

Project Name: On Bus Connectivity

Project Document: Business Case Exec Summary

Author: Mark Broadbent

Date: 25/05/21

Project ID: 17100020



Version 2.2 Approved 22/05/19



Business Need / Problem

In February 2017, the New Zealand Human Rights Commission notified AT of complaints from the Blind Citizens NZ of alleged unlawful discrimination under Part1A of the Human Rights Act 1993. Both parties agreed to mediation. One of the key mediation outcomes was AT committed to considering on Bus next stop audio announcements.

HOP balances are currently updated eight time per day by the HOP system and for Bus users it can take up to 72 hours for online top ups to appear on a HOP card. This reduces customers trust in the reliability of the HOP payment system. 40% of calls to AT's Contact Centre prior to 8am relate to HOP balance enquiries.

Customers attempt to tag-on after topping up and often receive an insufficient balance tone/message when attempting to board a Bus (>8k occurrences per month). This is a cause for Customer complaints and confusion.

AT have publicly announced they are committed to the Auckland Council policy : "Māori language being seen, heard, spoken and learnt throughout the transport network".

Concept

Current State	Future State
<ul style="list-style-type: none"> Customer top-ups are not reflected on their Card when travelling No audio announcements or visual next stop information a barrier to travel for many No transfer, safety audio or disruption information on the Bus 	<ul style="list-style-type: none"> Faster, more accessible Customer top-ups Bi-Lingual Audio announcements on ALL buses Connected Bus – an enabler for project NEXT Transfer (Interchange), Safety and Disruption Information



Project Funding			
Opex WBSE			
Capex WBSE		C.101578	
Consequential Opex WBSE		See Slide 3	
Funding Source			
BT	Yes	\$845k FY19/20 \$949k FY20/21 \$7.551m FY21/22 \$286k FY22/23	
NZTA (Non Retrospective)	Yes	46% NZTA Contribution	
Business Unit	No	n/a	

Financials Summary *	FY18/19/20	FY20/21	FY21/22	FY22/23
	CAPEX	CAPEX	CAPEX	CAPEX
External Labour	\$195,816	\$80,000	\$1,965,000	\$229,136
Internal Resources	\$247,003	\$286,656	\$357,230	\$56,525
Hardware Contingency		\$38,000	\$3,995,772	\$350,000
Software	\$402,438	\$544,842	\$689,796	
Licencing			\$193,433	
Sub Total	\$845,257	\$949,498	\$7,551,230	\$285,661
Consequential OPEX – Slide 3				
Total = \$9,631,646	\$ 845,257	\$949,498	\$7,551,230	\$285,661

Goal / Outcome

- Reset the current 72-hour SLA for customers whereby online top-ups will be reflected on their HOP Cards on average hourly.
- Reduce the calls to AT's Contact Centre with respect to Top-up enquiries by 20%.
- Reduce the number of declined trips due to extended time to process top ups by 60%, and associated revenue lost.
- Resolve the Blind Citizens NZ complaint to the Human Rights Commission is respect to getting off the Bus.

Benefits – elaborated in subsequent slides

- Faster, more accessible HOP top-ups
- Reduction in calls to Contact Centre
- Improved accessibility, especially for the visually impaired
- Improved Cust exp, especially for infrequent users & tourists
- Kia Kaha te Reo Maori
- Safer journeys
- Transfer info providing customers confidence to travel
- Cost out – AVL Replacement
- Enabling future capability and experiences

In Scope

The project will procure, install and rollout new on-board Bus equipment to provide:

- Bi-lingual (English and Te Reo) stop audio announcements
- Enable disruption messages to be communicated on-board
- Updates for EDW/Vertica/GIS reporting
- AT centralised control system to update Bus configurations remotely
- Replacement for the current on Bus Smartrak AVL
- Command Centre updated to accommodate key Smartrak user interface functions
- Update the Thales Bus Driver Console (BDC) software to enable frequent exchange of HOP data to and from each Bus
- Full rollout to ALL Buses that provide regular contracted services to AT, circa 1450 buses, plus spares allocation
- All Bus types including electric, diesel, hydrogen etc

Out of Scope

- Visual stop info on Buses with pre-existing usable screens
- Vehicles that support AT On Demand eg AT Local vans and cars
- Work associated with project NEXT
- Third party equipment integration eg eRoad, Hanover, CCTV
- Installation to any Buses that are planned to be withdrawn/retired from the fleet within the rollout period
- Any delivery work with respect to Driver Display Consoles, Hail my Bus, Headway, and driver detour information

Departments Impacted

- Customer & Digital Exp, Customer Services, Digital & Tech Delivery, Sec/Dev/Ops, Corporate Analytics, Metro Services, Integrated Network Commercial, Safety Enablement, Maori Policy & Engagement & Finance

Business & Residents Engagement

Customer research conducted

*Note this is the Full Business Case which replaces the Interim Business Case previously authorised on 31/03/20. The Interim Business Case had provided a full BC cost estimate of between \$6m to \$12m depending on the outcome of the procurement RFT process.

Approvals

Role	Name	Signature
CEO	Shane Ellison	09/07/2021
EGM Business Technology	Roger Jones	08/07/2021
EGM Customer Experience	Vanessa Ellis	
EGM Integrated Networks	Mark Lambert	
EGM Finance	Mark Laing	
Finance	Dave Martin	
DE Manager Reviewer	Lisa Read	

DocuSigned by:

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Lisa Read
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**Risks**

- The Blind Citizens NZ complaint to the Human Rights Commission is not addressed to their satisfaction who in-turn lodge proceedings with the Human Rights Tribunal
- Uncooperative Bus Operators - Tranzurban have for example raised concerns in respect to drivers who would be forced to listen to announcements throughout their shifts.
- Project NEXT will require a connected Bus, however, the nature and specification of this is uncertain at this point and subject to a NZTA market process.
- Negative Customer feedback – mitigated through Comms Plan

Project Milestones

1. End of RFT Due Diligence 21/05/2021
2. Order Contract authorised 11/06/2021
3. Rollout to all buses begins 11/09/2021
4. Rollout to all buses are complete 11/09/2022

Resource Requirements

- Thales – for HOP equipment software changes and Testing
- Torutek – supply of solution and equipment, project management, technical SMEs
- Internal BT Resources: Solution Architect, Project Management, Business Analysis, Scum Master, Security SME, Network SME, Testing resources, EDW specialists
- Field Services Maintenance - Installer (currently HTS)
- Customer Experience - Wayfinding Product Owner, Data Team, HOP Team
- Bus Operations – Contract specialist, Bus Operator Account Managers
- Integrated Networks Commercial – for any Commercial/Contractual changes
- Representation from the Blind and low-vision
- Maori engagement team representation
- Safety team representation
- Comms representation

Deliverables

1. New on-board equipment for all Buses - Controller with 32Gb storage and additional I/O, GPS, accelerometer, and the for Buses with no current audio an amplifier, cables & speakers (8 for single decker & 16 for double)
2. Removal of the Smartrak AVL
3. Device management solution
4. Thales - software changes to the AIFS system to accommodate frequent HOP data exchange, Bus Driver Console software update and new centralised MDC instances
5. Established On Bus Connectivity Test system
6. Order Contracts and Software Licensing/SaaS
7. Changes to BAU process for Stop Data management to include Audio files
8. Revised Contract Schedule with Bus Operators, specifying this new equipment and on-Bus experience changes, covering existing Buses and new Buses to be added to the Fleet
9. Update to the Field Services Maintenance contract to include the new On Bus equipment and maintenance
10. EDW updated reports

Assumptions & Dependencies

- The Customer Experience Team will own the on-Bus Audio experience, including announcements, timing, content, Maori engagement, Blind and low-vision engagement with work funded through the project
- Metro Services will also manage Bus Operator communications to facilitate on bus field service installations and advise on which Buses to exclude which are nearing end of life.
- The contracted Field Services Maintenance provider will install and maintain the On Bus equipment
- The existing Bus antennas / aerials will be utilised for this solution
- Equipment and installation costings are based upon the Fleet equipment profile sourced through Bus Ops
- The Smartrak AVL support agreement expires on 31/05/2022 – AT will need to renew support for the remaining Smartrak AVLs that exist on the Bus network at the point of renewal.
- AT will own the equipment and there will be no lease /rental agreement with the Operators (as is the case today for the on Bus Smartrak AVL and aerial which are owned by AT).

Project Approach

- RFT due diligence will be execute in parallel to Thales BDC software development to save time.
- Equipment will be ordered / delivered in tranches to avoid potential over supply and storage issues
- Rollout will seek AT preferences but will largely be driven by Installer (HTS) & Bus Operators needs to upgrade the Bus fleet as quickly as possible balancing Bus Operators needs to fulfil their service obligations
- Project contingency draw-downs will be governed by the Metro–HOP PgCG

DRB Design ApprovalYes No n/a

BT SLT Approved (On Bus Solution Design overview included in final slide)

Business Value & Detailed Benefits – further elaborated on subsequent pages

Safety	Customer Experience	Integrated Journeys	Network Efficiency	Access	Regeneration	Equity	Health & Environment	Engagement	People	Innovation	Financial
Major	Major	Major	Minor	Minor	Minor	Major	Minor	Minor	Minor	Major	Major

ID	Benefits - Brief Description	Business Owner	Target	Measurement	Measured By	Planned Due Date
1	Reduce the number declined trips due to extended time to process top ups	Jane Wallwork Customer Experience	60% Reduction	HOP Tags (insufficient funds)	HOP Declined trips	Sept 2022
2	Increase in uptake of online top ups	Jane Wallwork Customer Experience	10% increase	Online Top Ups	Number of online top ups	Sept 2022
3	Reduction in HOP Balance queries to Contact Centre	Richard Griggs Customer Services	20% decrease	Number of calls	Number of HOP Balance cases	Sept 2022



APPENDIX : Consequential OPEX

Consequential OPEX					BU Cost Centre Assignments		
Hardware Maintenance & Support					Future FY		
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24		Department	WBSE / Cost Centre
Support, Spares Mgmt & Account Mgmt	Torutek	capitalised	\$150,500	\$150,500		CX	E.007160.02
Bus Vehicle AVL (to be replaced)	Smarttrak	cost reduction dependent upon Bus rollout progress	-\$600,000 cost reduction (assumes majority of fleet transitioned)	-\$703,514 cost reduction		CX	E.007160.02
Software Maintenance & Support							
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24		Department	WBSE / Cost Centre
Management software	Torutek	capitalised	\$40,000	\$40,000		CX	E.007160.02
Licensing Renewals							
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24		Department	WBSE / Cost Centre
Subscription Service Renewals							
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24		Department	WBSE / Cost Centre
Mobile Data usage	Vodafone	charges dependent upon Bus rollout progress	\$101,178	\$101,178		BT	8507
Device Management	AWS	capitalised	\$166,405	\$166,405		CX	E.007160.02
LTS Security Update	Ubuntu	capitalised	\$27,028	\$27,028		CX	E.007160.02
Professional Services (Labour)							
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24	Department	WBSE / Cost Centre	
Other							
Description	Vendor / Supplier	FY 2021/22	FY 2022/23	FY 2023/24	Department	WBSE / Cost Centre	
Audio Talent / Studio costs	TBC	capitalised	\$40,000	\$40,000	CX	E.007160.02	
Totals			-\$74,889	-\$178,403		-\$178,403	

Transfer these totals to front page of Business Case summary. Add additional line items as appropriate.

Note-

Hardware & Software Maintenance and support covers all aspects of maintenance and the third-party application or hardware support. Excluding licensing renewals or subscription services which are recorded separately.
Professional Services covers labour only support elements where a vendor/Supplier may provide additional support over and above the standard maintenance on a time / materials basis.
Other may include items like mobile data / network costs

Additional Information



NZTA Business Case Benefit Cost Ratio

Benefit and cost appraisal

Medium

The BCR is calculated as 4.4 core estimate based on those benefits which are fully Economic Evaluation Manual (EEM) compliant (Infrastructure benefit to users, operational (Licence) cost saving and Quicker HOP top up)) for the recommended option, giving it a High rating for the benefit and cost appraisal.

In addition, the economic analysis includes an expanded (social inclusion, customer compliant reduction and labour cost reduction) BCR of 6.6, which adds to the core BCR the benefits identified by Auckland Transport which are not recognised within the EEM, but which are appropriate for this activity.

Core Benefits	NPV
Infrastructure benefit to users	\$26,316,790
OPEX (Licence) cost saving	\$1,392,422
Quicker HOP top-up	\$6,876,568
Total Core Benefits	\$34,585,780
Capital (CAPEX) Cost	\$7,802,212
Core Benefit/Cost Ratio	4.4
Total Core + Expanded Benefits	\$51,659,541
Capital (CAPEX) Cost	\$7,802,212
Core + Expanded Benefit/Cost Ratio	6.6

The benefit and cost appraisal generally align with the guidance in the EEM and supports the choice of the preferred option which delivers very high from a value for money perspective.

The analysis is over a 10-year period (based on economic life of this investment) with a discount rate of 6%. The 10-year period was used (aligned with Section 1.6 of the MBCM)⁷;



BUS FLEET PROFILE

FLEET METRICS	#
Bus Fleet (Installed)	
Fleet Size	1361 *
% Single Decker (SD) vehicles	85%
% Double Decker (DD) vehicles	15%
Amplifiers (Installed)	
% with Amplifier	8%
Speakers (Installed)	
% with Speakers	35%
Speakers per SD	8
Speakers per DD	16
Screens (Installed*). Note: enabling these screens is out of scope of the project	
% with existing screens	5%
Screens per SD	2
Screens per DD	4
Other	
% Required Stock	5%
% Anticipated Fleet growth PA	2.6%
Test Equipment / Lab	5
Bus in a Box	5
* SkyBus fleet included – Replacement of AVL only. No Audio/Displays required as these Buses have their own infotainment system as a non-contracted Operator.	19



Audio on Buses - Key Research Findings

- 1** 100% of customers said audio messages are helpful for them navigate Auckland
- 2** Te reo Māori messaging was very well received and considered important
- 3** Using te reo first provided a 'cue to listen' to the English stop announcement
- 4** 90% of customers appreciate info about where to transfer to other PT services
- 5** Timing of the stop announcements is key for customer success
- 6** We consulted bus drivers who told us customers often ask them to call out when to get off for landmarks
- 7** We trialed some additional storytelling audio which was very well received
- 8** The message "Hāere mai, welcome to Tāmaki Makaurau Auckland" was well received for Airport stops
- 9** Customers and drivers find landmark information more helpful than street numbers
- 10** Customers found street names more memorable than street numbers



Recommended Audio experience

Core message

Stop address + landmark

ko te pūtahi o te taone o Māngere

Te reo

Mangere Town Centre

English

Transfer info (high usage interchanges)

Whakawhiti i kon ei ki nga tereina o Britomart

Te reo

Change here for trains to Britomart

English

Opportunity for Additional Messaging

Safety

Taihoa, e noho koutou, tae noa ki te tūnga a te pahi

Te Reo

Please stay seated until the bus has stopped

English

Sense of place

Hāere mai, welcome to Tāmaki Makaurau Auckland

English & te reo

Events

Take the bus to the Santa Parade this weekend to avoid traffic

English & te reo

- 89% will have Te reo and English messaging (+20sec gap between stops)
- 9% will have a single language message (14 - 20sec gap between stops)
- 2% will have no message (<14sec gap between stops)

- 13% opportunity for additional messaging (>60sec gap between stops)



Key Benefits

- Faster, more accessible HOP Top Ups
- Reduction in calls to Contact Centre
- Improved accessibility
- Kia Kaha te Reo Maori
- Safer journeys
- Traveling with confidence
- Cost out - AVL replacement
- Enabling future capability and experiences



Faster more accessible HOP Top Ups

Current: Up to 72 hours *

Future : On average hourly



Benefits [Owner: Customer Experience]

- Shift 10% of top ups from high cost to serve channels (Retailers, CSCs, top-up machines) to Online
- Reduce the estimated \$1.6M revenue hole from insufficient HOP Funds lost annually **
- Increase customer confidence in AT HOP due to more frequent balance updates
- Increase in the number of online top ups from bus customers
- Increase in Digital adoption by our Customers
- Patronage increase from Customers who are otherwise denied travel with insufficient balance on their HOP Cards

* Top ups to HOP Cards taking up to 72 hours impacts 3% of our customers based upon Oct 2020 data.

** This is an estimation based on the ratio of unpaid HOP ticket to unpaid fare ticket volumes (since august 2020), extrapolated by Cash revenue loss predictions for 2020, while assuming HOP yield of \$1.47.

How frequent can HOP Top-ups be applied?

- The frequency is dependent upon the Thales system - both the Thales central AIFS and the on-board Thales equipment.
- Online Hop Top-Ups are processed by Thales as "Actions". All "Actions" are published to an Action List. The Action List once published will be sent via the mobile network to Buses and downloaded to the Bus Driver Console (BDC) and shared with the Validators. In the process of Tagging On/Tagging off "Actions" (Top Ups) are applied to the HOP Card.
- **Thales have stated that they can support hourly updates.**
- There will be exceptions when hourly updates cannot be achieved, for example when the Bus is outside cellular coverage, or the Engine is switched off.



Examples from other Transit Authorities

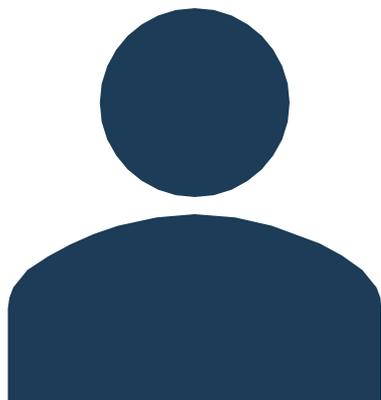
Their guidance to Customers on when they would expect to see the Top Up on the Card

City / Area	Card	Online Top Up/Purchase Timeframe
Sydney	Opal	Up to 60 minutes for buses
Boston	Charlie Cad	By 5 am the following day
Houston	METRO Q Card	24 to 48 hours
NYC	SmartLink	Up to 48 hours
Seattle	Orca Card	24 to 48 hours
Brisbane	Go Card	Up to 60 minutes
Canberra	MyWay	Within 5 days of payment
NZ (various regions)	Bee Card	12 Hours
Kent	Get Me There	The following day
UK (various regions)	The Key	3 hours
London	Oyster Card	30 minutes



Reduction in calls to the Contact Centre

40% of all Contact Centre calls prior to 8am relate to HOP Balance enquires



"Why was I denied
Travel?"

"I topped up!"



"We see that you have
completed a valid Top
Transaction for your
HOP Card but
unfortunately it can take
up to 72 hours for these
funds to appear on your
Card"

Benefits [Owner: Customer Experience]

- Reduction in calls to the Contact Centre relating to HOP balance queries by 20%



Improved accessibility



“Access to transport is a critical issue for disabled people so that they can participate equally in life and society”

The Auckland Branch of Blind Citizens NZ alleges Auckland Transport unlawfully discriminates under Part 1A of the Human Rights Act 1993 against blind and vision impaired users of public transport by the way it delivers public transport services that fails to accommodate their disabilities.

AT had committed through mediation (in Sept 2017) to consider and discuss a solution within three months.

Benefits [Owner: Customer Experience]

- Implementation of on Bus stop audio announcements shows good faith and commitment from AT with respect to the mediation process.
- It helps disabled people participate equally in life and society.
- It also mitigates the likelihood of Blind Citizens NZ choosing to lodge proceedings with the Human Rights Review Tribunal.



Kia Kaha te Reo Māori



"Māori language being seen, heard, spoken and learnt throughout the transport network"



Auckland Council Māori language policy

Te Koronga, Purpose

Auckland Council aims to:

- Ensure that anyone who receives or uses Auckland Council's services or contributes to the democratic process has the choice to do so in Māori or English.
- Encourage the use of the Māori language in the community.

Ngā Mātāpono (principles). The principles that underpin this Māori Language Policy are:

- Māori language is a cultural treasure which is at the heart of Māori identity
- dialects reflect tribal identity and considerations have been made in this document because te reo Māori is an official language of Aotearoa, it shall receive equal status to the English and Sign languages
- Auckland Council is committed to celebrating Māori identity - 'Auckland's point of difference in the world'.

The Auckland Council's Māori Language Policy was endorsed through the Māori Responsiveness Plan in 2017 by the AT Board. AT has made a commitment in the Statement of Intent 2018/19 - 2020/21 to deliver te reo Māori initiatives including announcements on the public transport network.

Benefits [Owner: Maori Engagement]

- Auckland Transport is seen to encourage the use of Māori in the community and celebrate Māori identity.
- Auckland's point of difference in the world



Safer journeys



On bus announcements enable us to provide frequent & relevant safety information to passengers, such as COVID-19 related messaging or passenger reminders to remain seated between stops and to hold on tightly when standing to avoid falls.

AT's CRM system has multiple records of Customers advising AT in respect to Bus severe braking/acceleration and resulting in passenger injuries. Between May 2019 and November 2020 there were 94 cases logged relating to falls and injuries.

CAS-1111340-Z1Y2M2: We were getting off at the bus stop 5571 at Royal rd. We pressed the bus stop button before the lights, still on Makita rd When the bus driver didn't stop my partner has got up to ask him to stop. The bus driver has stopped so abruptly that my partner has fallen down the aisle and injured himself. The driver did not apologize and did not seem to care at all, he was just staring at us angrily.

CAS-1122851-R7P0V4 : I am contacting today to report a safety concern regarding the bus driver on the 25L arriving opposite the Auckland Metro at around 6:45. When getting off at around 7:10 the bus driver who was driving very fast slammed on breaks instead of coming to a gradual stop. This caused me to go flying forward two seats, thankfully landing shoulder first into a backward facing seat very nearly hitting my head on a pole. While I will admit some part in this due to standing up early, the driver was going way too quickly and slamming on the breaks causing a major safety risk.

CAS-20636-Q7V0V7: I want to report a very serious safety incident on the 82 bus - from the Civic to Takapuna today. The Caucasian driver had blonde, wispy hair and I think a moustache. We arrived at Takapuna about 8.02 am, and the number plate of the bus was GSN318. When we were travelling from the Civic to Takapuna, when the driver reached the Vic Park intersection, he slammed on the brakes at an orange light. The force was so severe it threw many of us forward with such impact. I would not be surprised if the poor lady in the disabled seat would need medical treatment. There were screams and yells as we were thrown forward so unexpectedly. I would hate to think of the outcome if there had been children or elderly on the bus. The driver knew he had made a serious error as he kept on apologizing for the duration of the trip. However, he did not check on the poor girl in the disabled seat, who could have been seriously hurt. I felt very terrified and unsafe when this happened. I look forward to hearing your investigation.

Benefits: [Owner : Safety Enablement]

Remain seated until stopped and hold on tightly when standing re-enforces key safety announcements for passengers (and drivers) and helps avoid injury.



Traveling with confidence

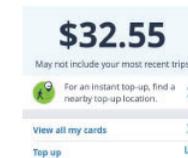
Stop and Transfer (Interchanges) audio announcements will provide wayfinding information to Customers, particularly relevant to tourists, blind and low vision and customers un-familiar with the route.



~~Where Buses have visual displays (screens) installed equivalent stop, and transfer information will be displayed.~~



To hourly updates for up-to-date customer's balance and transaction information in AT Mobile and MyAT.



AT Drivers receive between 5000-7000 requests per day to call out Stops by passengers. Drivers do often forget as their primary role is to drive the Bus safely.



Benefits [Owner: Customer Experience]

- Additional patronage resulting from Customers utilizing Bus services who currently avoid public transport due to anxiety with Transfers.
- More up-to-date HOP Card information on AT Mobile and AT Web provides Customers with the confidence to travel knowing they have sufficient funds.



Cost out - AVL replacement

The current AVL (Automatic Vehicle Locator) will be replaced by new On Bus equipment that serves both bus location information, plus wider reaching benefits already described.

The screenshot shows the AT Command Centre interface. On the left, there is a search bar and a sidebar with trip details. The main area is a map of Auckland with a bus route highlighted. On the right, there are filters for operators and settings.

Trip Details:

- Total Capacity: 73
- Seating Capacity: 49
- Occupancy status: Many seats available
- Route: TMK
- Description: Glen Innes To Britomart Via St Heliers And Tamaki Dr
- Operator: NEW ZEALAND BUS
- Trip Start Time: 16:00:00
- Route ID: TMK-202
- Trip ID: 1276-07701-57600-2-092efc9d

Trip progress:

Stop	Description	Sched	Departed/Due
8799	Stop A Glen Innes	16:00	16:00
1825	Opp 128 Apirana Ave	16:01	16:01
7067	45 Apirana Ave	16:03	16:02 (Early 1 min)
8261	17 Apirana Ave	16:03	16:02 (Early 1 min)
7841	305 St Heliers Bay Rd	16:05	16:04 (Early 1 min)

Benefits [Owner: Customer Experience]

- A reduction in on-going Service Fees (see Consequential Opex saving Slide 3)



Enabling future capability and experiences

AT has been running the HOP card since 2010. The Auckland Integrated Fares systems (AIFS) was implemented with Thales. The solution and supporting operating model has served customers well but it is widely acknowledged it does not meet all the needs of customers, Operators and AT. The technology is considered legacy and improved options now exist.

NZTA plans to build the next generation of public ticketing as a national solution and would like to partner with AT. While the business case and future operating model need to be finalized broad assumptions can be made:

Future disruption information capture and propagation will enable channels (including a connected Bus) to consume this information and communicate disruption information to customers through audio and where available (Bus displays).

Benefits:

- Future capability will look to leverage (where possible) existing on-bus ticketing investments and ticketing equipment
- A Connected Bus is required to enable smart payment card transactions (Mastercard, Visa etc)
- Real-Time information and transactions will become increasingly important for Customers and Operators alike
- The On Bus Controller is extendable for connection to future capabilities such as a Driver Display Console