

The Treasury

Budget 2017 Information Release

Release Document July 2017

www.treasury.govt.nz/publications/informationreleases/budget/2017

Key to sections of the Official Information Act 1982 under which information has been withheld.

Certain information in this document has been withheld under one or more of the following sections of the Official Information Act, as applicable:

[1]	to prevent prejudice to the security or defence of New Zealand or the international relations of the government	6(a)
[4]	to prevent prejudice to the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial	6(c)
[11]	to damage seriously the economy of New Zealand by disclosing prematurely decisions to change or continue government economic or financial policies relating to the entering into of overseas trade agreements.	6(e)(vi)
[23]	to protect the privacy of natural persons, including deceased people	9(2)(a)
[25]	to protect the commercial position of the person who supplied the information or who is the subject of the information	9(2)(b)(ii)
[26]	to prevent prejudice to the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied	9(2)(ba)(i)
[27]	to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information - would be likely otherwise to damage the public interest	9(2)(ba)(ii)
[29]	to avoid prejudice to the substantial economic interests of New Zealand	9(2)(d)
[31]	to maintain the current constitutional conventions protecting collective and individual ministerial responsibility	9(2)(f)(ii)
[33]	to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials	9(2)(f)(iv)
[34]	to maintain the effective conduct of public affairs through the free and frank expression of opinions	9(2)(g)(i)
[36]	to maintain legal professional privilege	9(2)(h)
[37]	to enable the Crown to carry out commercial activities without disadvantages or prejudice	9(2)(i)
[38]	to enable the Crown to negotiate without disadvantage or prejudice	9(2)(j)
[39]	to prevent the disclosure of official information for improper gain or improper advantage	9(2)(k)
[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

Vote	Vote Health
Responsible Minister	Minister Coleman
Initiative title	Emergency Ambulance Services – additional support

Funding Sought (\$m)	2016/17	2017/18	2018/19	2019/20	2020/21 & outyears	TOTAL
Operating	-	8.571	11.571	14.571	17.571	52.284
Capital	-	-	-	-	-	-

Problem Definition

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

Background

- Emergency ambulance services are an essential part of the New Zealand health system, providing pre-hospital services for life-threatening and urgent conditions.
- There are three interlinked components: ambulance communications centres, emergency road ambulance services, and emergency air ambulance services.
- Ambulance communications centres receive nearly 500,000 '111' calls and another 200,000 calls on its non-urgent line (used by health professionals) each year.
- Each year, there are around 480,000 road ambulance and 5,000 air ambulance responses.
- Ambulance services are responding to demand increases by changing the model of care from responding to every call with an emergency ambulance to providing an appropriate response based on an individual's need. Eg providing telephone advice for appropriate non-urgent calls so an ambulance is not sent to the scene.
- Air ambulance services provide clinical care at the scene and transport seriously ill patients (for whom air transport is expected to make a clinically significant difference to their outcome) from the community to a place of definitive care.

Problems

a) New funding arrangements for ERAS (road and comms)

Emergency Road Ambulance services (including communication centres) are facing **financial sustainability issues**. The emergency road ambulance funding model was implemented in 2014 which resulted in a funding increase. However government **required improved performance** for the additional funding – including faster response times and fewer single crewed responses, which increased provider costs. In addition to this, the **demand has been increasing by about 4 percent each year** – and providers cannot absorb the real cost of demand growth. The **introduction of clinical pathways** that contribute to better patient outcomes requires ambulance services to have better response times, more advanced clinical skills and getting the patient to the right place first time. Again, **resulting in increased provider costs**.

b) Eliminate Single Crewing

St John responds to around 35,000 incidents each year (8 percent of all responses) in ambulances that are single crewed. This means that one person has to drive the ambulance to hospital and provide care to the patient. No other comparable ambulance service internationally routinely uses single crewed ambulances.

Single crewing:

- **Limits the quality of care** provided to the patient
- **Increases ambulance operating costs** – as often two ambulances attend an incident (when one fully crewed ambulance would have been sufficient)
- Increases the risk of moving/lifting **injuries and assaults** on ambulance personnel
- Increases the risk that St John and its funders may be found in **breach of the health and safety legislation**.

Single crewing typically occurs in rural areas. The current funding approach provides the same per capita funding for rural and urban areas, despite rural areas being more expensive to serve. The result is that services in rural areas tend to rely on single crewing as it is significantly cheaper than full crewing (having two ambulance personnel on each ambulance).

c) Maintain current capacity and capability of emergency air ambulance services.

A conservative estimate for **air ambulance volume growth of 11.4 percent** has been used to estimate cost pressure. Actual growth in volumes in each of the last three years has been around 14 percent. Over the past five years, since 2011, the number of helicopters dispatched for an emergency response steadily increased from 3,460 to 5,533 in 2015. When adjusting for population change, the growth in dispatches is 52 percent over the same time period although costs have remained relatively low with the New Zealand air ambulance service costs comparing favourably with overseas services. The average New Zealand air ambulance mission cost in 2015 was \$6,719 NZD¹ compared to the estimated average cost in New South Wales, Australia which was \$34,166 AUD² in 2011.

Some **air ambulance providers** will require additional funding in order to remain financially viable. A number of providers are in **financial distress** and are unable to fundraise the approximate 50 percent of funding required from the community. The **demand** for clinically appropriate air ambulance services is **increasing and is not nationally sustainable within the current appropriations**. The demand for rotary service has increased by 56 percent over five years to 2015. Volumes are forecast to increase a further 44 percent by 2020. The drivers for the increasing demand include: aging population, clinical pathways, introduction of the dispatch protocols, long-term conditions.

Opportunity

a) New funding arrangements for ERAS (road and comms)

There is the opportunity to address financial sustainability issues for emergency road ambulance service providers by providing a better funding base and a clearer funding path that providers can be reasonably expected to manage within.

As per the findings in an independent review of emergency road ambulance service funding (Horn, June 2016), there is an opportunity to increase funding for emergency road ambulance services (and communications centres) that address current financial sustainability issues to provide a clearer funding path that providers can be reasonably expected to manage within (for St John, WFA and PRIME).

b) Eliminate Single Crewing

There is an **opportunity to eliminate single crewing** (the practice of having one paramedic to crew an ambulance), which is expected to improve: patient outcomes, user experience, paramedic health and safety, and operational efficiency. Ambulance services are jointly funded by the Ministry of Health and ACC.

A funding increase for rural emergency road ambulance services of \$23.2 million over four years is sufficient to eliminate single crewing, with the Ministry of Health's contribution being \$12.3 million (ACC's contribution of \$10.9 million has been supported by the ACC Board and would be met through the levied accounts and the Non-Earners' Account as part of its Budget 2017 submission).

St John is seeking an increase of \$22.5 million to eliminate single crewing. Equal treatment for services in rural areas increases Wellington Free Ambulance's (WFA's) funding by \$0.7 million. This is based on the percentage of WFA's service coverage in rural areas. 96 percent for St John and 4 percent for WFA.

c) Maintain current capacity and capability of emergency air ambulance services

The recent earthquakes in the Kaikoura region clearly demonstrate the value of air ambulance **capacity and capability** in the transport of patients to a place of definitive care, even when all roads out of the region are impassable. This **maintains confidence in the health system**. Confidence by rural communities and regional towns in the ability of the health system to respond during an emergency is critical. An additional benefit is **public confidence** helps to reduce resistance towards well evidenced changes such as investment in regional tertiary services. Regionalisation of tertiary services offers economies of scale, making these services more sustainability, clinically safer (regional services have sufficient numbers to train, improve and maintain clinical skills more easily whereas low numbers may be insufficient to maintain adequate technical skills) and of a higher quality.

¹ From "The development of an appropriate and efficient future network meeting New Zealand's needs for helicopter air ambulance and air rescue services." AIR Rescue Group February 2016

² <http://www.health.nsw.gov.au/about/nswhealth/Publications/helicopter-reform-plan.pdf>

Counterfactual

a) New funding arrangements for ERAS (road and comms)

There will be:

- longer response times eg deteriorating performance resulting adversely on patient outcomes.
- cost shifting to other allied health and emergency services.

b) Eliminate Single Crewing

The total \$23.2 million requested (which includes \$10.9 million from ACC) is not enough to simply place two paramedics on every ambulance. In addition to employing 365 new staff, St John will need to make significant changes to its operating model. For example: replacing ambulances with first response units³; moving paid staff from smaller rural stations to larger ones to ensure the larger station's ambulance is full crewed; and closing some stations that are rarely crewed.

St John has indicated it will proceed with eliminating single crewing, regardless of any additional funding, as St John considers this practice unacceptable. Any funding less than the full amount may:

- increase use of helicopters, PRIME service⁴, and fire services (cost shifting) at the government's expense
- reduce road ambulance performance (eg, longer response times)
- increase pooling / consolidation of paid staff and ambulances that St John has planned
- increase concern of communities if they view they are getting a lesser service
- lower the highest qualified level of staff routinely placed on ambulance

If poorly implemented, there is an increased risk that the Ministry of Health and ACC will be found to be in breach of their respective obligations under health and safety legislation.

c) Maintain current capacity and capability of emergency air ambulance services

This is a critical service that is based on a fee-for-service model. Re-prioritisation of Vote Health funding would be required, which is not considered achievable. Increasing the contribution from the community (ie, more than its 50 percent) is not considered realistic.

Initiative Description

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

a) New funding arrangements for ERAS (road and comms)

A clear funding path that providers can be reasonably expected to manage within, maintain current levels of performance, and ensure adequate capacity to respond to emergencies.

b) Eliminate Single Crewing

Increasing the Ministry of Health's annual funding for rural ambulance services by \$12.3 million over four years is sufficient to completely eliminate the nearly 35,000 single crewed ambulance responses each year (note that this requires ACC to contribute \$10.9 million, which has been supported by the ACC Board).

St John will use the incremental increases in funding over four years to employ an additional 365 frontline paramedics and – in years three and four – make significant changes to its operating model in rural areas. As the full effects of changes in any year will not show a reduction until the following year, it will take five years to show single crewing has been completely eliminated (although 99 percent of ambulances will be fully crewed after year four).

With its additional funding, St John will:

³ First response units are: vehicles in rural areas; crewed by volunteers; and have no (or limited) ability to transport patients.

⁴ The Primary Response in Medical Emergency (PRIME) service uses rural doctors and nurses to respond to support emergency road ambulance services.

- a) **employ an additional 365 frontline paramedics**, mostly qualified at the lowest level of Emergency Medical Assistant (EMA) – this is a relatively new role in New Zealand, introduced as a cost effective way to achieve full crewing, with EMAs being typically being crewed with the higher qualified Paramedic level
- b) **move paid staff** (and, in some cases, the ambulance) from 20 smaller rural stations to larger rural stations so that the larger stations are fully crewed – in many cases the ambulance at the smaller station will be replaced by a first response unit (which will be crewed by volunteers)
- c) **establish a few ‘rural hubs’** in large rural towns – using paid staff and ambulances pooled from smaller stations, rural hubs have a 'hub and spoke' approach where ambulances will start and finish centrally (at the rural hub) and be deployed to more rural and remote areas to meet demand, as required, which maximises their utilisation
- d) replace ambulances in some rural areas with **St John first response units**, which are crewed by volunteers and will have limited or no transport capability (those with limited transport capability may transport to a helicopter landing site or an oncoming ambulance, but not to an emergency department) – being crewed by volunteers and having limited or no transport capability makes first response units less expensive to operate than ambulances
- e) move some ambulance-based **flight paramedics** to single responder units (cars) and backfill their ambulance positions – this ensures ambulances are not left single crewed when flight paramedics are called away on a helicopter job
- f) **close four stations** that are currently rarely crewed: [26]
these closures are not expected to impact on current levels of service but may concern their local communities
- g) work more closely with: (i) the **Primary Response in Medical Emergencies (PRIME) service**, such as possible reconfiguration of its sites to maximise their contribution; and (ii) **community first responders**, by establishing more sites in isolated rural areas that use community volunteers, often in their own vehicles, to respond to emergencies
- h) explore further opportunities that leverage capacity and capability of fire services – St John and the **New Zealand Fire Service (NZFS)** are exploring ways to expand the existing memorandum of understanding, which sees NZFS respond to around 7,000 incidents each year to support St John:
 - the NZFS ‘co-response’ scheme has all NZFS staff trained in first aid so all fire appliances can co-respond to immediately life-threatening incidents (to all cardiac or respiratory arrests) – there could be an increase in NZFS co-responses, particularly as rural fire services become part of Fire and Emergency New Zealand (FENZ) as St John’s current memorandum is not with rural fire services
 - the NZFS ‘first responder’ scheme has around 60 NZFS brigades in rural areas trained by St John to the First Responder level (higher than first aid) where, if closer than an ambulance, they respond to a broader range of incidents (and provide higher level of care) than that of the NZFS co-response scheme – there could be an increase in first responder brigades, potentially expanded to include all fire appliances
 - FENZ could establish an extended first responder role for its volunteers in low workload areas to responds to less urgent calls – there would be no requirement for a specialist vehicle other than it needing both a FENZ and St John radio and St John would provide clinical training and support.

FENZ could establish an ambulance driver role to provide back-up ambulance driving support – St John would provide driver familiarisation, training, and assessment.

c) Maintain current capacity and capability of emergency air ambulance services

Maintain current levels of performance, and ensure adequate capacity to respond to emergencies.

Alternative Options Considered

a) New funding arrangements for ERAS (road and comms)

An option is to continue funding at its current level, which does not increase to maintain current level of capacity to respond to emergencies. However, this is not supported as it will lessen the quality and safety of services.

This preferred option is based on an independent review that was commissioned by the Ministry of Health and ACC (Horn, June 2016). It found that that, despite making significant changes in their operating models, providers cannot continue to

absorb the full cost of demand increases and recommends funding that providers can reasonably be expected to manage within.

b) Eliminate Single Crewing

Preferred option - Cost-effective approach to eliminate single crewing

This option eliminates single crewing for a \$12.3 million increase of Ministry funding after four years (plus \$10.9 million increase from ACC).

Much of the funding increase will be used to employ an additional 365 paramedics to fully crew many ambulances. However, this alone is not enough to achieve full crewing (having two people on all existing ambulances) so requires St John to also find low-cost ways to support this objective, such as:

- making significant changes to its operating model (eg, moving paid staff and ambulances from smaller to larger rural towns)
- collaborating more closely with other allied and health services (eg, expanding the New Zealand Fire Service's roles in responding to medical emergencies).

This option costs significantly less than what it would require to simply place two paid staff on every ambulance (see alternative 3).

To provide funding less than the recommended amount (alternative 2) or no funding (alternative 1) will result in more severe service changes for St John in rural areas, which may impact on capacity and community support.

Alternative 1 - Do nothing (counterfactual)

St John has indicated it will proceed with eliminating single crewing, regardless of any additional funding, as St John considers it unacceptable practice. Any funding less than the full amount may: (a) increase use of air resources (cost shifting) at the government's expense; (b) reduce road ambulance performance (eg, longer response times); (c) increase pooling / consolidation of paid staff and ambulances that St John has planned; (d) increase concern of communities if they view they are getting lesser service; and (e) lower the highest qualified level routinely placed on an ambulance.

Alternative 2 - Funding to reduce (but not eliminate) single crewing

The Ministry and ACC commissioned Dr Murray Horn to undertake an independent review of emergency road ambulance service funding, which was completed in June 2016. The review found urban and rural services get the same per capita funding, but rural services are more expensive to serve. The review recommended increasing Ministry and ACC funding for rural services by a total of \$11 million per annum, predominantly to reduce single crewing, but that full funding to eliminate single crewing was not required. However, the review did not consider clinical benefits from full crewing or that providers and funders may be found in breach of health and safety legislation if reasonable steps had not been taken to reduce risks associated with single crewing. For these reasons, funding to reduce (but not eliminate) single crewing is not the preferred approach.

Alternative 3 – full cost to eliminate single crewing

St John has estimated that it would require a funding increase of \$70 million per annum (\$37 million of this would be from the Ministry) if the approach to eliminate single crewing was to employ additional staff to fully crew all existing ambulances (as it would require a lot more than 365 additional staff). This is the full cost if cost-effective approaches (making significant changes to the operating model and collaborating more closely with other allied and health services) are not undertaken.

c) Maintain current capacity and capability of emergency air ambulance services

There is no alternative to the contractual obligation to fund providers based on the volume of responses they do. The Ministry of Health still needs to pay providers for this service. It would need to re-prioritise Vote Health funding if this bid is not approved, but this is not considered achievable.

If funding to providers cannot be guaranteed, air providers may withdraw services, which would create service gaps, reduce sustainability of services, lessen the quality and safety of ambulance services, and impact equity of service.

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.

As per the CBAX tool, the impacts are described below.

Maintain capacity and capability of air resources:

- Impact 1: avoided death for 55 patients of air services (10% of the 11.4% growth of 5,000 patients each year)
- Impact 6: for the above lives saved, the cost to government will be superannuation

New funding arrangement for road (and comms) + PRIME:

- Impact 2: 25% of road growth (25% of 4%) will not go to ED
- Impact 3: 25% of road growth (25% of 4%) will not go to primary care (as they are managed in the community)
- Impact 4 (PRIME): with PRIME able to meet volume growth, assume 5 patients p.a. of the volume growth will not have avoidable death
- Impact 5: 50% of road growth (50% of 4%) will avoid adverse impact of 10% per patient

Full crewing:

- Impact 7: 14 additional lives saved p.a. from cardiac arrest
- Impact 8: 6,700 fewer incidents with two ambulances dispatched
- Impact 9: income benefit from 365 additional paramedics
- Impact 10: tax benefit from 365 additional paramedics
- Impact 11: reduced inpatient bed days from 10 fewer serious adverse events
- Impact 12: quality of life gained from 10 fewer serious adverse events
- Impact 13: reduced risk of \$1.6m fine per incident plus legal costs for breaching legislation (assume out of hundreds of assaults p.a. one results in fine)
- Impact 14: reduced costs to St John from fewer avoidable paramedic injuries

Other impacts described in the investment logic map are as follows:

- More lives saved from improved cardiac arrest survival rates: Improved survival to discharge rate by 40 per cent for cardiac arrests where the first arriving ambulance was single crewed – 14 additional lives saved each year
- Fewer ambulance responses by reducing the number of incidents needing multiple ambulances attend: Reduce ambulance responses by 6,700 per annum as less incidents will need back-up from another ambulance
- Reduced risk of funders being found in breach of the Health and Safety at Work Act 2015: Reduce risk of: (a) \$360,000 court and lawyer fees, based on 80% of MSD's \$448,000 costs; and (b) fine of \$1.2 million, based on 80% of \$1.5 million fine under section 48(2)(c) of the Act. [Discounted by 20% to reflect the St John would be primary PCBU in such an event, which mitigates risk to funders].
- Improved quality of life: Through more appropriate care, 2% of ambulance users will gain 2 disability-adjusted life years (DALYs) each, per annum.
- Less mortality: For time-critical incidents, being able to provide adequate capability and capacity, 0.03% of ambulance users will not die.
- Less ICU bed days: For patients treated in a more timely fashion, there are improved outcomes, reducing length of stay in ICU by 3 days for 0.7% of users.
- Shorter hospital stays: For patients treated in a more timely fashion, there are improved outcomes, reducing length of stay in hospitals by 3 days for 1% of users.
- Less ED presentations: More patients are managed in the community by ambulance, reducing 2% presentations to ED.

- Increased employment: More patients survive and with quality of life, allowing to return to work sooner and more years of productive employment (pay tax). 2% of users will have an extra 10 years of productive employment.
- PRIME: Using PRIME (rural primary care) reduces the cost of ambulance services. 0.2% of users will have 1 event each year (which saves the cost of using an ambulance).

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
	1	2		

Estimated impact on key outcomes				
Impact 1: avoided death for 55 patients of air services (10% of the 11.4% growth of 5,000 patients each year)	955	1,011		Low
Impact 4 (PRIME): with PRIME able to meet volume growth, assume 5 patients per annum of the volume growth will not have avoidable death	84	89		Low
Impact 5: 50% of road growth (50% of 4%) will avoid adverse impact of 10% per patient	56	59		High
Impact 7: 14 additional lives saved per annum from cardiac arrest	49	53		High

Cost of the Initiative (at present value)				
Total cost	(46)	(49)		High
Government Benefits/(Costs)				
Impact 2: 25% of road growth (25% of 4%) will not go to ED	7	8		Low
Impact 5: 50% of road growth (50% of 4%) will avoid adverse impact of 10% per patient	56	59		High
Impact 6: for the lives saved (impact 1), the cost to government will be superannuation	(4)	(4)		High
Impact 8: 6,700 fewer incidents with two ambulances dispatched	10	11		High
Impact 10: tax benefit from 365 additional paramedics	2	2		Low
Impact 11: reduced inpatient bed days from 10 fewer serious adverse events	0	0		Low
Total Quantified Government Impact	72	76		
Wider Societal Benefits/(Costs)				
Impact 1: avoided death for 55 patients of air services	955	1,011		Low

(10% of the 11.4% growth of 5,000 patients each year)				
Impact 3: 25% of road growth (25% of 4%) will not go to primary care	2	2		Low
Impact 4 (PRIME): with PRIME able to meet volume growth, assume 5 patients per annum of the volume growth will not have avoidable death	84	89		Low
Impact 7: 14 additional lives saved per annum from cardiac arrest	49	53		High
Impact 9: income benefit from 365 additional paramedics	9	10		Low
Impact 12: quality of life gained from 10 fewer serious adverse events	1	1		Low
Impact 13: reduced risk of \$1.6m fine per incident + legal costs for breaching legislation. Assume out of hundred of assaults per annum, 1 results in fine.	3	3		Low
Impact 14: reduced costs to St John from fewer avoidable paramedic injuries	1	1		Medium
Total Quantified Wider Societal Impact	1,103	1,169		
Net Present Value of Total Quantified Societal Impacts	1,128	1,196		

Section C Conclusions

Conclusions

What is being recommended and why?

It is recommended that there is an incremental increase in funding over four years for emergency ambulance services to achieve the following:

- a) implement new funding arrangements for emergency road ambulance services and ambulance communications centres that address financial sustainability issues by ensuring a clearer funding path that providers can be reasonably expected to manage within
- b) eliminate single crewing (the practice of having one paramedic to both drive the ambulance and provide care to the patient) from emergency road ambulance services to improve patient outcomes, user experience, paramedic health and safety, and operational efficiency
- c) maintain current capacity and capability of emergency air ambulance services as they face significant year-on-year demand increases.

The Ministry of Health quantum is \$52.2 million after 4 years.

Overall Ratings

Value for Money ⁵	Strategic Alignment ⁶
3	3

⁵ For guidance on Value for Money ratings see Budget 2017 guidance section 3.2.2

⁶ 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]

Fill this table out with the NPV, benefit cost ratio and return on investment for your initiative. These can all be calculated with the information you included in the summary table above, and is available in the CBAX Output Summary (NB totals can vary due to rounding). We ask you to present all these measures, because they each provide a different perspective.

Use ranges for values where appropriate	Discount Rate	
	6% real (default)	3% real (sensitivity)
Net Present Value (NPV) ⁷	1,128	1,196
Benefit Cost Ratio (BCR) ⁸	23.7	23.6
Return on Investment (ROI) – Societal Total ⁹	25.6	25.5
Return on Investment (ROI) – Government ¹⁰	1.6	1.6

Supporting Evidence

ie, the bibliography

- Cost Benefit Analysis template

- Ambulance - CBAX tool



Vote Health -
Ambulance - CBAX

- Intervention Logic Map (attached)



Vote Health -
Ambulance - ILM 22

- National Ambulance Sector Office's spreadsheet that summarises a range of changes expected (attached)



Supporting
information - NASO

- St John workforce plan (October 2015) – outlines its options and plan to eliminate single crewing (attached)



Supporting
information - St Joh

- St John report on cardiac arrest survival (attached)



Supporting
information - St Joh

⁷ **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.

⁸ **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.

⁹ **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.

¹⁰ **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.

- St John update (September 2016) on its workforce plan (attached)



Supporting information - St Joh

- Cabinet paper: Report on Emergency Road Ambulance Services (November 2016) [CAB-16-MIN-0682 and CAB-SUB-0687] (attached)



Supporting information - Cabin



Supporting information - CAB-1



Supporting information - CAB-1



Supporting information - SOC-1

- Cabinet paper: Procurement of Air Ambulance Services (September 2016) [SOC-16-MIN-0124 and CAB-16-MIN-O495] (attached)



Supporting information - Cabin



Supporting information - CAB-1



Supporting information - SOC-1

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?¹¹

St John will regularly report to government on its progress – it is also expected this will be monitored through the MBIE's Significant Service Contracts Framework.

St John will provide quarterly reports that describe: (a) its progress to date in achieving full crewing against its forecast trajectory; (b) current issues and risks; and (c) performance against government's requirements.

This initiative will be considered a success if St John's plan is implemented over four years (as it plans) and existing performance is maintained. There will be no formal evaluation of this initiative.

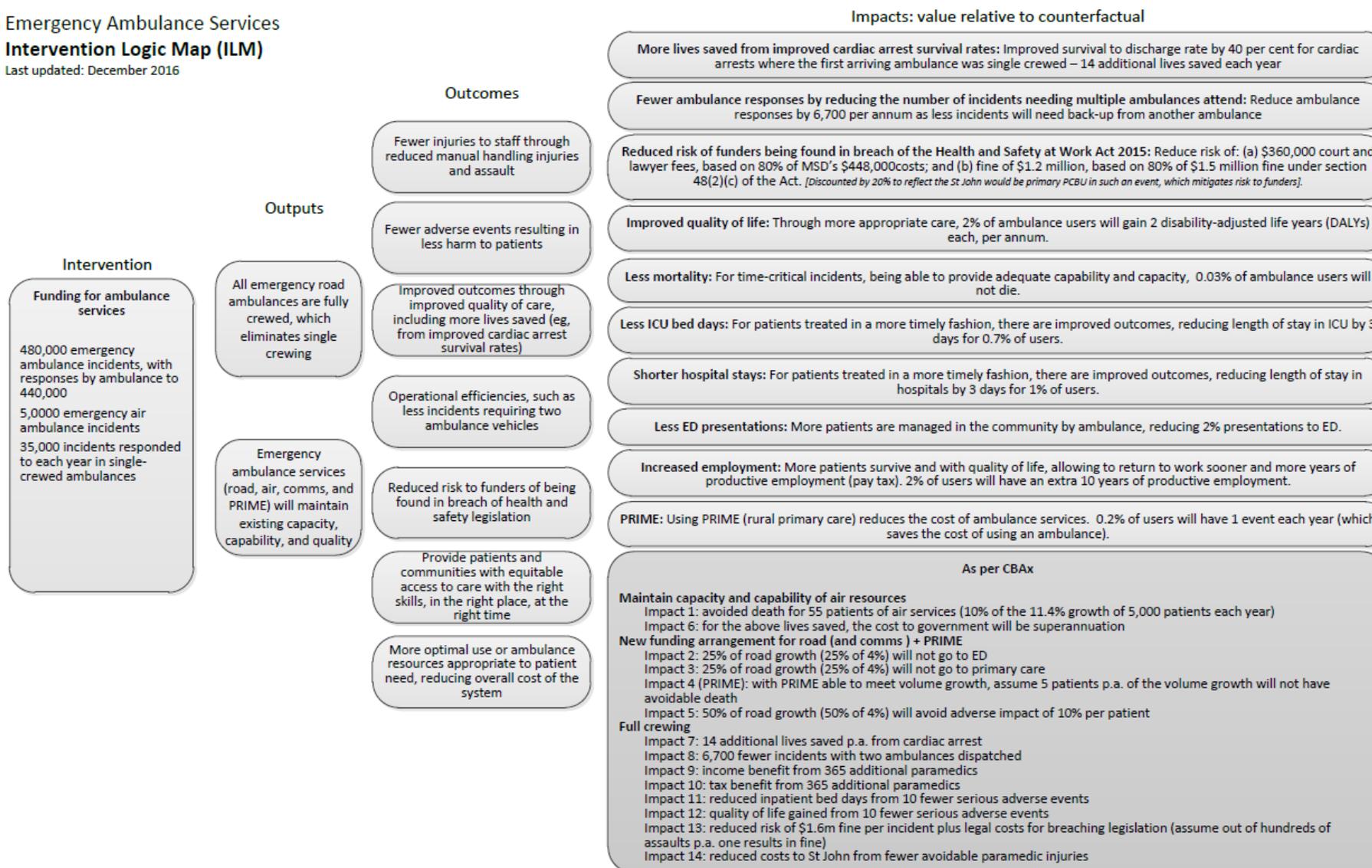
¹¹ More information on this impact evaluation plan is available in the Budget 2017 guidance Section 4

Appendix 1 Intervention Logic Map

Emergency Ambulance Services

Intervention Logic Map (ILM)

Last updated: December 2016



Outputs Summary

Proposal details				
Respondent name	Emergency Ambulance			
Intervention details	Funding for volume growth, price pressures and other pressures to maintain sustainable Emergency Ambulance Service			
Start year	2018	Total population over 4 Years	1	6%
Period for analysis	4 Years	Discount rate		

Net benefit summary									
Category	Unit: 2018 (\$m)								
	5-Year NPV \$m	10-Year NPV \$m	4-Year NPV \$m	2018	2019	2020	2021	2022	
Total marginal impact	1,174	1,174	1,174	298	321	342	362	-	
Total cost of initiative	(46)	(46)	(46)	(9)	(12)	(15)	(18)	-	
Net economic benefits	1,128	1,128	1,128	289	309	328	344	-	

Cost summary						
Cost category	Unit: 2018 (\$m)					
	4-Year NPV \$m	2018	2019	2020	2021	2022
Fiscal cost of initiative						
Operating expenses	(46)	(9)	(12)	(15)	(18)	-
Capital expenses	-	-	-	-	-	-
Total fiscal cost of initiative	(46)	(9)	(12)	(15)	(18)	-

Impact summary										
Evidence Quality	Unit: 2018 (\$m)									
	5-Year NPV \$m	10-Year NPV \$m	4-Year NPV \$m	2018	2019	2020	2021	2022		
Impact 1	Low	Value of a Statistical Life	955	955	955	253	263	273	284	-
Impact 2	Low	Emergency room visit (20 minutes) - Primary	7	7	7	2	2	2	2	-
Impact 3	Low	Emergency room visit (20 minutes) - Secondary	2	2	2	0	0	0	0	-
Impact 4	Low	Value of a Statistical Life - Superannuation - Generalised	84	84	84	22	23	24	25	-
Impact 5	High	Superannuation - Generalised	56	56	56	15	15	16	17	-
Impact 6	High	Superannuation - Generalised	(4)	(4)	(4)	(1)	(1)	(1)	(1)	-
Impact 7	High	Value of a Statistical Life	49	49	49	4	12	18	23	-
Impact 8	High	Ambulance call out	10	10	10	1	2	4	5	-
Impact 9	Low	20% of average annual income - 20% of average annual income - 20% of average annual income - Trade	9	9	9	1	2	3	4	-
Impact 10	Low	20% of average annual income - Trade	2	2	2	0	1	1	1	-
Impact 11	Low	Inpatient hospital visit - Quality-adjusted life year (QALY)	0	0	0	0	0	0	0	-
Impact 12	Low	PRIME and safety at work Act	1	1	1	0	0	0	0	-
Impact 13	Medium	Cost per person - road from avoidable injuries	3	3	3	1	1	1	1	-
Impact 14	Medium	Cost per person - road from avoidable injuries	1	1	1	0	0	0	0	-
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	-	-	-	-	-	-	-	-	-	-

Summary metrics			
Return on Investment, Societal Total (4y)	25.6	Net economic benefit per cohort member (4y)	#####
Return on Investment, Government only (4y)	1.6	Initiative NPV costs per cohort member (4y)	#####

Word summary/comment field	
<p>This is an area to explain key modelling assumptions or anything important individuals looking at the model should know.</p> <p>Maintain capacity and capability of air resources Impact 1: avoided death for 55 patients of air services (10% of the 11.4% growth of 5,000 patients each year) Impact 6: for the above lives saved, the cost to government will be superannuation</p> <p>New funding arrangement for road (and comms) + PRIME Impact 2: 25% of road growth (25% of 4%) will not go to ED Impact 3: 25% of road growth (25% of 4%) will not go to primary care Impact 4 (PRIME): with PRIME able to meet volume growth, assume 5 patients per annum of the volume growth will not have avoidable death Impact 5: 50% of road growth (50% of 4%) will avoid adverse impact of 10% per patient</p>	<p>This is an area to explain key modelling assumptions or anything important individuals looking at the model should know.</p> <p>Full crewing Impact 7: 14 additional lives saved per annum from cardiac arrest Impact 8: 6,700 fewer incidents with two ambulances dispatched Impact 9: income benefit from 365 additional paramedics Impact 10: tax benefit from 365 additional paramedics Impact 11: reduced inpatient bed days from 10 fewer serious adverse events Impact 12: quality of life gained from 10 fewer serious adverse events Impact 13: reduced risk of \$1.6m fine per incident + legal costs for breaching legislation. Assume out of hundred of assaults per annum, 1 results in fine. Impact 14: reduced costs to St John from fewer avoidable paramedic injuries</p>

