

28 April 2021

OC210353

Hon Michael Wood  
Minister of Transport

Action required by:  
Thursday, 29 April 2021

## THE NEW ZEALAND UPGRADE PROGRAMME — FURTHER INFORMATION ON THE ASSESSMENT OF OPTIONS

### Purpose

Provides further information regarding our prioritisation assessment of the transport component of the New Zealand Upgrade Programme (the Programme), in response to your request. This paper follows on from joint Treasury and Ministry briefing *The New Zealand Upgrade Programme – Baseline Update and Detailed Programme Options* (OC210276/T2021/1002 refers).

### Key points

- The Treasury/Ministry's (Officials') approach to prioritisation of the Programme differed from that of Waka Kotahi. The attached A3 shows project-level differences in proposed approaches, and the briefing outlines programme level considerations.
- The Ministry and Treasury approach:
  - considers several assessment approaches and the views of Waka Kotahi, KiwiRail and the Ministry of Housing and Urban Development
  - reflects previous consultation with Auckland Local Government Agencies around Drury investment
  - considers the Government's strategic priorities (balancing the Government's commitment to reduce emissions with enabling other priority Government outcomes, such as enabling increased housing supply and fiscal stimulus)
  - retains \$1 billion over and above project-level contingency to manage any future cost and scope increase risks
  - takes a conservative approach towards risk, with the highest priority projects proposed for delivery immediately, and lower priorities being progressed through to design, but only proposed for delivery if there is sufficient funding across the Programme.
- Waka Kotahi's view:
  - proposes the same as Officials' approach for the Priority 1 initiatives

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- commits to the South Auckland projects now, in line with recent advice
  - delivers a further four projects in full and one in part, fully allocating the available \$6.8 billion at a P50 level
  - allows for work to continue on all remaining projects to a defined milestone (i.e. route protection), which will provide Ministers with the option to continue to the construction phase, subject to the availability of additional funding in the future.
- The key difference in the two approaches is the treatment of risk. Officials consider that given recent cost and scope increases, it would be prudent to prioritise on the basis of P95 cost estimates, and that it is likely a Programme contingency will be required to deliver projects.
  - Waka Kotahi considers that the P50 expected cost figures are adequate to re-confirm projects. Waka Kotahi also notes there are other risks that should be considered with respect to prioritising fewer projects and holding a greater level of contingency. These include having a significant underspend and reduced outcomes later in the Programme, negative impact on community and stakeholder relationships, increased project costs due to longer project timeframes, and industry and Waka Kotahi resourcing uncertainty.

**Recommendations**

We recommend you:

- 1 **discuss** this briefing with Officials on Thursday 29 April.

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Tim Herbert  
**Manager, Investment**

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Hon Michael Wood  
**Minister of Transport**

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**Minister's office to complete:**

- Approved
- Declined
- Seen by Minister
- Not seen by Minister
- Overtaken by events

**Comments**

To protect the privacy of individuals

**Contacts**

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## THE NEW ZEALAND UPGRADE PROGRAMME - FURTHER INFORMATION ON THE ASSESSMENT OF OPTIONS

### Background

1. To help support the viability and affordability of the transport components of the New Zealand Upgrade Programme (the Programme), we provided preliminary advice on prioritising projects within the fixed funding envelope (OC210055/T2021/630 refers).
2. You agreed in-principle to support the continued delivery of:
  - a. five committed projects forecast to cost \$2.1–\$2.3 billion that are already being constructed, or are about to commence with procurement or construction
  - b. ten smaller-scale projects, forecast to cost \$375–\$490 million, which will provide direct economic benefits whilst benefitting a range of communities across New Zealand.
3. You also indicated that the Programme should be prioritised with consideration to transit-oriented housing outcomes and emissions reduction.
4. In March 2021, the Ministry prioritised across the Programme with the Treasury, the Ministry of Housing and Urban Development, and delivery agencies, to assess individual projects against your priority outcomes for the Programme (OC210276/T2021/1002 refers).
5. On 19 April 2021, you requested further information on the prioritisation assessment and differences between Officials' and Waka Kotahi's advice.

### **Officials considered a range of Government objectives and considered the views of multiple agencies.**

6. Officials' approach to prioritisation involved considering several assessment approaches and the views of Waka Kotahi, KiwiRail, and the Ministry of Housing and Urban Development. Official's advice also reflected consultation with Auckland Local Government Agencies around Drury investment (separately we are undertaking further work on the southern growth area with a particular focus on Mill Road).
7. Waka Kotahi's advice was a critical input into this process and we consulted closely with them. We have presented Waka Kotahi's views throughout this paper.
8. Prioritisation involved considering the findings of several assessment approaches, including the baseline assessment and the delivery agencies' own assessment of project benefits. An important part of the assessment was considering the imperative to reduce emissions against other outcomes, such as increasing housing supply and addressing transport network issues and improvements.
9. Road and rail projects that support housing growth may raise emissions from current levels. Road projects may increase vehicle capacity and increase vehicle kilometres

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travelled (VKT) depending on the length of a new, widened or otherwise improved road. In turn, emissions rise in step with VKT.

10. Ignoring any improvement in vehicle fuel efficiency, emissions could fall in the long term relative to a counterfactual of increased congestion on existing road links, if housing development was to proceed without upgraded road and rail.
11. Alternatively, emissions could fall in the long-term if rail and road links lead to mode shift, from road to public transport, relative to a counterfactual of housing growth without upgraded road and rail.
12. It is only in the very long term (20-30 years) that there is the potential for absolute emissions to decline. Emissions will fall once the fuel efficiency of the vehicle fleet increases sufficiently to outweigh the increase in VKT.
13. Officials consider there are limited opportunities for emissions reduction in the Programme. However, it is possible to prioritise a mix of projects and scope choices in the remainder of the Programme that may mitigate potential emissions when compared to other choices within the fixed budget constraint. As a result of integrating these factors, rail projects (including additional potential scope options) were ranked highly.
14. This resulted in a way forward for the Programme that prioritises the transport projects into four categories using the best available information, while managing the Programme risks and uncertainties to the Crown and Joint Ministers:
  - **Priority 1:** 18 projects can be prioritised for delivery as they have previously been agreed in principle by Joint Ministers, are geographically spread, and have a higher certainty and a lower cost risk to the overall Programme
  - **Priority 2:** three projects could also be prioritised as they are likely to represent higher value for money and align with your priorities for transit-oriented housing developments while potentially resulting in less emissions than other Programme configurations
  - **Priority 3:** two projects align with your priorities, but do not necessarily represent value for money from the information available through re-baselining, and further information and work is required before you make a decision to commit to their delivery
  - **Priority 4:** five projects are high risk with high uncertainty around expected outcomes, value for money, and scope, so any decision to deliver or implement should be deferred until further funding or delivery options are available.
15. These priority categories incorporate Programme-wide considerations, and groupings take into account a prudent approach to incorporating contingency within the budget constraint.
16. As per earlier advice, KiwiRail's preference is for the additional rail scope options to be funded within the programme. This includes Drury West Station (\$135m at P95) and supplementary works for Wiri to Quay Park, Papakura to Pukekohe, Wellington Station Entry and Wairarapa Line (total \$164m at P95).

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*Waka Kotahi's view regarding prioritisation*

17. Waka Kotahi has recommended a prioritised scenario for delivery within the \$6.8 billion investment. This includes some projects delivered in full, some taken to route protection only and some partially delivered.
18. Waka Kotahi's recommended prioritisation:
  - is consistent with Official's recommendations for Priority 1 initiatives;
  - provides funding for South Auckland as per the Drury Investment Options advice provided to the Minister on 1 April 2021 (ref OC210055);
  - delivers a further four projects in full and one in part; and,
  - allows for work to continue on all remaining projects to at least a logical defined milestone, which will provide Ministers with the option to continue to the construction phase, subject to the availability of additional funding in the future.
19. This scenario delivers against a range of outcomes, with investment in Northland, Auckland, Waikato/Bay of Plenty, Wellington, Canterbury and Queenstown, supporting the drive to stimulate the economy.
20. The Waka Kotahi costs for the above scenario are based on a P50 (expected) cost estimate. To ensure funding for KiwiRail projects in their scenario, Waka Kotahi used P95 cost estimates for the six KiwiRail projects in the original programme scope. Waka Kotahi did not include or assess funding for any additional KiwiRail scope items.

**There are options for management of contingency that have different benefits and risks**

21. A key point of difference between Officials' and Waka Kotahi's approach is the use of P95 and P50 cost estimates. Waka Kotahi's recommended programme incorporates (lower) P50 estimates for Waka Kotahi projects, whereas officials have recommended use of P95 estimates.
22. Waka Kotahi has advised that the level of contingency in the P50 and P95 cost estimates is varied across projects, reflecting differing levels of risk.
23. However, given the remaining uncertainty and risk for the majority of these projects, we consider there is a high risk that the costs for the prioritised projects will increase over time, despite adopting the high cost estimates.
24. Officials recommend 15 percent (\$1 billion) of the Programme funding be retained as Programme contingency to be held by the Ministry in its Crown appropriations to manage the risk in delivering the 23 projects in Priority 1, 2 or 3.
25. If you agree for the 23 projects to be prioritised in the Programme, and for 15 percent to be retained as programme contingency, this leaves a remaining funding allocation of \$166 million to \$1010 million.

*Waka Kotahi's view*

26. Waka Kotahi agrees with and is proposing to implement programme level contingency. The key difference is the scale of the programme contingency, where Waka Kotahi is proposing to draw this from the P50 contingency allocation (as opposed to Officials' proposal to add additional contingency over the P95 estimate).
27. Waka Kotahi notes there are other risks that should be considered with respect to prioritising fewer projects and holding a greater level of contingency. These include having a significant underspend and reduced outcomes later in the programme, negative impact on community and stakeholder relationships, increased project costs due to longer project timeframes, and industry and Waka Kotahi resourcing uncertainty.
28. Waka Kotahi's has stated that its preferred approach to prioritisation includes continuing to manage the programme in a dynamic way, e.g. transparent decisions, significant thresholds and contingency management protocols for the programme, to enable the delivery of the agreed outcomes within the allocated budget.

**You can enable the remaining projects to have greater levels of readiness should additional funding become available**

29. To enable lower priority to have greater levels of readiness should additional funding or delivery options become available, we recommend projects are allowed to reach decision stage gates now, such as completion of business cases, regardless of whether they remain part of the Programme. This would present a relatively low cost risk to the Programme.
30. Waka Kotahi recommends taking projects beyond Detailed Business Case stage to at least route protection, which provides a greater level of readiness should funding become available. This option also provides great certainty of cost and certainty for communities and stakeholders.

	Project	Cost P50 (\$m)	Cost P95 (\$m)	MOT/TSY Recommendations	MOT/TSY Comment	MoT/TSY (\$m, all P95s)	Waka Kotahi Recommendations	Waka Kotahi Comment	WK (\$m)	P50/P95
Recommendations Aligned	SH58	105	130	Deliver		130	Deliver		\$105	P50
	SH1/29	40	50	Deliver		50	Deliver		\$40	P50
	Takitimu North Link Stage 1	655	740	Deliver		740	Deliver		\$655	P50
	Papakura to Drury South Stage 1	655	720	Deliver		720	Deliver		\$655	P50
	Canterbury Package	218	300	Deliver		300	Deliver		\$218	P50
	Queenstown Package	115	145	Deliver		145	Deliver		\$115	P50
	Wiri to Quay Park	305	318	Deliver		318	Deliver		\$315	P95
	Papakura to Pukekohe electrification	356	375	Deliver		375	Deliver		\$375	P95
	Wellington Railway Station safety	69	74	Deliver		74	Deliver		\$74	P95
	Wairarapa Railway upgrade	118	127	Deliver		127	Deliver		\$127	P95
	Capital Connection Interim replacement rolling stock	24	26	Deliver		26	Deliver		\$26	P95
	Drury rail stations (original scope - 2 stations)	303	360	Deliver		360	Deliver		\$360	P95
Recommendations Partially Aligned	Melling	375	420	Deliver, subject to funding/further work	May require a decision from local government	420	Deliver		\$375	P50
	Mill Road North (Manukau section)	800	950	Deliver, subject to funding/further work	Requires decisions on scope and cost	950	Deliver	As per MoT Drury Investment Options advice	\$800	P50
	Penlink	740	830	Don't deliver	No route protection property purchases	0	Does not proceed to construction	Route protection/property purchase (already complete)	35	
	Ōtaki to north of Levin	1200	1500	Don't Deliver	Taken to DBC	0	Does not proceed to construction	Route protection and 50% property purchase	180	
	Papakura to Drury South Stage 2	510	600	Deliver		600	Does not proceed to construction	Route protection and 50% property purchase	130	
	Mill Road Remainder (Takaanini, Papakura and Drury sections)	2100	2550	Don't Deliver	Taken to DBC	0	Does not proceed to construction	Route protection and 50% property purchase	415	
Recommendations Not Aligned	Whangārei to Port Marsden	1200	1310	Don't Deliver	Taken to DBC	0	Partially Deliver	Reduced scope/staging	500	
	Takitimu North Link Stage 2	545	630	Don't Deliver	Taken to DBC	0	Deliver		545	P50
	Northern Pathway	760	830	Don't Deliver	Taken to DBC	0	Deliver		760	P50
	Additional scope on KiwiRail projects	142	299	Deliver		299	Not assessed		0	
		<b>\$11,335</b>	<b>\$13,284</b>							

	MOT/TSY recommendation		Waka Kotahi recommendation	
	Cost P50 (\$m)	Cost P95 (\$m)	Cost P50 (\$m)	Cost P95 (\$m)
Deliver	3615	4264	5545	6195
Deliver, subject to funding/further work	1175	1370	0	0
Route Protection	0	0	760	760
Partially Deliver	0	0	500	500
Programme Contingency	1000	1000	Waka Kotahi estimated costs (P50 and P95) include contingency funding. Some of this contingency funding would be held at the project level and some at programme level.	
<b>Total</b>	<b>5790</b>	<b>6634</b>	<b>6805</b>	<b>7455</b>
<b>Unallocated Funding</b>	<b>1010</b>	<b>166</b>	<b>-5</b>	<b>-655</b>