



## MINISTERIAL BRIEFING NOTE

<b>Subject</b>	Electric vehicles in special vehicle lanes
<b>Date</b>	11 May 2017
<b>OCU number</b>	BRI-1010

### Contact for telephone discussion (if required)

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Withheld under section 9(2)(a) of the Official Information Act 1982

### Action taken by Office of Minister of Transport

- Noted
- Approved
- Seen by Minister
- Referred to
- Needs change
- Withdrawn
- Overtaken by events

11 May 2017

## Minister of Transport

### Electric vehicles in special vehicle lanes

#### Purpose

1. To update you on the pilot allowing electric vehicles (EVs) access to five priority bypass lanes in Auckland, from 6 to 20 March 2017. For locations of lanes, see [www.nzta.govt.nz/assets/Uploads/Pilot-Lanes.pdf](http://www.nzta.govt.nz/assets/Uploads/Pilot-Lanes.pdf) (as attached).
2. To outline the approach taken in assessing the suitability of New Zealand Transport Agency's (NZTA) special vehicle lanes for use by EVs, the outcome of this assessment, and next steps.

#### Background

3. The Ministry of Transport is working on amending legislation and regulation to enable road controlling authorities to make bylaws allowing electric vehicles to use special vehicle lanes. This includes amendments to the Land Transport Act 1998, Land Transport (Road User) Rule 2004 and Land Transport Rule: Traffic Control Devices 2004.
4. The NZTA is committed to supporting and enabling EV uptake and is undertaking a number of projects in parallel with the new legislation. Preparations to enable EV access to suitable special vehicle lanes include:
  - assessing the suitability of NZTA-controlled special vehicle lanes for use by EVs and readying viable lanes;
  - undertaking a pilot allowing EVs access to special vehicle lanes;
  - improvements to the Motor Vehicle Register to enable accurate classification and identification of EVs; and
  - carrying out appropriate bylaw amendments to enable EVs to use suitable lanes.
5. A two week pilot was carried out as part of NZTA's preparation work.
6. A working group comprising NZTA, Auckland Transport (AT) and Beca experts developed an assessment framework that can be used by Road Controlling Authorities (RCAs) to test and confirm the viability and readiness of special vehicle lanes for use by EVs.

#### Auckland pilot of electric vehicles in special vehicle lanes—outcomes

7. The Auckland Electric Vehicles Trial (Pilot) Bylaw allowed EVs access to five special vehicle lanes on the state highway network from 6 to 20 March 2017. All the lanes were priority bypass lanes (motorway onramps) and the bylaw was revoked on 21 March 2017.
8. Prior to the pilot, 978 Auckland-based EV owners on the Motor Vehicle Register were sent an information pack about the Government's Electric Vehicle Programme and invited to participate in the pilot. They were asked to complete a survey at the end of the pilot period which closed on 27 March 2017.
9. The pilot provided valuable insight into the challenges of rolling-out long-term EV accessibility to special vehicle lanes, including:
  - testing the concept of EVs in special vehicle lanes;
  - gauging the impact on other road users; and
  - supporting readiness for the early adoption of EVs in special vehicle lanes.
10. The pilot gave NZTA a greater understanding of communications requirements going forward, as well as qualitative information relating to the value of the incentive to EV drivers.

11. Pilot survey results indicated good support for the initiative. A summary of the results can be seen in Appendix A.

### **Lessons learnt from the pilot**

#### *Enforcement and identification lessons from the pilot*

12. The use of window stickers on EVs for visual identification was of limited value. The pilot confirmed that stickers are not reliable due to window tinting, window shape and inconsistent placement.
13. The registration plate number was confirmed as the most appropriate identifier to be used for enforcement purposes. The pilot indicated that a visual identifier would be beneficial to enable other road users to understand why EVs are accessing special vehicle lanes.

#### *General lessons from the pilot*

14. Communications for the pilot were targeted at EV drivers and were considered highly effective. Going forward, a broader public awareness campaign will be necessary to ensure the public understand changes to lane access when further lanes are made available to EVs, along with comprehensive engagement with EV owners and lease companies.
15. A number of valuable operational lessons have been captured to inform future implementation requirements, including effectiveness of traffic control devices and timing of lane preparations and communications.

### **Consideration of NZTA's special vehicle lanes for access by EVs**

16. An inventory of all special vehicle lanes on the state highway network has been collated capturing lane specific data such as width, speed, accessibility and traffic volumes. The following is a summary of all NZTA-controlled special vehicle lanes:
- Auckland (48 = 18 bypass/onramps, 21 bus shoulder lanes, six bus-only onramps and lanes, three T2 /truck lanes)
  - Tauranga (six bus lane segments)
  - Christchurch (14 bus lane segments)
  - Wellington (one bus lane)
17. Each special vehicle lane has been (or will be, in the case of Christchurch, Tauranga and Wellington) assessed using the special vehicle lane viability assessment framework, encompassing the following steps:
- I. initial assessment-accessibility and value to EV drivers;
  - II. concept design safety audit-safety for EV drivers and other road users;
  - III. safety mitigation-can safety mitigations be implemented in short, medium, long term;
  - IV. public transport and productivity assessment-impact on people movement productivity and loss of service. Including performance metrics that would enable NZTA to monitor each special vehicle lane for detrimental impact over time;
  - V. re-evaluation of high occupancy-can we adjust T2, T3 to reduce impact; and
  - VI. stakeholder assessment-what are the strategic and operational impacts and are there mitigations available within short, medium and long terms.

### **Outcome of the special vehicle lane assessment in Auckland**

18. The state highway network controlled by NZTA has a limited number of special vehicle lanes. These lanes, alongside special vehicle lanes controlled by AT, would provide reasonable 'corridors of benefit' to eligible EV drivers. On their own, the NZTA-controlled special vehicle lanes offer a small incentive to EV owners that will likely equate to some encouragement of EV uptake.

19. The assessment process found that, with adequate budget and time, all NZTA-controlled special vehicle lanes in Auckland could be made suitable for access by EVs. However, only 11 lanes were assessed as being able to be ready in time for early uptake and with low cost.
20. The NZTA will prepare 11 priority bypass lanes (motorway onramps or bus-only onramps) for an initial 12 month trial. This will include the five lanes that were temporarily installed and piloted for two weeks in March. The intent of commencing on the basis of a 12 month trial, is so that NZTA can:
  - progress automated enforcement for special vehicle lanes by trialling new technologies;
  - continue efforts to add additional special vehicle lanes to the trial as these can be made viable;
  - continuously monitor any impact on overall productivity as EV numbers grow (responding to key stakeholder concerns about the ability to remove or change the incentive if detrimental impacts are realised); and
  - consider transition of the trial lanes into business as usual network management.
21. The Auckland pilot results have given us great confidence that the 11 viable lanes are likely to present a low level of risk, whilst offering some benefits to EV drivers.
22. Enforcement of these lanes will utilise existing processes using the registration plate matched with data held in the Motor Vehicle Register, until an automated enforcement solution can be implemented.
23. The NZTA and cross-agency partners are investigating visual identifiers that will enable other road users to recognise EVs.
24. Aside from the 11 lanes being introduced in the trial, the viability of the remainder of NZTA's special vehicle lanes are affected by:
  - safety issues and/or 'use of lane' conflicts, with resolutions ranging from minor to significant, in terms of time and cost; and
  - limitations where lane entry must be made via an A special vehicle lane that does not currently allow EV access or via private land (see paragraph 25 below).
25. In relation to the lanes affected by safety issues and/or 'use of lane' conflict, the NZTA will carry out a review to determine the broader vision and intent for special vehicle lanes. This involves considering future strategic options for their use. The costs and return on investment of preparing lanes for EV access can then be considered within a wider benefit profile.
  - a) An example is the 21 emergency stopping lanes (comprising approximately 25 kilometres) that are also utilised as bus shoulder lanes during peak time. In order to make these lanes available to EVs, a decision to upgrade these lanes into 'proper' lanes is required. Bringing these lanes up to accepted standard requires a combination of widening, re-surfacing, drainage and other asset modification with costs ranging from \$1.5m to \$1.8m per kilometre.
26. The Northern Busway viability outcome was mainly affected by accessibility issues.
  - a) The core issue is that land accessing all but one bus station is sole ownership or fee simple property, in essence, private land (owned by AT) which a driver must have specific permission to access. Until this is resolved the Northern Busway is not accessible to EVs.
  - b) Work to reduce pedestrian conflict and ease of access and use issues within the bus stations themselves has not been costed due to these fundamental access issues.
  - c) Should these access issues be resolved, early indications are that aside from some anticipated public transport impact during peak times, safety mitigations within the NZTA busway itself would be approximately \$300,000.

### Special vehicle lane assessment generally

27. When consulting with relevant RCAs on the special vehicle lane incentive, NZTA identified a clear need to explore a broader application of corridor optimisation on New Zealand's urban road network. In particular, the use of special vehicle lanes beyond their existing T2/T3 and bus lane only application. Developing a collective position with urban RCAs on future special vehicle lane usage will ensure new innovations (e.g. autonomous vehicles, connected vehicles, managed motorways) can be appropriately balanced with transport outcomes when making planning and investment decisions.
28. A small number of special vehicle lanes exist outside of Auckland. Discussions with city and regional councils in Christchurch, Wellington and Tauranga are in progress. NZTA will provide support to these road controlling authorities as they consider the use of special vehicle lanes, alongside other EV initiatives, to encourage EV uptake.

### Next steps

29. NZTA is now preparing a detailed implementation plan for the 11 lanes to be included in the 12 month trial. This plan will confirm the logistics, communications campaign, timeframes and costs involved in preparing the lanes and communicating to road users.
30. The intent is to complete preparation to coincide closely with the Energy Innovation Bill and necessary regulation changes. NZTA will consult on a bylaw that is conditional upon the legislation coming into force.
31. Regular updates are being provided to over 600 identified stakeholders. There has been ongoing direct engagement with key stakeholders such as Bus and Coach Association, New Zealand Police and AT. Targeted discussions with key stakeholders will continue.
32. NZTA is developing an approach that will be used to engage with all urban RCAs to develop a collective policy position and framework for corridor optimisation. The approach will be presented to the Investment and Operations Committee in June 2017.

**It is recommended that you:**

1. **note** the outcomes of the Auckland EVs in special vehicle lanes pilot.
2. **note** the outcome of NZTA's special vehicle lane assessment process.
3. **note** NZTA's intention to opt in with 11 special vehicle lanes in Auckland for a 12 month trial following the enactment of the enabling legislation and transport rules.
4. **note** NZTA's intent to engage RCAs on the development of a collective position regarding corridor optimisation, in particular special vehicle lanes.
5. **note** that NZTA will continue working alongside Tauranga, Wellington and Christchurch city and regional councils to support and encourage uptake of EVs in special vehicle lanes.
6. **note** the next steps.



**Robert Brodnax**

Withheld under section 9(2)(a) of the Official Information Act 1982

Group Manager, Planning and Investment

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**Hon Simon Bridges, Minister of Transport**

Date: 2017

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## Appendix A

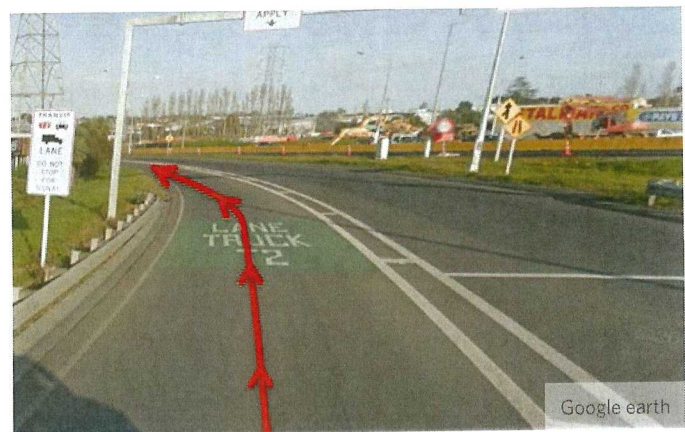
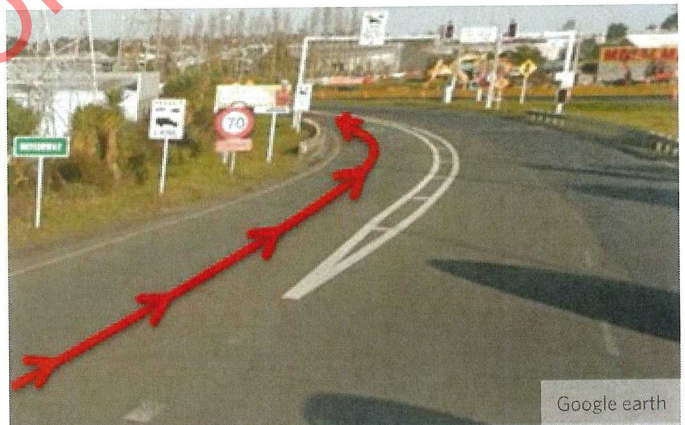
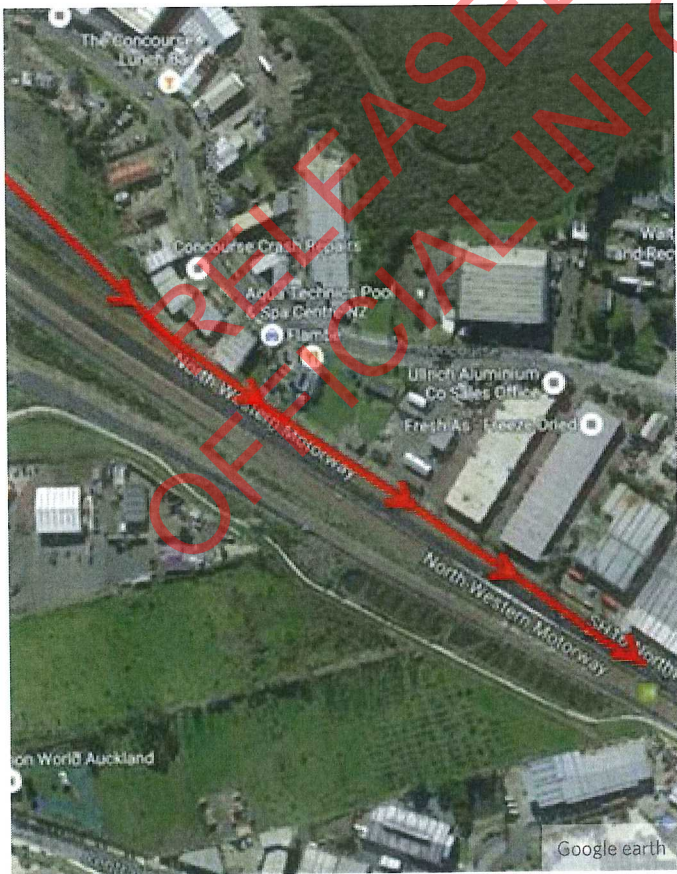
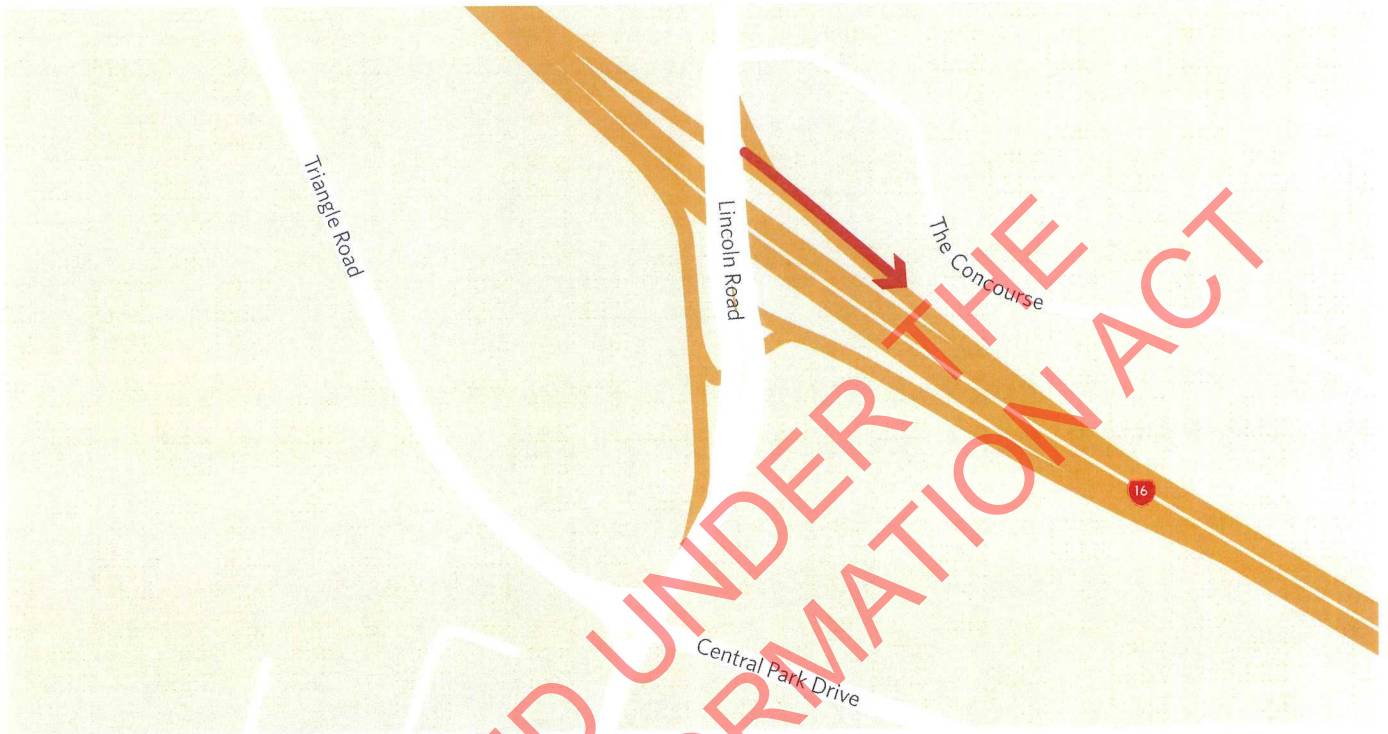
### Pilot participant survey feedback

1. 68 people, out of the 978 who received the information pack, responded to the survey.
2. 70 percent of respondents used the specified priority bypass lanes during the pilot period.
3. 78 percent of respondents that were able to use the lanes thought that access to the priority bypass lanes improved their journey. Feedback ranged from “slight improvement” to “speeds up travel considerably”.
4. 80 percent of all respondents would use the five priority bypass lanes if they were made available to EV drivers long-term.
5. 94 percent of all respondents said they would use additional lanes if they were made available to EV drivers long-term.
6. Feedback from the majority of respondents who used the specified priority bypass lanes said they didn’t notice other drivers reacting negatively to their use of the lanes.
7. Other comments received were mostly positive, with a number of respondents specifically requesting that more special vehicle lanes be made available to EVs.
8. Social media was monitored in addition to survey results. Feedback was mixed, with three Facebook pages reviewed: NZTA, NZ EV Owners, and Auckland EV Owners pages.
9. Social media feedback included:
  - “Great initiative”
  - “Would like to see more lanes”
  - “Would like to see blanket T2 acceptance for EVs”
  - “Do not include bus lanes”
  - “Public transport should be a priority”
  - “Won’t reduce traffic congestion”
  - “It’s a benefit for the rich who can afford the vehicles”
  - “It makes no difference as everyone uses the lanes anyway.”
10. A summary of all feedback was published on the NZTA website.

# T2 and truck lane adjacent to the onramp eastbound from Lincoln Road, to SH16 North Western Motorway (Henderson)

February 2017

17-027

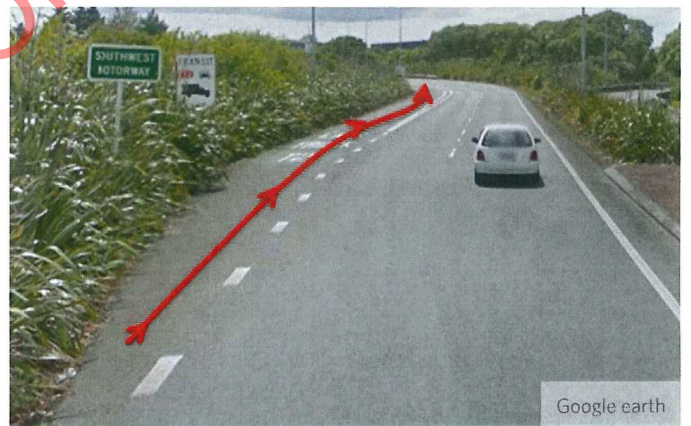
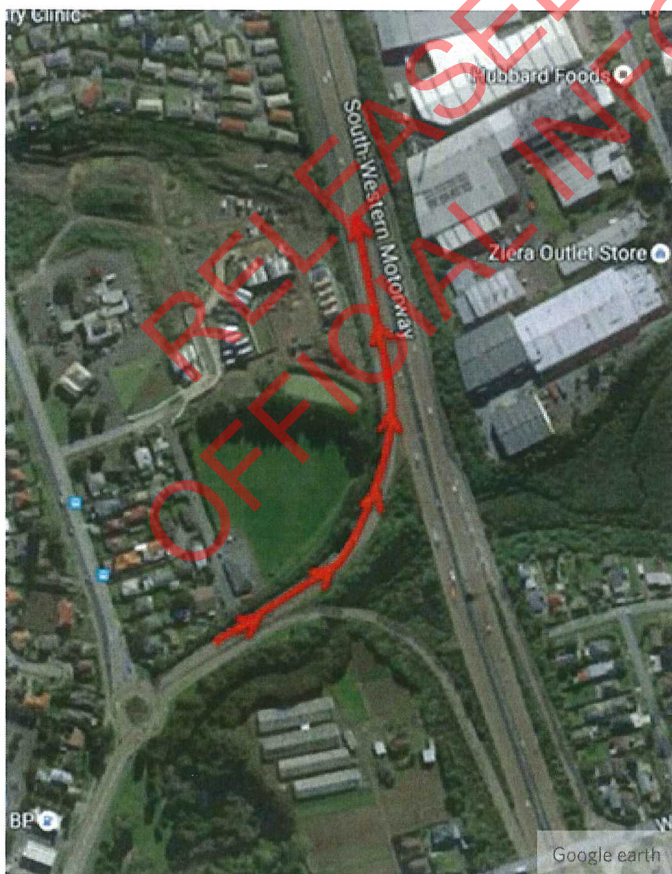
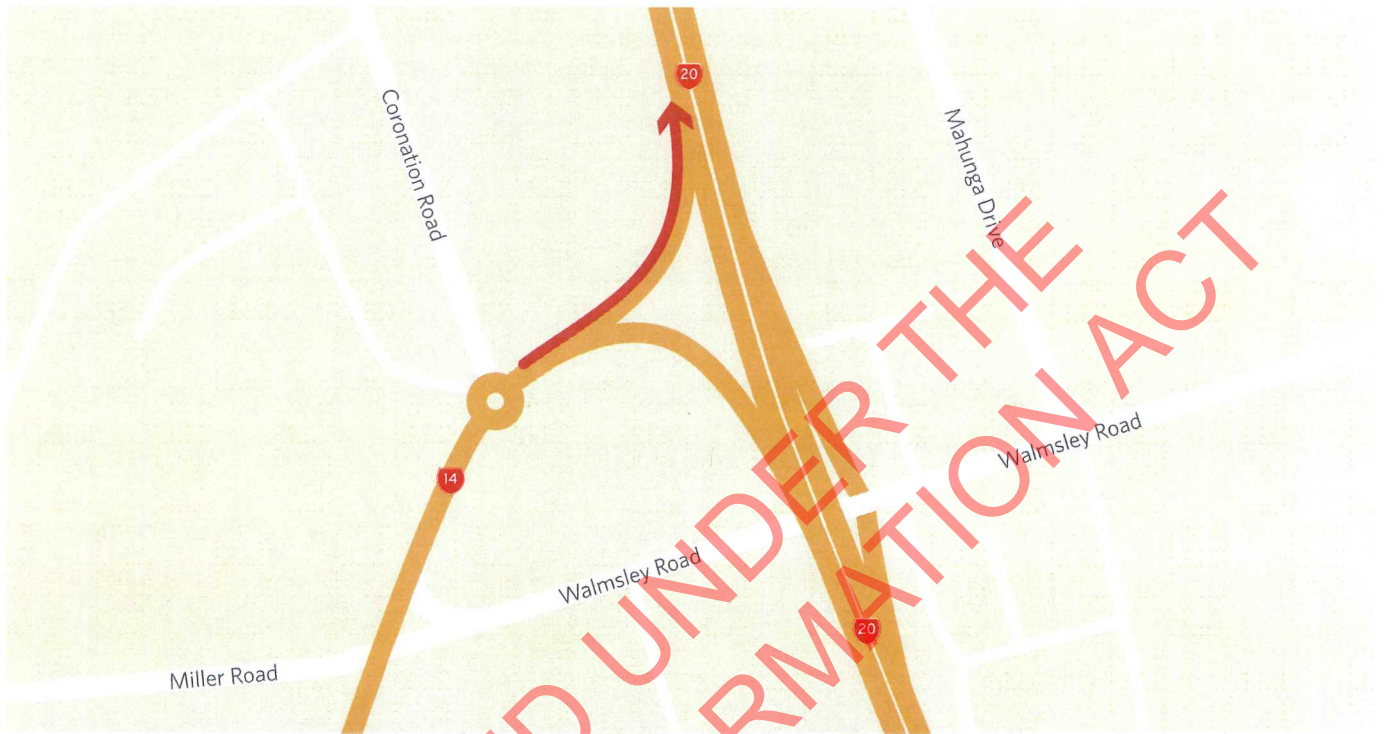




# T2 and truck lane adjacent to the onramp northbound from Coronation Road to South-western Motorway (Mangere/Manukau)

February 2017

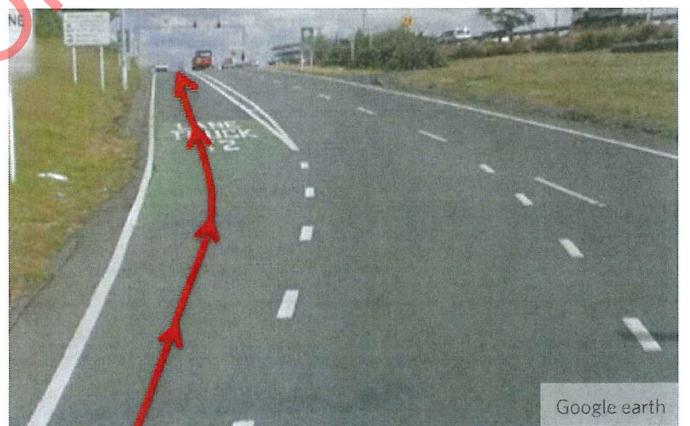
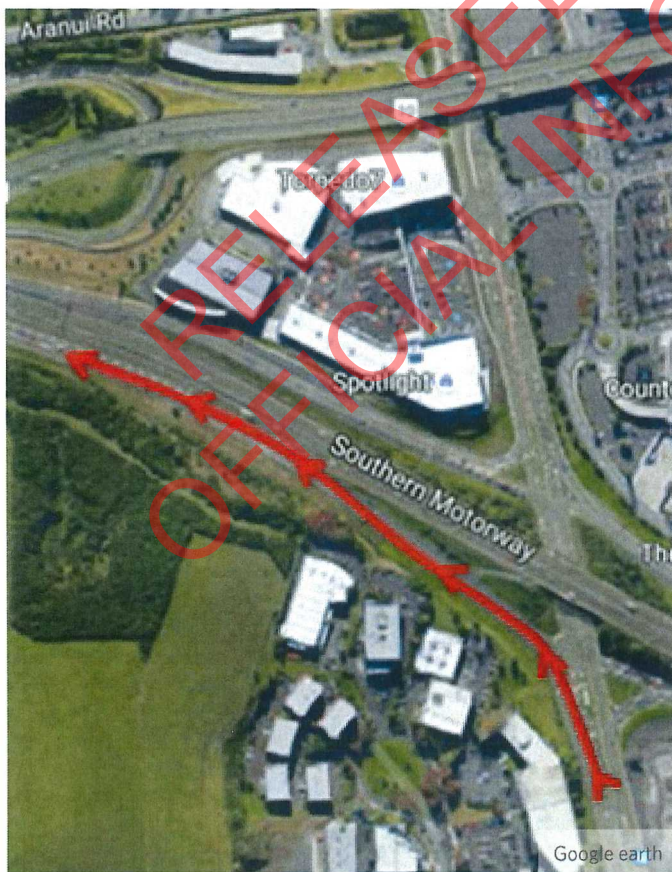
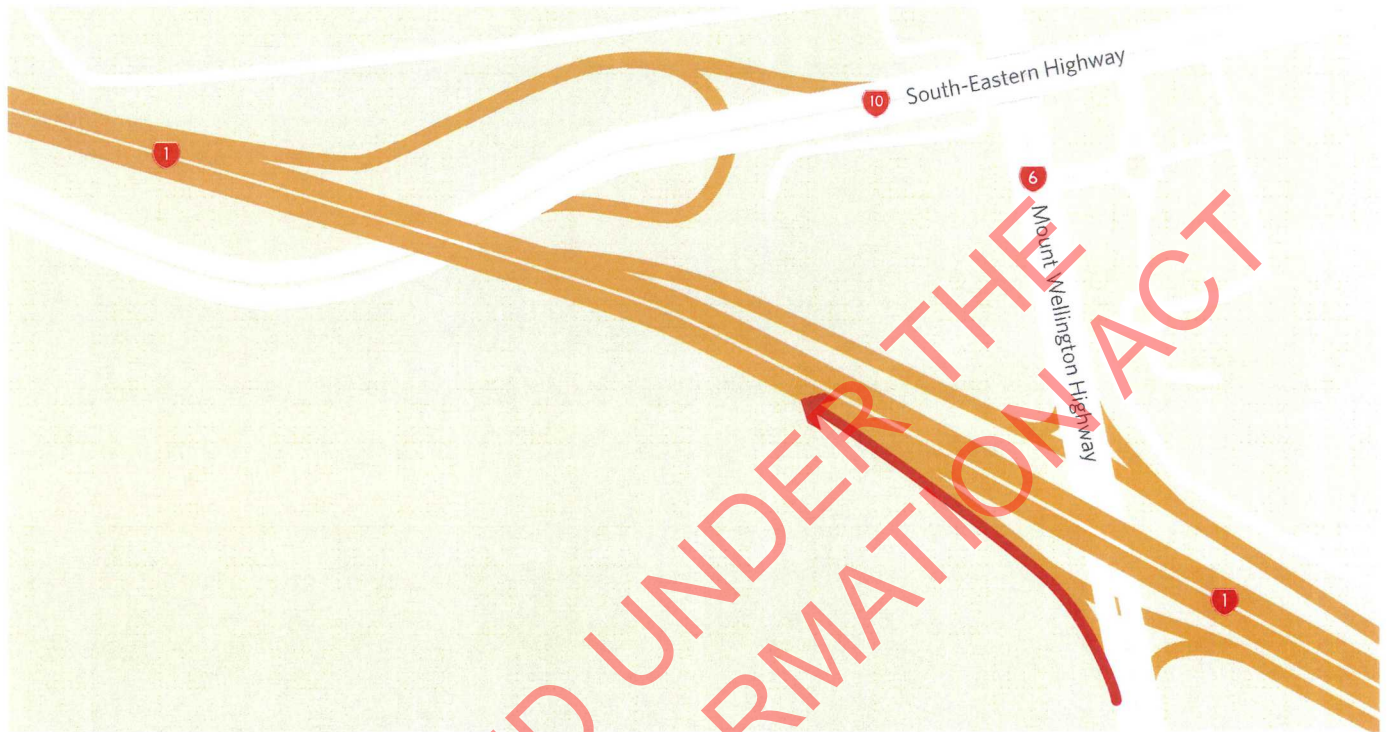
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# T2 and truck lane adjacent the onramp northbound from Mt Wellington Highway to SH1 Southern Motorway

February 2017

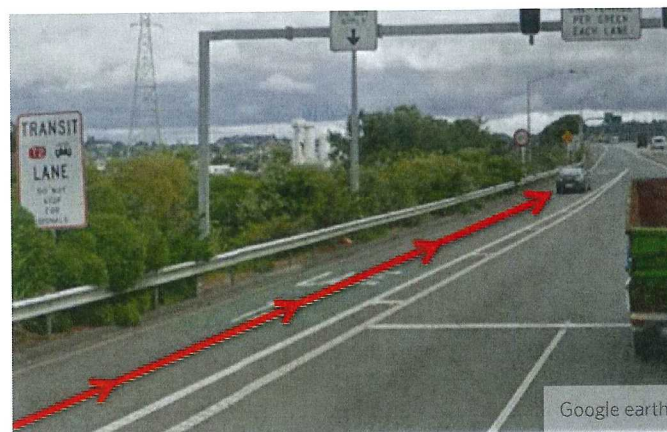
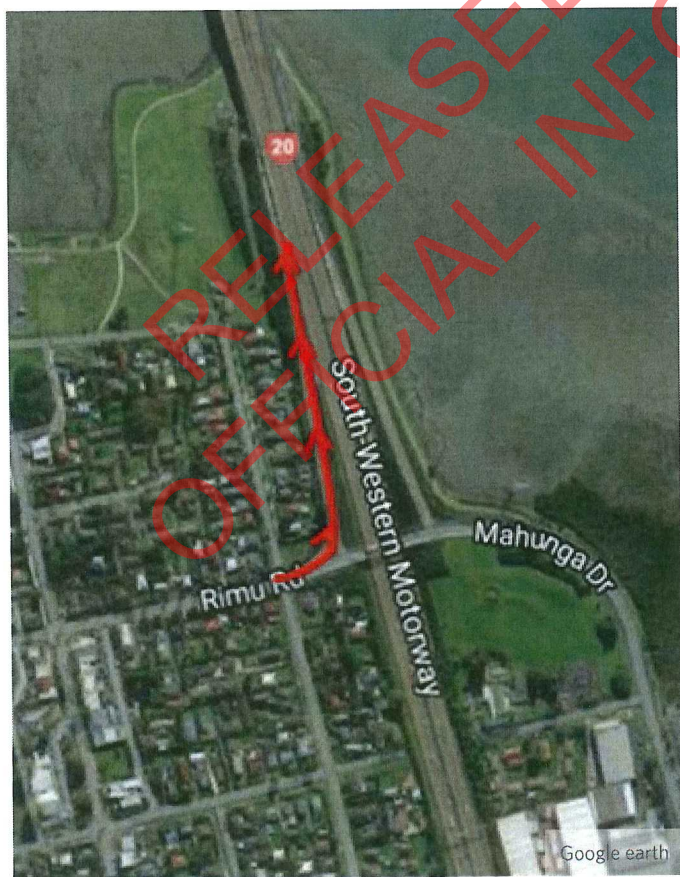
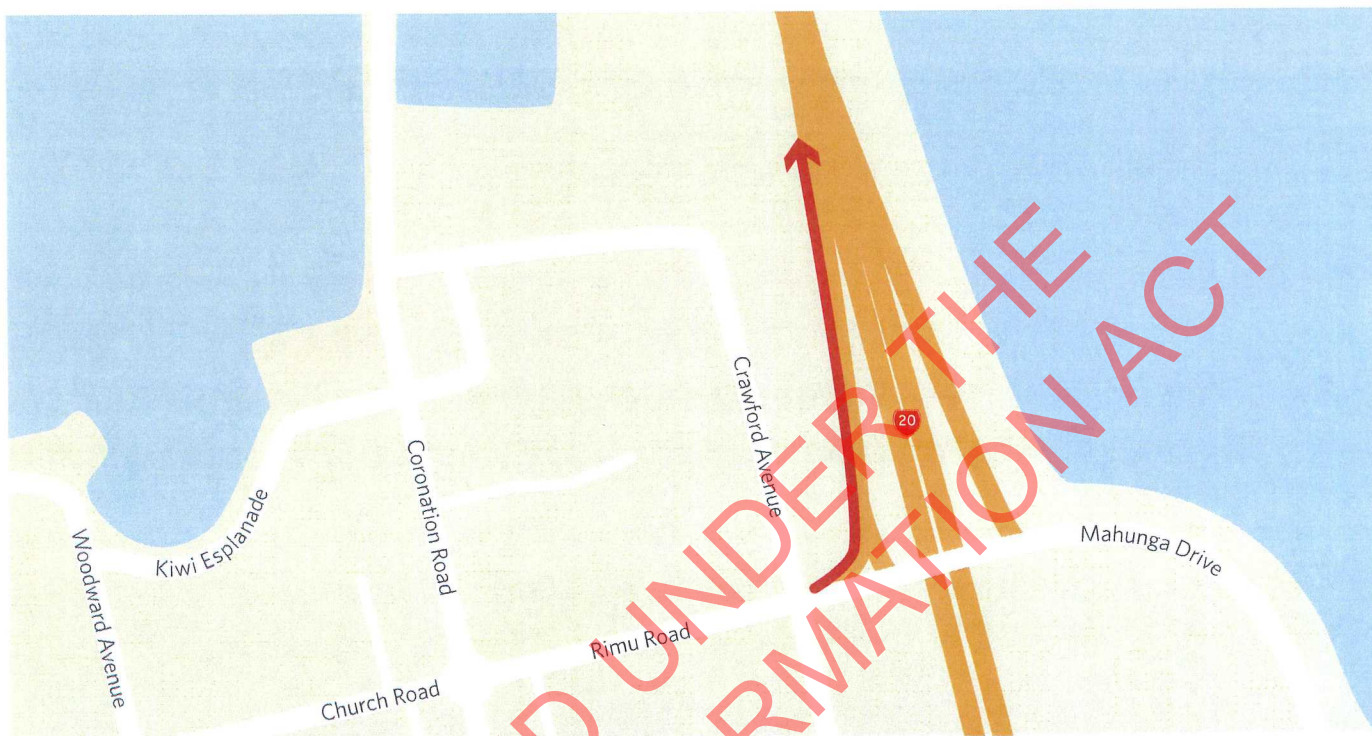
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# T2 lane adjacent to the onramp Northbound from Rimu Road to SH20 South Western Motorway (Mangere)

February 2017

17-027





# T2 and truck lane adjacent to the onramp northbound from South Eastern Highway to SH1 Southern Motorway (Mt Wellington)

February 2017

17-027

