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# Electric Vehicles in Special Vehicle Lanes

## Recommendation

That the Board:

- i. Responds to the Energy and Innovation Bill and the necessary consequent changes to the rules made under the Land Transport Act 1998 (yet to be released) in the following way:
- ii. Not support EVs in bus lanes but supports the testing of EVs in T2 and T3 lanes on roads managed by AT for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government.
- iii. Authorises the Chief Executive to finalise the submission on the Energy and Innovation Bill and the necessary consequent changes to the rules made under the Land Transport Act 1998 (yet to be released)
- iv. Supports other measures under AT's control to encourage the uptake of electric vehicles in Auckland including, but not limited to:
  - a. priority parking for EVs in parking buildings and at park and ride sites
  - b. progress AT projects that are successful under the EECA contestable fund (first round)
  - c. working with EV charging providers to extend coverage at appropriate sites, including parking buildings and park and rides
  - d. working with NZTA and EECA on EV guidelines, policy and their impacts
  - e. develop joint Auckland EV fleet position and explore bulk purchase of EVs with Government support
  - f. adopt EV Infrastructure Plan as formal AT guidance for Auckland, and seek key stakeholder buy-in
  - g. work strategically to achieve interoperability between EV infrastructure vendors and billing systems
- v. Notes that AT staff will work with NZTA and MoT to support AT's position and to avoid conflicts resulting from any changes to EV access to the Northern Busway or transit lanes under NZTA control.

## Executive summary

1. The Government's electric vehicle programme announced in May 2016 sets a target of around 64,000 EVs in NZ by 2021 (estimate around 32,000 for Auckland). Part of the programme includes the introduction of the Energy and Innovation Bill and subsequent amendments to the

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Land Transport (Road User) Rule 2004 and the Land Transport: Traffic Control Devices 2004 which aim to (amongst other things) allow road controlling authorities to give EVs access to special vehicle lanes (e.g. bus lanes and transit lanes).

2. Three main options have been identified regarding EV access to special vehicle lanes:
  - a. **Not support EVs in any special vehicle lanes** (e.g. bus lanes and transit lanes) based on initial conclusions that it is too risky and has the potential to undermine the rollout of the New Bus Network. Focus instead on other support measures for EVs such as priority parking for EVs in parking buildings and at park and ride sites, working with EV charging providers.
  - b. **Not support EVs in bus lanes but supports the testing EVs in ‘selected’ T2 lanes** (where lower bus frequencies exist), **for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government**. This would require finding suitable corridors on AT’s network and is considered a fall-back option where impacts and costs can be controlled by strictly limiting the extent of the testing.
  - c. **Not support EVs in bus lanes but supports the testing of EVs in T2 and T3 lanes on roads managed by AT for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government**. This shows we are supporting the Minister and his policy and will test the policy proposals in robust way. This is the preferred option.
  - d. These options are based on the information currently available that the changes to the rules will empower, rather than require, an RCA to allow EVs in special vehicle lanes (as the changes to the rules themselves are not yet available).
3. The broad definition of EVs contained in the Energy and Innovation Bill allows all types of hybrid-powered vehicles with limited electric motive power to take advantage of access to special vehicle lanes. This would potentially result in relatively poorly performing plug-in vehicles (in terms of energy efficiency, electric power range and emissions) being given special preference over vehicles with more efficient and cleaner standard petrol or diesel engines. This will not achieve the vehicle fleet environmental and efficiency benefits that Government is seeking and is viewed as a significant loop hole in the current proposed legislation.
4. NZTA and MoT have approached AT to establish a steering group and working group to jointly develop an assessment framework/approach to assess EVs in special vehicle lanes
5. NZTA is proposing to trial allowing EVs access to six NZTA-owned transit lanes on motorway on-ramps in Auckland for a two-week period in March 2017. The trial will not be measured or enforced but will be ‘observed’. Therefore, AT will not be able to obtain lessons from this trial.
6. The process of the **Land Transport Amendment Bill** highlighted that passenger service vehicles (which includes the likes of Uber not just taxis) are already entitled to use transit lanes, regardless of whether they are carrying passengers or not. This heightened awareness may result in an uptake of passenger service vehicles using transit lanes which should be monitored before considering allowing EV access to transit lanes.
7. The Customer Focus Committee (CFC) considered the options at its meeting on 2 December 2016. In the light of the broad pros and cons outlined in the above options and the related concerns of the impacts from the recent Land Transport Amendment Bill, the recommended

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preferred option of the CFC is **not to allow EV access to any special vehicle lanes** managed by AT until the necessary legislation and rules are in force. This option best supports the current AT strategic direction for transforming public transport and the roll-out of the New Network, while reducing the potential adverse impacts on the efficiency, operational and safety of special vehicle lanes.

8. The next steps to support this option of not allowing EV access to special vehicle lanes will require close collaboration and discussion with NZTA and MoT to outline why the provisions of the draft Bill are not supported. It will be imperative that AT encourage NZTA and MoT to align with this position to avoid conflicts resulting from any changes to EV access to the Busway or transit lanes under its control. This will require the relationship with central government to be carefully managed.

## Strategic context

9. The Auckland Plan has identified the need for a transformational shift in public transport to support future growth in Auckland. The Auckland Transport Alignment Project (ATAP) has identified the critical need to increase public transport mode share where it reduces congestion. AT's 2015 Regional Public Transport Plan outlines the improvement in public transport bus service performance necessary to support the transformation of public transport, including the roll-out of the New Network.

## Background

10. The Government's electrical vehicle programme announced in May 2016 sets a target of around 64,000 EVs in NZ by 2021 (estimate around 32,000 for Auckland). The programme includes:
  - funding for information and promotion
  - contestable fund each year for innovative EV projects
  - working with private sector to investigate bulk purchasing for fleets
  - extending the exemption from RUC for light and heavy electric vehicles until 2021 to align with the target of doubling the number of electric vehicles registered each year.
11. Part of the programme includes the introduction of the Energy and Innovation Bill and subsequent amendments to the Land Transport (Road User) Rule 2004 and the Land Transport: Traffic Control Devices 2004 which aim to (amongst other things):
  - allow road controlling authorities to give EVs access to special vehicle lanes (e.g. bus lanes and transit lanes).
  - allow road controlling authorities to take into account other transport objectives when deciding which special vehicle lanes may be used by EVs in order to deliver the maximum total benefit.

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- In the Bill, an electric vehicle is not defined (that will be included in the subsequent changes to the rules) however the explanatory note suggests EVs will include:
  - a. **Battery electric vehicles (BEVs)** –being those solely powered by electric batteries (Nissan Leaf, Renault Zoe and Tesla S, Renault Kangoo and Nissan eNV200 vans also available in New Zealand. Currently 670 in Auckland.
  - b. **Plug-in hybrid electric vehicles (PHEVs)** — being those with a combination of externally charged batteries and a petrol or diesel motor (Mitsubishi Outlander PHEV, BMW i3 (range extender model) and Audi e-tron). Currently 379 in Auckland

Submissions on the Bill close on 1 February 2017 and it is scheduled to be passed into legislation by 1 July 2017. The timetable for amendment of the rules (where the detail will lie) is not yet known.

## External Consultation/Engagement

12. Preliminary meetings have been undertaken with NZTA to discuss a way forward to respond to proposals in the Bill and the potential opening up of the Northern Busway to EV access. NZTA has subsequently announced their intention to trial allowing EV access into a limited number of T2/T3 lanes on the motorway network for a short period in March next year.
13. AT are working with NZTA and MoT on the potential to assess EVs in T2 and T3 lanes. However, any testing of this would require the necessary enforcement and other legislation and rules and will be subject to additional funding from Central Government. If EV access to special vehicle lanes is supported then further work has identified the need for:
  - Further investigation into the costs / benefits / impacts of allowing EVs in transit lanes
  - Development of thresholds for this potential trial
  - Assessment of the impacts, costs, enforcement, and legal implications
  - Development of education and enforcement campaigns
  - Consideration of concerns from small passenger service vehicle impacts on transit lanes outlined in AT submission on the recent LTAA.

## Issues and options

14. Three main options have been identified regarding EV access to special vehicle lanes. These options are based on the information currently available that the changes to the rules will empower, rather than require, an RCA to allow EVs in special vehicle lanes (as the changes to the rules themselves are not yet available). Once the changes are in force:

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- a) **Not support EVs in any special vehicle lanes** (e.g. bus lanes and transit lanes) based on initial conclusions that it is too risky and has the potential to undermine the rollout of the New Bus Network. Focus instead on other support measures for EVs such as priority parking for EVs in parking buildings and at park and ride sites, working with EV charging providers.
  - b) **Not support EVs in bus lanes but supports the testing EVs in 'selected' T2 lanes** (where lower bus frequencies exist), **for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government**. This would require finding suitable corridors on AT's network and is considered a fall-back option where impacts and costs can be controlled by strictly limiting the extent of the testing.
  - c) **Not support EVs in bus lanes but supports the testing EVs in T2 and T3 lanes for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government**. (which was the recommendation of AT's EV Steering Group). This would likely have wider and more significant impacts and costs and is the least preferred option.
15. For options b and c, provision would need to be made for ensuring consistency and alignment with the NZTA approach to avoid road user confusion and safety concerns, as well as make provision for dealing with likely future congestion issues in transit lanes, as is being experienced in Oslo.
16. The pros and cons of the three options are considered in more detail below:
- Definitely **not allow EV access to any special vehicle lane** managed by AT:  
Pros:
    - Roll-out of the New Network is supported by a programme of bus/transit lanes, aligned with higher level objectives e.g. transformation in public transport
    - Roll-out is not complicated by adding EVs to special vehicle lanes and avoids having to deal with the efficiency, safety and operational concerns
    - Avoids giving mixed messages on purpose/enforcement of bus/transit lanes and consequential costs of customer behaviour / enforcement / response churn.
    - Outline the 'good news' story on how AT can encourage EVs through other means e.g. priority parking, allowing EV charging infrastructure (off street), promoting EV car share, AC fleet management
    - Is consistent with AT's target of increasing the number of special vehicle lanes in congested corridors improving reliability and promoting increased use of public transport.  
Cons:
    - Does not meet the Minister of Transport's or EV stakeholder expectations, political fallout and relationship management impacts

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- Potential consistency / enforcement issues if NZTA allows EVs on the Northern Busway / T2 or T3 lanes while AT prohibits EVs on local special vehicle lanes.
- Definitely **not support EVs in bus lanes but allow EVs in 'selected' T2 lanes** managed by AT and assess impacts:

Pros:

- Meets the Ministry of Transport and EV stakeholder expectations in the short term by demonstrating a willingness to test EVs in 'selected' T2 lanes.
- Live examples provide real time evidence of EV uptake and associated impacts on efficiency, safety and operation of buses in T2 lanes. Monitor and report back for decision.
- Ability to work through enforcement and compliance issues created by allowing EVs in a limited number of trial T2 lanes.
- Specifically excludes T3 and bus lanes from the trial, indicating their critical importance for reliable public transport.
- If T2 lanes become congested, AT would have the ability to convert them to T3 lanes and thus exclude EVs, but with some costs in signage and enforcement.

Cons:

- The 'thin end of the edge' – once EVs are allowed in T2 lanes, it may be difficult to prohibit them from other T2 or T3 lanes in future (based on the Oslo<sup>1</sup> example)
- The scale of compliance / enforcement issues may escalate as the number of EVs increase. There are currently no legal and technical mechanisms to enforce effectively from start to finish of any proposed test.
- Allowing EVs in some transit lanes but not others will create confusion for EV motorists and T2 and T3 users to which lanes they can use.
- The scale of efficiency, safety and operational issues will increase as the number of EVs increase in T2 lanes (need operational impacts here). Attachment 1 indicates that bus lanes and transit lanes managed by AT are already operating at unstable flows or operating nearing capacity during peak times.

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<sup>1</sup> Oslo has implemented EVs in bus lanes alongside strong policy incentives. EV uptake has increased, however public transport use has reduced and EVs outnumber buses in bus lane. Oslo officials are struggling politically to remove EVs from bus lanes and legislation has now been passed to remove EVs from bus lanes in Norway.

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- Has potential to undermine reliability on those parts of the New Network reliant on T2 lanes – self-defeating to providing further transit lanes.
- Likely to require an extensive and costly education campaign to minimise user confusion (both for EV drivers and non-EV drivers).
- **Definitely not support EVs in bus lanes but allow EVs in T2/T3 lanes for 1 year (which was the recommendation of AT’s EV Steering Group).**

Pros:

Has similar pros to option b. but provides more extensive access to EVs. The Minister sees EVs in special vehicle lanes as a low-cost, but strong incentive that could be effective in phasing EVs into NZ, and creating technological change

- More understandable and consistent for members of the public as it would cover all T2 and T3 lanes rather than selected T2 and T3 lanes
- Supportive of the national policy direction to encourage the uptake of EVs in Auckland

Cons:

Has similar cons to option b, but as the trial is more extensive and the potential risks on undermining the reliability of the New Network are magnified.

- Significant reputational risks for AT in undermining Auckland Plan objective to transform public transport while seemingly undermining the reliability of the bus network.
- The scale of compliance / enforcement issues may escalate as the number of EVs increase. There are currently no legal and technical mechanisms to enforce effectively from start to finish of any proposed test.
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17. The broad intended definition of EVs allows all types of hybrid-powered vehicles with limited electric motive power to take advantage of access to special vehicle lanes. This would potentially result in relatively poorly performing plug-in vehicles (in terms of energy efficiency, electric power range and emissions) being given special preference over vehicles with more efficient and cleaner standard petrol or diesel engines. This will not achieve the vehicle fleet environmental and efficiency benefits that Government is seeking and is viewed as a significant loop hole in the current proposed legislation.

18. Related Concerns from the Land Transport Amendment Bill

The Land **Transport Amendment Act (LTAA)** may have increased awareness that all Passenger Service Vehicles (including Uber) are entitled to use transit lanes, regardless of whether they are carrying passengers or not. Other road users may observe (unmarked) passenger service



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vehicles using a transit lane and presume the lane is open to them to use also (most transit lanes operate for certain time periods). If transit lanes become too congested or unsafe, AT may be required to:

- Exclude passenger service vehicles from transit lanes by adding signage;
- Convert transit lanes into bus lanes (which will impact on commuters who have opted to car pool);
- Make consequential changes to Traffic control devices (signs and markings) that will require public consultation and works, with costs to be borne by AT
- Conduct an information and awareness campaign for road users in advance of the implementation of the proposed changes to minimise confusion which will also add to costs

## Conclusion

19. In consideration of the broad pros and cons outlined above and the related concerns of the impacts of the recent Land Transport Amendment Bill, Option c. is preferred - **not allow EV access to any bus lanes managed by AT and to test EVs in T2 and T3 lanes on roads managed by AT** for one year once the necessary legislation and rules are in force, subject to additional funding from Central Government.

## Next steps

20. Develop AT's response to the draft Energy and Innovation Bill by 1 February 2017.

21. The focus of the next steps will be determined by the nature of the Board's support of the recommendations.

- If the recommended option (option c) is preferred, then the likely next steps will include:
  - i. Revisit current special lane policy and develop clear policy guidelines for EVs in special vehicle lanes
  - ii. Work with NZTA and MoT on allowing EVs in T2 and T3 lanes and monitoring the results via terms of reference. This will include:
    1. Further investigation into the costs / benefits / impacts of allowing EVs in transit lanes and timing of it
    2. Development of thresholds for congestion impacts on buses and HOVs
    3. Assessment of the impacts, costs, enforcement and legal implications

22. Implementation of any of the above three options in item 19 will require AT addressing the concerns from increased passenger service vehicle impacts on transit lanes, as outlined in AT's submission on the LTAA.








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## Attachment

Attachment Number	Description
1	Electric vehicles (EVs) in special vehicles lanes update – CFC 2 December 2016 (presentation)

## Document ownership

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## Glossary

Acronym	Description
EV	Electric Vehicle
EECA	Energy Efficiency and Conservation Authority
NZTA	New Zealand Transport Agency
MoT	Ministry of Transport
HOV lanes	High Occupancy Vehicle lanes
SPSV	Small Passenger Service Vehicles
ATAP	Auckland Transport Alignment Project
LTAA	Land Transport Amendment Act