

# The Treasury

## Budget 2017 Information Release

### Release Document July 2017

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[40]	Not in scope	

In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) and section 18 of the Official Information Act.

# Cost Benefit Analysis Template

## Section A Descriptive Information

<b>Vote</b>	Defence Force
<b>Responsible Minister</b>	Hon Gerry Brownlee
<b>Initiative title</b>	Defence White Paper 2016 (DWP 2016)

Funding Sought (\$m)	2016/17	2017/18	2018/19	2019/20	2020/21 & outyears	TOTAL
Operating	-	37.152	115.040	115.040	115.040	-
Capital	-	-	-	-	-	-

### Problem Definition

***A description of the problem or opportunity that this proposal seeks to address, and the counterfactual.***

In October 2013 Cabinet approved, as part of the Defence Midpoint Rebalancing Review, indicative capability and funding for the Defence Force out to 2029/30 [Cab Min (13) 39/5 refers]. Defence can deliver the proposed updated force structure within the funding levels agreed in 2013, out to 2020. Beyond that point the Defence Force will need additional capital and operating funding to deliver the capabilities delivered as part of Defence White Paper 2016.

If this funding is not approved, and the NZDF was to live within its current baselines, it would deliver only some of the capabilities and associated outputs that Ministers have agreed they want.

Those implications at DMRR were outlined in CAB Min (13) 38/5 and in the Budget 2014 NZDF Four Year Plan.

[33]

### Initiative Description

***A description of what the initiative will provide or produce and how this will address the problem or opportunity.***

The Defence White Paper 2016 refreshed the capability requirements underpinning the Defence Midpoint Rebalancing Review in order to deliver a preferred force structure that is able to meet New Zealand's national security interests out to 2040. Costing of the preferred force design incorporated some capability changes, revised inflation and foreign exchange assumptions, as well as updated whole of life costing for key capability exemplars.

The operating 2017 Budget bid will be used to deliver current defence policy via:

- the introduction into service of new and upgraded capabilities;
- the targeted re-growth of personnel in critical military capabilities;
- the regeneration of the Defence Estate

## Alternative Options Considered

Defence White Paper proposed a number of alternative force designs and the preferred force structure was selected by Cabinet.

## Section B Impact Analysis

### Impact Analysis

***An explanation of who is impacted (winners and losers), what the impacts are (costs and benefits), and when the impacts will be realised and for how long. The impacts should be quantified and monetised if possible.***

The Defence White Paper 2016 proposes an updated force structure for the Defence Force, building on the refreshed defence policy agreed by Ministers in August 2015 [NSCMIN-15-0001 refers]. The updated force structure refreshes the capability portfolio to ensure the Defence Force is structured and equipped to meet the Government's defence policy objectives out to 2030 and beyond.

Cabinet agreed the capabilities required and the indicative funding now sought at Budget 2017. This will enable delivery of White Paper 2016 policy settings through the NZDF's *Future35* strategy.

The expected results from this spending are:

- the NZDF would retain (and be able to replace at end of life) its current combat and resource and border protection capabilities, and that the NZDF would be able to lead an operation in the region (similar in size to New Zealand's contribution to Timor Leste) and/or operate without needing to rely on others, as well as make concurrent contributions to international security;
- the NZDF would be able to procure the following additional capabilities in order to meet the national security challenges identified as part of the 2014 Defence Assessment:
  - increased air surveillance capability;
  - ice-strengthening the planned third offshore patrol vessel and replacement naval tanker;
  - an enhanced littoral operations capability to support operations from the sea onto land;
  - a cyber security support capability; and
  - additional intelligence personnel.
- the NZDF is able to maintain the current level of output across Defence policy; and
- targeted re-growth of personnel numbers.

The benefits of delivering Defence Policy have been calculated as achieving a return on investment of 1.0 based on the value perceived by the New Zealand population of Defence Force outputs, quantified as \$21 per annum per individual for the duration of the Defence White Paper 2016 period – out to 2030.

### Impact Summary Table

***All monetised and non-monetised impacts should be listed.***

### Impact Summary Table

Impacts - Identify and list \$m present value, for monetised impacts	Option/scenario		Assumptions and evidence (quantify if possible, and use ranges where appropriate)	Evidence certainty <sup>1</sup>
	1	2		

Cost of the Initiative				
Fiscal operating costs of the initiative.	(972.868)		Costs are from 2018 – 2030, for the duration of the Defence White Paper period. Key cost drivers include: <ul style="list-style-type: none"> <li>the targeted re-growth of personnel in critical military capabilities;</li> <li>the existing remuneration policy;</li> <li>the introduction into service of new and upgraded capabilities;</li> <li>activity costs for new and upgraded capabilities; and</li> <li>the regeneration of the Defence Estate</li> </ul>	High
Wider Societal Benefits/(Costs)				
Providing a measure of value to the people of New Zealand in delivering Defence White Paper 2016 policy settings.	936.842		Assumptions include: <ul style="list-style-type: none"> <li>All people of New Zealand receive an equal amount of benefit that in total is equal to the cost of the bid. The benefit is \$21 per person per annum.</li> <li>Total population based on Statistics NZ projections</li> <li>The benefit per person per annum has been calculated through reverse analysis to result in a ROI of 1.0.</li> </ul>	High
<b>Total Quantified Wider Societal Impact</b>	<b>936.842</b>			High
<b>Net Present Value of Total Quantified Societal Impacts</b>	<b>(36.026)</b>	<b>-</b>		High

<sup>1</sup> Rate your level of confidence in the assumptions and evidence as high (green) if based on significant research and evaluations that is applicable, medium (amber) if based on reasonable evidence and data, or low (red) if there is little relevant evidence. Colour the rating box for each impact.

## Section C Conclusions

### Conclusions

#### *What is being recommended and why?*

Cabinet agreed the capabilities required and the indicative funding now sought at Budget 2017. This operating bid will enable delivery of White Paper 2016 policy settings through the NZDF's Future35 strategy.

### Overall Ratings

Value for Money <sup>2</sup>	Strategic Alignment <sup>3</sup>
5	5

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<sup>2</sup> For guidance on Value for Money ratings see Budget 2017 guidance section 3.2.2

<sup>3</sup> For guidance on Strategic alignment ratings see Budget 2017 guidance section 3.1.5

Summary of monetised results [only fill this out if you have monetised costs and benefits]		
Use ranges for values where appropriate	Discount Rate	
	6% real (default)	3% real (sensitivity)
Net Present Value (NPV) <sup>4</sup>	(\$36.026m)	(\$50.748m)
Benefit Cost Ratio (BCR) <sup>5</sup>	1.0 (1.0 = \$936.842m / \$972.868m)	1.0 (1.0 = \$1,114.168m / \$1,164.916m)
Return on Investment (ROI) – Societal Total <sup>6</sup>	1.0 (1.0 = \$936.842m / \$972.868m)	1.0 (1.0 = \$1,114.168m / \$1,164.916m)
Return on Investment (ROI) – Government <sup>7</sup>	1.0 (1.0 = \$936.842m / \$972.868m)	1.0 (1.0 = \$1,114.168m / \$1,164.916m)

### Supporting Evidence

#### *ie, the bibliography*

The impacts for this initiative are largely unquantified and un-monetised. A reverse analysis was completed that achieved a return on investment of 1.0 based on the value perceived by the broader New Zealand population of the Defence Force outputs, quantified as \$21 per annum per individual for the duration of the Defence White Paper 2016 period – out to 2030.

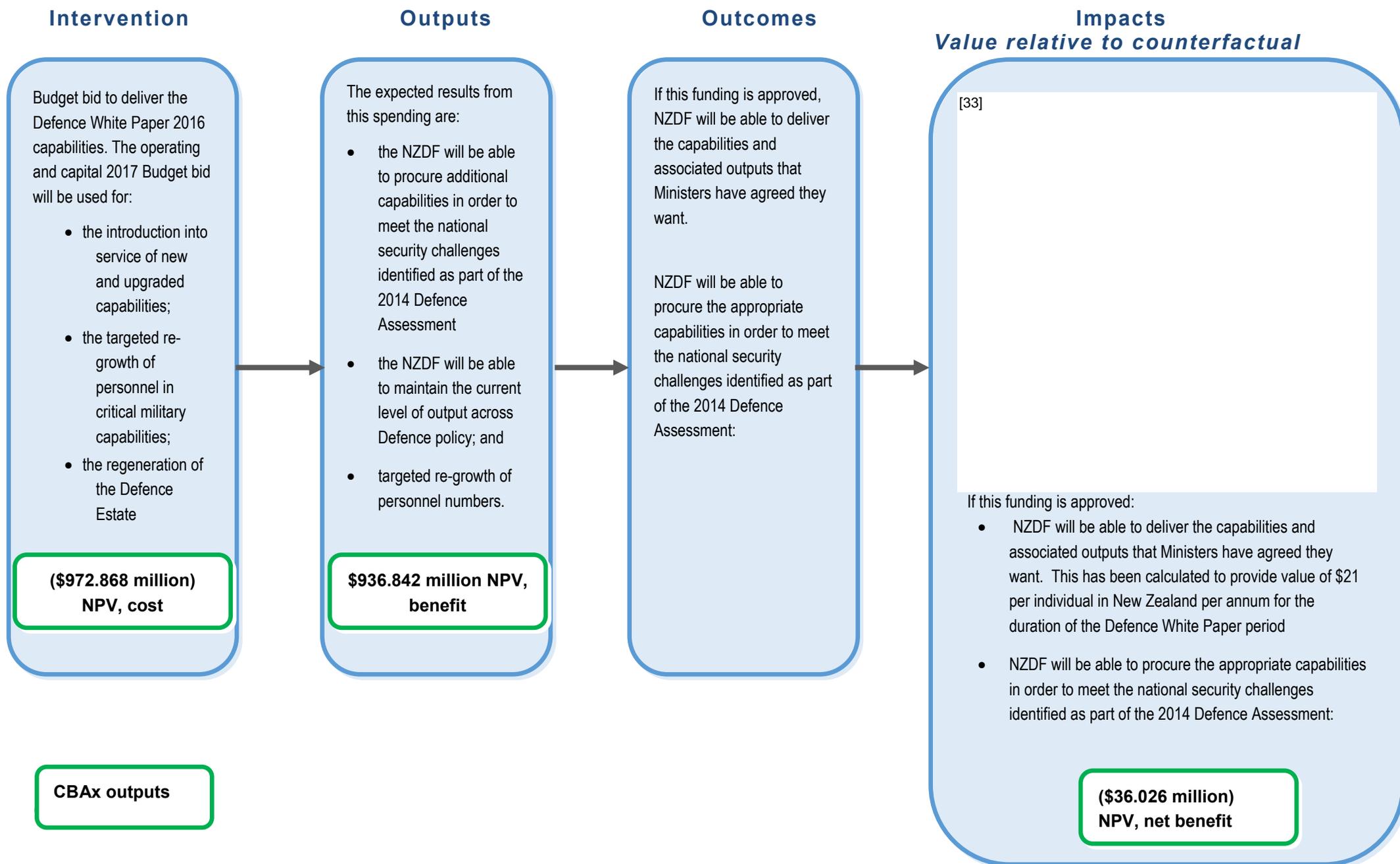
### Ex-post Impact Evaluation Plan

#### *How will you evaluate (after the programme has been rolled out) what the effect of the programme was, particularly on the impacts listed in Section B?<sup>8</sup>*

This initiative will be managed by the New Zealand Defence Force and is an integral part of implementing Defence policy. Cabinet directed Defence undertake a mid-point refresh of the Defence Force's capability and financial picture in 2018 to provide greater cost certainty about long-term affordability beyond 2020. Officials will take a hard look in particular at the Defence Force's workforce, including personnel structure, remuneration and numbers, to provide assurance around long-term cost estimates. This will ensure the NZDF delivers on its agreed funding stream and achieves on-going organisational efficiencies in order to maintain an on-going balance between defence policy, capability and funding. Results will be measured by assessing progress in each work stream. The NZDF will report on the effects achieved through quarterly reports and Four Year Plans, for example increases in personnel, improvements in the Defence Estate. Additional measures will use extant financial and non-financial performance measures in terms of output delivery including operational preparedness / readiness.

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- <sup>4</sup> **Net Present Value (NPV)** - The NPV is the sum of the discounted benefits, less the sum of the discounted costs (relative to the counterfactual). This gives a dollar value representing the marginal impact on the collective living standards of all New Zealanders of the initiative, in today's dollar terms.
- <sup>5</sup> **Benefit Cost Ratio (BCR)** - The BCR is the ratio of total discounted benefits to the total discounted costs. A proposal with a BCR greater than 1.0 has a positive impact, because the benefits exceed the costs. The BCR is the same as the Return on Investment Societal Total, unless there are negative impacts in addition to the fiscal cost of the initiative. All negative impacts are included in the denominator for the BCR measure.
- <sup>6</sup> **Return on Investment (ROI) - Societal Total** - Calculate the ROI by dividing the discounted net change in wider societal impact, including benefits to government, by the discounted cost of the initiative. This can be interpreted as the impact for New Zealanders per dollar the government spends on the initiative, eg, for every \$1 the government spends on this programme, New Zealanders receive benefits of \$3.
- <sup>7</sup> **Return on Investment (ROI) – Government** – Calculate the ROI by dividing the discounted net change in impact for the government by the discounted cost of the initiative. This measures the discounted net marginal (fiscal) benefits to the government.
- <sup>8</sup> More information on this impact evaluation plan is available in the Budget 2017 guidance Section 4

## Appendix 1 One-page Intervention Logic



# Appendix – CBA Analysis

## Outputs Summary

Proposal details	
Respondent name	Defence White Paper Budget 2017 Bid
Intervention details	This operating bid will enable delivery of White Paper 2016 policy settings through the NZDF's Future35 strategy.
Start year	2018
Period for analysis	13 Years
Total population over 13 Years	64,201,160
Discount rate	6%

Net benefit summary		Unit: 2018 (\$000)						
Category	5-Year NPV \$000	10-Year NPV \$000	13-Year NPV \$000	2018	2019	2020	2021	2022
Total marginal impact	431,807	762,901	936,842	99,566	99,566	99,566	99,566	99,566
Total cost of initiative	(423,265)	(796,084)	(972,868)	(37,152)	(115,040)	(115,040)	(115,040)	(115,040)
Net economic benefits	8,542	(33,183)	(36,026)	62,414	(15,474)	(15,474)	(15,474)	(15,474)

Cost summary		Unit: 2018 (\$000)						
Cost category	13-Year NPV \$000	2018	2019	2020	2021	2022		
Fiscal cost of initiative								
Operating expenses		(972,868)	(37,152)	(115,040)	(115,040)	(115,040)		
Capital expenses		-	-	-	-	-		
Total fiscal cost of initiative		(972,868)	(37,152)	(115,040)	(115,040)	(115,040)		

Impact summary		Unit: 2018 (\$000)								
Evidence Quality		5-Year NPV \$000	10-Year NPV \$000	13-Year NPV \$000	2018	2019	2020	2021	2022	
Impact 1	Low	431,807	762,901	936,842	99,566	99,566	99,566	99,566	99,566	
Impact 2	-	-	-	-	-	-	-	-	-	
Impact 3	-	-	-	-	-	-	-	-	-	
Impact 4	-	-	-	-	-	-	-	-	-	
Impact 5	-	-	-	-	-	-	-	-	-	
Impact 6	-	-	-	-	-	-	-	-	-	
Impact 7	-	-	-	-	-	-	-	-	-	
Impact 8	-	-	-	-	-	-	-	-	-	
Impact 9	-	-	-	-	-	-	-	-	-	
Impact 10	-	-	-	-	-	-	-	-	-	
Impact 11	-	-	-	-	-	-	-	-	-	
Impact 12	-	-	-	-	-	-	-	-	-	
Impact 13	-	-	-	-	-	-	-	-	-	
Impact 14	-	-	-	-	-	-	-	-	-	
Impact 15	-	-	-	-	-	-	-	-	-	
Impact 16	-	-	-	-	-	-	-	-	-	
Impact 17	-	-	-	-	-	-	-	-	-	
Impact 18	-	-	-	-	-	-	-	-	-	
Impact 19	-	-	-	-	-	-	-	-	-	
Impact 20	-	-	-	-	-	-	-	-	-	
Impact 21	-	-	-	-	-	-	-	-	-	
Impact 22	-	-	-	-	-	-	-	-	-	
Impact 23	-	-	-	-	-	-	-	-	-	
Impact 24	-	-	-	-	-	-	-	-	-	
Impact 25	-	-	-	-	-	-	-	-	-	
Impact 26	-	-	-	-	-	-	-	-	-	
Impact 27	-	-	-	-	-	-	-	-	-	
Impact 28	-	-	-	-	-	-	-	-	-	
Impact 29	-	-	-	-	-	-	-	-	-	
Impact 30	-	-	-	-	-	-	-	-	-	
Impact 31	-	-	-	-	-	-	-	-	-	
Impact 32	-	-	-	-	-	-	-	-	-	
Impact 33	-	-	-	-	-	-	-	-	-	
Impact 34	-	-	-	-	-	-	-	-	-	
Impact 35	-	-	-	-	-	-	-	-	-	
Impact 36	-	-	-	-	-	-	-	-	-	
Impact 37	-	-	-	-	-	-	-	-	-	
Impact 38	-	-	-	-	-	-	-	-	-	
Impact 39	-	-	-	-	-	-	-	-	-	
Impact 40	-	-	-	-	-	-	-	-	-	
Impact 41	-	-	-	-	-	-	-	-	-	
Impact 42	-	-	-	-	-	-	-	-	-	
Impact 43	-	-	-	-	-	-	-	-	-	
Impact 44	-	-	-	-	-	-	-	-	-	
Impact 45	-	-	-	-	-	-	-	-	-	
Impact 46	-	-	-	-	-	-	-	-	-	
Impact 47	-	-	-	-	-	-	-	-	-	
Impact 48	-	-	-	-	-	-	-	-	-	
Impact 49	-	-	-	-	-	-	-	-	-	
Impact 50	-	-	-	-	-	-	-	-	-	
<b>Total:</b>		<b>431,807</b>	<b>762,901</b>	<b>936,842</b>	<b>99,566</b>	<b>99,566</b>	<b>99,566</b>	<b>99,566</b>	<b>99,566</b>	

Summary metrics			
Return on Investment, Societal Total (13y)	1.0	Net economic benefit per cohort member (13y)	-\$ 1
Return on Investment, Government only (13y)	1.0	Initiative NPV costs per cohort member (13y)	\$ 15

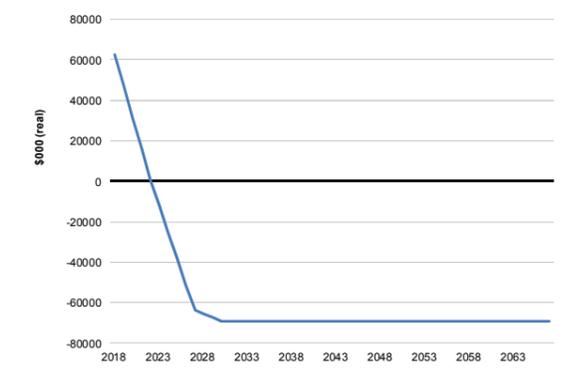
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This is an area to explain key modelling assumptions or anything important individuals looking at the model should know.

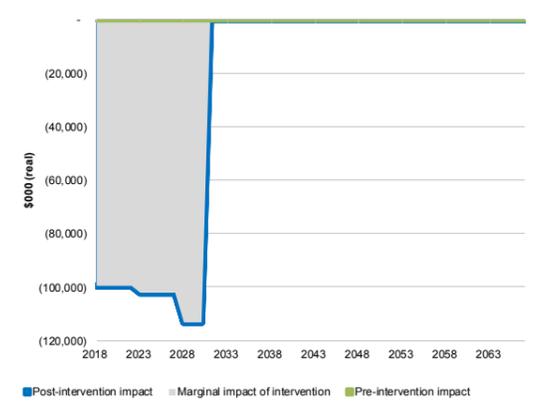
Assume all people of New Zealand receive an equal amount of benefit that in total is equal to the cost of the bid; total population based on Statistics NZ projections; The benefit has per person per annum has been calculated through reverse analysis to result in a ROI of 1.0.

### Charts

**Cumulative net benefit**



**Marginal impact of intervention**



**NPV of economic impact across sectors**

