

ALLEN+CLARKE

**EVALUATION OF THE NEW ROAD
USER CHARGES SYSTEM**

Cycle three evaluation report

2 December 2016



CONTENTS

EXECUTIVE SUMMARY	IV
Background	iv
Purpose, objectives and methods of the evaluation	iv
Findings and conclusions	v
Recommendations	viii
1. INTRODUCTION	1
1.1. Evaluation purpose	1
1.2. Audience	1
1.3. Structure of this report	1
2. BACKGROUND AND CONTEXT	3
2.1. Key changes to the RUC system	3
2.2. Summary of key findings from Cycle 1 and Cycle 2 evaluations	3
3. METHODOLOGY	5
3.1. Evaluation approach	5
3.2. Evaluation themes and objectives	5
3.3. Information sources and methods	6
4. EVALUATION FINDINGS	7
4.1. Effectiveness of RUC legislation	7
4.1.1. The changes made under the 2013 and 2014 RUC Amendment Acts have addressed many of the early issues with the modernised RUC legislation	7
4.1.2. Section 9.4A of the Act has been effective in allowing transport operators to use their vehicles more flexibly whilst still covering their RUC obligations	7
4.1.3. Section 12 provides a loophole for evasion and is seen by operators and NZ Police as cumbersome	8
4.1.4. The section 40 exemption of LDVs that are used almost exclusively off road is largely working as intended	12
4.1.5. The wording of section 53 does not adequately provide for the assessment of unpaid weight based RUC	14
4.1.6. The third party review process outlined in section 55 is costly and its implementation is relatively narrow in focus	15
4.2. Identification, assessment and recovery of unpaid RUC	16
4.2.1. Processes for the identification and assessment of unpaid RUC are effective	17
4.2.2. The NZTA is implementing a number of initiatives to enhance the recovery of RUC debt	19
4.2.3. The development of stronger tools to recover RUC debt could be investigated	21
4.3. RUC Specialist Assessors	22

4.3.1.	The performance of the RUC Specialist Assessor team has been enhanced through a recent change in management	22
4.3.2.	The RUC specialist team is now effective in focusing on recovery of weight based RUC debt, but efficiency could be improved with additional data entry resource	23
4.4.	Electronic RUC	25
4.4.1.	The process for becoming an approved eRUC systems provider is clear	25
4.4.2.	The uptake of eRUC is continuing to increase and now comprises over 40 percent of heavy vehicle RUC revenue	27
4.4.3.	Cost remains the main barrier to the uptake of eRUC systems	30
4.4.4.	Lowering the cost of eRUC systems, mandating uptake and post-payment were suggested as ways to enhance uptake	30
4.4.5.	There is a common misconception amongst eRUC providers that the RUC licence must be displayed continuously	31
4.5.	Vehicle GVM	32
4.5.1.	Setting RUC weight bands based on GVM has created a motivation to reduce vehicle GVM to achieve a more advantageous RUC rate	32
4.5.2.	GVM manipulation can occur by assigning an artificially low GVM at point of manufacture, or by modifying and recertifying existing vehicles	33
4.5.3.	The extent to which manipulation of vehicle GVM is occurring is difficult to determine	34
4.5.4.	The practice is unlikely to impact on RUC revenue, but presents a threat to the fairness and equity of the system	37
4.5.5.	The NZTA has clarified its position regarding recertification requirements.	38
4.5.6.	A policy could be developed to clarify the NZTA's position on assigning GVM to new vehicles	38
4.6.	Interaction with overweight permitting systems	39
4.6.1.	H licence revenue per kilometre has largely remained stable, with a slight downward trend for eight- and nine-axle vehicles	41
4.6.2.	The number of swaps between H licences and standard licences has remained stable	42
4.6.3.	The lack of interaction between the RUC and permitting systems is creating administration costs for operators	44
4.7.	Light diesel vehicles	45
4.7.1.	Nearly forty percent of survey respondents believe that they have moderate knowledge of the RUC system	45
4.7.2.	RUC obligations could be better communicated through formal communication channels, as most LDV owners find out about these informally	47
4.7.3.	Distance overrun is prevalent amongst LDV owners	49
4.7.4.	Consideration needs to be given to the RUC status of light hybrid and electric vehicles as the exemption is due to end in 2021	53
4.7.5.	There is a perceived lack of equity between LDVs and petrol vehicles	54
5.	OUTCOMES OF THE MODERNISED RUC SYSTEM	56
6.	CONCLUSIONS AND RECOMMENDATIONS	61

APPENDIX A: DATA ANALYSIS USED TO INFORM ASSESSMENT OF OVERALL OUTCOMES	65	
A1	Change in average estimated gross mass per vehicle	65
A1.1	The average estimated gross mass per vehicle has seen an increase across all categories	65
A2	Change in average RUC distance purchased per transaction	66
A2.1	The average distance purchased per transaction experienced an initial increase but has subsequently reduced	66
A3	RUC revenue	68
A3.1	The market share of RUC revenue light diesel vehicles has increased following the changes to the RUC system	68
APPENDIX B: DATA CONSIDERATIONS	70	
B1	Licence definitions	70
B2	Revenue adjustments	72
B3	GST treatment	72
B4	Distance purchased adjustments	72
B5	Data used in RUC evaluation cycle three, compared to evaluation cycle two	73

EXECUTIVE SUMMARY

Background

The Road User Charges (RUC) system was established in 1978 as a means of collecting revenue from the users of diesel vehicles for roading purposes. The charges are intended to recover a range of costs associated with providing and maintaining roading infrastructure, as well as activities such as public transport operating subsidies and road safety policing.

In August 2012 the *Road User Charges Act 2012* came into effect, replacing the *Road User Charges Act 1977*. The new legislation was intended to update and modernise the RUC system, lower compliance costs for transport operators and administrative costs for government, reduce RUC evasion and increase compliance with the RUC system. The new system saw a move from operator-nominated RUC weights to a fixed 'RUC weight' for vehicles, with RUC charges allocated by vehicle type. Other changes included reform of the list of exempted vehicles, removal of the time licence system, the introduction of a regulatory framework for electronic RUC (eRUC) systems, and a range of improved compliance processes.

To date, two cycles of evaluation have been undertaken on the modernised RUC system. Cycle one took place shortly after the new system had been implemented, focusing on the development and implementation of the RUC changes, and, in particular, the early and immediate impacts on both the users of the system and those who administer and enforce the system. The second cycle built on the findings from cycle one and took place at a time when the new RUC system had been operating for approximately 22 months. Cycle two focused on the changes at a systemic level and examined the emerging outcomes achieved through the system changes.

This report presents the results of a third cycle of evaluation, occurring three and a half years after the implementation of the new system. As the final cycle of evaluation, the project took a summative approach, aiming to make definitive judgements on the success (or otherwise) of the new system.

Purpose, objectives and methods of the evaluation

The purpose of this evaluation was to provide independent advice on the effectiveness of the modernised RUC system. This includes measuring progress toward the efficiency, integrity, equity, cost recovery objectives of the modernised RUC system, comparing the effectiveness of the new RUC system with that of the previous system, and providing evidence to inform any adjustments to the system.

The specific objectives of the third cycle of evaluation were to explore the effectiveness of the RUC legislation, consider the efficiency and effectiveness of NZTA RUC processes, investigate issues related to gross vehicle mass (GVM) manipulation and its impact on the RUC system, analyse light diesel vehicle (LDV) owners' compliance with the RUC system, and investigate the ongoing uptake and use of electronic RUC (eRUC).

The evaluation was informed by:

- interviews with 17 national-level stakeholders, including officials from the Ministry, NZTA and NZ Police as well as representatives from national level industry bodies;
- case studies with 15 transport operators;
- a mail survey of 589 light diesel vehicle owners;
- interviews with 18 operational-level informants including NZTA RUC administrative staff, NZ Police CVIU officers, eRUC providers, and vehicle importers, modifiers and certifiers; and
- an analysis of NZTA RUC data.

This evidence was assessed against the key evaluation themes and questions to determine the evaluative findings.

Findings and conclusions

Evaluation theme one: Effectiveness of RUC legislation

The evaluation found that, as a whole, the *Road User Charges Act 2012* is functioning effectively as a legislative basis for the RUC system. Several specific sections of the Act were considered as part of this evaluation, which found that:

- Section 9.4A has been effective in allowing transport operators to use their vehicles more flexibly whilst still meeting their RUC obligations.
- Section 40, which provides for the exemption of light diesel vehicles that are used almost exclusively off road, is also largely functioning as intended. While some concerns were raised regarding exempted vehicles being used on the road, there is no verifiable evidence that this is occurring. The NZTA undertakes appropriate checks to ensure that the exemption application is genuine.
- Although a recent court case found in favour of the NZTA's weight based RUC assessment practices, these are provided for in the legislation by inference only and the wording of section 53 needs to be clarified.
- Section 55 requires the NZTA to send every binding assessment review to an independent reviewer. This is impractical and at times the cost outweighs the value of RUC debt that the NZTA seeks to recover.
- Section 12, which requires over-mass permitted vehicles to purchase either an H RUC licence or a standard RUC licence plus an additional licence, provides a potential loophole for evasion. Overweight permitted vehicles can select the weight band at which they would like to purchase RUC, allowing the operator to buy RUC at a lower weight than they intend to carry. There is no cross-checking by the NZTA to ensure the permit is valid and matches the selected RUC weight. This section requires substantial amendment.

Evaluation theme two: Identification, assessment and recovery of unpaid RUC

The NZTA is able to effectively identify and assess RUC owed through a number of channels. However, recovery of debt remains a challenge. The evaluation found that:

- The proportion of debt assessed through automatic invoices continues to rise. This has been a key efficiency gain for the NZTA under the new RUC system.
- While improving, the rate of invoiced debt recovered was reported to be only around 50 percent.
- The legislation provides for a penalty regime, but there are few other levers to encourage the payment of RUC owed. For example, there is no impact on credit ratings for customers who do not pay their invoices on time and no ability to take actions such as directly debiting money owed from the debtor's wages. The feasibility of taking stronger measures to enhance recovery of RUC could be investigated.

Evaluation theme three: RUC Specialist Assessors

The performance of the RUC Specialist Assessor team has been enhanced through two key recent changes:

- The management of the team has improved, with the Specialist Assessor role now more clearly defined and focused on carrying out investigations to identify and assess weight based RUC evasion.
- The team has a methodical process for undertaking investigations and has checklists and other tools available to help them exercise their role.

However, the investigation process involves a substantial amount of manual data entry, including transferring paper-based transport operator records into a spreadsheet. The data entry process is very time consuming as the team lacks a data entry resource and the RUC Specialist Assessor team has to input the data themselves.

Evaluation theme four: Electronic RUC

The evaluation found that electronic RUC (eRUC) has experienced a steady increase in sales over the last five years. eRUC now comprises 27 percent of all RUC revenue, up from 6 percent in 2011/12. This suggests that the market-driven approach to encouraging uptake of eRUC, with minimal government intervention, is working effectively.

There was a misconception among eRUC providers that vehicle operators must continuously display their RUC licence. They believed that this was limiting their ability to offer other products, such as displaying other licences (e.g. the Transport Service Licence, vehicle licence and certificate of fitness). In fact, licence display requirements in the RUC Act 2012 were amended in 2014 to allow the licence to be "displayed or carried". It is not clear where or how this misconception came about.

Evaluation theme five: Vehicle GVM

Prior to the 2012 legislative changes the GVM and RUC systems had little interaction with each other. Under the new system, RUC weight bands are determined by the GVM for the vehicle (or the maximum allowable mass under the VDAM Rule 2002). This has created a potential motivation to reduce the GVM of vehicles in order to reduce the RUC weight band in which the vehicle sits. The evaluation found that:

- The extent to which manipulation of vehicle GVM is occurring is difficult to determine. There are a small number of type 2 vehicles that are currently registered at a lower GVM than that which had previously been assigned to them. At the system level, the total number of vehicles in each category appears to be relatively stable. This suggests that vehicle GVM manipulation is not occurring to a high degree.
- Even on a small scale, manipulating vehicle GVM presents a threat to the equity and fairness of the RUC system. If some transport operators are altering their vehicles' GVM to fit into a lower RUC weight band, while others with a similar vehicle carrying similar loads are not, this could undermine the intent to provide a 'level playing field' for operators in similar circumstances.
- The NZTA has clarified its position regarding recertification requirements, issuing a memo which clearly states that re-rating GVM requires major modification such as the replacement of an axle or suspension system. However, there is a lack of clarity around the Agency's position regarding the initial assigning of different GVMs to new vehicles with identical specifications. Several industry associations advocated for the development of a clear policy on what is and what is not acceptable.

Evaluation theme six: Interaction with the overweight permitting system

Transport operators who wish to carry loads that exceed the mass limits of the VDAM rule can apply for an over mass permit. The evaluation considered the interaction of the RUC and permitting systems and found that:

- There has been a significant increase in H RUC licence distance purchases over the last three years. The H licence share of comparable heavy truck distance purchased has increased substantially, from under 5 percent prior to August 2013 to 35 percent in March 2016.
- Despite anecdotal evidence of operators frequently changing between standard and H licence types to achieve a reduced RUC rate, analysis shows that the number of swaps from H licences to standard licences has remained relatively stable. This indicates that most of these vehicles remained on the H licence.
- There is a lack of 'back office' interaction between the RUC and permitting systems. The NZTA RUC Assessments team has no access to NZTA or local authority permitting records and therefore, when processing change of licence type applications, there is no way of cross checking that the operator actually has a permit when applying for H RUC. This potentially allows operators to purchase H RUC without confirming the validity of the permit.

Evaluation theme seven: Light diesel vehicles

There was a perception held by government officials, industry associations and operational level NZTA staff, that light diesel vehicle (LDV) owners' understanding of the RUC system is poor. In contrast, 38 percent of survey respondents believed that they have moderate knowledge of the RUC system. Key findings in relation to LDVs include:

- There is a lack of formal communication channels between the NZTA and light diesel vehicle owners regarding RUC. The survey results show that only one fifth of LDV users had received their RUC education from a formal NZTA resource.

- Distance overrun is prevalent amongst LDVs, with 17 percent of light goods vehicles, 10 percent of light motor caravans and 20 percent of light passenger vehicles passing a WoF/CoF with a licence that has distance overrun..
- Consideration needs to be given to the RUC status of light hybrid and electric vehicles. These are currently exempt from RUC, however the exemption is due to expire in approximately five years, and Ministry will need to consider its position on permanent arrangements for hybrid vehicles and RUC.

Recommendations

Based on the findings of evaluation cycle three it is recommended that the Ministry, in partnership with the NZTA:

1. review and amend sections 12, 53 and 55 of the RUC Act 2012
2. investigate the implementation of stronger levers to encourage payment of RUC debt
3. increase the capacity of the Specialist Assessor team
4. communicate with eRUC providers regarding electronic licence display requirements
5. develop a policy statement clarifying the NZTA's position on the assignment of vehicle GVM
6. provide the NZTA RUC Assessments team with access to a centralised permitting database.

1. INTRODUCTION

The Ministry of Transport (the Ministry) appointed Allen and Clarke Policy and Regulatory Specialists Ltd (*Allen + Clarke*) to conduct an evaluation to assess the medium to long term impacts of the 2012 changes to Road User Charges (RUC) system. This report presents the findings of the evaluation, which was undertaken between August 2015 and May 2016.

1.1. Evaluation purpose

The evaluation has three key overarching purposes:

- measuring progress toward the stated objectives and outcomes (efficiency, integrity, equity, cost recovery) of the modernised RUC system;
- making overall judgements about the effectiveness of the modernised RUC system compared to the previous system;
- providing evidence to inform any adjustments to the system.

The evaluation also explored specific themes and issues that are relevant to the RUC system in its current state. These are discussed in section 3.2.

1.2. Audience

The main audiences for this evaluation are the Ministry of Transport, the New Zealand Transport Agency (the NZTA), the NZ Police, electronic RUC systems providers, commercial transport operators and industry groups.

As the government's principal transport adviser, the Ministry of Transport's involvement in the RUC system covers policy, legislation and regulation, reviewing and setting RUC rates, performance and accountability, and managing the relationship between the government and the NZTA.

The NZTA, as the RUC collector, provides administrative and accounting services, including the issuing of RUC licences, collection of RUC, processing of RUC refunds, and the maintenance of a RUC information database. The NZTA also delivers detection and recovery of RUC evasion and debt recovery services, approves eRUC systems providers, and leads industry liaison and education to ensure compliance.

The NZ Police provides support in enforcing the RUC system through roadside checks of vehicles and RUC licences, and issuing infringement notices.

The transport industry, including commercial operators and industry groups, is also a major stakeholder in the evaluation. While this report in its entirety may not be relevant to this audience, there is likely to be interest in specific evaluation findings, and it will be important to ensure that key findings are disseminated to the industry accordingly.

1.3. Structure of this report

The remainder of this report is structured as follows:

- **Section 2** provides the background and context of the changes to the RUC system;
- **Section 3** sets out the evaluation methodology, including the overall approach to design, the evaluation objectives and questions, and the specific methods;

- **Section 4** presents the main evaluation findings organised under the headings of the key theme areas for evaluation cycle three;
- **Section 5** provides evaluative judgments on the success or otherwise of the modernised RUC system, based on the expected outcomes and objectives articulate for the system changes; and
- **Section 6** outlines conclusions and recommendations based on the evaluation findings.

2. BACKGROUND AND CONTEXT

The RUC system On 14 February 2012, the *Road User Charges Act 2012* was passed to replace the *Road User Charges Act 1977*. The passing of the new RUC Act provided for a number of significant changes to the RUC system, which came into effect from 1 August 2012. The changes were designed to modernise and simplify the RUC system for both government and industry, including lower compliance costs for transport operators and administrative costs for government, reduced RUC evasion and increased compliance.

2.1. Key changes to the RUC system

The main change implemented was a **change to the definition of licence weight**. The ability for vehicle operators to nominate the weight at which they wish to purchase RUC was removed. Instead, vehicles are allocated a fixed 'RUC weight' which is the maximum permissible gross laden vehicle weight. RUC charges are allocated by vehicle type, based on the RUC weight and axle configuration.

The removal of operator nominated weight also meant that there was no longer a need for supplementary licences, which have been removed. In addition, the new system introduced new 'combination' vehicle types that operators can opt to use for trucks and trailers used only in specific combinations.

Other changes included **reforming the list of exempted vehicles**, so that exemption is based on vehicle design, rather than vehicle use. The **removal of the time licence system**, which had high administration costs in proportion to revenue, has seen most vehicles that were previously subject to a time licence become exempt from RUC.

The 2012 legislative changes provided a **regulatory framework for electronic RUC (eRUC) systems**, introducing a composite approvals process, statutory requirements for electronic system providers to collect and store RUC information, and the development of a code of practice for eRUC systems.

Finally, the updated RUC Act included changes intended to **improve compliance processes**, including updated offences and penalties, requirements for operators to create, maintain and retain records, requirements for vehicle inspectors to report odometer readings to the NZTA as part of the warrant of fitness (WoF)/certificate of fitness (CoF) inspection process, and the introduction of a new binding assessment process for underpaid RUC.

2.2. Summary of key findings from Cycle 1 and Cycle 2 evaluations

The Cycle 1 evaluation revealed several key themes, including the following:

- Overall, operators generally felt that the new RUC system was easier to understand and simpler to work with than the previous system.
- The system had not yet been operating long enough to determine whether there will be administrative cost savings for individual operators, but there is potential for future cost savings.

- The changes to the RUC system had not increased the total revenue collected by the government.
- The changes have had the greatest impact on operators of vehicles that carry loads significantly lighter than the vehicle's maximum legal weight.
- Many transport industry representatives perceive the new system to be more difficult to evade.
- The uptake of electronic RUC is increasing and there are opportunities for further efficiencies.

The Cycle 2 evaluation built on the findings from Cycle 1 and established the following:

- Transport operators were largely receptive to the new RUC system and its key medium-term impacts included efficiency gains through the uptake of HPMV permits and eRUC systems.
- The application of the RUC system to the light diesel vehicle sector was problematic, with high rates of distance overrun.
- The changes to the RUC system had been broadly revenue neutral.
- Weight based evasion had been largely eliminated but other forms of evasion were perceived as an ongoing issue, such as hubodometer and odometer tampering.
- The changes had benefits for government including reduced administrative complexity for NZTA, mainly through the introduction of the binding assessment system.

3. METHODOLOGY

The evaluation took a mixed method approach, collecting data through both qualitative and quantitative methods against specific evaluation themes. This enabled an exploration of the impact of the changes at all levels from the individual transport operator to overall impacts at the system level.

3.1. Evaluation approach

The evaluation examines the medium to longer term effects of the modernised RUC system. The new RUC system has now been in place for three and a half years and this third cycle of evaluation has a summative focus, with the intention of providing an objective assessment of the extent to which the intended outcomes of the modernised system have been achieved.

The evaluation considers a range of perspectives from within the system, looking at the RUC system at the governance and policy level, its implementation and enforcement, and its operation 'on the ground'.

The evaluation team met with key stakeholders at regular intervals, including an initial meeting with the Ministry to discuss and agree evaluation questions for this second cycle and expected outcomes. This was followed up by a mid-project engagement to share preliminary evaluation findings, as well as a workshop with the RUC Evaluation Steering Group, during which the evaluation team presented the overall findings and sought feedback. These engagements allowed all parties to come to a shared understanding to inform future modifications and amendments to the RUC system.

3.2. Evaluation themes and objectives

This third cycle of evaluation explored seven specific themes and issues that are relevant to the RUC system in its current state:

1. an investigation of the effectiveness of aspects of the RUC primary legislation, specifically section 9.4A, section 40 and section 12
2. an analysis of the efficiency and effectiveness of NZTA processes related to the identification, assessment and recovery of RUC debt
3. assessment of the effectiveness of the RUC Specialist Assessor team
4. an investigation of the uptake and use of electronic RUC (eRUC)
5. an exploration of issues related to gross vehicle mass (GVM) manipulation and its impact on the integrity of the RUC system
6. consideration of the interaction between the RUC and heavy vehicle permitting systems
7. analysis of the extent to which light diesel vehicle (LDV) owners understand and comply with the RUC system.

The evaluation also aimed to provide an overall assessment of the efficiency, integrity, equity, and cost recovery of the modernised RUC system, compared to the previous system. This included an analysis of the extent to which the expected outcomes were achieved for

government and the transport sector, as well as ‘explanation building’ of how these outcomes were achieved.

3.3. Information sources and methods

The information and evidence required to answer the evaluation questions were gathered from multiple sources and through multiple methods. These methods included the following:

- **Key informant interviews** with national-level stakeholders involved in the RUC system, including officials from the Ministry, NZTA and NZ Police as well as representatives from national level industry bodies. These interviews provided information at the system level (i.e. an overarching perspective of the RUC system).
- **Case studies with transport operators.** A total of 15 case studies were undertaken with transport operators across a range of industries, fleet size, type of load carried, geographic location, and ownership model.
- **Mail survey of LDV owners.** Surveys were sent to 1600 LDV owners randomly selected from NZTA vehicle registration data. Just under 600 responses were received. The survey explored LDV owners’ understanding of the RUC system and their obligations, compliance, purchasing behaviours, and where they receive information on the RUC system.
- **Interviews with operational level informants** including NZTA RUC administrative staff, NZ Police CVIU officers, eRUC providers, and vehicle importers, modifiers and certifiers. These interviews focused on determining the effectiveness of the RUC system in its various operational contexts.
- **Analysis of RUC data.** We analysed a range of data collected by the NZTA on the RUC system including RUC transactions, changes in vehicle type, uptake and distance purchased on H permits, revenue trends, and data related to LDVs.

4. EVALUATION FINDINGS

4.1. Effectiveness of RUC legislation

Overall the RUC Act 2012 is fit for purpose, providing an effective legislative basis for the RUC system. While there were some initial issues in the early stage of its implementation, the Act has been strengthened by subsequent amendments, such as clarifying the definition of a 'reasonable excuse' for displaying an incorrect RUC licence. Several sections of the aims remain problematic, in particular section 12.

4.1.1. The changes made under the 2013 and 2014 RUC Amendment Acts have addressed many of the early issues with the modernised RUC legislation

The *Road User Charges Act 2012* came into effect on 1 August 2012, replacing the *Road User Charges Act 1977*. Since its initial implementation the Act has been subject to a number of amendments. These have been generally minor in nature and were described by one government official as "tweaks" to better clarify the intention or interpretation of the Act. For example, the 2013 RUC Amendment Act clarifies the definition of 'permit' and provides detail on requirements for an additional licence. Other amendments were intended to address issues that had arisen in the early implementation of the new Act, for example one of the 2014 amendments included changing the requirements to allow the RUC licence to be 'carried' instead of displayed.

The 2013 and 2014 amendments resolved many of the issues that were apparent in its early implementation. Other initially problematic issues were addressed by amending the RUC regulations, such as allowing the powered unit of combination vehicles to operate without the trailer to allow for activities such as vehicle servicing. However, there are several remaining areas in which the Act is not functioning as well as it could be. Key issues, and suggested amendments, are discussed below.

4.1.2. Section 9.4A of the Act has been effective in allowing transport operators to use their vehicles more flexibly whilst still covering their RUC obligations

Section 9 of the RUC Act requires all RUC vehicles to have a distance licence. The distance licence must specify the RUC vehicle type of the RUC vehicle (section 9.2) and that it is an offence to operate a vehicle without the correct distance licence without "reasonable excuse" (section 9.4).

The transport industry had raised concerns about the interpretation of this clause by the NZ Police Commercial Vehicle Investigation Unit (CVIU). One industry association stated that, in order to gain better flexibility in using their vehicles, some transport operators were willing to pay a higher RUC rate. For example, an operator may choose to pay the standard RUC rate for a type 6 vehicle and then forgo the discount when using this in an H97 combination vehicle. However, it was reported that there have been instances where the CVIU has issued operators with infringement notices for displaying an incorrect RUC licence while operating under the H permit, even though the operators concerned had covered their RUC liability.

In its original form, the Act did not offer any definition of what could be considered a reasonable excuse. This meant that if transport operators wished to challenge such an infringement the only available option was to bring court action to determine whether the excuse for having an

incorrect RUC licence was justified. The expense and time required for such an action was prohibitive for both transport operators and Police.

The problem of what could be considered a 'reasonable excuse' was addressed in the April 2014 RUC Act amendments. Subsection 9.4A was inserted, which states that, if a RUC licence is displayed or carried that is not correct for the vehicle's RUC type or weight, but adequate payment has been made to cover the RUC charges applicable to the vehicle, an offence has not been committed. Section 9.4B states that a 'reasonable excuse' is not limited to this interpretation, thereby allowing transport operators to test other possible defences in court.

The evaluation found that this amendment has been effective in addressing the issues described above. Transport industry associations praised it as being fair and practical, giving transport operators the ability to use their vehicles more flexibly while covering their RUC liability. NZ Police were also positive, stating that the clear guidance had eliminated a previously existing grey area in the legislation. These stakeholders considered that the amendment has achieved its intent to clarify the application of the Act in a specific circumstance without necessitating the insertion of a long list of additional provisions or criteria.

The clarification of a 'reasonable excuse' has assisted NZ Police with enforcement in situations where the RUC liability has been covered. However, when discussing this section of the Act, NZ Police reported a perception that breaches were chargeable offence rather than an infringement. In fact, Ministry of Transport personnel have clarified that there is a specific infringement fee set in RUC regulations for this kind of non-compliance, allowing Police to impose a fine at point of contact with the operator. While the operator retains the ability to challenge the infringement through court action, this is inherent in all instances of infringement. The current misperception suggests that NZ Police may not fully understand some aspects of the RUC legislation.

4.1.3. Section 12 provides a loophole for evasion and is seen by operators and NZ Police as cumbersome

Stakeholders at all levels of the system highlighted Section 12 of the *RUC Act 2012* as a problematic area that requires substantial reform. This section of the Act pertains to heavy vehicles that have been issued with a permit to operate above the mass limits set by the Vehicle Dimension and Mass (VDAM) Rule. The section states that vehicles must have either an H RUC licence or a standard RUC licence plus an additional licence.

H RUC licences are used for vehicles in standard overweight combinations. This type of licence is intended for vehicles which regularly carry overweight loads, and enables the vehicle to operate up to the maximum allowed under an overweight permit. Alternatively, transport operators can obtain an additional licence, which covers the difference between the vehicle's maximum weight under the VDAM rule and the weight specified by the permit. This type of licence is intended for vehicles that only occasionally carry overweight loads, or carry widely varying loads under different permits (as is common in the heavy haulage sector). Additional licences can be purchased in one kilometre increments to cover specific journeys.

The evaluation has identified four key issues relating to section 12 of the RUC Act which are discussed in detail below:

- the lack of flexibility to change between licence types
- the perception that the weight banding system for H RUC licences is unfair
- the risk of evasion from operators purchasing RUC below the permitted weight

- the cumbersome nature of section 12 enforcement.

Issue one: Lack of flexibility to change between licence types

The provisions outlined in section 12 assume that transport operators are generally consistent in the load types and weights that they carry, and therefore will predominantly operate on either an H licence, or will remain on a standard licence and purchase additional licences as needed. However, transport operators spoken to during the case studies raised concerns that this arrangement does not align with the realities of the transport industry, which requires vehicles to be used as flexibly as possible. Several of the case study transport operators stated that they had at least one vehicle in their fleet that was used for diverse purposes and that section 12 constrained their ability to quickly change between H licence and standard licences. While it is possible to change between licence types, this requires the completion of an application form and paying a fee of \$46. The application must be submitted to the NZTA and, although prioritised by the NZTA RUC Assessments team, generally takes at least 24 hours to process.

The crux of the issue is that section 12 requires vehicle operators to choose between operating their vehicles flexibly on a standard licence with the expense and administration associated with additional licences, or to access the economic benefits of the advantageous H RUC rates but operate their vehicles in a relatively narrow manner. An example of this is provided in Box 1.

Box 1: Case study example of lack of flexibility to change licence types

Transport Operator A uses his towing vehicle for both one-off heavy loads and line haul, depending on “what work comes through the door”. The transport operator has a range of permits at different weight ranges and chooses which permit to run on depending on the load to be carried on any given day. In certain configurations, the transport operator’s vehicle meets requirements for HMPV permits.

Section 12 does not allow the transport operator to easily change between H and standard vehicle types. The frequency with which Transport Operator A needs to be able to change licence types means that it was not feasible to operate on a H RUC licence and he instead runs on a standard RUC licence and purchases additional up to the load weight when carting heavy loads. He has turned down jobs that would be uneconomical due to the high cost of the required additional licences. The transport operator is not able to achieve the efficiency gains offered by HPMV permits and believes that the requirements of section 12 unfairly penalise small companies that need to use vehicles for multiple purposes.

A related issue is the inability for transport operators to rapidly respond to changing circumstances in order to remain compliant with their RUC obligations. The legislation is written so that H licences and additional licences are alternative ways of paying RUC on an overweight vehicle: there is no provision for transport operators to purchase additional licences on H RUC vehicles. This has caused issues for some operators who have inadvertently found themselves carrying a heavier load than expected when operating on an H RUC licence. A further example from the case studies is provided in Box 2.

Box 2: Case study example of inability to purchase additional RUC for unexpected extra weight

Transport Operator B primarily works within an industry in which load weights are difficult to predict. He stated that his team will sometimes arrive at the pick-up point for a load with the vehicle operating under an H licence based on the load weight information given by the

client, to discover that the load was in fact substantially heavier than expected.

Although the transport operator wishes to remain compliant with RUC, Section 12 prevents the transport operator from purchasing an additional licence on top of the H licence. The transport operator stated that the wait time required to change back to a standard licence doesn't meet the realities of the transport sector: "you can't have a loaded truck sitting around for days on end". Transport Operator B usually opts to carry the load without paying RUC on the full weight, but does not feel comfortable about doing this and stated that if there was an easy way to pay RUC on unexpected extra weight his company would "jump at it".

This issue is challenging to address. A potential solution is to simplify processes to allow for rapid changing of licence types (from one H licence to another and/or between H and standard RUC licences). However, there is a risk that allowing for frequent swapping of licence types may compromise RUC revenue. RUC rates are calculated on the assumption that the vehicle will be laden for 50 percent of the time and revenue leakage could occur if a transport operator used an H licence when laden and changed to a standard licence and paid a lower RUC rate when unladen.

The current administration processes, which require filling out a form and paying a fee, and the time taken for the NZTA to process the application, were deliberately established to ensure that transport operators were deterred from 'gaming the system' by frequently changing licence types. Alternatively, the wording of the Act could be amended to allow H licenced vehicles to purchase additional licences as required. This also entails an evasion risk as operators may not obtain sufficient additional licences if they predominantly run on an H permit and only occasionally carry heavy loads, particularly if the planned route does not pass CVIU roadside inspection points. We reiterate the recommendation that was made in RUC evaluation cycle two, that a review be undertaken of section 12.

Issue two: The weight banding system for H RUC licences is perceived as unfair

H RUC licences are issued for defined weight bands. For example, an operator driving a vehicle combination with a type 6 truck towing a type 951 trailer can purchase with an H75 licence for a vehicle with a permit of up to 48 tonnes or an H76 licence for a vehicle with a permit of between 48 and 53 tonnes. As was highlighted in evaluation cycle two, transport industry associations and transport operators raised concerns that the provisions of section 12 require transport operators on H licences to purchase RUC to the maximum weight specified by the permit, even if the load they are carrying is substantially lower than this. In certain industries it is standard practice to leave a margin of tolerance because of the potential difference between the estimated and actual weight loads. The heavy haulage industry, for example, commonly allows for a tolerance of 3-5 tonnes. Operators viewed the requirement to purchase RUC up to the maximum permitted weight as unfair:

"Our guys will go for the maximum [permitted] weight that can be carried on a vehicle because they want to know that they've met the [legal] requirements. They might carry up to 10 tonnes weight less than this but they want to make sure they don't inadvertently overload. It's not fair that they have to pay RUC up to the higher weight despite not damaging the road to this extent. They're overpaying."

- Transport industry association

Some transport operators had attempted to mitigate this by obtaining multiple permits at various weights and purchasing RUC on the permit the vehicle is operating under for any given load. This gives the operator more flexibility but is administratively cumbersome.

Several industry associations and transport operators advocated for a return to operator-nominated weights when purchasing RUC on permitted vehicles. Government officials stated that a basic premise of the legislation is that RUC paid must match the capability that is permitted for even if the vehicle is not carrying up to that weight on any given load. The evaluation team agrees with this principle, but notes that the banding system means that vehicles, which are permitted to weights at the lower end of the band, are paying the same rates as those permitted to higher weights yet they are not able to achieve a similar payload. The weight bands are relatively broad: for most H vehicle types the bands increase in 5 tonne increments. As part of a review of section 12, the Ministry could consider whether weight bands could be reduced. This could occur in conjunction with tightening the administrative procedures around the selection of weight bands for overweight RUC vehicles (see below).

Issue three: There is a risk of evasion through purchasing RUC at a lower band than the permitted weight

Although the intent of the new RUC system was to eliminate weight-based evasion, the provisions in section 12 provide a loophole under which evasion can still occur. Under the previous RUC Act, the operator-nominated purchase weight meant that it was possible for vehicle operators to purchase RUC at a lower rate than the actual load weight they intended to carry. Although this incurred the risk of being caught and penalised by the CVIU, evidence suggests that the practice was widespread, resulting in revenue loss estimated at \$30 million per annum for heavy vehicles.¹

The ability to under-nominate weight has been removed in the new RUC system for vehicles under 44 tonnes, thus reducing the opportunities for evasion. However, overweight permitted vehicles can select the weight band at which they would like to purchase RUC allowing the operator to buy RUC at a lower weight than they intend to carry. While the operator is required to enter a permit number into the system to purchase higher RUC bands, there is no cross checking by the NZTA that the permit is valid and matches the selected RUC weight.

NZ Police representatives stated that overloading on H licences is estimated at about 10-12 percent of all H permitted vehicles stopped by the CVIU. It was noted that this is particularly common amongst 50MAX vehicles. As a comparison, Police estimated that approximately 5 percent of standard 44 tonne vehicles are overloaded. There are no weight-based penalties in the Act and NZ Police suggested that there are inadequate deterrence mechanisms to discourage weight based evasion:

“There are cost saving incentives to non-compliance and we don’t have the resources to police everywhere in the country... the consequences and costs of being caught are low”

- NZ Police

The recent focus of the RUC Specialist Assessor team on identifying and recovering weight based evasion may act as a deterrent to this practice (see section 4.3 of this report for further details).

¹ Ministry of Transport, 2011, *RUC Evasion Figures* (internal report)

Nonetheless, this remains a loophole for evasion which needs to be addressed. We recommend better integration of the permits database and the RUC database, ideally to allow for automatic checking of the validity of the permit number and pre-programmed selection of the appropriate weight band that matches the permit weight. It is acknowledged that the costs associated with the development of such technology are likely to be high, and in the interim spot checks could be conducted on whether permit numbers match the select RUC weight as part of the RUC Assessments Officer duties.

Issue four: NZ Police reported difficulties in enforcing section 12

Interviews with NZ Police found that this section of the Act is challenging to enforce. It was reported that section 12 is not well understood by CVIU officers and enforcement is seen as complex. When the changes were initially made to the RUC system, Police had believed that there would no longer be a need to weigh vehicles during roadside checks as the potential for weight based evasion would be removed from the new system. However, as outlined above, the loophole that section 12 provides for evasion means that it is necessary to weigh vehicles to ensure that they have paid the correct RUC. As well as being time consuming, Police do not always have the facilities to weigh vehicles, and concern was expressed that the ability to identify vehicles operating over the legal weight limit is low unless a vehicle is stopped at a weigh station.

In situations where an operator is identified as breaching section 12, CVIU officers are required to calculate what RUC was paid, what should have been paid, and how Police need to respond (i.e. with no action, issuing an infringement, or pursuing court action). Removing the opportunity for permit holders to select the RUC weight that they purchase, as suggested above, would assist in addressing this issue by reducing the number of breaches.

4.1.4. The section 40 exemption of LDVs that are used almost exclusively off road is largely working as intended

Section 40 of the RUC Act 2012 provides for the exemption of light diesel vehicles that are used almost exclusively off road. The exemption, which must be applied for, offers a permanent exemption from road user charges for vehicles used for a range of eligible purposes, including agricultural, defence, education and forestry.² In practice, NZTA representatives stated that it has been predominantly taken up by farm vehicles. The vehicle must meet several criteria, including that the vehicle is driven on public roads only within 10km of the boundary of the property on which it is usually kept.³

The intent of exempting these vehicles is to reduce compliance costs and administration time. Requiring the vehicle operator to purchase a RUC licence, and then obtain a refund for almost all the off-road kilometres is impractical and uneconomical for both the vehicle owner and the NZTA. For most vehicles, any damage caused to the roading network through small amounts of on-road travel (such as being transported for servicing) is covered by the vehicle licence fee.⁴

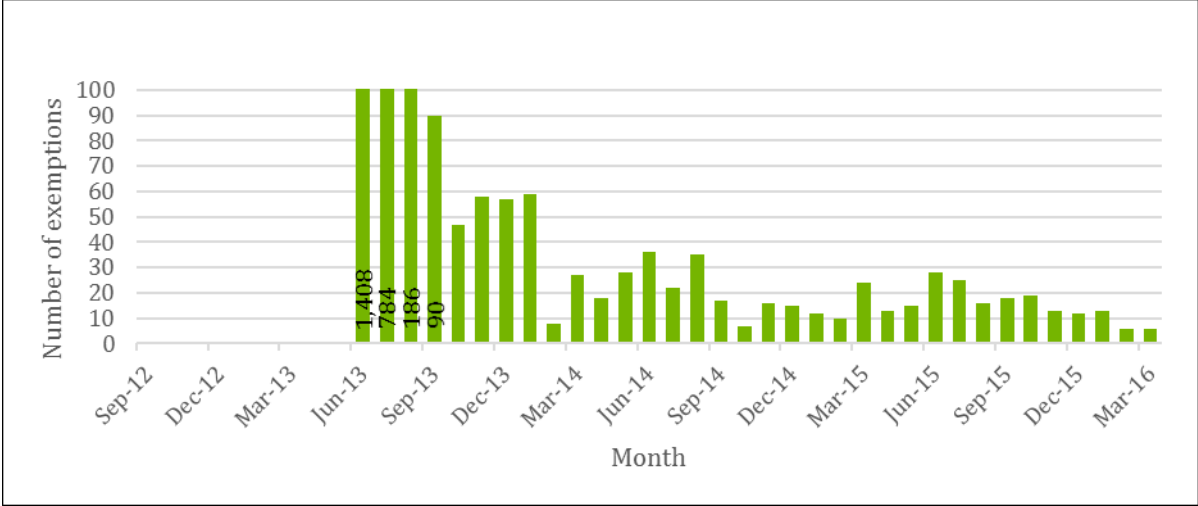
² NZTA, *RUC Exemptions*, <http://www.nzta.govt.nz/vehicles/licensing-rego/road-user-charges/ruc-exemptions/#off-road>

³ NZTA, *RUC Exemptions*, <http://www.nzta.govt.nz/vehicles/licensing-rego/road-user-charges/ruc-exemptions/#off-road>

⁴ Parliamentary Hansard, 17 April 2014, *Road User Charges Amendment Bill — Third Reading*, Volume:698; Page:17465.

As shown in Figure 1, uptake of the exemption saw an initial spike when it was first introduced in mid-2013 followed by a plateau as most eligible vehicles have now registered. The number of exemptions granted is now relatively stable at an average of around 15 exemptions granted per month.

Figure 1: Number of section 40 exemptions granted per month



Government officials and industry associations raised concerns about potential abuse of this exemption. Possible channels for exploitation included using exempted vehicles on the road. For example, one industry association claimed to have photographic evidence of exempted agricultural vehicles being used to transport loads on the road. The evaluation team has not uncovered any robust evidence of this actually occurring. The NZTA RUC Assessments team undertakes a number of checks to ensure that the application meets criteria and that the vehicle appears genuinely to be used predominantly off-road. These checks include assessing the type of vehicle and whether this is appropriate for its stated off-road use. For farm vehicles, the address is checked via online mapping software to determine whether the address is in a rural location. The team expressed confidence that the applications that are approved are genuine. It is also noted that this behaviour carries a risk of being caught by Police.

Another concern relates to eligible vehicles that have not applied for the exemption but also have not purchased RUC for the vehicle. NZTA national level officials stated that this is a very small number, but there is a “core group” of vehicle owners or operators remaining who are non-compliant. The NZTA has previously undertaken work to identify this group through analysing the motor vehicle register to determine which vehicles meet the criteria for exemption but have not obtained one and have not purchased a RUC licence. A mail-out to this group was successful in achieving exemption applications and we recommend that this exercise is repeated.

While not directly related to section 40 exemptions, both government officials and industry associations stated that the register of exempt vehicles needs to be updated. For example, off-road logging trucks are not currently exempt from RUC, but these trucks only travel on public roads when they require servicing. It is recommended that the NZTA work with industry associations to identify other vehicle types which do little or no on-road travel and then update the exempt vehicles register accordingly.

4.1.5. The wording of section 53 does not adequately provide for the assessment of unpaid weight based RUC

Section 53 provides for the collection of unpaid RUC. It states that the RUC collector (i.e. the NZTA) may issue an assessment to the owner or operator of a RUC vehicle that it considers liable for any unpaid road user charges. The legislation further outlines sources of information that the NZTA can use to determine if RUC is owed, when the assessment must be paid, right of review, and the time period on which RUC can be assessed.

Interviews with government officials found that the provisions in section 53 were formulated in the assumption that they would be used to recover RUC that is owed due to distance-based non-compliance (i.e. overrunning the RUC licence). It was not anticipated that vehicle overloading would be possible under the new system as the ability for operators to nominate load weight had been removed. This remains the case for vehicles under 44 tonnes. However, as outlined above, section 12 of the Act offers the opportunity for overweight permitted vehicles to load over 44 tonnes and not pay RUC on the excess weight. At the time the Act was established there were very few H permitted vehicles, but, since its implementation, there has been increasing uptake of HPMV permits and therefore a larger group of vehicles which could potentially engage in weight based evasion of RUC.

After the legislation changed in 2012 the NZTA did not initially have a strong focus on recovering weight based evasion. A change in management of the RUC Specialist Assessor team in 2015 saw the team begin to issue weight based assessments using the methodology described in section 4.3.2 of this report. However, the provisions in the Act essentially describe the process used for recovering distance based RUC and do not provide detail around recovering RUC on overloaded weight. There is no specific wording in section 53 to provide a legislative basis for the NZTA's weight based recovery activities.

A second issue is that the NZTA's method for invoicing unpaid RUC on excess weight involves an assessment of RUC owed across the whole of the distance licence, not just the portion on which an infraction has occurred. As section 53 does not include specific requirements for weight based assessments, there is no clear mandate in the legislation to do this. Interviews with transport industry associations found that there was dissatisfaction in the sector regarding this practice:

“It’s unfair to assume that all travel on a licence has been overweight... most of the time the overloading has been for a single journey yet the Agency are invoicing for all the kilometres on the licence”

- **Transport industry association**

A transport operator challenged the legality of these issues in a recent court case, heard in the Auckland District Court in October 2015. The case considered three key issues:

1. whether the NZTA has a right to issue overweight vehicle operators with an assessment for unpaid RUC on the overweight load
2. whether unpaid RUC can be assessed for the entire duration of the RUC licence
3. whether the NZTA gave sufficient consideration to information and evidence provided by the transport operator.

The court case found in favour of the NZTA on all three issues. The judge stated that although early policy documents stated that the modernised Act was expected to eliminate weight based evasion, the RUC Act 2012 did not “exempt weight RUC from consideration and enforcement of the RUC provisions for distance licences”. This provides a mandate for the NZTA to assess and recover weight-based underpayments.

The judgement endorsed the NZTA’s approach in issuing an assessment for the whole of the distance licence, noting that the RUC Act requires transport operators to obtain a licence that exceeds the gross weight of the vehicle at all times:

“Given that a licence must cover every journey taken under it, an operator has to buy a licence to cover the heaviest load it will carry under the licence...it follows...that the entire licence that should have been purchased has to be assessed for RUC”

The third issue under consideration also found in favour of the NZTA. The appellant had questioned whether an assessment should have been issued for the whole of the licence without proving that overloading had occurred on other occasions than the one for which it was fined. The judgement confirmed that when appealing a binding assessment, the burden of proof fell on the transport operator rather than the NZTA.

Overall the judgement strongly endorsed the NZTA’s approach to identifying, assessing and recovering weight based RUC. This provides a mandate to continue issuing weight based assessments. Nonetheless, this is provided for in the legislation by inference only and we recommend amending section 53 of the RUC Act to make it clear that the NZTA can issue weight based assessments, and that these will be for the whole duration of the RUC licence. This does not need to be addressed as a matter of urgency, but should be considered as part of a package of amendments when the Act is next updated.

It is noted that the endorsement of weight based assessment across the whole of the licence may incentivise transport operators to purchase RUC in lower increments to reduce their liability if caught overloading. Personnel from the NZTA RUC Assessments team stated that they had already seen at least one instance of this behaviour in response to receiving a CVIR assessment, with the operator purchasing RUC in 1000km increments rather than 5000km increments. This was an attempt to avoid receiving a binding assessment as the NZTA does not currently invoice on amounts below \$100. If this behaviour becomes widespread it may be necessary to reduce the threshold at which an invoice is sent.

4.1.6. The third party review process outlined in section 55 is costly and its implementation is relatively narrow in focus

This section of the legislation provides for the ability for vehicle owners to request an independent review of a binding assessment. As at May 2016, a total of 113 reviews have been sent to an independent reviewer, of which 110 have been returned endorsing the NZTA’s initial assessment and 3 are still under review.

The Act states that every review request received by NZTA must be sent to an independent reviewer within 20 working days. The costs of the third party review (\$1500 per review) are covered by the NZTA, at times outweighing the value of RUC debt sought to be recovered. There is no minimum monetary threshold at which vehicle owners can request a review and some do so even if the amount of assessed RUC is minor. Some NZTA personnel said they believed a minority of operators are trying to undermine the RUC assessment system by continually

requesting a review, even though all reviews undertaken to date have upheld the NZTA's initial assessment.

Notwithstanding the requirement of the legislation, not all reviews received are currently being sent to the third party reviewer. The RUC Assessments team receives three to four review requests per day and it is not feasible and too expensive to send all reviews to a third party. Many of the review requests simply involve the recipient questioning an aspect of the calculation and can be easily addressed by the NZTA RUC Assessments team. However, this is not strictly in accordance with the legislative provisions and the approach represents some risk for NZTA if an operator was to challenge the practice.

The efficiency of the review process could be enhanced by formalising a tiered review system whereby the NZTA could internally review invoices up to a certain monetary amount. Under this system, the review would be undertaken by a party within NZTA who was not involved with the initial assessment, essentially constituting a peer review process. This would require amending the wording in section 55.4 of the legislation which currently requires the review to be undertaken by "an appropriately qualified independent person".

Section 55 of the Act also states that the vehicle owner or operator may apply for a review of the assessment "on the grounds that the assessment is incorrect in a material particular". This suggests that a range of issues may be considered grounds for review. However, it was reported that the currently contracted reviewer focuses only on checking the NZTA RUC calculations and whether they are correct. There is no broader inquiry into the circumstances of the assessment, such as examination of customer records or consideration of legal issues. For example, prior to the recent court case there were a number of review requests which questioned the legality of the NZTA's practice of issuing weight based RUC assessments across the whole of the RUC licence. Simply reviewing the NZTA's calculations did not address this issue. A number of NZTA personnel stated that it would have been helpful for the review of such assessments to have provided a legal opinion on this issue. When the current contract with the third party reviewer expires, it would be beneficial to investigate contracting a range of providers with different review specialities to provide a better service to customers and enhance the robustness of the review process.

Sections 56 and 57 of the Act describe the penalties that can be applied if a vehicle owner or operator fails to pay a binding assessment. The evaluation found that the current penalty regime is not an effective deterrent to non-payment, and that stronger levers to encourage payment could be investigated. This is discussed as part of the consideration of the NZTA's RUC assessment and recovery processes in section 4.2.3 of this report.

4.2. Identification, assessment and recovery of unpaid RUC

As the RUC collector, the NZTA is responsible for ensuring that all RUC users pay the correct charges. Several aspects of the RUC reforms were intended to enhance the NZTA's ability to recover RUC, including the establishment of binding assessments and automatic invoicing. Evaluation findings show enhanced RUC identification and assessment processes. While showing an upward trend, recovery of debt remains low. This suggests that stronger levers to encourage the payment of RUC may be required.

4.2.1. Processes for the identification and assessment of unpaid RUC are effective

The identification, assessment and recovery of distance based RUC sits with the Palmerston North-based RUC Assessments team. Recovery of weight based RUC sits with the RUC Specialist Assessors (see section 4.3). Distance based RUC owed is identified through a number of channels, predominantly through change of hubodometer applications. The team also issues distance based RUC assessments identified through applications to cancel a vehicle’s registration and manual invoices for an unpaid distance licence (“GAP Assessments”). From July 2015 to May 2016 a total of just under \$8.5 million worth of RUC has been invoiced through a range of assessment mechanisms.

Table 1: Value and percentage of invoices sent through various assessment methods 2015-16 YTD

Assessment mechanism	Total value of invoices	Percentage
Change of hubodometer application	\$3,849,044	45.4%
Declined change of hubodometer refund	\$2,874,617	33.9%
GAP assessment	\$747,920	8.8%
Application to cancel vehicle registration	\$15,887	0.2%
Declined refund for cancellation of vehicle registration	\$318,265	3.8%
CVIR assessment	\$291,158	3.4%
Miscellaneous assessments	\$101,984	1.2%
Major fleet assessments	\$196,356	2.3%
Standard fleet assessments	\$0	0.0%
Minor fleet assessments	\$80,786	1.0%
TOTAL	\$8,476,016	100%

As shown in Table 1, the majority of debt is identified through change of hubodometer applications and declined refunds, which together comprise nearly 80 percent of the total invoiced debt. These applications are submitted when a hubodometer is lost or damaged and/or found to be faulty and a replacement hubodometer is installed. These are processed by the RUC Assessments team who compare between the vehicle’s odometer and hubodometer readings, as provided on the application form. This is then checked against readings in LANDATA system through Certificate of Fitness (CoF) testing. The NZTA allows for a 7.5 percent variance between the two devices. If there is discrepancy between the hubodometer and odometer, this results in the operator either receiving a refund for any unused distance left on the licence purchased for the unusable hubodometer or being issued an assessment for RUC owed. It was noted that approximately one quarter of change of hubodometer applications result in the operator receiving an assessment. NZTA personnel stated that the efficiency of the hubodometer change process has recently been enhanced by a new calculation tool, described as faster and easier to use than in the past. From July 2015 to April 2016, there has been \$3.85 million of invoiced debt resulting from RUC change of hubodometer forms, and \$2.88 million of declined refunds.

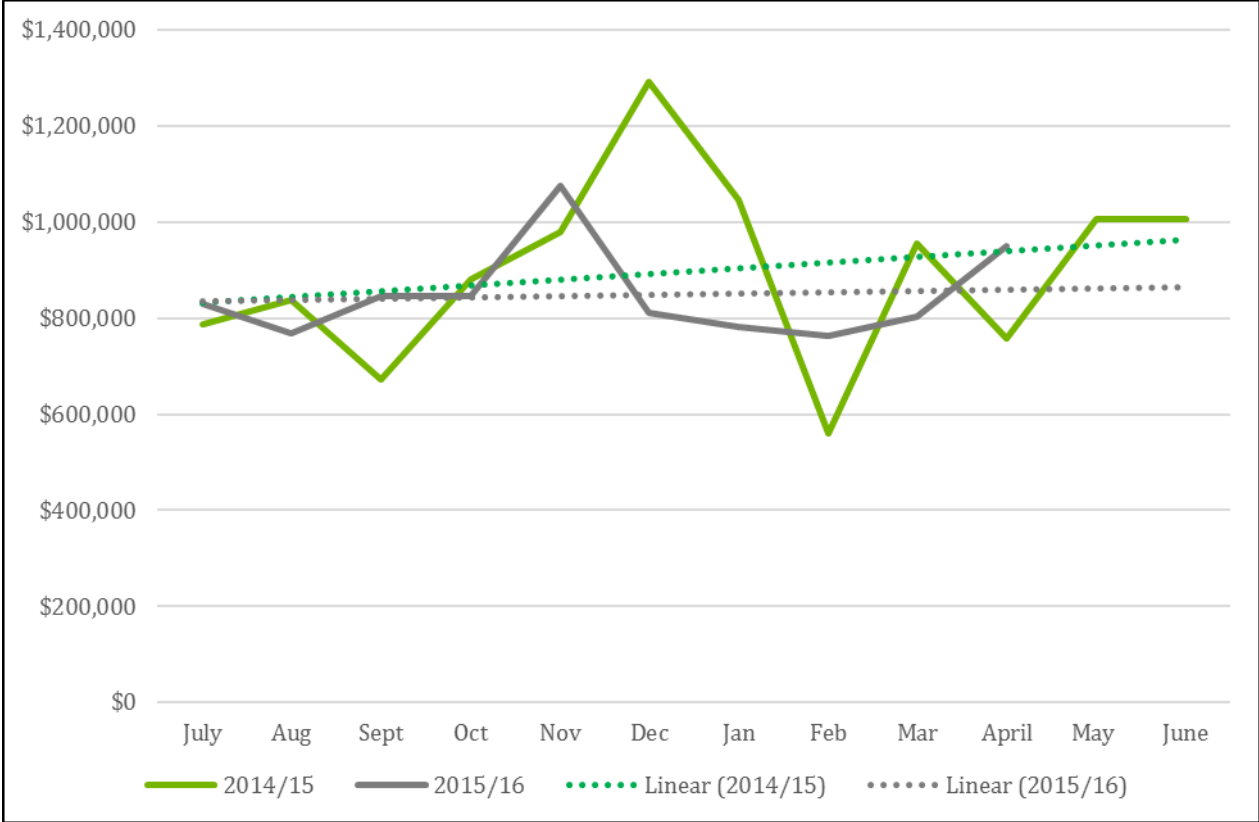
Assessing change of hubodometer applications for trailers was highlighted by both NZTA staff and transport operators as a challenge. Trailers do not have an odometer to check distance against and the NZTA uses a methodology to determine the RUC owed based on the trailer’s distance travel patterns in the previous six months. However, the trailer may have been parked at the yard and therefore not in use during this time. Several of the transport operators spoken to expressed frustration at receiving invoices for trailers based on incorrect assumptions. The

NZTA RUC Assessments team were aware of these issues and stated that they now try to contact the customer for records on the distance travel of trailers first before issuing assessments.

While most of the binding assessments issued by the NZTA RUC team are for distance based RUC, since May 2015 the team has been receiving Commercial Vehicle Inspection Reports (CVIRs) from the NZ Police which provide information on overweight vehicle offences. The NZTA uses the CVIR information to calculate RUC owed on the overweight load and issues a binding assessment. These are initially vetted by one of the RUC Specialist Assessors and, where appropriate, are forwarded to the NZTA Palmerston North-based RUC team for processing. As was shown in Table 1, this has resulted in \$290,000 worth of invoiced RUC from July 2015 to April 2016.

Overall, the amount of total debt invoiced through these methods has dropped since the previous financial year. Figure 2 displays the monthly invoiced RUC from change of hubodometers, GAP assessments, registration cancellations, CVIR assessment, fleet assessments and miscellaneous assessment for the 2014/15 and 2015/16 financial years. The trend lines show that the amount of invoiced revenue is lower in 2015/16 than the previous year. Interviews with NZTA personnel suggested that this is likely due to the increasing uptake of electronic RUC systems, which results in a reduction in the number of change of hubodometer applications (as electronic distance recorders are more reliable than mechanical hubodometers) and fewer GAP assessments (as most eRUC customers automatically purchase distance RUC licences prior to expiration). If this trend continues it will result in efficiency gains for the NZTA as less resource will be required to process the binding assessments.

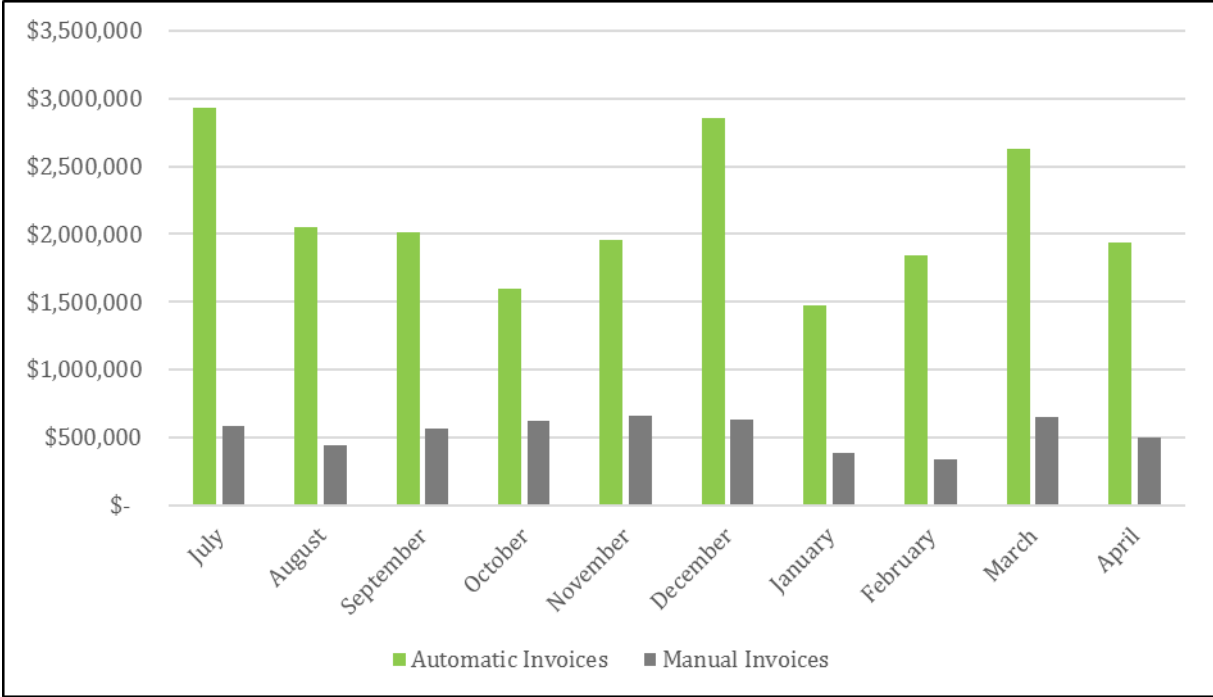
Figure 2: Monthly totals of invoiced RUC 2014/15 and 2015/16 financial years



In addition to RUC identified by the NZTA RUC Assessments team, binding assessments are issued as a result of distance recorder information reported to NZTA by vehicle inspectors

during warrant of fitness (LDVs) or certificate of fitness (heavy vehicles) inspections. This is automatically reconciled with NZTA RUC records and if the vehicle has over run above a set threshold (currently set at 1000km), the owner will be automatically invoiced for any overrun kilometres on their RUC licence. As shown in Figure 3, the amount of debt invoiced automatically is much higher than the amount that is manually invoiced. Automatic invoices comprise 79.3 percent of all invoiced debt in the 2015/16 financial year to date. As has been reported in previous evaluation cycles, this has been a key efficiency gain for the NZTA under the new RUC system.

Figure 3: Monthly invoiced RUC debt through manual and automatic invoices July 2015 to April 2016



4.2.2. The NZTA is implementing a number of initiatives to enhance the recovery of RUC debt

Previous evaluation cycles have reported on the portion of invoiced RUC debt that has been recovered. The evaluation team has been unable to access data on the current rate of RUC debt recovery. Verbal information provided during interviews with NZTA personnel suggests that the rate of recovery on the first invoice currently sits at around fifty percent. This suggests an improving trend: evaluation cycle one (August 2013) found that about 14 percent of the invoiced debt had been recovered, while evaluation cycle two (September 2014) found an average of 43.6 percent of debt was paid on receipt of the first invoice. However, in the absence of primary data on rates of debt recovery, we have not been able to confirm this.

While the reported improving trend is encouraging, half of all RUC invoiced debt remains unpaid on the first invoice. The low rate of debt recovery is a stubborn problem which has persisted since the new RUC system was implemented, despite the NZTA’s efforts to improve recovery rates. The NZTA has made a concerted effort to identify and address reasons for the low percentage of invoices paid on time. An overview of these initiatives is provided in Table 2 below.

Table 2: Potential reasons for low rate of recovery of invoiced RUC debt

Potential reason	Description of issue	NZTA response
Invoices cannot be paid over the counter through a RUC agent	It was reported that some customers attempt to pay their invoice at a RUC agent, but the agent instead provides them with a new RUC licence and the customer does not realise they have not paid their invoice.	A new system was implemented in September 2015 which alerts the agent to tell the customer to call the NZTA about their invoice prior to purchasing more RUC.
The invoiced amount is difficult for customers to pay	When the automatic invoicing system was first introduced the threshold at which an invoice was sent was 5000km over the licence. This was reduced to 2000km, but feedback from customers suggested that the amount owed was still high and challenging to pay as a lump sum.	The automatic invoice threshold has now been reduced to 1000km over run in the hope that invoiced amounts will be smaller and therefore people would be more likely and able to pay.
An invoice is sent after the customer has already purchased a new RUC licence	Interviews suggested that some vehicle owners may not be aware that their RUC licence had expired until being informed of this at the WoF/CoF inspection, which triggered the purchase of more RUC. However, the reported overrun had already resulted in an invoice being sent.	A two-week delay has been put in place before invoicing customers who have been made aware they have RUC owing through a WoF/CoF inspection, giving the customer time to purchase the correct RUC.
Invoices cannot be paid online via the NZTA website	While other NZTA processes, such as vehicle licence renewal, can be paid through the NZTA website by entering the number on the renewal notice, RUC invoices cannot be paid in this way.	The NZTA is currently working on enhancing online payment systems.

Feedback on the success of these initiatives is mixed. The NZTA RUC Assessments team reported that they were receiving a number of calls from customers alerted by an agent to make contact. However, they had not yet observed a drop in the number of contacts received from customers who had purchased RUC over the counter believing that this had paid the invoice.

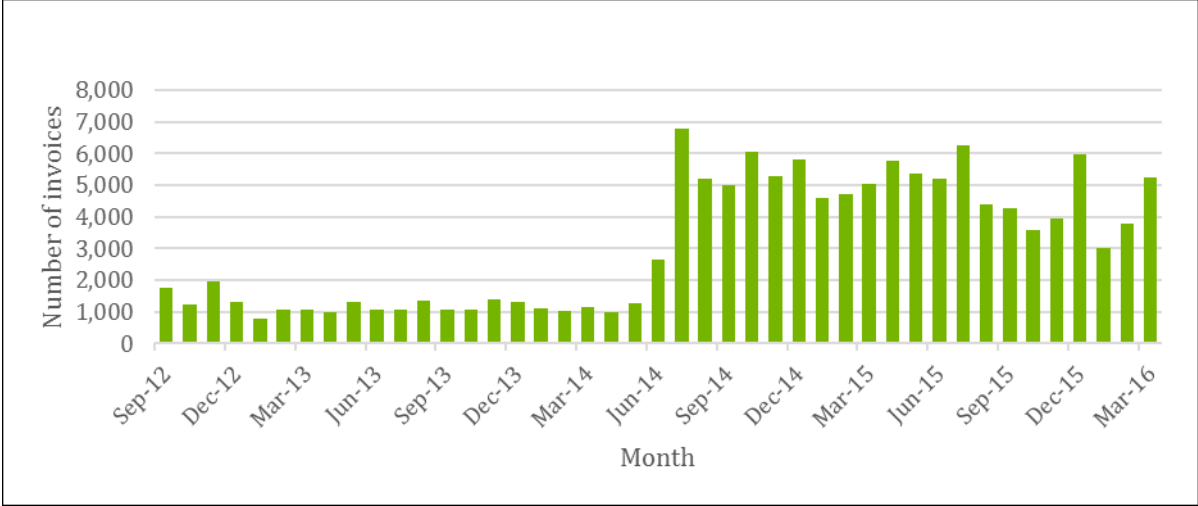
As

shown

in

Figure 4, the reduction of the distance overrun threshold from 11,999km to 2,000km in June 2014 resulted in a significant jump in the number of invoices sent (from around 1,000 invoices to over 5,000 per month). However, the NZTA finance department has stated that a high number of these invoices remain unpaid.

Figure 4: Number of invoices automatically sent from WoF/CoF inspection data per month



The data in

Figure 4 also indicates that the number of invoices sent appears to be trending down from around mid-2015. This may be as a result of the two-week delay before invoicing customers as a result of a WoF/CoF, although the trend is not significant enough to state this with certainty. This trend matches anecdotal evidence that the NZTA has seen a drop in the number of phone calls received from people who have already purchased a new RUC licence after their WoF/CoF. The two-week delay was reported to be particularly effective in situations where an LDV had been sold and the previous owner had obtained a WoF and purchased RUC just prior to selling the vehicle. The team stated that, prior to implementing the invoicing delay, they had received a large number of phone calls from the vehicle purchaser who had received an invoice for RUC owed, despite the vehicle displaying a current licence. The invoicing delay was reported to have addressed this issue.

4.2.3. The development of stronger tools to recover RUC debt could be investigated

If an invoice for RUC remains unpaid after two months a penalty regime is applied. This is provided for under sections 56 and 57 of the RUC Act 2012. If the debt is not paid within two months, the person liable for the RUC owed must pay an additional ten percent of the unpaid amount and a further ten percent if the amount remains unpaid after three months.

The evaluation team questioned the case study transport operators about their knowledge of the penalty regime. Of the fifteen case studies, nine transport operators were not aware of penalties, one thought that the current penalties were not strong enough to incentivise on time payments, and five stated that the invoices were a good incentive to pay on time.

If an invoice remains unpaid after the application of penalties, it goes to Crown Finance for debt collection. National level NZTA personnel noted that the debt recovery unit predominately looks after tolling and other small debts. They speculated that Crown Finance uses the same processes for all debts, large or small. Compared to tolling debts that are \$100 on average, RUC debts can be substantial and larger than \$10,000. One government official suggested there is a need to work collaboratively with Crown Finance to improve RUC debt recovery.

Other than the penalty regime, there are few levers to encourage the payment of RUC owed. For example, there is no impact on credit ratings for customers who do not pay their invoices on time. As a comparison, Inland Revenue Department (IRD) has a number of tools to encourage people pay their tax debt on time. These include including voluntary part-payments, instalments and allowing payment at a later date or not at all due to serious financial hardship. IRD has the mandate to take more serious measures such as directly debiting money owed from the debtor's wages, seize and sell property and start legal action which may result in affecting the person's credit rating. The feasibility of implementing similar options could be investigated as a way to enhance recovery of RUC.

4.3. RUC Specialist Assessors

The RUC Specialist Assessor team has been in place since 2013, but struggled to clearly define its role and purpose in its first two years. A change in management has led to a noticeable increase in performance, with the team's activities now targeted towards identifying and recovering unpaid RUC from companies that systematically overload vehicles. Effective processes have been established to support this function, which, over time, is likely to result in increased value of RUC recovered.

4.3.1. The performance of the RUC Specialist Assessor team has been enhanced through a recent change in management

The RUC Specialist Assessor team is comprised of four assessors, two based in Auckland, one in Christchurch and one in Palmerston North. The current team was created as part of a major NZTA restructure in 2012-2013, which disbanded the previously existing RUC investigative team and established the RUC Specialist Assessor team.

The restructure saw a reduction in the number of personnel undertaking investigative activities related to RUC. Prior to this, there was a team of ten RUC Investigators who focused on identifying and recovering evasion and eleven RUC Auditors who focused on identifying RUC owed through hubodometer change applications, verifying off-road claims and pursuing RUC owed through distance overrun. The investigation team was greatly reduced in numbers after the restructure and the auditor team was disestablished. This was in response to legislative changes that assumed there would be no weight based evasion and therefore no need for a large investigative team.

Initially after the restructure, the team was not focused on the investigative side of RUC recovery. NZTA national office personnel as well as the RUC Specialist Assessors themselves reported that the team undertook a number of activities that were very similar to that of the RUC Assessment Officers, such as auditing off-road refund claims, and 'one off' activities such as pursuing RUC owed through large distance overruns. A number of interviewees noted that the difference between the RUC Specialist Assessor role and the RUC Assessment Officer role was not clear. This was ineffective use of the Specialist Assessor's expertise and it was not cost effective to have specialists performing tasks that others could do. Further, interviewees suggested that there was potentially a lack of morale in the team. The Specialist Assessor team was not performing its deterrence function for the transport sector as there was little chance that evasion would be identified.

The management of the RUC Specialist Assessor team changed in 2015. There were positive reports from the Specialist Assessors and national level NZTA staff about the current management arrangement. All Specialist Assessors reported they receive better guidance, support and training. It was also reported the team now has a clear direction.

“The team are now finding their stride after a period of underperformance”

- NZTA Staff Member

The Specialist Assessor role is more clearly defined and the work programme is now focused on carrying out investigations to identify and assess weight based RUC evasion. The team has a methodical process for undertaking investigations and has checklists and other tools available to help the team fulfil its role (see 4.3.2 for discussion of the investigation process).

The team's manager and the NZTA national office are also seeking to implement other initiatives such as the development of a risk assessment tool. This will assess individual transport operators' level of risk of RUC evasion based on a series of indicators. This presents a good opportunity to identify more cases of potential evasion, but it is noted that the capacity to assess the additional identified operators will be limited until more resource is dedicated to the RUC Specialist Assessor team.

A number of NZTA personnel, including within the Specialist Assessor team and the national office, reported a perception that the Specialist Assessor team was not large enough and that a

larger team would enable the investigation of more operators. Of the 'Top 40' list of transport operators identified as consistently overloading, only 11 have been investigated in the 2015/16 year. It was suggested that an additional two to three Specialist Assessors were needed as well as a data entry resource (see below for further discussion). There are two vacancies within the team which have been empty since the NZTA restructure in 2012-13. Now that the management and focus of the team have improved it is recommended that these positions are filled.

4.3.2. The RUC specialist team is now effective in focusing on recovery of weight based RUC debt, but efficiency could be improved with additional data entry resource

The RUC Specialist Assessor Role is focused on the recovery of debt for weight based assessments. The team's key activities include identifying operators who have not paid RUC on loads exceeding the VDAM weight limit, investigating, and recovering the unpaid RUC. The role focuses on fleets that consistently load overweight.

The new data sharing arrangement with the NZ Police has enabled the team's focus on weight based evasion. This involves the provision of Commercial Vehicle Inspection Reports (CVIRs) that identify overweight offences (i.e. vehicles that have been overloaded beyond the 1.5 tonne tolerance). A PDF copy of the CVIR is sent to the NZTA, which is used by the Specialist Assessor team to identify operators for investigation. The number of CVIR forms sent to the NZTA from NZ Police ranges from approximately 20 to 70 per day. The data from the CVIRs is entered into a spreadsheet by a RUC Specialist Assessor.

The data sharing arrangements have been in place since May 2015 and were reported as working well by both the NZTA and Police. Sending the forms electronically allows for the quick and efficient transfer of data, which adds no extra administration burden for the Police as they already collect the information and send it through a pre-existing form to the NZTA. Data sharing has also enabled the NZTA to access weight based evasion data, which they could not previously. However, it does incur an administrative burden for the NZTA as the CVIR data needs to be manually entered into a spreadsheet.

The team then uses the CVIR data to produce a 'top forty' report which is generated from all CVIR data from May 2015. The top forty is a rolling list of potential operators to be assessed which is determined by the prevalence of non-compliance and the likely availability of relevant records. This directs the RUC Specialist Assessors' work programme. After inputting the raw data and identifying the most frequently non-compliant operators, each team member is assigned companies to investigate.

To ensure consistency, there is a set process for undertaking investigations. The initial investigation focuses on internally available information held by the NZTA: checking the company records, looking at data on the company directors and NZTA data on the Transport Service Licence (TSL) holder. The team uses a software tool (Hyperion) which pulls information such as the fleet list, vehicle types owned, offences of the company from various databases going back to August 2012 when the new RUC system came into effect. This information is used to determine whether there is sufficient evidence to build a case against the transport operator. The Specialist Assessor then writes up the information and provides a recommendation to the RUC Specialist Assessor Acting Manager as to whether the case should be pursued, along with supporting evidence. The manager then decides whether to proceed with the in-depth investigation. This filtering system is appropriate for ensuring that the somewhat limited investigative resources are targeted at those transport operators against which a case is likely to be successful.

If a decision is made to proceed with an investigation, a letter is sent to the transport operator explaining that they are being investigated. The letter also lets the transport operator know that the investigation could result in receiving an invoice for unpaid RUC. A formal records request is then made. These records include daily run sheets, tare weight information and weight logs for various vehicles owned by the transport operator. The legislation does not allow the NZTA to directly ask third parties for records and the Agency has to go to the operator first. This has not yet been an issue as the team has been successful in obtaining records from operators. However, this could become problematic in the future if operators are uncooperative and this could be considered as a point for legislative amendment.

It was noted that records tend to be better from larger companies with strong management structures, and smaller companies often do not have good systems in place. Accessing records can be a long process and operators are given a six-week time frame to comply with the records request. The team prefers to receive electronic records; however, this is rare and paper records are frequently received. The records supplied are commonly a substantial amount of information: for example, one Specialist Assessor said they received ten A4 boxes of paper records for 2000 loads over a two-week time period for one transport operator.

The records are manually entered in a spreadsheet, unless the operator gives the information electronically but as noted above, this is a rare occurrence. The data entry process is very time consuming as the team lacks a data entry resource and the RUC Specialist Assessor team has to input the data themselves. The timeframe required to input manual records varies greatly and it was reported that it can take any time from two weeks to up to a year. One example was provided of an operator who had a large fleet of vehicles with up to twenty trips per day over a twelve-month period, and it was estimated that it would take one person just over a year to enter the data. This is inefficient use of the Specialist Assessor team's time, skills and experience and is limiting the amount of investigations that can be undertaken and therefore the amount of RUC debt recovered. It is recommended that data entry resource be provided for the team which would enhance the team's effectiveness and efficiency.

Once data entry has been completed, the Specialist Assessors perform a calculation to determine the amount of RUC owed by the transport operator. A methodology has been developed to determine the differential between the RUC paid and what should have been paid on the overweight load. This is invoiced over the whole of the RUC licence. The validity of this methodology has been challenged by the transport sector in a recent court case which endorsed NZTA's approach (see section 4.1.5 for further details).

Transport operators are given the choice of providing records for one year, extrapolating the data back to the 2012 system change, or the operator can provide all relevant data back to 2012. It was reported that most operators choose to go with the extrapolated calculation option.

The Specialist Assessor team stated that the investigation process is lengthy, taking up to one year to complete an investigation, depending on factors such as the format and amount of records received and the size of the company. The average caseloads for investigations are small, ranging from two to four per Specialist Assessor at one time. To date the amount of RUC recovered as a result of investigations by the Specialist Assessor team has been limited. The team has an initial target of recovering \$500,000 for the year ending 30 June 2016 and, as at May 2016, eleven investigations had been completed, resulting in invoices issued to the value of \$368,847. The Specialist Assessor team reported that several current investigations were close to completion. For example, one Specialist Assessor stated that it was expected that two

invoices would be sent shortly totalling \$90,000, while another noted that the expected amount of RUC recovered from two current investigations would total \$13,000 and \$130,000.

It is too early to conclusively comment on the efficiency of the Specialist Assessor team. However, it appears likely that the improved management and focus of the team will result in increased value of RUC recovered. As well as the actual amount of invoiced debt recovered by the team, one of the key functions of having a Specialist Assessor team is the message that it sends to the sector. The Police CVIU team have limited resources and therefore concentrate their policing of RUC on selected geographical areas, meaning that the chance of operators that overload being caught by Police is minimal. Having a Specialist Assessor team shows the sector that the NZTA is serious about identifying and recovering evaded RUC. Few transport operators spoken to during this evaluation were aware of the Specialist Assessor team, commonly confusing them with the RUC Assessments team or the previously existing RUC Audit team. It is likely that once the volume of completed investigations increases, transport operators' awareness of the team will grow, deterring them from running the risk of evading RUC.

4.4. Electronic RUC

Increased uptake of electronic RUC (eRUC) provides efficiency and accuracy benefits for the government and the transport sector. The Ministry has taken a market-led approach to encouraging uptake of eRUC. This strategy has been effective with the provider market expanding, and eRUC revenue comprising an increasingly high percentage of all RUC revenue, particularly in the heavy vehicle category.

4.4.1. The process for becoming an approved eRUC systems provider is clear

There are currently two approved eRUC system providers and two further organisations undergoing the NZTA approvals process to become eRUC providers. The two potential eRUC providers are at different stages of seeking approval under Subpart 6 of the *Road User Charges Act 2012*. One company signalled its intent to become an eRUC provider four years ago and began the process of hardware development in 2013. The second company is at an earlier stage of the process, having commenced engagement with the NZTA in April 2015.

Previous evaluation cycles reported that the first two eRUC system providers found that gaining approval was challenging as the process was new and there was a lack of clarity regarding the requirements for the EDR device, what testing was required, and how long the process was likely to take. Comparing evidence on the experience of the first two providers with those currently entering the market shows that the process of gaining approval is now much clearer. There is a code of practice⁵ in place which outlines requirements for the hardware and provides an overview of the steps that need to be taken by those seeking approval.

Generally, the code of practice received positive feedback from eRUC providers. The code provides a source of guidance for the performance and implementation of eRUC systems. It contains information on three key aspects of the process: applying for approval as an electronic system provider, requirements and recommendations for the electronic system, and terms and conditions that the NZTA may apply.

⁵ NZTA 2014, *Code of practice for electronic road user charges management systems*

<https://www.nzta.govt.nz/assets/resources/road-user-charges/eruc-guidelines/docs/ERUC-code-of-practice.pdf>

The code of practice was described as a “broad and diverse” document which offered a range of useful information for new eRUC providers seeking approval. However, there was mixed feedback on the document’s level of prescriptiveness. One provider stated that the code allowed for innovation, offering a creative framework and ensuring that providers achieve a legal, enforced and secure outcome in a responsible manner. The other provider had struggled to interpret some aspects of the code, stating that it is not always clear where the line is drawn between guidelines and strict rules. For example, they felt it was difficult to know what the electronic distance recorder device “must” do compared to what it “should” do. The provider did state that the NZTA was generally helpful in clarifying this and “tends to be open to a well-argued case for change”. An issue raised by potential new eRUC providers was that many of the required features seemed to be based on the system of one of the original eRUC systems providers and that following the code exactly would risk a violation of intellectual property rights.

Although the approval process is clearer, it remains a lengthy undertaking. While the steps to gaining approval are well defined, they still involve substantial time investment and both of the potential eRUC providers found the process to be slower than they had expected. It was reported that the NZTA had told one provider that, in a best case scenario, the approvals process could be done in approximately three months. Meeting this timeframe would be possible if all preparation, research and trialling were completed by the provider prior to commencing the approval process. However, the experience of providers that have completed, or are currently undertaking, the approvals process suggests that this is unlikely in practice. In its future communications on timeframes the NZTA could ensure that it is clear that this is a best case scenario, but that the experience of other providers is that longer timeframes are likely to be required.

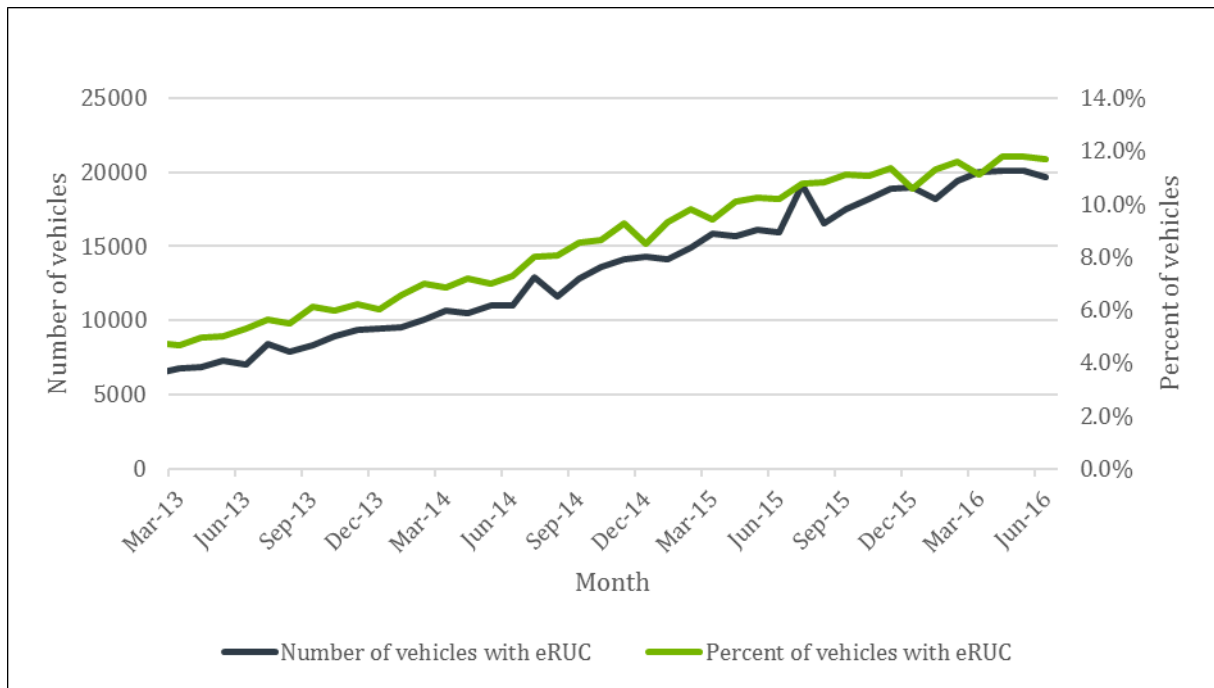
Much of the time taken to gain approval is due to the need for extensive testing to ensure that the device meets required standards. While there is a need for careful testing of the device’s security and accuracy, some concerns were raised regarding the need to meet what one provider considered to be “implausible scenarios” during the testing process. It was alleged that several of the scenarios in which the device was required to perform during testing were improbable and unlikely to be encountered in the context of New Zealand field conditions.

The approvals process requires interaction with various parts of the NZTA, and while all were reported as individually good to work with, some concerns were raised that different sections of the organisation could interact more closely with each other, for example, to better align the business process of gaining approval with the technical development of the distance recording device.

4.4.2. The uptake of eRUC is continuing to increase and now comprises over 40 percent of heavy vehicle RUC revenue

Analysis of the number and percentage of vehicles fitted with an eRUC device shows that there has been a steady increase in uptake of eRUC since the implementation of the new system. In March 2013 the percentage of vehicles fitted with eRUC distance recorders was 4.7 percent. By June 2016 this had more than doubled to 11.7 percent of all RUC vehicles.

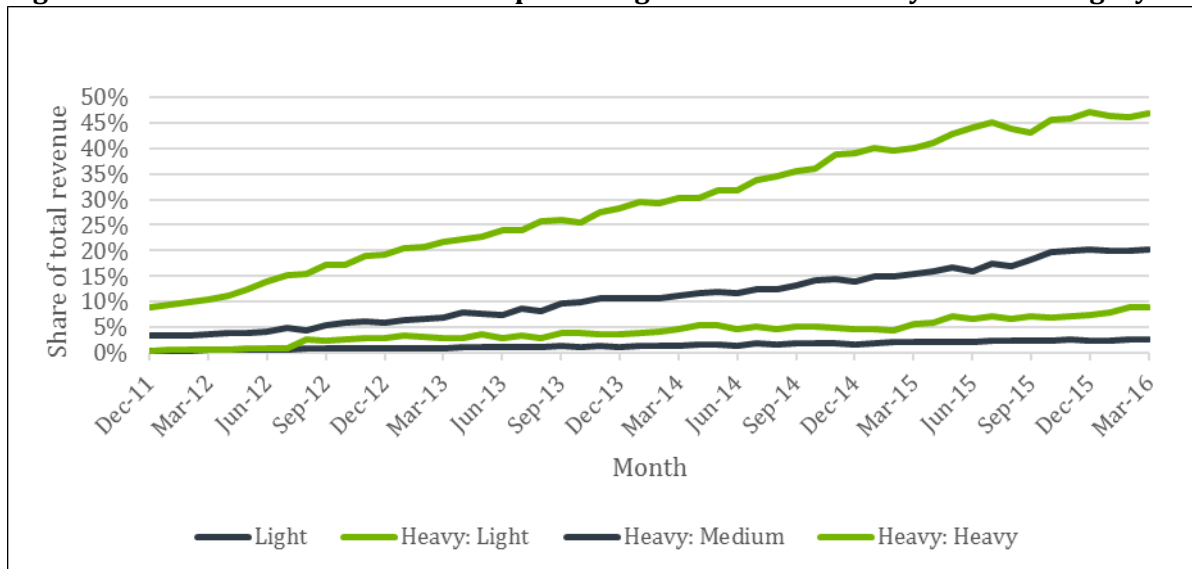
Figure 5: Number and percentage of vehicles fitted with eRUC distance recorders



We examined eRUC revenue across different vehicle categories (Figure 6). This shows that the eRUC share of total RUC revenue has increased across all vehicle weight categories, with particularly strong growth in sales to ‘heavy: heavy’ vehicles. This category includes all vehicles over 6 tonnes apart from type 1 and 2. Heavy: heavy vehicles are mainly three- and four-axle powered vehicles and heavy trailers.

As shown in the figure, very little eRUC revenue is collected from light vehicles. This aligns with industry perceptions that eRUC is unlikely to be a cost effective option for LDV owners.

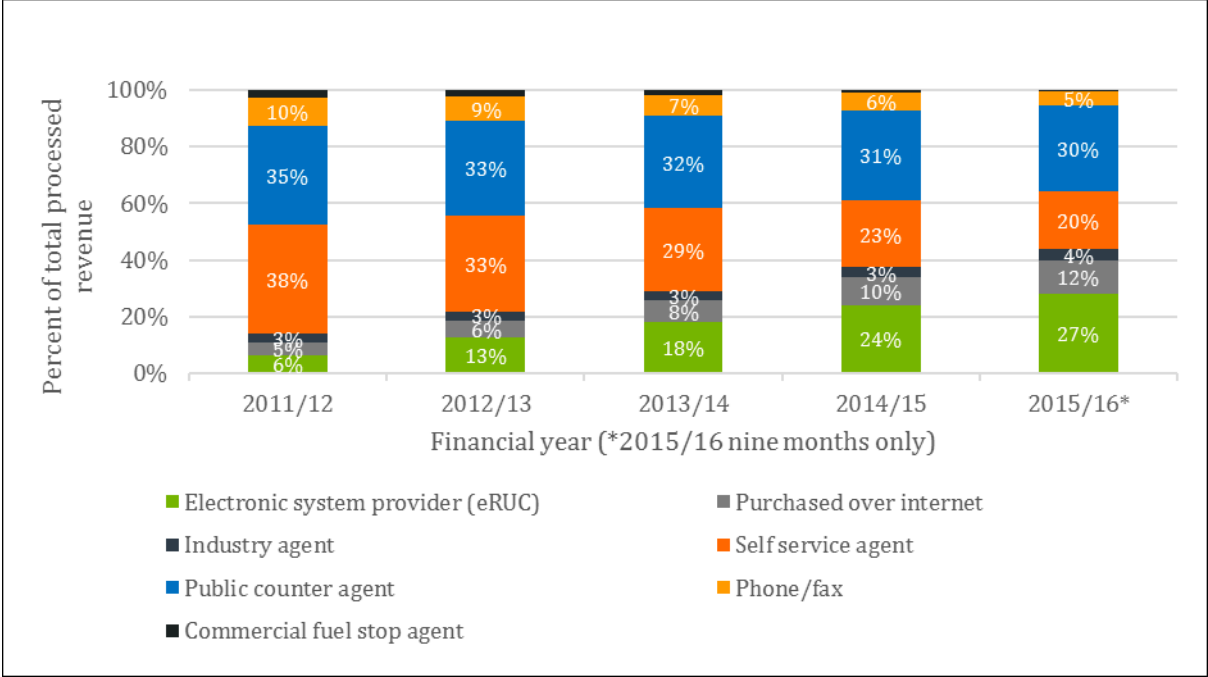
Figure 6: Electronic RUC revenue as a percentage of total revenue by vehicle category^(a)



(a) Vehicle categories are: Light = type 1 vehicles with a RUC licence weight of up to 3.5 tonnes (up to 3 tonnes before August 2012); Heavy: Light = vehicle types 1 and 2 with RUC licence weight of over 3.5 tonnes and up to 6 tonnes; Heavy: Medium = vehicle types 1 and 2 weighing over 6 tonnes; Heavy: Heavy = other vehicle types weighing over 6 tonnes.

Looking at the aggregate level, Figure 7 provides an annual breakdown of RUC revenue for all vehicle types by delivery channel. This shows that eRUC has increased from 6 percent of all RUC revenue in 2011/12 to 27 percent for the first nine months of 2015/16. This represents an average increase of 5.3 percentage points per annum. The data shows a corresponding decrease in the self service agent delivery channel (18 percent decline), over the counter (5 percent decline) and phone/fax (5 percent decline).

Figure 7: Percentage of total processed RUC revenue by purchasing channel(a)



(a) Does not include invoices issued for distance overrun or overweight vehicles

It was reported that uptake of eRUC is primarily among large fleets of ten or more vehicles and within the freight industry. Those that have not taken up eRUC systems to the same extent tend to be smaller transport companies, owner-drivers and light diesel vehicle owners, mainly due to the cost of eRUC systems. The initial and ongoing expense of installing eRUC systems for these groups is not cost effective as they do not purchase large volumes of RUC and do not have as much need for the fleet management features of the eRUC systems as do larger transport operators.

Ten out of the fifteen case studies for this report had installed eRUC systems. The majority of the case studies that used eRUC had installed the units only on prime movers and not on trailers. It was reported that the cost of eRUC units for trailers is uneconomical as these vehicles are not used as often as the prime movers.

“Trailers aren’t clicking up kilometres unless they are on a prime mover anyways”.

- **Transport Operator**

One transport company gave an example of trailers that only get used once a month. The monthly service fee for eRUC was not considered a worthwhile expense in this situation, and the operator said they would prefer to purchase RUC manually for their trailers.

Transport operators that had eRUC systems installed discussed a wide range of benefits. One frequently reported benefit of eRUC was reduced administration resulting from not having to manually purchase RUC. Operators praised the auto-purchase function of eRUC systems and said this makes their business more efficient. The ability to set RUC auto-purchase in small increments has a cash flow advantage for businesses, and although this could be done manually, the administration involved with purchasing small increments of RUC would outweigh the cash flow benefits gained. Additionally, the automatic purchase function provides operators with certainty of complying with their RUC obligations at all times.

“You know at all times that a certain truck is legal; it’s automatic and you don’t have to rely on the driver telling you that the distance is close to expiring”

- **Transport Operator**

Another reported benefit of eRUC is the ease of claiming refunds for off road kilometres. Several case study companies that had previously not claimed off road refunds now did so. For example, one large passenger transport company stated that they now get back \$2000-2500 per week in off-road refunds due to time spent in areas such as school grounds and on private property which would previously not have been claimed. eRUC also makes it easier to purchase additional licences. A common example given was where an operator goes to pick up a load that is heavier than expected and they can purchase additional licences on the spot.

Non-RUC features such as fleet management and reporting were also highlighted as a benefit of eRUC systems. Many transport operators stated that eRUC was a factor in their decision to purchase eRUC systems, however, they saw more value in the in-depth reporting systems and fleet management features. One transport operator said they use eRUC systems more for vehicle tracking rather than the purchasing of RUC but described eRUC as “a nice bonus”.

As well as benefits for transport operators, increased uptake of eRUC has benefits for government. It was reported that eRUC makes New Zealand Police’s job much easier, as all the information required from the transport operator is easily accessible in electronic form. eRUC distance recorders are also more difficult to tamper with than mechanical hubodometers. NZTA officials reported that benefits to their agency include reduced administrative work, less chance of RUC evasion, eRUC devices are more accurate and eRUC distance recorders tend to get less damaged than mechanical hubodometers which makes the auditing process easier. One Ministry of Transport official confirmed that eRUC systems benefit the government due to lower risk of fraud and RUC evasion and also gives the Ministry an assured cash flow from RUC.

4.4.3. Cost remains the main barrier to the uptake of eRUC systems

As identified in previous evaluation cycles, the main barrier to eRUC is the cost of the initial installation of the system and ongoing costs. Many operators stated that it is not cost effective to get the eRUC system installed just for the sake of the RUC feature and noted that the savings offered (through off-road refunds for example) did not cover the cost of the unit. For many operators, it was the other fleet management and reporting features that tipped the balance and made eRUC systems worthwhile for their fleet.

A barrier mentioned by a few transport operators were existing contracts with fleet management service providers. Some operators are locked into long term contracts with service providers that do not offer the eRUC feature and did not see value in ‘doubling up’ with an eRUC

provider. However, some of these operators stated their intention to change once these contracts expired.

Another barrier raised by an operator was that eRUC places compliant operators at a disadvantage because some within the industry are non-compliant and this has the potential to adversely affect their company's commercial performance. They suggested that deliberately non-compliant operators are unlikely to adopt eRUC systems.

4.4.4. Lowering the cost of eRUC systems, mandating uptake and post-payment were suggested as ways to enhance uptake

A number of national level key informants and transport operators suggested incentives that could result in an increased uptake of eRUC. The most commonly suggested incentive was lowering the cost of eRUC systems. The intention of the RUC legislation was to enhance competition and therefore reduce costs. This appears to be working as there are now two approved eRUC providers and two other potential eRUC providers in the market, each of which is targeting different segments of the market.

A possible initiative to enhance the uptake of eRUC would be to make eRUC mandatory for all vehicles. At this stage, voluntary uptake is favoured by government officials.

“This [voluntary uptake] is an excellent model with a large degree of acceptance from the industry.”

- **Government official**

Moving to a post-payment system for eRUC customers, such as monthly invoicing was stated as an incentive. The transport industry was supportive of a post-payment system and this would also save time spent by the NZTA on administration as it would remove the need to calculate off road refunds. A post-payment system could be commercially risky for eRUC systems providers because there is a risk of carrying customer's RUC liability if they were to purchase a large quantity of RUC prior to becoming insolvent. However, this risk could be mitigated by only offering the post-payment service to transport operators with good credit ratings.

4.4.5. There is a common misconception amongst eRUC providers that the RUC licence must be displayed continuously

The eRUC providers and potential providers spoken to reported a perception that RUC licence display requirements were a barrier to innovation. There was a belief that the RUC licence had to be displayed continuously and that this must be outward facing. Electronic systems providers reported that this was limiting their ability to offer other products, such as displaying other licences (e.g. the Transport Service Licence, vehicle licence and certificate of fitness). Another provider believed that it was necessary to display the licence even when the vehicle is powered off.

However, examination of the legislation and regulations and discussion with government officials has found that the belief that the licence must be continuously displayed is incorrect. Licence display requirements are provided for in section 19 of the *RUC Act 2012* which was amended in 2014 to clarify that a distance licence must be “displayed or carried”. This means that there is no longer a requirement for continuous licence display.

It is not clear how this misperception arose. Clause 13.2 of the *RUC Regulations 2012* makes it clear that the licence must be displayed “so that all details of the licence are, or can be made, easily visible from the outside of the RUC vehicle”. However, clause 13.4 states that for heavy vehicles the licence must be displayed “in an upright position on the inside of the windscreen facing outwards on the opposite side to the steering wheel” or “on the glazing of the front passenger door” (clause 13.4). This requirement appears to prescribe that the display must be outward facing, which is inconsistent with the legislative allowance for the licence to be carried. The wording of this clause could be amended to ensure clarity.

There is nothing in the regulations or in the code of practice that could be easily misinterpreted as mandating the continuous display of the RUC licence. It may be worthwhile for the NZTA to issue a communication to eRUC providers to correct this misconception.

Another reported issue with the legislation’s requirements is that the display has to be linked to the distance recorder of the truck (i.e. wired in), but could easily be displayed on other devices such as a smart phone. eRUC providers suggested that relaxing the display requirements may make eRUC more accessible for owners of light diesel vehicles. All eRUC providers currently target the heavy transport industry because they have greater need given that they are purchasing RUC more frequently. If the requirements are amended to remove the need to develop a specialised electronic distance recorder, this would allow eRUC to be offered much more cheaply and the uptake would likely be greater.

A further issue raised is that the regulations insist on “wheel tick” to measure distance, stating that the electronic distance recorder must “*use internal and external sensors to accurately measure the amount of distance travelled by the RUC vehicle*” (RUC Regulations 2012 clause 16). The code of practice states that an electronic distance recorder should “*record wheel revolutions or derivation of wheel revolutions as the primary method of accurately recording distance travelled*” (p. 13). This means that technology such as GPS cannot be used to measure distance. Any provider wishing to offer eRUC must develop a distance recorder based on technology such as wheel sensors – a costly and time consuming exercise. This may represent a barrier for further potential providers to enter the eRUC market and prohibits the development of inexpensive eRUC devices that could appeal to a broader market. It is acknowledged that it is imperative for any distance measurement system to be highly accurate. NZTA officials stated that GPS coverage in New Zealand is not yet comprehensive enough to ensure accurate distance recording. The ability to use GPS for distance measurement could be considered in the future if coverage improves.

4.5. Vehicle GVM

The introduction of set ‘RUC weights’ for vehicles has created a potential incentive for vehicle owners to minimise their vehicle’s gross vehicle mass (GVM). This could undermine the integrity of the RUC system. While the NZTA has put forward a statement on standards for GVM recertification, its position on assigning GVM to new vehicles could be clarified.

4.5.1. Setting RUC weight bands based on GVM has created a motivation to reduce vehicle GVM to achieve a more advantageous RUC rate

Gross vehicle mass (GVM) is the maximum weight at which a vehicle is designed to operate. The vehicle’s construction and design features inform the rating, which is intended to signal the maximum weight at which the critical components of the vehicle (such as brakes, suspension and clutch) can perform effectively. The GVM rating also has a role in protecting road surfaces

by limiting the weight of the load and ensuring the weight distribution is appropriate for the design of the vehicle to minimise pavement damage.

GVM requirements are set by two pieces of legislation, the *Land Transport Rule: Vehicle Standards Compliance 2002* and the *Land Transport Rule: Heavy Vehicles 2004*. The Vehicle Standards Compliance Rule is intended to ensure that new vehicles entering the New Zealand market meet the required standards and allows for the GVM to be set by the vehicle's parent manufacturer. Section 6 of the Rule states that a certificate of compliance can be issued if the vehicle's manufacturer or manufacturer's representative confirms compliance with the required vehicle standards.

The Heavy Vehicles Rule is intended to ensure vehicle safety and integrity, and sets standards for certification. Section 6.4 guides the modification of vehicles which may result in a change to the GVM, stating that modifications affecting the chassis must either confirm the validity of the current chassis rating or obtain a new chassis rating and certificate of loading. Section 8.5 states that a person who manufactures or retails a chassis assembly must state "the permitted maximum axle mass, axle-set mass, gross vehicle mass, gross combination mass and maximum towed mass determined by the manufacturer".

Prior to the 2012 legislative changes the GVM and RUC systems had little interaction. Under the *Road User Charges Act 2012* the RUC weight band to which vehicles are assigned is determined by the GVM for the vehicle (or the maximum allowable mass under the VDAM Rule 2002). This has created a potential motivation to reduce the GVM of vehicles in order to reduce the RUC weight band in which the vehicle sits and therefore achieve a cheaper RUC rate.

4.5.2. GVM manipulation can occur by assigning an artificially low GVM at point of manufacture, or by modifying and recertifying existing vehicles

There are two methods through which a reduction in vehicle GVM can be achieved. For new vehicles entering the New Zealand fleet, the vehicle manufacturer can assign a low GVM rating. For existing vehicles, owners can apply for the GVM to be recertified after making modifications to the vehicle.

The NZTA allows vehicles to be imported from four main jurisdictions (Europe, Australia, Japan and the United States of America) and all imported vehicles must meet New Zealand standards. Importers order vehicles and self-certify them for entry into the fleet based on ratings provided by the manufacturer. Interviews with vehicle manufacturers found that there is an incentive for manufacturers to ensure an appropriate GVM is set, to minimise the risk of non-compliance with New Zealand standards. Vehicle manufacturers' representatives spoken to as part of this evaluation stated that New Zealand has robust standards for vehicle safety and most manufacturers are conservative in setting their GVMs.

In some cases, when a vehicle is purchased the intended end use will dictate the GVM. In this instance the vehicle will be imported as a cab and chassis only and will be built according to the requirements of the purchaser. For example, an identical cab and chassis could be fitted out as a gravel carrying truck, a liquid tanker or a furniture removal truck. These different purposes will require a differing GVM. The GVM will be assigned by the distributor, who has been provided a set of model codes from the manufacturer.

The evaluation team has also observed instances of vehicles with identical specifications (including cabin configuration, axle configuration, engine displacement, transmission and wheel base) being offered at differing GVM ratings. While it may be argued that the practice of

assigning a low GVM when building a vehicle to the intended use, as described above, is a genuine response to ensuring the vehicle can be used as effectively as possible, offering differing GVMs on identical vehicles appears to be primarily intended to reduce the RUC payable on the vehicle. Some vehicle importers and distributors spoken to by the evaluation team admitted that achieving a more advantageous RUC rate was a key driver in offering differing GVMs. Those spoken to believed that they were meeting a market need and stated that the practice was within the legalities of the system.

Interview data suggested that this practice is most likely to be occurring in small and medium trucks, specifically type 2 trucks (being down-rated to allow the vehicle to fit the 'not more than 6 tonnes' RUC weight band) and type 6 trucks (being down-rated to allow the vehicle to fit the 'more than 12 tonnes and not more than 18 tonnes' RUC weight bands). These vehicles have the biggest incentive to manipulate the GVM as they tend to be used to transport 'light and bulky' loads such as furniture.

The evaluation team also conducted interviews with New Zealand-based trailer manufacturers. These informants stated that they custom-build trailers to the specifications of the client and that the intended end use will influence the GVM that is sought for the vehicle. Interviewees listed a number of considerations that informed the way in which the vehicle was built, including its RUC weight band:

“The main motivation for our customers is to build a vehicle that is fit for purpose and safe, and can be used as efficiently as possible. Part of the efficiency equation is RUC... our customers are happy to pay [road user charges] but they want to pay fairly for the weight they carry and [they] want the trailer’s GVM to match that.”

- **Trailer manufacturer**

Several of the trailer manufacturers spoken to were adamant that the practice of engineering a trailer to meet a desired GVM was within the legalities of the system, and that as long as the trailer was not loaded over its GVM rating “there should be no problem”. It was pointed out that the GVM is determined by a vehicle certifier, and that this provided “checks and balances” to ensure that GVM ratings given were authentic.

For vehicles that are already in the New Zealand fleet, a lower GVM can be achieved by modifying the vehicle and having it recertified at a lower rating. The evaluation team heard anecdotal evidence from industry associations and NZTA personnel that there have been cases where a minor modification has occurred, such as removing springs from the suspension, and recertification has been granted. As discussed in section 4.5.5 the requirements of the legislation clearly state that the GVM can only be altered by significant modifications and vehicle certifiers interviewed for this evaluation strongly stated that vehicles would not achieve a lower GVM rating unless appropriate thresholds were met.

There was a reported perception that some vehicle certifiers were yielding to pressure from the transport sector to re-rate vehicles that did not meet the criteria for a downgraded GVM. Vehicle certifiers who were spoken to during this evaluation expressed their scepticism that any of their colleagues would take such an action, stating that the rules around recertification were clear and that the risk of undermining their professional reputation would provide a strong deterrent.

4.5.3. The extent to which manipulation of vehicle GVM is occurring is difficult to determine

Interviews with government officials, industry association representatives, and transport operators found that there was an awareness of the issue but very little concrete knowledge of the extent to which manipulation of vehicle GVM is occurring.

Transport industry associations and transport operators themselves suggested that the demand for vehicles with a reduced GVM is likely to be minimal. Most case study operators interviewed stated that they had been offered vehicles at differing GVM ratings but had not taken up this option. This was primarily due to carrying loads such as bulk solids which required a vehicle capable of carrying heavy weights, therefore there was no incentive or value in reducing the GVM. Others believed that de-rating a vehicle would have negative quality or safety implications:

“We bought a four by two truck, which we got custom built last year. We did consider a lower axle rating as the RUC was cheaper, but it would have compromised the strength of the vehicle so in the end we decided against it”

- **Transport operator**

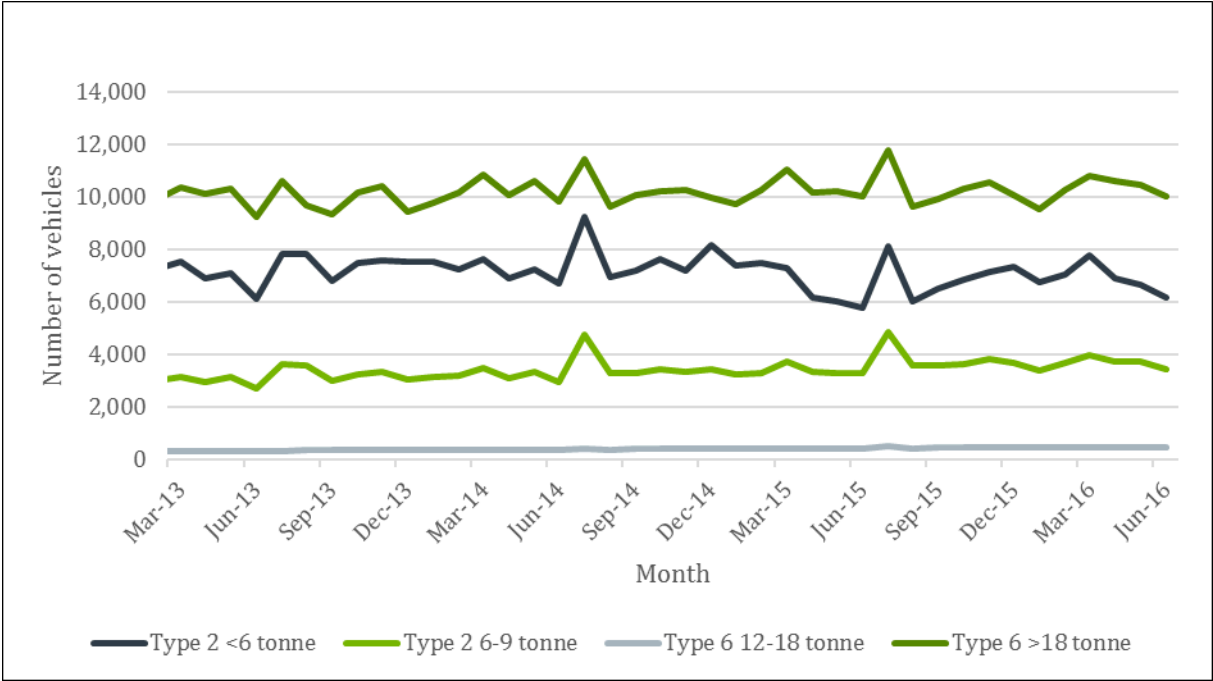
Only one transport operator admitted that they had purchased a truck with a lowered GVM. This involved the purchase of a three-axle type 6 truck as part of their metro fleet. This transport operator stated that the loads carried ‘cubed out’ quickly (i.e. filled the truck’s volume without achieving the maximum weight) and therefore a high GVM was not needed. This operator acknowledged that the cheaper RUC rate was the main incentive for purchasing this vehicle.

Two of the transport operators had altered vehicles and had them recertified. One transport operator had modified a vehicle to fit with the HPMV permit requirements. The other had modified an older truck within the fleet by removing an axle to enable it to be more appropriate for use in metro work. Both transport operators stated that RUC had not been a consideration when modifying the vehicle, and that the goal had been to have an efficient and appropriate vehicle that matched its intended use.

Ascertaining the extent to which GVM manipulation is occurring through quantitative measures is challenging. Interviews the transport industry personnel stated that vehicles for which there is the most incentive to reduce the GVM are type 6 vehicles (from the over 18 tonne weight band to the 12-18 tonne band) and type 2 vehicles (from the 6-9 tonne band to the less than 6 tonne band). As a proxy indicator, we have analysed data on the total number of individual vehicles for which RUC was purchased annually in each of these vehicle types. The results are displayed in Figure 8.

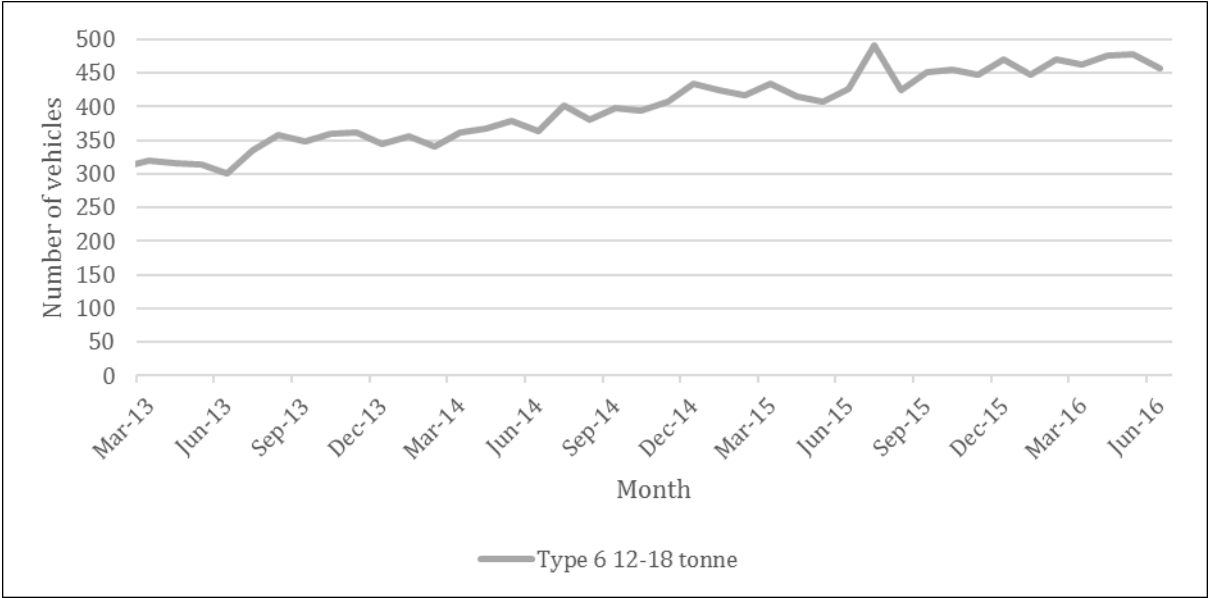
If GVM manipulation was occurring at a discernible level, we would expect to see a downward trend in the number of vehicles in the heavier weight bands and an increase in the number of vehicles in the lower weight bands. It is not possible to distinguish any patterns that would suggest vehicles are changing between weight bands. The total number of vehicles in each category appears to be relatively stable. This suggests that vehicle GVM manipulation is not occurring to a degree that is visible at the system level.

Figure 8: Total number of individual type 2 and type 6 vehicles by weight for which RUC is purchased



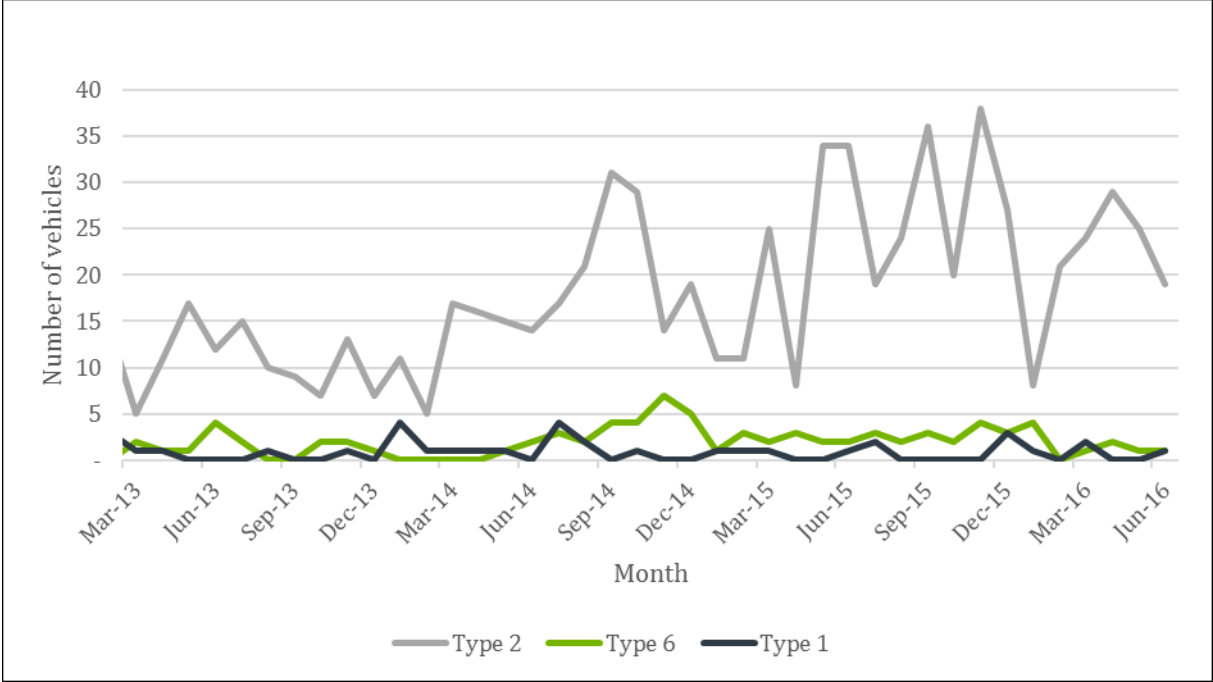
While overall numbers of type 6 vehicles weight 12-18 tonnes (powered vehicles with three axles) remain low, Figure 9 shows an increasing trend in total vehicles in this category. Total numbers rose from 319 in March 2013 to 457 in June 2016. Ministry of Transport officials noted that RUC receipts show a corresponding increase in kilometres purchased for these vehicles. This does not necessarily indicate that GVM manipulation is occurring within in this category of vehicles. However, the market for lighter duty three-axle trucks tends to be relatively small and specialised. The increasing number of these vehicles may suggest that the purchase is motivated by a lower RUC rate, rather than the vehicle best suited for the task. As more of these vehicles are added to the fleet, some may be used for tasks more appropriate for heavier trucks, such as towing. This trend should continue to be monitored.

Figure 9: Total number of individual type 6 vehicles weighing 12-18 tonnes for which RUC is purchased



We also analysed data on the number of individual vehicles that have a current GVM that is less than the maximum recorded GVM for that vehicle (i.e. the GVM has been reduced). This analysis considered type 2 and types 6 vehicles, as well as type 1 vehicles (for which there may be an incentive to reduce the GVM to fit into the under 6 tonnes weight band). The results, displayed in Figure 10, show that the number of type 1 and type 6 vehicles being de-rated is very small, generally less than five vehicles per month. The number of type 2 vehicles that have had their GVM reduced is higher, and shows an increasing trend. While it is not possible to determine whether the reduction in GVM was motivated by a desire to reduce RUC, and the numbers of vehicles are small in the context of the national RUC vehicle fleet, this does show that there is some movement between RUC weight bands.

Figure 10: Number of vehicles where current GVM is less than the maximum recorded GVM for that vehicle



4.5.4. The practice is unlikely to impact on RUC revenue, but presents a threat to the fairness and equity of the system

RUC revenue is intended to be collected based on charging vehicles for the costs that they impose on the roading system. From this perspective, reduced vehicle GVM ratings (and therefore reduced RUC rates) should not be an issue as long as the vehicle does not overload, because the RUC recovered should be proportionate to the vehicle’s impact on the road (the impact on the road would not be higher than recovered through RUC on the vehicle).

A concern was raised by a transport industry association that if large numbers of vehicles move to a lower weight band and pay reduced RUC, NLTF revenue may be compromised. RUC rates are determined based on the forecast NLTF revenue needs, with RUC rates for various vehicle types and weight bands being calculated based on the average pavement wear and tear. In theory, if a large number of vehicles are de-rating to move to a lower weight band, or new vehicles are entering the fleet at a lower RUC band than anticipated, this could lead to revenue loss.

Interviews with national-level Ministry of Transport and NZTA personnel suggested that there has not been any identifiable impact on RUC revenue to date. As discussed in section 4.5.3, analysis of data does not suggest that vehicles are changing between weight bands to a degree that would impact on revenue. It was pointed out that revenue loss could only result if the proportion of RUC kilometres by weight band was significantly different from that anticipated when the rates were set. Any revenue loss that did occur would be short term only until the next annual RUC rates review, which would take into account any changes in volume.

While there may not be a significant impact on revenue, manipulating vehicle GVM may present a threat to the equity and fairness of the RUC system. An aim of the modernised RUC legislation was to enhance the fairness of the system by removing loopholes through which operators could

achieve a more advantageous RUC rate. If some transport operators are altering their vehicles' GVM to fit into a lower RUC weight band while others with a similar vehicle carting similar loads are not, this could undermine the intent to provide a level playing field for operators in similar circumstances.

4.5.5. The NZTA has clarified its position regarding recertification requirements.

The NZTA is taking steps to address the issue of vehicle GVM manipulation. Prior to the changes to the RUC system, in 2011, the NZTA issued a series of memos to vehicle re-certifiers. Of relevance is a memo issued in August 2011⁶ in response to evidence that some certifiers were de-rating heavy vehicles to "below various licensing or regulatory thresholds" after minor modification of the vehicle. The memo clearly outlines the requirements of chassis rating as defined in the Land Transport Rule Heavy Vehicles 2004. It states that:

"To just remove a spring leaf or resetting the set is not the intent of the chassis rating process nor does it meet the requirements of Clause 6.4(1) of the Heavy Vehicle Rule 2004 which requires...the replacement of an axle or suspension system with a different type of axle or suspension system"

**- NZTA Technical Bulletins Memo
57b**

It further clarifies that, where a vehicle is manufactured in more than one weight bracket (and has different specifications for each weight bracket), the vehicle must be modified to exactly match the vehicle sold by that manufacturer in that weight class. This may mean that modifications to the suspension, axles, drive line and brakes are required. Vehicle certifiers interviewed were aware of these requirements and stated that the NZTA had been very clear about what modifications did and did not meet the criteria for GVM rerating.

The memo also addresses the rerating of vehicles which are sold in different weight classes as variants of a base model. It clarifies that individual vehicles cannot change weight classes by "swapping the appropriate variant badges", noting that the manufacturer has made a decision regarding the vehicle's GVM and that this can only be changed by significant modification.

Several industry associations considered that the inability to easily change a lowered rating could be used as a lever to discourage the purchasing of vehicles with a lower GVM than the industry standard. It was noted that it is difficult to on-sell a vehicle with a lowered GVM as the vehicle can only be used for a narrow range of purposes and therefore the buyer market is limited. It was suggested that this could be publicised in order to discourage operators from making decisions to purchase a truck with lowered GVM or down-rate a current vehicle.

4.5.6. A policy could be developed to clarify the NZTA's position on assigning GVM to new vehicles

While the NZTA's position on recertifying vehicles already within the New Zealand fleet is clear (as described in section 4.5.5), there appears to be a lack of clarity around the Agency's position on the initial assigning of different GVMs to new vehicles with identical specifications. Interviews with NZTA personnel found a perception that the legislation required that the manufacturer-assigned GVM be accepted, and that there was little opportunity to challenge this.

⁶ NZTA Technical bulletins 5 Chassis re-rating, Memo 57b – 12 August 2011
<http://vehicleinspection.nzta.govt.nz/virms/hvsc/tb/chassis-re-rating>

However, representatives from industry associations and vehicle importers and manufacturers stated that they had been previously informed by the NZTA that the practice of assigning various GVMs on model variants is not acceptable, and that vehicles with the same chassis and cab must have the same model number, GVM and RUC weight band. There is some confusion regarding the NZTA's views on the issue, and several industry associations advocated for the development of a clear policy on what is and is not acceptable.

The evaluation found that prior to the NZTA restructure in 2012-13, work had been undertaken to develop such a policy statement. The evaluation team has not been able to obtain a copy of the draft policy. However, interviews with those involved found that the policy's focus was on clarifying requirements for vehicle GVM assignment at entry point into the fleet. Consultation on the policy position was held in 2013, but it was never implemented. A statement on the NZTA's website notes that the Agency *"has removed the GVM policy statement while we review its implementation relating to new heavy vehicles. In the meantime, the previous process for updating heavy vehicle GVM data applies and this will be communicated to current HV entry certifiers"*. Interviews with NZTA personnel found that the issue had stalled: it proved challenging to provide a robust process under which vehicles which genuinely required a lower GVM could be accommodated while at the same time discouraging 'badge engineering' to achieve a reduced RUC rate. It was observed that the policy development stalled with the NZTA restructure and has not been revived.

It is recommended that the NZTA recommence work to develop a clear statement of policy in relation to the assignment of vehicle GVM. This received strong support from industry associations spoken to as part of this evaluation. The policy could clarify issues that were raised by industry associations such as where the model number should be set (i.e. at the factory or on entry to New Zealand) and what vehicle specifications must be met in order for a vehicle to be considered a different sub-model and assigned a different GVM from its parent model. A review of the VDAM Rule is currently underway which is expected to change the definition of GVM. This is due for completion in the November 2016, and may present a good opportunity to also issue a policy statement addressing these matters.

4.6. Interaction with overweight permitting systems

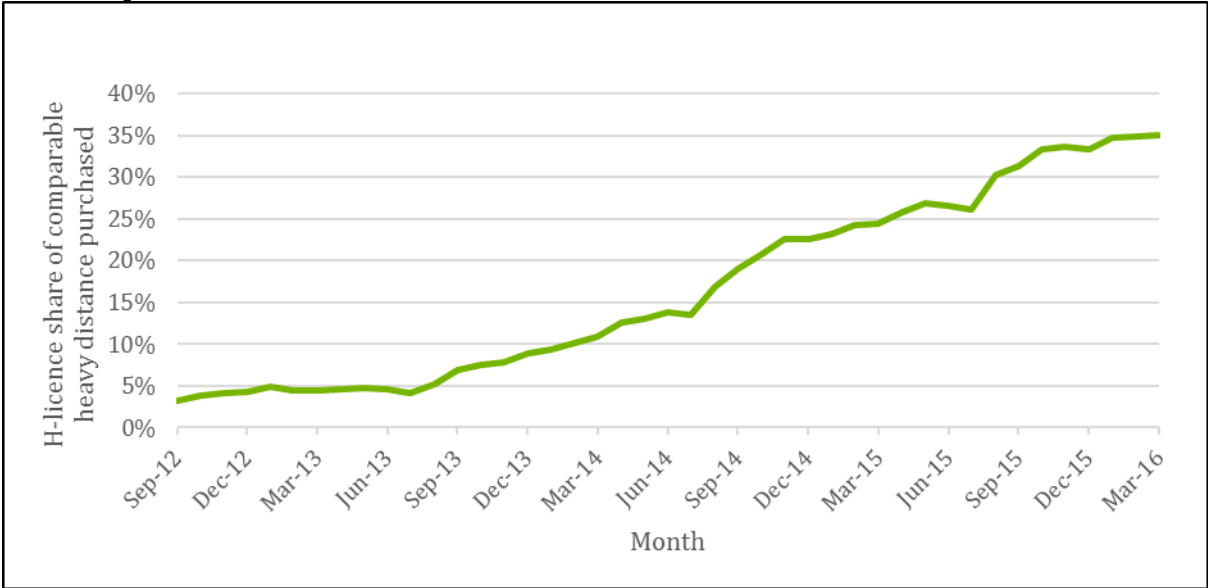
Vehicles that have obtained a permit to carry loads that exceed the VDAM rule mass limits must change from a standard RUC licence to an H RUC licence (or purchase an additional RUC licence). The H licence distance purchased has increased substantially, and the evaluation considered whether this has impacted on the RUC system, particularly in terms of revenue. Evidence suggests that the impact is minor.

Transport operators who wish to carry loads that exceed the mass limits of the VDAM rule can apply for an over mass permit. Non-divisible heavy loads that exceed 44 tonnes, such as boats, houses and roading equipment, must be carried under an overweight permit. Transport operators that carry divisible loads can apply for a high productivity motor vehicle (HPMV) permit if they wish to exceed 44 tonnes. Overweight and HPMV permits are route-specific, and can only be used on approved routes and bridges that can accommodate the additional mass as designated by the NZTA or other road controlling authorities (RCAs). Since late 2013 transport operators have also had the option of applying for a 50MAX HPMV permit. This allows vehicles with a specific configuration (nine axles and slightly longer than standard 44 tonne vehicles) to operate at a maximum weight of 50 tonnes. 50MAX permit holders can travel on a designated roading network which includes both state highways and local authority roads.

As described in section 4.1.3, overweight and HPMV permit holders have two options when purchasing RUC. Transport operators can obtain an additional RUC licence for specific loads, to be used in conjunction with the standard RUC distance licence, which pays RUC on the additional weight carried under the permit. The second option is to apply for an H RUC licence, which substitutes the standard type RUC licences for the powered vehicles, and are to be used in combination with the appropriate standard licences for related trailers. Similar to standard RUC licences, H licences are issued for defined weight bands. A special RUC rate for operating at 50 tonnes has been established for 50MAX vehicles.

Analysis of NZTA data shows that there has been a significant increase in H licence distance purchases over the last three years. Figure 11 shows that the H licence share of comparable heavy truck distance purchased has increased substantially, from under 5 percent prior to August 2013 to 35 percent in March 2016.

Figure 11: H licence distance purchased as a percentage of comparable heavy truck distance purchased^(a)



(a) In RUC evaluation cycle two, this indicator included heavy over-dimension vehicles in the definition of “comparable heavy truck”. The current analysis is concerned with the RUC system and therefore it is appropriate to exclude these vehicles. For this revised indicator, the definition of “comparable heavy truck” refers to RUC vehicle types 6, 14, 19, 308, 309, 408 and 409 with a licence weight of 6 tonnes or more. H-licence refers to licences purchased for vehicle types 811 to 899.

Looking at H licence purchasing trends across vehicle configurations, as displayed in

Figure 12 and Figure 13, confirms that there has been a significant increase in H licence distance purchased over the last three years. The increase has been particularly marked amongst seven- and nine-axle combinations.

The increase in H licence distance purchased for nine-axle combinations accelerates from early 2014. This coincides with the introduction of 50MAX permits in late 2013, the uptake of which is likely to account for the observed trend.

Figure 12: H licence total distance purchased per month by six- and seven-axle vehicle combinations (a)

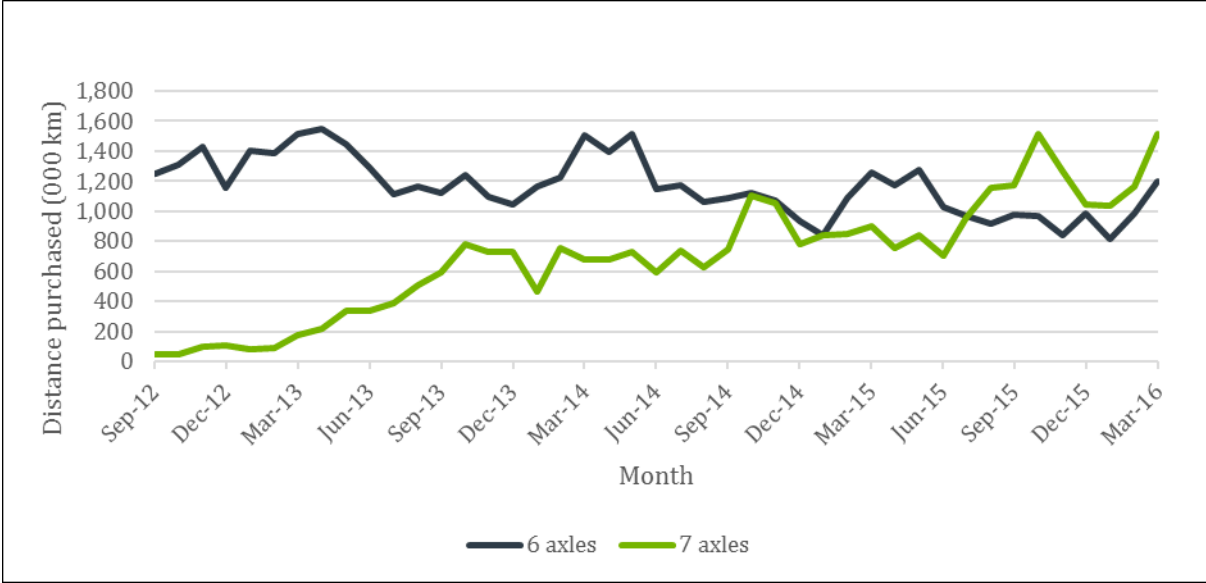


Figure 13: H licence total distance purchased per month by eight- and nine-axle vehicle combinations



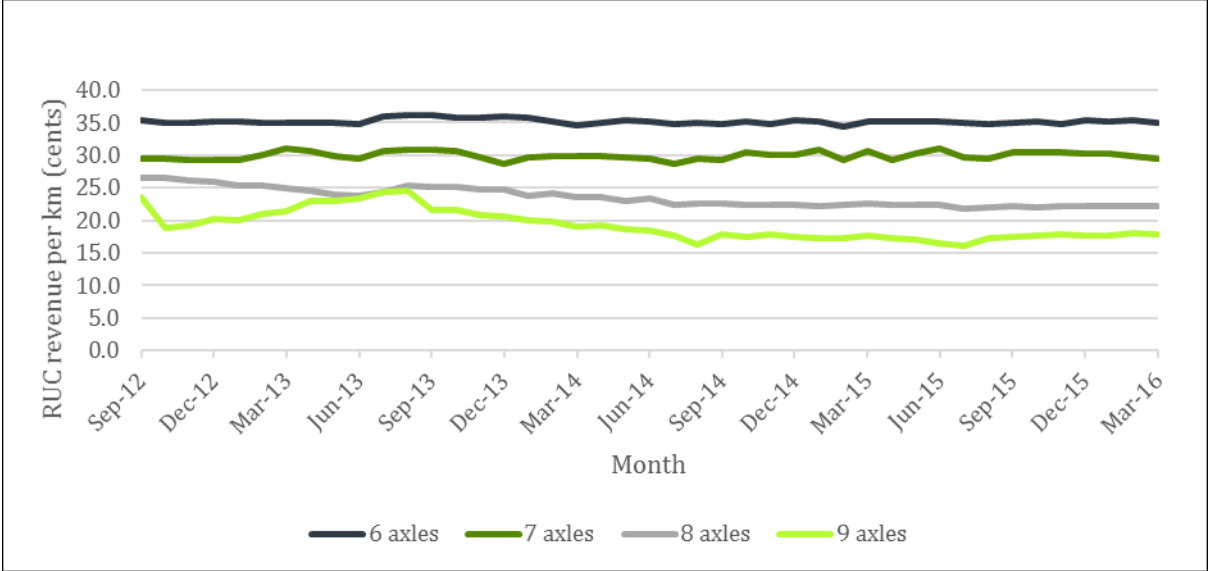
(a) The analysis of this indicator in RUC evaluation cycle two excluded H21, H22 and H23 licence types for which we had no information on axle configuration. These types have since been identified as type 19 in combination with type 951 (H21 and H22) and type 14 in combination with type 929 and 33 (H23). These licence types were used prior to the official regulations and have not been available since June 2014.

4.6.1. H licence revenue per kilometre has largely remained stable, with a slight downward trend for eight- and nine-axle vehicles

The evaluation team looked at total RUC revenue by vehicle axle configuration. The results are shown in Figure 14. The analysis considers revenue trends since the 2012 changes to the RUC system. As shown, revenue per kilometre has remained largely stable across the various combinations, but a slight downward trend is observable for eight- and nine-axle configurations.

During RUC evaluation cycle two, discussions with the NZTA and the Ministry suggested two possible explanations for the downward revenue trend per kilometre amongst four-axle vehicles. This may indicate a movement from standard HPMVs to 50MAX permits, as RUC rates for 50MAX (nine-axle) vehicles are less than for an eight-axle HPMV with the same prime mover.

Figure 14: H licence revenue per kilometre per month by axle configuration



4.6.2. The number of swaps between H licences and standard licences has remained stable

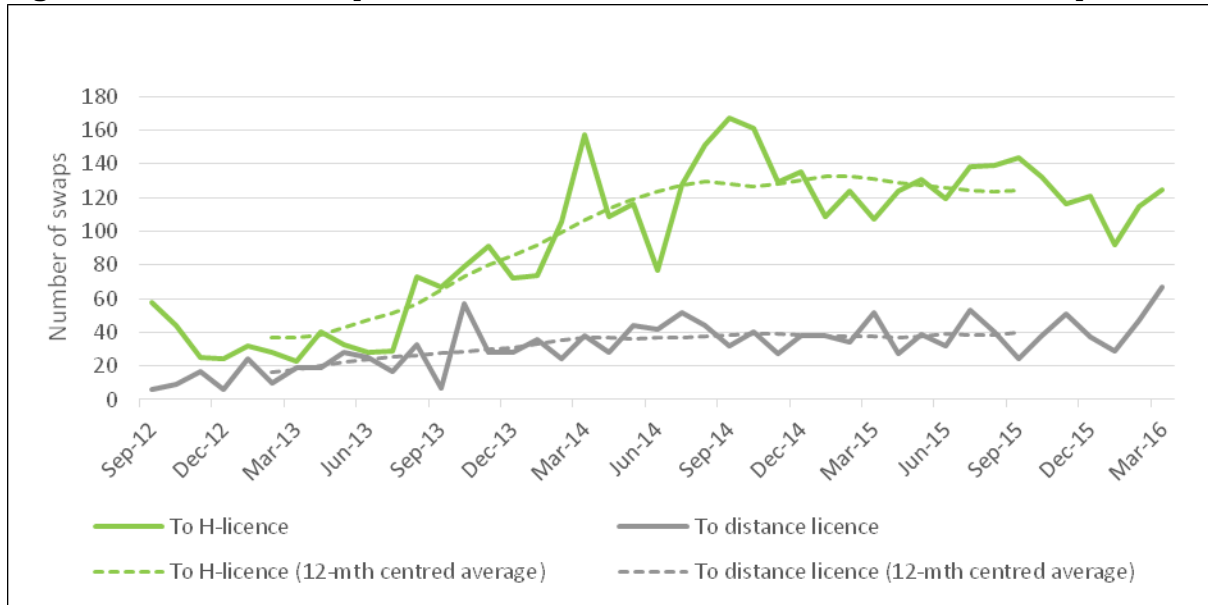
As outlined in section 4.1.3, the RUC system has been designed to discourage frequent swapping of licence types, requiring operators to submit an application form and pay an administration fee. Despite this, there is anecdotal evidence of operators frequently changing between licence types. As RUC rates are calculated based on the assumption that vehicles will run unladen 50 percent of the time, this could result in lost revenue if the vehicle operator uses an H licence when laden and changes to a standard licence (with a lower RUC rate) for the unladen portion of a journey.

This was investigated in evaluation cycle two which found that the number of swaps from standard to H licences is increasing, while the number of swaps from H licences to standard licences has remained relatively stable. This indicated that most of these vehicles remained on the H licence.

The analysis was revisited during this third cycle of evaluation. The total number of swaps between H licences and standard distance licences per month is shown in

Figure 15. This shows that there has been some swapping between licences, with the proportion of vehicles swapping to an H licence and from an H licence to a standard distance licence relatively constant since March 2014. The number of swaps from H licences to standard licences has remained relatively stable through the entire period.

Figure 15: Number of swaps between H licences and standard distance licences per month



The number of swaps to H licences and from H licences to distance licence by prime mover axle configuration are shown in Figure 16 (to H-licences) and

Figure 17 (from H licences).

Figure 16: Number of swaps from standard distance licences to H licences per month by prime mover axle configuration

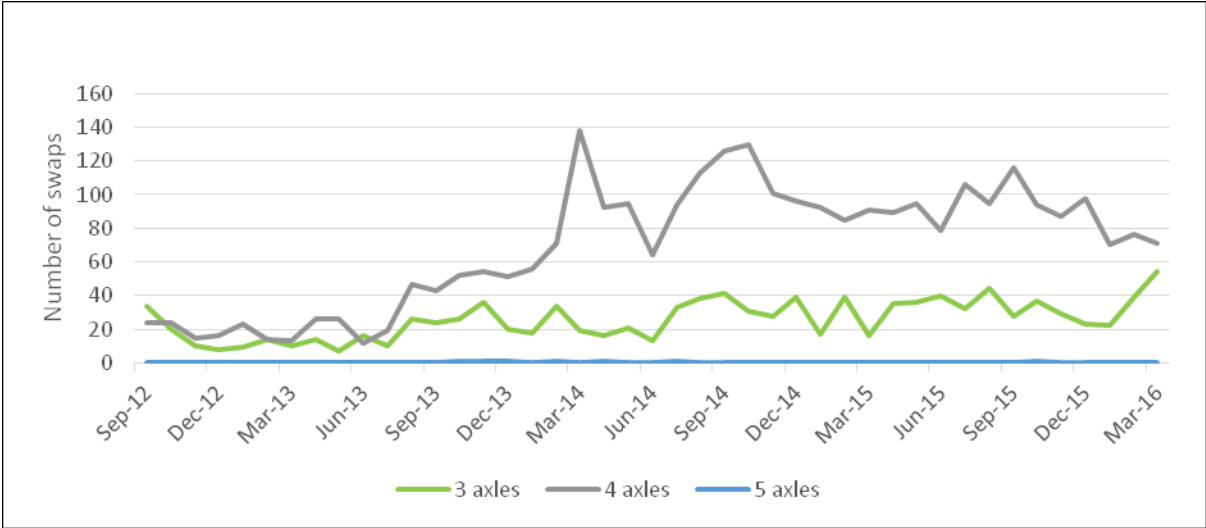
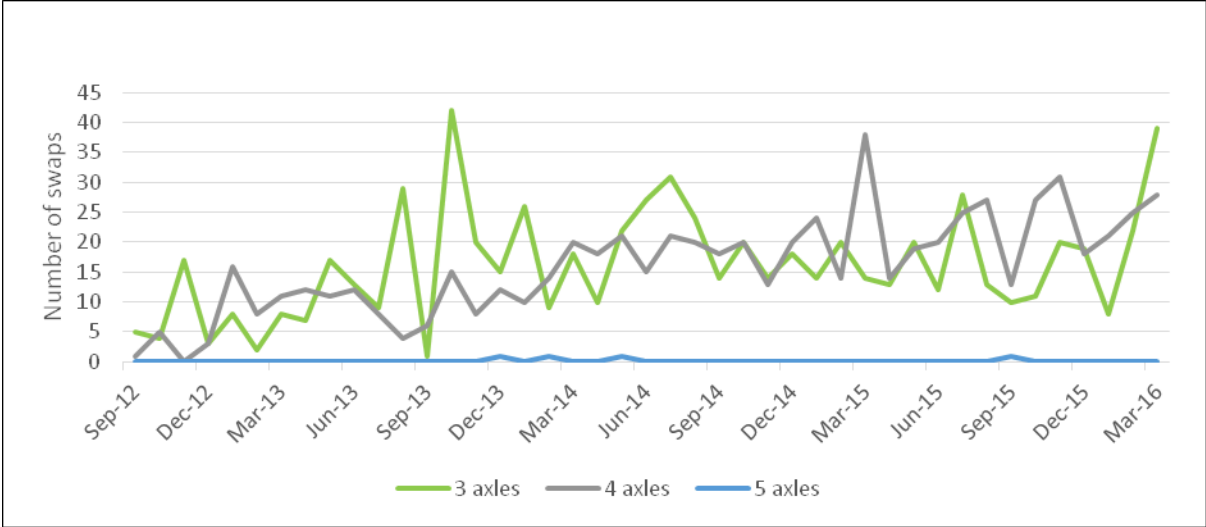


Figure 17: Number of swaps from H licences to standard distance licences per month by prime mover axle configuration



4.6.3. The lack of interaction between the RUC and permitting systems is creating administration costs for operators

The permitting process is complex as permits are issued by a range of road controlling authorities including the NZTA for state highways and territorial local authorities for urban routes. The NZTA has recently launched an online permitting system, the NZTA Truck Permitting Portal, which has meant that the process of applying for permits has become more integrated for the customer. This is a commendable achievement which received positive feedback from transport operators.

However, from an NZTA administration perspective, there remains a lack of ‘back office’ interaction between the RUC and permitting systems. The NZTA RUC Assessments team has no access to NZTA or local authority permitting records and therefore when processing change of licence type applications there is no way of cross checking that the operator actually has a permit when they apply for H RUC. This potentially allows operators to purchase H RUC without confirming the validity of the permit. While there is no evidence that this is occurring, concern was expressed that this could undermine the integrity of the both systems.

Several NZTA informants at both the national level and the operational level advocated for the development of a centralised database that lists current permits. The NZTA RUC Assessments team could then access this database to confirm the validity of permit numbers listed on change of licence type applications. Such a database could also be used to identify operators who have obtained permits but are not paying RUC on the permit.

4.7. Light diesel vehicles

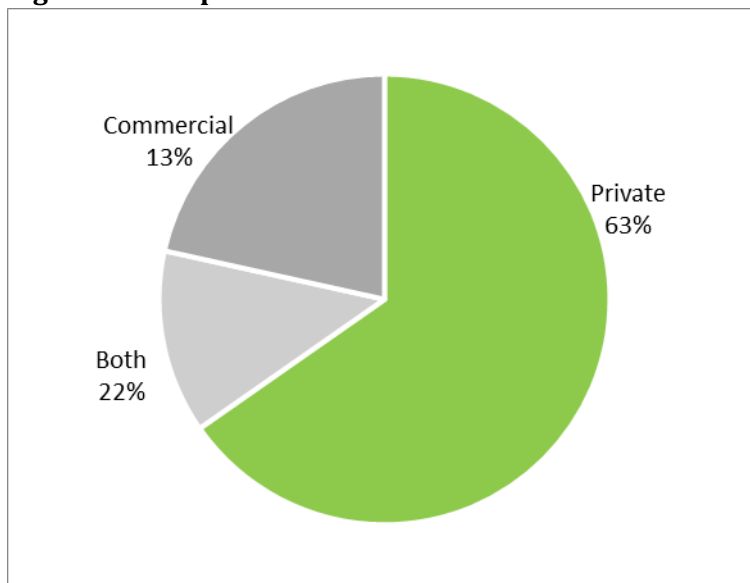
Light diesel vehicles (LDVs) comprise approximately 60 percent of the RUC distance purchased, but less than 30 percent of total RUC revenue. Most LDV owners purchase RUC infrequently. The evaluation built on and extended the issued explored during RUC evaluation cycle two, investigating LDV owners self-reported understanding of the RUC system and the extent to which LDV owners are compliant with their RUC obligations. The survey findings are similar to those of evaluation cycle two, but the larger sample size provides a greater level of confidence in the validity of the results.

4.7.1. Nearly forty percent of survey respondents believe that they have moderate knowledge of the RUC system

A key method of information collection during this evaluation cycle was a survey of light diesel vehicle owners. The survey was sent to 1600 LDV owners randomly selected from the vehicle registration database. A response rate of 37 percent was achieved, giving a sample size of n=587. This provides a statistically significant confidence interval of +/-5 and a confidence level of 95 percent. Generalising the survey results to the broader LVD owner population should be approached with caution as the survey analysis does not take into account the potential for selection bias (i.e. those that choose to complete the survey because they have strong opinions that may not represent the views of the total population).

Survey respondents were asked whether their vehicle was for private use, commercial use or both. Sixty-three percent of respondents used their vehicle in a private capacity, 13 percent in a commercial capacity and 22 percent of respondents used their vehicles both privately and commercially. This is likely to be an under-representation of light commercial vehicle users, and the results should be interpreted as mainly reflecting the views of private vehicle owners.

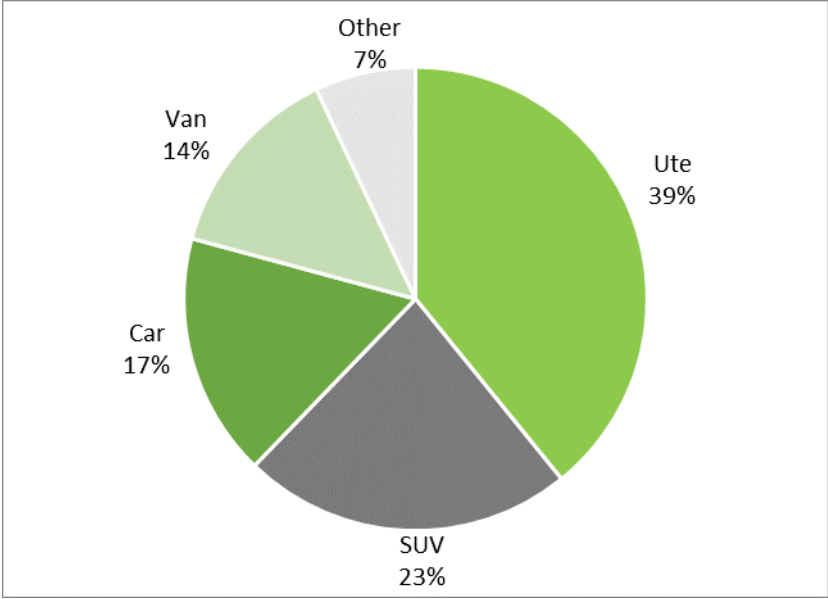
Figure 18: Purpose of vehicle use



Respondents were also asked which of the following best described their vehicle: car, van, sports utility vehicle, ute/pick-up truck or other (this included campervans and farm vehicles).

Figure 19 depicts these vehicle descriptions by survey respondents.

Figure 19: vehicle types owned by LDV survey respondents

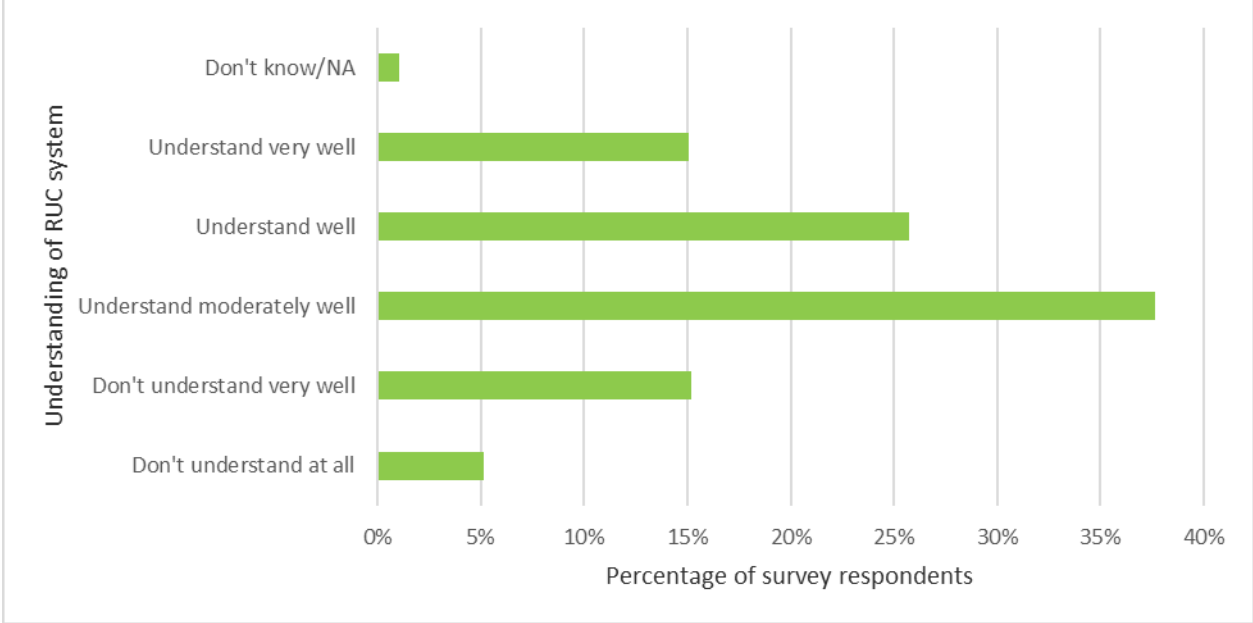


Prior to owning their current vehicle, 66 percent of survey respondents had previously owned a LDV, while 34 percent had not.

Survey respondents were asked why they had purchased a light diesel vehicle. The most common response was a perception that LDVs had lower costs in comparison to petrol vehicles. Survey respondents reported that diesel vehicles are cheaper to run, with better fuel economy for the kilometres done and lower maintenance costs than petrol vehicles. However, some of these respondents noted that, while they had previously thought this was the case, they no longer believe diesel vehicles are cheaper than petrol vehicles. For example, survey respondents commented that LDVs were “economic then, but not so now” or that LDVs were “supposedly cheaper to run”. Another popular reason for purchasing a LDV included torque and towing power for boats, horse floats and caravans. LDV owners also purchased vehicles because they were the most appropriate vehicle for their needs such as for use on rough terrain, off-roading, were a good size for their family or simply because they liked the vehicle.

There was a perception among government officials, industry associations, and operational level NZTA staff that LDV owners’ understanding of the RUC system is poor. LDV owners, in contrast to the perception of key informants, felt they understand the RUC system moderately well. The graph below depicts survey respondents’ self-ratings about their understanding of the RUC system. As shown, 38 percent of survey respondents believed that they have moderate knowledge of the RUC system.

Figure 20: LVD owners' self-ratings of understanding of RUC system



Survey respondents were asked to provide comments to support their answer about their knowledge of the RUC system. It was evident from these comments that many LDV owners have only basic knowledge of the RUC system or know that the RUC system exists but not the reasons why. LDV owners commented that they know they need to pay RUC, or that they understand enough to legally comply with their RUC obligations. However, they “don’t understand where the money goes”. Some LDV owners did not understand why LDVs had to pay RUC due to the perception that only heavy commercial vehicles damage the roads or the perception that the RUC fees are related to the environmental-friendliness of a vehicle. For example, one survey respondent commented “diesel is as clean a fuel as petrol so the logic behind RUC is flawed” and another said “I’m assuming RUC is for pollution reasons?”. Where LDV owners said they understood the RUC system, many felt they did not need to know more than the basics or that they knew the system well as a result of owning LDVs for business purposes. Survey respondents commented that they would welcome a breakdown of the amount of money dedicated to roads in various regions around the country.

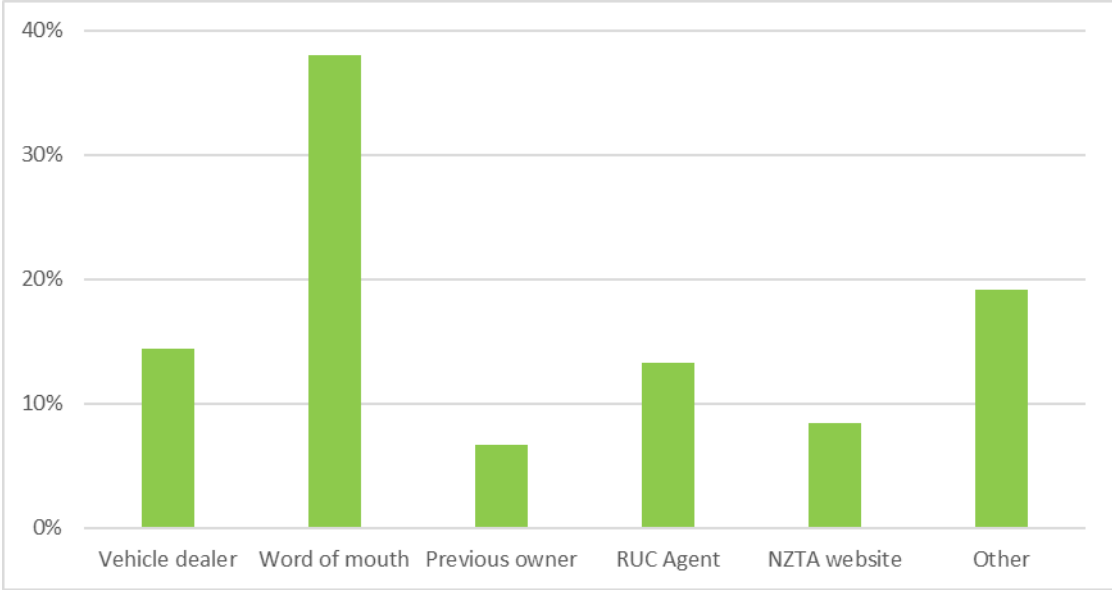
4.7.2. RUC obligations could be better communicated through formal communication channels, as most LDV owners find out about these informally

There appears to be a lack of formal communication channels between the NZTA and light diesel vehicle owners regarding RUC. The focus of the majority of NZTA and NZ Police’s communication and resources is directed towards heavy vehicle owners and commercial transport operators, as these comprise the bulk of the RUC revenue take. However, as highlighted in section 4.7.3 below, non-compliance though distance overrun is high amongst LDVs. It would therefore be beneficial for the NZTA to improve communication with LDV owners about their RUC obligations.

The survey results show that the majority of respondents found out about their RUC obligations through ‘word of mouth’ (38 percent) or for ‘other’ reasons (19 percent), predominantly that owners “just knew” about their RUC obligations because it was general knowledge, they had owned diesel vehicles or they had driven diesel vehicles for work. Only 21.7 percent of LDV

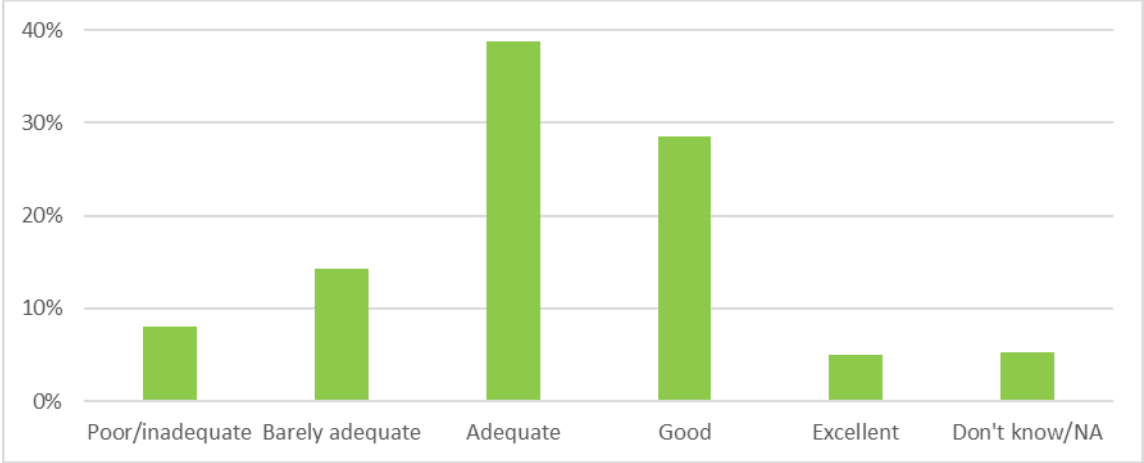
users had received their RUC education from a formal NZTA resource such as the NZTA website or through a RUC agent (NZ Post, AA, VTNZ or VINZ).

Figure 21: Source of information on RUC obligations



As shown in Figure 22 below, 39 percent of LDV owners surveyed rated the quality of information on RUC as adequate. A number of survey respondents commented that they had not seen any information on RUC and many of these respondents commented they do not feel they need to find this information and they “just pay”. However, other survey respondents actively sought out RUC information and reported the information was relatively easy to find and that the information on NZTA’s website is clear and concise. They also reported that RUC agents at the post office or VTNZ stations are helpful in providing RUC information when required.

Figure 22: Survey respondents’ perceptions of the quality of RUC information



Survey respondents were asked whether they had any suggestions to improve the RUC information available to light diesel vehicle owners. A common suggestion was to produce a leaflet or brochure containing RUC information particularly for newly registered diesel vehicles or for when a change of ownership occurs. Vehicle dealers should also have this RUC information on hand and should readily provide this to those purchasing vehicles. Many survey respondents suggested they could be better notified of RUC price changes and when their RUC

licence is up for renewal, with some stating they would like this communication via email. We note that this would be challenging to implement as notification of RUC licence renewal would vary in timing, depending on how much the LDV owner is driving, unlike renewal of the vehicle licence (the “rego”) which is based on set dates. Survey respondents also reported they would find it useful to receive a chart of the running cost of a diesel vehicle with RUC compared to a petrol vehicle. It is noted that this information is available on the Ministry of Transport website.

National level key informants agreed that communication about LDV owners’ RUC obligations at the point of vehicle purchase could be enhanced. Cases were reported of diesel vehicles for sale in car yards with the vehicle information sheet stating that the vehicle is not subject to RUC. The survey shows that 94 percent of vehicle owners knew that they had to purchase RUC when they bought the vehicle. However, the survey also shows that only 15 percent of LDV owners found out about their RUC obligations from a vehicle dealer. Organisations such as the Motor Trade Association could do more to ensure that their members are aware of, and communicate, RUC obligations. It was suggested that a brochure of RUC information could be inserted to change of vehicle ownership papers. This would ensure that LDV owners are informed by a reputable source of their RUC obligations as soon as they purchase a vehicle, particularly important for first time diesel vehicle owners. Of the survey respondents who had previously owned a LDV, 98 percent of these owners knew when they acquired the vehicle that they would have to pay RUC compared to 87 percent of first time LDV owners.

The NZTA has made attempts to develop resources to enhance LDV owners’ understanding of the RUC system. As well as providing education opportunistically during customer phone calls, the NZTA RUC Assessments team in Palmerston North described a number of initiatives that had been launched in a conscious effort to better educate LDV owners. These have included the development of an insert outlining LDV owners’ RUC obligations to be provided with the certificate of registration and for insertion into brand new vehicles. In addition, the team got in touch with a major car manufacturer to design an information sheet for the rear view mirror of new vehicles. However, there does not appear to be momentum behind these initiatives: they have stalled at the design stage are not yet complete.

It was reported that the NZTA are also beginning to use social media to educate LDV owners through posts on Facebook and Twitter. The NZTA Facebook page shows three posts on RUC since April 2015. There may be potential to increase communication through this medium, as the page has 10,000 ‘likes’, some of which are likely to be LDV owners.

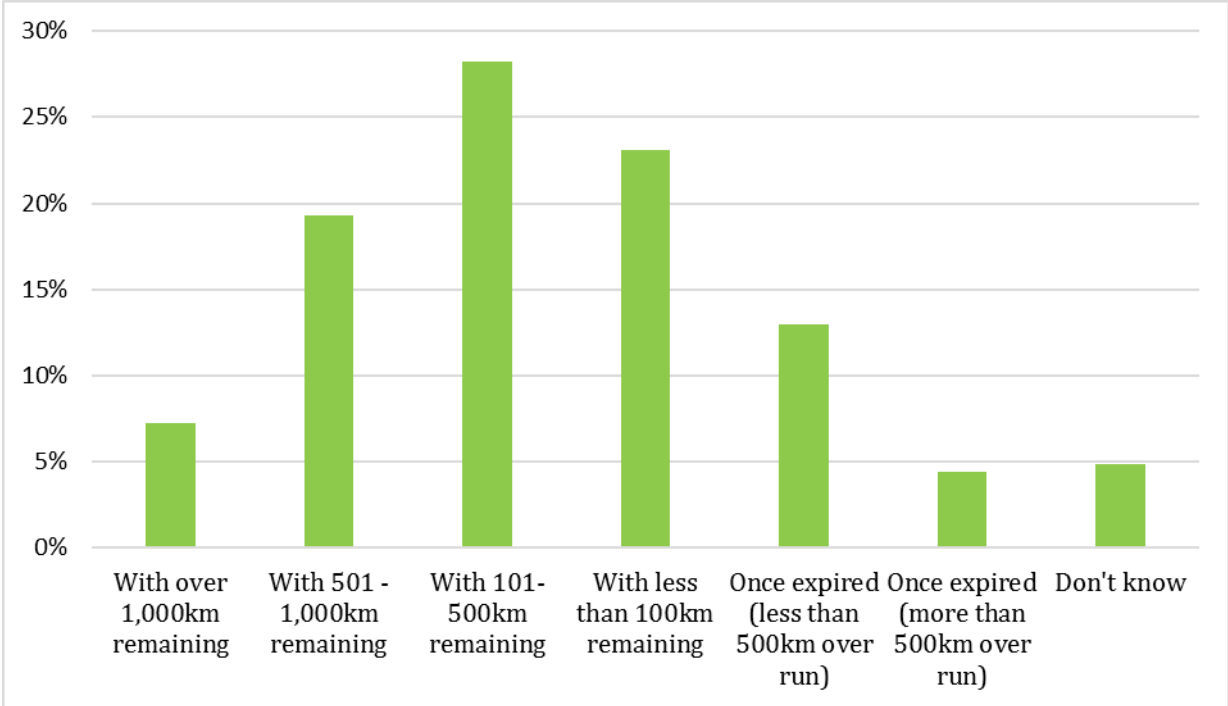
4.7.3. Distance overrun is prevalent amongst LDV owners

Among national level key informants, industry associations and operational level NZTA staff, there was a perception that non-commercial LDV owners want to be compliant with RUC obligations. However, there are a small number of LDV owners who deliberately evade the RUC system. The main risk amongst LDV owners is distance overrun.

Analysis of LDV survey data shows that, while most respondents purchase RUC while the current licence is still valid, 17 percent of people admitted to waiting until their current RUC licence has expired (i.e. they have overrun) before purchasing RUC.

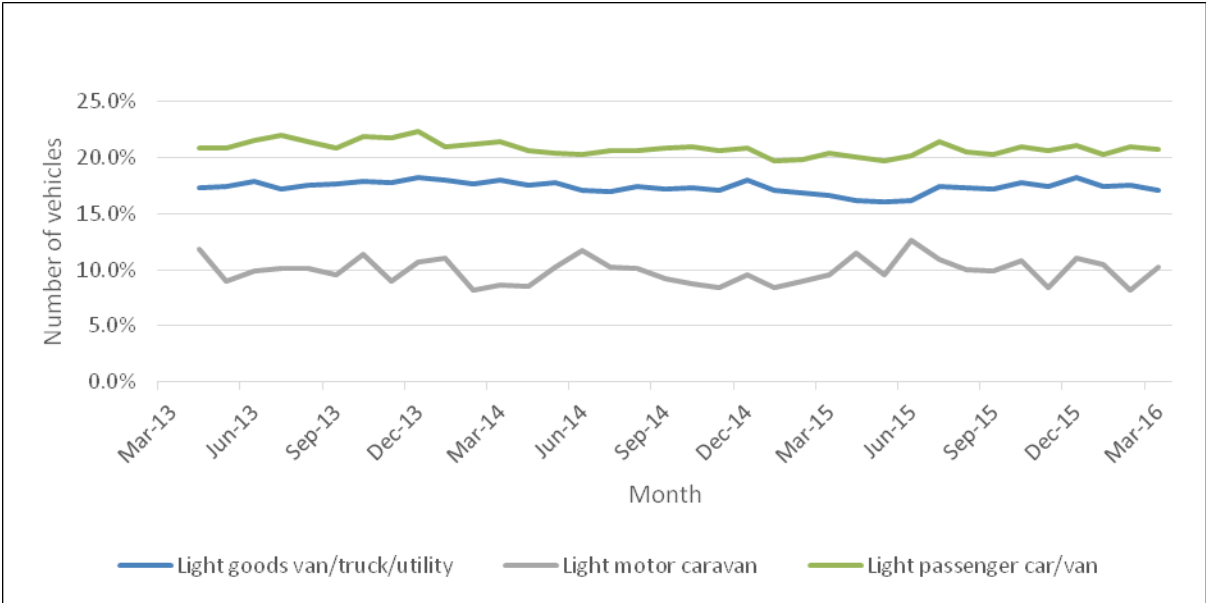
Figure 23 depicts this information.

Figure 23: Distance remaining on licence when LDV survey respondents purchase RUC



Survey respondents’ self-reported behaviours broadly align with the distance overrun figures revealed through analysis of NZTA data. Figure 24 shows the percent of LDVs that passed a warrant or certificate of fitness inspection with an overrun distance by vehicle type. The percent of vehicles with an overrun distance has remained steady over the period of analysis with 17 percent of light goods vehicles, 10 percent of light motor caravans and 20 percent of light passenger vehicles passing a WoF/CoF with an overrun distance.

Figure 24: Percent of LDVs that passed a WoF/CoF with an overrun distance by vehicle type



The average overrun distance for light goods vehicles and passenger cars/vans that pass a WoF/CoF with an overrun distance has fallen slightly over the period of analysis, as shown in Figure 25. The average overrun distance for these vehicle types was 4,000 to 5,000km in 2013 but this is now in the 3,500 to 4,500km range. The average overrun distance for light motorhomes passing a WoF/CoF with an overrun distance varies by month, with the average overrun distance for light motor caravans over the whole analysis period is 5,800 kilometres.

Figure 25: Average overrun distance of LDVs that passed a WoF/CoF by vehicle type

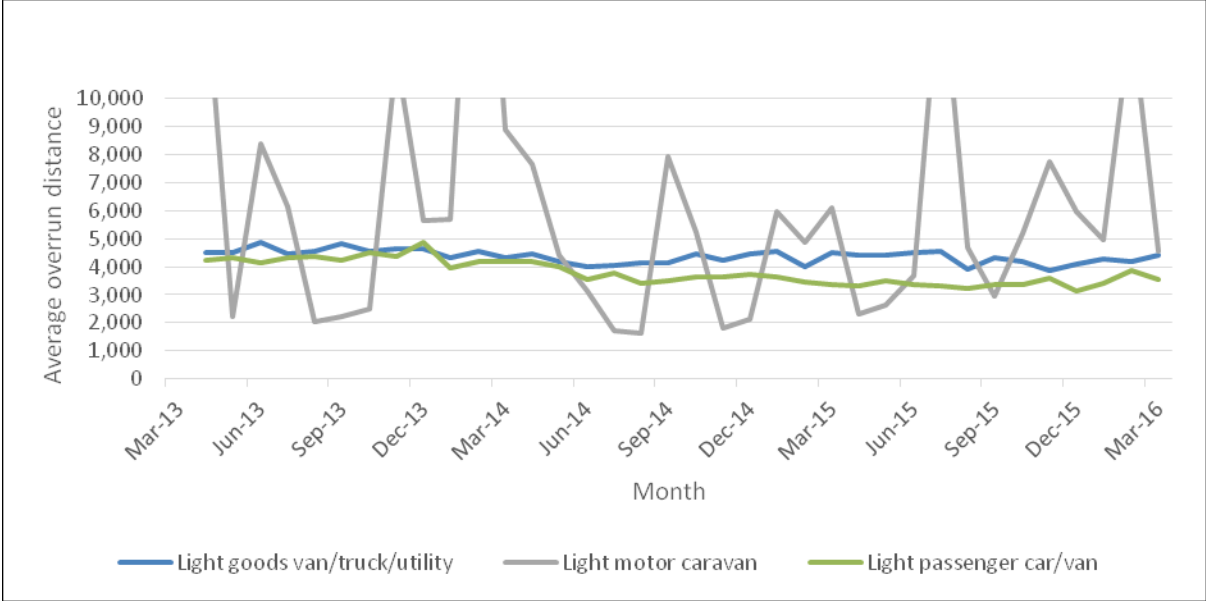
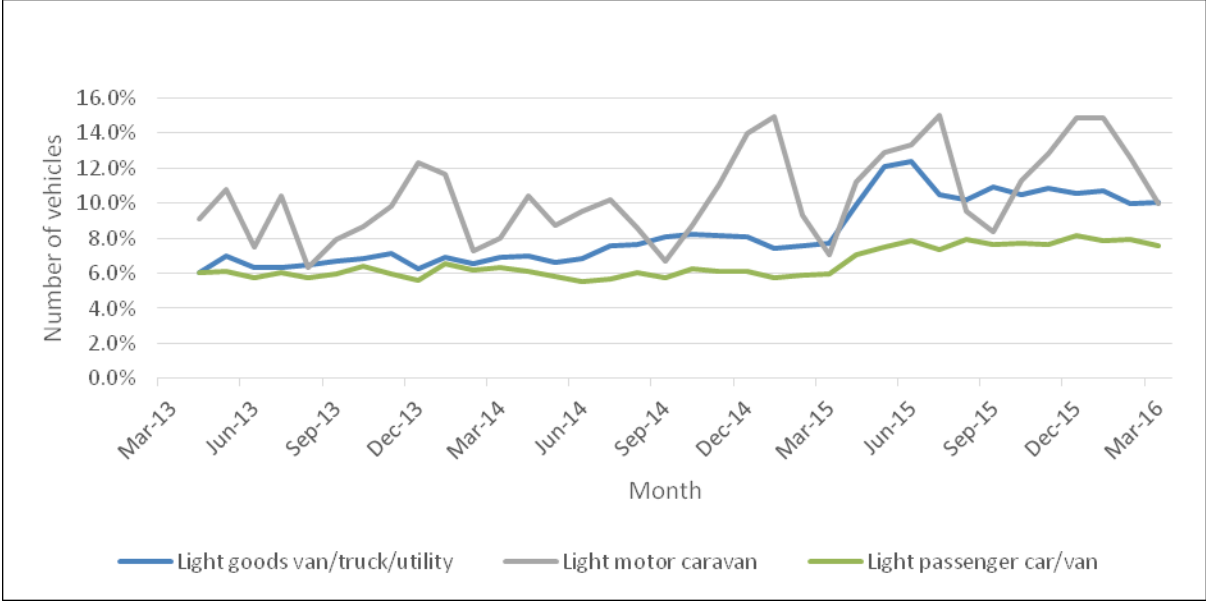


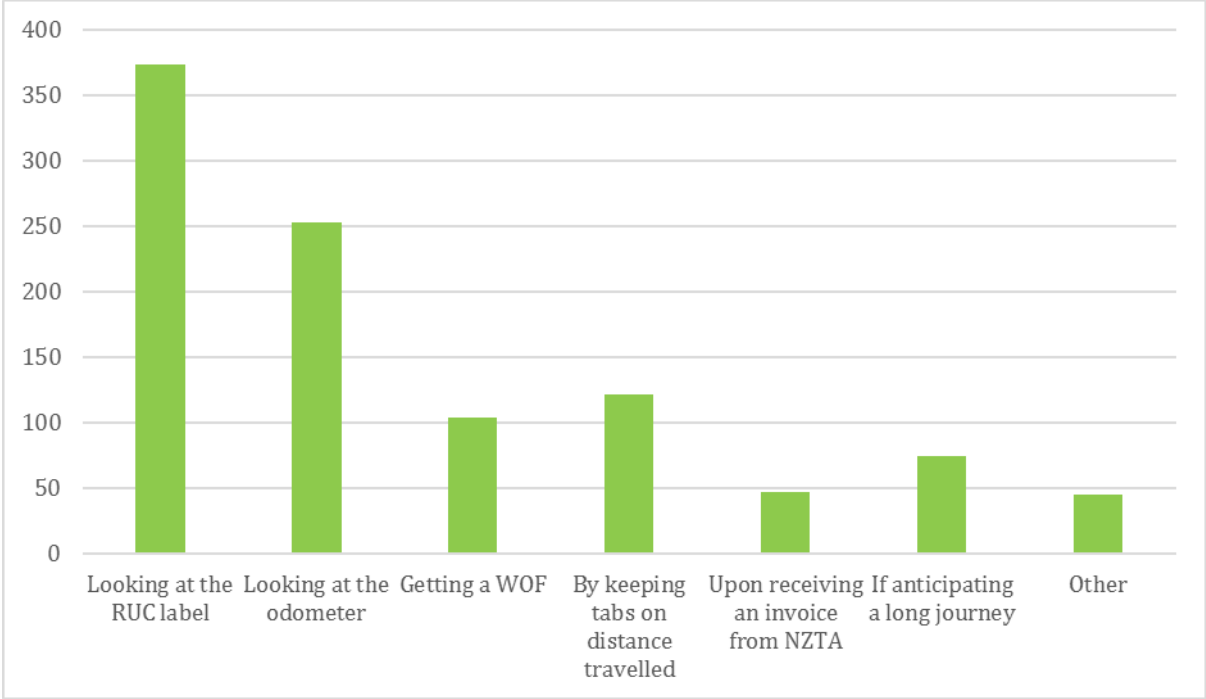
Figure 26 shows the number of LDVs that passed a WoF/CoF without having paid any RUC in the previous two years. The trends are relatively static, although there was an increase in light goods vehicles and passenger vehicles in mid-2015. Light motor caravans exhibit a strong seasonal pattern.

Figure 26 Percent of LDVs that passed a WoF/CoF with no RUC in previous two years by vehicle type



The issue of distance overrun is complex, insofar as it can be both intentional and unintentional. Discussions with government officials and industry associations suggested that the majority of non-compliance is likely to be unintentional with LDV owners forgetting to keep track of their distance travelled and distance remaining, and therefore overrunning the distance licence. As reported above, there is also a perception that some owners do not purchase RUC and instead wait for an invoice. The LDV survey asked respondents to indicate what triggered them to purchase RUC. Survey participants could select multiple responses. The results, displayed in Figure 27, show that the most common triggers to purchase RUC are looking at the RUC label and the odometer. Approximately five percent of respondents stated that they purchase RUC on receiving an invoice from the NZTA.

Figure 27: LDV survey respondents’ reported triggers to purchase RUC



Non-compliance amongst LDV owners may also be the result of intentional evasion. There were anecdotal reports of odometer tampering, such as installing an odometer switch. This is very difficult to detect as switches can be in many different places and are extremely hard to find. In addition, if odometer tampering is detected, there is nothing to measure this against (i.e. LDVs typically do not have other forms of distance recorders such as hubodometers) and therefore calculating RUC owed is challenging.

A commonly reported perception was that courier drivers are a group that have an incentive to engage in odometer tampering. The validity of this perception is difficult to measure. As may be expected, courier drivers spoken to during the case studies stated that they were unaware of this practice occurring within their industry. An NZTA official provided a report which showed that a random sample of 50 courier vehicles indicated that at least 20 percent had “suspect purchasing” (i.e. the amount of distance RUC purchased was lower than would be expected for the distance typically travelled by these vehicles). However, the small sample size means that this finding is not statistically valid and should be taken as an indication only, and a further larger sample size of 100 plus vehicles had much lower indications of evasion.

4.7.4. Consideration needs to be given to the RUC status of light hybrid and electric vehicles as the exemption is due to end in 2021

Light electric vehicles whose motive power is derived wholly or partly from an external source of electricity are currently exempt from RUC. This applies to battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), but not non-plug-in hybrids. Section 37 of the legislation states the Governor-General may, by order of Council, specify the period during which RUC is not payable in respect of light electric RUC vehicles. An order came into force in August 2012 which was due to end in June 2020. The exemption is to be extended under the recently announced Electric Vehicles Programme, which will see light electric vehicles exempt until they make up two percent of the light vehicle fleet, or until 2021. Therefore, the need to consider what will happen when this expires remains pressing.

Discussion with industry associations found an expectation that vehicles which are completely electricity powered will likely be required to pay RUC. Hybrid vehicles, however, which use both petrol and electricity, will be an issue as their low fuel consumption means that petrol excise tax will be insufficient to gather National Land Transport Fund revenue from these vehicles. One Ministry official stated that having hybrids exempt from RUC is an issue that is likely to get worse as uptake of these vehicles increases and a larger portion of the fleet are paying less. The issue needs timely consideration as people are starting to make purchase decisions about vehicles, and may be deterred from hybrid vehicles if they are uncertain about whether they will need to pay RUC on them in the near future.

Four possible situations were identified for when the exemption ends. The first of these is that no other changes are made to the law, in which case all plug-in hybrids become liable for RUC and owners of petrol PHEVs would be able to claim a refund on the petrol excise they pay (as owners of heavy vehicles powered by petrol do at present). However, this would be inconvenient for the vehicle owner and place an inequitable administrative burden on them compared with owners of other light vehicle types. Processing these refunds would also entail additional administration for the NZTA.

The second possibility is that the refund provision is removed. An industry associated expressed concern that this would mean owners of petrol PHEVs vehicles would be paying twice. The amount of excise paid is likely to vary with use of the vehicle and some hybrid vehicles will use more petrol than others.

A third possible solution is to charge a lower RUC rate for petrol PHEVs, in recognition that some excise tax will be collected through petrol consumption. This would require undertaking policy work to determine the discount that would be applied. As the level of discount would be likely to reflect the average amount of petrol consumed in PHEVs it would provide a windfall for some users, while others would still pay more tax in total than if they just paid full RUC.

A fourth solution suggested by industry associations was to further extend the exemption or to permanently exempt PHEVs from RUC. This would require an amendment to the Order in Council under section 37(2)(b), specifying a new period during which RUC are not payable in respect of light electric RUC vehicles. Exempting these vehicles could be an incentive for owners to purchase more environmentally friendly vehicles.

Given that the exemption is due to expire in approximately five years, and vehicle owners will soon start to make purchase decisions, we recommend that the Ministry begin to consider its position on permanent arrangements for hybrid vehicles and RUC.

4.7.5. There is a perceived lack of equity between LDVs and petrol vehicles

As found in previous evaluation cycles, some industry associations reported a perception that there is a lack of equity between light petrol vehicles and light diesel vehicles. Petrol vehicles pay less tax if they are smaller and more fuel efficient, whereas a diesel vehicle with similar fuel efficiency will pay proportionately more RUC.

All LDVs are in the same weight band (under 3.5 tonnes) and pay the same RUC, despite some vehicles being much larger than others. For example, a 3.5 tonne four-wheel drive is much larger than a 2 tonne hatchback. The public perception is that this is unfair, particularly when compared to the petrol tax system. A small, fuel efficient petrol car uses less fuel and therefore pays less tax; whereas a light, fuel efficient diesel vehicle pays the same tax as a heavier vehicle

with higher diesel fuel consumption. The petrol tax system therefore incentivises lighter, more environmentally friendly vehicles, but the RUC system does not.

It was noted that the principle of the RUC system requires allocating costs based on the damage the vehicle causes to the road, and that all vehicles under 3.5 tonne tend to cause the same damage. However, several industry associations were of the opinion that the Ministry needs to think beyond the cost allocation model, and consider other reasons to incentivise uptake of light vehicles such as environmental benefits. They suggested establishing two weight bands within LDVs, one for under 2 tonne LDVs and one for 2-3.5 tonne LDVs.

5. OUTCOMES OF THE MODERNISED RUC SYSTEM

Prior to the implementation of the RUC Act 2012, the Ministry commissioned *Allen + Clarke* to create an evaluation framework⁷ to measure the impacts of the new legislation. The Ministry had already identified four overarching objectives for the modernised system: equity, efficiency, cost recovery and integrity.

During the development of the RUC evaluation framework, the *Allen + Clarke* evaluation team worked with the Ministry to identify eight specific outcomes that operationalised the objectives into measurable standards of performance for the new RUC system:

- Reduced compliance costs for operators
- Reduced administrative complexity for government
- Reduced evasion
- Improved effectiveness and efficiency of recovery of unpaid RUC
- Simplified enforcement of RUC
- Reduced late payment
- Improved efficiency in vehicle use
- Enhanced RUC system through the use of electronic management systems
- Increased understanding of the RUC system.

This third and final cycle of evaluation is intended to provide a summative assessment of the new RUC system. The evaluation team have collated and considered the evidence gathered across all three cycles of information collection to provide an overall evaluative assessment of the achievement of these outcomes. A five-point rating scale has been applied to each expected outcome using traffic light indicators as shown below.



Outcomes have been rated as **fully achieved** where evidence suggests the new RUC system has attained an exemplary standard of performance in the topic under consideration. There is strong alignment from all data sources confirming that expectations have been realised. Any gaps or weaknesses are not significant and are being effectively managed.

Where an outcome has been rated as **mostly achieved** there is evidence that this aspect of the modernised RUC system has met most of the articulated expectations and led to positive change. There may be some gaps and weaknesses but these are not significant. There is likely to be minor scope for improvement and/or variations.

⁷ Allen + Clarke 2011. *Road User Charges Evaluation Framework*.

A rating of **partially achieved** has been given where performance has been mixed, with the RUC changes performing adequately on some aspects and not meeting expectations on other measures.

Outcomes that have been **minimally achieved** saw some progress toward the expected aims but performance may have been inconsistent or there may be significant aspects where little or no progress can be detected. There is a need for substantial adjustment or improvement before achievement of the outcome is likely.

A rating of **not achieved** indicates that there has been weak performance in relation to the topic under consideration. The system changes that have been implemented may not have been appropriate or there may have been negative consequences that are not being managed.

The evaluation team’s rating of the new RUC system’s performance against each outcomes, and a summary of evidence, is provided below. The data used to inform these ratings is mainly drawn from the body of this report. In some cases, the issue under consideration was not investigated as a key theme of this evaluation cycle. The evaluation team has updated the analysis undertaken in previous evaluation cycles to inform the conclusions against each expected outcome and have provided the detailed analysis in Appendix 1.

Expected outcome	Rating	Summary of evidence	Related objective(s)
Reduced compliance costs for operators	Partially achieved	<ul style="list-style-type: none"> + The increasing uptake of eRUC, which now comprises 26 percent of all RUC transactions, has resulted in a reduction in operator time spend on RUC administration. + Small savings have been achieved due to the removal of supplementary licences and adjustments to the administration fee structure. □ After an initial increase in average RUC distance purchased per transaction, the distance purchased has reduced to about the same as prior to the changes. This may reflect the ease of purchase using electronic delivery mechanisms. – Most operators purchased RUC at a set weight prior to the changes, meaning that there have been few administrative savings for individual operators from the implementation of set weight bands. – Changing RUC licence types is administratively cumbersome, requiring completing an application form and paying a fee. – The binding assessment process has placed the burden of proof on the operator. Operators reported that gathering evidence to challenge an invoice is time consuming. 	Efficiency
Reduced administrative complexity for	Mostly achieved	<ul style="list-style-type: none"> + The introduction of binding assessments has simplified NZTA RUC invoicing processes and has saved time by removing the need to obtain transport operator acknowledgement of liability. 	Efficiency

government		<ul style="list-style-type: none"> + Automatic issuing of distance assessments through warrant of fitness/certificate of fitness inspections is an efficient and effective way of identifying RUC debt, comprising 79.3 percent of all invoiced debt in the 2015/16 financial year to date. + Monthly invoiced RUC is lower in 2015/16 than the previous year, requiring less NZTA resource to process assessments. + The NZTA structure that was implemented in response to the RUC changes is leaner, with the RUC investigation and audit team reduced from 21 staff to four (with two vacancies). - The requirement for independent third party review of all disputed binding assessments is not cost effective as some debts are less than the cost of the review. 	
Reduced evasion	Partially achieved	<ul style="list-style-type: none"> + The removal of the operator nominated weight dimension has significantly reduced opportunities for evasion in vehicles under 44 tonnes. + The RUC Specialist Assessor team has increased their investigative activities, which is likely to provide a deterrent to weight based evasion. - Section 12 provides a loophole under which evasion can still occur by allowing overweight permitted vehicles to select the weight band at which they would like to purchase RUC. - Distance overrun remains high amongst LDVs. From March 2013 to March 2016, 17 percent of light goods vehicles, 10 percent of light motor caravans and 20 percent of light passenger vehicles were overrun at their WoF or CoF inspection. 	Equity Cost recovery Integrity
Improved effectiveness and efficiency of recovery of unpaid RUC	Partially achieved (tentative conclusion to be confirmed when data on recovery rates is received)	<ul style="list-style-type: none"> + The RUC Specialist Assessor team is now focused on the identification and recovery of RUC. + CVIR data sharing arrangements have resulted in better identification of RUC owed on overloaded vehicles. + The methodology for the recovery of weight-based RUC, including assessment of RUC owed across the whole of the distance licence has been validated by a recent court case. - Payment of invoiced RUC was reported to remain low (data on recovery rates will be added once received from the NZTA) - The RUC Specialist Assessor team has to input data from operator records themselves. This is an inefficient use of the Specialist Assessor team's time, skills and experience and is limiting the amount of investigations that can be undertaken. 	Efficiency Cost recovery
Simplified enforcement	Mostly	<ul style="list-style-type: none"> + Enforcement of RUC is simpler due to the removal of weight-based evasion for vehicles under 44 tonnes. 	Efficiency

of RUC	achieved	<ul style="list-style-type: none"> + Removing the need to prosecute minor offences through the courts has resulted in efficiencies for NZ Police. + The updated offences and penalties, such as for distance overrun, are seen as easier to administer. - The loophole for overloading permitted vehicles in section 12 of the Act means that Police still need to weigh vehicles over 44 tonnes. - A number of breaches are still chargeable offences, requiring substantial time to prepare court documents. 	
Reduced late payment	Partially achieved	<ul style="list-style-type: none"> + The proportion of RUC debt paid on time has seen an improving trend from evaluation cycle one (recovery rate of 14 percent) to evaluation cycle three (anecdotally reported recovery rate of 50 percent). - Half of all RUC debt remains unpaid on receipt of initial invoice. 	Efficiency
Improved efficiency in vehicle use	Partially achieved	<ul style="list-style-type: none"> + RUC is one of the drivers of vehicle purchasing decisions and is seeing a movement towards lighter vehicles and better tailoring to the intended use. □ Since 2012 there has been an increase in gross mass per vehicle across all categories, with an average increase of 0.35 tonnes in 2012, 0.38 tonnes in 2013 and 0.6 tonnes in 2014. This is likely attributable to growth in freight movements rather than as a response to the RUC system changes. - Transport operators reported little change in the way they load and use their vehicles. For example, most operators were already loading their vehicles to the maximum possible weight. - Section 12 of the RUC Act requires transport operators with overweight permits to have either an H RUC licence or a standard RUC licence plus an additional licence, limiting the efficiency with which operators can use their vehicles. 	Efficiency
Enhanced RUC system through the use of electronic management systems	Mostly achieved	<ul style="list-style-type: none"> + Uptake of eRUC has increased substantially from 7.8 percent of all transactions in 2011/12 to 26.0 percent in 2015/16 to date. + The code of practice for eRUC system providers has clarified the approvals process and the requirements for the EDR. + There are now two established eRUC providers and two further organisations undergoing the NZTA approvals process to become eRUC providers, offering increased competition in the market. + Operators reported that eRUC has enhanced RUC system through administration savings and certainty of compliance. - Continuous display requirements are outdated and are constraining opportunities for innovation. 	Efficiency Integrity

Increased understanding of the RUC system	Mostly achieved	<ul style="list-style-type: none"> + There was a consensus amongst government officials, industry associations and transport operators that new RUC system is simpler to understand and comply with, due to the removal of the need to estimate vehicle weight before purchasing RUC. □ While most LDV owners considered that they understand the RUC system at least moderately well, rates of compliance amongst this group remain low with up to 20 percent of LDVs overrunning their licence. 	<p>Equity</p> <p>Efficiency</p> <p>Cost recovery</p> <p>Integrity</p>
---	-----------------	---	---

6. CONCLUSIONS AND RECOMMENDATIONS

This section sets out our conclusions related to each of the key themes explored during this evaluation and provides a summary of the key evidence on which the conclusions are based. Where relevant, these have been followed by recommendations to enhance the ongoing implementation of the RUC system.

The Road User Charges Act 2012 provides a sound legislative basis for the RUC system, but could be enhanced through several amendments

Overall, the RUC Act provides an appropriate legislative basis for the collection of road user charges. The core tenant of the Act, using a banded system of standard weights and vehicle types, is seen as simpler, easier to administer and fairer than the previous system and is widely accepted by the transport sector. Since the Act's initial implementation, the Ministry has been proactive in identifying gaps and weaknesses, introducing amendments to address them.

The substantial remaining weakness of the RUC Act is Section 12. A number of issues have been identified: most significantly that it provides a loophole under which weight-based evasion can occur through overloading and not paying RUC on the additional weight. This undermines the integrity of the system and, if the RUC is not recovered, will result in revenue loss.

The evaluation has also identified that legislative provisions related to the NZTA's mandate to issue binding assessments to recover weight based RUC (section 53) are currently inadequate. While the Agency's approach has been endorsed in the judgement of an industry-initiated court case, this is provided for in the legislation by inference only.

A third area of weakness in the Act is that section 55 requires all operator-requested reviews of binding assessments to be undertaken by an independent party. There is no minimum monetary threshold at which vehicle owners can request a review and strict compliance with this requirement is not cost effective for the NZTA.

Recommendation one: Review and amend sections 12, 53 and 55 of the RUC Act 2012

We reiterate the recommendation of evaluation cycle two: that the Ministry, in partnership with the NZTA, undertake a review of Section 12 of the RUC Act. The section of the Act requires a comprehensive overhaul, and potential solutions should be devised in consultation with the transport sector.

While less urgent, two further areas are recommended for review:

- section 53 of the Act requires amendment to make it clear that the NZTA can issue weight based assessments, and that these assessments will be for the whole of the RUC licence
- section 55 of the Act could be enhanced by providing for a tiered review system whereby the NZTA has the ability to internally peer review invoices internally up to a certain monetary threshold.

NZTA processes for the identification and assessment of unpaid RUC are robust, but recovery of debt requires improvement

The NZTA has developed a strong system for identifying RUC owed, using both manual identification channels and automatic invoicing. Assessment processes have been significantly enhanced under the modernised RUC system by the binding assessment system, which shifts the burden of proof from the NZTA to the transport operator.

The recovery of debt has been highlighted as an issue throughout all three cycles of evaluation and recovery rates remain low despite the efforts of NZTA to improve this. Other than the penalty regime, there are few levers to encourage the payment of RUC owed. We conclude that stronger tools may be required.

Recommendation two: Investigate the implementation of stronger levers to encourage payment of RUC debt

This may include tools such as voluntary part-payments, instalments and allowing payment at a later date or not at all due to serious financial hardship and/or more serious measures such as directly debiting money owed from the debtor’s wages, seizing property and taking legal action which may end up affecting the person’s credit rating.

The capability of the RUC Specialist Assessor team has been enhanced but capacity is limited

The performance of the RUC Specialist Assessor team has recently been enhanced. The team lacked appropriate management and guidance following a restructure of the NZTA RUC investigative function in 2012-13 and it did not have a clearly defined role or focus. The past year has seen substantial improvement in performance with the team now following a standardised methodology to investigate and recover unpaid weight based RUC.

The financial returns achieved by the team have been modest to date, but it is probable that the improved management and focus of the team will result in increased value of recovered RUC. The team’s efficiency is currently constrained by the need to undertake data entry activities and the number of investigations that can be undertaken is limited by the small number of Assessors currently employed.

Recommendation three: Increase the capacity of the Specialist Assessor team

This should include the allocation of data entry resource to enable the Specialist Assessors to focus on the more technical aspects of the role. We also recommend filling the two Specialist Assessor vacancies which have remained empty since the restructure.

The current approach to encouraging eRUC uptake is effective

The Ministry’s market-driven approach to encouraging uptake of eRUC appears to be effective, with increased uptake rates identified during each of the three evaluation cycles. The government’s role under such an approach is to provide a regulatory environment which facilitates innovation and competition. Enhanced competition has been encouraged by clarifying and simplifying the approvals process and developing tools such as the code of practice.

The evaluation has found a perception amongst eRUC providers that the RUC legislation requires continuous display of the RUC licence. In fact, the RUC Act was modified in 2014 to allow for the licence to be “displayed or carried”. The misconception was incorrectly reported as a barrier to innovation by eRUC providers who believed that they could not offer features such as display of other documents such as the Transport Service Licence, registration and warrant/certificate of fitness.

Recommendation four: Communication with eRUC providers regarding electronic licence display requirements

Contact could be made with eRUC providers to clarify the legislative requirements regarding licence display and to clarify that display of other documents is possible with electronic licences.

The NZTA’s position on the manipulation of vehicle GVM is not clear

The practice of manipulating vehicle GVM is challenging to measure and difficult to address effectively. While impacts on RUC revenue are not currently detected, the integrity of the system may be compromised. The NZTA has released information clarifying the requirements for recertifying vehicles which are currently within the NZ fleet. However, there has been some confusion within the Agency and the industry regarding the legalities of assigning various GVMs on variants of the same vehicle model.

Recommendation five: Develop a policy statement clarifying the NZTA’s position on assignment of vehicle GVM

This may involve obtaining legal advice to clarify whether the legislation requires the NZTA to accept the manufacturer-assigned GVM. The policy could then clarify issues such as where the model number should be set and what specifications must be met in order for a vehicle to be considered a different sub-model and assigned a different GVM from its parent model.

The NZTA is limited in its ability to effectively oversee H RUC purchases

Increasing uptake of overweight vehicle permits has been observed during this evaluation, providing a range of productivity and safety benefits. The steady increase in total H RUC distance purchased has exposed some tensions in the interaction between the overweight permitting system and the RUC system. The NZTA team processing applications for H RUC licences currently does not have access to the permit database. This means that the Agency sells H RUC without the ability to confirm if the transport operator holds the relevant permits and therefore is eligible to purchase it. This could undermine the integrity of the both the RUC and permitting systems.

Recommendation six: Provide the NZTA RUC Assessments team with access to a centralised permitting database

Ideally such a database will allow for automatic checking of the validity of the permit number and pre-programmed selection of the appropriate weight band that matches the permit weight. Alternatively, access could be provided to existing permitting databases and audits could be conducted on H RUC purchases.

LDV owner non-compliance through distance overrun is prevalent

While the focus of NZTA communication and education is on commercial heavy vehicles, evaluation cycles two and three have revealed that up to twenty percent of LDVs were found to have overrun their distance licence at their warrant or certificate of fitness inspection. While not highlighting this as a key recommendation, we reiterate the recommendation of cycle two that it would be beneficial for the NZTA to improve communication with LDV owners about their RUC obligations by producing specific information about RUC that targets this group.

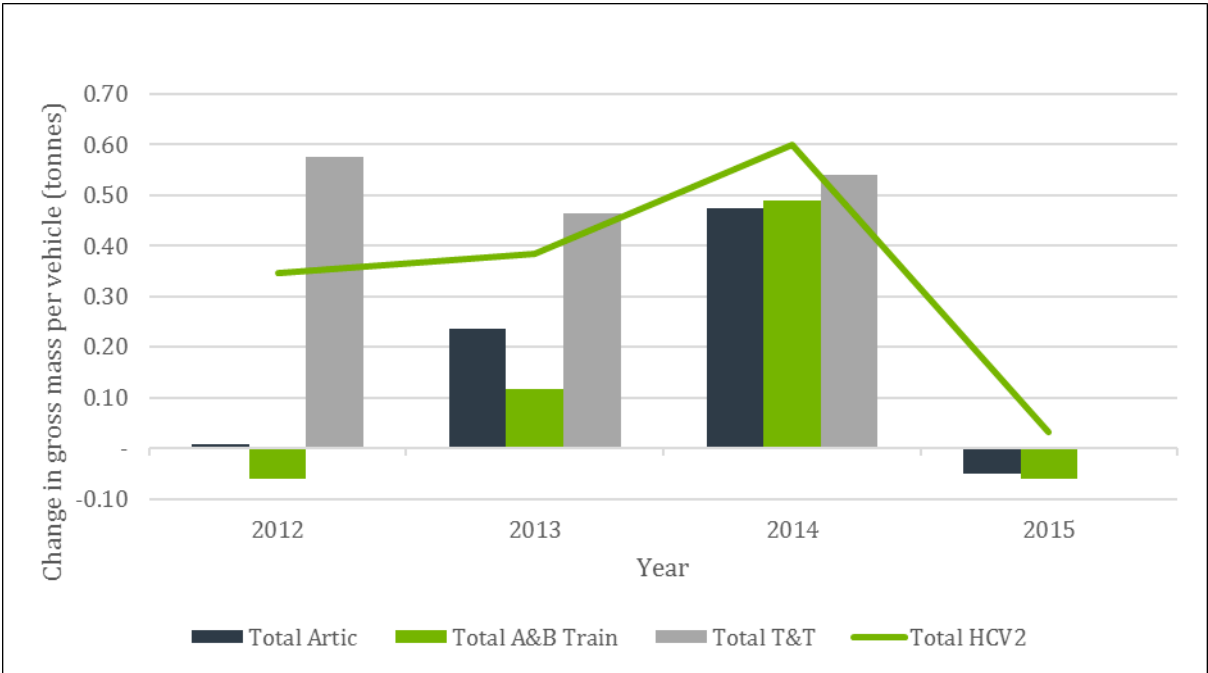
APPENDIX A: DATA ANALYSIS USED TO INFORM ASSESSMENT OF OVERALL OUTCOMES

A1 Change in average estimated gross mass per vehicle

A1.1 The average estimated gross mass per vehicle has seen an increase across all categories

This analysis was undertaken to determine whether operators are carrying more weight per vehicle (i.e. loading their vehicles more efficiently). Figure 28 show the change in average estimated gross mass per vehicle for heavy commercial vehicles.⁸ The figure shows that since 2012 there has been an increase in gross mass per vehicle across all categories, with an average increase of 0.35 tonnes in 2012, 0.38 tonnes in 2013 and 0.6 tonnes in 2014. Please note that no data is available for 2015 as the weigh-in-motion annual report is generally released towards the end of the following year.

Figure 28: Change in average estimated gross mass per vehicle across all weigh-in-motion sites^(a)



(a) Average gross mass per vehicle is calculated as total vehicle mass across all weigh-in-motion sites divided by the total number of vehicles across all weigh-in-motion sites (i.e. not weighted has been applied between weigh-in-motion based on AADT volumes).

Table 3 provides a further breakdown by PAT class for the main vehicle types (covering 95 percent of total gross mass across all sites in 2014). This shows an increase in average estimated gross weight across all vehicle configurations, suggesting a change at the systemic level. Interviews with transport operators found that there has been a growth in freight

⁸ EEM category HCMV2, which are truck and trailers, or articulated vehicles with or without a trailer, with 5 or more axles in total.

movement in the past two years and this may be the key factor contributing to an increase in the average gross mass per vehicle.

Table 3: Change in average estimated gross mass per vehicle across all weight-in-motion sites for HCV2 vehicles^(a)

Vehicle group	PAT class	Vehicle types	Axles	Share of task ^(b)	Estimated average gross mass per vehicle (tonnes) ^(c)				Change in estimate average gross mass per vehicle (tonnes) ^(d)			
					2012	2013	2014	2015	2012	2013	2014	2015
T&T ^(e)	891	00----00-00	8	37.0%	35.54	35.92	36.10	35.31	+0.56	+0.38	+0.17	-0.78
	751	0--00--00-00	7	12.3%	33.80	34.03	34.22	33.91	+0.31	+0.23	+0.19	-0.31
	915	00--00--00-000	9	10.8%	36.29	37.38	39.02	38.97	-0.94	+1.09	+1.64	-0.05
	77	00--00--0-00	7	2.1%	34.73	35.59	35.67	34.70	+0.38	+0.86	+0.08	-0.97
B Train	851	0--00--000-00	8	8.2%	34.68	34.42	34.73	34.40	-0.00	-0.26	+0.31	-0.33
	951	0--00--000-000	9	5.3%	36.31	36.87	37.40	37.99	+0.10	+0.56	+0.53	+0.59
Artic	69	0--00--000	6	7.0%	26.53	26.70	27.04	26.91	-0.02	+0.18	+0.34	-0.13
	826	00--00--00000	8	7.4%	33.20	33.24	33.64	33.14	+0.08	+0.04	+0.40	-0.50
	791	0--00--00000	7	3.5%	30.28	30.68	30.95	30.73	+0.00	+0.40	+0.28	-0.23
	53	0--00--00	5	1.5%	21.60	21.76	22.41	23.20	-0.49	+0.16	+0.66	+0.78

(a) Sourced from NZTA weigh-in-motion reports. Data is not currently available for 2015 as the weigh-in-motion annual report has not yet been released.

(b) Share of task is calculated using gross mass across all weigh-in-motion sites during 2014. Vehicle types shown cover 95% of total gross mass across all sites.

(c) Estimate average gross mass per vehicle is calculated as total vehicle mass across all weigh-in-motion sites divided by the total number of vehicles across all weigh-in-motion sites (i.e. not weighted has been applied between weigh-in-motion based on AADT volumes).

(d) Change on previous year.

(e) T&T = Truck and trailer (full trailer combinations).

A2 Change in average RUC distance purchased per transaction

A2.1 The average distance purchased per transaction experienced an initial increase but has subsequently reduced

The evaluation team looked at the average distance purchased per transaction for the 12-month period before, and each subsequent 12-month period following August 2012. The results show that average distance per transaction increased immediately following the changes to the RUC system but then experienced an annual decrease.

Table 4: Annual average distance purchased per transaction prior to and after August 2012 changes

Vehicle type ^(a)	Change in average distance purchased per transaction				
	Aug-11 to Jul-12	Aug-12 to Jul-13	Aug-13 to Jul-14	Aug-14 to Jul-15	Aug-15 to Mar-16
Light					
Light	6,991	7,049	6,964	6,624	6,391
Light Total	6,991	7,049	6,964	6,624	6,391
Heavy					
Heavy: Light	6,623	4,710	4,915	4,593	4,121
Heavy: Medium	4,090	4,226	4,019	3,882	3,679
Heavy: Heavy	2,879	3,505	3,502	3,298	3,222
Heavy Total	3,412	3,730	3,698	3,489	3,367
Grand Total	4,948	5,340	5,337	5,100	4,954

(a) Light = type 1 vehicles with a RUC licence weight of up to 3.5 tonnes (up to 3 tonnes before August 2012); Heavy: Light = vehicle types 1 and 2 with RUC licence weight of over 3.5 tonnes and up to 6 tonnes; Heavy: Medium = vehicle types 1 and 2 weighing over 6 tonnes; Heavy: Heavy = other vehicle types weighing over 6 tonnes.

Table 5 displays the above data as a percent change. The average distance purchased per transaction increased by 7.9 percent in the first year following the August 2012 changes but has fallen in subsequent years.

Given the reduction in distance purchased per transaction in the following years it is likely that the increase in the first year was due primarily to changes in the definitions and classification of light and heavy vehicles. The trend towards smaller distance purchases may reflect the ease of purchase using electronic delivery mechanisms which has grown substantially. As noted in section 4.1.5, the NZTA's recent focus on issuing weight based assessments across the whole of the licence may also be encouraging transport operators to purchase RUC in smaller increments.

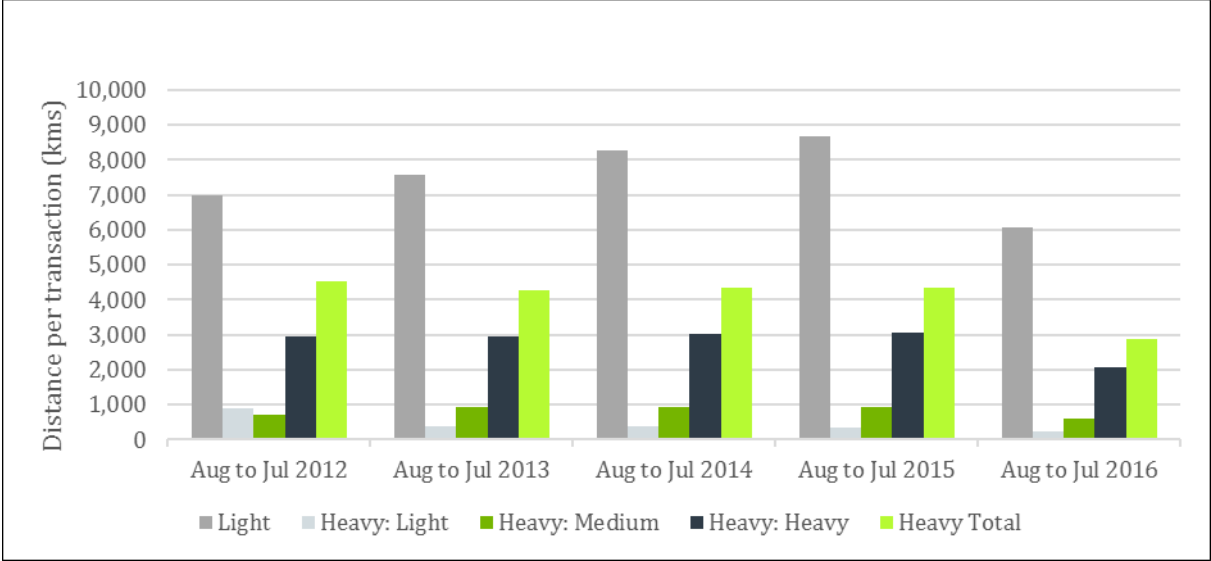
Table 5: Percent change in average distance purchased per transaction after August 2012 changes

Vehicle type ^(a)	Change in average distance purchased per transaction				
	Aug-11 to Jul-12	Aug-12 to Jul-13	Aug-13 to Jul-14	Aug-14 to Jul-15	Aug-15 to Mar-16
Light					
Light	-	0.8%	-1.2%	-4.9%	-3.5%
Light Total	-	0.8%	-1.2%	-4.9%	-3.5%
Heavy					
Heavy: Light	-	-28.9%	4.3%	-6.6%	-10.3%
Heavy: Medium	-	3.3%	-4.9%	-3.4%	-5.2%
Heavy: Heavy	-	21.7%	-0.1%	-5.8%	-2.3%
Heavy Total	-	9.3%	-0.9%	-5.6%	-3.5%
Grand Total	-	7.9%	-0.1%	-4.4%	-2.9%

(a) Vehicle categories are: Light = type 1 vehicles with a RUC licence weight of up to 3.5 tonnes (up to 3 tonnes before August 2012); Heavy: Light = vehicle types 1 and 2 with RUC licence weight of over 3.5 tonnes and up to 6 tonnes; Heavy: Medium = vehicle types 1 and 2 weighing over 6 tonnes; Heavy: Heavy = other vehicle types weighing over 6 tonnes.

The change in distance purchased per transaction is illustrated in Figure 29. On average light vehicles purchase RUC in larger increments than heavy vehicles. The recent downward trend in LDV average distance may reflect the substantial price increases (from \$48 per 1,000 kilometres in July 2012 to \$62 in July 2015).

Figure 29: Light and heavy vehicle average distance purchased per transaction



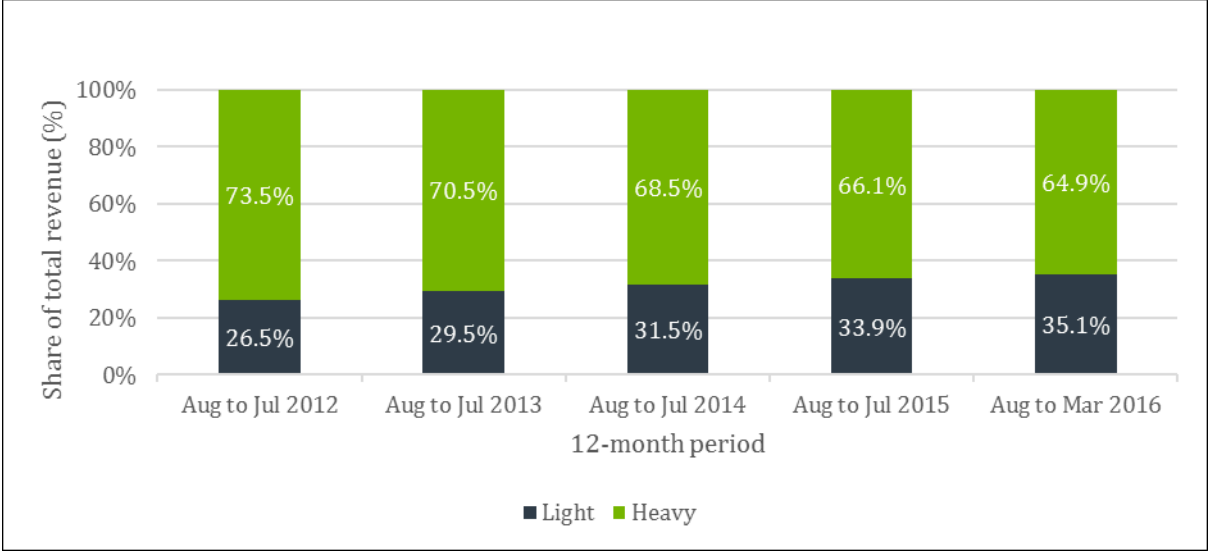
A3 RUC revenue

A3.1 The market share of RUC revenue light diesel vehicles has increased following the changes to the RUC system

As shown in Figure 30, the share of RUC adjusted revenue for light vehicles has following an upward trend since the August 2012 changes to the RUC system. The proportion of revenue paid by light vehicles (i.e. vehicles not more than 3.5 tonnes) has increased from 26.5 percent prior to the changes to 35.1 percent over the period of analysis.⁹

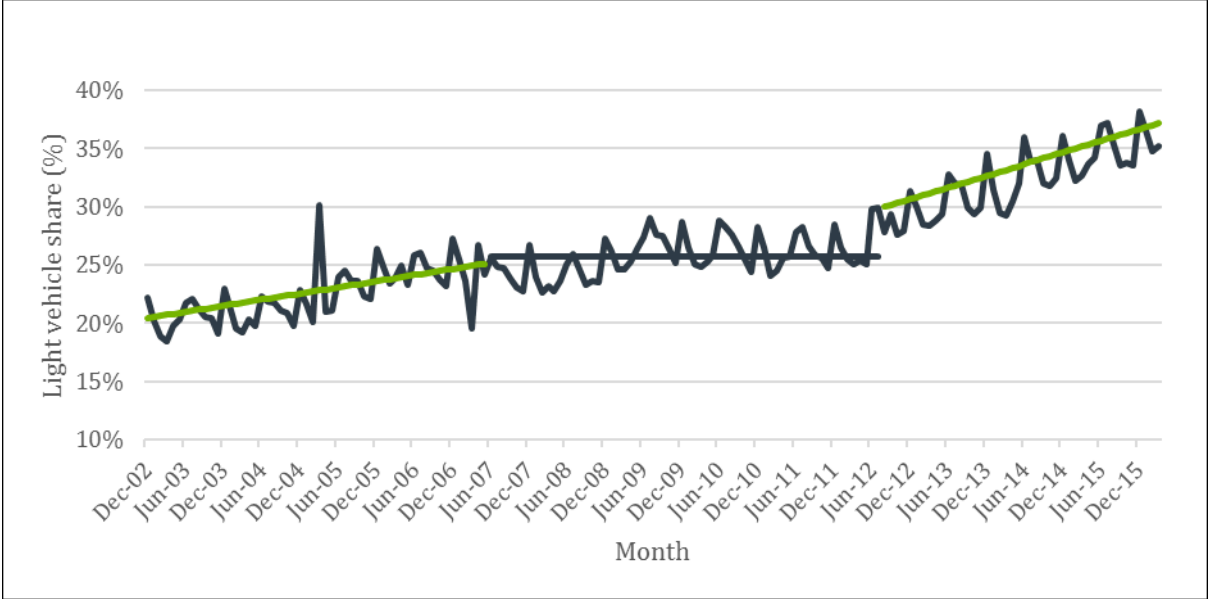
⁹ There was an error in the heavy vehicle index used for the analysis of this indicator undertaken during the second cycle of evaluation. The April 2007 price change was not included in the heavy index due to a database error. This resulted in an incorrect relatively between light and heavy vehicles revenue, which has been resolved here. This did not affect the conclusions, as main impact was to reduce light revenue share by 1.5 percent for both the 12-month period before and after the August 2012 RUC changes.

Figure 30: Annual change in proportion of RUC revenue by light and heavy vehicles after August 2012 changes



Looking at the longer term trend, as shown in Figure 31, the proportion of light vehicle revenue has been increasing since August 2012, but prior to this was relatively stable. The change in proportion of light vehicle revenue from August 2012 is likely to be attributable to changes in the definition of light and heavy vehicles. Prior to August 2012 the definition was based on the RUC licence weight purchased (i.e. the weight nominated by operators); after the 2012 legislative changes the definition was based on the set RUC weight of the vehicle. The increasing proportion of LDV revenue is also likely to be attributable to a deliberate policy of increasing light RUC more than heavy at each review. This is due to a 2008 discovery that light RUC rates were substantially lower than average petrol excise and recovered a smaller proportion of modelled costs than heavy RUC. This is unrelated to the 2012 changes to the system.

Figure 31: Long term trend of light vehicle share of total revenue by month over time



APPENDIX B: DATA CONSIDERATIONS

B1 Licence definitions

The following vehicle and weight classifications have been used throughout this report

Table 6: Vehicle and weight classifications

Vehicle classification	Definition
Light vehicle	Vehicle type 1 (passenger cars/vans, goods van/truck/utility, bus and motor caravan) with a RUC licence weight of <=3 tonnes (<=3.5 prior to Aug-2012). We also considered but ruled out defining light vehicles as all vehicles with a licence weight of <=6 tonnes, which is the definition used for the RUC price index.
Heavy vehicle	all bus, goods van/truck/utility, motor caravans, passenger cars/vans, and heavy trailer/caravans, excluding light vehicles classified above
Powered vehicle	All powered vehicles (i.e. excluding trailer/caravan). This includes light and heavy vehicles but often referred to as a subset of heavy vehicles
Trailer	All trailer/caravan vehicle types (non-powered). This is a subset of heavy vehicle.

The following licence types are included in the analysis:

- Distance (Distance, Gap¹⁰ and B-train¹¹ licences)
- Supplementary (pre-Aug 2012) – replaced by Additional licences in August 2012
- Additional (post-Aug 2012)
- High productivity (post-Aug 2012)

The following vehicle types are included in the analysis:

- 1-19, 311 (powered vehicles / prime movers)
- 24-43, 951 (trailers / unpowered vehicles)
- 929-939 (leading trailers in a B-train combination)
- 308-309, 408-409 (B-train prime movers)
- 501-561, 580-617 (additional licences for vehicle types/combinations). Vehicle types for additional licences 580-617 is UNKNOWN
- 811-899¹² (H-licences for specified combinations). Vehicle types 822-824 apply to type 19 and 14 prime movers (nine- or ten-axle combinations) and used as a temporary workaround prior to official regulations.

¹⁰ Gap refers to licences entered in manually, for example when a previous licence has lapsed, and are referred to as a manual debit. These are treated the same as distance licences.

¹¹ B-train refers to individual trailer vehicle licences, but that must be used in a specified combination, refer NZTA (July 2014) Road User Charges handbook, p35.

The following data was excluded from the analysis:

1. Invalid data:
 - a. Vehicle type or weight not specified
 - b. Invalid vehicle description for vehicle type
2. Special licences:
 - a. Time licences (RUC vehicle types 70-91)
 - b. Special trailer configurations (RUC vehicle types 125-149) and one tonne vehicles (RUC vehicle type 150)
 - c. Special purpose/off-road vehicle types (e.g. agricultural machines, special purpose vehicles, tractors, cranes etc.)

The description of the main RUC vehicle types before and after the August 2012 changes are shown in the following table, provided by the Ministry of Transport.

Table 7: Vehicle descriptions of RUC distance licence types

Vehicle description	Old types/weights	New types
Light vehicles		
Light passenger vehicle	1 (licence weights up to 3 tonnes) ¹³	1 (up to 3.5 tonnes GVM)
Light goods vehicle		
Light motor caravan		
Heavy powered vehicles		
2 axle trucks	1 (over 3 tonnes), 2	1 (over 3.5 tonnes), 2, 402 (vintage vehicle, from July 2013)
2 axle buses		
2 axle motor caravans		
3 axle trucks	5,6	6, 403 (vintage), 308 or 309 (B train prime movers), H types with type 6 prime mover (see RUC handbook, table 3)
3 axle buses	5,6	311, 403 (vintage)
3 axle motor caravans	5,6	6, 403 (vintage)
4 axle trucks	14	14,404 (vintage), 408/409, H types with type 14 prime mover (see table 3, RUC handbook)
4 axle buses or motor caravans	14	14, 404 (vintage)
5 axle powered vehicles	19	19, H types with type 19 prime mover (see RUC handbook)
Heavy trailers		
1 axle trailers	24	24
2 axle trailers	27,14,28,29,30	28,29,30,929,15

¹² Vehicle type 899 also refers to all terrain cranes in RUC regulations but here refers to high productivity licence type

¹³ There are some type 2 light vehicles but the proportion is negligible.

¹⁴ All type 27 became type 28

¹⁵ all 929 would previously have been 29

3 axle trailers	33,37	33,93916,3717
4 axle trailers	43	43
5 axle trailers	43 (but usually a special rate was given)	951

B2 Revenue adjustments

The Consumer Price Index (CPI) has been used to adjust all prices, with revenue expressed in real dollar terms as at March 2016. The CPI adjustment has been used for the “RUC revenue adjusted” series throughout, except where “RUC revenue raw” is explicitly specified.

NB: Previous analysis used the Ministry’s RUC price index for light (≤ 6 tonne) and heavy (> 6 tonnes) vehicles to remove effect of RUC price increases, but the Ministry has highlighted some limitation in these indexes and requested they not be used.

B3 GST treatment

Throughout this report the RUC payments **include** GST while the delivery mechanism fees **exclude** GST.

B4 Distance purchased adjustments

The RUC distance purchased has also been adjusted: 1) to ensure that licences types that are purchased in addition to the base licence are not included as additional distance travelled, and 2) to include the distance travelled for each vehicle that is part of a combination vehicle (i.e. include the distance travelled by each trailer in a combination vehicle). The effect is that the RUC distance adjusted is a measure of total vehicle kilometres travelled (prime mover plus trailers).

The RUC distance adjustment has been made by specifying a “multiplier” to apply for the distance travelled for each RUC licence and vehicle type as follows:

- Multiplier of 0:
 - Additional (post-Aug 2012) and Supplementary (pre-Aug 2012) licences¹⁶
- Multiplier of 1:
 - Distance (including Gap) licences
- Multiplier of 2:
 - High productivity licences for RUC vehicle types: 822, 823, 837, 861, 862, 871, 873, 874, 881, 882, 883, 892, 894, 895, 896
- Multiplier of 3:
 - High productivity licences for RUC vehicle types: 812, 819, 824, 830, 884, 885, 897, 898, 899

¹⁶ most 939 were previously 33, but some were 37

¹⁷ 37s which were tri-axle semi-trailers became 33 or 939

¹⁸ Also Time licences, but these are excluded from our analysis, refer data excluded from the analysis section.

B5 Data used in RUC evaluation cycle three, compared to evaluation cycle two

A new data set has been provided by NZTA from their RUC database. We note that the total number of transactions and distance purchased per month differs slightly between the two datasets, generally around 0.5 percent per month. This report updates the previous RUC evaluation cycle two analysis with the latest data set and should be considered to replace that previous analysis.

Also, as set out in section B2, revenue is now analysed in real terms but previously was adjusted using the Ministry's RUC price index to remove the impact of RUC price changes.