

OC220331

19 May 2022

Tēnā koe

I refer to your email dated 28 April 2022, requesting the following under the Official Information Act 1982 (the Act):

*"Vehicle data quality is in question, highlighted most recently by Clean Car Scheme problems*

The ICCT 2021 report to MOT <https://theicct.org/publication/methods-of-converting-the-type-approval-fuel-economy-and-co2-emission-values-of-light-vehicles-an-analysis-for-new-zealand/> says *"The New Zealand Ministry of Transport has pointed out issues related to data quality, so the information summarized in this section should not be seen as a precise fleet evaluation but rather a general trend review sufficient to assess the two previously stated goals"*

*In relation to the above, pls release in full and fully searchable format:*

- *The two most substantive documents/reports/ communications (of any kind) in which the MOT has 'pointed out issues related to data quality'*
- *The most substantive and up to date documents/reports/communications (of any kind) detailing the outcome from pointing out these issues, covering but not limited to such things as any recommendations, or work programmes to come, or remedies, or similar, to address these issues*
- *As the data "is the basis for the policies around identifying emission values for vehicles imported into NZ", pls release documented and substantive information on what effects the data "issues" have had or could have or at risk of having on these policies*
- *And a record of any mitigations to above*

*The report also states re the data that has 'issues': "The data used for fleet analysis came from two sources. One was directly provided by*

*the New Zealand Ministry of Transport, and the other is Motor Vehicle Register data published by the New Zealand Transport Agency". Pls:*

- *Identify the source of the data noted here as "directly provided" by MOT*
- *Provide a link to that data. If it is a lot of data and there is a summary available, pls provide the summary of that data*

*Regards the Motor Vehicle Register pls provide:*

- *The latest assessment, or similar, MOT is aware of, of the fitness for purpose, or similar, of the MVR*
- *The latest most substantive document/report/communication that outlines the official govt position on any upgrade or significant change to the MVR*
  - *Re that, pls also outline if MOT is aware of any capital budget that exists or is to be sought, for an MVR upgrade; it may be the budget would fall within NZTA, however, MOT would be aware of it, in which case pls detail this"*

Three documents fall within the scope of your request and are detailed in the document schedule attached as Annex 1. The schedule outlines how the documents you requested have been treated under the Act.

Personal information such as names and email addresses is withheld under the following sections of the Act:

9(2)(a) to protect the privacy of natural persons.

In addition, I would like to give you some background information and explanation.

- The Ministry of Transport (MoT) commissioned the International Council for Clean Transportation (ICCT) to do this work in December 2019. Its main objective was to develop conversion equations from CO<sub>2</sub> values for vehicles which have values derived from other test cycles to those on [Worldwide Harmonised Light Vehicle Test Procedure](#) (3p-WLTP), to enable a standardised CO<sub>2</sub> assessment of vehicles.
- A steering group worked closely with ICCT researchers. That group consisted of representatives from MoT, Waka Kotahi, Energy Efficiency and Conservation Authority, Motor Industry Association, Automobile Association, Imported Motor Vehicle Industry Association, and Motor Trade Association Inc.
- The data provided by MoT was mainly from the Motor Vehicle Register (MVR), but some data on fuel consumption, test cycle and CO<sub>2</sub> was also from the Rightcar database.
- ICCT also obtained vehicle registration data directly from Waka Kotahi's open data on MVR (<https://opendata-nzta.opendata.arcgis.com/search?q=motor%20vehicle%20register>) for their analysis.
- Waka Kotahi at that time estimated the data quality and advised that there could be some data quality issues associated with some vehicle attributes (largely for used vehicles) of the New Zealand vehicle data.
- ICCT used the above datasets mainly for their analysis of the composition and trends of New Zealand light duty vehicle (LDV) registrations (section 4 in their report). They were well aware of the data issues.
- Please note since NZ imports almost all LDVs from overseas and all of them were tested for fuel consumption and CO<sub>2</sub> overseas, the New Zealand vehicle data was

not relevant to the ICCT work of developing conversion equations of CO<sub>2</sub> values. Instead, they used data from Europe and Japan and some of their own simulation data for that purpose. Therefore, the quality issues associated with New Zealand vehicle data estimated at that time did not have any adverse impacts on the robustness of the conversion equations for CO<sub>2</sub> and fuel consumption developed by ICCT.

Quality data (including CO<sub>2</sub>, fuel consumption and test cycle) are required to implement the clean vehicle policy. Mitigations for the impacts of the data issues have either been put in place, or are planned:

- ***Mandating that importers provide more complete information about CO<sub>2</sub> and related matters when vehicles enter New Zealand.*** This has now been completed with the passing of a new Transport Rule that went into force on 1 April 2022. This means vehicles entering New Zealand can be correctly assessed for CO<sub>2</sub>, and an accurate rebate or fee calculated.
- ***Updating historical vehicle model records with more accurate CO<sub>2</sub> figures, by matching vehicles with authoritative databases.*** This is largely complete. This means future policy has improved data to operate with, in the situation where CO<sub>2</sub> statistics for historically purchased vehicles is relevant.
- ***Removing the need for conversions at all.*** This will occur naturally this decade for the used imports from Japan and UK. This is because those used vehicles manufactured since around 2018 don't need to be converted, as from that date they are tested to WLTP due to Japanese and UK domestic regulations, and WLTP is the test procedure we have standardised on. For brand new vehicles, the government has agreed in principle to require vehicles manufactured from 2024 to be tested on the WLTP standard; though enforcing this shall require a Transport Rule amendment, meaning it is subject to industry consultation and thus still to be finalised<sup>1</sup>.

Waka Kotahi is responsible for administering the Clean Car Discount Scheme. No reports, documents, updates, recommendations, or communications etc. have been provided to the Ministry relating to the administration of the scheme.

However, Waka Kotahi provided the following update in response to your query.

As part of the day-to day administration officials identify errors in vehicle data. As of 28 April 2022, Waka Kotahi officials have opened 697 enquiries which relate to data quality issues and have resolved 619 of these. Officials also identify trends in data quality and find practical solutions to them. As of 28 April 2022, officials identified four key data quality trends and solutions were found to each.

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<sup>1</sup> Information from the Ministry of Transport: Originally the Government sought that WLTP apply on all vehicles manufactured from 2022 (refer paragraph 72 and recommendation 17 at <https://www.transport.govt.nz/assets/Uploads/Cabinet/TheCleanCarStandard.pdf>). The motor industry association (MIA) stated 2022 was too soon and recommended conversions be used instead. The government then amended its position and agreed for WLTP to apply on vehicles manufactured from 2024 (refer paragraph 80 and recommendation 8 [https://www.transport.govt.nz/assets/Uploads/08.-OC210773-Cab-papeFinalising-2022-Clean-Vehicle-Scheme-Details-with-VFEL-additions-FINAL\\_markup\\_Redacted.pdf](https://www.transport.govt.nz/assets/Uploads/08.-OC210773-Cab-papeFinalising-2022-Clean-Vehicle-Scheme-Details-with-VFEL-additions-FINAL_markup_Redacted.pdf) )

- Waka Kotahi officials were unable to print the MR2A form for vehicles that were not eligible for the Clean Car Discount Scheme but were approved for registration. A permanent fix was applied successfully on 22 April 2022.
- In some cases, historical vehicle information was incorrect causing incorrect emission data in MVR and on RightCar.govt.nz. Officials are now currently cleaning the existing emissions data by matching the data with newer vehicle variant information.
- Officials identified 95 used vehicles that are eligible for the scheme which do not have emissions data. This issue has since been resolved.
- As new vehicles details are loaded into the MVR, entry certification errors can be made that affect emission values. Any errors identified are tracked and resolved.
- Waka Kotahi officials are continuing to improve its in-house systems and processes to reduce errors and improve data quality.

Waka Kotahi is also responsible for the administration of MVR. Waka Kotahi is working on a refresh of their regulatory strategy that will articulate the regulatory outcomes that are expected to be achieved.

In parallel, Waka Kotahi is also undertaking a review of the MVR. The outcomes of the refreshed regulatory strategy and the review will determine if further action is required, and if so, how the MVR will evolve. At present, no funding has been allocated to the review of the MVR.

You have the right to seek an investigation and review of this response by the Ombudsman, in accordance with section 28(3) of the Act. The relevant details can be found on the Ombudsman's website [www.ombudsman.parliament.nz](http://www.ombudsman.parliament.nz)

The Ministry publishes our Official Information Act responses and the information contained in our reply to you may be published on the Ministry website. Before publishing we will remove any personal or identifiable information.

Nāku noa, nā



Dan Jenkins  
**Manager Analytics and Modelling**  
**Ministry of Transport**

## Annex 1 - Document Schedule

Doc#	Document	Decision on release
1	A copy of the email MoT officials sent to ICCT on 21 January 2020, providing the New Zealand vehicle registration data and pointing out the data quality issues	Some information withheld under Section 9(2)(a).
2	A general description about the two datasets on New Zealand vehicle registrations that MoT sent to ICCT	Released in full.
3	A copy of the Excel file that described data quality issues associated with some vehicle attributes of the New Zealand vehicle data at that time. This file was prepared by Waka Kotahi NZ Transport Agency	Released in full.

## The (redacted) email the Ministry of Transport sent to ICCT about data quality issues

Upon ICCT's request, the Ministry of Transport (MoT) sent New Zealand light vehicle registration data to them on 21 January 2020. In this email, MoT also sent an Excel file describing the data issues of New Zealand vehicle data. Please note the data issues were actually estimated by Waka Kotahi NZ Transport Agency as at 21 January 2020, and the Excel file was also prepared by Waka Kotahi.

**From:** [redacted]

**Sent:** Tuesday, 21 January 2020 1:30 PM

**To:** [redacted]@theicct.org>; [redacted]@theicct.org>

**C**

**R**

**Subject:** RE: NZ LDV data example

Hello [redacted],

We have discussed your data request and now have prepared the data for you. Due to the large file size, we have separated NZ new vehicles from used imports. In this email I have attached the dataset for NZ new. I'll send the data for used imports in a separate email.

The second file attached here describes the data quality for each variable. Please take caution when using the NZ data and well be aware of the data issues.

Please also note any conclusions drawn from the data for "NZ New" vehicles may not hold true for used imports and therefore for the whole fleet. e.g. vehicle transmission and power analysis may only be undertaken on the NZ new vehicles but any findings are unlikely to apply to used imports due to the nature of the size and specification of NZ new vs used imports.

Please come back to me if you have questions.

Regards,

[redacted]

## General description of the two datasets sent to ICCT on 21 January 2020

Upon the request by the International Council for Clean Transportation (ICCT), the Ministry of Transport sent them two large datasets (in CSV format) on 21 January 2020. The data covered light duty vehicles registered in New Zealand from 1 January 2015 to 31 December 2019. One dataset contained data for new vehicles (that is, they had not been registered anywhere else in the world before). The other dataset contained data for used vehicles. Each dataset contained more than 700 thousands lines with the original file size being more than 70 MB.

The table below shows vehicle attributes included in the datasets.

Vehicle attribute	Description
GROSS_VEHICLE_MASS	The maximum permitted mass (in kilograms) of the vehicle
TARE	Tare weight or sometimes referred to as 'curb weigh', the unladen mass of a vehicle
YEAR_FIRST_REGISTERED	The year the vehicle was first registered anywhere in the world
YEAR_FIRST_NZ_REGISTRATION	The year the vehicle was first registered in New Zealand
VEHICLE_YEAR	Year of manufacture or model year - if unknown, year of first registration
ORIGINAL_COUNTRY	The country where the vehicle was principally manufactured
IMPORT_STATUS	The status of a vehicle as it arrives into New Zealand (new or used)
VEHICLE_TYPE	The type of vehicle e.g. motorcycle, passenger car/van, bus etc. Some special purpose and agricultural vehicles have been combined.
LATIS_VEHICLE_CLASS	Vehicle class based on vehicle equipment standards, for example, MA, MB etc.
VEHICLE_MAKE	The manufacturer of the vehicle
VEHICLE_MODEL	The model of vehicle as assigned by the manufacturer
MOTIVE_POWER	Identifies the primary fuel source that powers the vehicle
CC_RATING	Total volume in cubic centimetres of the displacement of all cylinders of the vehicle's engine
POWER_RATING	The power rating (in kilowatts) of the vehicle
TRANSMISSION_TYPE	The gearing system the vehicle has (e.g. automatic or manual). Please note that this is infrequently recorded
TEST_CYCLE	A test cycle used in type approval, for example Worldwide Harmonised Light Vehicles Test Procedure (WLTP)
FC_COMBINED	Fuel consumption (more precisely, fuel economy) in litres/100 kilometers over the whole test cycle
CO2_COMBINED	CO2 emissions in grams/kilometer over the whole test cycle

	Vehicle type	Vehicle classes
Moped	1	LA LB
Motorcycle	11	LC LD LE
Passenger car	7	MA MB MC
Small passenger service vehicle	9	MD1
Large passenger service vehicle	9	MD2 MD3 MD4 ME
Light goods vehicle	8	NA
Medium goods vehicle	8	NB
Heavy goods vehicle	8	NC
Very light trailer	2	TA
Light trailer	2	TB
Medium trailer	2	TC
Heavy trailer	2	TD
Tractor	3	
Light motor caravan	10	NA
Medium motor caravan	10	NB
Heavy motor caravan	10	NC
Agricultural machine	4	
Mobile machine	6	
Non-highway trailer	5	
ATV	12	
Special purpose vehicle	13	NA NB NC