WAKA KOTAHI
NZ TRANSPORT AGENCY

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BUSINESS CASE

Back Office System Replacement Project (Tolling)

Maree Dunham

February 2022

Version 1.1

New Zealand Government

Authorisation & Endorsements

Authorised signatory

Approved by	Name	Title	Endorsement

Authorised signature indicates that:

- the appropriate personnel have read, understood and agreed to the details of the project described in this document
- Any changes to the requirements approved for development and delivery by this business case must be subject to formal change control process.

Endorsement by

Name	Title/Role	Date of endorsement	Endorsement
Katie Hodson	Manager, Debt Management; Project Business Owner	16 November 2021	Email from Katie
Sam du Fresne	Acting Senior Manager - Commercial Licensing and Revenue	16 November 2021	Email from Sam
Yogesh Anand	Chief Technology Officer	17 November 2021	Email from Yogesh

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1. Document Control

1.1. Document version history

Date	Version	Author	Changes
March 2021	V0.1	Maree Dunham	
June 2021	V0.2	Maree Dunham	Added information about vendors
August 2021	V0.3	Maree Dunham	Vendor recommendation noted; updated
September 2021	V0.4	Maree Dunham	Released for initial review
October 2021	V0.5	Maree Dunham	Released for review
November 2021	V0.6	Maree Dunham	Updates from Yogesh Anand, Jeroen Jacobs, Wayne Hastie, Tony Brennand
16 November 2021	V1.0	Maree Dunham	Final updates from endorsers
8 February 2022	V1.1	Maree Dunham	Updates following analysis requested by Digital Exec Steering Committee; Updates to financials as provided by vendor for onshore hosting

1.2. Document review

Name	Role	Review status
Yogesh Anand	Chief Technology Officer	Review completed; feedback incorporated
Kate Sirvid	Solutions Architect	
Wayne Hastie	Service Design Programme Advisor	
Jaala Henson	Financial Services Analyst	
Jeroen Jacobs	Change Manager	

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Tony Brennand	Principle Advisor, Transport Services – Programme and Standards	

1.3. Distributed to

Name	Role
Wayne Carroll	Senior Business Advisor
Katie Hodson	Manager, Debt Management
Laksh Chinthapalli	Product Manager - Financial
Jonnece Putu	Product Owner Service Improvement
Angela Mortlock	Senior Project Manager
Gavin Greaves	Strategic Portfolio Director – Transport
Avi Ram	Senior Business Analyst
Kimberley Pacey	Business Analyst

1.4. Related documents

Title of Document	Location
Project Charter	Stored in Infohub
Assurance Plan	Stored in Infohub
Benefits Realisation Plan (Draft)	Stored in Infohub
Project Risk Register	Project risks are in Planview; they have been included in this document at release date
Project Management Plan (PMP)	Stored in Infohub
Updated BOS Strategic Financial Assessment (19 August 2021)	Stored in Infohub

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1.5. Role identification

Project Manager:	Maree Dunham
Project Sponsor:	Yogesh Anand

1.6. Contents

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2. Executive Summary

2.1. Problem Statements

2.1.1. Background

Road tolling is a regulatory function and is a service provided by Waka Kotahi. Waka Kotahi has an aging back office system (BOS) that is used to process trips, payments and infringements for toll roads. The current tolled roads are:

- NGW – Northern Gateway from Orewa to Puhoi
- TEL – Tauranga Eastern Link
- TKTD – Takitimu Drive, Tauranga

The current system (website and back office) was implemented in 2009; in 2016 the website front end was changed and separated from the BOS. The current BOS has a support contract to November 2022; the website contract is with a Wellington-based provider. Any changes to the website front end require changes to the wrapper that exchanges information with the BOS.

The current BOS:

- has a support contract with Kapsch with an end date of November 2022 (a year's extension has been exercised)
- is "sunset" due to the underlying platform section 9(2)(c) being unsupported;
- will have significantly increased support and maintenance cost if further support extensions are required;
- to the extent that it can be done, there will be ever-increasing development, testing and support costs if additional or enhanced functionality is required;
- has a website that exists as a separate entity and which does not meet section 9(2)(c) or accessibility requirements.

In addition, the current BOS does not have functionality required for future toll roads:

- section 9(2)(f)(iv) to allow for the use of multiple gantries;
- increased or flexible pricing options, including differential charging for peak and off-peak and discounting.

The section 9(2)(f)(iv) The implementation of the tolling BOS will provide the infrastructure platform for section 9(2)(f)(iv) if required.

In summary an updated toll processing system will prepare Waka Kotahi for a potential future shift to a section 9(2)(b)(ii) .

2.1.2. Problem statements

In the initial Investment Proposal for the system replacement presented to the Digital Transport Governance Group in September 2020, two problem statements were identified as the key drivers for this project:

1. Problem/opportunity one: **functionality required to toll new roads is not available in the current tolling system**
    - section 9(2)(f)(iv) cannot be easily built into the current system; significant costs would be incurred to do this and to continue support;
    - Functionality is required to ensure that future roads (section 9(2)(f)(iv) can be tolled when the road opens.
2. Problem/opportunity two: **the current tolling system and platform are end of life and soon to be out of support.**
    - While support could be extended for both for a short period of time, it would be at significant cost to Waka Kotahi.

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- There is a GCSB requirement[1] that all systems must be supportable. Any resulting security risk must be accepted and owned by agency.

2.2. The road to Procurement

Due to time constraints, the project's path to this Business Case has not followed the normal approach. More detail is provided in 5.5.1- Process followed to identify a new solution.

Date	Activity
September 2020	An investment paper was presented to the Digital Transport Programme Steering Committee.
October 2020	The Tackling Unsafe Speeds (TUS) and Tolling Systems Replacement projects released a joint RFI on GETS.
December 2020	A decision was made to separate the TUS and Tolling Systems Procurement activities.
January 2021	Procurement documentation is developed.
February 2021	The procurement document is approved for release on GETS.
April 2021	The RFP closes, and section 9(2)(b)(ii) .
June 2021	The evaluation report is finalised and presented for approval.
August 2021	The Steering Committee endorses the decision to select SICE as the supplier of the preferred solution.
October 2021	section 9(2)(f)(iv)
November 2021	The Business Case for the back office solution for tolling (ie. this document) was presented to the Digital Executive Steering Committee for endorsement. Further analysis was been requested and the outcomes have been incorporated into the Business Case.

2.3. Procurement for a new back office Solution

As a result of the approaching deadline for support for the current BOS, the GM Digital & Workplace approved the sourcing of a new end-to-end back office system to support tolling in 2021. To ensure that Waka Kotahi received the best solution to meet its needs, an open Request for Proposal (RFP) was released to the market for an end-to-end back office system. The responses were assessed, and a preferred solution selected.

[1] Refer to the New Zealand Information Security Manual (NZISM), all Government Departments Agencies and Ministries must comply. See https://www.nzism.gcsb.govt.nz/ism-document/#3212, 12.4.7 Unsupported products.

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2.4. The solution and services

The RFP process identified a preferred solution provided by SICE. SICE will supply and support a managed service solution.

The SICE solution is a commercial off the shelf (COTS) product and provides both front end (website) capabilities and back office processing. The solution is a managed service offering. SICE will provide the implementation and ongoing support services. There is a cloud hosting partner who will be managed by SICE. Further detail on what we are buying, including the support arrangements, is covered in Section 6 – Commercial Case.

2.5. The contract

To ensure Waka Kotahi has the right balance between duration of contract and flexibility, we are recommending a commercial arrangement of an initial five-year term, which is renewable for a further two terms (three plus two years). The contract term starts when the contract is signed; the first period includes two years for implementation. This commercial phasing allows for changes to the contract as modules are swapped in/out for common capabilities elsewhere in Waka Kotahi.

2.6. Payment mechanism

In agreement with the Waka Kotahi Finance team, it has been agreed that the contract will see the implementation cost amortised and payable when the replacement system has been implemented. The amortised cost will be allocated across five years, and will be added to the costs for support, maintenance and licencing.

2.7. The cost

The whole of life cost of the solution is estimated at section 9(2)(b)(ii) . This figure accounts for the vendor costs, Waka Kotahi costs, ongoing support and licencing costs; it is decreased by the current system costs for a 10 year period. As the solution is software as a service, all costs are assumed to be opex.

The Waka Kotahi Finance team have reviewed the forecasted expense and has agreed that the implementation costs should be classified as an opex expense. section 9(2)(b)(ii)

Should additional services be brought into scope of the solution (during or after implementation), the source for additional costs will be determined.

Table 1: Funding overview

section 9(2)(b)(ii)

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section 9(2)(b)(ii)

At the end of detailed design (anticipated July 2022), the Tolling Projects Steering Committee will review whether the delivery of the project within cost, quality, scope and time remains feasible. This will determine whether the contingency allocated is sufficient to successfully deliver the project or whether the decision to proceed needs to be escalated. While it will be possible to off-ramp from the project at this stage, this will force a decision about the continued use of the current system (or not) and will likely incur additional costs.

2.7.1. Vendor implementation costs

The contract will see the implementation cost amortised and payable when the replacement system has been implemented. The amortised cost will be allocated across five years, and will be added to the costs for support, maintenance and licencing.

The vendor implementation cost is estimated at section 9(2)(b)(ii)

2.7.2. Internal implementation costs

Costs for delivery are internal costs for resources and other activities are estimated and some assumptions have been made. The detail is in 8.2 - Breakdown of internal implementation costs.

2.7.3. Onshore data hosting costs

There was no requirement for the RFP to be specific about the location of the tolling data; the vendor has proposed an section 9(2)(b)(ii) cloud solution.

The issue of data sovereignty and the requirement to host the data onshore has been raised with the vendor. Options for hosting the data in New Zealand have been analysed by the vendor, and they have provided costs for two options. The higher of these costs has been incorporated into this Business Case.

These costs have resulted in an overall increase in the ongoing operating costs.

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2.7.4. Contingency & Support Costs

Contingency has been calculated at different percentages for the activities listed.

- 10% has been added to the vendor implementation costs; these are amortised over the first 5 years of the contract term but have been included for the delivery phase.
- 20% has been factored for internal resource cost and other internal costs
- 12 months contingency has been factored for ongoing support of the existing system

Table 2: Contingency costs

Contingency	Factor	Estimate to section 9(2)(b)(ii)
Contingency - Vendor implementation costs	10%	
Contingency - internal resource cost	20%	
Contingency - other internal costs	20%	
Additional support for the current system	12 months	
Total Contingency		

This contingency will be used if the risks the project is managing become issues and additional funds are required. Approval for use/release of these funds will be by the Digital Executive Steering Committee (Digital ESC). Assumptions related to contingency can be found in Appendix 5 – Key assumptions for financial modelling.

2.8. Delivery timeframes

The new system is anticipated to be fully functional in Q2/2023. The implementation timeframe has been determined at 13-14 months; design work is forecast to start in March 2022; implementation of the new system is forecast at June 2023.

section 9(2)(f)(iv)

The delivery dates for both projects will be assessed to determine the order of functional delivery (costs and risks will be considered).

2.9. How we will ensure successful delivery

The Tolling Systems Replacement project is part of the Te Hau Ora | Digital Portfolio and will follow the portfolio governance arrangements

The preferred vendor has proposed to use a mix of agile and waterfall approach with the agile techniques in the design and build phases.

A comprehensive Assurance Plan[2] has been developed that includes:

- undertaking an independent quality assurance review (IQA) prior to starting detailed, design, with regular health checks throughout the project life cycle, and
- an independent review of the investment decision making approach to date.

[2] TSR Assurance Plan. section 9(2)(c)

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2.10. Risks

section 9(2)(c)

2.11. Purpose of this document

The primary purpose of this document is to provide decision-makers with assurance on the proposed investment.

2.12. Intended audience

The information contained within this document has been summarised and will be provided to the Waka Kotahi Board in December 2021. The primary audience for this document includes Te Hau Ora and the Waka Kotahi Chief Executive.

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3. Strategic Case

3.1. Strategic context – Waka Kotahi's problem statements

In the initial Investment Proposal for the system replacement presented to the Digital Transport Governance Group in September 2020, two problem statements were identified as the key drivers for this project:

1. Problem/opportunity one: **functionality required to toll new roads is not available in the current tolling system**
    - section 9(2)(f)(iv) cannot be easily built into the current system; significant costs would be incurred to do this and to continue support;
    - Functionality is required to ensure that future roads section 9(2)(f)(iv) can be tolled when the road opens.
2. Problem/opportunity two: **both the current tolling system and platform are end of life and soon to be out of support.**
    - While support could be extended for both for a short period of time, it would be at significant cost to Waka Kotahi.
    - There is a GCSB requirement[3] that all systems must be supportable. Any resulting security risk must be accepted and owned by agency.

3.2. Support for Waka Kotahi's strategic direction

3.2.1. Alignment to Government policy and legislation

The Government Policy Statement on Land Transport 2021/22-2030/31[4] has four strategic priorities. Commentary for this deliverable is provided for each of these priorities:

Strategic priority	Commentary
Safety – developing a transport system where no-one is killed or seriously injured	• Where tolling is an option, the infrastructure construction may be brought forward. This leads to newer roads built to higher standards and equipped with safety facilities; it also reduces congestion. • Better community outcomes for the smaller towns with reduced freight, less congestion, less noise
Better travel options – providing people with better transport options to access social and economic opportunities	• Options that are available when a toll road options allows a road user to consider the cost of the trip • Toll roads provide better and newer roads therefore provide safety benefits • Better community outcomes for the smaller towns with reduced freight, and less congestion
Climate Change – developing a low carbon transport system that supports emissions reductions, while	• On roads with high volumes vehicle emissions are significantly higher in 'stop-start' congested traffic.

[3] Refer to the New Zealand Information Security Manual (NZISM), all Government Departments Agencies and Ministries must comply. See https://www.nzism.gcsb.govt.nz/ism-document/#3212, 12.4.7 Unsupported products.

[4] Refer to Te Tauākī Kaupapa Here a te Kāwanatanga mō ngā waka whenua 2021. See https://www.transport.govt.nz/area-of-interest/strategy-and-direction/government-policy-statement-on-land-transport-2021/

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improving safety and inclusive access	• Steep gradients increase vehicle emissions particularly with trucks. A new toll road that removes congestion or reduces gradients through cuts/earthworks will lower emission levels and will also reduce fuel consumption (therefore fuel costs) for the vehicle operator.
Improving Freight Connections – improving freight connections for economic development	• Less congestion, gentler gradients and less hard accelerations will reduce tonne/Km costs for transporting freight. • Further, high standard roads with less congestion increases the reliability of arrival times for the shipper which can be a significant cost in the logistics chain • Smaller towns/communities are bypassed by the freight traffic.

3.2.2. Contribution to benefits expected from Te Hau Ora | Digital Portfolio

This initiative is one of the enablers for Waka Kotahi to achieve its goal of becoming a digitally enabled, data and intelligence-driven, customer-focused agency and contributes to the four of the six high-level benefit areas defined by Te Hau Ora.

A key principle in the sourcing of any new solution for Waka Kotahi is that we will be a process taker and not a process maker. We will take solutions out of the box and outsource where it makes sense. It is likely that minor customisation of the solution functionality will be required however a strict process will be implemented to ensure that customisation of functionality is the best use of funds (compared to a change of business process). There will be redevelopment or customisation of existing connectors to allow integration the solution with existing systems; there will also be the ability (via APIs) to interface and share data with other systems as required.

This project also contributes to the reduction of Key Security and Technology risks, a key driver for a large programme of work managed under Te Hau Ora. The BOS will be delivered as a managed service offering and will deliver to the All of Government (AOG) cloud-first policy. This will enable significant efficiencies, enhanced security and performance. Taking an out of the box solution will allow for easier and faster application upgrades.

3.3. Alignment to other strategic initiatives

There are several strategic initiatives to which this systems replacement is aligned. Each of these is described in the sections following. An overview of the strategic alignment is provided in this diagram:

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3.3.1. section 9(2)(b)(ii)

[redacted]

3.3.2. Future toll roads

The current tolling back office system can deliver only single point, flat rate tolling. This system is reaching end of life and will have significantly increased support and maintenance cost if further support extensions are required.

Future roads will be assessed for tolling; as an example, section 9(2)(f)(iv) will require both section 9(2)(f)(iv) and section 9(2)(f)(iv) . section 9(2)(f)(iv) [redacted] The current back-office system will need to be replaced to provide the required functionality; the new system has the required functionality.

section 9(2)(f)(iv)

3.4. The case for change

Road tolling is a revenue tool enabled under the LTMA and is a service provided by Waka Kotahi. Waka Kotahi has an aging back office system (BOS) that is used to process trips, payments and infringements for toll roads. The current BOS:

- has a support contract with Kapsch with an end date of November 2022
- is viewed as "sunset" due to the underlying platform (section 9(2)(c) [redacted]) being unsupported;
- will have increased support and maintenance costs if further support extensions are required (this is for a limited time period only);
- will have ever-increasing development, testing and support costs if additional or enhanced functionality is required;
- has a website that exists as a separate entity and which does not meet section 9(2)(c) [redacted] and accessibility requirements.

In addition, the current BOS does not have functionality required for future toll roads:

- section 9(2)(f)(iv) to allow for the use of multiple gantries;
- increased or flexible pricing options, including differential charging for peak and off-peak and discounting.

The current system (website and back office) was implemented in 2009; in 2016 the website front end was changed and separated from the BOS. The current BOS has a support contract to November 2022; the website contract is with a Wellington-based provider. Any changes to the

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website front end require changes to the wrapper that exchanges information with the BOS. The functionality required for future toll roads (section 9(2)(f)(iv), differential pricing) is not available in the current system.

In addition, an updated toll processing system will prepare Waka Kotahi for a potential future shift to a section 9(2)(f)(iv) and section 9(2)(f)(iv).

3.5. Outcomes we are seeking from this investment

The two key outcomes that we are seeking is to remove the problems with the existing tolling system:

Problem statement	Outcome
Functionality required to toll new roads is not available in the current tolling system section 9(2)(f)(iv); this functionality cannot be easily built into the current system and significant costs would be incurred to do this and to continue support;	A new tolling system has the functionality required to toll future roads. This includes functionality for: • section 9(2)(f)(iv) • Distance-based pricing • section 9(2)(f)(iv) This functionality is required to support tolling on section 9(2)(f)(iv), which has recently been approved by the Board.
Both the current tolling system and platform are end of life and soon to be out of support. While support could be extended for both, it would be at significant cost to Waka Kotahi (and for only a limited time period).	The new tolling system is modern and is provided on a current technology platform. The functionality to toll future roads section 9(2)(f)(iv) is available in the system. There is support and future upgrades available for the duration of the contract; this solution brings the tolling solution in line with GCSB requirements for supported systems.

Ultimately, a key driver for this investment is reducing the risks posed to Waka Kotahi from unsupported legacy systems, or those that have security vulnerabilities. In addition, this investment will support delivery of the outcomes identified in the Transport Services strategies, and will enable us to:

- Improve customer services: Improving the experience for our internal and external customers by providing a simple, intuitive service.
- Support our people to achieve: We enable our people to focus their efforts on value-add activities by providing access to the information and processes they need to do their job.
- Employ customer centric standardised processes: Our processes are simple, integrated, automated and compliant.
- Deliver value: We provide our teams with a modern, fit for purpose solution that functions as required allowing us to effectively deliver Agency outcomes.

In addition, this investment is strategically aligned to other Waka Kotahi initiatives:

- Ability to toll future roads with the proposed system (section 9(2)(f)(iv) and other roads)
- section 9(2)(f)(iv)

For further detail on investment outcomes, refer to Appendix 1.

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3.6. Benefits and opportunities

The stakeholder panel identified and agreed the following potential benefits and measures for the proposal resulting from the two key outcomes defined:

ID	Benefit area	Description	Measurement
1.	Reduce time and effort	Reduced time by the Contact Centre responding to tolling related queries (L1 response).	Volumes and timings for Contact Centre staff to respond to phone queries. Note that Contact Centre staff work 7/days/week.
2.	Reduce time and effort	Reduced time by the Tolling Operations and Finance teams to resolve issued escalated by the Contact Centre (L2 response)	Key processes and volumes/timings for the effort spent on these escalated admin tasks - $ value allocate $ based on average senior officer salary
3.	Reduce time and effort	Reduced costs for the business for assistance with difficult tolling questions/queries from customers (on calls or email) (L3 response)	Key processes and volumes/timings for the effort spent on these escalated admin tasks - $ value allocate $ based on average senior officer salary
4.	Reduce time and effort	Increased ability for the customers to self-service; increased number of services our customers can access; provides ability to do self fleet management and account management (L2 Support from the Tolling Operations Team)	Key processes and volumes/timings for the effort spent on completing these tasks - $ value allocate $ based on average senior officer salary
5.	Reduce time and effort	Increased ability for the customers to self-service; increased number of services our customers can access; provides ability to do self fleet management and account management (L2 Support from the Finance Team)	Key processes and volumes/timings for the effort spent on completing these tasks - $ value allocate $ based on average senior officer salary
6.	Reduce time and effort	Reduced incomplete payments; connection is not possible (due to technical issues); manual reconciliation/workarounds	Manual reconciliation and workarounds - volumes and timings for the effort spent to complete. Is a daily activity. Includes time spent fixing issues after outages.
7.	Reduce time and effort	Customers can selfserve and complete actions themselves; increase in payments via website; fewer calls to Contact Centre	Customer satisfaction survey - increase in satisfaction levels
8.	Reduce time and effort	Customers have confidence that they're paying the right amount, that we're protecting their personal information, and that the account balances are correct	Will need to be done in the customer satisfaction survey; measures components that contribute to overall customer satisfaction.

Full benefits information, including review and update timing is included in the Benefits Realisation Plan. See also section 8.5 – Benefits management plan.

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3.7. Key constraints, dependencies and assumptions

The proposal is subject to the following constraints, dependencies, and assumptions.

Management strategies and registers have been developed to record management of these and they will be carefully monitored and managed during the programme.

Key constraints, dependencies and assumptions:

Constraint		Notes
C1	Support contract for existing system and timeline to deliver	The current support contract will expire in November 2022. Should the new system not be in place until 2023, there will be additional cost for continued support.
C2	GCSB System Requirements	It is a breach of GCSB requirements to have a production system that is not supported. Any resulting security risk must be accepted and owned by Waka Kotahi.

Dependency		Notes and management plans
D1	Business processes are known	Updates to business processes will be identified during the design phase, as the build is progressed, these business process changes will be confirmed and training will be planned.
D2	Data purging/archiving is completed before the system cutover.	This is to be done to reduce the amount of data in the current system, and the amount of data to be cutover to the new system.

Assumption		Impact if not valid
A1	Sufficient funding is secured for the project's delivery.	There are insufficient funds to complete the implementation and associated business change of the new tolling system.
A2	Existing interfaces to the tolling system are fit for purpose and do not need significant changes.	Significant changes are required to the current interfaces, and additional funds/time are required to complete these changes.
A3	The book value of the current back office system is $0. There is no requirement to write-off costs.	Additional cost will be required so that the current system can be written off from the asset register.
A4	No change to toll transaction cost is assumed	The revenue from tolling can be forecast at current costs.

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4. Economic Case

4.1. Options for consideration

Given the age and lack of functionality in the current back office system used for tolling, the following are the options available:

Option	Comment
a) Do minimum #1 – maintain the current system until it costs too much to support (subjective figure) or it stops working and then stop tolling	Investment for delivery
b) Do minimum #2 – maintain the current system and raise the cost of FED or RUC to cover both the ever-increasing support cost and the shortfall in revenue due to not tolling.	Investment but changes delivery of revenue
c) Outsource the business processing of tolls to a third party (BPO).	No investment, delivery option
d) Invest in a fit for purpose end-to-end back office system – that can be used for tolling and other back office services as required.	Investment for delivery

4.2. Option 1 – Do nothing, stop tolling option

This option is to continue with the current system (without adding further functionality) and eventually stop tolling when the system is no longer capable to provide the service.

There are two components to the current system that are coming to end of life – the platform and the BOS system itself. It is unlikely that the supplying vendor will be able to provide further platform support; while they can likely provide further system support, they are moving away from this product and it's likely that cost of continued system support will increase.

4.2.1. Benefits and costs[5]

Opting not to replace the back-office system would save Waka Kotahi the costs associated with the purchase and ongoing maintenance. This will vary depending on the delivery option i.e. – whether Waka Kotahi purchases a system or opts for tolling as a service. In addition, further savings may be netted by not having to maintain the tolling roadside assets when it is no longer possible to collect tolls.

- Based on estimates, over the next 25 years[6], these back-office savings could amount to approximately section 9(2)(b) [7].
- Based on current existing toll roads, these asset savings could amount to approximately section 9(2)(b) [8] over 25 years.

If the current tolling solution is not replaced, toll revenue from existing and proposed toll roads section 9(2)(f)(iv) over the next 25 years cannot be

[5] From Updated BOS Strategic Financial Assessment (19 August 2021). Document stored in Infohub.
[6] Existing toll roads will be repaid by 2043
[7] Where tolling is SAAS (non-amortised costs) not including any additional system requiring replacement during the 25-year period
[8] Where each current road over an 11-year period is forecasted for approximately section 9

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collected. Construction costs will still need to be paid however other funding sources will be required to recover this investment.

- Based on debt being repaid off current toll roads only, Waka Kotahi will lose an estimated section 9(2)(b)(ii) over the next 25-years
- Based on debt being repaid off current toll roads plus the potential of section 9(2)(f)(iv) , Waka Kotahi will lose an estimated section 9(2)(b)(ii) over 25 years[9]

section 9(2)(g)(i)

4.2.2. Issues and considerations with the do nothing, stop tolling option

The following table outlines the issues/considerations with this option:

Table 3: Do nothing, stop tolling option Issues/Considerations

Issue/Consideration	Commentary
End of life and soon out of support	The support contract for the existing tolling solution has been extended to 4 November 2022. The monthly support cost increases with this extension. Further extensions are likely to be matched by increases in monthly support costs. At some point in the near future, the underlying technology platform will cease to be supported by its vendor and Kapsch will no longer want to provide extended support for the existing system.
When the system is not sustainable, tolling will be stopped	As the cost of system support becomes prohibitive, an option is to stop tolling. Tolling is a regulatory activity, and this is not a decision that can be taken without involvement of other parties. Also, the payback of road construction costs needs to be factored into this decision.
Consideration of all new infrastructure investments for tolling	The ability to set tolls is provided under the LTMA and it is Waka Kotahi practice to consider all new infrastructure investments for tolling. Not having the ability to toll would be inconsistent with current policy and business plans and would result in the loss of the ability to use tolling for the purposes provided for in the legislation e.g. to bring forward road construction, to pay for maintenance and operation costs.
Prepay balances to be disbursed	If tolling is stopped (because the system cannot be supported), there will be a requirement to disburse/distribute the prepay balance. (This is quite separate to re-imbursement of account balances.)
Toll roads bring user benefits	Toll roads bring user benefits including reduced journey time, more reliable journey times and reduced vehicle operating costs. If tolling is stopped, there are significant disbenefits in terms of increased journey times, increased vehicle operating costs, increased safety costs, increased emissions etc

[9] section 9(2)(f)(iv)

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4.3. Option 2 – Do nothing, replace toll revenue

This option is to continue with the current system (without adding further functionality) and eventually stop tolling when the system is no longer capable to provide the service. An option to cover the lost tolling revenue is to raise the charges for FED and RUC.

As both the platform and the system reach end of life, the costs for supporting the current platform will increase (likely exponentially). Additional functionality will not easily be added, so shouldn't be considered.

At a point, the system will not be sustainable, and tolling will need to be stopped. This would result in savings for the Agency due to not having to pay support charges for the system. There may be additional savings if roadside assets are not required; maintenance costs for these will reduce. However, as tolling is a regulatory activity, agreement will be needed from the Minister.

It is likely that this option is cost neutral; the source of the revenue for Waka Kotahi is different. There are also likely to be savings from not tolling (this could be in the form of staff reduction).

4.3.1. Required increase to FED/RUC

As part of the 2021 Funding Review, analysis has been done to determine the increase required to FED/RUC if these are required to cover lost tolling revenue.

section 9(2)(b)(ii)

The reasons for this are that the revenue is collected off a much broader base – so more people pay a tiny piece rather than fewer people paying more. As it is now, the current tolling system is a very inefficient way of collecting money – replacing the tolling revenue as part of a fuel/other cost removes this inefficiency. However, tolls are collected to contribute to the costs of construction, operation and maintenance of new roads, so this option could be detrimental to many road users.

4.3.2. Issues and considerations with this option

The following table outlines the issues/considerations with this option:

Table 4: Do nothing, replace toll revenue option Issues/Considerations

Issue/Consideration	Commentary
End of life and soon out of support	The support contract for the existing tolling solution has been extended to 4 November 2022. The monthly support cost increases with this extension. Further extensions are likely to be matched by increases in monthly support costs. At some point in the near future, the underlying technology platform will cease to be supported by its vendor and Kapsch will no longer want to provide extended support for the existing system.
When the system is not sustainable, tolling will be stopped	As the cost of system support becomes prohibitive, an option is to stop tolling. Tolling is a regulatory activity and this is not a decision that can be taken without involvement of other parties. Also, the

[10] section 9(2)(b)(ii)

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	payback of road construction costs needs to be factored into this decision.
Consideration of all new infrastructure investments for tolling	The ability to set tolls is provided under the LTMA and it is Waka Kotahi practice to consider all new infrastructure investments for tolling. Not having the ability to toll would be inconsistent with current policy and business plans and would result in the loss of the ability to use tolling for the purposes provided for in the legislation e.g. to bring forward road construction, to pay for maintenance and operation costs.
Tolling will be required until the increase in FED/RUC charges come into effect	The decision to increase the FED/RUC charges is not a Waka Kotahi decision; it would need Government approval to implement and likely could take 12+ months to complete. There would be a requirement to continue tolling for this interim period until the tolling revenue is replaced.
Prepay balances to be disbursed	If tolling is stopped (because the system cannot be supported), there will be a requirement to disburse/distribute the prepay balance. (This is quite separate to re-imbursement of account balances.)
Clean Car initiative	It should be noted that fuel tax revenue is likely to decrease with the introduction of the Clean Car initiative. Tolling is agnostic to this initiative.
Increase payment for something the road user is not using	Tolls are collected to contribute to the costs of construction, operation and maintenance of new roads, so this option could be seen as detrimental to many road users. The revenue would be collected from a much broader base – so more people pay a tiny piece rather than fewer people paying more.
Toll roads bring user benefits	Toll roads bring user benefits including reduced journey time, more reliable journey times and reduced vehicle operating costs. If tolling is stopped, there are significant disbenefits in terms of increased journey times, increased vehicle operating costs, increased safety costs, increased emissions etc

4.3.3. Current costs for the current system

Costs for this option are the same as for Option 1 – Do nothing, stop tolling option.

4.4. Option 3 – Outsource the business processing of tolls

Analysis on the tolling business was done in 2011 and repeated in 2016 by MartinJenkins and Nous Group.

The 2016 report[11] noted:

- that a significantly better value-for-money arrangement for the tolling business existed at Waka Kotahi. NZTA had been successful in reducing the costs, measured on a per trip basis, in running and administering the tolling system.

[11] 16-05-1017 Review of the operating model for tolling – Attachment.pdf. This is the MartinJenkins/Nous Group report of 2016 used for reference.

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- There was a case to continue exploration of the possibility of using a bureau service section 9(2)(
- Primary drivers for a bureau service are a potential longer-term reduction in operating cost together with the possibility that future business models for new toll-road operating modes, or other road-pricing requirements, may emerge that are not well supported by the current system.
- This exploration for a bureau service is not an urgent need as NZTA (sic) has a stable platform on which to support the operation of the current roads and any roads of a similar nature over the next 5 to 10 years.
- Savings in any transfer to a bureau would take time to accrue, due to sunk costs of current system development and transition development costs.
- Unless there is an order of magnitude change in tolling transaction volumes, the system amortisation and support costs will remain the major component of the operating cost.
- It is important to note that the availability of a suitable bureau service is by no means certain. There is no ready market and the provision of a service of this type would be the result of a mutual agreement for development of a service with another operator, most likely under a strong strategic alliance arrangement.
- In 2011/2012, one operator was identified; this operator had strong interest in offering a service at that time but ownership changes since then would require a new level of engagement (with this and other operators).

The same report recommended the exploration of the possibility of a bureau service for tolling and related operations in a measured and systematic way. This possibility was not explored before the decision to release an RFI which surveyed the market for existing solutions that could provide the tolling back office service.

The tolling business has not changed significantly, nor has it grown, in the time since the 2016 report; there are no additional roads to be tolled, and future functionality is covered within the RFP. The outsourcing was raised during the development of the Procurement Plan and prior to the release of the RFP for a new tolling solution. The Procurement Plan noted that the outsourcing option was not considered as it has been assumed that the tolling service continues to be a core function of Waka Kotahi.

Usually the cost of an outsourced service is determined by the number of transactions. While there is an argument that says an increase in volume should reduce the transaction cost, the cost of an outsourced solution could increase as trip volume increase. It is possible that any reduction in transaction cost is countered by an increase in operating cost. Over time, it should be expected that the cost of an outsourced service will increase as more roads are tolled.

4.5. Option 4 – Invest in a new tolling system

This option required a procurement activity to find a fit for purpose end-to-end tolling system.

4.5.1. Process followed to identify a new solution

Waka Kotahi issued an open RFP in March 2021. section 9(2)(b)(ii) and four were evaluated by the Tender Evaluation Panel (one response did not meet the pre-conditions defined in the RFP).

At the completion of the Evaluation process, there were two Respondents with a very small margin of difference. As a result, the Evaluation Panel did not specifically recommend one vendor over the other and have left this decision to the project's Steering Committee.

Both Respondents moved through due diligence to the commercial negotiations. Further information on the procurement process is outlined in Section 6 – Commercial Case.

The procurement timeframe was:

Date	Activity

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September 2020	An investment paper was presented to the Digital Transport Programme Steering Committee for seed funding to allow the development of a project plan, definition of scope, requirements elaboration and the high level design for a new tolling solution. This solution was to consider synergies with Tackling Unsafe Speeds and the National Integrated Ticketing Solution (NTS) when assessing requirements and solution options. This funding request was approved.
October 2020	The Tackling Unsafe Speeds (TUS) and Tolling Systems Replacement projects released a joint RFI on GETS. The RFI sought to determine whether there were systems and services that could support Waka Kotahi in the management of section 9(2)(f)(iv) There were 17 responses, some of which could provide specific tolling functionality.
December 2020	A decision was made to separate the TUS and Tolling Systems Procurement activities. As a result, the Tolling Systems Replacement project focussed on finalising procurement documentation for release.
January 2021	Procurement documentation is developed; a scope change is accepted into the project (adding the website functionality to scope).
February 2021	The procurement document is approved for release on GETS. The project seeks additional funding to continue through to an Implementation Business Case (this document).
March 2021	On 2 March, the RFP is available on GETS. On Tuesday 9 March, a Vendor Briefing was held and a number of organisations attend.
April 2021	The RFP closes, and section 9(2)(b)(ii) (one is a joint proposal between 2 vendors). One proposal is removed from consideration as it does not meet the defined pre-conditions.
May 2021	The RFP moderation is complete and two vendors are down-selected. Presentations and demonstrations are requested from each.
June 2021	The evaluation report is finalised and presented for approval.
July 2021	Additional information is requested by the Steering Committee; this information is provided and discussed.
August 2021	The Steering Committee endorses the decision to select SICE as the supplier of the preferred solution. section 9(2)(f)(iv)
October 2021	The preferred vendor is approached about the due diligence analysis for section 9(2)(f)(iv). It is recognised that the development of the contracts for the back office solution for tolling need to continue but are likely to be impacted by this diligence activity.

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November 2021	Contract negotiation is in progress with the preferred vendor and the Business Case is released for approval. The Business Case for the back office solution for tolling (ie. this document) is presented to the Digital Executive Steering Committee for endorsement. Further analysis was been requested and the outcomes have been incorporated into the Business Case.

4.5.2. Benefits[12]

Many of the benefits of a modern, fit for purpose back office system are unable to be expressed in monetary value. These can, however, be described in terms of likely future requirements and the likely benefit to Waka Kotahi.

Opting to install a modern, fit for purpose back office system may enable Waka Kotahi to more effectively manage demand on existing and future toll roads. It will allow preparation for wider pricing applications such as section 9(2)(f)(iv), section 9(2)(b)(ii) section 9(2)(f)(iv), additional tariff considerations, etc which will enable the addition of more sophisticated tolling that is targeting at achieving specific outcomes – and will ensure that tolling is equitable. This new solution might also see a reduction in the transaction cost over time (therefore an increase in net revenue).

Additional costs incurred will include ongoing asset management costs; these are not considered in this Business Case.

4.6. Selection of preferred Option

4.6.1. Option assessment against key criteria

Each option has been assessed against these criteria and matched to a problem/opportunity statement:

Criteria	Match to problem / opportunity statement
The option provides Waka Kotahi the functionality to meet the current policy and business plans (ie. tolls can be collected).	#1
The level of investment for this option ensures that tolls continue to be collected and additional functionality is available when new services are implemented section 9(2)(f)(iv)	#1
For this option, what is the impact of the ongoing operating cost to Waka Kotahi?	#1, #2
For this option, what is the change impact on service levels, business processes and team members?	No direct link
For this option, what is the timeline? For how long is it viable?	No direct link

[12] From Updated BOS Strategic Financial Assessment (19 August 2021). Document stored in Infohub.

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For this option, is there strategic alignment to other initiatives?	No direct link

A RAG status has been given to each criteria for each option:

A – The option provides Waka Kotahi the functionality to meet the current policy and business plans (ie. tolls can be collected)		
Addresses Problem Statement #1 by providing the functionality for collection of tolls on future roads		
Option 1 – Do nothing		Current functionality doesn't allow for collection of tolls on future roads; this would need to be built section 9(2)(f)(iv) When the cost of supporting this system becomes not sustainable, it will not be possible to collect tolls.
Option 2 – Replace revenue		This option proposes to replace the tolling revenue with revenue from an increase in FED/RUC charges. This doesn't meet the current policy and business plans.
Option 3 – Outsource the process		Assumes that a new service can be onboarded by the outsource supplier as/when required (with sufficient leadtime for testing, training, etc).
Option 4 – invest in new solution		The preferred solution can deliver the requirements defined, which includes those for required to meet policy and business plans.

B – The level of investment for this option ensures that tolls continue to be collected and additional functionality is available when new services are implemented section 9(2)(f)(iv) , etc)		
Addresses Problem Statement #1 by providing the functionality for collection of tolls on future roads		
Option 1 – Do nothing		Investment in the currently functionality would be required to toll future roads. As noted, there is a limit to the functionality that can be added due to the age and support of the current system.
Option 2 – Replace revenue		If the tolling revenue is replaced before new functionality is required, the requirement is for investment to maintain and support the current system.
Option 3 – Outsource the process		With an outsourced solution, there is no investment required for additional functionality; it is likely that there will be additional cost (project-based) to ensure testing, training, business change is assessed when a new service is configured. As additional roads/services are implemented, the cost is likely to increase.
Option 4 – invest in new solution		The preferred solution will require a one-off investment for implementation. This solution provides the additional functionality required (this will have to be configured for each new service/toll road).

C – For this option, what is the impact of the ongoing operating cost to Waka Kotahi?
Addresses Problem Statement #1 by removing the need for further investment in unsupported systems

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Address Problem Statement #2 by ensuring compliance with the GCSB requirement for supported systems		
Option 1 – Do nothing		The ongoing operating costs are expected to increase (significantly) to ensure that ongoing support remains viable. There will come a time when the cost of the service is not sustainable.
Option 2 – Replace revenue		The ongoing operating costs are expected to increase (significantly) to ensure that ongoing support remains viable. There will come a time when the cost of the service is not sustainable and by this time the tolling revenue will need to have been replaced with other funding.
Option 3 – Outsource the process		In the report from 2016 (see earlier reference), it was noted that unless there is an order of magnitude change in tolling transaction volumes, the system amortisation and costs will remain the major component of the operating system.
Option 4 – invest in new solution		The ongoing operating costs for the new solution are higher than those of the current solution. However, they will remain fixed for the contract duration.

D – For this option, what is the change impact on service levels, business processes and team members?		
There is no direct link to either Problem Statement.		
Option 1 – Do nothing		There will be no improvement in the service levels or business processes if the system isn't replaced. If additional functionality is built for future roads, service levels and business processes are likely to be adversely affected. Waka Kotahi staff will continue to perform account activities for customers.
Option 2 – Replace revenue		Replacing the toll revenue with other revenue will cause an (unknown) impact on business processes. The current toll balances (prepay and account) will need to be repaid to the customers (if possible). The Waka Kotahi staff involved in tolling operations will need to be redeployed.
Option 3 – Outsource the process		Outsourcing the tolling service will require updates to existing processes and will likely lead to a re-organisation (or reduction) in staff.
Option 4 – invest in new solution		The preferred solution will be configured (not customised) and business processes will be impacted – these will be streamlined and workarounds removed (where possible). The new solution will provide functionality for customers to self-serve (rather than having a Waka Kotahi team member do the activity). It is expected that the level of user support will reduce and internal efficiencies will increase.

E – What is the timeline for this option? For how long is it viable?		
There is no direct link to either Problem Statement.		
Option 1 – Do nothing		Doing nothing with the current system will be possible until new functionality is needed section 9(2)(f)(iv) or until the system becomes not supportable.

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Option 2 – Replace revenue		Replacing the toll revenue with another revenue source (eg. FED and RUC increases) will likely take several years to implement. This option requires input and approval from the Minister and other Agencies.
Option 3 – Outsource the process		A full set of requirements is required, then a procurement activity would need to be done for this option. It is unlikely to be a short-term fix and it is possible that the provider might be offshore.
Option 4 – invest in new solution		The delivery timeframe for this new solution is estimated at 12-15 months. If selected, the implementation of this new solution is estimated in Q1/2 of 2023.

F – For this option, is there strategic alignment to other initiatives?		
No direct link to either Problem Statement, however provides for other services to leverage the functionality.		
Option 1 – Do nothing		There is no strategic alignment for other initiatives.
Option 2 – Replace revenue		There is no strategic alignment for other initiatives.
Option 3 – Outsource the process		Potential to add other initiatives into this outsourcing option; the procurement activity would have to be wider than the processing for tolling to ensure these initiatives are included in scope.
Option 4 – invest in new solution		This implementation could provide the platform for the section 9(2)(f)(iv) should their due diligence recommend using a modified installation of the back office processing system for tolling. In addition, the preferred solution has the functionality required for section 9(2)(f)(iv)

In summary:

	A – Meets current policy	B – Investment required	C – Ongoing operating costs	D – Change impact	E – Timeline	F – Strategic alignment
Option 1 – Do nothing						
Option 2 – Replace revenue						
Option 3 – Outsource the process						
Option 4 – invest in new solution						

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4.7. Preferred option

The preferred option is **Option 4 – investment in a fit for purpose end-to-end tolling system**. This option will ensure that the tolling system is current and modern, and that current and anticipated functionality can be provided without significant investment in the system. Additionally, there is strategic alignment for other Waka Kotahi initiatives:

- section 9(2)(b)(ii)
- Ability to toll future roads with the proposed system section 9(2)(f)(iv) and other roads) (refer 3.3.2 – Future toll roads);
- section 9(2)(f)(iv)

4.7.1. Timing of delivery

The new system is anticipated to be fully functional in Q2/2023. The implementation timeframe has been determined at 13-14 months; allowing for contract signing and the 2021 Christmas period, design work is forecast to start in January 2022.

4.7.2. Scope of the preferred option

The scope of the preferred option includes:

In Scope	Out of Scope
• Design, build and testing of the new website functionality; customer-centric design approach	• Changes to the existing tolling website before the new site is launched
• Design of account structure with new solution • Data migration activities	
• Configuration of the system for all toll roads that are in production	• Analysis of requirements to deliver tolling for any other toll road ahead of the delivery of the new system
• Design and provision of required environments (training, test, pre-prod production) as required • Provision of a production environment • Functional, performance, security and penetration testing	• Migration of any other systems to the Cloud
• Change management for internal and external users of the tolling system • Communications plan and deliverables to inform internal and external users of the changes • Training materials as required for external users	• Change management and/or comms related to any toll roads other than the 3 current roads that are tolled
• Training and knowledge base update for internal teams • Collateral and communication to support process changes • Release and change management	

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• Operational readiness and support documentation • Handover to operational teams	

• Documentation as per Waka Kotahi project requirements, eg:
  • System Architecture Design documentation
  • Test exit reports
  • Features, Stories or Use Cases
  • Service Management Documents
  • Updated operational processes
	• Documentation updates for the current Tolling system or interfaces as a result of changes during project delivery but not caused by project delivery

• Documents required to meet legislative requirements, eg:
  • Privacy Impact Assessment
  • Risk Threshold Assessment	

• Decommissioning of existing systems	• Migration of existing systems from the Unisys Data Centre to a new hosted environment
• Decoupling the Roadside system and current tolling system. Ensure a billable transaction (trip construction part) is provided by Kapsch so that it can be integrated to the new tolling system.	• Changes to the Roadside system that collects information at the gantries.

4.8. What the preferred solution offers

The preferred solution offers:

- A fit for purpose end-to-end solution that provides current and anticipated functionality
- Support for the new system for a contracted period of 5 years (plus 5 years if required)
- A new tolling website that provides easier functionality for customers, allowing them to self-serve.

For each option, a short summary of the benefit and the cost are provided:

	Benefit		Cost	
Option 1 – Do nothing		• Current functionality doesn't allow for collection of tolls on future roads		• High cost to get functionality needed (and if possible); breach of GCSB requirement for supported system • If tolling is stopped, there are significant disbenefits in terms of increased journey times, increased vehicle operating costs, increased safety costs, increased emissions etc
Option 2 – Replace revenue		• This doesn't meet the current policy and business plans.		• High cost to get functionality needed (and if possible) until revenue is replaced; breach of GCSB requirement for supported system

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				• If tolling is stopped, there are significant disbenefits in terms of increased journey times, increased vehicle operating costs, increased safety costs, increased emissions etc
Option 3 – Outsource the process		• Functionality could be outsourced but no investigation has been done for this option. • Timeframe to outsource is not known.		• Unknown but likely to increase when volumes increase.
Option 4 – invest in new solution		• Provides functionality needed to collect tolls on current and future roads. • Provides a new, supportable system; aligns with GCSB requirement for system supportability.		• Investment required; ongoing operational cost higher than current

4.9. Significant benefits delivered by the preferred solution

For Waka Kotahi, benefit areas include

- Reduce time and effort – the new system will require less time and effort for Tolling Operations and Finance staff to support customers and for toll processing
- Improve customer satisfaction – because the new website is intuitive, and customers can self serve
- Allow configuration and faster change of new toll services (this includes new toll roads and differential pricing constructs)

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5. Commercial Case

5.1. The procurement strategy and approach to the market

A market approach, in conjunction with the Tackling Unsafe Speeds Programme, was completed in October/November 2020. The intention of this approach was to identify possible solutions for section 9(2)(f)(ii) – solutions that would meet the needs of both the TUS Programme and the Tolling Systems Replacement.

In early 2021, it was determined that the Tolling Systems Replacement needed to get to market with an Open RFP sooner than the TUS Programme.

A competitive tender process was undertaken:

1. Releasing an open RFP on the Government Electronic Tender Service (GETS);
2. Responses were formally evaluated by a panel of evaluators to identify the vendors with the best solution; and
3. Demonstrations of the short-listed solutions were undertaken along with due diligence activities (reference checks and financial due diligence).

This approach to market complied with Waka Kotahi procurement policies, and the Ministry of Business, Innovation and Employment's (MBIE) Rules of Procurement.

5.2. The procurement plan

The final Procurement Plan for the Tolling Systems Replacement project can be found here. To support the procurement plan, an evaluation guide and set of scenarios for a vendor demonstration were developed.

The RFP outlined the functional and non-functional requirements of the desired solution. We were seeking a prime contractor either working alone or with other vendors in the market to provide us with the best solution.

Outlined below is the high-level timeframe that was followed:

- Pre-tender: 14 November 2019 – 15 November 2019
- Tender: 2 March 2021 to 8 April 2021
- Evaluation: 12 April 2021 to 31 May 2021
- Evaluation report production: May/June 2021

The approval to proceed with the preferred vendor, including contract negotiation and signing was forecast for completion in October 2021.

5.3. Evaluation of supplier offers

The Evaluation Panel (the Panel) consisted of representatives from Tolling Operations, Finance and Digital teams. An independent procurement specialist consultant was engaged to Chair the Panel and work with the Waka Kotahi appointed external independent probity auditor from McHale Group.

5.3.1. Procurement Probity

McHale Group Limited was appointed as the Independent Probity Auditor for the procurement process. The Probity Auditor provided real-time assurance on the RFP process by; attending in a probity observation and advisory capacity the vendor briefing session, evaluators briefing session and attending evaluation panel meetings, reviewing and providing probity advice on key process documentation (such as conflict of interest declaration forms, evaluation material, NTTs etc.) and correspondence supplied by Waka Kotahi and their advisors.

Throughout the procurement process the Probity Auditor received and addressed (where appropriate) probity queries raised confidentially by various parties. Probity issues and risks were addressed and resolved throughout the RFP process by Waka Kotahi to the Probity Auditor's

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satisfaction. The Probity Auditor has confirmed in writing[13] that they are satisfied as the probity of the RPF for the Tolling Systems Solution Contract No. 4305, up to the point where a recommendation was made to the appropriate Waka Kotahi delegated authority/ies.

5.3.2. Weighted Attributes

The Respondents' non-price criteria was evaluated and scored by the Panel members. The weighted attributes scores were determined through evaluation of the Respondents written responses and demonstrations (shortlisted Respondents only). These were moderated and combined to establish final scores.

The Panel assessed the Respondents on the following non-weighted attributes to determine the best value for money solution:

- fitness for purpose
- quality of solution
- on time delivery
- quantity
- price.

5.3.3. Moderations

The result of the evaluation of the written responses and demonstrations/presentations is set out in the table below. Waka Kotahi requested that the top two providers presentation demonstrations of their solution. Each vendor was asked to demonstrate business scenarios based on common system use (scenarios were provided by Waka Kotahi).

Table 5: Scores of the RFP Respondents

Respondent	Weighted Score	Final Score following demonstration scoring
SICE	60.1%	74.7%
section 9(2)(b)(ii)	59.1%	67.6%
section 9(2)(b)(ii)	54.0%	
section 9(2)(b)(ii)	47.0%	

5.3.4. Due diligence completed

Waka Kotahi have completed the following due diligence activities:

- reference checks for the top two respondents to the RFP; each respondent provided two referees; and
- due diligence for assumptions related to costs provided.

[13] Probity Audit Report on the Request for Proposal process for the Tolling Systems Solution, letter from McHale Group dated 9 August 2021, noting the activities covered in the probity exercise and the findings.

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5.3.5. Evaluation report

The Project's Steering Committee discussed the Evaluation Report at its July meeting and requested some additional information. This information was provided to the Project's Steering Committee in early August, and an endorsement of the preferred vendor was received.

5.4. Services we are buying

Waka Kotahi has sought, through the RFP process, the design, implementation and on-going support and upgrades of an end-to-end back office processing solution that will be used (initially) for tolling. Our requirements for this solution were set out in the RFP response template and will be translated through to the Statements of Work in the contract.

5.5. Summary of the preferred solution

The preferred solution incorporates design, implementation and ongoing support of a back office processing system. The preferred solution is configurable, has good usability, meets the business needs (current and future), and can be provided as a solution as a service.

The RFP stressed that the solution should be configurable so that customisation can be avoided; it is possible that some integration customisation may be required.

Table 6: Strengths and Weaknesses of the solution

The following strengths, weaknesses and risks of the preferred solution are outlined below	
Strengths	• A single vendor will deliver the back-office processing functionality (initially for tolling); the vendor will partner with a cloud-hosting provider. Other vendors will be required to ensure integration points are configured. • This is a managed service with a clearly defined support model including appropriate escalation points • Integration with current systems (as required) is achievable • The vendor is fully set up to support delivery in a COVID-19 (alert level 2, 3 and 4) environment • The vendor has experience delivering their solution using their proposed implementation model. • The solution is extensible and scalable; it is possible that other services/products can be provided using the same solution.
Weaknesses	• The demonstration of the solution did not provide an overview of one piece of functionality (infringement processing). In the customer site used (the test environment of a real customer), this functionality is not issued by the tolling system (it is done by the road controlling authority). This functionality is however, considered to be similar to the invoice processing functionality which was seen in the demonstration. This weakness is not seen as significant.

Table 7: Solution risks

Risk	Controls and Mitigation
This solution is shifting Waka Kotahi data to the cloud. This means that	• The solution design will be done in conjunction with Waka Kotahi Solution Architects and onshore hosting options are being considered.

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Waka Kotahi will have decreased control over this information.	• All security assessments will be completed and be reviewed to ensure that appropriate controls are in place. • The security arrangements for the vendors have been assessed and are acceptable.

5.6. Risk sharing

High level risk areas have been determined and a risk allocation has been offered. These risk areas will form part of the negotiations with the successful vendor and will be updated/refined as that process completes.

An assessment of how the project proposes to apportion these risks between the organisation and potential providers is outlined in the risk allocation table below.

Table 8: Risk sharing

Risk Category	Potential Risk Allocation		
	Waka Kotahi	Vendor	Shared
Design risk			✓
Establishing the Waka Kotahi instances		✓	
Technology and obsolescence risks		✓	
Configuration risks			✓
If the requirements do not reflect the required future state			✓
Solution integration		✓	
Integrating the solution into the Waka Kotahi environment	✓		
Transition and implementation risk			✓
Data migration			✓
Availability and performance risk		✓	
Operating risk			✓
Termination risks			✓
Control risks	✓		
Legislative risks	✓		

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Other project risks	✓		

The following assumptions have been made in this allocation:

- The preferred solution is a managed service cloud offering. This means that the vendors carry the accountability for establishing the instances required by Waka Kotahi and maintaining them in line with best practice and in line with the required security standards.
- As the offering is a managed and the preference is to configure, not customise, if Waka Kotahi has not specified its requirements correctly or the process does not apply to the Common Process Model, Waka Kotahi may need to implement manual work arounds.
- There is a single prime vendor for implementation who is responsible for ensuring the successful delivery of the solution; this vendor will work with the cloud-hosting partner. Contracted remedies will be addressed in the contract documentation.
- There is a single prime vendor for ongoing support, so that the organisation has a single point of contact for any issues. The ongoing support model reflects this.

5.7. Payment mechanisms

The proposed contract will have two primary types of payment mechanisms:

1. Implementation fees (including licensing) and
2. Ongoing support fees and subscription costs.

The service provider offered two options for payment of the implementation component:

- as incurred with milestone payments through the implementation
- amortised and payable when the replacement system has been implemented

The Waka Kotahi Finance team have reviewed the forecasted expense and has agreed that the implementation costs should be classified as an opex expense. section 9(2)(b)(ii)

The contract will see the implementation cost amortised and payable when the replacement system has been implemented. The amortised cost will be allocated across five years, and will be added to the costs for support, maintenance and licencing.

5.8. Contractual construct

The proposed contract constructs are outlined below. As identified earlier a single vendor (working with their cloud-hosting partner) will implement and provide ongoing support for Waka Kotahi's new end-to-end tolling solution.

The same vendor will provide delivery of ongoing support, as shown in Figure 2.

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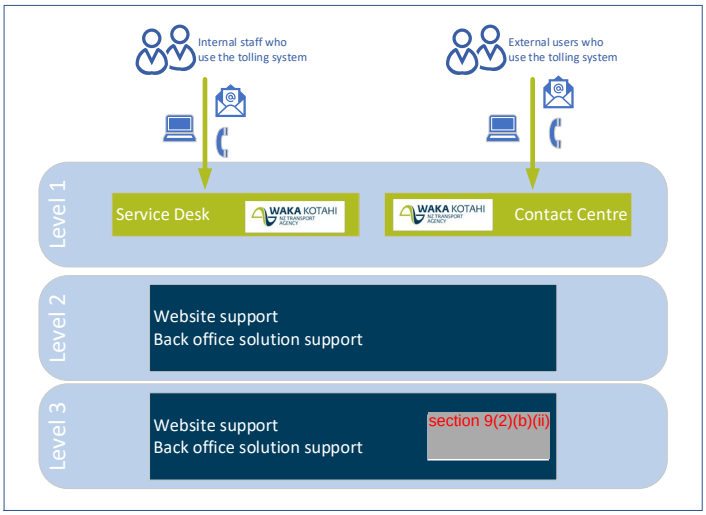
Figure 1: Approach for ongoing support



5.9. Type of Contract

The proposed contract term is five years with options to extend for a further two terms of three then two years. This contract term provides Waka Kotahi with flexibility to adapt the system implementation as/when additional functionality or common capabilities are available. Funding that might be required to move functionality or capability can be determined at the most appropriate time.

The prices for the contracts for ongoing support are based on upgrades, support and maintenance of the solution, and for licences used by the service. The contract will factor in remediation options for unacceptable levels of service.

As the product is wholly owned by the vendor, any new intellectual property arising as a result of the contract will belong to the vendor with the right for Waka Kotahi to licence it.

5.10. Contract Management

The responsibility for managing the implementation under the contract as well as supplier relationship management will pass to the Chief Technology Officer (CTO) on the signing of the contract. The Project Manager for the Back Office System Replacement Project (Tolling) will ensure delivery occurs against the contract on behalf of the SRO and will manage delivery against the project management plan in consultation with the supplier.

The supplier's performance will be reviewed on a monthly basis against the agreed outcomes and milestones outlined in the contract.

Once implemented long term ownership of the contract will transition to the Chief Technology Officer.

5.11. Accountancy treatment

The intended accountancy treatment for the proposed solution is outlined in Section 7 – Financial Case – Funding the Project. The new back office solution for tolling is a managed service and therefore no assets will be delivered. For that reason, the project costs are being treated as operating expenditure. The Senior Manager of Operational Policy, Planning and Performance from the Waka Kotahi Finance team has provided guidance on the accountancy treatment for the Whole of Life Cost.

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6. Financial Case – Funding the Project

6.1. Financial analysis and implications of the deal

Funding of section 9(2)(b)(ii) was set aside for the new tolling solution. With the decision to amortise implementation costs and pay them following implementation, this funding is sufficient to design, build, test and implement the new back office solution.

Previous approval has been received for section 9(2)(b)(ii) of funding. This funding will see the project activity continue to March 2022. The to-date spend is been included in the figures below. This Case requests funding to commence design, build and implementation activities from the period March 2022 to June 2023 and includes:

- Cost of Waka Kotahi project resources required to support implementation; and
- Additional costs covering:
    - including audit and assurance of project activities
    - security and penetration testing
    - communications and change costs
    - resource backfill (if required)
    - additional testing costs
    - travel costs.

Table 9: Breakdown of the costs

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The implemented solution will be an outsourced, fully managed solution. Given that, all costs have been treated as operating costs for the purposes of this Case. Key assumptions in financial modelling have been summarised in Appendix 5.

6.2. Operating and Licencing costs

Most of the operating costs are vendor related/provided; a breakdown has been provided:

Table 10: Operating and licencing costs

Detail of costs	Estimate (to nearest 000)
Cloud hosting	section 9(2)(b)(ii)
Managed services (ongoing support for the system)	section 9(2)(b)(ii)
Vendor engineering support	section 9(2)(b)(ii)
Amortised implementation fee	section 9(2)(b)(ii)
Total implementation & ongoing maintenance costs	section 9(2)(b)(ii)
Tolling system licences (see Note below)	section 9(2)(b)(ii)
Cloud infrastructure licences	section 9(2)(b)(ii)
Total licencing costs	section 9(2)(b)(ii)
Additional Enterprise Datawarehouse storage	section 9(2)(b)(ii)
Total ongoing maintenance costs	section 9(2)(b)(ii)

section 9(2)(f)(iv)

6.3. Internal costs

Costs have been determined for Waka Kotahi resources and activities that are required to deliver the project. These are not solution-dependent.

6.3.1. Internal resource costs

Costs have been determined for these roles over the project duration:

Table 11: Internal resource costs by group

	Actual cost	Est to complete	Total	Assumptions

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Project Management • Technology project management • Business project management • Project co-ordination	section 9(2)(b)(ii)			Fin4/5/9
Business Analysis • Functional design • Business Change • Data migration				Fin4/5/9
Testing Services				Fin4/5/10
Change Management				Fin4/5/10
Architecture (including security)				Fin4/5/10
Design				Fin4/5/10
Information & Data				Fin4/5/10
Operational Support				
Total internal resource costs				
Contingency @ 20%				

See 9.1 – Key assumptions for financial modell

6.3.2. Activity costs

Costs have been determined for normal system replacement activities; these costs include:

Table 12: Internal activity costs

Internal activity	Actual cost	Est to complete	Total	Assumptions
Procurement activity including probity assurance	section 9(2)(b)(ii)			Fin9/11
Comms and change management				Fin6/9
Privacy and data assessments				Fin6/9
Quality assurance functions				Fin6/9/12
Performance testing, penetration (security) testing and security assessment and accreditation				Fin6/9
Integration activity (for integration of the new system with existing systems)				Fin13
Decommissioning of existing system				Fin2/6
Backfill for internal resource				Fin6
Travel				Fin6/9
Total internal activity costs				

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Contingency @ 20%		section 9(2)(b)(ii)

See 9.1 – Key assumptions for financial modelling.

6.4. Contingencies and funding risk

Ten percent (10%) contingency over the forecast resource and activity costs has been allocated. This contingency will be used if the risks the project is managing become issues and additional funds are required. In addition, 6 months of costs for the current system have been included – should the project not deliver by June 2023, this will be required to continue existing system support. Based on forecast costs, this contingency is section 9(2)(b)

Table 13: Contingency costs

Contingency	Factor	Estimate to nearest $000	Assumptions
Contingency - Vendor implementation costs	10%	section 9(2)(b)(ii)	Fin1
Contingency - internal resource cost	20%	section 9(2)(b)(ii)	Fin4/5
Contingency - other internal costs	20%	section 9(2)(b)(ii)	Fin6/10/11/12/13
Additional support for the current system	12 months	section 9(2)(b)(ii)	Fin7/8
Total Contingency		section 9(2)(b)(ii)	

See 9.1 – Key assumptions for financial modelling.

The Digital ESC will hold this contingency. In addition, this Steering Group will also approve any cumulative changes over 10% of the budget.

The Tolling Systems Replacement project will review at the end of detailed design whether the delivery of the project within cost, quality, scope and time will be possible. This will determine whether the contingency allocated is sufficient to deliver the successfully project and a decision will be made on the feasibility of proceeding.

6.5. Financial modelling and funding source

The contract will have the implementation cost amortised and payable when the replacement system has been implemented. The amortised cost will be allocated across five calendar years (6 financial years for Waka Kotahi).

Waka Kotahi Finance have reviewed the forecasted expense and provided guidance to classify the implementation costs as an operating expense, on the basis of selecting a managed solution.

The implementation expense will be funded from the section 9(2)(b)(ii) . Further breakdown of the implementation expense and the associated funding source across financial years is detailed in *Table 13*. Additional detail on the accountancy treatment and the depreciation expense over the whole of life (ten years) has been summarised in Appendix Five.

Table 14: Expected expense and funding source

	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	Total
Implementation Costs (amortised)	section 9(2)(b)(ii)	section 9(2)(b)(ii)	section 9(2)(b)(ii)	section 9(2)(b)(ii)	section 9(2)(b)(ii)	section 9(2)(b)(ii)	section 9(2)(b)(ii)
Funding source - section 9(2)(b)(							

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6.6. Impact on financial statements

The financial impacts of the initiative over the intended life span are:

- There is no impact on revenue.
- Annual operating expenditure over the whole of life will be section 9(2)(b)(i)

6.7. Overall affordability

The proposed Whole of Life Cost of the programme is section 9(2)(b) over the ten years of expected lifetime of the solution. The Senior Manager of Operational Policy, Planning and Performance in the Waka Kotahi Finance team has provided guidance on the accountancy treatment for the Whole of Life Cost.

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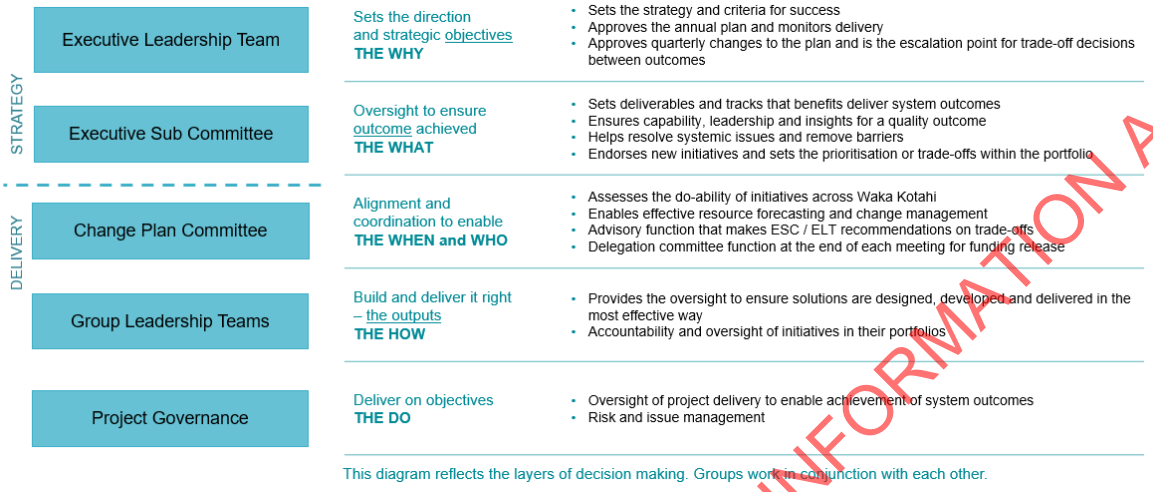
7. Management Case – Planning for Successful delivery

7.1. Project Governance arrangements

The Tolling Systems Replacement project is a project under the Digital Executive Steering Committee. The proposed governance structure and the reporting arrangements for the project are as follows:



Project Governance is provided by the Tolling Projects Steering Committee, which is chaired by the Chief Technology Officer and which meets monthly.

The project will also provide regular updates to the Waka Kotahi Risk and Assurance Committee and the Waka Kotahi Executive Leadership Team through the Senior Responsible Owner.

Table 15: Key attributes of the governance structure

Key attributes of governance structure
• This project will report via the project Steering Committee to the Digital, Transport and Regulatory Executive Steering Committees (ESC); • The SRO represents the project to the Te Hau Ora, ELT and Waka Kotahi Board; • The Project Manager will prepare papers and attend Te Hau Ora meetings as required; • The Waka Kotahi Board holds the delegation to approve the implementation and Whole of Life budget; • The project's Steering Committee endorses and the relevant ESC approves access to the contingency funds (operated via a 'management reserve'); • The project Steering Committee provides primary governance for the project and ensures the project remains viable and aligned to achieving Waka Kotahi's strategic outcomes. The Steering Committee provides support and guidance to the SRO to ensure the project objectives are on track to be achieved and that the project remains under control; • When contracts are signed and the delivery commences, the Steering Committee membership will include the vendor (presenting the tolling software provider); • The vendor Project Manager will report into the Waka Kotahi Project Manager. The Waka Kotahi Project Manager will represent the overall project to the Steering Committee.

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Project implementation will be based on the vendor's project management framework, tailored to our project delivery requirements. The delivery method is outlined below (shaded areas are completed):

Table 16: Phases, Inputs, Process and Outputs of the project

Phase	Input	Process	Output
Phase 1 – Discovery: Scope Definition & RFI	• Complete; market RFI completed. Positive indication of available systems.		
Phase 2 – Procure: RFP and associated activities	• RFI analysis	• RFP generation and release to market • Preferred bidder selection	• Executed contract
Phase 3 – Define: Functionality definition	• Current functionality • Tolling Service Blueprint (future vision)	• Definition of future functionality • Updated business process • Identification of interfaces, including schemas and design/build requirements for change • Data constructions and requirements for data migration • Involvement of test resources to start test artefacts • Customer journey maps, wireframes and high level interactions for the new website • Privacy impact assessment • Data impact assessment	• High level wireframes and interactions for the new website • Functionality/configuration definition for new system • Phasing for project delivery • Test strategy • High level test plan • Tested website wireframes • Change management plan (includes communications plan)
Phase 4 – Design & Build	• Executed contract • Functional requirements • Non-functional requirements • Privacy analysis • Data analysis	• Design infrastructure/environments • Build non-production environments • Initial code deployment • Initial development of operational readiness documentation	• Design documentation • Approved design • Build documentation • Product ready for testing • Approved test strategy and test plan • Test scripts

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	• Journey maps, wireframes etc • Test strategy and test plan • Change management plan (includes communications plan)	• Change management activities	• Completed Privacy Impact Assessment • Completed Data Impact Assessment
Phase 5 – Test: System, Integration and Business Acceptance testing	• Product ready for testing • Test scripts	• Testing of functional and non-functional requirements for customer-facing web service and back office functionality • Build of production environment • Development of operational readiness documentation • Change management activities • External comms	• Test Exit Report • Business change processes prepared and signed off (includes training plan) • Operational Readiness signoff
Phase 6 – Deliver: Implementation	• Test Exit Report • Business change plan • Operational Readiness signoff	• Sponsor signoff • Change Board approval • Change management activities • Training for "train the trainer" or staff • System deployment, includes data migration	• Fully deployed solution • Early life support (ELS) • Continued change management including external comms plan
Phase 7 – Done: Project Close	• Deployed solution • Completion of ELS	• Complete financials • Write closeout report • Complete handover to Operational Support	• Acceptance into Operational Support • Approval to close project • Lessons Learned

Table 17: Key attributes of the delivery approach

Key attributes of delivery approach

• Tried and tested implementation approach (the vendor has delivered successful implementations using this approach);
• Approach reflective of appropriate project management principles for a corporate back office transformation, consistent with a PRINCE2 framework and approach, including:
  ○ clear roles and responsibilities from the outset
  ○ tasks grouped into a series of logical stages
  ○ lessons learned from other projects applied where there can be open and transparent communication with key stakeholders.

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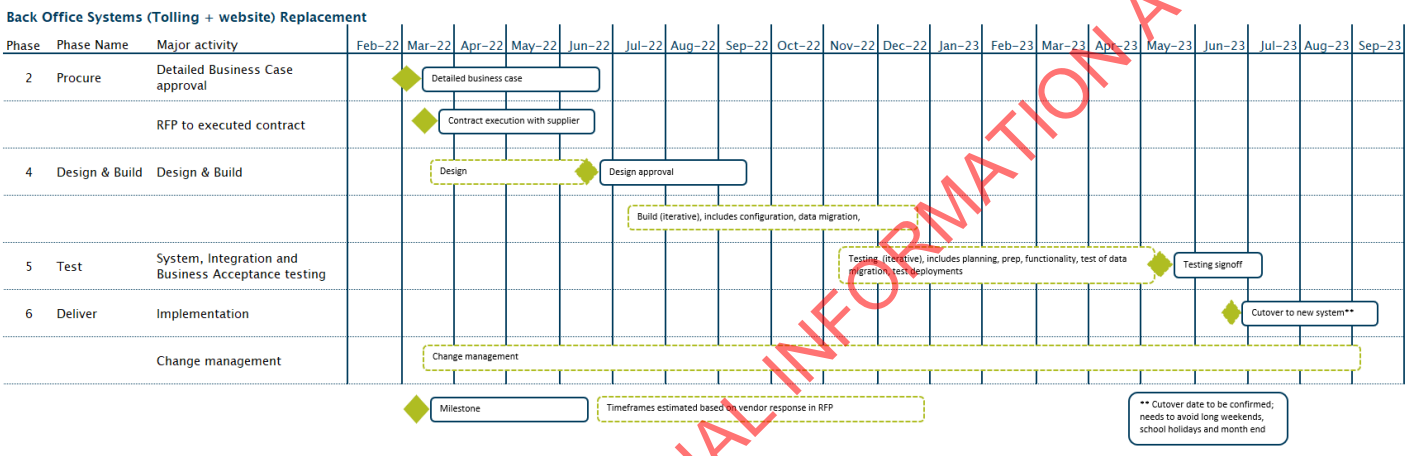
- Waka Kotahi project methodology requirements have been incorporated, including:
  - Alignment to the Digital Portfolio requirements such as Stage Gates
  - Waka Kotahi decision making and sign off
  - Assurance requirements such as IQA
- Alignment to Waka Kotahi principle of zero customisation (configuration only)

-

7.2. Expected project timeline

The high-level project timeline and critical path milestones are outlined below. A more detailed project plan be found in the Project Management Plan (PMP).



7.3. Project roles and responsibilities

We have outlined the proposed project organisation structure on the next page. Below is an outline of the attributes of resourcing.

Table 18: Project resourcing

Key attributes of project resourcing

• Detailed resourcing requirements are outlined in the Project Management Plan (PMP).
• The resourcing estimates have been informed by:
  ○ Vendor proposals
  ○ Project team experience
  ○ Engagement with Waka Kotahi key stakeholders
  ○ Learnings from vendors/due diligence/reference checking
• The Waka Kotahi project team will work collaboratively with the vendor's implementation team, through a mixed model that will be predominantly online (virtual engagement); onsite collaboration will be considered closer to implementation. A large portion of the vendor's delivery team section 9(2)(c) and the expectation is that the majority of team collaboration section 9(2)(b)(ii).
• The full project team is expected to be 40 people – half from Waka Kotahi and half from the vendor. The Waka Kotahi team is shown in the next diagram – there are two groups within the Waka Kotahi team. The delivery team is distributed across the country; the business team is located in Palmerston North.
• The project will require additional contribution from a range of Subject Matter Experts (SMEs) on an ad hoc basis; where needed, costs for these SMEs are included in the project's costs.

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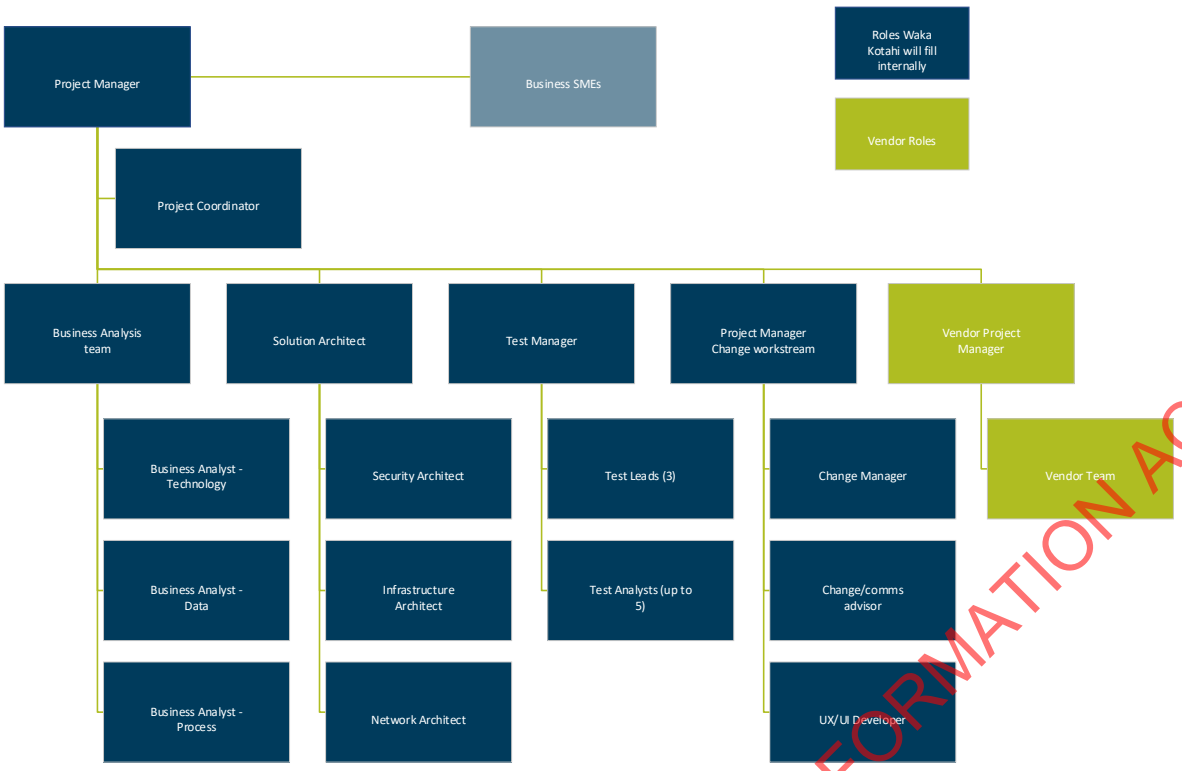
Figure 2: Project organisation



7.4. Change management planning

The project will leverage the findings and recommendations from the Tolling Service Blueprint. The project will work with the Waka Kotahi Enterprise Change group to build the change management plan; this will be validated with the business and the Waka Kotahi Enterprise Change group to ensure it is fit for purpose. It is expected that the project will undertake standard change management activities, including but not limited to:

- Stakeholder and external customer analysis, engagement and feedback
- Change impact and change readiness assessments (internal and external)
- Development and delivery of change strategy, plan, and activities
- Development and delivery of tolling solution training
- Communications strategy, plan and activities
- Transition support strategy, plan, and activities.

7.4.1. Nature and scope of the change

The change management activity is informed by an assessment of the change impact. Since the release of the RFP, the change impacts have been updated as a result of the knowledge gathered during the procurement phase and discovery activity with the business (Common Process Model familiarisation workshops). The outcome is a high change impact on a small group of internal staff, and medium and low change impact on other groups.

The new technology is significantly different from the current system and will require a move from manual to automated processes. To a less extent there will also be shifts in roles, capabilities and behaviours required.

At a high-level the project has identified several groups, both internal and external, who will be affected in different way by this change.

Table 19: Overview of the change impact

Group (int/ext)	Size of Group	Impact	Nature of changes

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Tolling team incl Finance	Small	High	• Major technology changes • Changing from manual to automated process • Shift in capability/role changes
Customer Service Centre	Large	Medium	• Selected processes for tolling will be updated
Account holders (external)	Large	Medium	• New functionality on website • Smoother/simplified process • New functionality within tolling system (organisations with fleets only)
Non-account holders (casual users)	Large	Small	• Smoother / simplified process

The Change Management Plan and Stakeholder and Communications Plans will be developed and updated on a regular basis.

7.5. Benefits management plan

This project plans to manage benefits in accordance with the Digital Portfolio Benefits Management Framework[14] . As such, benefits are a key area for assurance monitoring and will be discussed at all Governance bodies as a regular standing agenda.

The project will develop benefit profiles to monitor and manage the realisation of expected benefits. The strategy, framework and plan for dealing with the management and delivery of benefits are in the Benefits Realisation Plan.

Note that the Tolling Systems Replacement Project Benefits Realisation Plan[15] was put together in the Procurement phase and will be updated following the Detailed Design activity.

7.6. Risk management planning

This project follows the standard Waka Kotahi Risk Management Framework. The plan for dealing with the management of risk is as follows:

- An initial risk workshop was held with business stakeholders and project team members in November 2020 to identify and baseline the risks
- Regular risks workshop and risk reviews have been completed during the Procurement phase
- A Risk Register has been developed and is reviewed and updated regularly
- Risks assessed as critical or high are reported to the Steering Committee on a monthly basis
- A full risk review will be conducted at the start of each phase of the project, or whenever a major change is proposed, or significant issue occurs.

For further detail on risks, preventative measures, and mitigation plans refer to the Tolling Systems Replacement project risk register[16].

A summary of key project risks can be found in Appendix 2 – Key project risks.

[14] Benefits Management Framework | Digital Portfolio. Retrieved from: section 9(2)(c)
[15] Tolling Systems Replacement Project Benefits Realisation Plan. Retrieved from: section 9(2)(c)
[16] Tolling Systems Replacement project risk register; see TSR tab. Retrieved from: section 9(2)(c)

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7.7. Project and business assurance arrangements

The Assurance Plan documents the Assurance approach for the Tolling Systems Replacement project. section 9(2)(g)(i) elow are the key assurance activities which are expected to be performed over the life of the project.

Table 20: Milestones and assurance activities

Risk Description	Indicative Due Date	Assurance Activity or Purpose	Assurance Provider	Status
Revise Project Steering Committee membership and ToR for Implementation	October 2022	Project governance for implementation phase	Waka Kotahi and vendors	Planned
IQA prior to build/configure	June 2022	Review and provide recommendations	TBC	To be commissioned
Parallel trip processing	January 2023	Stage gate to check Go Live criteria met	TBC	Planned
IQA prior to go-live	February 2023	Provide assurance that Waka Kotahi is ready for Go Live	TBC	To be commissioned

In March 2021 the project completed an initial Risk Profile Assessment (RPA) for the Gateway Unit at Treasury, which returned a **low** risk rating due to the Whole of Life Cost and implementation cost. An updated RPA has been done (July 2021) and there is no change to the risk rating – it remains **low**, therefore there is no requirement to complete a Gateway review.

7.8. Lessons learned

The lessons learned that have been identified for the Tolling Systems Replacement project have drawn on the lessons learned log for IT and Change Management projects from across Waka Kotahi – section 9(2)(g)(i)

7.9. Post-project evaluation planning

Frequent reviews of activity are planned across the project's duration. At the end of the project, a full post implementation review will be completed to assess whether the project successfully delivered the functionality to deliver the identified benefits. It is expected that evaluations will continue annually to confirm the benefits realisation.

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8. APPENDICES

Assumptions used in the economic analysis

Updated economic analysis and sensitivity tests

Appendix 1 Outcomes we are seeking from the investment

This Business Case is seeking endorsement for a new back office solution that will support processing of toll trips and payments.

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Appendix 2 Key project risks

Key project risks have been pulled from PlanView for inclusion (February 2022). The project team conducts regular risk review sessions.

Table 21: Summary of key project risks

Ref	Risk Description		Treatment Plan	Proximity	Rating	Owner
	Cause	Consequence				
269092	The Omicron variant of the Covid-19 virus is in NZ, and Waka Kotahi staff/families contract it. The team members are too sick to attend work	Work activities cannot be completed in the timeframe required due to team member absences.	Ensure that all staff have a BCP person. Ensure that knowledge is shared across the team, and where required is documented. Understand what timeframes can be slipped.	Ongoing	1-Critical	Maree Dunham
226663	Key resources may be assigned to prioritised projects or BAU activity	Resources are unavailable when needed; work is not progressed	1. Ensure the priority of the project is noted; 2. Ensure delivery plan notes which staff/skills are needed when. 3. Understand where contractors might provide skills or backfill support.	28-Feb-22	3-Medium	Maree Dunham
228176	The development of the new website is done in isolation and looks/feels completely different to other Waka Kotahi websites.	Customers have a completely unusual experience.	1. Ensure Enterprise Change is included in website development; will need to be tested with customers. 2. Ensure continuity with other NZTA websites 3. Ensure website designer is aware of other NZTA websites. 4. Consider NZTA Customer Portal view when designing website.	28-Feb-22	3-Medium	Maree Dunham

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229438	Not enough consultation/engagement with business re: development of use cases	Functionality delivered might not match business process (actual or required)	1. Involve business in development/review/endorsement of all Use Cases 2. Ensure Working Group has visibility of Use Case development 3. Find and use business process documents instead of developing Use Cases. Business process documents need to be updated and current.	28-Feb-22	3-Medium	Maree Dunham
235330	Data is not clearly understood or analysed, and data migration is complex.	Could be a potential cost driver or add delay to deliverable dates.	Early understanding of data, including data structure in new repository. Build knowledge of data migration activities, or other change management activities that are needed.	31-Mar-22	1-Critical	Maree Dunham
253515	Other systems (interfaces) might not have adequate test environments for us to use.	Testing of the interfaces might be challenging/impossible if those other systems do not have adequate test environments.	Understand what these other systems are and engaged early to understand environments that are available. Also understand timeframes and cost for development/integration work.	31-Mar-22	1-Critical	Maree Dunham
253511	Data mapping is complex (to build and to test) because of the existing data structure	Complex data mapping will result in data that can't easily be mapped and/or migrated.	Understand what can be done to extract/transform/load the data from one system to another. Ensure thorough testing is done and checked to successful migration.	31-Mar-22	1-Critical	Maree Dunham
253512	Data definitions are not clear (we have some documentation but it needs to be validated).	We don't understand our data and data is migrated incorrectly.	Understand where data appears in the system and confirm it's use. Update data definitions as a WIP to ensure good knowledge.	31-Mar-22	1-Critical	Maree Dunham
226638	The vendor overpromises their solution functionality, and then	A fit for purpose solution is not available for Tolling.	1. Identify in the design phase where there might be gaps; ensure that Waka	31-Mar-22	2-High	Maree Dunham

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	it's determined that the requirements cannot be met.		Kotahi business processes are available for this to be done.			
227869	New vendor for Tolling system needs to integrate with Kapsch systems; challenge is with vendors working together to meet end dates.	System integration is complex and the vendors cannot work together to deliver what's needed.	1. Understand end to end systems 2. Understand data flows 3. Ensure Commercial is aware that comms need to happen between both parties.	31-Mar-22	2-High	Maree Dunham
253510	Too much project reliance on the knowledge of one (or more) people.	If that person/people are not available, the project may experience delays or incorrect business decisions.	Ensure good communications across wider team; document findings/decisions etc, and seek written documentation for other information. Where possible, find backups for these key people.	31-Mar-22	2-High	Maree Dunham
253502	Incumbent vendor becomes disengaged with the business team and Waka Kotahi.	Vendor doesn't co-operate for a smooth transfer to new system; interim support might be lacking	Discuss with CTO and Commercial; build plan for action.	31-Mar-22	2-High	Maree Dunham
226644	Other Transport/Technology projects are inflight at the same time and impact our timeline	Project deliverables might clash eg. SCS, our timeline is impacted and/or changes are required.	1. Be aware of interdependencies and understand timelines 2. Meet with other PMs and have regular updates. 3. Work closely with other projects to understand there if there is scope crossover	31-Mar-22	2-High	Maree Dunham
226652	Data migration analysis and testing identifies issues with the migration of the account management information.	Customers are impacted when data migration is completed.	1. Analysis to understand data structure in current and new systems 2. Solid planning and data mapping exercises are completed 3. Extensive testing is done 4. Prototyping the change process for customers.	31-Mar-22	2-High	Maree Dunham

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226655	The current section 9(2)(c) cannot be integrated with the new system.	section 9(2)(c) is not available.	1. Early testing for connectivity 2. seek a section 9(2)(c)	31-Mar-22	2-High	Maree Dunham
253509	Requirements for changes to other systems are not identified sufficient early to allow external third parties to make systems changes and have them ready for testing.	Required system changes are not ready for testing when needed.	Early identification of the other systems and the changes that are required. Prioritise the documentation of these requirements to ensure that we provide sufficient timeframe for the changes to be made. Work with the vendors during this process.	31-Mar-22	2-High	Maree Dunham
258355	Other transport or technology projects are started and impact our resources and deliverables.	Project deliverables might clash; resources might be moved; additional work for our project resources might be required. eg. RUC	Meet with other PMs and have regular updates. Environmental scan for other impacts. Prioritise activity; use PSCs where needed.	31-Mar-22	2-High	Maree Dunham
258455	Need real data to test functionality in the test environments, but under Privacy Act can't use real data. Dummy/anonymised data is used.	Live data is anonymised but done incorrectly, data is then used and we breach Privacy Act. Or that the data setup is incorrect and we don't test correctly.	1. Talk to test team re: availability of anonymised data. 2. Figure out how to anonymise data.	31-Mar-22	2-High	Maree Dunham
226641	NZ, or vendor country/ies, are forced into further lockdowns as a result of COVID.	Work is not progressed at the required rate	1. Accept risk and be as prepared as possible. 2. Develop scenarios. 3. Wait for RFP to be finalised and work through this risk with vendors section 9(2)(c) as required.	31-Mar-22	3-Medium	Maree Dunham
249947	Key project resources resign or don't have contract extended.	Activities cannot progress because key resources, with	Work with Practice Managers to find replacement resources.	31-Mar-22	3-Medium	Maree Dunham

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	Vacancy exists in the project team.	knowledge, are not available to participate/complete.				
227870	Short notice to bring vendor staff into NZ and can't meet MIQ requirements	Delays to timeline because vendor staff can't enter NZ for required dates.	1. Planning 2. Understand MIQ rules 3. Communications with vendors re: MIQ requirements"	31-Mar-22	3-Medium	Maree Dunham
253506	Dependencies are not identified (system, team, business process)	New workarounds or changes to business processes are needed as a result. Could also mean changes to configuration or design.	1. Build dependency map (complete October 2021). 2. Discuss the colleagues/wider business re: other change impacts/dependencies that need to be included.	31-Mar-22	3-Medium	Maree Dunham
226658	Significant customisation of solution is required to meet our requirements, and this leads to a complex solution	Solution will be complex to use, additional workarounds might be needed	"1. Assess the impacts of requirements against customisation efforts and try to minimise if possible 2. Work through the design phase and understand where change is needed - determine best place for change (system or process)."	31-Mar-22	3-Medium	Maree Dunham
227872	Changes to existing functionality and/or data structures are not known by the project team, and the design of the new system is not updated.	Outdated information or configuration in new system because the information hasn't been passed on.	Understand impacts of any upcoming change to the existing system. Ensure that current state documents are updated; or that impacts of change are assessed for the new system. If needed, try to slow/remove the the change.	31-Mar-22	3-Medium	Maree Dunham
253720	Changes are made to the section 9(2)(c) cancellation, change of provider, change of service offering) resulting in business/service change.	This/ese change/s might have an impact on the scope/deliverables of the tolling systems project. If the contract is extended for 12 months, there will not be sufficient time to change the	Ensure that the section 9(2)(c) is on our dependency map, and that there are good updates from the team involved in this system. Be aware that section 9(2)(c) will be factored into our design early, and that any changes	31-Mar-22	3-Medium	Maree Dunham

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		interface to the new tolling system before release.	could have a negative impact to the design of the solution.			
253726	A proposed change to the current business process is to send section 9(2)(c)	If this service is not clearly defined before the project's design work is started, either the system functionality or the business process will need to change at a later time.	Discuss whether this change must be done.	31-Mar-22	3-Medium	Maree Dunham
258458	New system is easier to configure than expected, and delivery is possible earlier than expected.	Delivery is early, other parts of business are not ready for early delivery. Change management & comms to be done faster, earlier implementation date; changes to business processes required.	Check deliverables during delivery; reassess/reconfirm delivery date each month.	31-Mar-22	3-Medium	Maree Dunham
258459	Early delivery results in additional services/functionality to be added to the service.	Additional testing will be required for new services/functionality; might create a phase 2 for the project.	Keep tight rein on scope	31-Mar-22	3-Medium	Maree Dunham
228175	Addition of website to scope did not have accompanying funds; there might be insufficient ballpark funds to cover the website delivery.	Funding is not available.	Estimate cost and include in financials.	31-Mar-22	4-Low	Maree Dunham
253521	Other systems might not be supported for any subsequent changes that we need	If it is not possible to make changes in other systems, we might not be able to implement the new tolling solution.	Gain early understanding of these other systems, and learn fast whether they are supported for the changes that we need. On a case-by-case basis, develop and implement a mitigation plan.	30-Apr-22	1-Critical	Maree Dunham

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226639	There is more than one vendor involved in the delivery *and support* of the solution.	The management of the vendors is complex and timeframes are not aligned.	1. Contract set up to protect Waka Kotahi from dealing with multiple vendors 2. Wait until RFP complete and situation looks more likely before doing more analysis.	30-Apr-22	2-High	Maree Dunham
253514	The data that we hold in our systems is of poor data quality or is missing and it can't be easily improved. This could be likely for aged debt data (eg. if we don't hold which DCA received the debt for recovery).	We might not be able to use new functionality in the system because of this missing data. Functionality might not work as expected.	Understand what data can be updated and what data can't be updated. Might have to accept the poor data quality (where it exists).	30-Apr-22	2-High	Maree Dunham
226650	Disengagement from the business if we do not communicate effectively	Disengaged business teams; business pushback when change required.	1. Change management plan in place 2. Keep project comms up to date so that people know what's going on.	30-Apr-22	3-Medium	Maree Dunham
235335	Multiple vendors are involved in the delivery; multiple locations and timezones.	Co-ordination of resources and activity might result in misalignment and unidentified dependencies.	1. Understand where the touchpoints are. 2. Have a solid plan that is accessible to everyone - and ensure that all vendors know and have agreed their scope. 3. Ensure that contracts are robust and the Service Provider stands in front of other vendors.	30-Apr-22	3-Medium	Maree Dunham
235334	Solution is complex; there is a lack of local knowledge.	Key aspects may be overlooked. Delays to timeline for design and implementation	1. The vendor is responsible for delivering the solution. Ensure project team learns from the implementation. 2. Include technology heads that can understand the complexity.	30-Apr-22	3-Medium	Maree Dunham
235333	Heavy reliance on resources who might not be able to travel.	The vendor might not be able to get resources into NZ because of border closures etc.	Work with vendor to understand where resourcing issues might occur.	31-May-22	2-High	Maree Dunham

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253501	Data setup is not done correctly for testing; or takes time to do the required set up	Testing is delayed because data is not set up correctly	Confirm the data that is needed; check whether vendor has dummy data that can be used for testing. Determine what scripting can be done to load/unload/update the data as required.	30-Jun-22	2-High	Maree Dunham
226649	The cutover to the new system causes issues for the current Toll Roads and trip processing stops.	Tolls are not collected for an undefined timeframe	1. Gain understanding of what happened in the previous deployment. 2. Discuss with INF regarding the impact of this risk 3. Consider parallel data collection in both systems before cutover.	30-Jun-22	2-High	Maree Dunham
226660	System replacement increases volume of calls to Contact Centre	Contact Centre response times increase	1. Develop website collateral to support design 2. Test website concepts with key users 3. Change management plan to be developed 4. Comms plan to be developed	30-Jun-22	2-High	Maree Dunham
226661	Communications out to customers preparing them for BOS changes brings calls into contact centre	Contact Centre response times increase	1. Change management and comms plan for customer notification	30-Jun-22	2-High	Maree Dunham
227871	Customers don't believe that the account balances are correct	Calls to Contact Centre Effort to prove totals Reputational damage	1. Involve Enterprise Change for comms/channel for queries etc. 2. Provide old/new translation (somehow). 3. History needs to be migrated.	30-Jun-22	2-High	Maree Dunham
231596	The new system can't pulled the roadside data as efficiently as the current system (secs/mins vs days).	Processing of trip payments are delayed.	1. Understand load capabilities of systems 2. Performance testing of new capability	30-Jun-22	2-High	Maree Dunham

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253507	Vendor resource/s not available for integration/testing as required	If all vendor resources are not available for integration build/testing as required, testing will be delayed.	Work with the external vendors re: planning for testing, timelines, results etc.	30-Jun-22	2-High	Maree Dunham
253522	New tolling system cannot pull data from roadside devices in a timely fashion	There will be delays to processing of trips.	Performance testing to be done before cutover; timing of message transfer to be monitored.	30-Jun-22	2-High	Maree Dunham
253523	Customers can't get access to their historical transactions in the new system	Calls come into the Contact Centre and we can't decommission the old system.	Change management plan to determine whether this information is provided; understand how to migrate this data to the new system.	30-Jun-22	2-High	Maree Dunham
253524	Customers can't login to the new system; account information has been locked.	Reputational damage; customer complaints.	Thorough testing of new production system before it is opened to the external users.	30-Jun-22	2-High	Maree Dunham
253525	Website is not available on day 1	Reputational damage; customer complaints. Customers can't topup.	Thorough testing of network connectivity to ensure the connection is available. This includes connectivity for the login process to work.	30-Jun-22	2-High	Maree Dunham
257623	The lack of an enterprise architecture has the potential to cause services to be configured in the tolling system, rather than in a more appropriate system. An enterprise architecture would define the organisation's business functions and their most suitable platform.	The tolling solution becomes the service solution for services that should have been configured/built in other platforms. This leads to technical debt, and difficulty in unpicking the integration. The tolling solution moves away from being primarily for tolling, and becomes a bespoke platform for multiple (possibly related, but not integrated) services.	Ensure that a wider view of the potential services for the tolling solution is taken, and that impacts are fully assessed. Escalate to the Enterprise Architect and seek guidance.	30-Jun-22	2-High	Maree Dunham

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226651	Stakeholders unhappy/unsettled by changes that are being made (eg. AA, Road Safety Council, etc)	Reputational damage	1. effective change comms and planning in place	30-Jun-22	3-Medium	Maree Dunham
226653	Account information is transferred to the new system but cannot be accessed.	Account information cannot be accessed; balances are not updated. Reputational risk incurred.	1. Extensive Testing 2. implementation planning which avoid high impact risk 3. Change management plan to cover scenario	30-Jun-22	3-Medium	Maree Dunham
226654	There is a delay in the cutover to the new system and ongoing support for the current system cannot be extended past November2022.	Using old system with no support from vendor.	Work with the existing vendor now (Oct21) to request a further extension of 12 months should it be required. Include a disengagement clause of 3 months.	30-Jun-22	3-Medium	Maree Dunham
226659	Government announcement that current and future tolling will no longer be supported.	Discussion for future strategic decisions	Depending on the timing of the announcement, confirm the consequence level. Consequence will increase as project enters build/delivery phases.	30-Jun-22	3-Medium	Maree Dunham
253442	Data is not received from the roadside systems in a timely fashion.	Payments are not made in a timely fashion.	Performance testing to be done to ensure that there are no system delays to the functionality.	30-Jun-22	3-Medium	Maree Dunham
253482	There are challenges with the availability of test environments.	Delays and issues are encountered during testing.	Determine what environments are needed and the timings of each; book as required.	30-Jun-22	3-Medium	Maree Dunham
253500	Connections to other system interfaces don't work as expected	Delays and issues are encountered during testing.	Ensure connectivity configurations are documented and tested.	30-Jun-22	3-Medium	Maree Dunham

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253503	Existing workarounds aren't identified and cause a problem	Workaround has become standard and not seen as a workaround; found only when new system is being designed/tested.	Regular check-ins with business team during design and testing activities to discover any unknown workarounds.	30-Jun-22	3-Medium	Maree Dunham
256185	The vendor becomes insolvent and cannot deliver the tolling solution to Waka Kotahi.	The implementation project is stalled and Waka Kotahi has to find another option.	Escrow clause in contracts. Monitoring of vendor solvency.	30-Jun-22	3-Medium	Maree Dunham
258028	It is likely that the section 9(2) contract will be extended for only 12 months (to April 2023). The design/delivery for the new solution (website and functionality) will include the section 9(2)(c), which might need to be removed prior to release.	If the section 9(2)(c) needs to be removed before the release of the new tolling solution, additional time/cost may be required. Additional cost to undo the functionality; additional time for testing to ensure nothing else is broken. Additional time/cost might also be needed to update project comms to reflect this change.	1. Stay aware of progress with contract.	30-Jun-22	3-Medium	Maree Dunham
258456	As a result of policy change, more roads need to be tolled in the new system.	Timeframes for delivery might change; new road/s need to be configured in the new system.	1. Work with the business team to understand if/when this happens. 2. Understand processes for adding new road to the system. 3. Strict change control required; this is a change to scope.	30-Jun-22	3-Medium	Maree Dunham
258457	Policy changes are made, and there are changes to the way a road is charged. New service needssection 9(2)(f)(iv) or discounting asap.	New service/functionality is not currently in scope for delivery, to deliver this change, more testing will be required. Additional time and cost required.	1. Work with the business team to understand if/when this happens. 2. Understand processes for adding new services to the system. 3. Strict change control required; this is a change to scope.	30-Jun-22	3-Medium	Maree Dunham

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258461	Requests for tolling dashboard information come in thick & fast once new system is in place; new reports are required.	New reports can't be delivered or can't be configured as required.	Keep tight rein on scope	30-Jun-22	3-Medium	Maree Dunham
253505	New workarounds are introduced and are not captured in our documented processes.	Business processes are changed, and we're not prepared for that change when we deploy new system.	Understand the system design and map to existing process to determine whether there are new workarounds, or other changes that need to be factored into the design.	30-Jun-22	4-Low	Maree Dunham
258460	System operation/dashboard reporting (issues/faults/etc) is not available at Day 1.	System performance cannot be interrogated to determine why there are issues.	1. Cover in test plans 2. Confirm reporting requirements for delivery.	31-Jul-22	3-Medium	Maree Dunham
269094	Customers are used to the support/service they receive from Waka Kotahi re: their large tolling accounts. When these accounts move to the new system and it's possible for the customers self-serve, the customers react badly.	Might let to reputational damage. Likely that some customers will continue to call the tolling team for support.	Work with customers to understand their requirements. Build training modules and work with customers to fully explain the benefits of the new system - including that they don't need us to handhold.	31-Mar-23	2-High	Angela Mortlock

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Appendix 3

Appendix 4 Financial Modelling

High Level information for project costs		FY20- 21	FY21- 22	FY22- 23	FY23- 24	FY24- 25	FY25- 26	FY26- 27	FY27- 28	FY28- 29	FY29- 30	FY30- 31	Total	Assumption
Internal resource costs														Fin4/5/9/
Other internal costs														Fin6/9/10/11/12/13
Total internal costs														
Contingency - Vendor implementation costs	10%													Fin1
Contingency - Internal resource costs	20%													Fin4/5
Contingency - Other internal costs	20%													Fin6/10/11/12/13
Contingency - 12 months additional ongoing support for current system														Fin7/8
Total contingency costs														
Total vendor + internal (no contingency)														
Total vendor + internal + including contingency														
Annual operating costs (including support and storage)														Fin1
Annual licencing costs														Fin1
Additional EDW Storage														Fin3
Onshore data hosting	0%													Fin15
Total ongoing operating														
Total cost (no contingency)														
Total cost (contingency)														
Cost Savings - what we won't pay														
Ongoing annual support costs for current system														Fin14
Ongoing annual infrastructure costs for current system														Fin8
Total savings														
Whole of life cost including savings (no contingency)														
Whole of life cost including savings and contingency														

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8.1. Key assumptions for financial modelling

The following are the key assumptions used for the financial modelling:

Assumption		Impact if not valid
Fin1.	Costs used for vendor design, build, implementation and ongoing support are as provided in updated financials in January 2022.	
Fin2.	There is no capital writeoff required for existing tolling system	Additional funds will be required when the current system is decommissioned.
Fin3.	Additional storage for the EDW will be required for the foreseeable future. This has been estimated at section 9(2)(b)(ii) starting from commissioning of new system; the costs until June 2023 are included in the Waka Kotahi internal costs.	Additional funds will be required if this cost is insufficient.
Fin4.	Project has been forecast to complete in June 2023; internal resource costs reduce from February 2023; costs include time for decommissioning of existing system	Additional funds will be required.
Fin5.	Blended rates have been used for internal resource costings; costs for FY21/22 are as proscribed by EPMO in June 2021; costs for FY22/23 and onwards are as per as per 2020/2021 costs (as they're higher). Project Change Control will be used to request additional resource fundings if these rates increase.	If actual rates are lower, project will be over-funded. If actual rates are higher, project will be under-funded.
Fin6.	Cost of internal activities includes: - procurement and probity activities - decommissioning of existing system when new system has been commissioned - performance and privacy testing - costs for comms and change management - 3 x backfill resource (total 33 months @ section 9(2)(b)(ii)) - Quality assurance functions - Privacy Impact Assessment	If insufficient costs have been estimated, additional funding will be required.
Fin7.	This contingency figure is the estimated cost for FY22/23; includes system, infrastructure, website support; included should the system be required for an additional 12 months	
Fin8.	This is calculated with the July 2021 section 9(2)(b)(ii)	

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	section 9(2)(b)(ii)	
Fin9.	Actuals to date are taken from the project's cost tracking sheet (and are in SAP); total for FY20/21 is section 9(2)(b)(ii)	
Fin10.	Testing costs will include the design and delivery of test automation suites which will ensure that future testing is streamlined and able to be done quickly.	
Fin11.	Procurement costs are incurred costs for the RFP process and include costs from section 9(2)(b)(ii)	
Fin12.	A monthly cost has been included for the Independent Advisor on the project's Steering Committee.	
Fin13.	Integration costs have been factored at section 9(2)(over 13 months; these are costs forecast for integration work to have the new system interface with the existing systems	
Fin14.	Annual support for current system taken from details of earlier cost increases provided by incumbent. After FY26, a 3% increase has been factored to the current year. Figures have been converted from calendar year to mimic Waka Kotahi financial years.	If the overhead charge changes, the support figures for the first 5 years will change. If the data is section 9(2)(b)(ii) this charge will not apply.
Fin15.	The vendor has provided ongoing operational costs that include onshore hosting costs. These costs are a worst-case scenario and are subject to negotiation.	

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8.2. Breakdown of internal implementation costs

The following are the key assumptions used for the financial modelling:

Internal Implementation Costs	FY20/21	FY21/22	FY22/23	Total	Notes
Project Management	section 9(2)(b)(ii)				Fin4/5/9
Business Analysis					Fin4/5/9
Testing Services					Fin4/5/9/10
Change Management					Fin4/5/9
Architecture					Fin4/5/9
Design					Fin4/5/9
Information & Data					Fin4/5/9
Operational Support					
Decommissioning					Fin2/6
Governance					Fin6/12
Privacy					Fin6
Business SMEs					Fin6
Procurement					Fin6/11
Security					Fin6
Travel					Fin6
Integration					Fin13
Total internal implementation costs					

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