

# Memo

Jun 30, 2020

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Cc: John Ombler  
Brook Barrington  
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From: Rob Fyfe, Sam Morgan, Alastair Grigg  
Subject: **CovidCard: Implementation Options and Next Steps**

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## Overview

This memo follows *Sustaining Elimination with CovidCard and Enhanced Digital Contact Tracing*, published June 5th 2020. It outlines the timeframes for delivery that we consider most likely for delivering *CovidCard* at population-level scale.

*CovidCard* is designed to enhance our COVID-19 defensive systems by accelerating contact tracing and enabling rapid isolation of at-risk close contacts. European and Asian countries are already beginning to open their borders, allowing passage without quarantine requirements between countries deemed similar or lower-risk. The economic and social advantage New Zealand has achieved by eliminating the virus and opening our domestic economy risks being offset if we are forced to maintain our current border restrictions because we lack the tools and technologies to eliminate any new outbreaks of the virus that are imported across our border.

*CovidCard* could provide the Government with greater policy flexibility with regard to the border. We could have better options to relax the restrictions at the border, at least with low risk countries, thanks to *CovidCard* enabling faster identification and isolation of close contacts and second-order contacts in the event of new imported Covid-19 cases.

With COVID-19 globally endemic, expected to remain so for three years or longer, we do not consider keeping the border restrictions in place for an indefinite period the only approach available. *CovidCard* could help provide a valuable mitigation to the elevated risk associated with a less restrictive border isolation regime..

If *CovidCard* is deployed to all New Zealanders and anyone boarding a flight or ship coming to New Zealand and required to be carried in places of elevated risk (bars, restaurants, churches, workplaces etc) it would significantly strengthen contact tracing and dramatically improve our chances of sustaining a strategy of elimination. We could consider opening our borders to low risk countries, whilst staying out of Alert Level 3 or 4, thus mitigating the social and economic damage that entails.

Our work on *CovidCard* found that it is affordable, that it works technically, and that there is strong support for the concept across the businesses, Iwi representatives, unions and government agencies we have engaged with. We believe widespread adoption is eminently achievable.

It matters greatly how soon we can get *CovidCard* ready for deployment. If *CovidCard* is an insurance policy, we would like our insurance in effect as soon as possible. There will inevitably be some elevated project implementation risks if we progress the *CovidCard* development and

deployment along an accelerated timeline, but the longer we take, the longer we remain uninsured. The next 18 months are considered a period of significantly elevated risk. There is a committed group of people involved and able to mobilise to deliver the project.

Working under the GCDO/DIA, we have already completed the necessary work and now have the confidence to progress at pace - to appropriate the required funding, stand-up the delivery team and push to get *CovidCard* ready for deployment as soon as possible.

The technical proof-of-concept work completed thus far is undergoing an independent review - hopefully a 2-3 week process for completion mid-July. We have, as yet, had no substantive feedback or indication as to whether the New Zealand Government wishes to progress this project. Given the project timelines and the risk of losing continuity of the people, that have progressed the project to this point, it would be valuable to receive an indication of the Government's intent and next steps as soon as possible.

## Decision Required: Two options

Delivery of *CovidCard* to population level scale involves many streams of work across hardware, software, supply chain, manufacturing, research, marketing, policy and legislative development and more. The project will require Ministerial sponsorship, a Senior Responsible Owner and an appropriate entity established within which the CovidCard and Database can be developed, maintained and accessed independent of other Government agencies and to ensure the appropriate data privacy and sovereignty. We note that there is presently no appointed management or vendors beyond the completed phase.

The two options and timeframes we see for the project are as follows:

- 1. Single phase, delivery as fast as possible, deployment commencing January 2021:** We assume funding is appropriated (and released progressively at approved gateways), management team appointed, and all streams progressed in parallel. The Government could stop the project at any time, but the project would not need to seek approval to proceed after each phase. Population level deployment would commence by mid-January 2021.
- 2. Multi-phase, with several approval cycles, deployment commencing mid September 2021:** We assume multiple phases to better manage risk and spend, sequenced, with multiple delays with increased documentation to enable formal review of each phase, with formal Ministerial or Cabinet decisions to proceed after each phase. This approach typifies how projects of this nature are delivered to the Government under normal circumstances.

To illustrate the impact of progressing in sequence rather than in parallel, the next logical phase includes a "large-scale field trial", perhaps conducted at a military base. We consider this trial necessary to further confirm findings and refine our approach, particularly in relation to human behaviours. It is not required to further validate the overall technical viability. This large-scale field trial will take up to 8 weeks to complete and document. There would then be a number of weeks required for a Government decision to further proceed at a time when there is a national election. If we do not aggressively progress other streams of work in parallel, then this next phase alone could extend delivery timeframes by over 3 months.

## Recommendation

We recommend Option 1 - progressing all work, wherever possible, in parallel, in order to hit a delivery deadline of January 2021. We further recommend any large-scale field trial should only progress as part of a commitment to the wider objective - readying *CovidCard* for deployment to population scale.

We consider Option 2 to be of greatly reduced value to New Zealand. Given how much the pandemic situation may evolve between now and the end of 2021, we do not consider a “slowly, slowly” approach will deliver *CovidCard* in a timely enough manner.

The Government would be deeply involved and fully informed at all times. It could stop the project at any time. The non-refundable costs of doing so would depend on when work ceased and is outlined in the appendices.

## Conclusion

The work undertaken to date has been significant and, following independent review, is fully sufficient to enable a decision on whether the Government wishes to progress the *CovidCard* initiative as part of a larger strategy to strengthen our test, trace and quarantine capabilities. We strongly believe *CovidCard* should be considered on its merits, given its ability to enable greater policy flexibility with regard to opening the border when the time is right or deal with unintended infections coming across the border and getting hold under present settings. Waiting for there to be zero COVID-19 in the world (or even Australia) before we open our borders may take years and will have the potential to create significant social, economic and political damage.

This project must be done at pace in order to enable population-scale deployment. Once a decision is made to proceed, funding should be appropriated, key positions hired, and all phases progressed in parallel, wherever possible.

Progressing, as per option 2, in a manner more akin to a peace-time Government project, will not see *CovidCard* available in a timeframe where it can insure us against the scenarios for which it is designed and we will have more limited strategic options to choose from.

## Appendix 1

### Option 1: Single Phase Project

Full project funding is appropriated. Government fully informed at all times and can pause or cancel the project at any time. Illustrated below are the non-refundable committed funds over the key periods in the project schedule. Figures are estimates.

Option 1: Single phase project	Estimated non-refundable costs	Cancellation decision date
Project Status <sup>1</sup>		

Validation complete, large scale trial planning, market research, Card Operations Service Delivery Platform (SDP) detailed design and entity establishment underway	s9(2)(b)(ii)	
Large Scale Trial and Research completed. Entity established and management team recruited. SDP platform development underway, fulfillment equipment ordered and manufacturing partner(s) engaged.		
SDP ready for rollout trial, manufacturing supply chain and population level production volumes secured.		
SDP Platform largely complete, population level card stock manufacturing ~75% complete, fulfillment and distribution capability established and resourcing 80% complete.		
<b>Ready to Commence National Rollout</b>		
Population wide card deployment & year 1 operating costs, including replacement cards		
<b>Total Project Costs</b>	<b>\$98,570,000</b>	

1

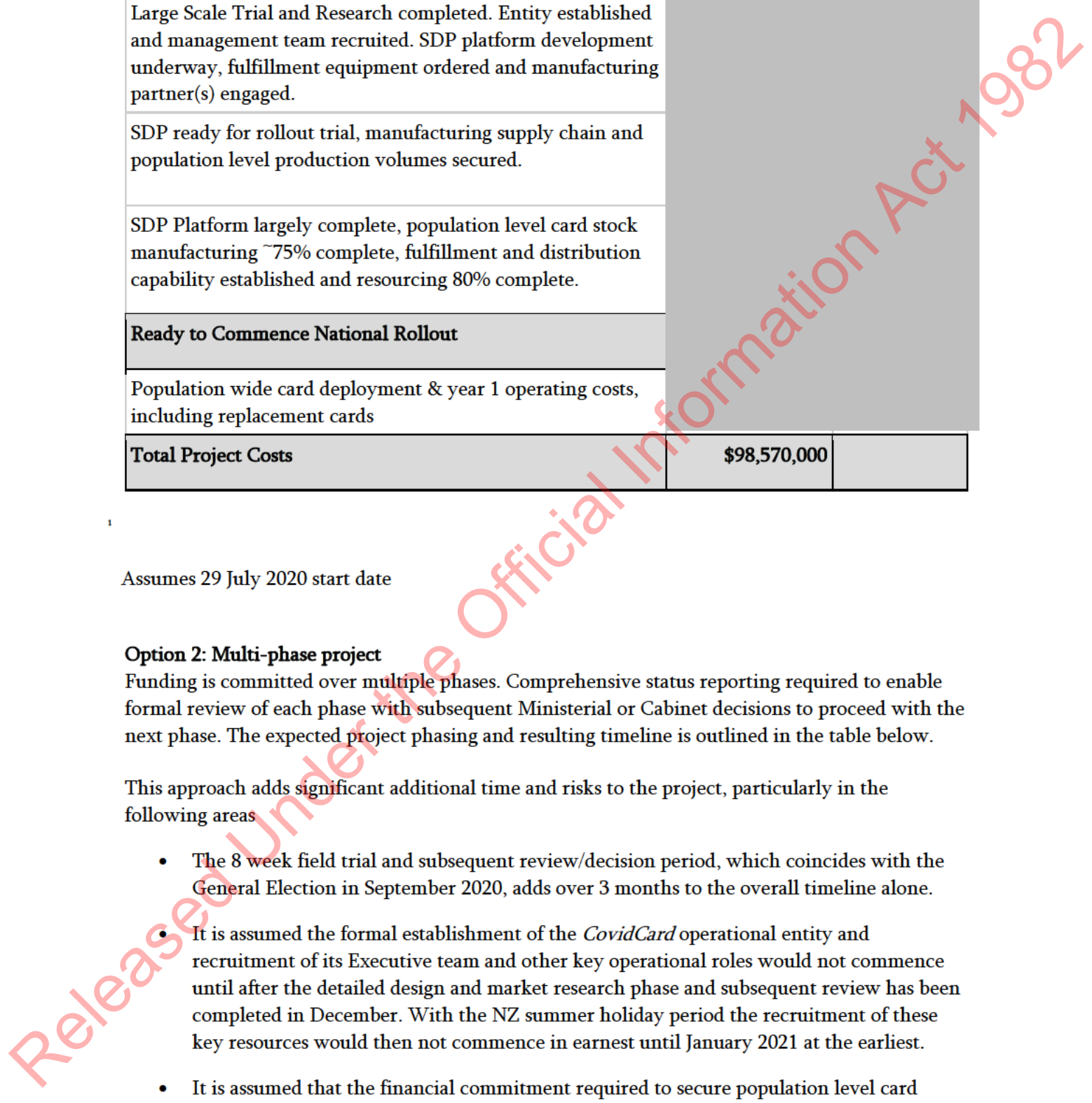
Assumes 29 July 2020 start date

### Option 2: Multi-phase project

Funding is committed over multiple phases. Comprehensive status reporting required to enable formal review of each phase with subsequent Ministerial or Cabinet decisions to proceed with the next phase. The expected project phasing and resulting timeline is outlined in the table below.

This approach adds significant additional time and risks to the project, particularly in the following areas

- The 8 week field trial and subsequent review/decision period, which coincides with the General Election in September 2020, adds over 3 months to the overall timeline alone.
- It is assumed the formal establishment of the *CovidCard* operational entity and recruitment of its Executive team and other key operational roles would not commence until after the detailed design and market research phase and subsequent review has been completed in December. With the NZ summer holiday period the recruitment of these key resources would then not commence in earnest until January 2021 at the earliest.
- It is assumed that the financial commitment required to secure population level card manufacturing capacity and supply chain would not occur until after the trial roll-out of circa 20k cards and subsequent review of this phase. As a result, these production orders would not be placed with manufacturing partner(s) until around mid June 2021, some 9



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months later than under Option 1. This delay adds significant additional risk around availability of component supply and manufacturing capacity given the potential for more countries to also undertake BLE card based contact tracing solutions in the meantime.

- A population wide deployment of cards could not commence until mid/late September 2021, meaning CovidCard would not be in use at a national level until November 2021.

Option 2: Multi-phase project	Estimated Phase Costs	Phase Duration (wks)	Phase Completion Date <sup>1</sup>
<b>Validation</b>	s9(2)(b)(ii)		
Card Technology Review by the Defense Technology Agency.			
Health Impacts Review (by TBC)			
Contact Tracing review, to assess the inclusion of CovidCard data into Contact Tracing processes (by TBC)			
Awaiting Government decision to proceed			
<b>Large Scale Field Trial</b>			
Large Scale Field Trial within a military base			
Awaiting Government decision to proceed			
Post Election decision blackout			
<b>Detailed Design &amp; Market Research</b>			
Complete detailed design of Service Delivery Platform (SDP)			
Undertake Market Research			
Awaiting Government decision to proceed			
Xmas / NY Holiday Shutdown			
<b>Establish CovidCard Entity &amp; Operational Capability for a rollout trial</b>			
Incorporate CovidCard entity & recruit Executive and key operational roles			

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Prepare legislation required for mandated CovidCard use under specified alert levels	s9(2)(b)(ii)		
Develop Card Operations Service Delivery Platform (SDP) to enable a pilot roll-out of cards			
Recruit staffing for pilot rollout			
Manufacture c20k cards for pilot roll out			
Run Pilot rollout (testing SDP, distribution and marketing)			
Order specialist card distribution fulfilment equipment			
Awaiting Government decision to proceed			
<b>Population Level Card Volume Manufacturing</b>			
Manufacturing population level card stock, including ramp up and supply chain sourcing			
Complete SDP development, service centre and national distribution channels resourcing			
Commence national marketing campaign			
Ready to Commence National Rollout			
Execute population wide card deployment & year 1 operating costs, including replacement cards			
Ready to Commence National Rollout	<b>\$98,670,000</b>	<b>64</b>	

1  
 Assuming 29 July 2020 start date  
 Total costs are based on active project time only (i.e. assumes project resources are non-chargeable through decision periods)

END

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