

Annex 2 - Preliminary Budget initiative scoping document¹

Preliminary Budget initiative scope

Section 1: Overview and Context

Name of agency seeking funding	KiwiRail (supported by Greater Wellington Regional Council)
Initiative title	Track and Civil Infrastructure Catch Up Renewals Ensuring Wellington Rail Track Infrastructure can Maintain Regional Connectivity and Enable Growing Demand (from ILM workshop)
Initiative description	The funding initiative will deliver a package of track infrastructure Catch Up renewals throughout the Wellington Metropolitan Railway Network (WMRN). The primary focus is on the Wairarapa Line and critical infrastructure in the busiest inner parts of the network close to Wellington Station. It will also improve safety and resilience through treating identified high risk slopes on the network and eliminate the last few remaining timber bridge sections.
Date approved by agency board	26 September 2017

1.1 Executive Summary

A. Short summary of the proposed initiative and expected outcomes	<p>The proposed investment addresses key infrastructure assets which have reached the end of their lives and are in poor condition, resulting in service impacts for rail customers.</p> <p>The reason the track assets are in poor condition is due to the fact that sections of track were previously installed and renewed over short time periods, meaning assets are all of a similar age and condition. The concentration of life expired assets has been intensified by subsequent periods of low levels of investment in the WMRN.</p> <p>This has resulted in a situation where there is a large 'bow wave' of renewals due or becoming due for significant long life assets, frequently described as Catch Up or "inter-generational" renewals.</p> <p>The scale of this spike in renewals exceeds the normal funding mechanisms provided through the Metro Rail Operating Model (MROM).</p> <p>Additionally, it has been identified that there is the opportunity to invest in slope stability to address safety and network resilience plus four bridges still containing timber structural elements. These Catch Up elements are also difficult to address under the current MROM funding model.</p> <p>Catch Up renewals have previously been funded by the Crown.</p>
--	--

¹ Adapted from Treasury, September 2017, *Budget 2018 Initiatives Process*, Template 1: General Budget Track Initiative Template

	<p>The on-going need for the WMRN is evidenced by the large number of people who use the network (>13,000,0000 trips p.a.) and that patronage growth is exceeding previous forecasts (in 2017 alone it increased at peak times on average 6%). If the work is not undertaken, it will result in prevalent speed restrictions across the network, impacting on customer travel times.</p>
	<p>Completing these Catch Up renewals will assist in meeting the customer level of service expected in the Wellington Region. This includes rapidly dealing with parts of the network that are already failing existing level of service KPIs (i.e. the Wairarapa Line).</p> <p>The proposed investment in the Catch Up renewals and slopes is highly aligned with Crown policy to maximise the economic benefits not just for Wellington but New Zealand as a whole².</p> <p>The WMRN forms an integral part of the overall transport system in Wellington. Improvements to rail benefits the whole system including: relieving pressure on the Wellington road network; reducing travel times; and, improving safety. Effective passenger rail reduces the need for road capacity investment and provides a very environmentally favourable form of transport (helping New Zealand achieve its emission reduction targets).</p> <p>This initiative follows on from previous Crown funded Wellington Metro Catch Up Renewal Programmes which concentrated on non-track infrastructure catch-ups (e.g. traction poles, signals etc.) At the time of gaining funding for these previous initiatives, the need for further Catch Up funding, including this initiative, was indicated.</p> <p>The entire Wellington Region, including Wairarapa, and the national economy is expected to benefit as a whole as a result of this investment in the Catch Up renewals and slope safety/resilience works.</p> <p>This investment, along with the previously funded catch-up investment proposals, delivers the "fit for purpose" rail infrastructure which is an essential pre-cursor to other investments to provide additional capacity and a better service standard. Reference should also be made to the parallel investment initiative titled 'Enable Wellington Regional Railway Network to Cater for Growth in Future Demand'.</p>

Funding Sought (\$m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 & out years	TOTAL
Operating	-	-	-	-	-	-	-
Capital		\$10	\$20	\$25	\$20	\$15	\$90
Description of cost	<p>The cost for this initiative is estimated to be in the range of \$70m to \$90m. This estimate is very high level and is still under development in the Business Case process. All funding sought is capital as it is for procurement and delivery of physical works for long life Crown assets. The remaining lifecycle costs, particularly inspections and maintenance will be covered by GWRC and KiwiRail through their Wellington Network Access Agreement.</p>						

² Paraphrased from MOT Transport Policy, Transport Sector Budget 2018 Process

1.2 Context

A. Has the Minister or Cabinet considered this or other similar initiatives before?	Y
B. Has the initiative been jointly developed with other agencies?	Y
C. Will a Better Business Case be used for the initiative?	Y
D. Would this initiative still go ahead if not funded in Budget 2018?	N
E. Does this initiative contain an element of funding for cost pressures?³	N
F. Were these cost pressures signalled in the previous 4 year plan?	N/A
G. If required, please provide additional information to support your answers above.	<p>As per the 2011 Metro Rail Operating Model (MROM), the Crown agreed to fund investment to bring the network up to a functional, safe and reliable standard, with on-going maintenance to be funded by user charges.</p> <p>This included advice from the Office of the Minister of Transport that “future metro rail investment upgrades will be considered by the Crown on a case by case basis and are likely to be subject to Treasury’s CAM assessment⁴”.</p> <p>Before agreeing to the model in 2011, Greater Wellington Regional Council (GW) consulted the public on the basis that “an important part of the deal involved continued network upgrades by the Government”.⁵</p> <p>The current level of investment available from GW and NZTA is sufficient for much of steady state maintenance but unable to stretch to a Catch Up or inter-generational renewal of this scale.</p>

³ Cost pressure initiatives cover existing services and outputs that are funded from within baselines but which are facing wage, price, volume and/or other pressures and where an agency considers it cannot continue to deliver the same level and/or quality of service within its baselines.

⁴ Letter 4th July 2011 from Office of Hon Stephen Joyce to Hon Fran Wilde, Paragraph “8”

⁵ GWRC Annual Plan 2011-12 consulted with the public

Section 2: Problem / Opportunity & Strategic Alignment

2.1 Problem Definition or Opportunity

A. Describe the problem or opportunity that this initiative seeks to address.

There is a material amount of, mainly track renewals and slope risk reduction, investment required in the Wellington Metro Railway Network that the MROM model is unable to fund. The primary elements of the required works are:

- a) Track infrastructure Catch Up renewals (incl. Wairarapa line) – Undertaking this will assist in meeting the train service expectations of Wellington Metro commuters (incl. Wairarapa commuters) by removing and avoiding speed restrictions⁶. It is noted that the speed restrictions on the Wairarapa line currently relate to approximately 10 minutes of increased journey time. It is also noted that without the initiative being funded it is more than likely that the Wairarapa line would face increasing speed restrictions in the next 3 to 5 years and then potentially close to passengers. This Track Infrastructure Catch Up renewal includes:
 - I. five tunnels (incl. the 8.8km Rimutuka tunnel) that have end-of-life track condition issues and will require track replacement within the next five years.
 - II. a large number of Treated Pinus Radiata (TPR) sleepers, predominantly installed 35-40 years ago, that are at end of useful life or will reach this point within the next 10 years. Roughly 45% (110km) of the Wellington Metro Rail Network mainline has TPR sleepers.
 - III. end of life track formation (the engineered layers underneath and supporting the railway track), exacerbated by life expired drainage, that requires renewal
- b) Slope stability – Address resilience concerns on current slopes identified as high risk to reduce the risk of slips like those which have closed lines in the past following wet weather. This includes the risk of train derailments and collisions in double track sections. This relates to approximately 20 slopes identified as having a high risk – rating (>200) as per KiwiRail's assessment system
- c) A number of bridges require work, including replacing end of life timber elements in four bridges.

Without delivery of this initiative, other proposals such as "Enable Wellington Regional Railway Network to Cater for Growth in Future Peak Demand", will not be able to deliver their full benefits, due to the network not being fit for purpose.

B. What inputs will the preferred option buy and why?

The funding will deliver professional services for design, procurement, project management, and construction monitoring. It will also cover procurement of materials and physical works for the track infrastructure Catch Up renewals. It is expected that approximately half of the physical works will be delivered by KiwiRail with the remainder delivered by contractors employed under KiwiRail.

This initiative will ensure the current track infrastructure throughout the WMRN is brought back to and held at a fit for purpose state. Slope work will increase safety and resilience. Combined, these investments will deliver the service levels expected by current and future metro rail customers across the region.

⁶ "Temporary Speed Restrictions". The number and persistence of these increases as the underlying condition of the route deteriorates.

<p>C. What alternative options are being considered?</p>	<p>Various options are currently being considered and will be considered in the Business Case process. However, due to the scale and timing of the pending works, the number of options available for resolution are considered limited if reductions in service quality and service continuity are to be avoided.</p> <p>It is noted that the alternative of closing the Wairarapa line to commuter trains will also be considered in the Business Case.</p>
<p>D. Counterfactual analysis.</p>	<p>If the Crown is unable to invest the Catch Up or inter-generational/end of life renewal issues related to Wellington track infrastructure will continue to be an issue. Further speed restrictions will be necessary to maintain safe operations and unplanned works will increase.</p> <p>The condition of the Wellington Rail system will deteriorate to the point that existing service levels will be unable to be sustained. At worst, to ensure safety, sections of lines may need to be closed.</p> <p>Due to the geographical concentration of these infrastructure issues on the Wairarapa Line and its relatively lighter use, available MROM renewals investment will likely be prioritised away from the Wairarapa Line and onto the more intensively used electrified routes. This will mitigate the short term impact by concentrating the issues on the most lightly used route.</p> <p>The level of service on the Wairarapa Line will continue to degrade to the point this service would no longer be relevant due to extended journey times, resulting in reducing patronage. However, track condition within the Rimutuka Tunnel will likely force complete closure of the route to passengers within five years.</p> <p>Patronage on other WMRN lines could also reduce due to poor levels of service, reversing the strong recent growth and put into doubt subsequent initiatives to meet the forecasted growth in demand.</p> <p>It is also noted that due to the worsening track conditions in some portions of the network there would be higher risk for safety incidents - although management systems (i.e. speed restrictions or track closures etc.) would be put in place to mitigate. The risk with slope stability would however remain.</p>

2.2 Strategic Alignment and Collaboration

<p>A. How does this initiative fit with the Government's objectives and priorities for transport?</p>	<p>This initiative will provide fit for purpose track infrastructure within the Wellington Metro Railway Network with increased resilience to provide the level of service required for rail public transport in the Wellington Region. This will allow rail to maintain mode share which is essential to provide 'a transport system that maximises economic and social benefits for New Zealand'. It will also provide 'Investment in infrastructure to support a growing economy'.⁷</p>
--	---

⁷ Extract from Ministry of Transport policy, Transport Sector Budget 2018 Process

2.3 Cost Pressure Initiative Section (If Applicable)	
A. What are the policy settings and cost drivers creating the pressure or risk?	NA
B. What are the assumptions underpinning the pressures?	NA
C. What options have been identified to address the cost pressures?	NA
D. What is the efficiency, effectiveness and productivity of this cost pressure area?	NA

Section 3: Value for Money and Impacts

3.1 Expected Impacts

A. What are the costs and benefits of this initiative compared to the counterfactual?	<p>The current estimated costs are as proposed above in Table in 1.1 and 2.1B.</p> <p>In comparing the initiative to the counterfactual, the benefits of this initiative will include ensuring that Key Performance Indicators of the rail network go up rather than down (i.e. punctuality, customer satisfaction, mode share/passenger journeys, etc.). The benefits will be realised by the public that use the WMRN for work, study and leisure due to the avoidance of speed restrictions, late services, and eventual likely closure of the Wairarapa Line. The Wellington and national economy is expected to benefit as a whole with a resilient and efficient train network. Other benefits with a rail system that provides appropriate transport mode share includes reduced congestion and emissions. Economic modelling is currently underway to calculate the value of these benefits.</p> <p>In addition, some otherwise needed State Highway capacity investment through NZTA and the NLTF is expected to be avoided if the rail network is able to adequately meet the mode share demand (this is pertinent in the case of the Wairarapa line).</p>
---	--

[Note sections 3.2 and 3.3 of the Treasury initiative template are not required at this scoping stage.]

3.4 Funding Implications

A. Provide options for scaling, phasing and/or deferring this initiative.	<p>Certain components of the proposed track infrastructure upgrades could be prioritized on a risk basis (i.e. Tunnel 2 WL and NIMT are considered critical assets). However as the vast majority of the track infrastructure Catch Up renewals are forecasted to be required within 10 years, if they are not undertaken in full, speed restrictions are likely to be prevalent and service levels are expected to be impacted. It is also noted that completing the full amount of renewals may also be cost effective compared to continually going back and 'patching' up multiple times. This analysis will form part of the full Business Case process.</p>
Funding Options	<p>Similar to previous investments in WMRN for Catch Up renewals and upgrades, it is proposed that the Crown fund these works. Other funding options including KiwiRail,</p>

GWRC, NZTA and combinations have been considered and were discarded as they were not viable.

The reasons for Crown funding are:

- a) Investment in railway infrastructure helps achieve the Government's key policy objectives.
- b) Wellington, the surrounding region and the wider New Zealand economy is the ultimate beneficiary of the work. Investment in the WMRN increases economic growth.
- c) KiwiRail's operating and funding model provides no means for it to fund the work and investment in the metro network is completely separate from other Crown funding appropriations relating to the freight network.
- d) The benefits of this investment in rail accrue to across both road and rail transport networks plus the wider economy, which is beyond GWRC's remit for recognising value of investment.
- e) The Office of the Minister of Transport has advised that "future metro rail investment upgrades will be considered by the Crown on a case by case basis and are likely to be subject to Treasury's CAM assessment".
- f) Government policy requires the rail operating model be equivalent in Auckland and Wellington. Recent Auckland rail development work saw the Crown agree to fund 100% of the basic track infrastructure from the consolidated fund.

It should also be noted that Crown Funding towards the freight network is independent and separate from the metro rail investments discussed in this scoping document.

[Note sections 3.4 B of the Treasury initiative template is not required at this scoping stage.]

Section 4: Implementation, Risk Management and Evaluation

4.1 Implementation and Risks

A. How will this initiative be delivered?

As the metro infrastructure provider, KiwiRail will manage the procurement of the renewals and slope contracts similar to previous successful WMRN works. KiwiRail has well established SOE procurement and governance processes. A combination of KiwiRail delivered works and competitively procured contracts will be used.

In accordance with Section 6.6 of the Treasury guidelines, the table below considers situations that may eventuate and influence the achievement of the objectives/benefits of the initiative. It excludes assessment of the impact of not proceeding with the investment initiative.

Risk Description	Impact or Consequence	Likelihood	Severity	Overall Risk	Mitigation / Controls
Rail service punctuality worsens (or in the case of the Wairarapa Line remains poor) due to other factors	Despite track infrastructure Catch Up renewals, other factors like rolling stock condition/ availability, faults, failures, errors effect the ability for the network to meet punctuality targets and thus reduces the ability for the initiative to realise the full expected benefits.				Continue to use good industry practice with regard to asset management/ investment of rail network and rolling stock. Complete Catch Up renewals to ensure rail infrastructure is fit for purpose.
Forecasted future demand for rail is less than currently expected	Track infrastructure Catch Up renewals do not meet full benefits and/or benefits are instead realised later than that modelled in economic assessment (to be undertaken in the business case).				Utilise reasonable rail demand in assessment of benefits. Consider optimism bias in business case.
Future road transport infrastructure changes	Road network development increases the ability for the road network's mode share and thus may reduce demand for rail.				Ensure business case considers current forecasted road investments. Ensure business case is reviewed by NZTA. Ensure other factors such as environmental emissions are considered as part of the overall picture.
External transport technology developments	Future technology developments (i.e. rail technology changes, introduction of driverless cars) impacts on benefits realisation of investment.				Undertake desktop research and include discussion/ consideration of this in business case. Ensure business case is reviewed and supported by NZTA.

4.2 Legislative and Regulatory Implications

A. Please detail any legislative implications and whether the RIA requirements apply.

There are no implications with regard to changes required to legislative and regulatory frameworks if the initiative is funded.

4.3 Implementation and Evaluation

Outline how the implementation and performance of the initiative will be regularly monitored

An Investment Logic Mapping exercise has been completed for this initiative. The implementation and performance of the initiative will be monitored by a range of performance indicators including the below.

- Network availability
- Mode share
- Journey time
- On-time performance
- Customer satisfaction
- Rail patronage
- Renewal unit costs
- Maintenance costs
- Rail safety incidents
- Operational safety controls

The performance of the initiative will be monitored through KiwiRail and GWRC governance and reporting; particularly WMRN monthly and annual performance reports.