

NZ Transport Agency Review of Project NEXT

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Introduction and Purpose

The Agency has a key role in public transport and in ensuring that effective ticketing and fare collection processes exist in the regions.

Introduction

- Revenue collection (ticketing) is a fundamental foundation of effective public transport services and an enabler of multiple related government initiatives, such as targeting transport assistance to high priority groups. Auckland is the only region to have a modern electronic revenue collection system and it is enabling effective public transport delivery. All other regions seek fit for purpose ticketing systems. Open loop and account based is now the internationally accepted approach and in a country the size of NZ aspects of this are most efficiently (and effectively) delivered nationally (e.g. the financial settlement services).
- Project NEXT (the **Project**) is a significant and complicated undertaking, attempting to procure a national, account-based, open-loop and multi-tenanted ticketing solution within a complex stakeholder environment with rapidly changing technology. This Project is not about proving the case for open-loop, account-based ticketing system - the Project is about developing and procuring the best ticketing solution from a national perspective.
- Delivering a project of this nature requires robust processes, clear ownership and oversight. The degree of challenge and change in the NZ Transport Agency (**NZTA** or the **Agency**) over the past 12 to 24 months resulted in this key piece of work not having sufficient direction from, or visibility in, the Agency.
- There are significant challenges associated with this project, including the decision-making process across multiple co-investors and government departments, the potential visible and high-profile nature, and uncertainty around the level of financial exposure to NZTA.

Purpose

- With the next version of the draft Detailed Business Case (**DBC**) set to be delivered to participating agencies in the near future, NZTA wants to ensure its role in the Project is clear, risks mitigated and managed, and implications of decision-making understood.

Approach

In undertaking this review, we have completed the following steps:

- Interviewed staff from the Project, Greater Wellington Regional Council, Environment Canterbury, Auckland Transport and the Agency
- Review of project documents
- Workshop with NZTA's GM of Corporate Services, Senior Manager Regulatory and Transport Policy and Interim Head of Communications.
- Report drafting and feedback from internal Deloitte experts and sharing initial findings with NZTA workshop participants.
- Synthesising feedback into final report.

Scope of Review

The Agency is seeking to proactively re-define its role and understanding of the Project, by examining:

- The role the Agency sees itself playing in the delivery, decision-making, oversight and governance of the Project.
- The steps to be taken to re-establish reporting lines and governance.
- The key decisions that will arise in the coming months.
- The Project's fit within the Agency's wider objective related to improving public transport and its preferred approach to securing required ticketing solutions.
- The key risks for the Agency, and how it can manage these risks.



Introduction and Purpose

The Agency has a key role in public transport and in ensuring that effective ticketing and fare collection processes exist in the regions.

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This report needs to read in conjunction with our Statement of Responsibility.

Acknowledgement

We take this opportunity to thank the New Zealand Transport Agency team for their assistance during the course of the review.

Context and Overview

The National Ticketing Programme encompasses the majority of regional councils and NZTA, to deliver optimal ticketing systems for all regions.

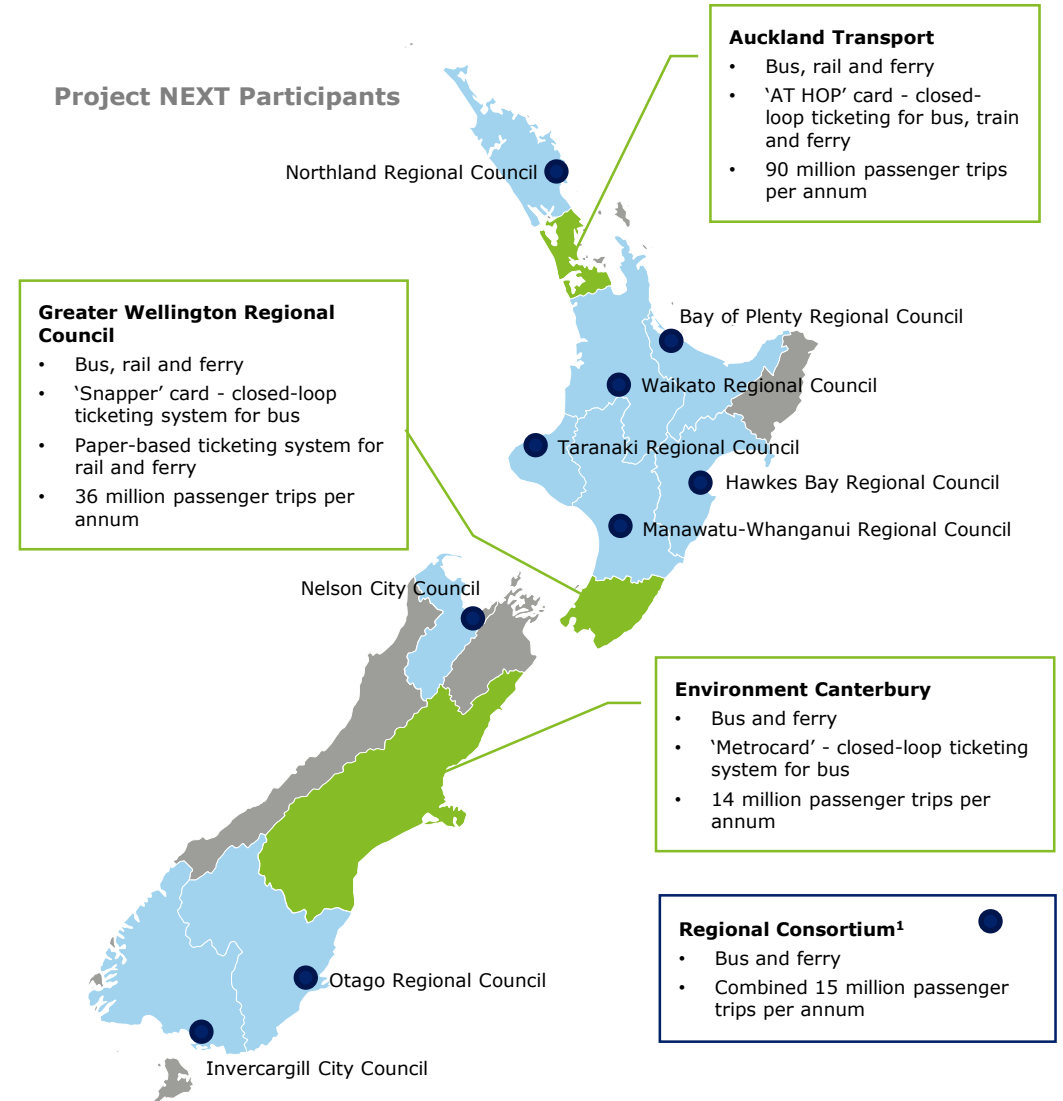
National Ticketing Programme

- In early 2016, Greater Wellington Regional Council (**GW**), Environment Canterbury (**ECan**), Auckland Transport (**AT**), the Regional Consortium (nine regional councils, **RC**) and the Transport Agency (together the **co-investors**) agreed to collaborate in the development of a National Ticketing Programme (**NTP**) to deliver a nationally co-ordinated approach to investment in regionally delivered ticketing services.
- The underlying premise is that a New Zealand-wide approach to transport ticketing and payment, involving the co-ordinated participation of multiple councils, would achieve better economies of scale, optimise value for money at national and regional levels, avoid duplication of investment, and provide efficient and convenient ticketing solutions to their users of public transport.
- This is not just about a new system, but about establishing secure, innovative and integrated ticketing systems that enable more effective public transport services, while achieving economies of scale and mitigating risk.
- Project NEXT, a key project under the NTP, was established in early 2018, with the purpose of procuring a next-generation ticketing solution. The draft DBC contemplates implementation initially for Wellington, followed by ECan, the regions and finally Auckland in 2026.
- The diagram opposite summarises the Public Transport Authorities (**PTAs**) participating in Project NEXT.

The Solution

- The concept for the National Ticketing Solution (**NTS**) is described as a technology platform capable of being multi-tenanted by PTAs, enabling each PTA to implement its own fares policy, open-loop to accept Europay, Mastercard and Visa (**EMV**) standard contactless payments, account-based and used across different modes of public transport in an integrated manner. It is anticipated that PTAs will have some degree of choice around components of the solution to reflect local requirements.

Project NEXT Participants



¹Contains the 9 Regional Councils displayed above. We note that Marlborough District Council and Gisborne District Council are the only PTAs not included in Project NEXT.



Context and Overview

The National Ticketing Programme progressed in its earliest phase with funding from NZTA. With Auckland joining in 2018, the concept of a truly nationwide, open-loop solution became real.

Brief history of the NTP

- By November 2016, the NTP had developed an Investment Story and established a Conceptual Roadmap that defined an approach for establishing, procuring, implementing and operating a national ticketing scheme. It included the strategic case, the management case and the funding requirements for a ticketing solution. The Investment Story was used to secure funding for:
 - The development of an Indicative Business (**IBC**) for the Greater Wellington, Environment Canterbury and the Regional Consortium Ticketing Solution (**GRETS**).
 - Preparation of high-level procurement requirements for GRETS.
- At the time, AT had implemented its smart-card ticketing solution, HOP, and had a contract with its provider until 2026. It was assumed AT would not join the GRETS ticketing solution, and so it was excluded from analysis in the IBC.
- As participants in GRETS had different contracts with existing providers – meaning participants would not all be able to join the same ticketing solution at the same time – the Regional Interim Ticketing Solution (**RITS**) was established, with the aim of procuring a common, short-term solution for the RC participants.
- A multi-party funding agreement consistent with NZTA's funding approval was agreed in late 2016 whereby GW would lead the work jointly funded with NZTA, while the RC procured and implemented RITS to better align procurement cycles until GRETS became available.
- From the concept phase to the finalisation of the IBC, funding came from the National Land Transport Fund (**NLTF**) within an estimated cost range of \$2.8 million to \$3.4 million, with a base estimate of \$3.1 million, based on NZTA fully funding (100%) the project director, manager and co-ordinator roles to provide leadership and maintain momentum, applying normal Funding Assistance Rates (**FAR**) for the GW and ECan share and a targeted enhanced rate of 65% for the RC share.

- In October 2017 the final GRETS IBC was produced. This examined two options for PTA participation:
 - i. Do Minimum - stay with the current state and extend current closed loop interim bus ticketing systems, e.g. Snapper in Wellington, and introduce the RITS for the RC
 - ii. GRETS - starting with GW in 2020/21 and rolled out to ECan and/or RC by 2025/26.
- The IBC notes GRETS was being led by a GW-based project team with support from NZTA, and reported to a Governance Group comprising representatives from NZTA, GW, ECan, and RC. Approval to proceed was to be at Regional Authority-level for GW, ECan and the RC members, and Board-level (or a Board delegated authority) for NZTA. The procurement phase of GRETS was intended to occur over 18 months from November 2017.

Project NEXT

- The dynamic of GRETS changed in early 2018 when AT joined the group of councils pursuing a national ticketing solution. In May 2018, Project NEXT was established. At a high level, the Project has three specific tasks:
 - Complete the Detailed Business Case (**DBC**) for implementation and operation of the NTS;
 - Select and contract a preferred supplier for the ticketing solution;
 - Select and contract a preferred supplier(s) for financial services.
- The Project is being delivered by a mix of NZTA and GW employees and external contractors. Refer to Appendix 5 for more detail on project personnel.
- Appendix 6 provides a summarised timeline of both the history of the NTP, and a timeline of Project NEXT.



Context and Overview

An open-loop solution was found to be more cost effective and future-proofed than extending Auckland's current closed-loop solution. The complexity of the project and the co-ordination required means NZTA's involvement is critical.

Why an account-based, open-loop, national ticketing system?

- Prior to the establishment of the NTP in February 2016, NZTA's preferred option was to extend Auckland's closed-loop, card-based ticketing solution. Since the establishment of the NTP, the world has moved on.
- The draft DBC summarises this change in the ticketing landscape as:

'...cash-based paper ticketing, and electronic closed loop payment systems such as Snapper and HOP have been superseded. International trends are for account-based ticketing and open loop payment solutions enabling use of EMV-based credit/debit cards (like Visa and MasterCard) and tokens and digital wallets (such as ApplePay), at costs lower than previous closed loop proprietary systems.

These new account-based, open-loop ticketing and payment systems provide wide accessibility and convenience for customers, significant data for efficient network management, and provide a possible basis for substantial mobility initiatives in the future....'
- In light of this changing landscape, NZTA initiated and funded a project to assess the costs and benefits of extending Auckland's solution across the country compared to Auckland eventually moving to an open loop solution. The report found the cost savings of using Auckland's solution were insignificant and potentially it was more expensive than Auckland moving to a nation-wide, open-loop system.
- NZTA notes the above was backed up by a market sounding undertaken in May 2017, with a strong level of commercial interest that fully supported the open loop, account based approach and confirmed the feasibility of the proposed solution.

Complexity and scale of the Project

- This Project is a significant undertaking. Ticketing is a fundamental part of fare revenue collection, with the IBC noting the national fare box is estimated at approximately \$350 million per annum. The PTAs collect the fare revenue, with NZTA subsidising the shortfall for the cost of public transport based on each region's FAR. The fiscal risk to the Crown and the Land Transport Fund, should the Project fail during implementation and transition, is considerable. However, the fiscal risk up until the completion of the DBC is \$14.2m spread across parties.

- This Project is attempting to procure a national, account-based, open-loop and multi-tenanted ticketing solution within a complex stakeholder environment. This has not been done in New Zealand, and is believed to be uncommon in the world. While the cost of the project is not unusual for the Agency (estimated at around \$250m), the risk of the project is magnified by the visible nature of public transport and the range of different physical environments the system is expected to perform.

Why should NZTA be involved?

- The Agency's approach to ticketing has long since been to achieve optimal solutions for each region, cost efficiencies through economies of scale and leveraging the scarce expertise to mitigate risk. As technology has evolved, the case for a more national approach has grown.
- The decision to procure a national ticketing solution evolved through GRETS, becoming truly national with Auckland joining and the creation of NEXT in early 2018. Delivering such a project requires national co-ordination and oversight, to both provide an independent voice among the complex environment with 12 PTAs, and ensure central government's objectives and perspective is appropriately represented.
- Since 2006, when Auckland commenced planning for its integrated ticketing, NZTA has played a lead role in ensuring cost-effective, integrated ticketing systems for regions. Ticketing and revenue collection is not core business for regional councils, and the technical complexity, cost and implementation risks means NZTA must be involved.
- Integrated ticketing provides detailed usage information, which can be used to optimise fares, routes, and timetables of public transport modes. This data can be used to support the strategic and operational decision-making of PTAs, as well as provide valuable data at a national level to inform policy decisions related to economic and social equality of access.
- NZTA has a role to play in ensuring the Crown's interests are represented and understood at a regional level. The Ministries of Education, Social Development and Transport are interested in being involved because of the applicability to initiatives including: usage on school bus routes to track student movements; SuperGold Card integration; and Green Transport Card usage by low-income households, respectively.



Context and Overview

Project NEXT has progressed to drafting its Detailed Business Case and running a parallel procurement process. Both the draft DBC and the procurement process are behind schedule.

Current State of Project NEXT

- We understand the Project has good momentum, and is progressing towards completing the three activities in its scope. Notwithstanding, timeframes are tight and some milestones have been missed.
- The key output of the project is the DBC, which was originally expected to be completed in December 2019. This has since been revised to August/September 2020. The DBC will help to determine whether the NTS is economically viable for participants. The DBC does not financially commit any of the participants.
- The other key output is the two procurement processes being run in parallel. The decision on the preferred supplier(s) for the financial services RFT is imminent. The ticketing solution RFP was expected to be released in February 2019, with the preferred supplier chosen in December 2019.
- Over time, NZTA governance and oversight of the NTP has declined. Prior to July 2017, there was a governance group for the NTP led by a senior NZTA representative, which reported regularly to the NZTA Board. The governance group was disestablished in July 2017 when ownership of the Programme was transferred internally to Connected Journey Solutions (CJS). We were advised the head of CJS adopted a relatively hands-off approach.
- RITS was established as an interim solution for the RC. Although this project is relatively less complex than Project NEXT (closed loop) it has experienced significant delays – 18 months so far – with implementation originally expected during July 2019. It is not clear what current expectations are on delivery.
- The Agency and councils have committed to funding Project NEXT through to the completion of procurement and the production of the DBC. The Agency had approved \$9.3m to contribute towards the DBC and procurement phase, based on a cost estimate of \$14.2m. GW, AT, ECan and the RC fund the remaining \$4.9m of the estimated costs (from local share). Refer to Appendix 4 for more detailed project finances.
- Overall, project ownership and reporting lines are unclear. NZTA's role in governance, oversight and decision-making also requires clarification. This is discussed further in the following section.

Procurement Process

- The procurement is focused on a ticketing solution prime contractor and a separate financial services tender to support the prime contractor.
- There are three parts to the procurement, summarised in the table below:

Procurement stage	Expected timeframe* (Released to completion)	Updated dates (Released to completion)
ROI – Ticketing Solution	June 2018 – Oct 2018	June 2018 – Oct 2018
RFT – Financial Services	Sept 2018 – May 2019	Jan 2019 – Aug 2019
RFP – Ticketing Solution	Feb 2019 – Dec 2019	Aug 2019 – March 2020

*Source: 'Project Plan', May 2018. Timeframes show from when documents were expected to be released to the market, until the preferred supplier(s) approved. Updated dates are estimates and reflect discussions with NZTA or the Project Team in Q2 2019.

Upcoming procurement decisions for NZTA

- There are a number of upcoming procurement decisions the Agency will need to have a view on, including:
 - Approval of Financial Services RFT evaluation recommendation for preferred supplier(s) and award (imminent)
 - Approval of Ticketing Solution RFP price quality premium
 - Approval of Ticketing Solution RFP evaluation recommendation of down-selected respondents / single respondent
 - Approval of DBC and outline of decision on shared service model
 - Approval of Ticketing Solution RFP price quality premium (final adjusted)
 - Approval of RFP evaluation recommendation to award Ticketing Solution preferred supplier
- We are not aware of the current anticipated timeframe for these decisions.



Key Findings and Recommendations

Despite NZTA's recent involvement and oversight of Project NEXT being limited, this appears to have not had a material impact on proceedings to date. However, there are several important upcoming decisions to be across.

Preface

- This section provides the key findings and resulting recommendations from our review.
- It is important to note a number of foundational decisions have already been made, such as the decisions to pursue an open-loop national solution rather than regional closed-loop solutions, to run a parallel procurement process to inform the DBC, to establish an interim solution to align procurement cycles, and to prioritise implementation in Wellington.
- A number of our findings and recommendations identify areas of the project that can be improved going forward, but appear not to have had a material impact on proceedings to date.
- While we understand Project NEXT ends with the final DBC, NZTA has choices to make about its involvement over the entire project lifecycle, which is only just beginning. This Project requires more than just capital investment. It will require ongoing operations, maintenance, and policy support, particularly through events such changes in government objectives that may impact on fare policies and revenue.
- While the main focus of this report is on NZTA's role during the development and procurement phases, it will need to be mindful of the upcoming build, transition, and operation and maintenance phases.

Interpreting this section

- We have grouped our findings into four thematic areas:
 - The Agency's role in public transport and ticketing
 - Investor-level governance
 - Effectiveness of programme / project management
 - Detailed Business Case and implementation
- Overleaf, we have prioritised six key findings and recommendations based on what we consider to be the most pressing areas for the Agency to action.
- Under each theme, we then provide a further detailed breakdown of the findings, observations, implications and recommendations.



Key Findings and Recommendations

There are a number of important areas for NZTA to address, but not all of them are urgent.

Summary of Key Findings

- The Agency's role in public transport and ticketing**
 The Agency has had a fundamental change in direction. At this point in time, it does not appear to have a clear set of ticketing and public transport objectives, and the Agency's focus on the NTP itself appears to have lapsed. This means projects like NEXT are difficult to embed in NZTA's operating model.
- Investor-level governance**
 The intended governance mechanisms for Project NEXT are not fit for purpose and have not been given effect. This makes it difficult for the Transport Agency to assert the level of central government input required and ensure feedback and communication loops between all parties are formalised and maintained.
- Effectiveness of programme / project management**
 While the Project appears to be adequately resourced to deal with its current scope, a project with this breadth of scope and level of risk should have a commensurate level of attention and oversight. It does not appear to have the appropriate level of business ownership within NZTA. It is also likely to require a significant level of informed technical input and project assurance.
- Draft Detailed Business Case (DBC) and implementation**
 NZTA should also consider critiquing the investment objectives and options contained in the draft DBC to ensure they are fit for purpose in light of central Government priorities. The impacts of RITS on NEXT do not appear to be sufficiently understood, nor is NZTA's role in implementation clear yet.

Prioritisation

- The table opposite provides an assessment of the urgency to address each key finding, using the following categorisations:
 - Begin immediately and address with urgency.
 - Begin in parallel with Priority 1, but on a longer timeframe.
 - Begin addressing after Priority 1 issues are resolved.

Theme	Key Finding	Urgency to address
The Agency's role in public transport and ticketing	Lack of clear ticketing and public transport objectives	1
	The Agency's focus on National Ticketing Programme (NTP) appears to have lapsed	1
	Inconsistent approach to project delivery	3
Investor-level governance	Central government input required	2
	The intended governance mechanisms are not fit for purpose	1
	Feedback and communications loops to be formalised	2
Effectiveness of programme / project management	Good momentum maintained, but NZTA should satisfy itself that the Project's scope remains fit for purpose	3
	Lack of business ownership	1
	The Project does not have the Crown-level review and assurance disciplines we would expect	1
	Technical input added to Project	1
Draft DBC and implementation	Investment objectives need to be clarified	2
	Funding uncertainty	3
	Impact of RITS needs to be better understood	2
	NZTA's role following Project NEXT's completion unclear	3



Key Findings and Recommendations

NZTA should consider the macro-environment within which the project is seeking to be successful.

The Agency's role in public transport and ticketing

Key Finding	Observations	Implications and Risks	Recommendations
<p>Lack of clear ticketing and public transport objectives</p> <p>NZTA does not appear to have an articulated position regarding ticketing implementation and its impact on public transport (PT) outcomes, which should be aligned with the Ministry of Transport and the Government's transport priorities.</p>	<ul style="list-style-type: none"> The organisational change in 2017 did not identify a clear home for PT responsibilities in the Agency. Ticketing is a core function to enable PT services by bringing together revenue collection and data-gathering to inform wider public policy decision-making. NZTA is a significant co-investor in PT, and needs to have confidence its investments are achieving central Government outcomes and value for money. 	<ul style="list-style-type: none"> An absence of an articulated position means the Agency's ability to shape and influence relevant projects to meet its desired outcomes is constrained. The potentially substantial benefits to 'NZ Inc.' from enhanced PT data gathered through an integrated ticketing solution are at risk of being missed in the Project NEXT solution if NZTA is not sufficiently engaged. 	<ul style="list-style-type: none"> The Agency should consider how PT and ticketing can be used to support government transport strategic priorities, particularly access to economic and social opportunities, and ensure Project NEXT meets these objectives.
<p>National Ticketing Programme (NTP) itself appears to have lapsed</p> <p>The NTP was established by the Agency in 2016, and Project NEXT is a key part of the programme. Over the intervening years, the NTP appears to have lost its impetus and ownership.</p>	<ul style="list-style-type: none"> The Agency moved to a technology focus in relation to the NTP and responsibility for it was transferred to CJS. The Government's 2018 Government Policy Statement (GPS) and wider objectives brought a wellbeing focus to PT, and elevated it as an investment priority. The Agency's focus has moved towards Mobility and its role as an enabler to achieve Government priorities. 	<ul style="list-style-type: none"> As NTP appears to have lost urgency, the Agency's oversight of ticketing and public transport appears to have lessened. There appears to be no active vehicle for the Agency to implement the Government's public transport priorities. 	<ul style="list-style-type: none"> The Agency needs to develop a clear approach and structure on how it progresses its mobility initiatives. It needs a clear definition of 'Mobility' in the New Zealand context, and understand where Project NEXT fits in and enables this.
<p>Inconsistent approach to project delivery</p> <p>There is a view at NZTA that a range of cross-functional, multi-modal projects including Project NEXT and RITS are difficult to embed in NZTA's operating model.</p>	<ul style="list-style-type: none"> NZTA does not appear to have a standard approach to run or govern projects and initiatives, such as Project NEXT, that run across different regions, modes and statutory functions. 	<ul style="list-style-type: none"> There is a risk such projects are not afforded the level of central government oversight and rigorous management they require. 	<ul style="list-style-type: none"> NZTA should consider developing a process to classify and manage cross-functional technology and public transport projects to limit the risk of this recurring.



Key Findings and Recommendations

NZTA's role as an influencer and connector for the Project, and ability to bring a central government policy lens to bear, needs to be defined.

Investor-level governance

Key Finding	Observations	Implications and Risks	Recommendations
<p>Central government input required</p> <p>The project is focused on delivering a public transport ticketing solution to the regions. We have not seen a similar focus on central government objectives.</p>	<ul style="list-style-type: none"> While this transport project needs NZTA involvement, there is also interest from other agencies, including the Ministries of Education, Social Development, and Transport. 	<ul style="list-style-type: none"> The Project is currently being led by GW and other PTAs. This risks a regional governance skew that does not reflect the direction of central government priorities and the requirements of interested agencies. 	<ul style="list-style-type: none"> NZTA should consider facilitating a conversation with other central government agencies to ensure that it can undertake its lead role in representing the Crown's interests across a range of areas including education, social development and health, bringing a strong central government lens to the Project.
<p>The intended governance mechanisms are not fit for purpose</p> <p>NZTA advises the arrangements established were not appropriate. The National Mobility Payments Governance Group (NMPGG) has not met since April 2018. The NZTA Board appears to have not been updated regularly for some time.</p>	<ul style="list-style-type: none"> The NMPGG was established as an advisory group for mobility and payments initiatives, but was not a decision-making body. The Group contains CE-level representation from NZTA, RC, Ecan, GW and AT. The Steering Group appears to have assumed Governance responsibilities from time to time. 	<ul style="list-style-type: none"> The re-establishment of the NMPGG is a positive step, though its role could be re-cast. It needs to be set up to succeed and truly govern, as opposed to just advising. 	<ul style="list-style-type: none"> Governance needs to be re-established. NZTA should consider its role and the purpose of the NMPGG in light of its Mobility objectives and the wider range of initiatives underway, such as RITS and other mobility projects. The NMPGG, Project Steering Group and any Technical QA / Advisory Groups need clear Terms of Reference to reflect the required project governance structure. Re-established governance should have clear lines and visibility to the NZTA Board.
<p>Feedback and communications loops to be formalised</p> <p>A multi co-investor project spread throughout New Zealand's regions needs clear and consistent feedback loops to ensure all parties are appropriately informed and engaged</p>	<ul style="list-style-type: none"> While it appears the current scope of stakeholder communications are working well, we have not seen any evidence of a focus on some of the more difficult aspects, including agreement on benefits realisation among co-investors, funding and cost allocation, and transition The upcoming re-organisation means there will be 16 Regional Teams to work alongside PTAs to ensure alignment of local and national priorities. 	<ul style="list-style-type: none"> Implementing a national solution at the regional level will require navigating competing interests, which is complicated. The (virtual) Regional Teams will need clear messaging from the NMPGG so they can engage consistently with local bodies. Communications needs to be in both directions, particularly around readiness of transition and PTAs ability and awareness of upcoming changes. 	<ul style="list-style-type: none"> The NMPGG would benefit from a high-quality, multi-disciplinary group of advisors to prepare quality advice to make well-informed decisions. NZTA should consider acting as a facilitator between other co-investors, particularly with negotiation around difficult matters such as funding contributions and allocation of benefits. Clear and direct reporting lines should be established between the range of stakeholders and co-investors.



Key Findings and Recommendations

While the project has maintained good momentum, limited NZTA business ownership and attendant Crown-level review disciplines may have had an impact on overall strategic direction.

Effectiveness of programme / project management

Key Finding	Observations	Implications and Risks	Recommendations
<p>Good momentum maintained, but NZTA should satisfy itself that the scope remains fit for purpose</p> <p>The Project appears to be adequately resourced to deal with its current scope.</p>	<ul style="list-style-type: none"> NZTA views the Project as having maintained good momentum despite limited oversight and incentives to progress. The Project also appears to have not deviated from its original requirements. However, timeframes are tight and some procurement milestones to progress and inform the DBC have slipped. 	<ul style="list-style-type: none"> The Project appears set to deliver on its current scope. The impact of missed milestones on the Project's progression may not be fully understood by all co-investors, and may need to be examined. 	<ul style="list-style-type: none"> NZTA should satisfy itself that the scope of the Project is adequate or not, in light of the time passed since the NTP was established, NZTA contemplating its role in public transport and mobility, and its desired outcomes from ticketing.
<p>Lack of business ownership</p> <p>The Project has no clear business ownership within NZTA.</p>	<ul style="list-style-type: none"> This Project is potentially large and a highly visible, public facing national investment. NZTA involvement would assist with helping PTAs consider national policy objectives. 	<ul style="list-style-type: none"> Without the right level of oversight and position within the Agency's portfolio management structure, the Project risks not having the levels of visibility and direction it requires. 	<ul style="list-style-type: none"> NZTA should consider the portfolio in which this Project sits, and identify an appropriate Senior Responsible Owner to drive national direction.
<p>The Project does not have the Crown-level review and assurance disciplines we would expect</p> <p>A project with this level of risk and national significance should have a commensurate level of attention and oversight.</p>	<ul style="list-style-type: none"> The Project is the first of its kind in New Zealand and potentially involves several central government agencies in addition to local bodies. This Project needs to align with central government spending objectives and outcomes. The draft DBC notes the procurement process was non-standard. 	<ul style="list-style-type: none"> There is a range of central and local government interests and risks to manage, which would benefit from central agency oversight and investment analysis. There is considerable reputational risk for NZTA being a co-investor in this Project. 	<ul style="list-style-type: none"> NZTA should consider adopting Crown investment-level project management disciplines now, such as an Assurance Plan with Gateway, IQA and input from central government including the GCDO Panel, MBIE, Treasury and the SSC.
<p>Technical input added to Project</p> <p>Technical Advisory services to the Project team was instigated in June 2019.</p>	<ul style="list-style-type: none"> This Project has several highly technical components, including the IT ticketing solution and the financial services interface. The Project's complexity comes from seeking an integrated multi-tenant, national, multi-modal, multi-fares policy, multi-agency and account based solution all in one. 	<ul style="list-style-type: none"> Independent specialists have been engaged to provide technical challenge over the Project's thinking through a Standard Reference Advisory Group, highlighting the external expertise required. 	<ul style="list-style-type: none"> While the Project Team needs technical guidance, the NMPGG needs technical QA support. Terms of Reference for these two separate needs should be created so Project participants are clear on the role of each.

Key Findings and Recommendations

With the DBC being drafted, NZTA has the opportunity to play a greater role in the remaining procurement process and implementation planning.

DBC and Implementation Considerations

Key Finding	Observations	Implications and Risks	Recommendations
<p>Investment objectives need to be clarified It's not clear if the current direction of the draft DBC will meet the wider Crown objectives around public transport and wellbeing.</p>	<ul style="list-style-type: none"> The options and benefits ascribed to them appear focused on meeting regional PTA needs. Executive government priorities for public transport have shifted, with an emphasis on public transport as an enabler of social and economic opportunities. We would expect the DBC to revisit strategic direction, the rationale of a national scheme, and ensure it is fit for purpose and relevant in the current environment 	<ul style="list-style-type: none"> There is a risk that without proper central government oversight, the options and benefits outlined in the IBC and the draft DBC do not speak to wider government objectives and, ultimately, do not deliver on Crown investment expectations. 	<ul style="list-style-type: none"> NZTA should lead the development of the central government position on expected outputs from the DBC in light of its wider transport objectives. Expertise on benefits quantification, realisation and options QA could be provided by NZTA's Policy team. NZTA should satisfy itself the DBC answers the 'big questions' around the direction of national public transport ticketing, and is fit for purpose.
<p>Funding uncertainty Approval of the DBC does not automatically commit co-investors to funding the preferred solution. The amount of funding required remains uncertain until the Ticketing Solution RFP is completed.</p>	<ul style="list-style-type: none"> There is no formal deadline for funding commitment. The approach is for iterative conversation between co-investors to determine cost-sharing. This lends a degree of uncertainty to the Agency regarding the length of the investment deliberation process and impact on funding and other dependencies (e.g. RITS). 	<ul style="list-style-type: none"> NZTA may find itself the back-stop funder for Project NEXT, should expected co-investors not commit. Depending on agreement between co-investors, NZTA may be exposed to a greater or lesser degree of back-stop funding commitment. Depending on which co-investors commit, NZTA may need to use its funding lever to achieve not only its PT objectives, but also a degree of comfort with its investment. 	<ul style="list-style-type: none"> Prior to the completion of the DBC and following the procurement process, NZTA should consider finalisation of a funding agreement with PTAs as part of finalising the DBC to provide funding certainty to enter a supplier contract.



Key Findings and Recommendations

With the DBC being drafted, NZTA has the opportunity to play a greater role in the remaining procurement process and implementation planning.

DBC and Implementation Considerations

Key Finding	Observations	Implications and Risks	Recommendations
<p>Impact of RITS needs to be better understood RITS is similar to NEXT, however the two projects appear to be operating in isolation.</p>	<ul style="list-style-type: none"> RITS is a key consideration for Project NEXT as it involves a number of the co-investors, and it intends to deliver a short-term ticketing solution in advance of NEXT being implemented. RITS is currently delayed by at least 18 months, highlighting the risk of delays to Project NEXT. There is a view that RITS has a limited shelf life, however it is not clear if all co-investors share this view. 	<ul style="list-style-type: none"> A lack of cohesive governance over both RITS and Project NEXT has meant the two projects are operating in silos without fully considering the impacts each project has on the other. Learnings from RITS may not be adopted due to the overlap of the two projects and lack of consistent oversight and governance. It is not clear how the delays to RITS will impact on NEXT's forthcoming decision-making processes. RITS participants may prefer to remain with this solution instead of progressing to NEXT, delaying the rollout of the NEXT solution and potentially increasing costs. 	<ul style="list-style-type: none"> The re-establishment of the NMPGG presents an opportunity for the Agency to take a more holistic approach to governing ticketing and mobility projects. NZTA should consider how it approaches the interrelationships between RITS and NEXT as it contemplates the DBC and the implementation timeframe
<p>NZTA's role following Project NEXT's completion unclear As procurement decisions draw near and the DBC approaches completion, it appears the Agency does not yet have a fixed view on its role in the project lifecycle.</p>	<ul style="list-style-type: none"> Project NEXT's scope ends with the completion of the DBC. The implementation business case is out of scope, and a process for agreeing next steps has not yet been established by co-investors or the Project team. The timeframes for rolling out NEXT across the country are tight. With contracts for the existing ticketing solutions expiring (including HOP, RITS and ECan's system), each respective PTA requires concrete implementation and transition plans. We understand that in large implementations, like HOP, considerable Agency involvement was required. The Project is not just a capital project – it needs ongoing operations, maintenance and policy support. 	<ul style="list-style-type: none"> The shape of the DBC's Management Case will contribute heavily to the Implementation Business Case and plan. Regional councils have required central government implementation expertise in the past, suggesting similar capability support will be required with NEXT. 	<ul style="list-style-type: none"> The Agency will need to determine the role it plays and the degree of assistance and resourcing it provides to NEXT's implementation ahead of the upcoming decisions. NZTA should consider the scope of its assistance across the entire project lifecycle.

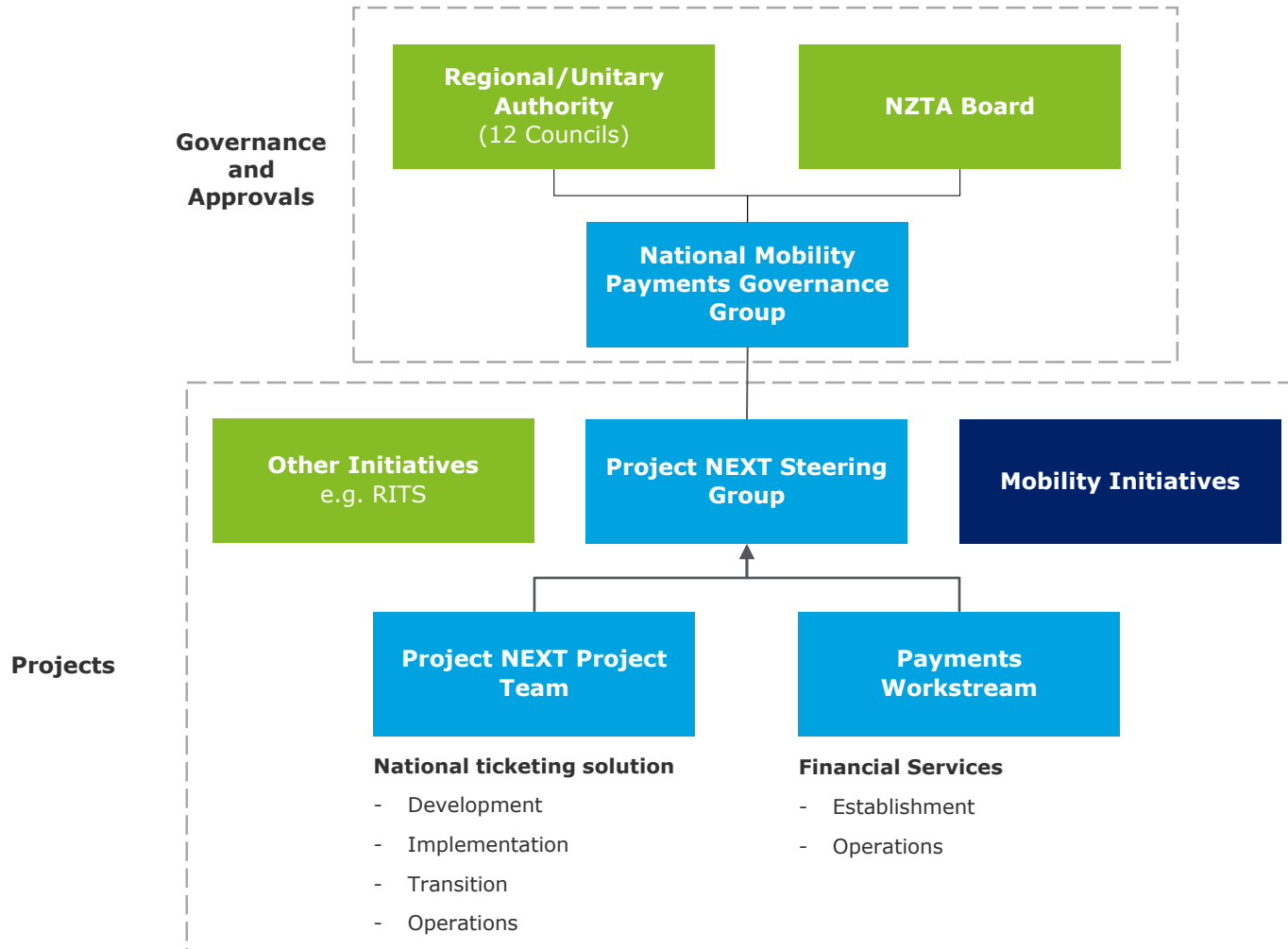
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Appendix 1: Governance

Current intended governance structure



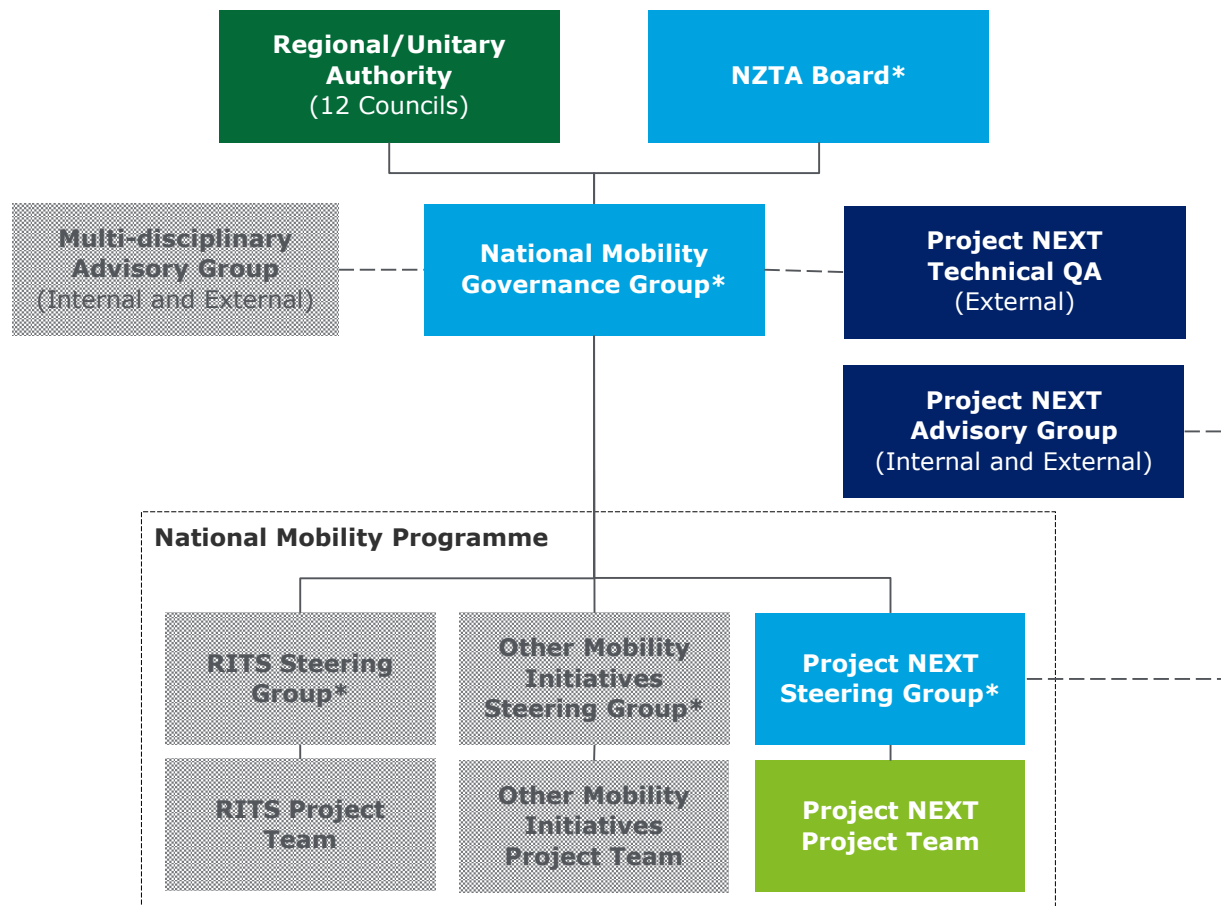
Observations

- The diagram opposite summarises the intended programme governance structure.
- There appear to be deviations from its operations intent:
 - NMPGG has not met since April 2018.
 - Since Project NEXT was established, there have been no updates to the NZTA Board.
 - NMPGG was intended to operate in an advisory capacity, without decision-making powers.
 - The Steering Group appears to have both Steering and Governance roles.
 - A Project Management Board was established in March 2019 as a sub-set of the Steering Group to ensure NEXT can deliver on its outcomes. It was established as convening Steering Group meetings was proving difficult for participants.
 - It's unclear how Project NEXT fits in with the other Payments and Mobility initiatives, and what oversight has been afforded to these projects.



Appendix 1: Governance

Potential future governance structure



*NZTA involvement

Observations

- The diagram opposite summarises a potential governance structure going forward. The diagram includes the wider Mobility initiatives underway, simply to illustrate the wider context that Project NEXT could exist in.
- The National Mobility Governance Group (**NMGG**) is set to reconvene in August 2019, with NZTA taking the Chair for this meeting. The NMPGG needs to take on a true governance role.
- The NMGG requires formalised and independent assurance and advice over Project NEXT, to give it comfort over the technical risks and proposed solutions.
- The Project NEXT Reference Group was established in June 2019 to provide expert advice and QA assistance to both the Project and to the NMGG.
- We would expect separate groups to be established to provide technical QA to the NMGG, and technical advice to the Project.
- The purpose and role of the Project NEXT Steering Group, Advisory Groups and NMGG and Technical QA should be clearly articulated and updated Terms of Reference issued.
- The Multi-disciplinary Advisory Group would be a group of advisors to prepare quality advice to the NMGG to make well-informed decisions.



Appendix 2: Current State of Ticketing

There are a number of ticketing systems used throughout New Zealand, each of which has its own issues around reliability and lifespan.

Current state of public transport ticketing systems in NZ

- Current ticketing systems across New Zealand are outdated and inefficient, which presents a significant barrier to the use of public transport and leads to sub-optimal decision-making by PTAs.
- The National Ticketing Solution aims to make public transport more accessible by supplying a more people-centric system, and provide PTAs with rich data to optimise public transport planning.
- GW currently operates a multimodal ticketing system. Bus operators use smartcard-based fare collection systems under an interim arrangement, while rail and ferry operators use paper-based tickets. ECan uses a closed loop, stored-value card with tag on only capability, region wide.
- Each of the nine member councils of the RC currently uses its own ticketing system, and many face issues with reliability and data. To address these issues the RC has procured a Regional Interim Ticketing Solution (**RITS**) which is intended for deployment within all member authorities during 2018/2019. The RITS is contracted for five years with provisions for two possible two year extensions.
- AT uses a card-based closed loop system and has contracts with its existing ticketing solutions provider to 2021, with the option to extend to 2026.
- The National Ticketing Solution will supersede these systems, with trains being the highest priority. From 1 July 2018, an interim ticketing solution will be implemented by GW and RC, reducing the number of ticketing systems across the PTAs participating in Project NEXT from 16 to 4.
- All PTAs excluding Marlborough District Council and Gisborne District Council will be included in Project NEXT.



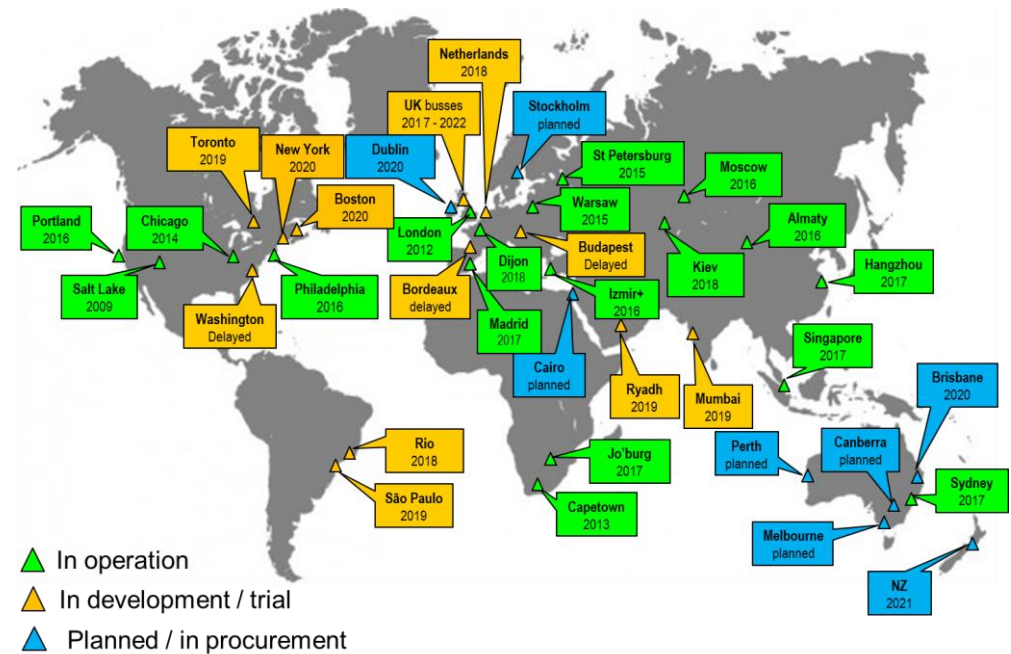
Appendix 2: Current State of Ticketing

Over recent years, open-loop ticketing systems have become more and more prevalent globally.

International Trends

- Automated fare collection began in 1997 with the introduction of a contactless card in Hong Kong. Thereafter, the trend of stored-value ticketing systems spread internationally.
- The development of technologies such as 3G/4G and contactless banking cards in recent years has seen a natural progression towards account-based ticketing (**ABT**) and open loop payment. A number of cities throughout the world have already introduced ABT with open loop functionality, with more cities planning to do so.
- The trend of ABT and open loop payment has seen greater user convenience and lower costs for transport operators. For example, Transport for London started accepting open loop payments in 2014 and consequently saw a 40% increase in patronage. EMV payments now represent around 40% of journeys in London.
- Other cities to recently implement ABT and open loop payment include Sydney with its Opal Card, Singapore, Philadelphia and Portland.
- The diagram opposite shows the uptake of account based ticketing with open loop functionality across cities.

Uptake of account based ticketing with open loop functionality



Sources: MasterCard, Visa, L.E.K Consulting



Appendix 3: DBC Challenges, Risks and Benefits

The DBC aims to address a number of issues. Key benefits for participants include patronage growth and a decline in fare evasion.

Key Challenges

The national ticketing solution is expected to address a raft of challenges that PTAs are currently facing. The draft DBC outlines these challenges as:

- *Misalignment of procurement cycles* – PTAs are at different stages in the lifecycle of their ticketing systems.
- *Transitioning to a national solution* – Each PTA's current operations need to be considered and the extent to which any capability in existing systems can be reused.
- *Bus only vs. mixed modes* – Auckland and Wellington require integrated ticketing while other PTAs may not require the same level of sophistication.
- *Scale for procurement and operation* – With the exception of Auckland, individual regions lack sufficient scale to support an integrated solution.
- *Inadequate data* – Account based systems provide rich data that can be used to optimise routing, scheduling and fares policy. Additionally, rich data supports strategic planning and transport demand modelling.
- *Revenue protection* – Processes for effective deterrence and enforcement of fare evasion will need to change.

Key Risks

The complexity of implementing a nationwide ticketing solution means several risks need to be managed and mitigated. The draft DBC summarises these as:

- The decision-making process across multiple investors is slow, resulting in delays and increased costs.
- The allocation of costs shared between government and the regional councils is difficult or cannot be agreed, resulting in delays.
- The Regional Consortium and/or ECan decide to delay or stop investment in the NEXT solution and extend their interim solution, delaying the rollout of the NEXT solution and increases whole of life costs.
- There is insufficient expertise available to resource the Project team within the required timeframes, resulting in delays and increased costs.

Investment Benefits

- The table below outlines the expected benefits from the NTS, quantified in the IBC and draft DBC.
- The IBC quantifies five types of expected benefits, totalling a range between \$109.5m and \$162.5m. The greatest benefits are expected to be from a reduction in rail fare evasion, patronage growth and minimised cash handling.
- The draft DBC outlines a revised range of expected benefits of \$178.2m to \$231.3m. These are to be realised from patronage growth and reduction of rail and bus fare evasion. In contrast to the IBC, the draft DBC do not include any benefits expected from minimised cash handling or reduced bus dwell time in the cost-benefit analysis.
- Other benefits detailed in the business cases but not quantified are:
 - Time and cost savings for customers
 - Lower total cost of fare collection for councils
 - Future readiness for government policy initiatives such as GoldCard and the proposed Green Card

Benefits	IBC	Draft DBC	Difference
Patronage growth	\$30.2m-\$43.5m	\$124m - \$150m	\$93.8m - \$106.5m
Fare evasion – Rail	\$46.2m - \$69.3m	\$46.2 - \$69.3m	-
Fare evasion – Bus	\$8.2m - \$12.3m	\$8.2m - \$12.3m	-
Minimised cash handling	\$17.6m - \$26.4m	-	(\$17.6m – \$26.4m)
Reduced bus dwell time	\$7.3m - \$11.0m	-	(\$7.3m - \$11.0m)
Total	\$109.5m – \$162.5m	\$178.2m – \$231.3m	\$68.7m – \$68.8m



Appendix 4: Project Finances

NZTA is funding the lion's share of the project, covering 65% of the total costs.

Project Finances

- The top table opposite outlines the funding approvals received and allocations to each party, first for GRETS (per the IBC), and then for Project NEXT (per the draft DBC Project Plan).
- The initial estimated cost to fund the procurement and DBC development was \$8.2 million.
- Revised estimated costs to fund procurement as at May 2018 are detailed in the Project Plan, following AT joining the Project. Estimated costs increased \$5.1 million to \$13.3 million. The majority of this additional cost (\$4.4 million) is being funded through AT. Note the NZTA's Board approved the upper limit estimate of \$14.2 million, to allow for potential cost over-runs.
- The bottom table opposite summarises each co-investor's funding share, including accounting for the Agency's FAR. The participating parties agreed to the following:
 - The Transport Agency – 100% contribution paying for the fixed roles (\$1.5m) and paying a solution premium (\$2.6m) in recognition of the national benefits that will be delivered and additional costs incurred by the participants to engage in a cross-agency process.
 - AT – responsible for 50% of the costs after the Transport Agency direct costs and deduction of the set ECan and RC participation fees.
 - GW – responsible for 50% of the costs after the Transport Agency direct costs and deduction of the set ECan and Regional Consortium participation fees.
 - ECan – pays a fixed 'Participation Fee' of \$500,000.
 - RC – a fixed 'Participation Fee' of \$300,000.
- As at the end of April 2019, expenditure was just over \$6 million. We understand the forecast is for the project was to underspend its budget, however we have not independently verified this.

Funding approvals and change between IBC and draft DBC

\$m	IBC (Oct 2017)	Draft DBC Project Plan (May 2018)	Difference
NZTA funding for Fixed Roles	1.15	1.38	0.23
NZTA funding for Solution Premium	1.31	2.40	1.09
RC Participation Fee	0.30	0.30	-
ECan Participation Fee	0.50	0.50	-
GW cost share	4.93	4.37	(0.56)
AT cost share	N/A	4.37	4.37
Total	8.20	13.32	5.12

Cost Allocation including NZTA's FAR

\$m	Draft DBC Project Plan	NZTA Share (incl. FAR)	Council Share
NZTA funding for Fixed Roles	1.38	1.38	N/A
NZTA funding for Solution Premium	2.40	2.40	N/A
RC Participation Fee	0.30	0.15	0.15
ECan Participation Fee	0.50	0.25	0.25
GW cost share	4.37	2.23	2.14
AT cost share	4.37	2.23	2.14
Total	13.32	8.65	4.68

Based on \$13.3m project estimate. NZTA funded the upper limit estimate of \$14.2m



Appendix 5: Project Personnel

There are a number of groups attached to Project NEXT to provide advice and oversight in some form.

Project Personnel

- Prior to July 2017, there was a governance group for the National Ticketing Programme led by a senior Transport Agency representative. Regular updates were provided to the Transport Agency's Board.
- After July 2017, the National Ticketing Programme was passed internally to Connected Journey Solutions and the programme group ceased to exist.
- The CEO and CJS Director departed in 2018 and 2019 respectively leaving the project with no responsible senior person from a Transport Agency perspective.
- The Project has its own Steering Group and its project charter outlines the governance and approvals of the Steering Group through to the Transport Agency's Board and local authorities.
- GWRC is providing administrative services to Project NEXT.

Project Management Board

- The Project Management Board includes a sub-set of the Steering Group with a rotating Chair.

Reference Group

- This group was established in June 2019, and comprises four individuals required to act as a sounding board for the Steering Group. This group brings expertise in customer and operator transition knowledge.

National Mobility Payments Governance Group (NMPGG)

- The members are the chief executives of:
 - Transport Agency
 - Auckland Transport
 - Greater Wellington
 - Environment Canterbury
 - The Regional Consortium

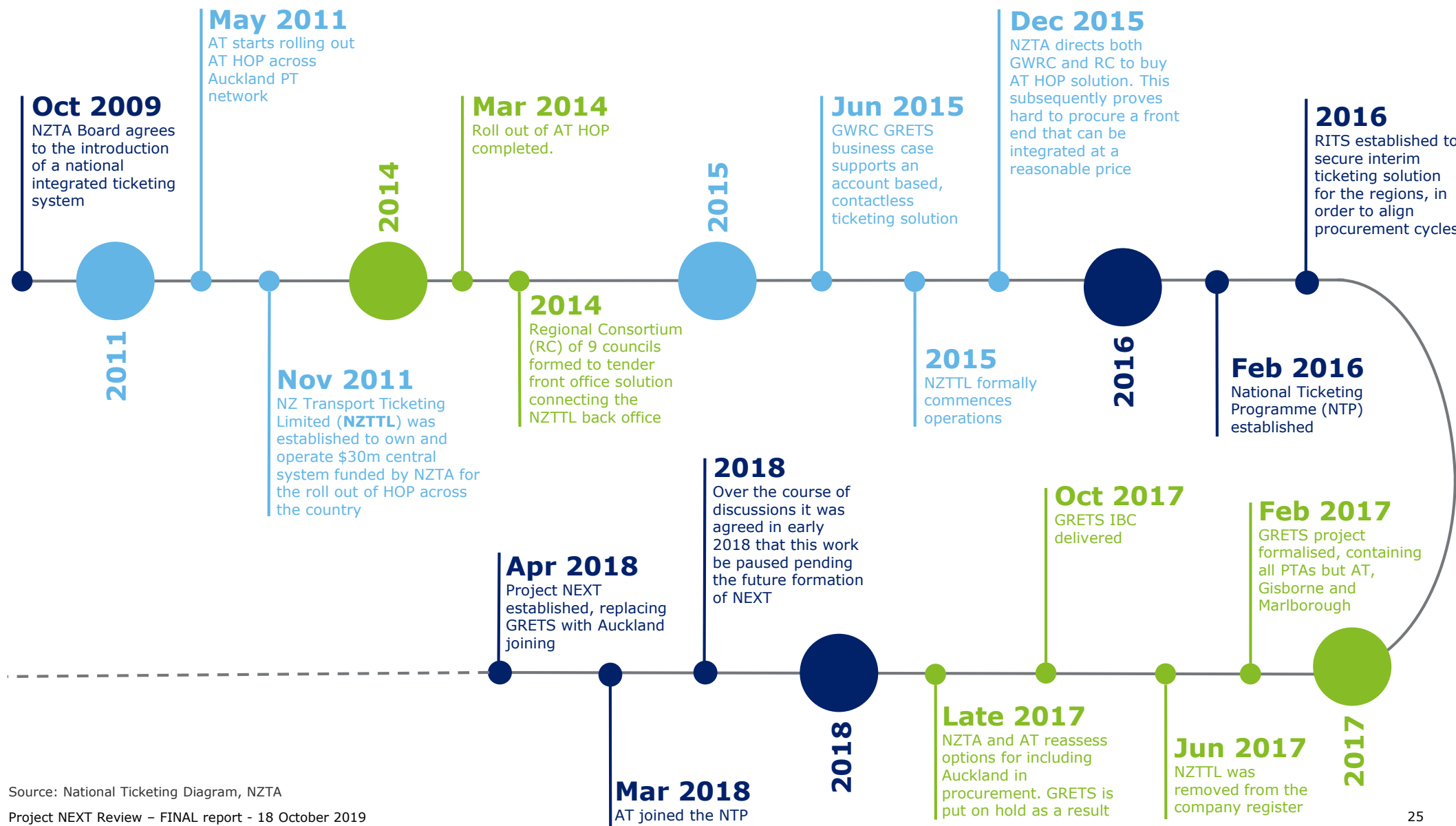
Project Governance Structure

Refer to page 18 for the current governance structure.



Appendix 6: Historical Timeline

History of National Ticketing leading up to the formation of Project NEXT in April 2018



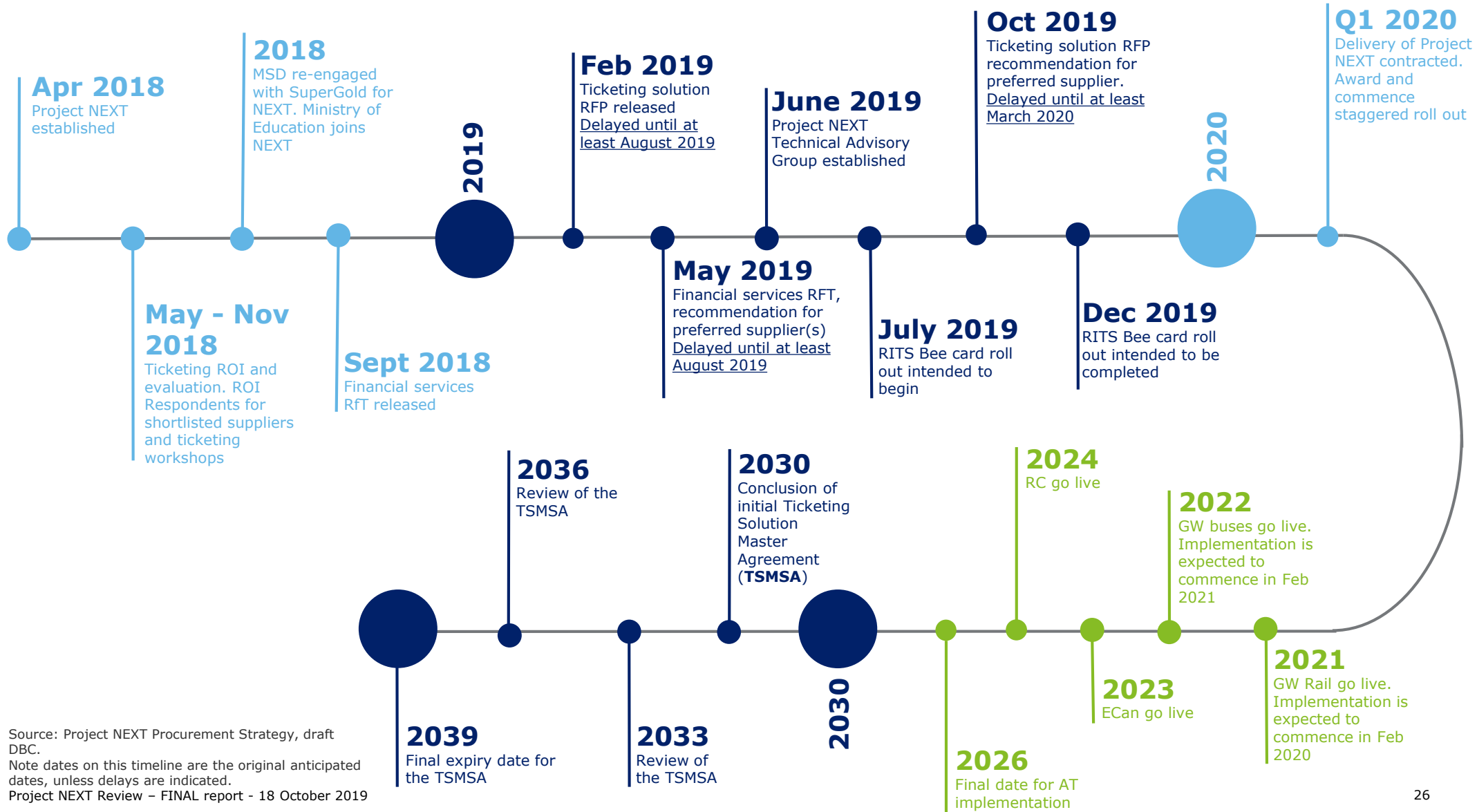
Source: National Ticketing Diagram, NZTA

Project NEXT Review – FINAL report - 18 October 2019



Appendix 6: Indicative Future Timeline

The timeline below provides a high level summary of what has happened since Project NEXT was established, the plan for the short-term procurement and the long-term implementation plan.



Source: Project NEXT Procurement Strategy, draft DBC.
 Note dates on this timeline are the original anticipated dates, unless delays are indicated.
 Project NEXT Review – FINAL report - 18 October 2019

Statement of Responsibility

Statement of Responsibility

The procedures that we performed did not constitute an assurance engagement in accordance with New Zealand Standards for Assurance engagements, nor did it represent any form of audit under New Zealand Standards on Auditing, and consequently, no assurance conclusion or audit opinion is provided. The work was performed subject to the following limitations:

- Our assessments are based on observations from our review and sample testing undertaken in the time allocated. Assessments made by our team are matched against our expectations and best practice guidelines. This includes comparison with other similar processes we have assessed. This report offers recommendations for improvements and has taken into account the views of management, with whom these matters have been discussed.
- Because of the inherent limitations of any internal control structure, it is possible that errors or irregularities may occur and not be detected. The procedures were not designed to detect all weaknesses in control procedures as they were not performed continuously throughout the period and the tests performed are on a sample basis.
- Any projection of the evaluation of the control procedures to future periods is subject to the risk that the systems may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

Statement of Responsibility

- The matters raised in the deliverable are only those which came to our attention during the course of performing our procedures and are not necessarily a comprehensive statement of all the weaknesses that exist or improvements that might be made. We cannot, in practice, examine every activity and procedure, nor can we be a substitute for management's responsibility to maintain adequate controls over all levels of operations and their responsibility to prevent and detect irregularities, including fraud. Accordingly, management should not rely on our deliverable to identify all weaknesses that may exist in the systems and procedures under examination, or potential instances of non-compliance that may exist.
- We have prepared this report solely for the use of the New Zealand Transport Agency. The report contains constructive suggestions to improve some practices which we identified in the course of our review procedures. These procedures are designed to identify control weaknesses but cannot be relied upon to identify all weaknesses. We would be pleased to discuss any items mentioned in this report and to review the corrective action implemented by management.

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