

10 Year Public Transport Patronage Growth Plan

Recommendations

That the Board:

- i. Notes the findings of a review of the 10 year patronage growth plan for public transport by Deloitte.

Executive summary

Public transport patronage forecasts beyond the three year period utilise modelled outcomes based on various scenarios of land use and population growth. These forecasts are documented in the 2012-2022 Auckland Long Term Plan (LTP) and the Integrated Transport Plan (ITP).

Deloitte has been appointed to review the Auckland Transport patronage growth projections and underlying modelling and assumptions and activity plan. This baseline review may form the basis of further development of an enhanced programme of activities to meet the aspirational target to double public transport use by 2022.

The attached report presents a summary of Deloitte's findings and a presentation will be provided at the Board meeting. The full report from Deloitte is provided in a separate document.

Analysis indicates that Auckland Transport's current planned and prospective investment programme may result in around 101m boardings in 2022. This represents a growth rate of 44% on existing base patronage levels of 70m boardings and is broadly in line with Auckland Transport patronage growth forecasts of ~103m boardings in the 2012-2022 Auckland LTP.

This presents a gap of 39m boardings per annum on the publically expressed aspirational target of doubling public transport boardings by 2022.

Strategic context

Patronage growth targets are set over a three year period for public transport within the Statement of Intent and over a ten year period in the LTP.

Bottom-up patronage forecasting is prepared based on contributions from programmes, projects and initiatives and broader patronage acquisition activities over the three year term.

Ten year forecasts and beyond use modeled predictions, which forecast patronage on the basis of land use and population growth scenarios along with assumptions around new programmes, projects and initiatives.

Background

The 10 year Auckland LTP public transport projections forecast a growth from 70m to 103m boardings under current planned funding and resultant growth initiatives. The ten year growth is based on a foundation of the implementation of the three-year public transport Next Steps programme, comprising seven strategic key projects:

1. HOP integrated ticketing followed by progressive implementation of the initiatives within a strategic pricing and integrated fares review for public transport
2. Service regulatory and procurement reform through the PT Operating Model (PTOM) following enactment of enabling legislative reform of the Land Transport Management Amendment Act 2013 in June
3. New service network rollout of high frequency bus services and integrated and connected support services with associated facility and infrastructure upgrades
4. Rail service enhancements and transition to the new EMU fleet
5. Ferry service and facility enhancements
6. On-time service performance and customer information
7. Customer experience enhancement across all customer touch points

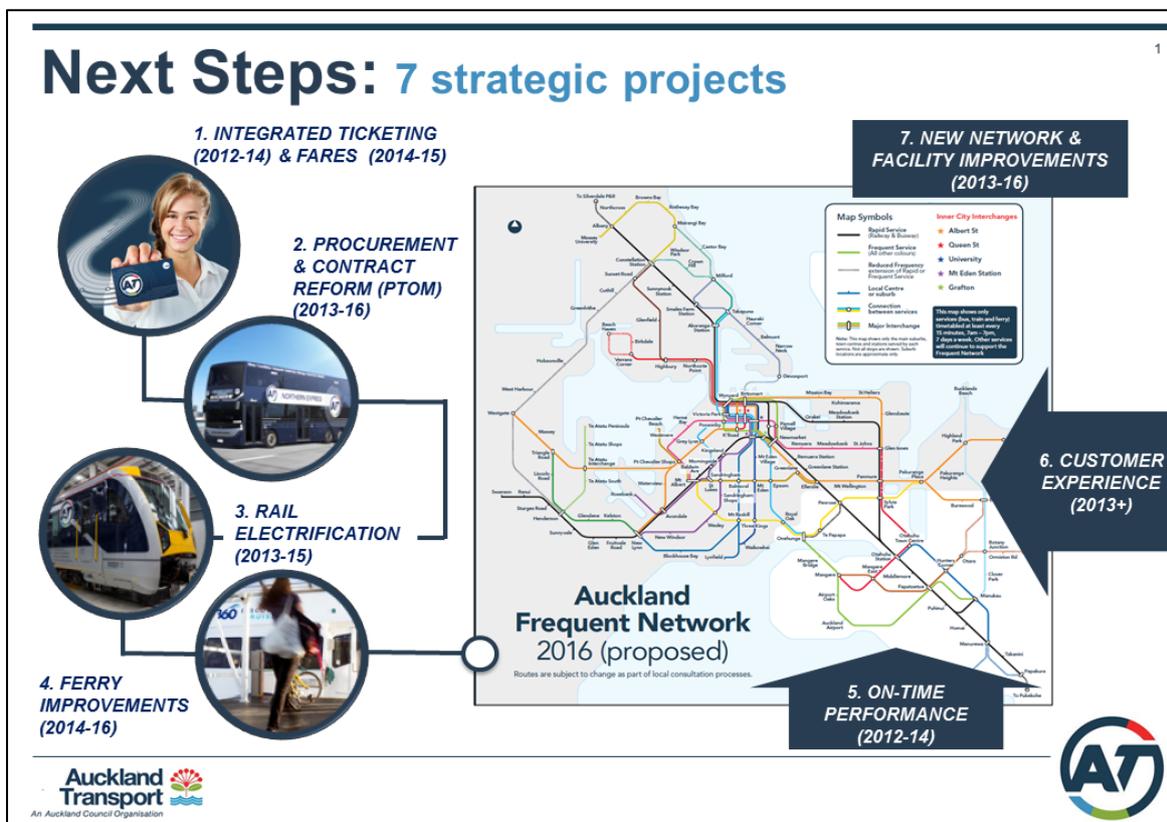


Figure 1. Seven strategic projects over the next three years

Aspirational targets have been quoted by the Auckland Mayor of doubling public transport boardings (from 70 million to 140 million) by 2022.

Deloitte has been appointed to undertake a review of the 10 year programme of activities and current patronage forecasting. This will permit the identification of a programme of enhanced activities that may close the gap between the currently funded target of 103m boardings and the aspirational target of 140m boardings on public transport.

Key Findings

Attachment 1 provides a summary presentation of the Deloitte report on the review of the planned 10 year public transport investment programme, model outcomes and key findings. A presentation will be provided at the Board meeting. The full report is provided separately.

Analysis indicates that Auckland Transport's current planned and prospective investment programme may result in around 101m boardings in 2022. This represents a growth rate of 44% on existing base patronage levels of 70m boardings and is broadly in line with Auckland Transport patronage growth forecasts of ~103m boardings in the 2012-2022 Auckland LTP accepted by Auckland Council.

This presents a gap of 39m boardings per annum to the aspirational target of 140m boardings in 2022.

It is noted that based on comparisons of international cities and growth rates achieved, a more realistic maximum patronage would be in the order of 92m boardings.

It is reported that additional investments would be required for Auckland Transport to increase patronage above ~100m boardings. Additionally, typically it has taken ~20 years for similar cities to double public transport patronage. Significant patronage growth typically results from major and sustained investments to improve service coverage and expand networks or reduce the relative price of travel.

While Auckland's current proposed plan undertakes some of the key changes required for sustained patronage growth of increased service kilometres, extension of service coverage, increase in frequency and/or reduction to the relative price of travel, there is currently limited changes proposed based primarily on limited additional investments.

Next steps

Development of further investment scenarios to enhance public transport growth towards the 140m boardings per annum.

Attachments

Number	Description
1	Deloitte, Growing Public Transport Patronage by 2022, Summary Presentation, November 2013
2	Deloitte, Growing Public Transport Patronage by 2022, Report, November 2013 (bound separately)

Document ownership

Submitted by	Mark Lambert Group Manager Public Transport	
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Glossary

Acronym	Description
EMU	Electric Multiple Unit
LTP	Long Term Plan
PTOM	Public Transport Operating Model

Auckland Transport

Growing Public Transport
Patronage by 2022

November 2013



Agenda

Agenda

Background behind patronage 'goals'

The gap

Patronage projections

Capacity-constrained projections

Key modelling insights

Patronage projections from comparable jurisdiction analysis

Key research insights

Options going forward

Bridging the gap

Background behind patronage 'goals'

“We want to see transit movements go from 63 million a year, as it stands this year, to 150 million a year in 10 years time.”

Len Brown, 17 January 2011

**“The target is to double public transport boardings
(from 70 million to 140 million) by 2022.”**

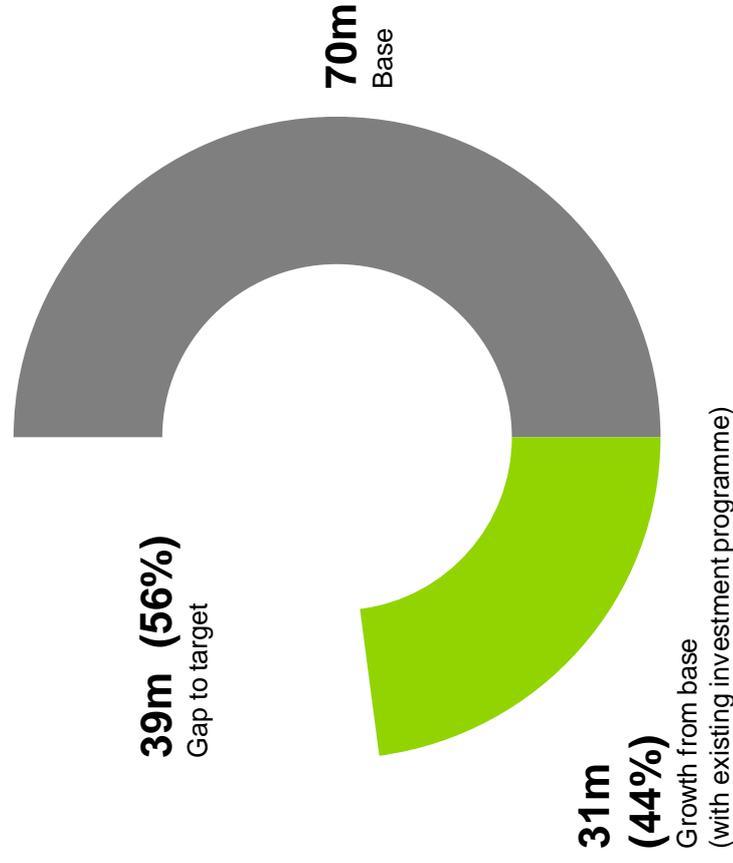
2012 – 2041 Integrated Transport Programme, March 2013

**Auckland Transport uses Boardings as its primary method
of measuring patronage.**

The 140m aspirational goal is unachievable without significant further investment

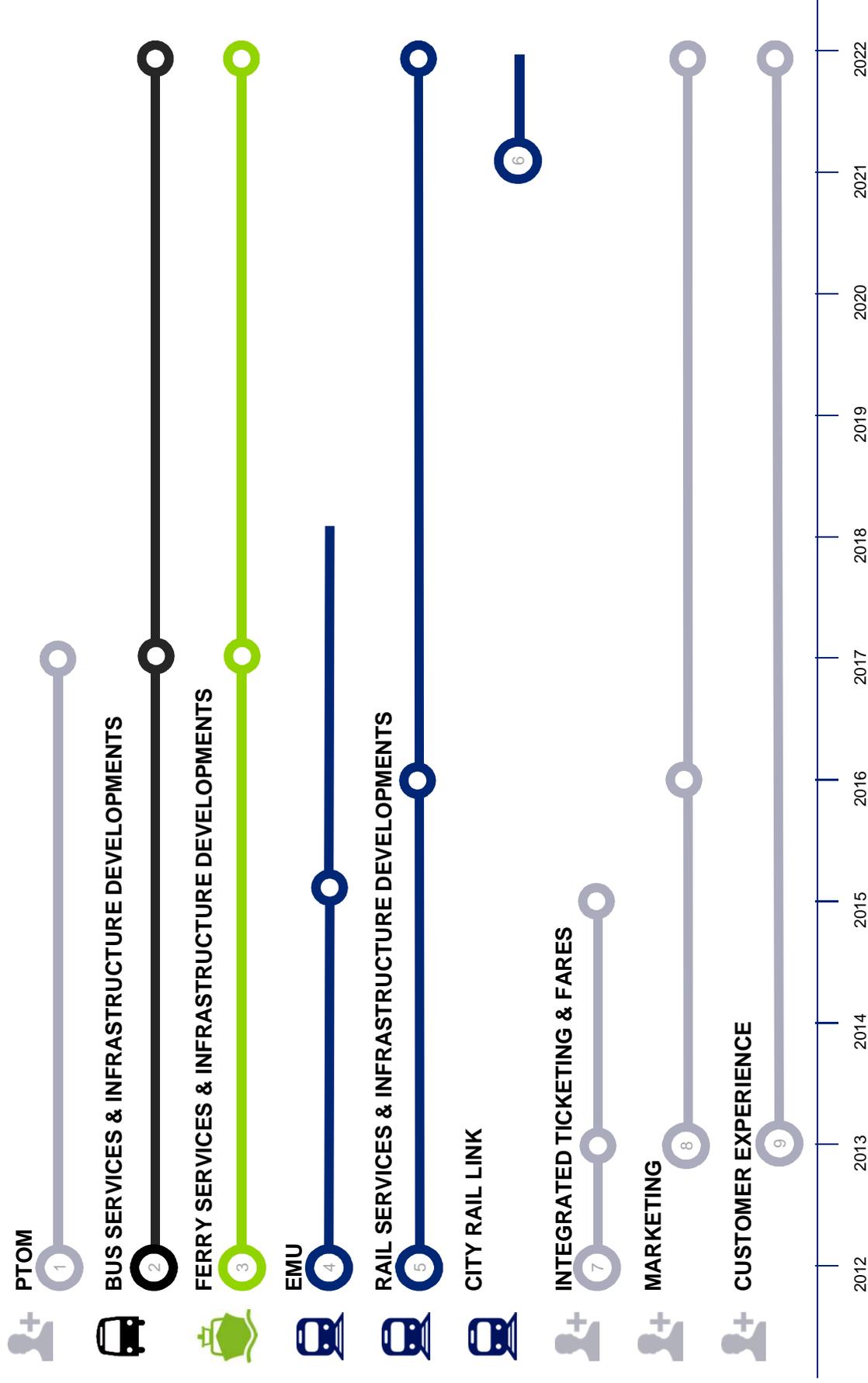
What does this mean?

- To reach the maximum forecast patronage all proposed projects must be implemented on time and operate well
- A maximum patronage level of ~92m boardings would be in line with the growth from similar initiatives implemented in comparable jurisdictions
- Additional investments would be required for Auckland Transport to increase patronage above ~100m boardings
- The maximum patronage forecast is broadly in line with that projected in the 2012-2022 Auckland LTP
- Patronage forecasts have been generated using Auckland Transport's and Auckland Council's existing transport and land use models cross checked against experience in similar cities.



4 Note: 44% growth is relative to a 70m base, anticipated growth is 54% relative to 2011 boardings.
Note: the gap has been calculated using AT's full investment programme (both funded and unfunded).

AT's planned projects over the ten year horizon to 2022 have been consolidated into nine major groupings

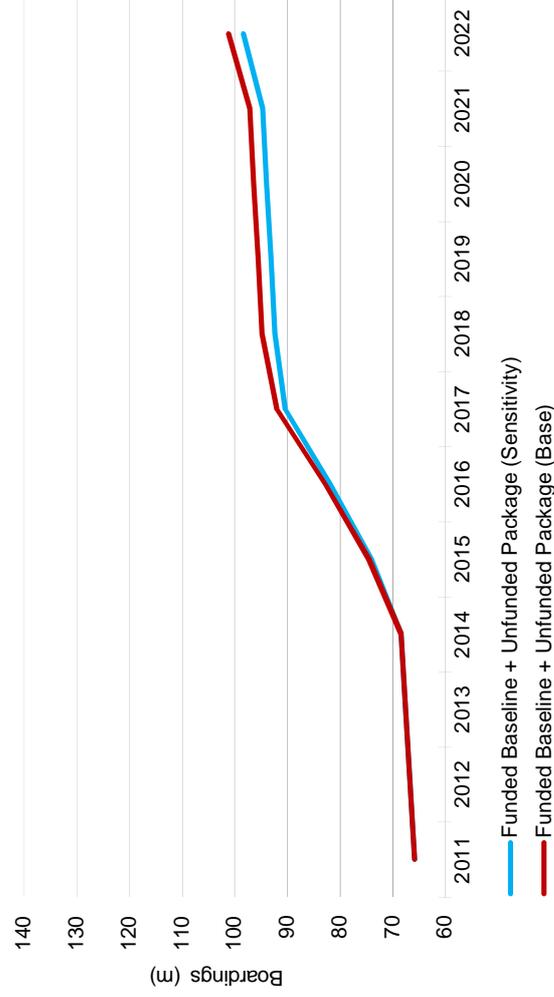


Revised patronage forecasts indicate a maximum of ~101m boardings (if all planned projects are delivered)

The maximum forecast patronage is 98 - 101m boardings by 2022 on current modelling assumptions.

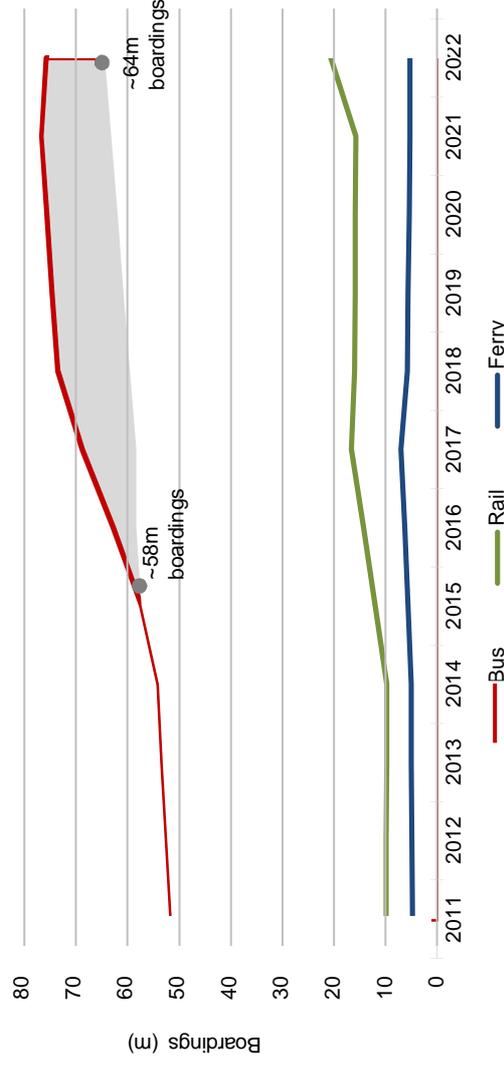
Key observations:

- Assumptions sensitivity testing indicates maximum patronage is limited to ~98m
- Using the original assumptions, forecast patronage is forecast at 101m
- Indicative gap of ~39m boardings between the highest forecast figure and the target
- Auckland Councils ART3 and AT's APT Model were used for the analysis
- Existing transport models have some significant limitations in producing a 10 year annual forecast.



A capacity-constrained model run suggests the bus network could reach capacity before 2022, constraining bus patronage

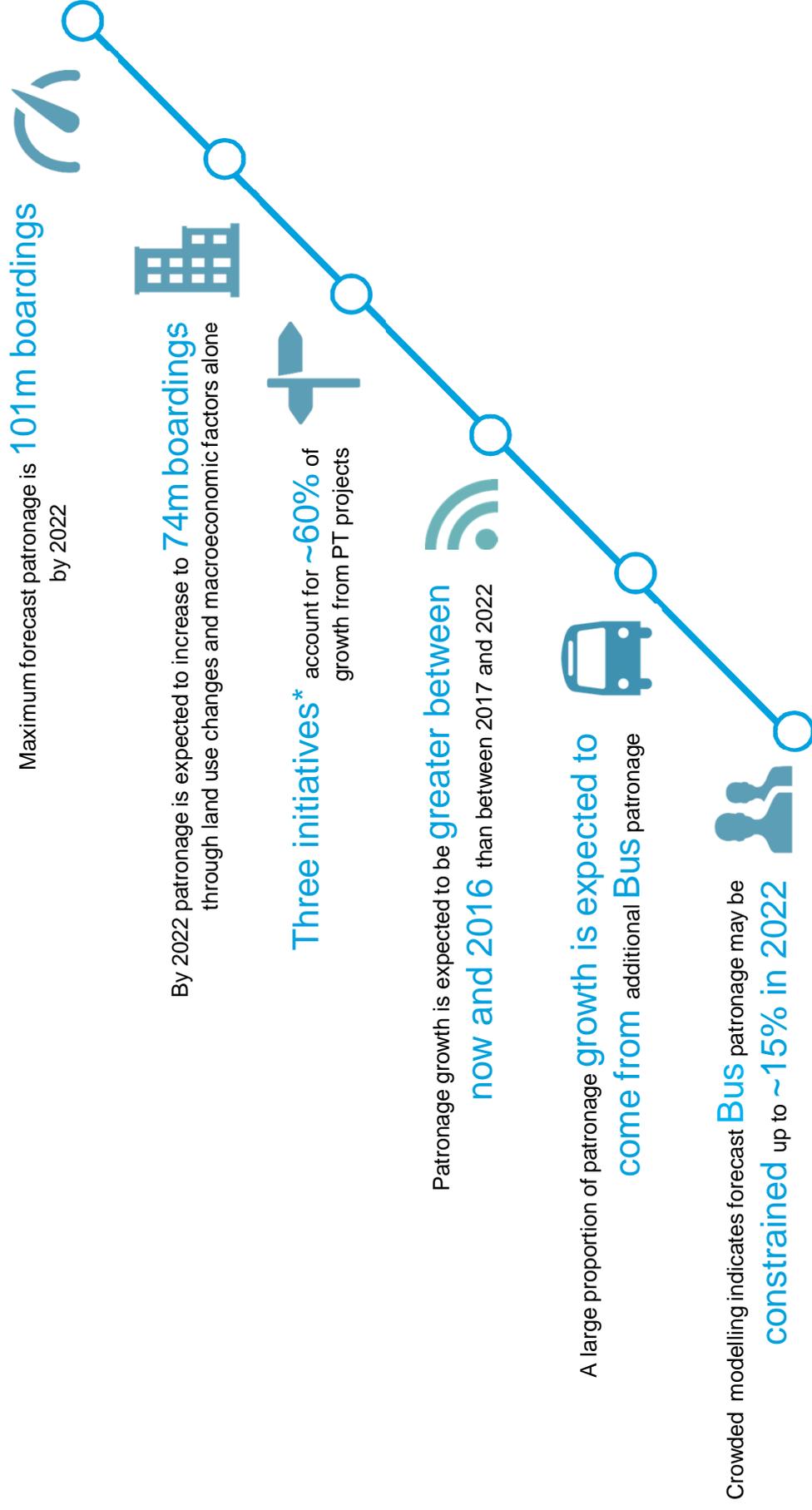
Crowded patronage by mode:



Key observations:

- A large proportion of growth is forecast to come from bus
- A capacity-constrained model run suggests the bus network could reach capacity by as early as 2015
- Bus patronage may be constrained up to ~15% by 2022
- The model shows no apparent constraint to Rail or Ferry patronage within the modelled period.

Key modelling insights

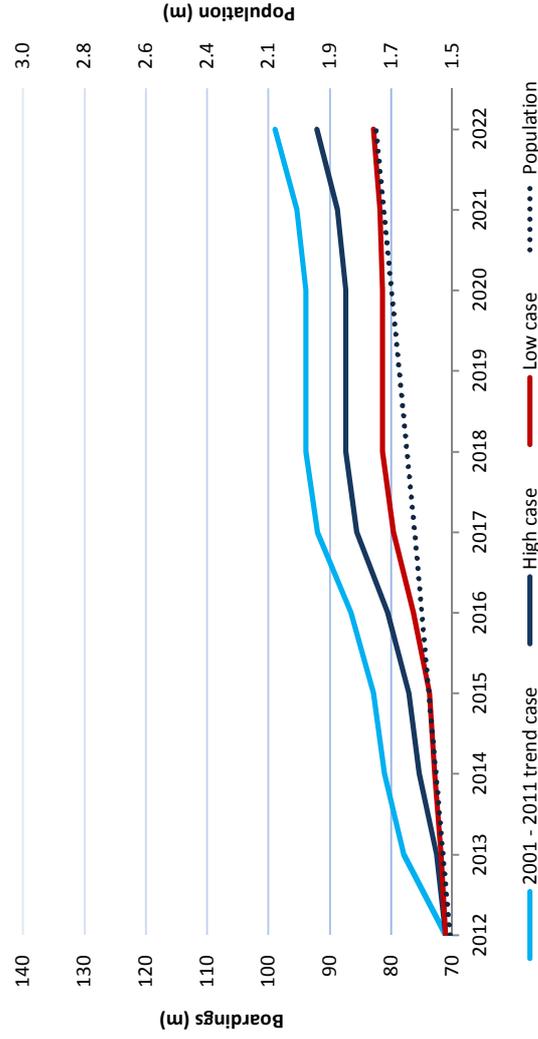


Patronage projections from comparable jurisdiction analysis indicate a target range of 83m to 92m boardings

Patronage impacts from similar overseas projects have been analysed and applied to Auckland's proposed transport project programme:

Key observations:

- Auckland's forecast patronage growth of 44% by 2022 is **slightly lower** than that achieved by similar cities
- The modelled 101m patronage projection is broadly **in line with Auckland's historic growth trend**
- Projections include only two thirds of the expected impact of CRL
- Auckland Transport's project programme to 2022 includes **relatively limited measures** to substantially increase service coverage.



Key research insights

Comparable cities show it is more common to see **patronage double over a 20 year horizon**.



Cities that have achieved patronage growth significantly above population growth, have invested in **network and service improvements**.



Step changes in patronage have required:

1. Increase in service kms
2. Extension of service coverage
3. Increase in frequency, and/or
4. Reduction to the relative price of travel.



Service quality is important.

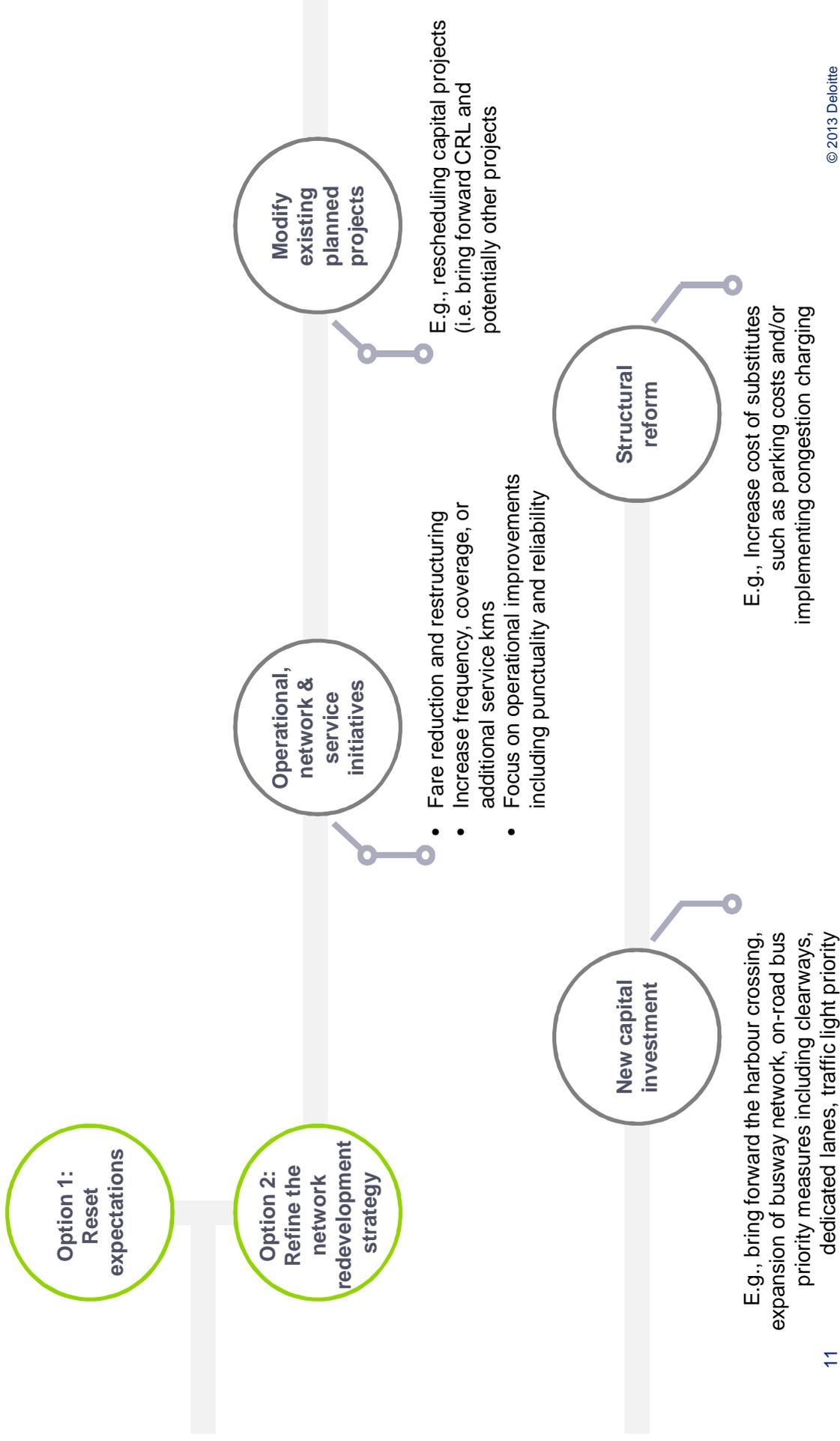
Removing barriers to enable a good customer experience can shift patronage growth to the upper end of the spectrum.



There is **no silver bullet**. Patronage is driven by a complex range of factors (capacity, experience, network, and price), which need to be considered together. No similar city appears to have found a magic formula for growing patronage.

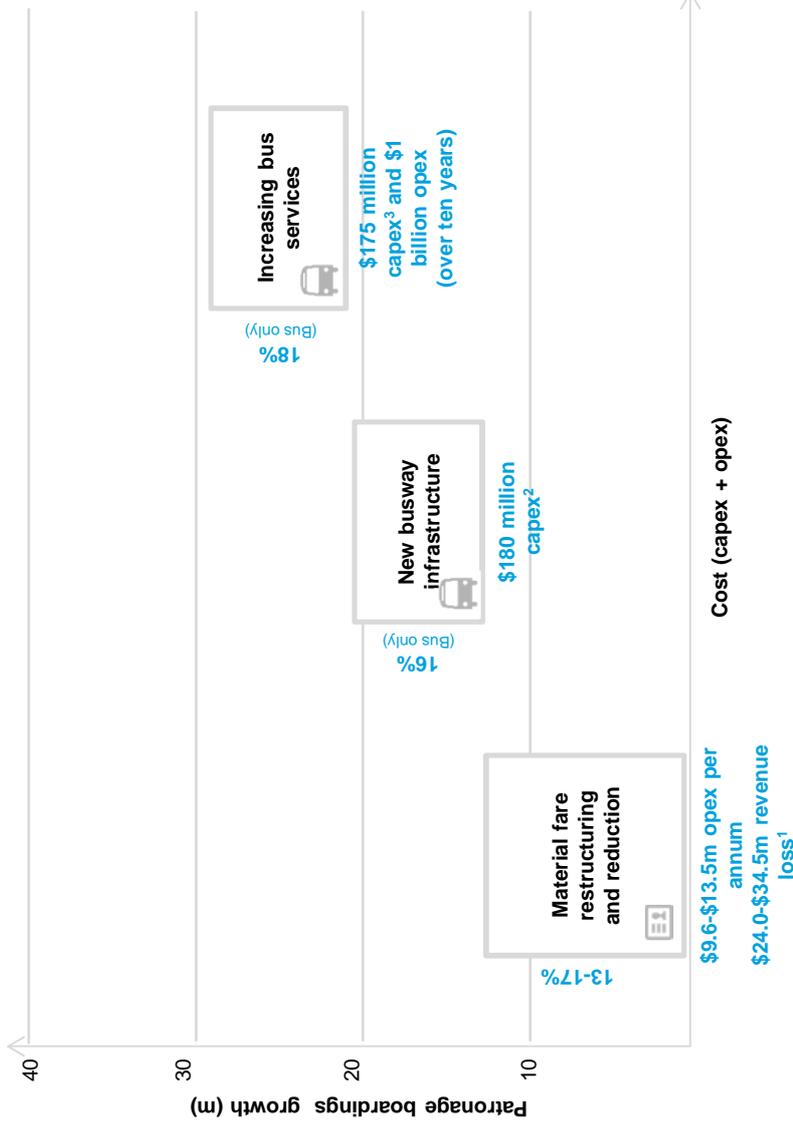
Options going forward

Auckland Transport is faced with two primary options:



More investment will be needed to bridge the gap

Large scale rail investments are already planned. The additional focus should be on improving bus services.



Auckland is likely to need an additional **\$355 million capex investment**, with a minimum of **\$1.5 billion additional opex** over ten years (averaging \$150 million per annum),⁵ to achieve 130m boardings.

Sources - Endnotes

Reference #	Source
1	Based on 1 ring and 3 ring scenarios, 6 November 2013, Subsidy cost per pax km, Strategic Fares Review, Auckland Transport
2	Based on Northern Busway, Auckland Transport Annual Report 2012 (patronage); Mark Lambert (Funding)
3	Based on SmartBus, Melbourne. Growing bus patronage and addressing transport disadvantage – The Melbourne experience, 2009 (patronage); SmartBus Budget History (Funding)
4	Based on Melbourne Metropolitan Bus Improvement Programme, Melbourne. Growing bus patronage and addressing transport disadvantage – The Melbourne experience, 2009 (patronage); MOTC Infrastructure scorecard, Property Council of Victoria (Funding)
5	Opex is included as 1 billion over ten years for Bus Services and 0.5 billion over ten years for fare changes including revenue loss.
6	Year 1 Scheme Gross Revenue (nominal) for Double Cordon and Area scenarios, Auckland Road Pricing Evaluation Study (ARPES) in 2007