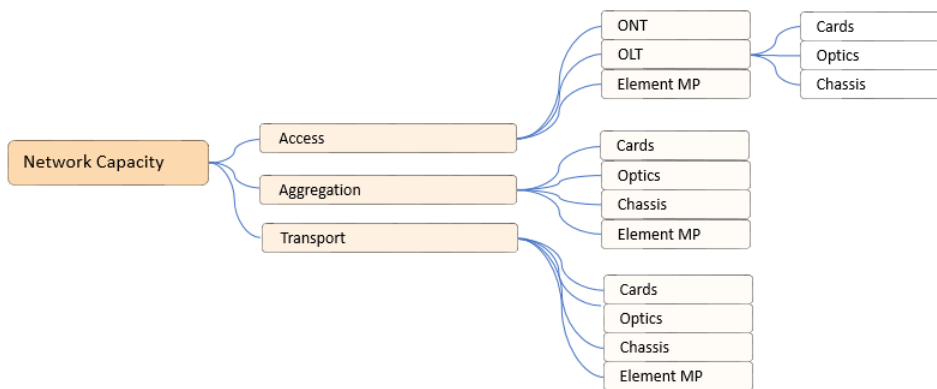


67. As the UFB build comes to an end, we have forecast minimal spend for network extension activity beyond the UFB footprint. Our intention is to help more rural communities to connect to the fibre network where it makes economic sense to do so, but growing the fibre footprint outside of our current UFB regions is not something we are generally able to do given current economic settings.
68. Our RP1 plans include no provision for additional UFB communal build beyond the UFB, UFB2 and UFB2+ footprint. We will continue to work with the government and communities to explore fibre deployment to further communities, but this will likely require significant third-party contribution.
69. For non-UFB network extension activity, we have included all known government programmes into our forecasts (as at June 2020). For example, we have been awarded additional government contracts (e.g. Provincial Growth Fund) to build the fibre network from Fox Glacier to Lake Hawea and from Te Anau to Milford Sound. However, we do not have visibility of the timing or scope of future government programmes or other community initiatives to extend the network.
70. If successful in the future, we would bring Crown or other community funded programmes into our forecast as and when they emerge. If network extension plans change during RP1, we will consider submitting an individual capex proposal to the Commission.
71. Infill work is reactive to demand. Infill requests come to Chorus prompted by a consumer asking to connect to the network and benefit from fibre services.
72. Our forecast expenditure for infill activity is relatively small. It is based on historical data and adjusted to align the rate trend with new property development volumes as they are the underlying driver of new address creation.
73. We do not consider infill works are suitable for individual capex approval as they are incremental and need to be timely in response. Also, infill work is not at a scale that would aggregate for an individual capex approval at the appropriate threshold.

Access electronics capex

Response to Question 7 of the consultation paper:

"We welcome your views on access capex, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice."



- 74. We understand the consultation paper raises our approach to forecasting for XGS-PON¹⁴ technology upgrades, which are access electronics expenditure.
- 75. Hyperfibre is a service delivered over XGS-PON technology. It is next generation technology that supports speeds of up to 10 gigabit per second (Gbps) downstream and upstream, deployed over our existing fibre network.
- 76. As Hyperfibre installations grow, we need to provision equipment in our exchanges. Enabling the uptake of this new product will require replacement of optical line terminals (**OLTs**) (which are forecast in our network capacity, access expenditure subcategory).¹⁵
- 77. The majority of spend to enable this Hyperfibre product is planned through lifecycle spend in RP1, so we do not consider there is a need for an individual project for access electronics to enable XGS-PON technology. And we note that the connection capex mechanism addresses the remaining volume uncertainty with new connections for Hyperfibre.
- 78. Investment in access capex for OLTs is driven primarily by lifecycle planning¹⁶ rather than demand uptake for Hyperfibre. Our RP1 plan includes access electronics required

¹⁴ XGS-PON is an updated standard for Passive Optical Networks (PON) that can support up to 10 Gbps symmetrical data transfer.

¹⁵ We note the consultation paper also refers to requiring new splitters for Hyperfibre, however this is not ordinarily the case. Existing splitters are simply moved between ports for a Hyperfibre connection unless overall demand levels have exceeded the splitter capacity.

¹⁶ Lifecycle planning describes the approach to maintaining an asset from construction to disposal. Refer to Our Fibre Assets, section 7.5.2 for more detail on how this applies to our management of network capacity assets.

for the final stages of the UFB2/2+ build as well as replacement of OLTs deployed early in the UFB programme (as these are nearly ten years old and reaching end of life).

79. The replacement OLT cards are newer technology and are versatile, so they can also support Hyperfibre connection growth. These are expected to be deployed in 2022 and 2023. Once deployed, there will be a large base of Hyperfibre-capable cards in the network, which we believe will result in limited additional line card growth in 2024.¹⁷
80. During RP1, investment in network electronics is expected to increase to meet with the growth in connections and network traffic, noting strong recent and planned connection growth and exponential traffic growth.
81. As part of our contractual commitment to provide a congestion free network, we invest in capacity 7-9 months ahead of anticipated demand. This entails installing access electronics to support uptake ahead of demand, ensuring access electronics are in place to support the customer when they connect.
82. We do agree with the view expressed by the Independent Verifier that there is demand uncertainty with the uptake of Hyperfibre. However, our planning for access electronics expenditure addresses this demand uncertainty primarily with the lifecycle investment we have planned. Our planned spend is not simply reactive to immediate demand (in a short timeframe) for Hyperfibre services.
83. We note that the connections capex adjustment mechanism addresses any remaining uncertainty with the Hyperfibre forecast for access electronics. Specifically:
- for new installations, the Hyperfibre access investment is part of connection capex through connections capex cost group ten – non-linear costs
 - as new connections increase, including Hyperfibre connections, the connection capex mechanism will address the volume uncertainty with new installations (not intact connections).
84. In summary, we build capacity ahead of demand to maintain a congestion free network and in doing so, we can enable Hyperfibre ahead of demand without significant incremental investment. We don't think an individual project application is needed or fit for purpose and responsive enough in this case.

¹⁷ Refer to Our Fibre Assets, section 7.6.1.

Building and infrastructure compliance capex

Response to Question 8 of the consultation paper:

"We welcome your views on site sustain capex, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice."

85. The expenditure level in our proposal for the site sustain capex subcategory is trending downwards. The Independent Verifier's report reflected the same downward trend for site sustain expenditure as in our proposal.
86. The commentary from the Independent Verifier (quoted at paragraph 77 of the consultation paper), states "Chorus is proposing a material increase in expenditure over recent historical levels for site sustain capex for property and infrastructure compliance." We note that this statement refers to property and infrastructure compliance expenditure, which is a subset of the site sustain expenditure subcategory - it does not apply to the whole of the site sustain expenditure subcategory.
87. Property and infrastructure compliance represents less than a quarter of our total site sustain expenditure (site sustain spend is \$36.2m over RP1). Due to the low value of property and infrastructure compliance investment, it is not a sub-category of expenditure and we didn't provide an expenditure breakdown at this level in our proposal.
88. The key priorities of property and infrastructure compliance expenditure are to:
- ensure compliance with health and safety standards through upgrading earthquake risk buildings and management of asbestos
 - ensure security and fire systems remain supported.
89. Our buildings have a design life of 50 years. Many have surpassed this design life and require significant investment to remain fit for purpose. Our RP1 expenditure includes an asset life assessment of all significant buildings in UFB areas and includes investment in maintenance where this is the best option.¹⁸
90. Along with maintaining existing buildings, this expenditure area also focuses on optimising buildings to make our asset portfolio cost effective.¹⁹

¹⁸ Refer Our Fibre Assets, 5.5.1, Network building.

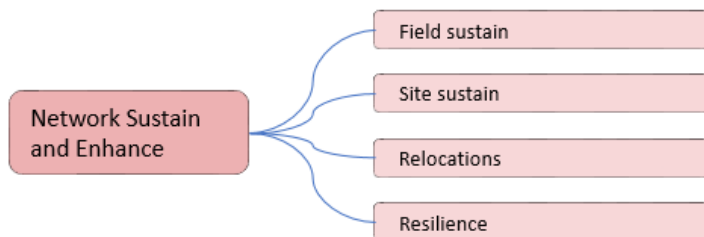
¹⁹ As above.

Field sustain capex

Response to Question 9 of the consultation paper:

"We welcome your views on field sustain capex, including whether the amount proposed by Chorus meets the expenditure objective and reflects good telecommunications industry practice."

91. This question relates to the field sustain expenditure sub-category, which comes within the network sustain and enhance category. However, the Independent Verifier's comment (raised in paragraph 79 of the consultation paper) refers to "forecast uncertainty with OHUGs [overhead to underground] and roadworks being offset". We note that OHUG and roadworks are within our relocations expenditure subcategory, which is a different expenditure subcategory (and forecast amount) than field sustain expenditure.



92. So, we query if this question is appropriately directed to field sustain expenditure. Our response is therefore to clarify the nature of field sustain and relocations expenditure.
93. Field sustain is a subcategory of our network sustain and enhance capex. field sustain covers maintenance to upgrade and replace assets across three asset portfolios: fibre assets, ducts and manholes, and poles.
94. We note that field sustain does include pole renewal and replacement (contrary to the note in the consultation paper at paragraph 78). However, field sustain does not include our expenditure subcategory called relocations, which relates to the activities of moving network infrastructure (i.e. overhead to underground (OHUG) works and roadworks).
95. As field sustain includes renewal and replacement of key physical assets - fibre assets, ducts, manholes and poles, the forecast is \$60.4M. During RP1 we are expecting a slight increase associated with our programme to maintain fibre service. This is in part due to our fibre network grows and ages, which we anticipate means our network will require more maintenance and some replacement.²⁰
96. For relocations expenditure, our proposed forecast spend is \$12.8M. Relocations forecasts are uncertain as they are largely reactive to demand. Chorus conducts relocations work (including roadworks and moving assets from overhead to

²⁰ Refer to Our Fibre Assets, Sections 5.3 to 5.4.

underground) at the request of the New Zealand Transport Agency (NZTA), councils, lines companies and other third-party requests. We plan based on a mixture of known works and historical run rates.²¹

²¹ For further information on relocations expenditure, including our forecasting approach refer Our Fibre Assets, sections 5.8 to 5.9.