PROJECT NEXT

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PROJECT NEXT
NEXT GENERATION TICKETING

REQUEST FOR PROPOSAL – TICKETING SOLUTION

Part 1 – Programme and Environment Overview

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Contents

1. Request for Proposal

This Request for Proposal (RFP) is the procurement for the Ticketing Solution component of the National Ticketing Solution (NTS).

1.1. Project NEXT

Project NEXT is the procurement phase of a long-term programme designed to procure, design, build, implement and operate a national ticketing solution and related services, that together enable and process payments for journeys on public transport in New Zealand.

1.2. National Ticketing Solution

Project NEXT incorporates two separate procurements. The first was the procurement of the dedicated Financial Services to support the Ticketing Solution and the second is the subject of this Request for Proposal. Together, these components will represent the NTS.

The NTS is a major delivery component of the National Ticketing Programme (NTP). The NTP is a strategic programme designed to help align the ticketing investment timelines of Public Transport Authorities (PTAs) and includes the delivery of interim bus ticketing solutions in parts of New Zealand.

1.3. Ticketing Solution Request for Proposal

This RFP is for the procurement of the Ticketing Solution only. The Financial Services have been the subject of a separate procurement, currently in progress and outside the scope of this RFP. However, the Ticketing Solution Provider will act as agent for the Buyer to manage the agreements with the financial service providers.

On that basis, this RFP is to select, from a shortlist of RFP respondents, a Prime Contractor to design, build, implement and operate the NTS.

1.4. Participating Authorities

The participating New Zealand public transport authorities (PTAs) in this RFP are:

- Northland Regional Council;
- Auckland Transport;
- Waikato Regional Council;
- Bay of Plenty Regional Council;
- Hawkes Bay Regional Council;
- Taranaki Regional Council;
- Manawatu-Whanganui Regional Council;
- Greater Wellington Regional Council;
- Nelson City Council;
- Environment Canterbury;
- Otago Regional Council; and
- Invercargill City Council.

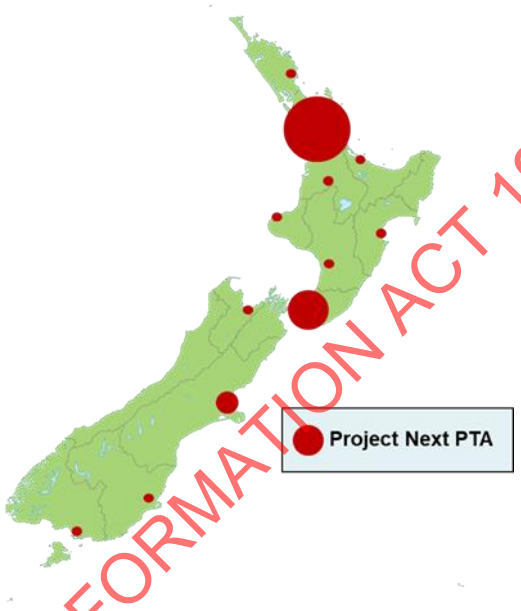

Figure 1 - New Zealand map

There is also the likelihood that two further regions will be participating – Gisborne and Marlborough.

Waka Kotahi, the New Zealand Transport Agency (hereafter referred to as NZTA) is also a key participant as the Shared Services Organisation (SSO).

1.5. Overview of documents

This document is Part 1 of four parts of the Project NEXT RFP Invitation, together making up the RFP Document set. All parts are to be read in conjunction with each other. A glossary can be found in Appendix A – Glossary of Terms to this Part 1.

Part 1 **Programme and Environment Overview** - Provides an overview of the Project NEXT Programme and the New Zealand environment

Part 2 **Engagement Process** - includes the timeline, detailed process steps and terms and conditions of the overall RFP process.

Part 3 **Requirements** - contains the requirements of the ticketing solution and is segregated into individual sections as follows:

Section A	Solution Capability and Delivery Requirements
Section B	Ticketing Requirements
Section C	Operations Requirements
Section D	Implementation Requirements
Section E	Commercial Requirements

Part 4 **Response Form** - contains the response items to be addressed when responding to this RFP.

The full document set that is included in this RFP can be seen below:

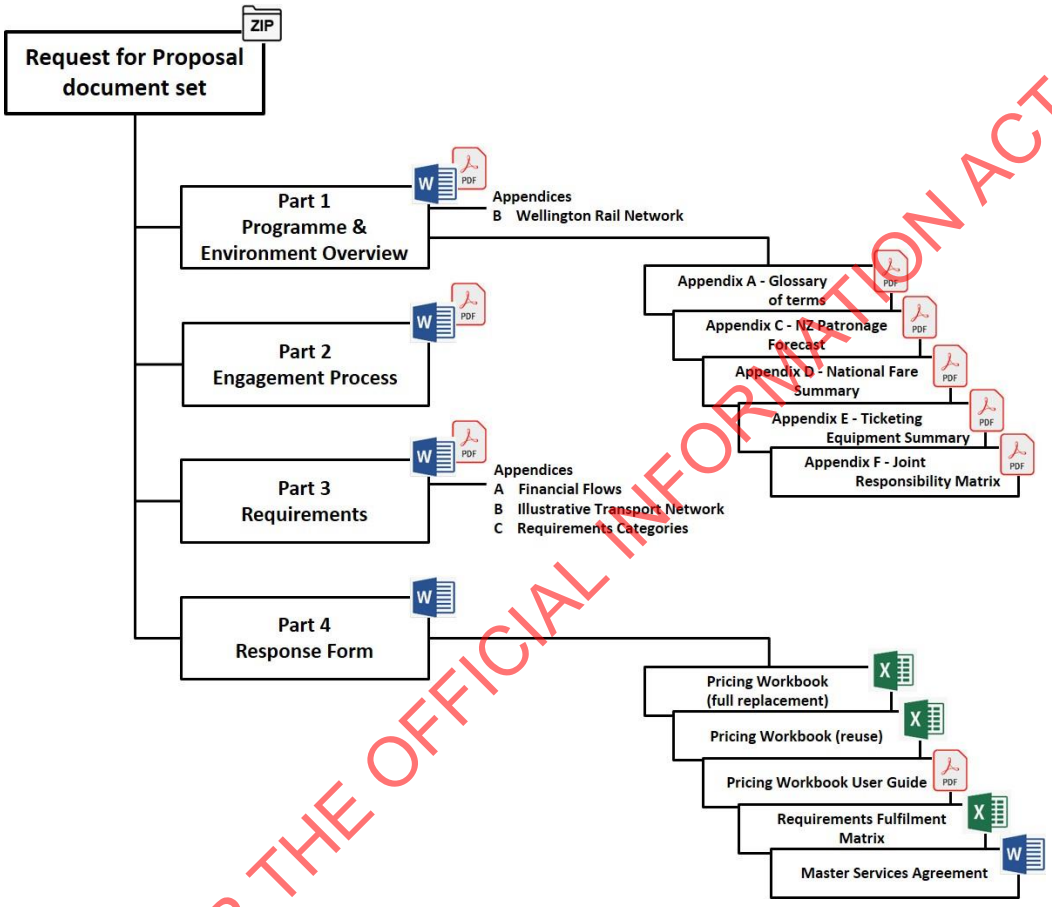

Figure 2 – Document map

1.6. Project Scope – Solution Ecosystem

The high-level scope of the NTS can be seen in the below ecosystem diagram (refer Figure 3 - Ticketing Solution Ecosystem).

The central white box depicts the Ticketing Solution procurement scope. Note that not all functions, capabilities and services covered by this RFP are included in the diagram; it is intended as a high-level indication of what is in and out of scope only.

The white box on the right-hand side ('Financial Services') includes the scope of services being procured through the separate Financial Services procurement.

The blue boxes at the top are an indication of some of the key capabilities & services to be provided by the Shared Services Organisation (SSO); again, this list is not exhaustive but is given as an indication.

The blue boxes to the left are an indication of the key systems & capabilities which will be delivered by the Transport Services Owners (TSOs); again, this list is not exhaustive but is given as an indication.

The grey arrows indicate integration or information flow via open, standards-based APIs.

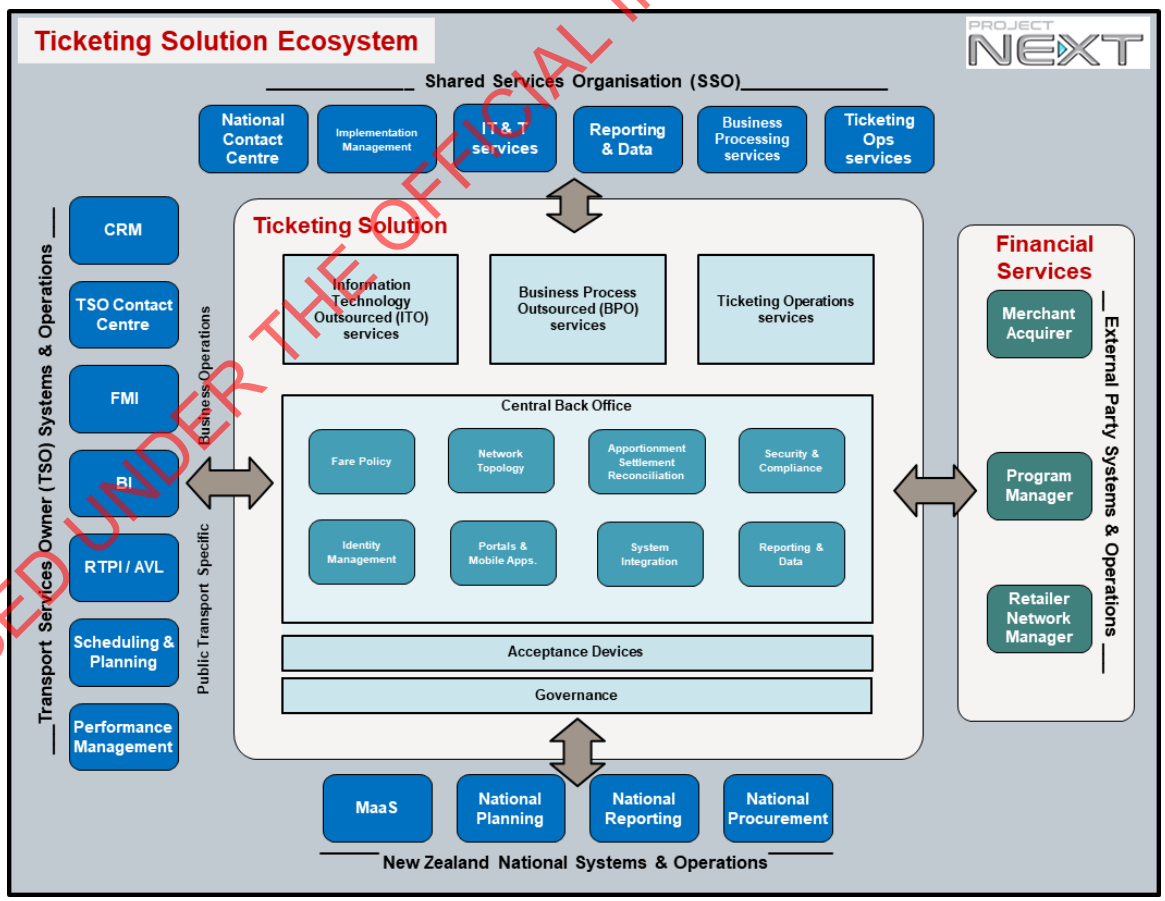

Figure 3 - Ticketing Solution Ecosystem

1.7. Response

Part 4 outlines the response items to be addressed when responding to this RFP Invitation. This will include confirmation of your capability to meet the individual requirements set out in Part 3 and also examples of your experience that demonstrate these capabilities.

As set out in the Registration of Information, this RFP invitation is based on an Outcomes-based approach.

> ***Outcomes-based approach.*** *The requirements for the Ticketing Solution are described primarily in terms of the outcomes sought; the requirements specify the 'what' rather than the 'how'. In some cases, for example, in relation to payments standards, the 'how' is necessarily included as a requirement, but the overall intent is for respondents to determine the optimum means of delivering the requirements.*

The information presented in this Part 1 is intended to provide the Respondent with context to enable them to respond clearly and accurately to the requirements presented in Part 3. For clarity, Part 1 of the RFP does not form part of requirements that will need to be responded to in Part 4.

1.8. Anticipated Contracting Structure

Figure 4 below outlines the anticipated contracting structure for the Project NEXT procurement for the NTS. The NTS includes both the Ticketing Solution and the Financial Services.

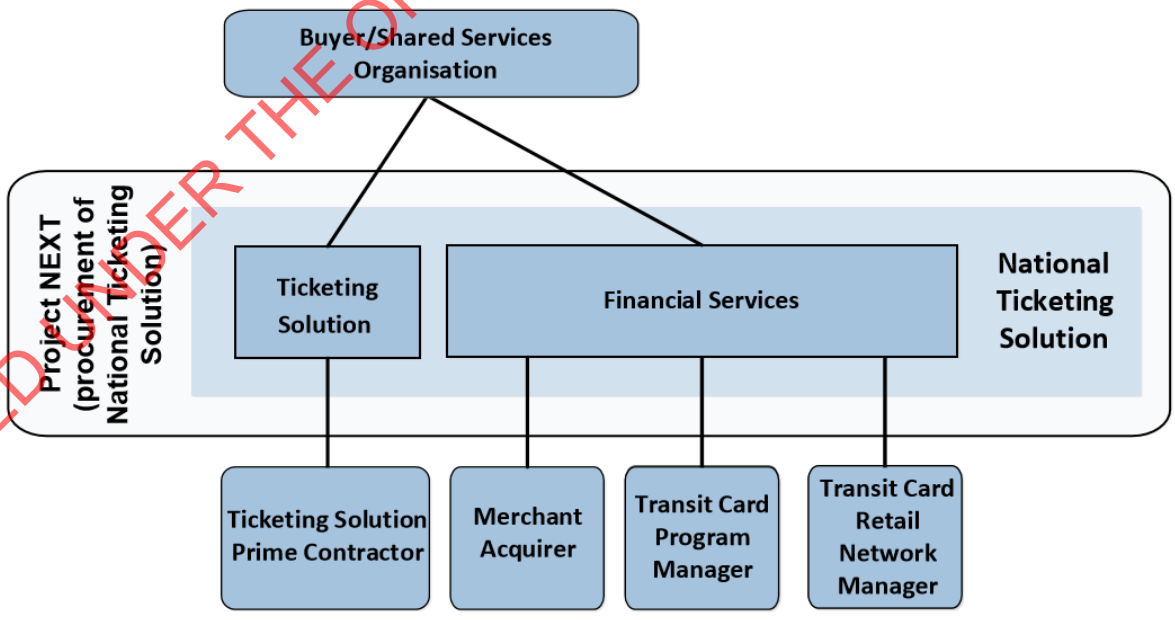

Figure 4 - National Ticketing Solution anticipated contracting structure

1.9. Anticipated Contracting Entity

There is one anticipated contracting entity – The Buyer, who will act as the Shared Services Organisation.

a. The Buyer

The Buyer of the National Ticketing Solution will be Waka Kotahi, the New Zealand Transport Agency (hereafter referred to as NZTA).

The Buyer will contract with the Ticketing Solution Provider through a Ticketing Services Master Services Agreement (TSMSA) and statements of work under that TSMSA, to establish, implement and operate the ticketing solution.

b. The Shared Services Organisation (SSO)

NZTA will establish an internal capability (Transport Ticketing & Payments – TTP) during the procurement, design and implementation phases of this project to design, establish and operate a Shared Services Organisation (SSO).

The SSO will be responsible for developing, implementing and operating the integration and management of core ticketing and separately procured financial services for TSOs.

The SSO will offer services to the participating TSOs and other authorised transport service providers as Participants under a participation agreement. The participation agreement, yet to be agreed and approved by the relevant TSOs, will be a separate agreement to the TSMSA.

2. Status update

In this section there is a status update highlighting changes since the issue of the ROI.

2.1. Procurement activities

The following shows the activities for the procurement process through to completion of the procurement phase:

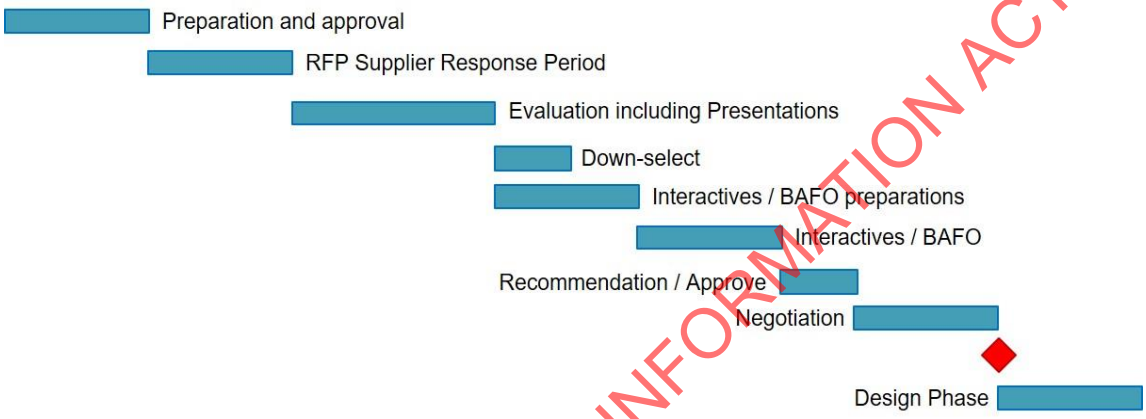

Figure 5 - Procurement Activities

In respect of the activities the following should be noted:

1. The Buyer and participating stakeholders will actively explore options to reduce the overall time-line for the procurement;
2. This may include, for example, actively seeking to reduce the evaluation period, decision making periods and bringing forward the proposed Interactive / BAFO phase to before the end of year 2020, with a view to complete this phase and selection by end 2020;
3. Respondents should take account of this when considering their planning for resources necessary to support the RFP process.

2.2. Conceptual Roadmap

The progressive roll-out of implementations throughout New Zealand is shown below in the National Ticketing Programme Conceptual Roadmap.

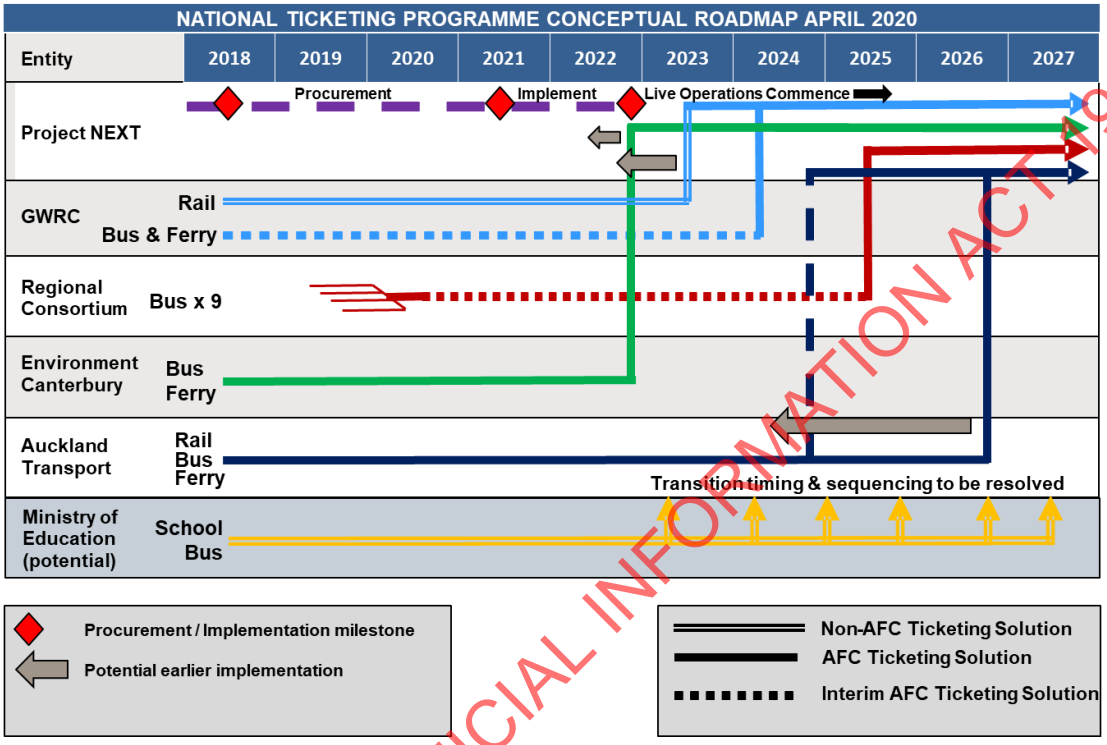

Figure 6 - Conceptual Roadmap

With respect to the above Conceptual Roadmap the following should be noted:

1. The proposed implementation sequence has changed from previous versions of the Conceptual Roadmap: the initial implementation being Environment Canterbury with the implementation of GWRC Rail to progress in parallel, the aim being to achieve the earliest potential implementation for both organisations;
2. Opportunities to actively explore options for earlier implementation which realise customer benefit will be sought through the procurement and implementation phases.

2.3. Financial Services

The procurement for Financial Services is not part of this RFP and will be separately contracted by the Buyer. Three separate contracts are under negotiation with three separate organisations for the Financial Services. The following paragraphs provide a brief summary of the three roles. An overview of the services provided are included in Part 1 and Part 3 of the Financial Services RFT documents and, once they are agreed, the service schedules of each of the 3 MSAs will be provided. The Ticketing Solution Provider as a Prime Contractor will act as the system integrator for their own services and the financial services in order to

offer an end-to-end NTS and manage the day to day operational processes with these providers of financial services.

As negotiations with the Financial Services providers are now well advanced, the following can be confirmed:

- The Merchant Acquirer is ASB Bank Limited ("ASB").
- The Transit Card Program Manager is Mastercard Prepaid Management Services (NZ) Limited ("Mastercard").
- The Retailer Network Manager is Activata Prepay Limited ("Activata").

Respondents must not directly discuss any matters relating to this procurement with any of the Financial Services providers. All communications with the Financial Services providers must be conducted through Project NEXT.

2.3.1. Merchant Acquirer

A Merchant Acquirer is required to enable the acceptance and processing of contactless payments generated from the Ticketing Solution. The Merchant Acquirer will process transactions issued by Visa, Mastercard and UnionPay International according to the contactless transit transaction rules and policies of those card schemes and as defined in the New Zealand Transit Payment Guidelines. ASB has been selected as preferred supplier for an initial 6-year period for the Merchant Acquirer role. Detailed services that ASB will provide can be found in the services schedule for each MSA.

The handling of American Express (Amex) transactions is out of scope for the Merchant Acquirer. Amex will directly be contracted by the Buyer and will be another party that the Ticketing Solution Provider will have to integrate with. Similarly, as with the Financial Services, integrating with and day to day operation of Amex will be part of the Prime Contractor role for the Ticketing Solution Provider.

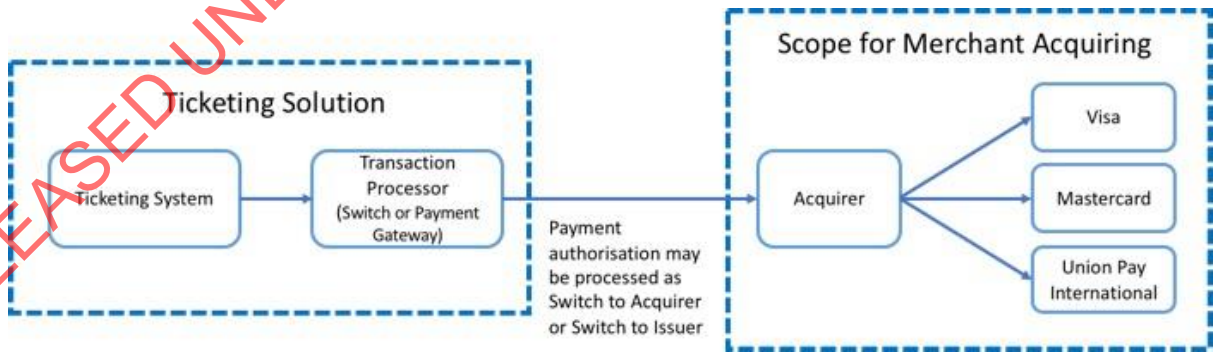

Figure 7 - Merchant Acquirer scope

2.3.2. Transit Card Program Manager

Project NEXT has selected Mastercard as preferred supplier to act as the Transit Card Program Manager. The Transit Card will be a white labelled (privately branded) reloadable, contactless EMV card to pre-pay for travel.

The Transit Card Program Manager is responsible for the issuance and distribution of the Transit Cards (including over-the-air issuance of virtual Transit Cards), provision of online and over-the-air Transit Card account top-up facilities (as some of a number of top-up facilities such as Ticketing Vending Machines, the retail network, and Customer Service Centres), and for complying with the rules and policies of the card schemes and the New Zealand Transit Payment Guidelines (to the extent that there is no inconsistency with the Scheme rules). A series of notification options is offered to allow customers to manage their Transit Card in an easy way, resulting in a wide array of APIs that the TSP has to connect to.

The Transit Card Program Manager will also have integration with all other top-up channels, among other the Retailer Network Manager. Another integration between the Program Manager and the Retailer Network Manager supports the retailer card stock replenishment. Through these integrations the TSP will also be able to maintain the Transit Card account balance.

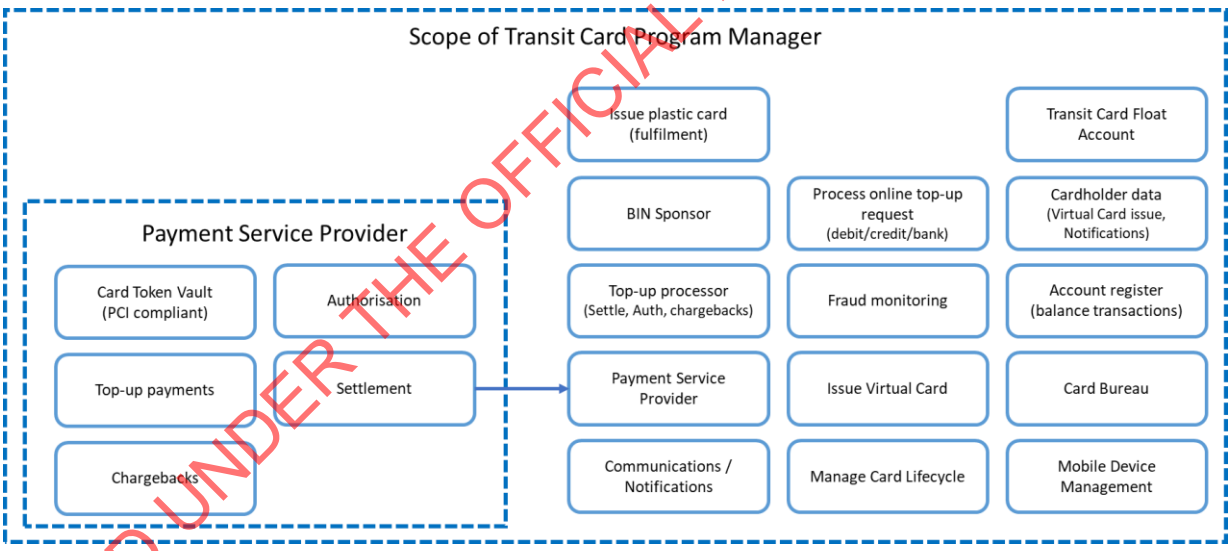

Figure 8 – Transit Card Program Manager scope

2.3.3. Retailer Network Manager

Activata has been selected as preferred supplier for a Transit Card retailer network. This retailer network is required to provide convenient and easy access for travellers to purchase Transit Cards and to top-up Transit Card Accounts, at a variety of physical retail outlets, as well as allow customers to know their Transit Card account balance from the physical retail outlet.

The retailers will be able to use existing POS terminals to offer Transit Card sales and top-up functions. Any software development of POS terminals to support the top-up function will be managed as part of the Retailer Network Manager role.

The Retailer Network Manager will work with the SSO and Participants to define the geographical strategy for retailer coverage. This will take into account any changes in the usage by customers of self-service capabilities, while continuing to provide a comprehensive service.

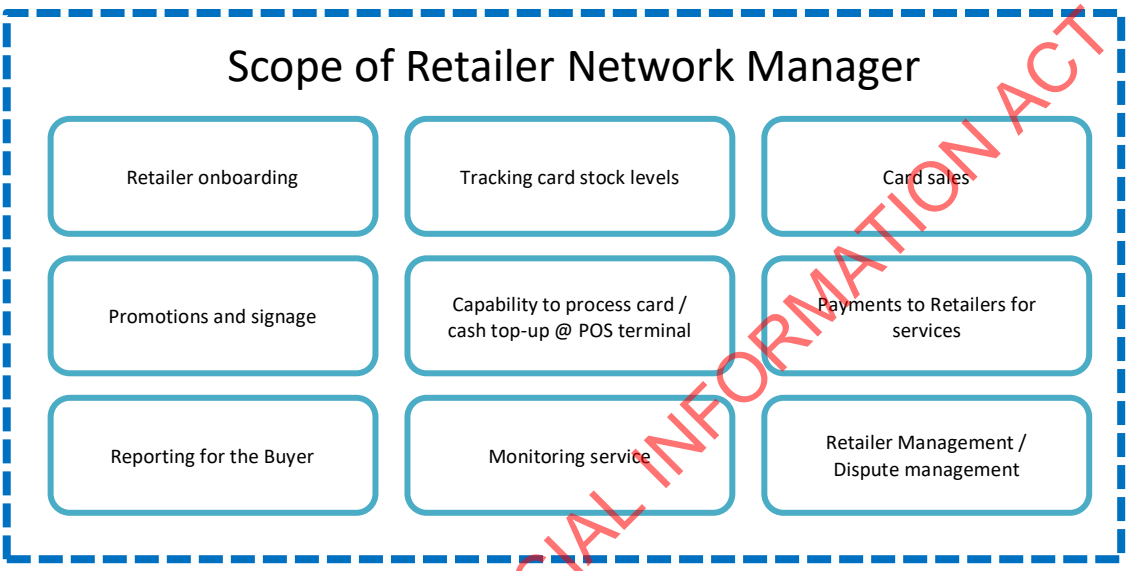

Figure 9 - Retailer Network Manager scope

2.4. Potential extensions

Subsequent to the issuing and evaluation of the ROI, there have been two significant potential extensions to the scale of Project NEXT.

At the time of issue of this RFP neither of these extensions have been confirmed so they are not included in the Requirements in Part 3. Respondents should, however, be aware that such extensions may be included.

2.4.1. Ministry of Education (MoE)

The Ministry of Education is considering joining the Project NEXT procurement for a ticketing solution for the dedicated school bus services it provides throughout New Zealand. The scope of services for MoE are:

- Passenger boarding system for MoE provided school services;
- 1,800 vehicles;
- 40 million passenger trips per annum by 100,000+ card holders;
- Tracking student boarding; and
- Provide rich data for service usage.

2.4.2. Green Card

A concessionary Green Card is under consideration for lower income New Zealanders who currently qualify for a Community Services Card. This will provide discounted travel (approximately 50% discount) for holders of this concession.

2.4.3. Potential new transaction types

There are a number of new transaction types that could become possible with an account-based EMV solution such as:

- Road pricing – tolling;
- Road pricing – congestion charging; and
- Park n ride charging.

2.5. Current transport ticketing solutions

This section provides a summary of the current status for each of the regions and provides wider context on current transport payment solutions and some key considerations for transition and implementation of the NTS.

2.5.1. Auckland Transport (AT)

AT commenced its launch of the AT HOP card in 2012 implemented by Thales. AT has issued over 2 million cards (with approximately a third actively used) which are now used for more than 95% of trips on Auckland's network. AT has continued ongoing enhancement of their ticketing solution including launching barcode paper tickets on their train network and ferry fare integration (bus and train fares are already integrated). AT also has a major new rail development in the city centre called City Rail Link (https://www.cityraillink.co.nz/) which will see establishment of two new train stations and support substantial increase in train capacity (and patronage) from 2025 onwards.

Some considerations to note about the current transport payment status in Auckland:

- AT's network is multi-modal with bus, train and ferry, with full fare integration soon to be in place for all modes, and an ever-increasing rate of multiple trip journeys. This will create challenges in any transition planning.
- The size of AT's network (1,200+ buses, 40 train stations, 14 ferry services) make any rapid replacement approach very challenging.
- Transitioning the large base of current AT HOP card users, minimising any negative customer experience is critical.
- There is a desire to explore potential re-use of existing equipment (such as the gate lines at the existing 12 stations).

2.5.2. Greater Wellington Regional Council (GWRC)

In July 2018 the interim bus ticketing solution was successfully implemented in Wellington which meant that all Metlink bus services now use the Snapper ticketing solution.

Wellington's rail network uses a paper-based ticketing system with a wide range of monthly passes, multi-trip tickets and individual trip tickets. Currently tickets can be purchased from ticket offices at major stations, on-board trains, or (for monthly passes) ordered online (and delivered via the postal service). On-board purchase is limited to cash-only transactions for full-fare, single trip tickets.

Wellington's ferry service (East by West) also has paper-based ticketing with 1-way tickets, return tickets, 10 trip tickets and monthly passes. These can be bought on-board or from one retail outlet at Queens Wharf.

Some considerations to note about the current transport payment situation in Wellington:

- GWRC owns no existing ticketing infrastructure. Metlink bus ticketing is provided on a fully service-based arrangement, and rail ticketing has no fixed infrastructure. This presents options for flexibility when piloting or introducing the new ticketing solution, while continuing the existing transport payment modes in parallel for a transitionary period.
- Wellington's rail network is 'open', with no access control (gating) at any station. The design of the rail ticketing solution should not necessarily start from the premise that rail station gating is inevitable, providing the positive aspects of an open network can be retained while other aspects (such as revenue protection) are effectively dealt with;
- Wellington's largest station (Wellington Railway Station) presents potential challenges to ticketing implementation; it has multiple access points, is accessed by non-rail users and is a listed heritage building (imposing restrictions in terms of engineering works, for example);
- Installation of new ticketing infrastructure for rail and ferry in Wellington will have its own specific constraints and will require careful design. Consideration must be given to aspects such as minimising customer disruption, optimal selection of fixed device locations, construction access requirements, and minimisation of civil engineering activity (for example by considering solar-powered options and/or wireless communication for devices, where possible);
- GWRC has a defined fare rationalisation strategy. A key facet of this is the dependency on capping capability to replace the majority of high-usage products such as monthly passes and ten-trip tickets. The NTS capability will need to support the implementation of the fare rationalisation strategy, planned progression to fares integrated across modes, and provide suitable capability for future fare policy implementation.

- Transitioning Wellington's range of existing travel product options (monthly rail passes, multi-trip rail tickets, paper ticket options, etc.) and the planned implementation of the fares rationalisation strategy, must minimise customer impact during the transition period.

Wellington Rail Solution Design

An approach for implementing NTS on Wellington's rail network will be established through a specific design requirement, to be met by the Respondent. The objectives of this rail solution design requirement include:

- Development of conceptual options for the implementation of NTS on Wellington rail, assuming the retention of an open network.
- Recommending complementary and suitable options for revenue protection.
- Development of options to ensure the possibility of future implementation of access control (gates) at Wellington station and other major stations is safeguarded.
- Determination of the ticketing Equipment (e.g. Acceptance Devices and Ticket Vending Machines) requirements, including the type, quantity and optimal location of devices.
- Determination of the physical works required at each station, including access planning, civil engineering, and any electrical and data connection.
- Recommending options for one or more potential pilot implementations, and for subsequent phased implementation (for example, line-by-line)

More details about the Wellington rail network can be found in Appendix B – Wellington Rail Network.

2.5.3. Environment Canterbury (ECan)

ECan has an early generation ticketing solution (the Metrocard) implemented by INIT. This is tag-on only and requires talking to the bus driver, who then selects the fare to be deducted from the Metrocard before the Customer is able to tag-on at the driver console. Metrocards must be purchased from ticket offices and can be topped up at these offices or on-board buses.

The Metrocard can also be used on the ferry service (Diamond Harbour ferry) with payment on-board the ferry.

Some considerations to note about the current transport payment status in Canterbury:

- ECan wish to move to tag-on and tag-off at launch of the NTS.
- As all tag-on is currently on the driver console, this may allow installation of on-board validators in preparation for transition without impacting current operations.

- ECan already has concurrent day and week caps, and these will need to be in place at launch of the NTS.

2.5.4. The Regional Consortium

The Regional Consortium of 9 regions was formed specifically for the roll-out of an interim ticket solution being delivered by INIT. The rollout of this solution (the Bee Card – see https://beecard.co.nz/) has commenced and will continue throughout 2020. Once the rollout is complete, and for the purposes of the NTS, each region will need to be considered separately for any future transition.

Some considerations to note about the current transport payment status in these Regions:

- Implementation of the interim solution has resulted in some rationalisation and standardisation of fare policy.
- Implementation has resulted in a single brand for their transit card (the Bee Card), a single online web experience, and a single stored value for their purse.
- Due to being the last of the current solutions to be implemented, the regions currently represented by the Regional Consortium are likely to be in the latter stages of the NTS rollout to ensure they are able to get the benefits of their current investment.
- These 9 regions have some different challenges from the larger regions with higher cash dependency and fewer services across potentially large geographic areas.

3. Strategic alignment

3.1. Background

The NTS, especially account-based ticketing with open loop payment functionality, follows international trends for next generation ticketing and payment systems and strongly aligns with the objectives and targets in the National Land Transport Plan and the Regional Public Transport plans of regional councils participating in Project NEXT.

3.2. Government Policy Statement on Land Transport

The Government Policy Statement on Land Transport 2018 (the GPS) identifies four strategic priorities for the Government:

- Safety;
- Access;
- Environment; and
- Value for money.

Safety and access are the key strategic priorities. The GPS states:

"Providing better access means making the best use of the existing transport network before considering investment in new infrastructure or services. Demand management is one option. Other options include enabling more people to travel by walking and cycling, public transport or by higher occupancy vehicles."

By making public transport more accessible and convenient for customers, a single, national, account-based, open loop ticketing solution would strongly contribute towards achievement of the following national land transport objectives set out in the GPS.

Long term results (10+ years)	Short to medium term (3-6+ years)	Reporting measures
A land transport system that provides increased access to economic and social opportunities		
Metropolitan and high growth urban areas are better connected and accessible.	A more accessible and better integrated transport network, including public transport, walking and cycling.	Proportion of travel journeys that include mode changes.
A land transport system that enables transport choice and access		
Increased mode shift from private vehicle trips to walking, cycling and public transport	Increased proportion of journeys made using public transport and active modes of travel (including children travelling to and from school).	Number of public transport boardings in metropolitan and high growth urban areas. Total number of journeys by mode. Travel mode to school in metropolitan and high growth urban areas
More transport choice (including for people with less or limited access to transport)	Public transport is more accessible and affordable, especially for those reliant on it to reach social and economic	Relative cost of travel by public transport, compared with travel by private vehicle.

	opportunities (including people with disabilities, low income people, and SuperGold cardholders).	Proportion of population able to access social and economic opportunities using affordable public transport. Total SuperGold cardholder boardings. Investment towards making public transport more accessible.

Table 1 - National land transport objectives

3.3. New Zealand Disability Strategy

The vision for the New Zealand Disability Strategy is:

"New Zealand is a non-disabling society – a place where disabled people have an equal opportunity to achieve their goals and aspirations, and all of New Zealand works together to make this happen."

Non-disabling is about removing the barriers in society that disable people with impairments.

The strategy sets out eight outcomes that will contribute towards achieving the vision. Outcome 5: Accessibility includes being able to get from one place to another easily and safely, feeling safe taking public transport to get around, and being treated well when doing so, with information and communications that are easy to access using appropriate formats and languages.

3.4. National Ticketing Solution Objectives

The following NTS objectives define the outcomes the NTS is intended to achieve:

Ref	Objective	Rationale
O1	**Value for money** NTS will maximise value for money at national and regional levels	NTS procurement, implementation and operation will provide the optimum combination of value for money for regional and national investment.
O2	**Reduce barriers to the use of public transport** NTS will contribute to the promotion of public transport	NTS supports regional Participants' policies for promoting the use of public transport, through improved convenience, flexibility, and ease of use. Removal of barriers for how ticketing solutions are used and accessed by the public.
O3	**Customer experience (1)** NTS provides consistent and reliable customer experience at all times	NTS provides the highest level of customer comfort, through repeatable and consistent experience, and implicit reliability at all stages of customer interaction.
O4	**Customer experience (2)** NTS is easy and intuitive for customers to understand, adopt and make full use of	NTS provides the highest level of customer comfort by being easy for all users to use. NTS incentivises adoption and uptake by being easy to understand and start using. Avoiding any significant transactional friction as a barrier to entry. An effortless first experience of use will establish trust in the solution and encourage ongoing use. To achieve this, the

		solution should ideally be easier, or at least as easy, to adopt than existing solutions and align with the 'best practice' experiences customers associate with other digital or payment services
O5	**Customer experience (3)** NTS provides choice of fare payment methods	NTS provides a range of relevant and contemporary fare payment options (for example including: conventional scheme smartcard, bank-issued debit or credit card, mobile phone payment platforms and cash where relevant), which customers can select to best suit their individual travel and payment requirements.
O6	**Customer experience (4)** NTS enables customer interaction through a range of communication channels	NTS provides a range of assisted service and self-service communication channels (e.g. face-to-face, contact centre, website, app, etc.) to enable customers to interact with NTS and manage the planning and making of fare payments for public transport trips.
O7	**Operation efficiency (1)** NTS minimises requirement for cash use and handling	NTS seeks to maximise opportunity for fare payment via means other than cash, in support of policies.
O8	**Operation efficiency (2)** NTS enables operational configuration changes	NTS provides the capability to make operational configuration changes (e.g. addition/removal of drivers, fleet changes, network topology and fare price changes) quickly, easily and cost-effectively at local level.
O9	**Operation efficiency (3)** NTS minimises operational support impact	NTS enables impact of operational support and management to be minimised for authorities
O10	**Operation efficiency (4)** NTS supports revenue protection activity	NTS enables full support of revenue protection obligations and activities
O11	**Operation efficiency (5)** NTS integrates with authorities' existing systems	NTS provides integration capability with authorities' existing public transport and business support systems (e.g. planning and scheduling, journey planner, website, RTPI etc.)
O12	**Operation efficiency (6)** NTS minimises implementation and transition impacts	NTS implementation and transition can be achieved with the minimum of adverse impact on customers, operators and authorities.
O13	**Future Proof** Consideration of future trends and emerging technologies	NTS is designed such that it is able to evolve to accommodate new technologies and emerging trends. The industry is moving at a pace which means that multiple iterations of technology may occur within expected solution lifecycle.

Table 2 - National Ticketing Solution objectives

4. Partnering for Change

It is critical to the success of the NTS that there is a collaborative, 'win-win' partnering relationship established and developed between the Buyer, the TSP and the SSO. This relationship must be based on common core values, common objectives and drivers throughout all phases of the project from design, build, implementation and operation of the Ticketing Solution.

4.1. Long-term relationship

This relationship represents a substantial long-term commitment by all regional authorities in New Zealand. The term of this relationship will not expire until 10 years from when the first of GW, AT or ECan goes live with the first part of its transition, will extend 10 years from the second TSO going live with the first part of its transition, and will extend again when the third of these TSOs goes live with the first part of its transition.

The NTS is far-reaching and touches the lives of millions of New Zealanders on a daily basis. The relationship between the SSO and the TSP needs to be very close and focused on common outcomes.

4.2. Common core values

There are a number of common core values central to the success of the relationship between the SSO and the TSP:

- Open and honest communication – it will be important that communication channels are strong and that all parties are able to openly and honestly communicate at all times with a "no surprises" approach to this project.
- Ethics and integrity – strong ethics and absolute integrity as central to this relationship to align with New Zealand Central and Local Government values.
- Commitment and accountability –delivering against commitments and taking accountability and responsibility for actions will be core to all parties.
- Effectiveness and efficiency – as an initiative funded by both Central and Local Government, it is critical to ensure the ongoing solution is both effective and efficient to maintain public confidence.
- Corporate social responsibility – local government in New Zealand also play a role in social responsibility – supporting the citizens in their regions, particularly those with lower socio-economic challenges, and the accessible community.
- Sustainability and environmental responsibility – New Zealand's government is strongly committed to sustainability and environmental responsibility which will also need to be reflected in the NTS.

4.3. Joint Forums

There will be a number of forums established to address specific areas that are critical for the ongoing relationship and to ensure the required level of focus on these areas. These forums will include topics such as:

- Overall programme governance;
- Technical Authority;
- Implementation and Transition;
- Change Management Board;
- Ongoing development;
- Customer experience (including Accessibility);
- Security;
- Data management; and
- Privacy.

4.4. Joint team approach and co-location

The TSP and SSO need to have an extremely close relationship with strong channels of communication and to effectively establish a joint team. To ensure there is a close relationship, the TSP will be co-located in the same building with the SSO.

4.5. Intellectual Property

Maintenance of intellectual property (IP) rights is key for all parties involved in all aspects of the NTS. The parties will need a clear understanding of how intellectual property rights relating to the NTS can and cannot be used. The fundamental principles that should be applied to intellectual property for this solution are:

- Except as set out in the TSMSA, a party does not have any right, title or interest in intellectual property rights or data that the other party owned or licensed from a third party before the date of the TSMSA or is developed independently of the TSMSA.
- The Buyer will own IP and data that is developed by or on behalf of the TSP specifically for the purpose the NTS (unless the Buyer agrees otherwise).
- Where the Buyer does not own the relevant IP and data, the Buyer will have broad rights to use the IP and data that is provided or made available by the TSP in relation to the TSMSA, including, in some cases, after the TSMSA ends.
- The Buyer can let each TSO, TO, their and the Buyer's respective contractors and personnel, and customers use the IP that the TSP provides or makes available.

Specific rights and obligations around intellectual property are covered in the TSMSA.

4.6. Platform for ongoing development

Due to the long-term nature of the NTS and the continually changing ticketing environment globally, the TSP needs to work with the SSO to ensure that the platform can develop over

time. This is to ensure New Zealanders are able to benefit from innovative technology developments, as appropriate, to improve their public transport experience.

5. Customer Experience

5.1. Background

An excellent customer experience is central to the NTS. New Zealand has a prime opportunity to procure an NTS that could significantly enhance customer experience in public transport and become a driver in modal shift and patronage growth. Payment is a key touchpoint and one of the first interactions customers have so it can have a significant impact on journey satisfaction.

In the 2017/18 PwC Future of Customer Experience Survey a number of aspects were identified for their level of importance and what people consider worth paying for. Three of the key aspects were Efficiency, Convenience and Easy Payment – all of which are directly relevant to the NTS.

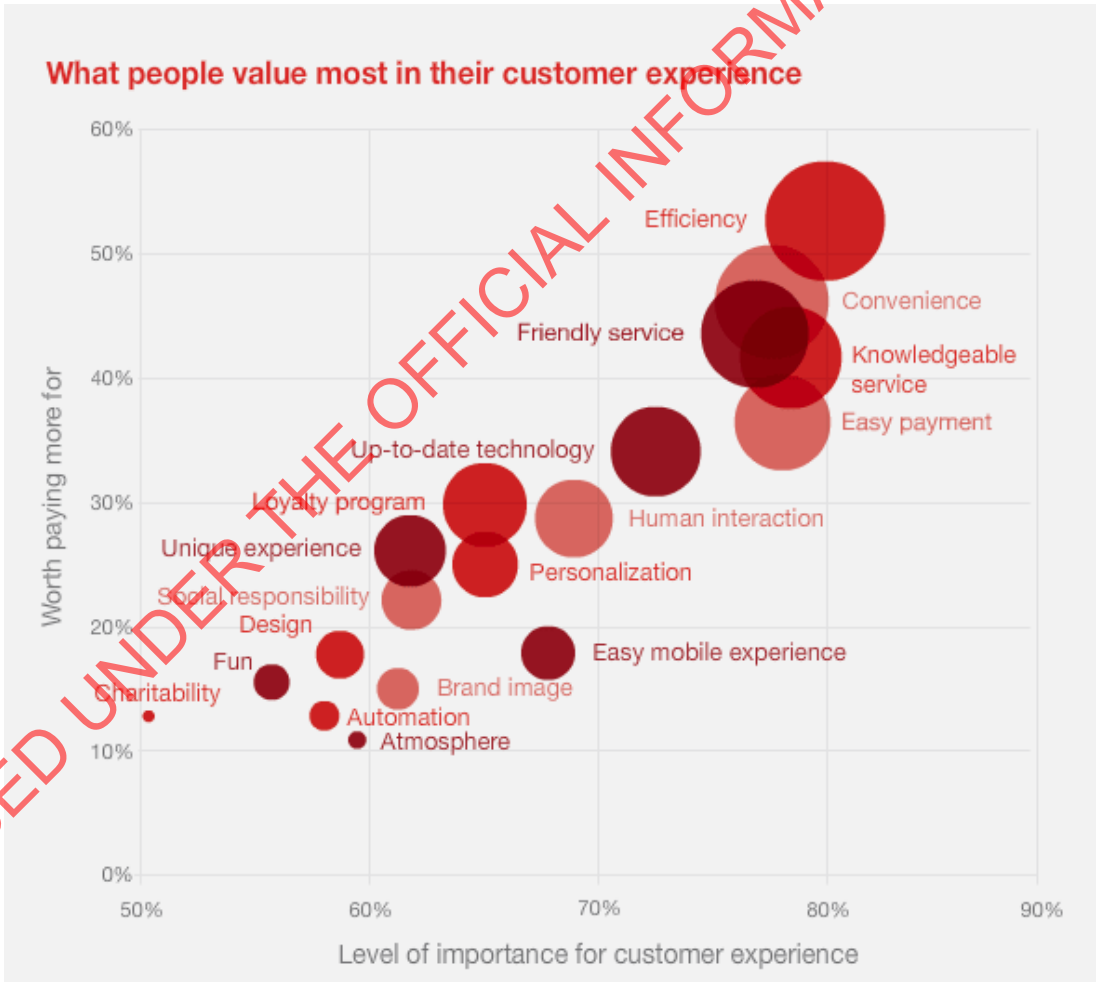

Figure 10 - What people value most in their customer experience

5.2. Customer experience concepts

In the ROI 5 concepts were outlined that help define a good customer experience. These remain central to ensuring the NTS improves the public transport experience for all New Zealanders.

- **Simplicity** – contributing to customers' ease of use of public transport;
- **Transparency** – providing clear understanding of where and when fares will be charged, and what they will be;
- **Flexibility** – meeting the requirements of users, and catering to the technologies in use now and those likely to be used in the future;
- **Inclusivity** – ensuring that customers can access suitable fare payment choices, irrespective of their mobility, vulnerability or level of comfort with technology;
- **Convenience and reliability** – facilitating access to vehicles and stations and providing a coherent and accessible support system in case things go wrong.

5.3. Customer experience outcomes

NTP customer experience research has identified the following good ticketing customer experience outcomes are necessary to delivering an excellent public transport experience:

- Customers have flexible choice of when, where and how to pay for travel to suit different preferences and travellers without being disadvantaged by that choice.
- Payment experience is as quick and easy as possible with little thought needed.
- Customers are confident they are being charged the fairest/best possible value fare.
- Customers will have access to public transport even if they are vulnerable or cannot access digital payment technology.
- Customers have easy access to information about fares and how they can pay.
- There is a seamless online ticketing offering that is integrated with other public transport information that also gives good access to travel data including payment and travel history.
- Customer support is nationally consistent and seamlessly integrated into regional networks.
- Customers can easily access travel payments and ticketing services through their regional transport provider.
- Integrated fare ticketing is a nationally recognised and trusted brand that supports and adds value to the regional public transport brands.
- Customers can intuitively customise and manage all their travel needs through multiple channels in a consistent manner
- As Mobility as a Service (MaaS) becomes naturally ingrained into the commuting journey, customers can select door-to-door travel options that best meet their needs at any time – whether it's lowest cost, fastest journey, most comfortable or most environmentally friendly.

5.4. Accessible experience

All public transport users, including Access Customers, have the right to travel independently and safely. Without safe, accessible public transport these individuals have reduced independence, higher rates of unemployment, limited recreational opportunities, and increased social isolation. It is essential that they are able to plan journeys, access timetables, locate boarding positions, identify destinations, pay for their journeys and travel safely and independently.

Public transport Access Customers do not have the same experience as other people do on buses, trains, and ferry services. Public transport authorities must aim to meet the needs of everyone and ensure, as far as is possible, that someone who has a disability is not excluded from travelling independently and safely. Access needs that must be considered include people with visual, auditory, motor, cognitive, speech and seizure impairments.

To support Access Customers and SuperGold users, the ticketing solution would apply accessible features, determined through focus groups with Access Customers and SuperGold users, and best practice for use of audible and visual messaging at readers, gates and ticket machines; tones to identify platform validators, help points or other hardware; positioning of hardware; accessible websites and phone apps with suitable text size and contrast for ease of screen reading, etc.

5.5. Customer experience forum

A customer experience forum will be established which will utilise co-design and universal design principles and will also consider Access Customer needs. This forum will also utilise focus groups to understand customer needs, and continually improve the customer experience.

6. New Zealand Public Transport Landscape

6.1. Background

The combined scope of all participating regions in Project NEXT represent 99% of public transport usage In New Zealand with the 3 larger Cities – Auckland, Wellington and Christchurch - representing over 90% of public transport trips.

6.2. Patronage Year Ended 30 June 2019

The table below lists public transport passenger trips for all participating TSOs for the period of 1 July 2018 to 30 June 2019.

Region	2018/19 Patronage
Northland Regional Council	329,242
Auckland Transport	100,748,898
Waikato Regional Council	4,085,467
BOP Regional Council	2,688,602
Hawkes Bay Regional Council	645,297
Taranaki Regional Council	649,874
Manawatu-Whanganui Regional Council	1,282,198
Greater Wellington Regional Council	39,273,072
Nelson City Council	420,690
Environment Canterbury	13,864,616
Otago Regional Council	4,013,504
Invercargill City Council	182,627
TOTAL	**168,184,087**

Table 3 - Public transport patronage

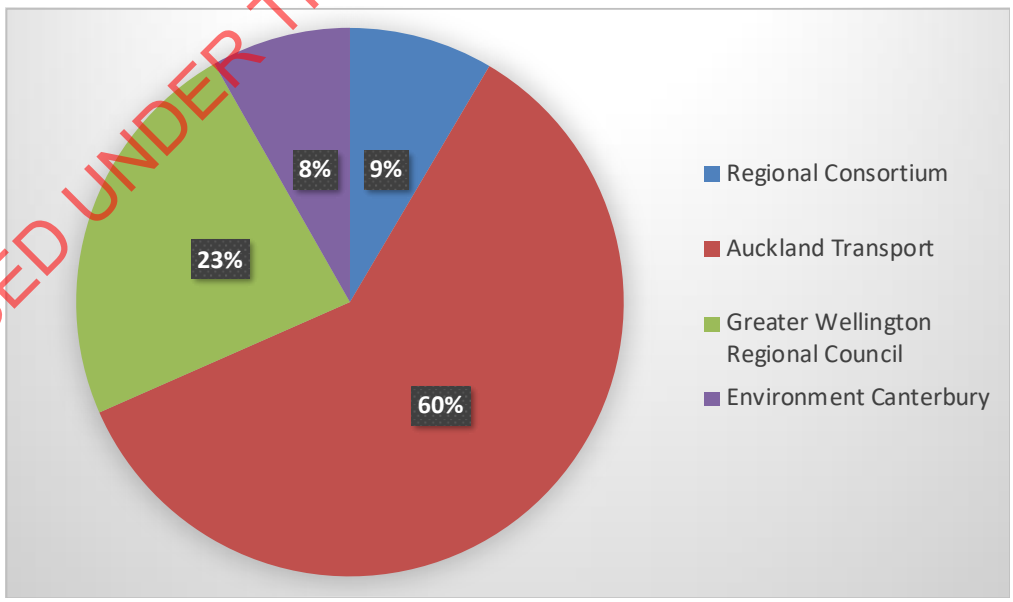

Figure 11 - Public transport patronage split across New Zealand

6.3. Patronage Forecast

While patronage for the year ending 30th June 2019 was substantially ahead of that previously forecasted, the forward forecast has not changed substantially from that set out in the ROI. See below the latest patronage forecast through to mid-2037 (which also includes the potential inclusion of the Ministry of Education for school bus trips).

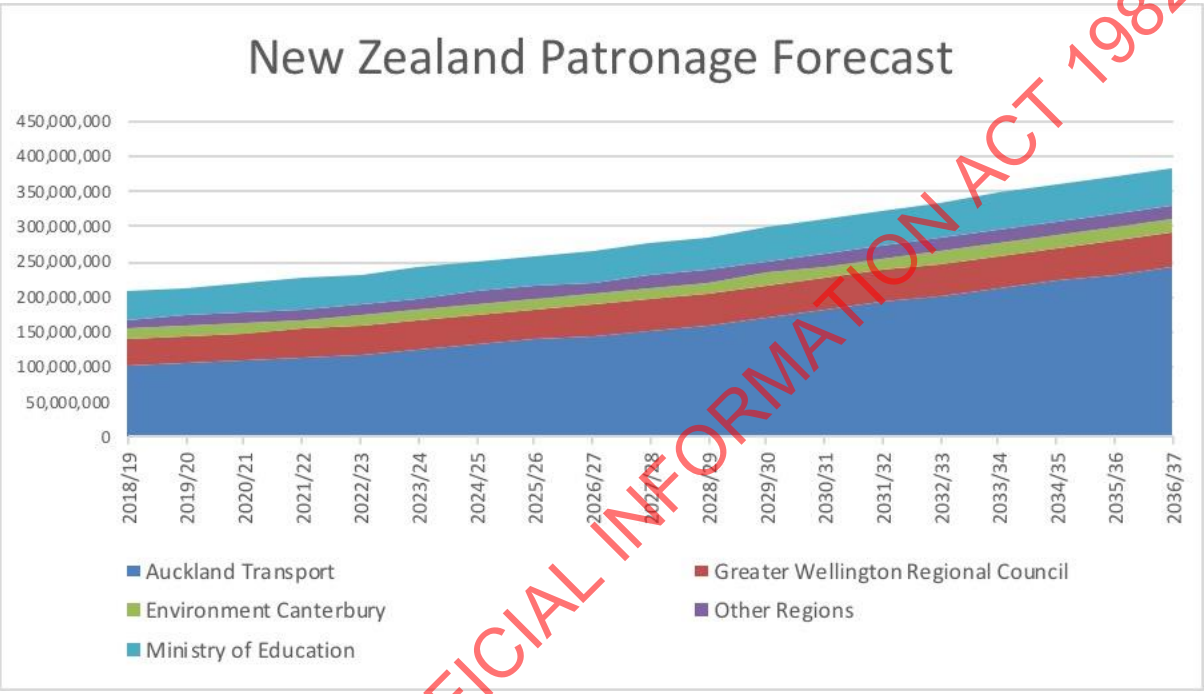

Figure 12 - National patronage forecast through to 2036/37

Please find attached in Appendix C – NZ Patronage Forecast – a spreadsheet of the patronage forecast in Figure 12.

6.4. Concessions

Every TSO in New Zealand currently offers concessions (discounted fares) to various defined passenger groups such as children, school students, tertiary students, Access Customers, lower income customers and the elderly. However, each TSO determines what concessions they will offer, and what level of discount they offer for each Concession.

Some concessions are nationally defined such as the SuperGold concession (which gives senior citizens of 65 years and over free travel off-peak) while other concessions are specific to each region. However, even for national concessions, each region can determine its own policy and there are some variations from region to region.

6.4.1. Total number of concession holders

Concession holders in New Zealand represent a significant proportion of our total population as follows:

New Zealand Concession Holders

School Children	800,000
Tertiary Students	416,000
SuperGold (65+ year olds)	750,000
Total Mobility (Accessible)	80,000
TOTAL	**2,046,000**
Green Card (Low income)	800,000
New Zealand population	4,780,000
Percentage of NZers with concessions (excl. Green Card)	43%

Table 4 – Total number of concession holders

6.4.2. Concession lifecycle

The typical customer lifecycle for the primary concessions in New Zealand, and the approximate level of fare discount they receive is as follows:

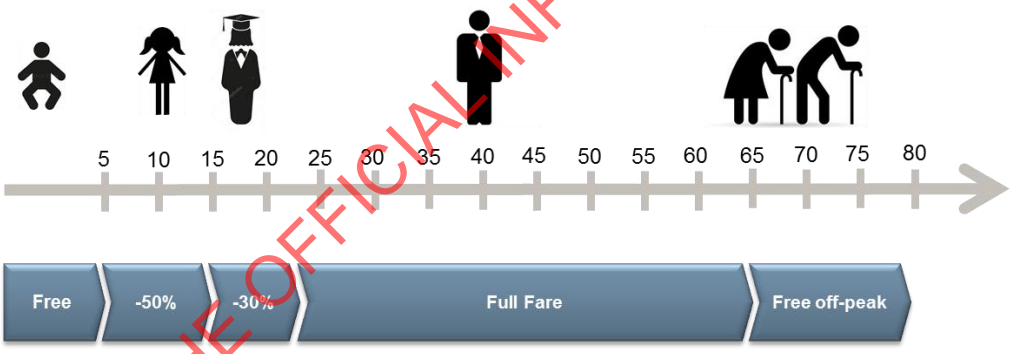

Figure 13 - Typical concession "life cycle" for age-based concessions

6.4.3. National concession split

Patronage split by concession consolidated from all TSOs is as follows:

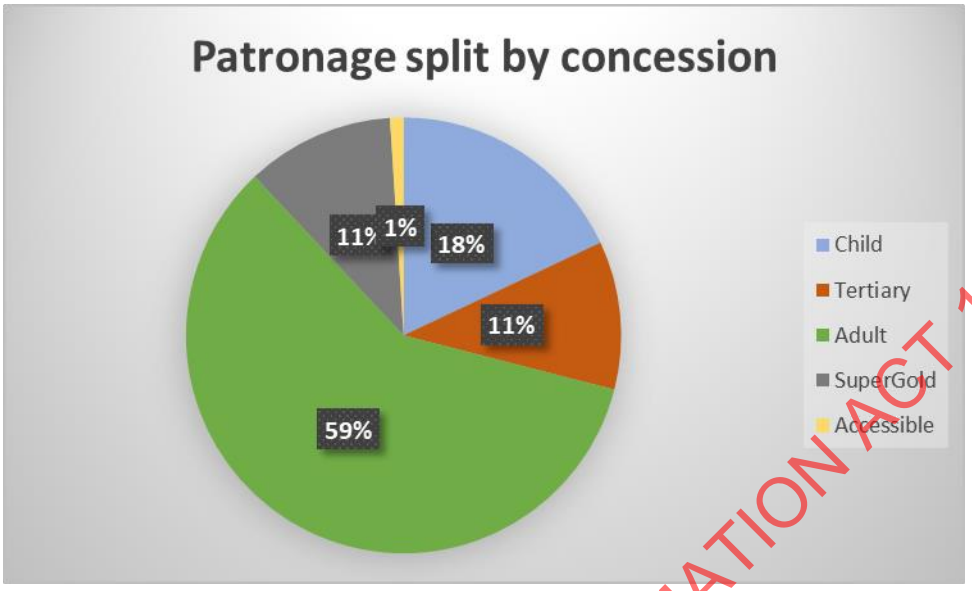

Figure 14 - Patronage split by concession (primary concessions)

6.5. Regional Profiles

A summary of the fare policy for each Region can be seen in Appendix D – National Fare Summary.

See below a more detailed profile of each Participant.

6.5.1. Northland Regional Council

Northland Regional Council represent one of the smaller TSOs in New Zealand with bus services operating a flat fare. They were the first region to implement the Bee Card under the Regional Interim Ticketing Solution (RITS).

Region	Whangarei
Transport Services Owner	Northland Regional Council
Region population	91,230
Patronage (2018/19)	329,242
Public Transport modes	Bus
Website / Network Maps	https://citylinkwhangarei.co.nz/
Public transport network	241 bus stops 8 bus routes
Smart Card Ticketing System	Bee Card (since mid-2019)
Cards issued	5,000
Fare media technology	MIFARE DESFire EV1
Tag-on / tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Flat fare Child, SuperGold concessions No products or passes Limited journey concept – bus to bus transfer
Smart card features	Online top-up Auto top-up

	On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.2. Auckland Transport

Auckland Transport represents New Zealand's largest city that has over 1.7 million residents. Auckland Transport has an extensive public transport network of buses, trains and ferries representing 60% of the total national patronage. Since AT HOP was implemented in 2012, Aucklanders have fully embraced smart card usage with 95% of passenger trips using AT HOP cards. Auckland is currently the only region with Revenue Inspection Officers using Inspection Devices and issuing fines for fare evasion.

The City Rail Link project is currently building a major enhancement to Auckland's rail network that will establish 2 new stations, upgrade one station, and enable much higher rail frequency. The City Rail Link project is planned to go-live in 2024/25.

Region	Auckland
Transport Services Owner	Auckland Transport (a Council Controlled Organisation of Auckland Council)
Region population	1,590,261
Patronage (2018/19)	100,748,898
Public Transport modes	Bus, Train, Ferry
Website / Network Maps	Refer to AT's website - https://at.govt.nz/
Public transport network	6,000 bus stops 197 bus routes 4 train lines 40 Train stations 10 ferry routes 14 ferry piers
Smart Card Ticketing System	AT HOP
Cards issued	2,312,950 (as @ Jan 2020) Approximately 50% used within last 12 months
Fare media technology	MIFARE DESFire EV1
Tag-on / tag-off	Tag-on / Tag-off – all modes
Cash support	Paper tickets on-board vehicle Paper tickets sold via vending machine Cash accepted at Retailers
Fares	Zonal fares – 14 geographic zones Integrated fares – bus and train (ferry integration planned late 2020) Journey concept – 5 trips within 4 hours Concessions – child, tertiary, SuperGold, accessible Products – Day and Month passes (multiple)
Smart card features	On-line top-up Auto top-up Vending machine top-up Customer Service Centre top-up
Ticketing devices	On-board validators (Bus)

	On-board driver consoles (Bus) Fixed validators (rail and ferry) Gate lines (rail and ferry) Vending machines Inspection devices

6.5.3. Waikato Regional Council

The Waikato Regional Council represents the 4th largest city in New Zealand – Hamilton – and a number of surrounding smaller towns. The WRC have had an established smart card system with strong penetration of around 80% and will be migrating to the Bee Card in the coming months.

Region	Waikato (Hamilton and surrounding towns)
Transport Services Owner	Waikato Regional Council
Region population	458,202
Patronage (2018/19)	4,085,467
Public Transport modes	Bus
Website / Network Maps	https://www.busit.co.nz/
Public transport network	1,317 bus stops 42 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	75,000
Fare media technology	MIFARE DESFire EV1
Tag-on / tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Zonal fares (flat fares in each City/region) Journey concept – Limited, bus to bus transfers Concessions – child, tertiary, SuperGold, accessible Products – Day passes
Smart card features	Online top-up Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.4. Bay of Plenty (BOP) Regional Council

The BOP Regional Council represents one of the fastest growing regions in New Zealand including cities such as Tauranga, Rotorua (a major tourist centre) and Whakatane. Each town within this region has its own flat fares.

Like Waikato, the BOP Regional Council has an established smart card and will be implementing the Bee Card in the coming months.

Region	Bay of Plenty
Transport Services Owner	BOP Regional Council
Region population	308,499
Patronage (2018/19)	2,688,602
Public Transport modes	Bus

Network Maps / website	https://www.baybus.co.nz/
Public transport network	1,548 bus stops 25 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	60,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Flat fares in each regional City Journey concept – Limited, bus to bus transfers Concessions – Child, Tertiary, Senior Products – day pass
Smart card features	Online top-up Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.5. Hawkes Bay Regional Council

The Hawkes Bay is another rapidly growing region with two major centres – Napier and Hastings.

Region	Hawkes Bay
Transport Services Owner	Hawkes Bay Regional Council
Region population	170,448
Patronage (2018/19)	645,297
Public Transport modes	Bus
Website / Network Maps	https://www.gobay.co.nz/
Public transport network	399 bus stops 14 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	20,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Zonal fares (2 zones) Journey concept – Limited, bus to bus transfers Concessions – Child, Tertiary, Senior, Low income Products – none
Smart card features	Online top-up Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.6. Taranaki Regional Council

The Taranaki region has one major centre – New Plymouth – and a number of satellite towns. There is a zonal fare structure but with effectively flat fares within New Plymouth and in each town.

Region	Taranaki
Transport Services Owner	Taranaki Regional Council
Region population	118,215
Patronage (2018/19)	649,874
Public Transport modes	Bus
Network Maps / website	https://trc.govt.nz/buses-transport/passenger-info/citylink-information/
Public transport network	308 bus stops 44 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	6,500
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Zonal fares Journey concept – Limited, bus to bus transfers Concessions – Child, Tertiary, Senior, Low income, Accessible Products – multi-trip
Smart card features	Online top-up Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.7. Manawatu-Whanganui Regional Council

Manawatu-Whanganui Regional Council is a very large region from the Ruapehu region in the central North Island to the Tararua Ranges just north of Wellington and the Wairarapa. It includes 1 major centre – Palmerston North - and also Whanganui as well as a number of satellite towns.

Region	Manawatu-Whanganui
Transport Services Owner	Manawatu-Whanganui Regional Council
Region population	238,797
Patronage (2018/19)	1,282,198
Public Transport modes	Bus
Network Maps / website	http://www.horizons.govt.nz/buses-transport/bus-fares-information
Public transport network	439 bus stops 28 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	20,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Zonal fares (8 zones) Journey concept – Limited, bus to bus transfers Concessions – Child, Tertiary, Senior, Low income Products – month pass
Smart card features	Online top-up

	Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.8. Greater Wellington Regional Council

The Greater Wellington Regional Council covers the southern end of the North Island including New Zealand's Capital – Wellington and surrounding areas. Wellington has the 2nd highest public transport patronage in New Zealand (over 20% of the national patronage) and also the highest per capita public transport use (76 passenger trips per annum per resident). Wellington is also the only other region (other than Auckland) with a Rail service and also has a ferry service.

Wellington has an established public transport ticketing card – Snapper – in use for all bus services, but still has no integrated ticketing on Rail or Ferry (paper-based products).

Region	Wellington
Transport Services Owner	Greater Wellington Regional Council
Region population	514,752
Patronage (2018/19)	39,273,072
Public Transport modes	Bus, Rail, Ferry
Network Maps / website	https://www.metlink.org.nz/ https://www.metlink.org.nz/tickets-and-fares/
Public transport network	308 bus stops 106 bus routes 5 rail lines 48 train stations 1 ferry route 3 ferry piers
Smart Card Ticketing System	Snapper (bus only)
Cards issued	650,000 issued 250,000 actively used
Fare media technology	SmartMX (Java card) Infineon (Java card)
Tag-on / Tag-off	Tag-on / Tag-off – bus only
Cash support	Paper tickets on-board vehicle Paper tickets on-board train
Fares	Zonal fares (14 zones) Off-peak fare discounts Journey concept – bus to bus transfers (5 trips within 4 hours), free feeder bus use for Rail monthly pass users (off-system) Concessions – Child, tertiary, accessible, Senior Products (numerous) – Day passes, month passes, multi-trip
Smart card features	Mobile app top-up (Android only) Vending machine (Kiosk) top-up (card only – no cash) Sale and top-up of cards at Retailers
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

	Vending machines (Kiosk, card payment only) *Future* Fixed validators (train network) Gate lines (train network – potential) On-board validators (ferry)

6.5.9. Nelson City Council

Nelson currently has no integrated ticketing system but will be rolling out the new regional Bee Card in the coming months. Nelson have a zonal fare structure with 7 bus routes connecting the outlying suburbs with the City centre.

Region	Nelson
Transport Services Owner	Nelson City Council
Region population	53,082
Patronage (2018/19)	420,690
Public Transport modes	Bus
Network Maps / website	http://www.nelson.govt.nz/services/transport/nbus/ http://www.nelson.govt.nz/services/transport/nbus/fares-and-zone-map/
Public transport network	130 bus stops 6 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	10,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	Zonal fares (3 zones) Journey concept – limited, bus-to-bus Concessions – child, tertiary, low income, senior Products - none
Smart card features	Online top-up Auto top-up
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.10. Environment Canterbury

The Canterbury region includes New Zealand's third largest city (Christchurch) and surrounding towns. Canterbury has a well-established smart card – the Metro Card – in use since 2004. Since the 2010 Canterbury earthquakes, Canterbury has been rebuilding public transport patronage, recovering from the major disruption caused by the significant re-build that has been ongoing. Canterbury has bus services and a single ferry service.

Region	Christchurch
Transport Services Owner	Environment Canterbury
Region population	599,694
Patronage (2018/19)	13,864,616
Public Transport modes	Bus, Ferry

Network Maps / website	http://www.metroinfo.co.nz/Pages/default.aspx http://www.metroinfo.co.nz/info/Pages/Fares.aspx zone map
Public transport network	2,960 bus stops 67 bus routes 1 ferry route 2 ferry piers
Smart Card Ticketing System	Metro Card
Cards issued	650,000 100,000 actively used
Fare media technology	MIFARE Classic MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on only (after interaction with bus driver)
Cash support	Paper tickets on-board vehicle
Fares	Zonal fare structure – 3 zones Journey concept – Limited, bus-to-bus transfer Concessions – child Products – day caps, week caps – both by zone and by concession
Smart card features	Online top-up
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus) Vending machine (ferry)

6.5.11. Otago Regional Council

Otago Regional Council is responsible for 2 main cities – Dunedin and Queenstown. Dunedin is in the lower South Island and has a strong student population with Otago University, while Queenstown is a tourist hot spot with heavy visitor numbers in both summer and winter. Dunedin and Queenstown share a common card - the Go Card – which will be replaced in the coming months with the Bee Card. Dunedin has a zonal fare structure while Queenstown recently implemented a flat fare that has seen patronage increase dramatically.

Region	Dunedin and Queenstown
Transport Services Owner	Otago Regional Council
Region population	177,219
Patronage (2018/19)	4,013,504
Public Transport modes	Bus
Network Maps / website	https://www.orc.govt.nz/public-transport
Public transport network	908 bus stops 58 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	60,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle
Fares	*Dunedin* Zonal fares – 5 zones Journey concept - Limited, bus-to-bus transfer

	Concessions – child, tertiary, senior, low income, accessible *Queenstown* Flat fares Journey concept – free transfer within 30 mins Concessions – child, senior
Smart card features	Online top-up Auto top-up On-board sale of cards and top-up of cards
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.5.12. Invercargill City Council

Invercargill is New Zealand's most southern city at the bottom of the South Island. Invercargill has a well-established smart card – the BusSmart card - but will also be transitioning to the new Bee Card in the coming months.

Region	Invercargill
Transport Services Owner	Invercargill City Council
Region population	54,873
Patronage (2018/19)	182,627
Public Transport modes	Bus
Network Maps / website	https://icc.govt.nz/buses/
Public transport network	194 bus stops 4 bus routes
Smart Card Ticketing System	Bee Card (date not yet confirmed)
Cards issued	7,000
Fare media technology	MIFARE DESFire EV1
Tag-on / Tag-off	Tag-on / Tag-off
Cash support	Paper tickets on-board vehicle Sale of cards on-board vehicle Top-up of cards on-board vehicle
Fares	Flat fare Journey concept – limited, bus-to-bus transfer Concessions – senior Products - none
Smart card features	Online top-up Auto top-up On-board top-up
Ticketing devices	On-board validators (Bus) On-board driver consoles (Bus)

6.6. Ticketing Equipment

Of the 12 TSOs participating in Project NEXT all have bus services, 2 have rail networks (Auckland and Wellington) and 4 have ferry services (Auckland, Bay of Plenty, Wellington and Christchurch). Other than in Auckland and, to a lesser extent Wellington, there is currently limited use of vending machines in New Zealand.

Ticketing equipment within the scope of Project NEXT include:

- On-board bus validators;
- On-board driver consoles;
- Fixed validators (such as for ferry or train services);
- Access gates (for train stations or ferry terminals);
- Vending devices (Ticketing Vending Machines and Ticket Kiosks); and
- Revenue protection inspection devices.

See in Appendix E – Ticketing Equipment Summary, a summary of current (or projected) ticketing equipment for all participating TSOs.

7. Transition

7.1. Background

Each Region in New Zealand will have its own requirements for transitioning from their legacy system to the Ticketing Solution. Five transition options are set out below. Each of these options will be considered by each Region taking into account:

- The size of the region – number of vehicles, number of modes, number of routes;
- The investment in their legacy ticketing solution, and the age of devices;
- Whether they have integrated fares (particularly multi-modal); and
- Customer uptake of smart cards in their region.

For all Regions, the primary driver is to minimise customer impact during the transition period while maintaining public transport services. All Regions will have a transition period, after which the legacy solution will no longer be used.

The transition approach for each Region will be developed with that Region depending on the timing of their implementation and the factors above.

7.2. Transition options

Five technical options have been identified for transition from legacy solutions to the Ticketing Solution:

- Option 1 – New Acceptance Device reads legacy Fare Media;
- Option 2 – Old Acceptance Device reads EMV Fare Media;
- Option 3 – Turn old Fare Media into a token;
- Option 4 – Dual readers; and
- Option 5 – Rapid replacement.

See below a more detailed description of each of these five options.

Option	Description
Option 1 New Acceptance Device reads legacy Fare Media	The new supplier would configure their new Acceptance Device to read, write and process travel payments from the legacy card as well as the new EMV transactions from the new system and new fare media. As all legacy electronic fare media in New Zealand utilises a stored value, the new reader would need to know the fare policy and fare media layout to enable a real-time balance update on the old fare media.
Option 2 Old Acceptance Device reads new EMV Fare Media	The legacy supplier would have the ability to read EMV cards on the existing readers and split the transaction, along with transit specific data, out to a new ABT back-end system. Once all customers have been transitioned off the legacy fare media, new readers can be installed that would handle EMV transactions only.
Option 3	Once an account based central system is in place, any readable fare media that has a unique id can be used, in the same way an EMV Fare

Turn old Fare Media into a token	Media is associated to a transit account. An existing closed loop card can provide this unique id by using inherent Unique id (UID) provided by the chip manufacturer or by utilising an application loaded onto the card to create a unique id. Note: This option does not necessarily stand on its own, but could also be combined with options 1 and 2 above.
Option 4 Dual readers	This option keeps the legacy system and new ABT system running as completely independent systems. To achieve this, duplicate readers and other device will be required to provide the ability for customers to utilise both systems during transition. For vehicles with readers on-board, this will not only require dual readers at each entry and exit, but also dual driver consoles if integration is not possible.
Option 5 Rapid replacement	This is a complete replacement of one system for another over a short period of time. It involves picking a time window, replacing infrastructure and moving onto the new system. It also requires the replacement of all Fare Media for those who do not choose to use a bank issued CPC.

Table 5 - Transition technical options

7.3. Infrastructure leverage

Many Ticketing Service Owners have significant investment in ticketing assets that could potentially be re-used in a new ticketing solution. Examples are:

- Gates at platforms and wharfs
- Acceptance Devices on board vehicles and platforms
- Ticket Vending Machines
- Inspection devices
- Communications Network Infrastructure

See below a summary of considerations for these categories of infrastructure:

Asset type	Considerations
Gates	Given that a gate mechanism can be controlled relatively easily, a new supplier should be able to replace the inner workings of a gate with their own and leave the bulk of the physical gate in-tact.
Vehicle devices	Vehicles contain a range of technology for the purposes of ticketing and payments. Depending on each supplier, different combinations of functions are delivered with different devices. Devices that may potentially be able to be re-used include: • Acceptance Devices used to read the Fare Media; • Driver Consoles; • AVL devices for vehicle location tracking; • In-vehicle communication hubs;
Ticket Vending Machines	Ticket Vending Machines are used for Card Present payment transactions, they already have an online connectivity functionality. This online connectivity is also required with the Transit Card Program Manager, to allow the device to perform a top up.
Inspection devices	Currently only Auckland Transport has Inspection Devices which are unlikely to be based on hardware that is suitable to become EMV and PCI compliant and therefore most likely cannot be upgraded for inspection on contactless

	payment cards. For the nine regions the RITS solution will include a total of 13 Inspection Devices, it is unknown how far these devices are suitable for EMV and PCI upgrade.
Retail and Customer Service Centre devices	The Retailer Network Manager will offer Transit Card sales and balance top up functionality, while using an application on the standard POS terminal of the retailers. Existing outlets in all regions can be brought into the Retail Network, this way providing both services for legacy cards (through the legacy retailer device) as well as for Transit Cards (through the POS).
Communication networks	Many TSOs have significant investment in LAN/WAN infrastructure. There should be no reason technically why these networks should not be leveraged. Technologies such as secure VPNs, VLANs and QOS should enable the core network infrastructure to be leveraged with minimal effort.

Table 6 - Potential infrastructure re-use

8. Business Object model

The following business object model identifies the key organisational entities involved in the NTS. This is a logical model that illustrates the primary (but not all) relationships. All of the actors within this model will be used as primary terminology throughout all requirements in Part 3 – sections A to E, and in Part 4.

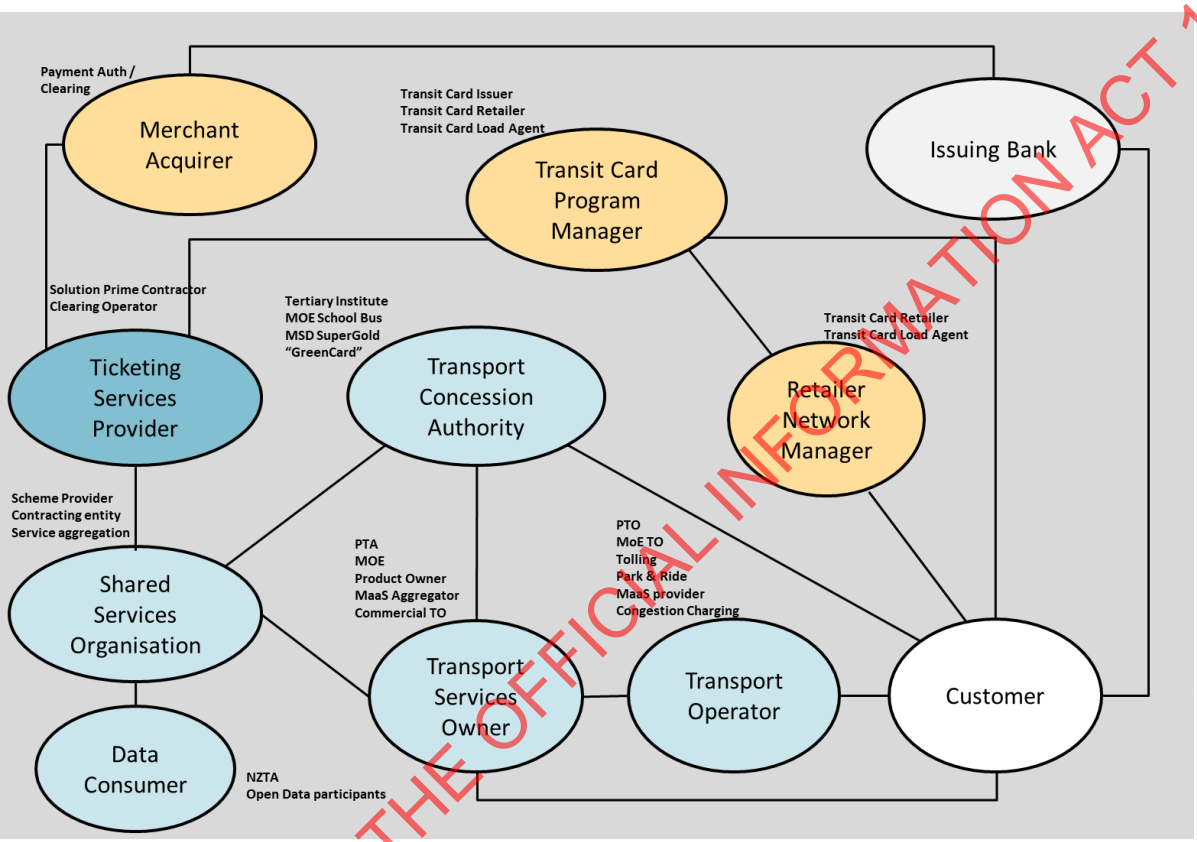

Figure 15 - RFP Business Object Model

See below for a description of each of the business entities within this model:

8.1. Customer

The traveller or a party acting on behalf of a traveller that interacts with the NTS during travel, ticketing, retail action or customer service.

The Customer role can include the roles of Cardholder, Transit Account holder, as well as potentially the role of Payment Account holder in case of a payment relationship for topping up of a Transit Card account.

8.2. Transport Services Owner (TSO)

An organisation responsible for providing a transport service with control over the design, implementation and operation of individual transport services. The Transport Service Owner

has a direct contractual relationship when providing transport services to their Customers and engages the Transport Operators to delivering their services on the TSO's behalf. The Transport Service Owner may be a Public Transport Authority or a Commercial Service Operator.

A Transport Service Owner may choose to provide customer services to its customers itself, through the TSP or through a third party. In future it is possible that the Transport Service Owner could be a future transport offering such as a MaaS Aggregator. The TSO's roles include:

- Regional Scheme Provider: The TSO is responsible for the specific regional fare rules that apply to travel provided by the TSO. Where the TSO is a PTA, this includes the TSO's regional network topology.

8.3. Transport Owner (TO)

An organisation that delivers operational transport services on behalf of the Transport Service Owner to the Customer where the ticketing and payment processing utilises the ticketing solution. A Transport Operator is responsible for checking that the devices used to register Tag on and Tag off transactions for the modes of transport offered by the Transport Operator are in good working order. In future it is possible that the Transport Operator could be a future transport offering such as a MaaS Transport Service Provider.

8.4. Ticketing Services Provider (TSP)

The organisation contracted to provide the Ticketing Solution, including solution implementation and operational services which may include providing Customers with ticketing customer services on behalf of Transport Service Owners. The TSP's roles include:

- Clearing Operator: Responsibility for clearing of all the transactions and for revenue attribution to the applicable scheme Participants.

8.5. Transport Concession Authority (TCA)

An organisation approved by the SSO (described below) to authorise Customer concession applications and record individual customer concession entitlements in the Ticketing Solution. An example of a Transport Concession Authority is an educational institution.

A TCA is responsible for performing the eligibility check for Customers using the Ticketing Solution who claim to be entitled to the concession that is managed by the TCA.

8.6. Shared Services Organisation (SSO)

The organisation established by the Buyer to provide selected shared service operations to and on behalf of Participants. The SSO will provide Participants with coordinated operations

management and change management, and support TSO implementation of and transition into the NTS. The SSO's role includes the following:

- Scheme Provider: Responsible for managing compliance with the overall scheme rules, ensure all Participants apply these and adhere to them, and responsible for on-boarding of new scheme Participants.

The scope and services provided by the SSO will be aligned with the selected TSP; identifying and agreeing the boundaries between the TSP and SSO will be part of the procurement process.

Opportunities to take advantage of existing NZTA functions, capabilities and technology platforms will be identified during the provision of the responses and negotiations. Integration points will be defined and agreed, and Project NEXT welcomes insight from the Respondent as to their previous experience in this space.

8.6.1. Simplification of Service Provision Relationships

The SSO sits between the TSP and the TSOs for the provision of ticketing and related services.

It fulfils a range of essential functions to multiple TSOs. In contrast to a conventional, single-TSO environment, (as ticketing services are delivered in the main today), the TSO contracts directly with a TSP for the provision of a ticketing solution; a one-to-one relationship.

For the NTS, the SSO is the contracting vehicle that contracts with and provides the main relationship with the TSP; a one-to-one relationship. The SSO then provides a range of services to the TSOs through individual Participation agreements; a one-to-many relationship.

Figure 16 - Relationship between TSP, SSO and TSO

Equally importantly, this same principle applies for other key relationships, such as the external Transport Concession Authorities (TCA). This is particularly true for the TCA responsible for any national concession, for example, SuperGold authenticated via the Ministry of Social Development, but still provides simplification through common processes, systems and agreements for a range of TCAs that might only operate for a single TSO (e.g. a tertiary education institution in Wellington).

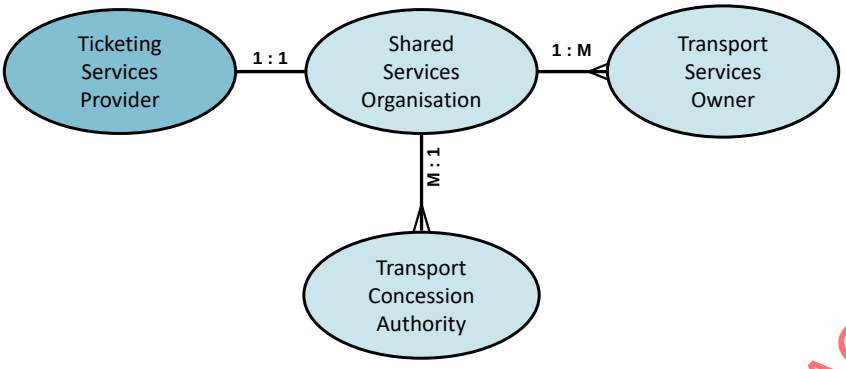

Figure 17 - Relationship between TSP, SSO and TSO and TCA

From a TSP perspective, this simplification of the contractual relationships so that the TSP has to deal with only a single party, the SSO, is a major benefit that consequently provides significant payback for the TSOs.

It is estimated that across New Zealand there are potentially several thousand TCAs that may have involvement in the authentication of transport concessions.

8.7. Transit Card Program Manager

The Transit Card Program Manager is the externally contracted (contracted by the SSO) financial services provider of Transit Card services to cardholders and the SSO, undertaking the issuing of cards (all form factors including virtual) and the managing of card funds.

8.8. Merchant Acquirer

The Merchant Acquirer is the externally contracted (contracted by the SSO) provider of debit and credit card payment (pre-) authorisation and settlement.

8.9. Retailer Network Manager

The Retailer Network Manager is the externally contracted (contracted by the SSO) provider of customer Transit Card retail services through physical outlets.

8.10. Issuing Bank

The banks or other financial institutions (not contracted to the SSO) that issue Customers with debit and credit cards that the Ticketing Solution will encounter as fare media and as payment media.

8.11. Data Consumer

Organisation or individual who has controlled read-only access to data within the NTS. Examples include NZTA (acting in its capacity as Data Consumer and not as the SSO), who

will have access to anonymized data, and individuals and organisations who may have access under government Open Data initiatives.

9. Operating Model

The operating environment for the NTS will be complex. It must support the operational requirements for multiple Participants with a wide range of scale and functional requirements. It must support authorities that are geographically dispersed across New Zealand.

The NTS will result in the replacement of a number of existing platforms resulting in a common user and authority experience nationwide; this requires a number of separate transition projects.

Furthermore, the NTS will be realised over a number of years and so the operational environment will evolve in terms of scale and, potentially, scope over the implementation timeline.

Commercially, the differences in scale of Participants and the timing of commencement of services creates a number of challenges in its own right.

The lists of functions in this section include many that do not have any impact on, or interaction with, the Ticketing Solution. They are provided to give context to the Respondent of the overall operating environment in which the NTS will exist. For the avoidance of doubt, it is NOT necessary for the Respondent to respond to all of these functions in their Response unless the Response form specifically requests otherwise.

9.1. Transport Services Owner (TSO) functions

TSO functions are primarily focused on the operational and legislative requirements of a TSO to provide transport services. In effect most of these operational services are outsourced through a range of contracted service providers; bus operators, rail operators, ticketing solution provider and (under the NTP) the SSO.

The following table sets out the main functional responsibilities of the TSO in relation to the NTS and its transport network, which include:

- Public transport governance and management;
- Public transport policy and planning;
- Ticketing solution implementation and transition; and
- Ticketing solution operations that complement the role of the TSP.

TSO function	Scope
Public Transport Governance and Management	
Manage all activities requiring local Council / Board approvals	• Planning • Funding • Policy implementation • Reporting
SSO Governance	• Participate in governance arrangements for the SSO • Participate in change management arrangements for SSO

TO Contracting and relationship management	• Contracts TOs for the relevant modes of transport in its network • Manages its TO relationships • Primary point of contact between the TO and SSO for all solution implementation and operational matters
TCA Contracting and relationship management	• Agreements with TCAs for concession authentication • Manages the TCA relationships • Transition relationship management to SSO • Agrees and implements any commercial arrangements for the TCA service
Related local body organisations liaison and deliverable management, (e.g. other local authorities and city councils, property owners, etc.)	• Manage communications between parties • Manages and co-ordinate any inter-dependent deliverables • Escalation and issue resolution (e.g. joint planning, consenting processes)
Business Case	• Development of regional business case(s) – aligned to NTS business case
Public Transport Policy and Planning	
Define regional transport policy	• Public Transport Long term plan • Strategic planning
Define regional fare policy	• Regional fare policy • Regional concessions • Regional fare levels • Fare and product transition and simplification policy • Terms and conditions of carriage including legal functions
Define regional revenue protection policy	• Public Transport revenue protection
Transport network planning	• Route planning • Service schedule and timetable planning • Patronage analytics
Supporting services strategy and planning	• Related transport services, such as real-time passenger information, network planning tools • Related business services, such as business intelligence and analytics, financial reporting
Ticketing Solution Design, Implementation and Transition	
Solution scope and strategy (jointly developed with TSP and SSO)	• Particular requirements for TSO design and implementation, for example, rail network design, device volume and siting requirements • Implementation strategy for TSO – sequencing, pilot to full operations • Solution architecture and design for TSO • Liaison with the TSO's TOs • Liaison with the TSO's TCAs
Customer experience planning	• Undertake customer experience use case analysis – changes in experience from existing to new platforms • Including transitional use cases (what happens during the transition period) • Develop and test customer scenarios through e.g. personas • Develop customer communications from customer experience planning
Communications (in liaison with SSO and NTP)	• Communications strategy • Communications messaging

	• Communications delivery through all stages of implementation, e.g. transition, card swap, education of customers • Communications with TCAs • Information requests (LGOIMA) • Media liaison, planning and messaging for reactive and proactive communications (radio, TV, newsprint, social media) • Social media response and influencing team
Implementation planning (jointly with TSP and SSO)	• All planning of implementation aspects to be delivered by TSO • Participation in appropriate project management forums • Project reporting (TSO) • Project performance (TSO) • Project resourcing (TSO) • Cut over planning and fall-back planning
TO Liaison and management	• Processes and procedures for engagement for local TOs (through existing contract arrangements) • Identify and manage participation of TOs • Agreed change management approach with TOs • Existing fleet and infrastructure specifications
Affected 3rd party liaison and management	• Manage all planning and implementation issues that affect or are dependent upon 3rd parties, e.g. Kiwirail, other local bodies, historic building trust… • Escalate and resolve issues as required for NTS implementation
Health and Safety planning and reporting	• Develop Health and safety plan for transition activities • Liaise and engage with TOs and affected third parties • Develop Health and Safety reporting and incident escalation requirements
Consenting processes	• Identify, manage and obtain all consents required for the implementation of the NTS for their respective region • Coordinate inputs to and deliverables from consenting process
Transition Strategy (led by TSO but jointly agreed with TSP and SSO)	• Existing solution transition approach • Card swap / replacement strategy • Transfers policy during transition • Revenue protection policy during transition • Concession management authority planning and service transition (to SSO) • Existing equipment and devices decommissioning approach (in agreement with TOs and contracts)
Organisational change management	• Understand, scope and design the organisational change management (OCM) requirements for TSO • Engage resources to support OCM • Plan and manage all change functions including customer liaison and support (roving ambassadors)
Data migration (from existing TSO platforms)	• Identification of data to be migrated to NTS, for example, transaction history, customer registration data, customer contact history, network topology • Migration data specification documentation • Migration data verification

	• Migration data exception management, data population rules, etc. • Migration data extracts and provision • Migration data reporting • Migration data acceptance
Privacy management	• Scope and contract services for privacy impact assessment (PIA) • Undertake PIA • Report and manage any impacts arising from PIA with appropriate parties (TSO, TO, SSO, TSP)
Systems Integration	• Identify, plan, design and manage all SI activity related to existing TSO platforms (e.g. business intelligence, ERP, etc.) • Develop and agree interface specifications • Undertake such works as necessary within TSO scope • Manage third parties as necessary for SI activity
Solution testing and acceptance	• Participation in development of test strategy and plans • Participation in testing at appropriate stages • Interface testing • Security testing (within bounds of TSO environment) • Solution acceptance
Service Readiness (in conjunction with SSO)	• Service readiness planning • Service readiness assessment • Service readiness reporting
Training (in conjunction with TSP and SSO)	• Training needs assessment (TSO, TOs) • Training planning • Training material development • Training delivery • Training effectiveness assessment
Resourcing	• Resource assessment and planning (for scope of TSO services, e.g. customer care, revenue protection etc.) • Resource recruitment
Ticketing Solution Operations	
Governance and Relationship Management	• Point of contact between the SSO and TSO • Point of contact between the SSO and TOs • On-going participation in governance forums for SSO • On-going participation in change management forums • SSO charges and fee management and reconciliation (how SSO passes through charges to TSO)
TO engagement (to the extent of impact on the NTS)	• Contracting and relationship management • On-boarding of TOs • TO change management • TO Issue escalation • TO performance management
TCA Engagement for authentication services (NB. will happen periodically throughout operations not a one-time solution implementation activity)	• On-boarding process • Specify the authentication rules • Specify authentication boundaries and escalations • Specify and agree any data access and data sharing protocols • Liaise with SSO for on-boarding of each TCA • Specify and agree authentication cut over
Customer contact services	• First level support through contact centre including on-line channels

	• First level support through face-to-face channels (e.g. service centre) • Second level support (customer) or hand-off to SSO • Complaints management and reporting • Contact centre hand-offs for national matters other TSO matters • Ticketing operations outbound contact management, (e.g. follow-up on ticketing fare calculation issues)
Revenue Protection Services	• Liaise with SSO on revenue protection matters (potential fraud detection, leakage detection, etc.) • Engage, train and manage Revenue Protection Officers • Manage end-to-end revenue protection incidents (e.g. application of fines) • Financial management of revenue protection outcomes
Reporting (in conjunction with SSO and TSP) Note. Some of these services may be supplied by the SSO as an optional service	• Define, manage and operate TSO reporting • Specify TSO reporting requirements • Data management (data streams from TSP) • Business intelligence systems, analytics and reporting • TSO reporting management and distribution
Ticketing Operations (primarily provided by the SSO / TSP - services boundaries between SSO and TSO to be agreed)	• Management of any customer fare adjustments • Management of any transport network changes (emergency, unplanned, planned) • Management of fare, product, policy changes • Participation in ticketing incident management process • Financial management, apportionment, settlement, and reconciliation • Physical cash handling (collection, processing and reconciliation) from TVMs and Customer Service Centres • Support for ticketing audit services • Concessions management • Compliance and risk management support • Service delivery management (for end-to-end service reporting)
Communications (in liaison with SSO and NTP)	• Customer communications • Information requests (LGOIMA) • Information requests other (e.g. police requests) • Customer education • Customer notices – fares, products, events, etc. • Customer event and exception handling
Business Continuity Planning and Disaster Recovery (in conjunction with SSO)	• Strategy for TSO services • Planning for TSO services • Testing for TSO services

9.2. Transport Operator (TO) functions

TO functions will primarily be managed through the TSO. There may be certain interactions directly between the TO and the SSO and/or TSP, for example, liaison with respect to on-site device services or installation or fault reporting.

The following table sets out the main functional areas of the TO in relation to the NTS, which include:

- Governance and Relationship Management;
- Implementation; and
- Operations.

TO function	Scope
Governance and relationship management	
Engage through the TSO contracting arrangements	• Service planning, scope and operational requirements • Issue and event escalation • Commercial arrangements • Agree processes and procedures for day to day operational engagement related to NTS (for example, may support direct communications and scheduling between a subcontractor of the TSP and the TO) • Participate in procurement process to extent required by TSO through commercial agreement
Periodic input to strategic planning	• Periodically contribute to strategic planning for NTS through the TSO
Implementation	
Planning	• Equipment and device implementation requirements • Health and safety requirements (e.g. for work at TO sites) • Scheduling of implementation services jointly with TSO / TSP • Management of any communications and planning activity with suppliers to the TO (e.g. vehicle manufacturers)
Specifications	• Document and provide specifications of all vehicles / sites for device and equipment installation • Document and provide specifications of all existing equipment installations, including for example, vehicle wiring configuration • Agree scope of works for TO necessary for the implementation
Installation	• On-site liaison • Making vehicles, sites available in accordance with agreed schedule • Providing appropriate workplace facilities, e.g. vehicle pits for under vehicle works) • On-vehicle/ site equipment and devices installation inspections • Installation record and documentation • Acceptance into service
Operations	
TSO / SSO / TSP engagement	• Day-to-day operational engagement in accordance with agreed scope and procedures • Service delivery reporting and management • Issue and problem identification and on-going service improvement strategies • Issue resolution feedback and management • Service disruptions (unplanned / planned)
Health and Safety	• Health and Safety policy, processes, procedures and reporting in relations to any NTS-related services provided at TO sites or involving TO vehicles or personnel.
Fault management	• Identification of device and equipment faults • Notification of device and equipment faults

	• Logging of all device and equipment faults • In-service replacement of equipment / devices by the TO if supported and in accordance with agreed procedures • Vehicle breakdowns and in-trip transfers management and notification
Training	• Maintenance of training requirements documents • Training recording and tracking of employees • Periodic training needs analysis and reporting • Delivery of periodic training for TO staff • Training updates, FAQ and problem avoidance notices
Data provision	• Data specification jointly with SSO • Periodic data extracts and provision to SSO for all updates provided by the TO, for example, duty rosters, for updating the NTS • Changes in run board
Financial reconciliation	• All cash related transactions reconciled • Cash transaction reporting • Product sale reconciliation and reporting • Transit card sales (if supported) • Physical cash handling (collection and processing) from onboard sales
Reporting	• Reporting of all in-scope performance levels regarding ticketing – as set out in respective TSO contract • Reporting all financial reconciliations

9.3. Transport Concession Authority (TCA) functions

TCA functions are focused on identification, authentication and on-going verification of various concessions. Some concessions when granted have long duration, e.g. SuperGold, or disability entitlements; others may be periodic or have relatively short duration, e.g. tertiary education.

All concessions are applied in accordance with the TSO concession policy (which itself may be the implementation of a national concession policy).

On-boarding of TCAs will typically be through a standardised process, using NTS specific tools, processes and systems, setting out the requirements and standards to be followed by the TCA. This on-boarding function will be primarily with the SSO, rather than the TSO.

The following table sets out the main functions of the TCA, which include:

- Governance and Relationship Management;
- On-Boarding of TCAs; and
- Authentication Services.

TCA function	Scope
Governance and relationship management	
Engage through the TSO (and/or SSO) contracting arrangements	• Agree processes and procedures for day to day operational engagement related to NTS (for example, provision of authentication records)

	• Agree form of management through the SSO to the TCA for all day-to-day operations • Agree service level requirements for the TCA to commit to in provision of authentication services • Put in place delegations as necessary and required for TSO and/or SSO • Agree any commercial arrangements with the TSO and/or SSO
Policy and communications	• Design and/or modify any policy that the TCA has on behalf of its constituent members (as beneficiaries of the concession) • Manage any communications with constituent members including in respect of concession and scheme operation • Seek any approvals for data and information sharing with constituent members
Reporting	• Periodic reporting and service level management to the TSO • Periodic reporting and service level management to the SSO • Service level forecasting – e.g. anticipated volumes for concession entitlement for the TCAs constituent members
On-boarding of TCA	
Planning and engagement	• For each TCA to provide authentication services on behalf of the TSO and/or SSO. • Agree the detailed scope of services • Agree the exception and escalation boundaries and conditions
Specifications (jointly with the SSO) *(NB. It is expected that in many cases the SSO will provide the TCA with tools and automation to support the authentication processes)*	• Design the authentication process for SSO / TSO / TCA • Design, build and test any systems to support the interface to the SSO/TSO (if and as required) • Specify the authentication data and data sources • Agree the necessary data and information access requirements and sharing arrangements are in place
Implementation and testing (with the SSO)	• Design, build, test the data exchange and interface systems for use with SSO automation tools • Design build and test the data interfaces to the SSO • Support SSO certification processes
Service Readiness assessment	• Undertake an internal service readiness assessment to ensure that all systems, processes, resources are in-place and proven in order to commence the concession authentication service
Authentication services	
TSO / SSO engagement	• Day-to-day operational engagement in accordance with agreed scope and procedures • Service delivery reporting and management • Issue and problem identification and on-going service improvement strategies • Solution feedback and management
Concession entitlement authentication	• Undertake all processes for the verification, approval and notification of concession entitlement for constituent members in accordance with TSO/SSO policy and procedures, including any variations based on mode of travel

Issue and event management	• Notification of service operational issues and events • Engagement through the SSO event and issue management processes • Development and agreement of issue and event resolution plans as appropriate and in accordance with agreements • Escalation processes • Management of any communications and resolution actions for constituent members
Transit Card Stock Management and Distribution *(potential function depending on TCA scope and functions, an example here is the Ministry of Social Development issuing SuperGold cards which may be used directly in the NTS for concession-based travel)*	In the event that the TCA is an authorised distributor of Transit Card stock (which may have particular branding for the TCA), then the TCA will: • Manage, reconcile and report on all stock usage and cards in circulation distributed through the TCA • Maintain appropriate levels of stock on hand and re-order in accordance with agreed process • Manage all distribution processes to its constituent members • Directly manage all card-based events (lost card, damaged card, replacement issuance, card blocking – deny list, etc.) • Manage all commercial arrangements for the supply and payment for stock with the Program Manager • Manage and reconcile any financial transactions related to the supply and distribution of the Transit Cards
Training	• Maintenance of training requirements documents for TCA scope and processes • Delivery of periodic training for TCA staff • Training updates, FAQ and problem avoidance notices
Data provision	• Data specification jointly with TSO and/or SSO • Periodic data extracts and provision to SSO/TSO for all updates to concessions (including new concessionaries, changed concessions and removal of concessions) • Verify data provisions is accurate, timely and not-duplicated, etc. • Notification of any exceptions and concession related fraud / misuse
Reporting	• Reporting of all in-scope performance levels regarding ticketing – as set out in respective SSO/TSO contract • Reporting all concession activity exceptions and escalations

9.4. Shared Services Organisation (SSO) functions

The SSO provides and consumes a range of functions and services to/from the TSP, the TSOs, and the TCAs. The services, responsibilities and functions are specifically aligned to each of the SSO relationships as set out in the following sections:

9.4.1. Ticketing Services Provider

The following table sets out the main functions of the SSO in the relationship with the TSP. The corresponding TSP service is described in the RFP Part 3

Requirements. The services provided by the SSO in engagement with the TSP cover a range of functional areas:

- Governance and Relationship Management;
- General Operations;
- Ticketing Solution Implementation;
- Ticketing Solution Transition Support;
- Ticketing Operations;
- Business Processing Services; and
- Information Technology Services.

SSO (TSP) functions	Scope
Governance and relationship management	
Governance	• Single point of contact for service provision governance for the SSO and for the TSP • Definition of and participation in service governance forums • Joint strategic planning • Innovation planning • Event, Incident and problem escalation
Relationship Management	• Operational relationship management • Service delivery • Service improvement • Issue escalation and treatment • Regular meetings and associated forums
Commercial and Contract Management	• Contract management • Commercial relationship • Procurement of services and equipment
Performance Management	• Performance measures, monitoring and reporting • Performance issue identification • Performance issue resolution including any commercial resolution
General Operations	
Programme and Project management	• Client-side programme and project management that interfaces with TSP project management services • Engagement with TSOs and other parties • Project reporting
Change Management	• Change planning and scheduling • Change approvals and funding • Change aggregation and prioritisation • Change lifecycle management and monitoring
Event, Incident and Problem Management	• On-going processes for identification, monitoring and reporting • Agree resolution approach • Resolution implementation monitoring • Issue resolution closure
Ticketing Solution Implementation – all services provided in conjunction with TSP *Includes both initial implementation services and on-going implementation for periodic changes and on-boarding of TSOs*	
Ticketing solution design authority	• Joint responsibility for the NTS overall solution design • SSO focus is client-side services, interfaces and interactions • Design approvals and sign-off

(the overall body responsible for the technical solution scope and design; includes representation of ticketing and financial services)	
Ticketing Solution Implementation Team	• SSO function with implementation responsibility for SSO in-scope services, primarily client-side solution components • External (Non-TS) scope of supply including 3rd parties
Ticketing solution Support and Maintenance	On-going engagement for all changes affecting the Ticketing Solution: • Analysis, design approvals • Planning for scheduled enhancements • Emergency and priority changes • Infrastructure changes • Refresh and upgrades
Solution Testing and Acceptance	• Solution release planning • Solution acceptance testing • Acceptance
Security testing	• End-to-end external security verification and testing • 'White-hat' hacking and penetration testing • Security assurance
Solution effectiveness and efficiency	• Identification of potential effectiveness and efficiency options for the Ticketing solution • Joint analysis and assessment
PCI compliance	• Maintenance of compliance across end-to-end solution
General Operations	
Transition Management	• Co-ordination and liaison with all parties • Transition scope and engagement requirements • Transition analysis and data collation
Planning and scheduling	• Planning for and scheduling of transition activities by co-ordination with TSO • Transition strategy • Transition processes and requirements
Communications management	• Jointly with respect to any ticketing solution changes and customer impact
Data Migration	• Identify, agree and scope data migration requirements for the client side • Agree the treatment of data verification, validation and transformation requirements • Provide test data and supporting information • Review and agree migration roll-back approach and process • Data migration cut over timing and co-ordination with the TSO(s)
Transition readiness assessment	• End to end transition readiness assessment prior to any cutover activity
Ticketing Operations	
Change Management Process	• Co-ordinate, assess and aggregates operational change requests for providing to TSP • Agree sequence, timing and priority for application of Ticketing Operations changes
Fare Policy	• Communication of planned fare policy changes determined by TSOs

	• Provide guidance as required for implementation requirements • Schedule fare policy changes • Provide data for analysis and modelling of fare policy changes
Network Topology	• Advise TSP of planned network topology changes determined by TSOs • Provide guidance as required for implementation requirements • Schedule network topology changes • Provide data for analysis and modelling of network topology changes
Apportionment, Settlement and Reconciliation (ASR)	• Advise TSP of planned ASR changes determined by TSOs • Provide guidance as required for implementation requirements • Schedule ASR changes • Provide data for analysis and modelling of ASR changes
Ticketing Incident Management	• Notification to TSP of Ticketing Incidents that require TSP intervention or activity • Provide guidance as required for resolution requirements • Provide data for analysis assessment of any escalated ticketing incident
Business Process Outsourcing (BPO) Services	
Contact Point	• Provide appropriate contact points to TSP for escalation or notification of any matters relating to TSP business outsourced services scope • Agree reporting and notification processes and protocols • Provide escalation as required to TSOs / TOs for any matters raised that require resolution or decision
Process Boundaries	• Identify and agree the process boundaries for any in-scope services for the TSP • Identify and agree the information hand-off requirements • Identify and agree the exception handling processes and procedures for any in-scope services of the TSP • Identify and agree the deliverables / data to be provided for any in-scope services for the TSP
Reporting	• Identify and agree the reporting and exception identification triggers for any in-scope services for the TSP
Information Technology Operations (ITO) Services	
Contact points	• Provide appropriate contact points to TSP for escalation or notification of any matters relating to TSP IT outsourced services scope • Agree reporting and notification processes and protocols • Provide escalation as required to TSOs / TOs for any matters raised that require resolution or decision
Process Boundaries	• Identify and agree the process boundaries for any in-scope services for the TSP • Identify and agree the information hand-off requirements • Identify and agree the exception handling processes and procedures for any in-scope services of the TSP • Identify and agree the deliverables / data to be provided for any in-scope services for the TSP

Major Incident Protocols	• Jointly develop and agree the protocols, responsibilities and actions required of each party in respect of any major IT incident • In particular, provide direction for dealing with urgent customer impacting events, such as data privacy breach
Reporting	• Identify and agree the reporting and exception identification triggers for any in-scope services for the TSP

9.4.2. Financial Service Providers

The following table sets out the main functions of the SSO in the relationship with each of the three Financial Services Providers. This assumes that the TSP is acting as agent for the SSO and so managing the day-to-day delivery of each Financial Services Provider's obligations under this agreement with the SSO, including implementation and operational services.

SSO (FSP) functions	Scope
Engagement and relationship Management	
Governance and Relationship Management	• Creates the single point of contact for relationship for the SSO and for the three Financial Services Providers • Definition of and participation in service governance forums • Joint strategic planning • Innovation planning • Event, Incident and problem escalation jointly with TSP and as required
Commercial and contract management	• Commercial management • Contract management (scope to be defined between the TSP and the SSO)

9.4.3. Transport Services Owner

The following table sets out the main functions of the SSO in the relationship with the multiple TSOs. These services cover a range of functional areas:

- Governance and Relationship Management;
- General Operations;
- Ticketing Solution Implementation and Transition Services;
- Ticketing Solution on-going support services; and
- Business operations services.

SSO (TSO) functions	Scope
Governance and relationship management	
Governance – SSO	• Participation in the governance arrangements for the SSO in accordance with the Participation Agreement (Part 1). • Secretariat • Compliance and regulatory reporting to TSOs • Audit and financial reporting to TSOs • SSO strategic planning, performance and funding

Governance – Services	• Single point of contact for service provision for the TSOs through the Participation Agreement (Part 2) • Definition of and participation in service governance forums • Joint strategic planning • Innovation planning • Event, Incident and problem escalation
Relationship Management	• Operational relationship management providing single point of contact for each TSO • Service delivery • Service improvement • Issue escalation and treatment • Regular meetings and associated forums
Commercial and Contract Management	• In accordance with the participation agreement • Service delivery reporting • Commercial relationship
Fee charging	• Provide simplified fee charging regime and processes for participating TSOs
Service Delivery Management	• Performance measures, monitoring and reporting • Performance issue identification • Performance issue resolution
National Standards Co-ordination *(In the event that national standards body is established in NZTA or SSO)*	• Representation of development of national standards for transport ticketing • Co-ordination and liaison with national standards body
General operation	
Programme and Project management	• Supply side programme and project management that interfaces with TSO project management services • Engagement with TSP, Financial Services providers and other parties as required • Provides consolidated position and approach to the TSP on project matters • Project reporting
Change Management	• Provision and management of the Change Management Board • Liaison and co-ordination of changes for and across TSOs • Change planning and scheduling • Change approvals and funding • Change aggregation and prioritisation • Change lifecycle management and monitoring
Event, Incident and Problem Management	• On-going processes for identification, monitoring and reporting • Escalation channels and process to each TSO and across TSOs • Agree resolution approach • Resolution implementation monitoring • Issue resolution closure
Ticketing Solution Implementation – all services provided in conjunction with TSP *Includes both initial implementation services and on-going implementation for periodic changes and on-boarding of TSOs*	
Ticketing solution design authority	• Joint responsibility for the TS overall solution design with the TSP • Represents TSO requirements to the design authority

(the overall body responsible for the technical solution scope and design; includes representation of ticketing and financial services)	• Coordination and negotiation of TSO requirements where there are multi-TSO impacts • Agreement of requirements to take to TSP for implementation • Design approvals and sign-off
Ticketing Solution Implementation Team	• Supports the TSO with implementation support service, capabilities and resources • Provides implementation interface to TSP • Represents TSO with effectively an in-house consulting service as required by the TSO • Can provide full systems integration life-cycle services to the TSO as required • Provides templated solutions, plans, designs and implementation models for effective implementation services (repeat capability across multiple projects)
Ticketing solution Support and Maintenance	On-going engagement for all changes affecting the Ticketing Solution: • Analysis, design approvals • Planning for scheduled enhancements • Emergency and priority changes • Infrastructure changes • Refresh and upgrades
Solution Testing and Acceptance	• Solution release planning and co-ordination • Solution acceptance testing planning • Acceptance support to extent required by the TSO • Delegated acceptance if required
Security testing	• End-to-end external security verification and testing for all aspects of the Ticketing solution e.g. including TSO customer portals • 'White-hat' hacking and penetration testing • Security assurance
Solution effectiveness and efficiency	• Identification of potential effectiveness and efficiency options for the Ticketing solution • Joint analysis and assessment
PCI compliance	• Maintenance of compliance across end-to-end solution
Ticketing Solution Transition Support	
Transition Management	• Assist TSO with coordination and liaison with its suppliers • Transition scope and engagement requirements • Transition analysis and data collation • Best practice artefacts and approaches
Planning and scheduling	Assist TSO in: • planning for and scheduling of transition activities • development of transition strategy • development of transition processes and requirements
Communications management	• Jointly with respect to any ticketing solution changes and customer impact • Provision of centralised and 'templated' communications models (e.g. customer education base information)
Data Migration	Assist TSO to: • Identify, agree and scope data migration requirements for the TSO • Agree the treatment of data verification, validation and transformation requirements

	• Provide data migration tools where appropriate • Identify and develop test data and supporting information • Test strategy and planning • Review and agree data migration roll-back approach and process • Data migration cut over timing and co-ordination with the TSO and TSP
Transition readiness assessment	• End to end transition readiness assessment prior to any cutover activity • Transition readiness remedial action plan
Ticketing Operations	
Change Management Process	• Co-ordinate, assess and aggregate operational change requests for providing to TSP • Agree sequence, timing and priority for application of Ticketing Operations changes • Provide tools for the notification and requests for Ticketing Operation changes
Fare Policy	• Coordinate planned fare policy changes determined by TSOs with the TSP • Provide guidance as required for implementation requirements • Schedule fare policy changes with the TSP • Identify data requirements for analysis and modelling of fare policy changes
Network Topology	• Coordinate planned network topology changes determined by TSOs with the TSP • Provide guidance as required for implementation requirements • Schedule network topology changes with the TSP • Identify data requirements for analysis and modelling of network topology changes
Apportionment, Settlement and Reconciliation (ASR)	• Coordinate planned ASR changes determined by TSOs • Provide guidance as required for implementation requirements • Schedule ASR changes with the TSP • Identify data requirements for analysis and modelling of ASR changes
Ticketing Incident Management	• Escalation point for any Ticketing Incidents that require SSO or TSP intervention or activity • Provide guidance as required for resolution requirements • Provide data for analysis assessment of any escalated ticketing incident
Business Process Outsourcing (BPO) Services	
Contact Points	• Provide appropriate contact points to TSO for escalation or notification of any matters relating to SSO services scope • Agree reporting and notification processes and protocols • Provide escalation as required to SSO and/or TSP for any matters raised that require resolution or decision
Process Boundaries	• Identify and agree the process boundaries for any in-scope services for the SSO • Identify and agree the information hand-off requirements to the TSO

	• Identify and agree the exception handling processes and procedures for any in-scope services of the SSO • Identify and agree the deliverables / data to be provided for any in-scope services for the SSO
Reporting	• Identify and agree the reporting and exception identification triggers for any in-scope services for the SSO
Financial	For each participating TSO • Daily settlement of all funds in respect of transport journeys for each TSO • Apportionment of revenues for journeys across TSO boundaries • Reconciliation of all transactions and revenues • Escalation of any exceptions or errors • Reporting of financial transactions
Asset management	For each participating TSO • Co-ordination / liaison with respect to any service affecting asset management issues
Operational Management	For each participating TSO: • Co-ordination / liaison with respect to any service affecting operational management issues
Customer Engagement	For each participating TSO: • Co-ordination / liaison with respect to any service affecting customer engagement issues • Provision of national Customer Support services, including call centre and portal(s) • Branding guidelines for cards, acceptance devices and communications
Operator Engagement	For each participating TSO: • Co-ordination / liaison with respect to any service affecting Transport Operator engagement issues • Conducting capability audits and certification • Management of disputes and claims
Training	For each participating TSO: • Co-ordination / liaison with respect to any service affecting training issues
Reporting and Data Extracts	For each participating TSO: • Co-ordination / liaison with respect to any service affecting reporting or data issues • Preparation and delivery of operational reports and data extracts • Creation of ad-hoc or scheduled reports • Transaction, trip and journey analysis and extracts • Preparation and delivery of performance reports • Response to external requests (e.g. OIA, police) • Coordination of annual planning and reviews
Data Management Operations	For each participating TSO: • Co-ordination / liaison with respect to any service affecting data management issues
Data Asset Management	For each participating TSO: • Co-ordination / liaison with respect to any service affecting data asset management issues

Compliance and Risk	For each participating TSO: • Co-ordination / liaison with respect to any service affecting compliance and risk management issues • Periodic TO audits
Revenue Protection	For each participating TSO: • Co-ordination / liaison with respect to any service affecting revenue protection issues
Information Systems Support Services	For each participating TSO: • Co-ordination / liaison with respect to any service affecting information systems support service issues
Business Continuity Planning	For each participating TSO: • Co-ordination / liaison with respect to any service affecting BCP issues • Development, agreement and communication of end-to-end BCP strategy, plans and processes • Review and agreement of TSO BCP strategy, plans and processes
Fees and Charges	For each participating TSO: • Co-ordination / liaison with respect to any service affecting fees and charges service issues
Information Technology Outsourcing (ITO) Services	
Contact Points	• Provide appropriate contact points to TSP for escalation or notification of any matters relating to TSP IT outsourced services scope • Agree reporting and notification processes and protocols • Provide escalation as required to TSOs / TOs for any matters raised that require resolution or decision
Process Boundaries	• Identify and agree the process boundaries for any in-scope services for the TSP • Identify and agree the information hand-off requirements • Identify and agree the exception handling processes and procedures for any in-scope services of the TSP • Identify and agree the deliverables / data to be provided for any in-scope services for the TSP
Major Incident Protocols	• Jointly develop and agree the protocols, responsibilities and actions required of each party in respect of any major IT incident • In particular, provide direction for dealing with urgent customer impacting events, such as data privacy breach
Reporting	• Identify and agree the reporting and exception identification triggers for any in-scope services for the TSP
Storage and Data Management	• Definition and maintenance of data management policies
Application Support Services	• Management of requirements and planning for changes and enhancements • Web content management for central websites
Security	• Definition and maintenance of security policy (jointly with TSP)
Disaster Recovery	• Definition and maintenance of DR strategy (jointly with TSP)

9.4.4. Transport Concession Authority

The following table sets out the main functions of the SSO in the relationship with each of the multiple TCAs.

SSO (TCA) functions	Scope
General Operations Management	
Governance and Relationship Management	• Creates the single point of contact for service provision for the SSO and for the TSP • Definition of and participation in service governance forums • Joint strategic planning • Innovation planning • Event, Incident and problem escalation
Commercial and Contract Management	• Contract management • Commercial relationship • Procurement of services and equipment
Change Management	• Change planning and scheduling • Change aggregation and prioritisation • Change lifecycle management and monitoring
Solution Testing and Acceptance	• Solution release planning • Solution acceptance testing • Acceptance
Project management	• Client-side project management that interfaces with TSP project management services
PCI compliance	• Maintenance of compliance across end-to-end solution
Concession Management Services	
Concession management for small TCAs	• TCA liaison • Data capture (by portal or forms) • On-behalf-of concession registration
Pre-loading of concessions	• Transit Card distribution for specific TCA and associated concession
Reporting	• Process performance reports • Concession Authoriser reports • Concession usage reports
Concession Technical Services	
API support and maintenance	• Transit Card bulk ordering API • Concession authorisation/ registration API • Concession configuration portal • Integration consultancy
TCA On-boarding Services	
Certification and audit	• TCA readiness assessment • Transit scheme adherence audit (recurring)

9.4.5. Transport Operators

The following table sets out the main functions of the SSO in the relationship with the multiple TOs. The primary responsibility for service interaction in respect of the NTS lies with the TSO, however, there are limited service interactions that will occur directly between the SSO and the TOs.

SSO (TO) functions	Scope
Governance and relationship management	
Governance	• Definition of and participation in service governance forums • Joint strategic planning (in conjunction with TSO) • Innovation planning (in conjunction with TSO) • Event, Incident and problem escalation
Relationship management	• Liaison with national operators • Point of escalation for issues between TSOs and TOs
Ticketing Solution Implementation – all services provided jointly with TSP *Includes both initial implementation services and on-going implementation for periodic changes and on-boarding of TSOs*	
Ticketing solution Support and Maintenance	On-going engagement for all changes affecting the Ticketing Solution: • Analysis, design approvals • Planning for scheduled enhancements • Emergency and priority changes • Infrastructure changes • Refresh and upgrades
Solution effectiveness and efficiency	• Identification of potential effectiveness and efficiency options for the Ticketing solution • Joint analysis and assessment
Ticketing Solution Transition Support (jointly with TSO)	
Transition Management	• Co-ordination and liaison with TSO and all suppliers • Transition scope and engagement requirements • Transition analysis and data collation • Best practice artefacts and approaches
Communications management	• Jointly with respect to any ticketing solution changes and customer impact • Provision of centralised and 'templated' communications models (e.g. customer education base information)
Transition readiness assessment	• End to end transition readiness assessment prior to any cutover activity • Transition readiness remedial action plan
General operations management	
PCI compliance	• Maintenance of compliance across end-to-end solution
Ticketing Incident Management	• Escalation point for any Ticketing Incidents that require SSO or TSP intervention or activity • Provide guidance as required for resolution requirements • Provide data for analysis assessment of any escalated ticketing incident

9.4.6. Data Consumers

The following table sets out the main functions of the SSO in the relationship with Data Consumers. NZTA may be a Data Consumer but this will be distinct from their role as Scheme Provider/SSO. Therefore, they may have a relationship with themselves.

Note that not all of these services will apply to all Data Consumers. For example, an organisation which is authorised to consume data under an Open Data initiative would not be expected to participate in joint strategic planning.

SSO (Data Consumers) functions	Scope
Governance and relationship management	
Governance	• Single point of contact for data provision for the Buyer and for the Data Consumers • Definition of and participation in data governance forums • Joint strategic planning • Innovation planning
Relationship Management	• Operational relationship management • Service delivery • Service improvement • Issue escalation and treatment • Regular meetings and associated forums
Commercial and Contract Management	• Data contract management • Commercial relationship
Performance Management	• Performance measures, monitoring and reporting • Performance issue identification • Performance issue resolution including any commercial resolution
General Operations	
Change Management	• Change planning and scheduling • Change approvals and funding • Change aggregation and prioritisation • Change lifecycle management and monitoring
Event, Incident and Problem Management	• On-going processes for identification, monitoring and reporting • Agree resolution approach • Resolution implementation monitoring • Issue resolution closure
Communications management	• Jointly with respect to any ticketing solution changes and data impact
Business Process Outsourcing (BPO) Services	
Contact Point	• Provide appropriate contact points to Data Consumers for escalation or notification of any matters relating to data provision • Agree reporting and notification processes and protocols • Provide escalation as required to TSOs / TOs for any matters raised that require resolution or decision
Information Technology Outsourcing (ITO) Services	
Contact points	• Provide appropriate contact points to Data Consumers for escalation or notification of any matters relating to IT outsourced services scope
Major Incident Protocols	• Jointly develop and agree the protocols, responsibilities and actions required of each party in respect of any major data-related IT incident • In particular, provide direction for dealing with urgent customer impacting events, such as data or privacy breach

Reporting	• Identify and agree the reporting and exception identification triggers for any in-scope services for the Data Consumers

9.4.7. Internal to SSO

The following table sets out the main functions of the SSO required for the SSO itself to function effectively. For example, the scope of finance services here are those related to the SSO finances only, not in relation to the NTS.

SSO (internal) functions	Scope
SSO Internal Functions – Governance and Management	
Executive Officer functions	• Appropriate governance structure • People
Administrative support	• Administrative and executive support services • Governance secretariat • Internal processes and procedures
Professional Services *(probably externally engaged but could be in-house)*	• Legal services • Audit Services • Regulatory
Compliance and Risk	• Compliance and risk management (for SSO)
Project Management Office (PMO)	• PMO reporting • PMO project reviews and compliance • PMO project support • PMO project recovery • Internal project life-cycle management
SSO Internal Functions – Support	
SSO Facilities Management	• Buildings and facilities management
SSO Procurement and Supply	• SSO services and administrative requirements • Consumables • Services (power, Telco, office administration, etc.)
SSO Commercial and Legal *(For scope of services provided direct to SSO outside of the Ticketing Solution and Financial Services providers)*	• Commercial and contract management • Reporting • Performance management
SSO IT & T	• IT equipment and systems, including related services such as video conferencing, printing and copying • IT Security and networks (not NTS) • IT software and licences (not NTS)
SSO People	• Recruitment • Training • HR support • Travel
SSO Financial (Not NTS)	• Banking services • Insurances • Management accounting and reporting • Treasury, funding and debt management

SSO Document and Knowledge Management	• Document management • Portal content management • Information services systems and capabilities
SSO Communications	• SSO branding, messaging and external communications
PCI compliance	• Maintenance of compliance across end-to-end solution

9.5. SSO Establishment

9.5.1. SSO establishment functions

A range of functions are required for the establishment of the SSO. These functions will either end at the completion of the SSO establishment phase or transition into an ongoing internal function.

SSO function	Scope
SSO Establishment	
SSO Establishment Planning	• Organisational design • Facilities requirement, options and sourcing • Functional requirements and specifications • Funding requirements and planning • Legal and commercial requirements • Communications with TSOs • Identify and evaluate options for capital purchases and significant decisions (e.g. SSO location and funding) • Service and financial contingency planning
SSO Procurement (Est.)	• Establish procurement requirements • Establish procurement arrangements • Undertake procurement processes for SSO establishment and scope
SSO Legal Services (Est.)	• Legal support for the entity establishment and governance • Define and agree scope of legal services required, e.g. MSAs with the TSP and Financial Services Providers, participation agreements, TCA form agreements etc. • Risk management
SSO PTA Consultation and Communications	• On-going consultation with TSOs for scope and support of services required • On-going communications through establishment phase
SSO Facilities leasing	• Procure appropriate facilities
SSO Facilities fit-out - General	• Facilities fit out for office space • IT & T and supporting infrastructure • Security and access control
SSO Facilities fit-out – Contact Centre	• Contact centre specification and design • Contact centre fit out
SSO Infrastructure install	• Telecommunications and networks • Communal facilities • Communications services (video conferencing etc.)
SSO Recruitment and Training	• Organisational design and planning • Recruitment planning and prioritisation

	• Secondment and transfer options and implementation / transition • Engagement of recruitment firms • Recruitment commencement (to establish) • Training needs analysis • Training planning • Training collateral • Training facilities • Work-stream initiation
SSO Operational Services establishment	• Functional decomposition and process design • Resourcing model development • Role descriptions and requirements • Recruitment / sourcing commencement • Work-stream initiation
SSO Reporting and Data establishment	• Reporting requirements • Reporting strategy (providers, 3rd party support, in-house) • Solution and services establishment (e.g. business intelligence, data extraction) • Data requirements • Data strategy (providers, 3rd party support, in-house) • Work-stream initiation
SSO Process and Document establishment	• Process and procedure sourcing (TSP, TSOs etc.) • Process and procedure development prioritisation • Process and procedure development and testing • Work-stream initiation
SSO BCP plan development and establishment	• Scope and plan for BCP for the scope of SSO services • Development and approval of staged plan – including fall back options with TSOs • Work-stream initiation
SSO Systems - Ticketing Solution	• Define and agree Ticketing solution establishment requirements with TSP • Develop NTS establishment plan - Ticketing • NTS Ticketing Solution establishment work-stream initiation
SSO Systems - Financial Services	• Define and agree Financial Services solutions establishment requirements with each of the Financial Services providers and the TSP • Develop NTS establishment plan - Financial Services • NTS Financial Services establishment work-stream initiation

9.6. Joint Responsibility Matrix

The Joint Responsibility Matrix identifies, for each Service, the breakdown of responsibility between the various parties involved.

The JRM is included in Appendix F – Joint Responsibility Matrix.

9.6.1. Definitions

The table below defines the terms used in the JRM:

PC	Provides capability	This party provides capability (usually in the form of software or systems) which is used by another party to deliver the service. For clarity a party which Provides Capability will not have staff or other resources involved in the ongoing delivery of the service.
C&R	Capability and Resource	This party provides both capability (usually software or systems) and resource (usually people) to deliver the service. In many cases the TSP may provide both Capability and Resource and the resources may work alongside Resources within the SSO who have formal delivery responsibility.
D	Delivers	This party utilises capability provided by another party and delivers the service to one or more other parties. The Deliverer of a service takes primary management responsibility for that service.
C	Consumes	This party makes use of a service provided by another party. There may be multiple Consumers of a Service. A Consumer may also, in some circumstances, make use of a service on behalf of others e.g. a TSO may Consume a service on behalf of passengers.
O	Operates	This role is similar to Delivery in that this party takes a service which is provided by one party and passes it on to another. However, in this case the Operator simply facilitates the delivery of the service in a "pass-through" model.
M	Manages	This role is similar to Operate in that this party takes a service which is provided by one party and passes it on to another. However, in this case the Manager provides a basic Management capability to ensure quality of service delivery. They do not, however, provide an in-depth delivery capability.
JR	Joint Responsibility	Two or more parties share responsibility for delivering a service. The exact split of responsibilities will be determined when detailed design of the service is completed. It is anticipated that one party will have primary responsibility at that stage but is described as a joint responsibility for now.

Table 7 - Joint Responsibility Matrix definitions

It may be easiest to explain some of these definitions by way of an example:

Exception handling service within the Day-to-Day Financial Operations area. The TSP provides capability by way of settlement and reconciliation reports which are distributed to the SSO and, as applicable, TSOs, TOs and Financial Services Providers. If an exception is detected this is raised via the SSO to the TSP. Both the TSP and the SSO will have teams of staff who can investigate the cause of the discrepancy, making use of data enquiry tools provided by the TSP. So, in this case, the TSP provides Capability and Resource, the SSO Delivers the service and the TSOs, TOs and FSPs Consume the service.

9.7. Boundaries of responsibility

It is clear that some Services will involve multiple parties. If we take Asset Tracking as an example, the TSP will provide the central capability and resources, but the SSO and (potentially) some TSOs will have their own staff involved in providing the service. The exact details of the division of responsibility cannot be determined at this stage and will be finalised during detailed service design.

Appendix A – Glossary of Terms

Appendix B – Wellington Rail Network

Wellington Rail Network Map

Figure 18

Wellington Rail Network – Key Statistics

Aspect	Numbers
Rail stations	48 stations
Rail platforms	84 platforms
Platform facilities	All stations have covered waiting facilities of some kind, lighting, CCTV, PA, help points, cycle storage etc., and all but two have fibre connection. Most have one or more RTI display signs providing real-time train arrival information and customer messaging. Some stations have permanent buildings, and approximately 6 are staffed with a Metlink ticket sales capability during core hours.
Rail lines	• **Johnsonville line** - Extending 10.5km north, terminating at Johnsonville. Maximum journey time 23 minutes. • **Kapiti line** - Extending 55.5km north on the North Island Main Trunk route, terminating at the limit of the overhead electrified lines at Waikanae. Maximum journey time 60 minutes. • **Hutt Valley line** - Extending 32.5km north-east (plus a short branch to Melling), terminating at the limit of the overhead electrified lines at Upper Hutt. Maximum journey time 45 minutes. • **Wairarapa line** - Extending 91 km north-east (first 58.5km of route common with the Hutt Line), terminating at Masterton. Maximum journey time 1 hr 50 minutes.
Annual rail patronage	14.3 million passenger trips (p.a.) broken down as follows: • Johnsonville line 10% • Kapiti line 42%

	• Hutt Valley line 42% • Wairarapa line 6%
Rail peak patronage	Represents around 39% of Wellington's entire peak patronage
Origin-destination	Around 80% of all rail journeys originate or terminate at Wellington Railway Station
Multiple leg journeys involving rail	6% use a bus feeder connection 2% use a bike

Wellington Rail Network – Ticketing

Wellington has a range of ticketing options for Rail passengers – all paper-based. Individual trip tickets can be purchased from Ticket Offices or on-board trains. Wellington's rail network utilises the same 14 concentric zone structure as for Bus, but has a separate (and non-integrated) fare structure.

The split of sales (2016/17 data) from the ticket options is approximately as follows:

- 45% of revenue is from Monthly Passes
- 35% of revenue is from 10-trip passes
- 20% of revenue is from individual trip tickets

Ticket options for rail are as follows:

Ticket type	Comment
Ticket channels	Train stations (10 stations only for limited hours) Ticket agents On-board trains Online (monthly pass only – posted out after online process) *Not all types of tickets can be purchased in all channels*
Individual trip tickets	Paper tickets are in 12 standard denominations (50, $1, $1.50, $2, $2.50, $3, $3.50, $4, $4.50, $5, $6, $10). Based on the number of zones travelled, the appropriate number of tickets are given.
10-trip tickets	Zone to zone – 140 combinations Cannot be purchased on-board Are manually clipped for each trip taken by a Train Conductor
Monthly Pass	Zone to zone – 32 combinations Cannot be purchased on-board Must be displayed for each trip taken by a Train Conductor
Monthly+ Pass	Same as monthly pass but includes free use of a feeder bus in originating zones (does not include City zone)
Metlink Explorer Day Pass	4 options based on number of zones travelling Can be purchased on-board

In total Wellington has 284 different rail ticket options broken down as follows:

Ticket type	Number of variants
10-trip ticket	140
Cash tickets	92
Day Pass	4
Event tickets	9

Free travel concession	5
Journey based fare (Transfer)	1
Monthly Pass	32
Payment notice	1
TOTAL	**284**

Wellington Rail Network – Revenue protection

The only revenue protection currently undertaken is the inspection on-board by Passenger Operators who must either (1) sell a ticket, (2) clip a multi-trip ticket, or (3) inspect a valid monthly pass or paper ticket. On some peak services, it is challenging for the Passenger Operators to inspect every passenger before they alight from the service. This results in some revenue loss (but this is difficult/impossible to accurately quantify).

Transit Data

Ticketing data is limited to ticket sales data. Paper tickets on-board are sold in 12 denominations with the appropriate value given to a customer depending on the number of zones they travel in. This makes it impossible to accurately relate the number of tickets sold to the number of passengers.

Journey data (boarding and alighting) is provided by the rail operator (Transdev Wellington), derived from APC (Automated Passenger Counting) on trains and specific survey activity.

In combination this data provides limited potential for accurate revenue protection or planning use.

Appendix C – NZ Patronage Forecast

Appendix D – National Fare Summary

Appendix E – Ticketing Equipment Summary

Appendix F – Joint Responsibility Matrix

END