

Auckland's Low Emission Bus Roadmap

Recommendations

That the Board

- i. Notes Auckland Transport's approach to low emission buses and endorses the Low-Emission Bus Roadmap Version 1, December 2018, as a baseline tactical roadmap for further iterative development and regular reviews as more information becomes available from the market, to incorporate technology updates, as we engage with our partners, PTOM operators and other key stakeholders and incorporate learnings from AT trials over the next five to seven years;
- ii. Endorses that all new and end-of-life diesel fleet replacement buses are to be procured as low-emission vehicles (zero-emission at tail-pipe) from 2025 (latest), preferably earlier - subject to confirmed/refined benefit cost;
- iii. Endorses that AT targets a full low-emission (zero-emission at tail-pipe) bus fleet by 2040 and funding availability;
- iv. Endorses further uptake of low-emission (zero-emission at tail-pipe) bus trials including a hydrogen fuel cell trial in partnership with Ports of Auckland, and a short-term target for the City LINK service to be full zero-emission at tail-pipe operation from November 2020 (new contract commencement), subject to further information provided to the Board on each trial and funding availability;
- v. Endorses the set up and running of a low-emission bus working group comprising NZTA, Councils and operators;
- vi. Approves the publication of the attached document, "Auckland's Low Emission Bus Roadmap".

Executive summary

1. In November 2017, the Mayor of Auckland joined politicians from 11 other cities around the world in signing the C40 Fossil-Fuel-Free Streets Declaration. The declaration commits Auckland to buying only zero emission buses from 2025 and ensuring a major area of the city is zero emission by 2030. In the context of these commitments, AT is targeting a full zero emission bus fleet by 2040.
2. AT has developed a baseline tactical roadmap to 2040, which was presented to the Customer Innovation Committee in August 2018. The Low Emission Bus Roadmap is now in a format for public release, and changes made to the Customer Innovation Committee paper are detailed below in point 6.

Previous deliberations

3. The Low-Emission Bus Roadmap was discussed at the Customer Focus Committee (CFC) in February 2018. The CFC recommended that the total cost of ownership of electric buses and other alternatives should be assessed along with the key risks associated with a transformation to electric bus operation. The CFC also noted a need for the total cost of the current City LINK Electric Bus trial and its review milestones to be provided in this Board paper.
4. Feedback from the CFC of February 2018 has been incorporated into this report with revised scenarios presented at the Customer & Innovation Committee (CIC) in July 2018.

Strategic context

5. The Auckland Transport Alignment Project (ATAP) priorities include:
 - Encouraging mode shift from cars to public transport, walking and cycling
 - The adoption of low emission vehicles
 - Meeting our wider environmental commitments such as the Paris Agreement and the C40 Fossil-Fuel-Free Streets Declaration.

A focus of Auckland Transport's Sustainability Framework is low emission transport choices, which mitigate climate change, improve air quality and reduce the city's reliance on fossil fuels. One of the framework's key actions is to develop a Low Emissions Bus Roadmap. AT's Statement of Intent 2019-2021 commits to development of this roadmap in the 2018/19 year.

Background

6. To achieve a public-facing Low Emission Bus Roadmap ("Roadmap") for Auckland, changes have been incorporated based on feedback provided by the Board. These changes include:
 - A reorganised executive summary with a timeline including milestones at 2020, 2025 and 2030
 - Broader context based on progress in other cities with low emission bus fleets
 - City LINK e-bus trial results to 2 September in chapter 5 of the Roadmap
 - Updated data on current fleet

- The Low Emission Bus Roadmap provides a transition path for the bus fleet. Low-emission vehicles for on demand services are not included in this Roadmap as a separate on-demand service Roadmap is being developed. As with the November launched Devonport on-demand service trial, a preference is for low-emission vehicles
- Deletion of deliberations and strategy and key messages section of the previous report – as these are not relevant to an external audience.

External Consultation/Engagement

7. AT has been working with the Low Carbon Vehicle Partnership in the UK, to develop this roadmap.
8. Engagement has been undertaken with bus operators.

Issues and options

9. A number of important barriers to achieving the 2040 goal have been identified in the report. These will need to be resolved in order to electrify AT's bus fleet fully over the next two decades. These barriers range from regulatory and financial to the bus market and bus operators. Further iterative development of the roadmap will be required as more information becomes available from the market, as technology advances, and from AT trials over the next five to seven years.

Next steps





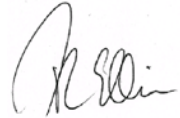
10. Adopt and progress the Low Emission Bus Roadmap principles as a baseline transition with continuing 12-18 month updates to the "Roadmap" base level scenario.
11. A 'quick win' start on a larger-scale trial of the City LINK e-bus service from November 2020 when the current contract for that route is procured.
12. Continue to undertake trials and demonstrations of zero emission buses and their associated infrastructure (subject to budget and availability) where possible maximising alternative funding streams such as from EECA from their LEV contestable fund. Proposed options include:
 - Further electric bus trials from other manufacturers
 - Hydrogen electric trials (incorporating hydrogen supply)
 - 'Opportunity' charging bus trials

- Trial re-power of diesel bus to electric using proven technology.
13. Collaborate with C40 network of organisations to keep abreast of technological developments and lessons from implementing, including:
- Working with the Mayor's office to develop the Fossil-Fuel-Free Declaration programme
 - Undertaking research into the impacts of e-buses on the electricity supply grid across Auckland and the financial implications
 - Use the C40 network to learn lessons and to benchmark with other cities about the adoption of low-emission buses.
14. Given the early stage and iterative nature of the roadmap, AT is intending in late 2018 early 2019 to collaborate with other key players to establish and lead a national industry Low Emission Bus Working Group to break down barriers to the adoption of low emission buses in Auckland and New Zealand.
- 15.

Attachment

Attachment Number	Description
1	Auckland's Low Emission Bus Roadmap

Document ownership

Submitted by	Darek Koper Manager Bus Services	
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Approved for submission		

Glossary

Acronym	Description
EECA	Energy Efficiency and Conservation Authority
LEV	Low emission vehicle
ELT	Executive Leadership Team