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- 9 AUG 2016  
MINISTER Hon. Simon Bridges

## IMPLEMENTATION OPTIONS FOR ALLOWING ELECTRIC VEHICLES ACCESS TO BUS AND HIGH OCCUPANCY VEHICLE LANES

<b>Reason for this briefing</b>	To provide you with implementation options for allowing electric vehicles (EVs) access to bus and high occupancy vehicle lanes.
<b>Action required</b>	Note the amendments required to the Land Transport Act 1998.  Consider the recommended implementation option for the amendments to the Rules.  Agree to officials proactively engaging with road controlling authorities.
<b>Deadline</b>	Monday, 15 August 2016.
<b>Reason for deadline</b>	To enable the Ministry of Transport to contribute to drafting instructions on amendments to the Land Transport Act 1998 for the Energy Innovation (Electric Vehicles and Other Matters) Bill (the Bill), and to prepare drafting instructions on the amendments to the Rules. The Ministry of Business Innovation and Employment (MBIE) intends to finalise instructions for the Bill by the end of August.

### Contact for telephone discussion (if required)

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		Direct line	After hours	
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**MINISTER'S COMMENTS:** Withheld under section 9(2)(a) of the Official Information Act 1982

<b>Date:</b>	09 August 2016	<b>Briefing number:</b>	OC04188
<b>Attention:</b>	Hon Simon Bridges (Minister of Transport)	<b>Security level:</b>	In-Confidence

### Minister of Transport's office actions

- |                                       |  |  |
|---------------------------------------|--|--|
| <input type="checkbox"/> Noted        | <input checked="" type="checkbox"/> Seen <i>not signed</i> | <input type="checkbox"/> Approved            |
| <input type="checkbox"/> Needs change | <input type="checkbox"/> Referred to                       |  |
| <input type="checkbox"/> Withdrawn    | <input type="checkbox"/> Not seen by Minister              | <input type="checkbox"/> Overtaken by events |

## Purpose of briefing

1. The purpose of this briefing is to provide you with implementation options to give effect to Cabinet's decision to enable EVs access to bus and high occupancy vehicle lanes.<sup>1</sup> We would like you to consider the options and agree to our preferred approach.
2. The options involve amendments to the Land Transport Act 1998 (the Act), and Land Transport Rules.<sup>2</sup>

## Background

3. Allowing EVs access to bus and high occupancy vehicle lanes is described overseas as a relatively low cost incentive to encourage uptake of EVs. Overseas experience (in particular Norway) notes that drivers perceive this measure as having higher value than other common EV incentives (for more information see Appendix 1).<sup>3</sup>

## Cabinet's decision

4. On 21 March 2016, as part of the EVs Programme, Cabinet agreed to:
  - 4.1. amend the Land Transport Act 1998 to clearly empower road controlling authorities to make bylaws allowing electric vehicles to use special vehicle lanes
  - 4.2. make amendments to the Land Transport (Road User) Rule 2004, and related provisions in the Land Transport Rule: Traffic Control Devices 2004, to enable road controlling authorities (RCAs) to allow electric vehicles access to bus and high occupancy vehicle lanes [CAB-16-MIN-0108.01 refers].

## The Government's aim

5. On 5 May 2016, you publicly announced the Government's Electric Vehicles Programme (the Programme) which aims to increase the uptake of EVs in New Zealand. The Programme also aims to develop the EV market in New Zealand and the supporting infrastructure for that market.

## Media and stakeholder reaction to this particular initiative

6. Since the 5 May 2016 announcement of the Programme, there has been a mixed response from media and stakeholder groups to the initiative to enable EVs access to bus and high occupancy vehicle lanes. The main concern relates to the increased exposure to EVs (particularly heavy EVs) by vulnerable road users (such as cyclists). Other concerns with this initiative related to the impacts on other transport objectives, such as network efficiency, public transport reliability, and general congestion as EV numbers grow.
7. In informal discussions with RCAs, there have been mixed levels of interest in allowing EVs access to bus and high occupancy vehicle lanes. In particular, Auckland Transport is unlikely to allow EVs into most of these lanes, and it has been looking at other ways to promote EV uptake. One initiative it has raised is providing priority parking and charging infrastructure to support EVs within Auckland Transport managed car park buildings.

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<sup>1</sup> Otherwise known as transit lanes — lanes where a vehicle must have more than a certain number of occupants as specified by a sign.

<sup>2</sup> Land Transport (Road User) Rule 2004, and related provisions in Land Transport Rule: Traffic Control Devices 2004.

<sup>3</sup> <http://www.thelocal.no/20150506/norway-strips-electric-cars-of-ke>.

## Legislative and rule changes

8. Section 22AB(1)(r) of the Act is the bylaw-making power empowering RCAs to give specified classes of vehicle access to bus and transit lanes. It will be amended to clarify that it empowers RCAs to make bylaws relating to a broader range of vehicle classes like EVs, cyclists, mopeds, and motorcycles.
9. There is a possible ambiguity in this section as to whether the references to “buses, taxis” and “vehicles of other specified classes” are separate or, whether the interpretation of “vehicles of other specified classes” is informed by the reference to buses and taxis and can only include passenger service vehicles. We want to ensure that inserting a specific reference to EVs does not impact on the interpretation of the existing wording in this section. Parliamentary Counsel Office (PCO) has advised that an amendment of this nature can be done within the ambit of Energy Innovation (Electric Vehicles and Other Matters) Bill (the Bill).
10. The other changes required to give effect to this policy are:
  - 10.1. amendments to the definitions of “bus lane” and “transit lane”, as set out in clause 1.6 of the Road User Rule. The current definitions include information about who may use the relevant lanes, such as buses, cycles, mopeds, and motorcycles. Adding EVs to these lists means RCAs can make bylaws giving EVs access to relevant lanes
  - 10.2. amendments to the Land Transport Rule: Traffic Control Devices 2004 (Traffic Control Devices Rule) to provide for markings and signage relating to EVs and when they have access to relevant lanes
  - 10.3. the addition of a new definition in the Act for “electric vehicle” so that the changes to the Rules can be effective (currently there is no legal definition of “electric vehicle”). A definition of “electric vehicle” will prevent unintended scope creep, for instance, the inclusion of conventional hybrids.<sup>4</sup>

*There are two implementation options to give effect to Cabinet’s decision*

11. There are two implementation options:
  - 11.1. Option one: amend legislation<sup>5</sup> to allow EVs automatic right of access to all bus and high occupancy vehicle lanes, unless an RCA makes a bylaw to exclude them (an opt-out approach)
  - 11.2. Option two: amend legislation to allow EVs access to bus and high occupancy vehicle lanes only if an RCA makes a bylaw to include them (an opt-in approach).
12. We have assessed the implementation options on the extent to which they are:
  - 12.1. efficient from an RCA perspective
  - 12.2. effective as an incentive for greater uptake of EVs
  - 12.3. consistent with Cabinet’s direction.

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<sup>4</sup> Please also see paragraph 33, which addresses the need for the definition for enforcement purposes.

<sup>5</sup> Legislation refers to both Act and Rule changes.

*Option one is inconsistent with Cabinet's direction*

13. Option one is to amend legislation to allow EVs automatic right of access to all relevant lanes unless an RCA makes a bylaw to exclude them (an opt-out approach).
14. This option is not consistent with Cabinet's direction to '*enable road controlling authorities to allow EVs access to bus and high occupancy vehicle lanes*'. Rather than enabling RCAs to allow EVs access to the relevant lanes, it automatically provides EVs with access. RCAs would have to make bylaws if they wanted to prevent EVs from using the relevant lanes.
15. Without further direction from Cabinet, PCO is unlikely to draft changes that reflect option one because it goes beyond what Cabinet envisaged. If option one were to be pursued, then further Cabinet direction would be required.
16. Even so, option one could be seen as the simplest way to ensure EV access to bus and high occupancy vehicle lanes.
17. Some risks associated with this option are:
  - 17.1. As EV numbers are predicted to grow, they may impede the flow of other traffic in some high occupancy vehicle lanes and create delays, as well as compromise safety in some bus lanes
  - 17.2. RCAs, the public, and advocacy groups may feel that RCAs have not been given the opportunity to properly assess how suitable each bus and high occupancy vehicle lane is before the amendments in the respective legislation are implemented.
18. It is difficult to anticipate the costs to RCAs of this option, as scenarios will differ between RCAs depending on how many relevant lanes the RCA wants to allow EVs access into:
  - 18.1. An RCA with a low number of relevant lanes would incur higher costs as it would need to:
    - 18.1.1. go through the bylaw process to exclude EVs from relevant lanes, and
    - 18.1.2. purchase and erect signage showing that EVs did not have access to relevant lanes.
  - 18.2. However, if an RCA wanted to enable EVs to use most, or all of their respective lanes, the cost would be small. The RCA would not need to make bylaws to exclude EVs, or address signage.

*Option two – preferred option*

19. Our preferred option is option two, which is to amend legislation to only allow EVs access to bus and high occupancy vehicle lanes if an RCA makes a bylaw to include them (an opt-in approach).
20. This option is consistent with Cabinet's direction to '*enable road controlling authorities to allow EVs access to bus and high occupancy vehicle lanes*'. In this scenario, EVs are only given access to relevant lanes if RCAs choose to make bylaws to that effect.
21. Option two is also in line with what you have said publicly and in ministerial correspondence.

22. This option provides RCAs with the flexibility to:
- 22.1. choose which bus and high occupancy vehicle lanes EVs can access, within their own respective timeframes
  - 22.2. manage conflicting transport priorities along a corridor, including EV promotion and network efficiency.
23. A risk associated with this option is that few RCAs may make bylaws to allow EVs to access relevant lanes.
24. Again, it is difficult to anticipate the costs of this option to RCAs, as scenarios will differ between RCAs depending on how many relevant lanes the RCA wants to allow EVs access into:
- 24.1. An RCA with a high number of relevant lanes would incur higher costs than with option one as it would need to:
    - 24.1.1. go through the bylaw process to allow EVs to use relevant lanes, and
    - 24.1.2. purchase and erect signage showing that EVs have access to relevant lanes.
  - 24.2. However, if an RCA found EVs unsuitable for most or all of its respective lanes, the costs may be small, as the RCA would not need to make bylaws to allow EVs access, or to address signage.

#### **Planned timing for legislative amendments**

##### *Act amendments*

25. The amendments to the Act will be a part of the Bill. MBIE is the Government department responsible for the Bill. As you are Minister of Energy and Resources, you will have oversight of this. We are required to finalise drafting instructions for MBIE on the amendments to the Act by mid-August, to fit with the timing of the Bill's planned introduction (scheduled for LEG and Cabinet approval for introduction in October 2016).

##### *Process for Rule-making changes*

26. We are currently working with the New Zealand Transport Agency (NZTA) on the process for amending the relevant Rules, including timeframes. We envisage the Rule changes will be ready to come into effect when the Bill is scheduled to pass in May 2017.
27. We are planning to make the proposed Rule changes under section 152A of the Act, which would require you to make a recommendation to the Governor-General. This seems the appropriate rule-making vehicle, given that the Rule changes are tightly linked to the policy being implemented through the Bill. This approach means that Rule consultation is not required, as relevant consultation should be undertaken as part of the Bill's process.
28. To make it clear that the Bill is implementing this proposal, we are proposing to MBIE that the Bill's explanatory note includes clear information about the reason the EV definition is being added. The reason for this is that it is part of the EV access initiative with specific information about enabling access to bus and high occupancy vehicle lanes. This will ensure that the public has the opportunity to comment on this matter.

29. The Ministry of Transport (the Ministry) and the NZTA will work together to ensure that relevant stakeholders are informed about the inclusion of this policy initiative in the Bill, so they have the opportunity to make submissions.
30. Once the Act and Rule changes commence, RCAs will be able to make bylaws to allow EVs access to designated bus and high occupancy vehicle lanes. The bylaw process involves consultation with the community — the length and structure of this process varies between RCAs.

## Other issues

### *Enforcement of EVs in bus and high occupancy vehicle lanes*

31. For enforcement of this initiative, some jurisdictions use a decal or sticker system, or coloured number plates to provide a visual cue for enforcement. However, the simplest way to enforce this initiative is by using the Motor Vehicle Register (MVR).<sup>6</sup>
32. RCAs enforce bus and high occupancy vehicle lanes by recording number plates of vehicles that have not been granted access to the relevant lane. The MVR is used to provide details of the registered owner of the vehicle so a fine can be sent to them. Whether a fine is issued depends on the respective RCA.
33. If EVs are allowed access into bus and high occupancy vehicle lanes, enforcement of this initiative will require a definition of “electric vehicle” in the Act and the Road User Rule. We intend to use a similar definition that will be used for the Road User Charges (RUC) exemptions, i.e. vehicles where the motive power is wholly or partly derived from an external source of electricity.
34. In order to enforce both the bus and high occupancy vehicle lane changes, it will be necessary to have an accurate record of vehicles that do and do not meet the “electric vehicle” definition. The MVR is where information should be recorded about whether vehicles are EVs or not.
35. The MVR currently records a large range of information about vehicles, including motive power and fuel sources. At present however, it does not distinguish between electric motive power generated externally for example, plug-in hybrid vehicles (PHEVs) and other vehicles that generate their own electric power for example, Toyota Prius. Changes to the MVR will therefore be required to distinguish between EVs as they will be defined in the legislation and other vehicles that may have electricity as a source of power.

### *NZTA advice on MVR changes*

36. The changes to the MVR could be complicated and expensive. NZTA advise that it would not commit resources to changing the MVR until final confirmed requirements are known (for example, once the Bill is enacted). Information is recorded into and extracted from the MVR directly and indirectly by other systems, and by a number of users including vehicle manufacturers, vehicle distributors and dealers, the vehicle certification and inspection industry, and enforcement agencies. The MVR changes need to be well planned, and advance notice provided to all users detailing the exact changes so they can make any necessary changes to their systems.

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<sup>6</sup> The Motor Vehicle Register (MVR) administered by the NZTA is the official register of all vehicles in New Zealand. The MVR holds information about vehicles used on New Zealand roads, and the persons responsible for the vehicle's use.

37. Based on high level discussions with business process and IT staff, NZTA advise that it expects at least six months will be needed to update its business processes and IT systems once final confirmed requirements are known. Indicative cost estimates suggest the cost could be in the range of at least \$500,000 to \$1,000,000. It is expected that these funds will be found from within the existing National Land Transport Programme. These time and cost estimates are based on what is currently known of the changes required. The largest piece of work is in making IT system changes to the MVR.
38. The time and costs estimates are based on what the NZTA believe are changes to the MVR of comparable complexity to the proposed EV changes. A detailed design of the specific changes required has not yet been done.
39. Once the changes to the MVR have been made and existing EVs on the register are recorded appropriately, it will then be possible to query the number plate of a vehicle in the MVR to determine if it is legally an EV. Offences already exist for the unauthorised use of bus and high occupancy vehicle lanes, so non-EVs would be committing an offence if they used these lanes.

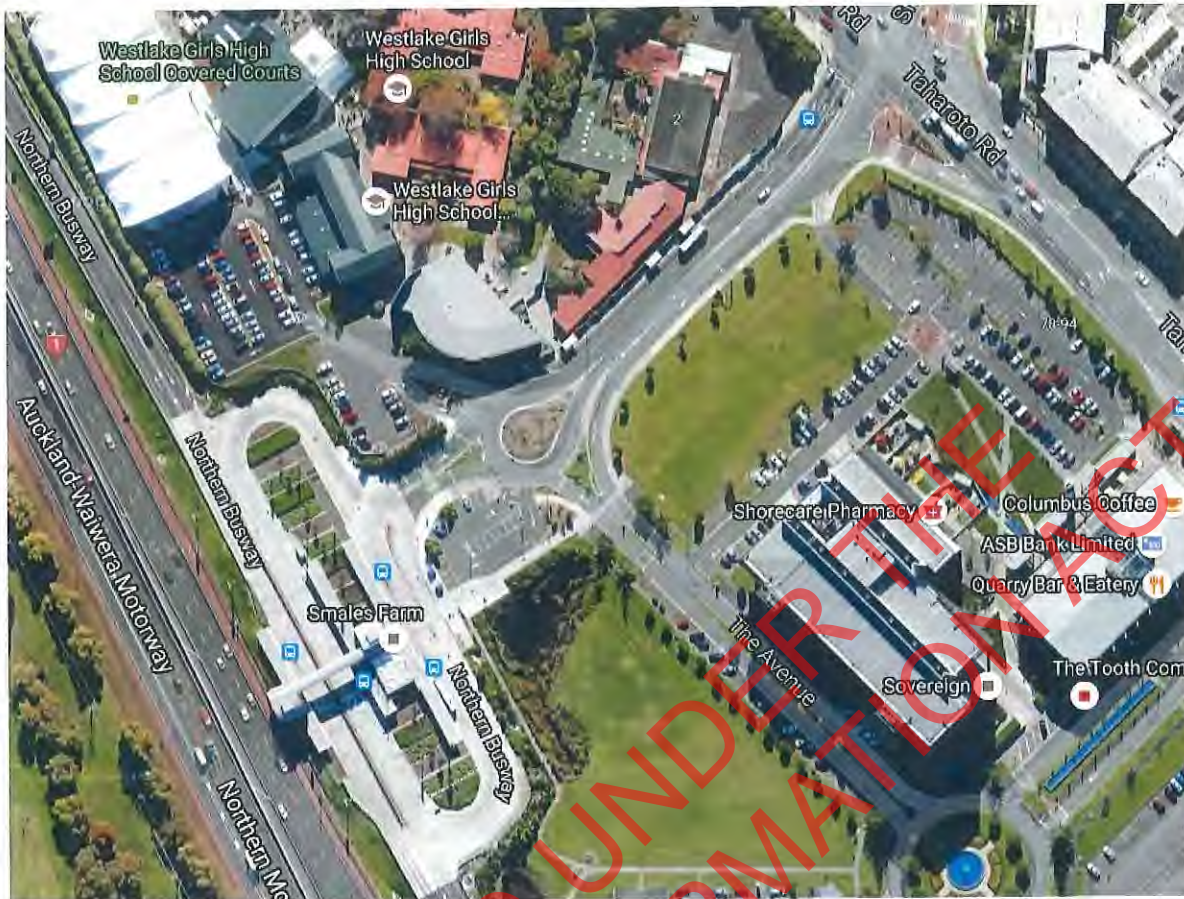
#### *Bus lanes on the Northern Motorway*

40. NZTA advise that the Northern Motorway bus lane is not suitable for EV access. This is due to health and safety concerns. There is no direct access between the motorway and the bus way, except for one small portion. EVs will need to access the lane at the bus stations, which could be problematic and may cause congestion and safety issues for bus traffic, car traffic, and pedestrians.
41. If EVs are not segregated for this particular section of the Northern Motorway, there is an increased safety risk for pedestrians. The interchanges are currently configured for a circulating path for buses.<sup>7</sup> Costs are likely to be significant and impractical for reconfiguring the interchanges to separate pedestrians from EVs.
42. There are also part time shoulder bus lanes<sup>8</sup> on the motorway, which would not be suitable for EVs. This is because there is a speed differential between the shoulder and other lanes. Adding EVs to the mix will cause congestion issues and increase the chances of nose to tail traffic accidents. Furthermore, the shoulders are used as emergency stopping lanes and for incident response when the network is congested. NZTA's view is that these functions would be severely compromised if EV access were allowed.

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<sup>7</sup> The circulating path for buses is as shown in Figure 1 – it allows the bus to approach the station, circulate around the station for passenger pick-up/drop-off, and leave the station, without the need for reversing – similar to the way a roundabout works.

<sup>8</sup> Shoulder bus lanes are where the road shoulder is set up for part time use by buses (indicated by signs), but reverts to a standard emergency shoulder at other times. They are not marked as a bus lane, nor are they designed to provide the level of service of a travelling lane, so bus operators know to travel at a slower speed on them.



**Figure 1: Aerial view of bus station segregated from Northern Motorway. Requires access to bus lane through the bus station itself from local roads (Sourced from Google Maps).**

*Proactive engagement with stakeholders*

43. We met with Auckland Transport on Thursday 28 July 2016 to discuss the issues/opportunities relating to the EV access initiative. The issues they identified were negative impacts on the efficiency of the network (with some bus lanes already over capacity), safety concerns for bus drivers and other road users, and the inability of RCAs to enforce the policy effectively.
44. Further, Auckland Transport voiced concerns over the definition of an EV in any legislation, in particular the inclusion of PHEVs in that definition. In its view, PHEVs with very little range on their electric battery could be receiving a benefit that is not justified given the purpose of the Programme. However, Auckland Transport is open to the possibility of trials of EVs in bus and high occupancy vehicle lanes.
45. To gain further understanding on the issues raised within this briefing, we recommend that Ministry officials should proactively engage with RCAs before the Bill's Select Committee process. This will help address any concerns RCAs have, and provide them with an opportunity to provide their perspective on this initiative before making a formal submission. In particular, we would like to continue to engage with Auckland Transport.



**Recommendations**

46. The recommendations are that you:

- (a) **agree** to our preferred implementation option below to give effect to Cabinet's decision to allow EVs access to bus and high occupancy vehicle lanes:
  - i. Option two: amend legislation to allow EVs access to bus and high occupancy vehicle lanes only if an RCA makes a bylaw to include them Yes/No (an opt-in approach)
- (b) **agree** that Ministry of Transport officials should proactively engage with road controlling authorities and in particular Auckland Transport Yes/No
- (c) **note** that the Ministry of Transport will contribute to drafting instructions for the Energy Innovation (Electric Vehicles and Other Matters) Bill on amendments to the Land Transport Act 1998.



**Adviser, Land Transport Safety**

**Erin Wynne  
Policy Manager, Programme**

**MINISTER'S SIGNATURE:** Withheld under section 9(2)(a) of the Official Information Act 1982

**DATE:**

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## Appendix 1: Use of bus and high occupancy vehicle lanes in overseas jurisdictions

1. A range of incentives, other than direct subsidies, have been used in other countries as part of programmes to promote deployment of EVs. Of these other measures, access by EVs to bus and high occupancy vehicle lanes have been reported to have the highest value in incentivising EV ownership.<sup>9</sup> Access to such lanes enables EV owners to travel more quickly than vehicles otherwise held up in traffic, so gives a direct advantage to the owner. However, this advantage diminishes with EV uptake due to increased levels of congestion.
2. We have provided some information from overseas jurisdictions on this initiative below.

### *Norway*

3. Norway has a number of EV policies (both financial and non-financial) to increase the uptake of EVs. One of these initiatives is to allow certain types of EVs in bus lanes.
4. In 2003, temporary permission was granted to trial the EV in bus lane initiative. This initiative allowed for battery powered EVs (BEVs) to use bus lanes in Oslo and Akershus. Two years later in 2005, BEVs were granted access to all bus lanes. From 2015, a limitation was put on this initiative. Bus lanes that are heavily congested during rush hour periods require two or more passengers in the BEV before they are allowed access. There are also some shorter bus lanes in Oslo where BEVs are not allowed, due to the time delays that sharing the lane would create.

### *British Columbia*

5. One of the key elements in British Columbia's 'On the Move: 10-year transportation plan'<sup>10</sup> is to take measures to reduce environmental impacts in the transportation sector.
6. In British Columbia, drivers who make an environmentally friendly decision by deciding to buy an EV are rewarded, and allowing them into high occupancy vehicle lanes is one way to do that, regardless of the number of passengers. By allowing EVs to use these lanes, EV owners can reduce their time in traffic and avoid running out of charge when they are travelling greater distances or through busy traffic areas.
7. Eligible vehicles include BEVs or PHEVs. After confirming vehicle eligibility, an application must be made for a decal and a permit. A decal is required because many newer EVs are hard to distinguish from conventional vehicles, as manufacturers use similar body frames for both types of vehicles. The decal is free for applicants, and does not expire.
8. To assist enforcement, a decal must be displayed on the vehicle's rear bumper or window. The decal also indicates to other drivers that the EV is eligible to be in the lane.
9. Amendments to the legislation in British Columbia provide access to every high occupancy vehicle lane by authorised EVs, unless a sign is posted indicating otherwise. The regulation allows the province to post a sign where it is necessary to prohibit EVs from using a lane in order to maintain the lane's level of service. Similar to option one described earlier in the briefing, if a high occupancy vehicle lane is under the jurisdiction of a municipality, the local government will determine if EVs can use the lanes. If not authorised, a sign will be posted.

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<sup>9</sup> See for example: <http://www.thelocal.no/20150506/norway-strips-electric-cars-of-ke>.

<sup>10</sup> This was released in 2014.