

REVIEW OF ROAD USER CHARGES

**SUBMISSION TO THE ROAD USER CHARGES REVIEW GROUP, C/- THE MINISTRY OF
TRANSPORT
7 NOVEMBER 2008**

BACKGROUND TO IPENZ

The Institution of Professional Engineers New Zealand (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 10,000 Members, including a cross-section from engineering students to practicing engineers to senior Members in positions of responsibility in business. IPENZ is non-aligned and seeks to contribute to the community in matters of national interest giving a learned view on important issues, independent of any commercial interest.

EXECUTIVE SUMMARY

IPENZ has concerns about the current road user charges system particularly that the current system does not adequately represent the actual road wear caused by the current and future spectrum of heavy vehicles. IPENZ proposes that a better relationship between charges and pavement wear is developed. In particular, IPENZ recommends that the road user charges system be amended to better reflect the configurations, suspensions, tyres and loadings of vehicles.

Another concern is that the current road user charges system is unfair to light diesel vehicles as they cost more to use despite being more efficient. To overcome this, IPENZ proposes that road user charges are removed from modern light diesel vehicles.

IPENZ also proposes that an electronic road user charges system be introduced to reduce the administration costs associated with road user charges.

Although outside the Terms of Reference for this review, IPENZ believes the funding mechanisms for transport need a substantial overhaul. In addition, IPENZ believes that the whole road network should fall under an electronic pricing regime. IPENZ suggests that non-surface transport such as shipping and air transport be included in a review of the *Surface Transport Costs and Charges Study*.

GENERAL COMMENT

The Terms of Reference for this Review specifically excludes matters relating to other costs not currently charged for through the National Land Transport Fund (NLTF) such as externalities, and is focussed on the adjustments to allocations within the existing funding mechanisms.

However, we would like it noted that we believe the funding mechanisms for transport need a substantial overhaul.

IPENZ notes that the New Zealand Transport Strategy (NZTS) proposes an evaluation of the costs and benefits of different options for generating revenue for potential introduction in the medium term. This evaluation includes consideration of charging based on the distance, time and location of travel, and the type and weight of travel i.e. electronic road pricing.

IPENZ believes that ultimately, the whole New Zealand road network should fall under an electronic pricing regime. There has already been extensive work on evaluating road pricing and studies in Auckland and Wellington have shown that road pricing has the potential to significantly reduce demand and are much more effective than the “soft” travel demand management (TDM) mechanisms.

National electronic road pricing also has the potential to be a much more effective means of matching benefits to costs (economic allocation) than the current fuel excise tax and road user charges. Currently, fuel excise is an average pricing system and the National Land Transport Fund is used to fund non-roading modes – public transport, walking and cycling.

The *Surface Transport Costs and Charges* study shows that overall rail users pay 77 per cent of their travel costs, road users pay 62 per cent of costs, and trucks, with whom rail must compete for freight, 56 per cent. Ratepayers fund eight per cent of road travel costs and taxpayers fund the remainder. These costs include environmental and accident externalities. Although these figures have been challenged, the important point is that environmental externalities need to be included. In addition, other modes of transport need to be included and we recommend that coastal shipping and air transport are included in future studies and in reviews of the *Surface Transport Costs and Charges* study.

Thus, it is the view of IPENZ that the government needs to take steps to evaluate the possibility for road pricing, and review the *Surface Transport Costs and Charges* study to incorporate non-surface transport such as shipping and air transport.

RESPONSE TO QUESTIONS POSED BY THE REVIEW GROUP

1. *What, if any, concerns do you have with the current road user charges system – for example, in relation to cost allocations between different types of vehicles (e.g., the use of averaging and urban/rural splits); mechanisms for charging heavy vehicles (e.g., the ‘4th power’ concept); levels of evasion; and how the system influences vehicle configuration or operator purchasing decisions?*

Fuel excise was funding an unfair share

There has been a significant change in the incidence of charging between fuel excise and road user charges. The *2007/08 National Land Transport Programme* (NLTP) estimates that road user charges would contribute 45 per cent (\$818 million) of the NLTF (excluding Crown contributions) and fuel excise would contribute 41 per cent (\$746 million). The balance was made up predominately of motor vehicle registration (\$219 million).

However, the *2008/09 National Land Transport Programme*, announced in June 2008, estimates that road user charges would contribute only 36 per cent (\$897 million) and fuel excise 52 per cent (\$1,285 million) of the NLTF. This showed a significant decrease in the share from road user charges and increased share from fuel excise.

It was thus clear that an increase in road user charges was warranted to restore the balance of the share of contributions from each of the main revenue sources.

Light diesel vehicles disadvantaged

The current charging regime is counter productive when applied to light diesel vehicles. Modern light diesel vehicles are more efficient than a petrol equivalent and should therefore be encouraged.

However, the current road user charge for light diesel vehicles means that the cost of use of such a vehicle is more expensive than the petrol equivalent. This discourages the use of light diesel vehicles despite their efficiency. Their use is further discouraged because diesel cars have higher registration costs.

By way of example, a diesel vehicle with a fuel consumption of five litres per 100 kilometres costs an estimated \$2.06 cents per litre to run when road user charges are included. This is in comparison to \$1.67 for a petrol vehicle using 91-octane petrol¹. Note that this calculation does not include registration cost differences. A further issue is that petrol and diesel price movements are not synchronised and the differential is not constant.

System does not reflect road wear

More fundamentally, the current system does not adequately represent the actual pavement wear caused by the current and future spectrum of heavy vehicles. This is due to the fact that the system does not adequately reflect modern heavy vehicle configurations, suspensions, tyres and loadings.

The current road user charges system is not adequately related to heavy vehicle configuration. Heavy vehicle configuration has an influence on the pavement wear caused by a vehicle and we note that while the current road user charges system does consider configuration to some extent, it does not include all the configurations that are now common.

In addition, the current road user charges system does not consider whether the suspension on a vehicle is road-friendly. The TERNZ and Covec Report entitled *Heavy Vehicle Road User Charges Investigation* states that “almost all new heavy vehicles are now being fitted with air

¹ Based on petrol and diesel prices of 4 November 2008.

suspensions which, in general, are road-friendly". As for configuration, we believe that suspension type should be part of a road user charges system.

Another factor that the road user charges system could consider is the tyres on a vehicle. The current system does take into account whether a vehicle has single or dual tyres. However, the system does not consider whether the tyres are standard width or wider. Given that tyre type affects pavement wear, IPENZ considers that tyre width should be considered in the road user charges system.

Finally, IPENZ believes that the road user charges system needs to consider loadings. The *Road User Charges* booklet from Land Transport New Zealand² states that "[road user charges] are calculated on the assumption that a vehicle travels at least 50 per cent of the time unladen". We consider that this assumption does not work for all vehicles. For example, logging trucks which are very seldom unladen as they are either carrying a load or carrying empty logging trailers. Therefore, while the assumption may be correct for the logging trailer, it is not correct for the logging truck and the road user charges system is not accurately reflecting the actual loading.

2. What, if any, opportunities are there for improving the current system (for example, in relation to concerns you have identified above and other matters such as reducing administration costs or the process for reviewing and adjusting charges, including consultation and notice of changes)?

Review mechanism

We note that the Road Transport Forum have publicly stated that the protests related to increasing road user charges in July 2008 were not actually about the increase in charges but rather about the timing and lack of notice of the increase. Those who protested were of the belief that the Minister had promised to give a month's notice, and had promised that this notice would be in a way that would prevent people buying in advance.

One potential focus of this review should be to introduce a regular review mechanism that provides adequate notice and prevents advance buying. Such a review mechanism could then ensure that funding available matches the needs of the NLTF.

3. What do you consider to be practicable alternatives to the current system? Please explain how the alternatives would work in practice.

Light vehicles

If road user charges are to continue then the cost to light diesel vehicles should be removed to encourage the use of these vehicles. Alternatively, if a complete removal of road user charges is not possible for all light diesel vehicles, then the road user charges could remain with utility and light trucks and could be removed from cars. The rationale behind this is that most utilities and trucks are, at least to some point, used to carry large loads, often for commercial purposes. This change would encourage the general public to purchase fuel efficient diesel cars.

² www.ltsa.govt.nz/publications/docs/road-user-charges.pdf

Concerns with the alternative of diesel taxes

IPENZ is aware that diesel taxes are an alternative to road user charges. However, IPENZ has concerns about diesel taxes. One of the major concerns is the difficulty in collecting a fuel tax given the large amount of diesel used for other than heavy road vehicles. If a tax was placed on all diesel vehicles, light vehicles will be further discouraged and non-road vehicles will be charged for roads they do not use.

In addition, the fuel efficiency of vehicles needs to be recognised. Heavier vehicles are more fuel-efficient and would therefore expect to pay a relatively lower charge than a smaller vehicle. If a diesel tax were to be introduced then fuel-efficient diesel vehicles would be penalised.

The most fundamental reason why IPENZ does not support a diesel tax is that the tax would not be related to pavement wear.

For the reasons stated above, IPENZ does not support the introduction of a diesel tax.

Develop a better relationship between charges and pavement wear

The current road user charges system uses the vehicle axle load and a relationship between axle load and pavement damage to estimate the cost (in pavement wear) caused by each vehicle. IPENZ notes that there is debate as to whether the fourth power relationship is appropriate. IPENZ does not have a view on this matter because we have not had the opportunity to review the analysis and basis for the fourth power relationship and alternatives. We note that the Heavy Vehicle Road User Charges Investigation report by TERNZ and Covec discusses the basis for the fourth power relationship and alternatives to it such as the second and third power rules. Given the debate related to this relationship, IPENZ recommends that further work should be done in this area to determine the most appropriate relationship for New Zealand conditions.

We believe that New Zealand should be striving for a more accurate system that encourages load and travel time optimisation.

As noted in response to question 1 above, IPENZ is concerned that the current system does not adequately reflect modern heavy vehicle configurations, suspensions, tyres and loadings. IPENZ recommends that the road user charges system be amended to more adequately consider vehicle configuration. We note that some road user charges classes contain more than one vehicle configuration and we recommend that the classes be amended so that each class represents only one configuration.

We note in particular that the vehicle types for unpowered vehicles with three or four axles could be further expanded. For three axle unpowered vehicles, the current road user charges has only two vehicle types - "one group of three close axles, all twin tyred" (type 33) and "any other configuration" (type 37). For four-axle unpowered vehicles, the current road user charges system has only one vehicle type - "any other configuration" (type 43).

The *Heavy Vehicle Road User Charges Investigation* by TERNZ and Covec³ recommends that the road user charges type 37 should be split into:

- a type for three-axle full trailers with twin tyres
- a type for three-axle semi-trailers with wide single tyres
- a type for three-axle trailers

The report also recommends that Type 43 be split into:

- four-axle full trailers with twin tyres
- one type for four-axle semi-trailers

IPENZ supports changes to the road user charges system to expand the vehicle types to better reflect the configurations that are in use.

IPENZ recommends that the current road user charges system be amended to consider the suspension on a vehicle. Where road-friendly suspensions are used, the road user charges should be lower to encourage the use of road-friendly suspensions.

We also recommend that the current road user charges system is amended to consider the type of tyres a vehicle has. As noted, the current road user charges system does consider whether a vehicle has single or dual tyres but not whether the tyres are standard width or wide. We therefore recommend that the system also considers whether the tyres are standard width or wide given this has an effect on the pavement wear caused.

Finally, IPENZ recommends that the road user charges system is amended to consider loadings. As noted above, an area that in which the current assumption that a vehicle travelling unladen at least 50 per cent of the time is not accurate is logging trucks. We recommend that the assumption that a vehicle travels unladen at least 50 per cent of the time is revisited to ensure the road user charges system reflect actual loadings as closely as possible.

IPENZ notes that the factors mentioned above vary from vehicle to vehicle and therefore including these factors in a road user charges system could be difficult. However, IPENZ believes that if the road user charges system is to be improved, inclusion of these factors is important so that charges are more accurately related to pavement wear.

e-Road User Charges

IPENZ considers that the current road user charges licensing system has high administration costs and as it uses averages in calculations it does not accurately reflect costs imposed by individual vehicles. IPENZ suggests that an electronic Road User Charges (e-RUC) be introduced. This could be seen as the first step towards the introduction of national road pricing. In a system of e-RUC, the road user charges would be determined based on the actual load on a vehicle for each trip and GPS information relating to the vehicle's trips.

The vehicle owner could then be charged electronically, which would dramatically reduce the administration required and allow more flexibility than the existing road user charges system.

³ TERNZ and Covec (2008). *Heavy Vehicle Road User Charges Investigation*, page 87

IPENZ notes that the introduction of GPS could be costly, however we believe that an e-RUC system would be utilised by regular travellers, particularly commercial vehicles.

An electronic road user charges system would have other benefits, due to its GPS capabilities, such as the ability for vehicle speeds to be monitored. For vehicle owners, the GPS capability in itself would be useful and additional benefits would include the ability to review distances a vehicle travels and plan for maintenance.

IPENZ notes it would also be useful if the e-RUC system could weigh the trucks, however we are unsure as to whether this is currently feasible.

4. What are the relative merits of alternatives compared to improving the current system?

As noted in our General Comments, we believe that the road user charges system needs a substantial overhaul and that this is preferable to improving the current system.

However, if the current system is pursued, IPENZ believes that the removal of road user charges from light diesel vehicles is important to encourage the use of modern diesel light vehicles, something the current road user charges system does not currently do.

Similarly, IPENZ believes that changes to the system to reflect the actual damage caused to a specific section of road by a specific vehicle configuration, load, tyres and suspension is important. This is particularly important as it will encourage road users (especially heavy vehicles) to use roads with better pavements that could more readily carry their loads.

5. If you consider that there should be a change in approach, what is your preferred option for managing the transition to the new or amended approach?

IPENZ has no comments in response to this question.

6. What likely future developments (e.g., technological, transport and fuel) should be taken into account by the Review and why?

The review should consider that future technologies will make more road-specific, season-specific and vehicle-specific charges even more feasible. The e-RUC proposed will also become more feasible over time.

7. Please provide any additional comments you may wish to make to assist the Review.

IPENZ has no further comments.

CONCLUSION

IPENZ appreciates the opportunity to make this submission and is able to provide further clarification if required. We do not wish to be heard in support of this submission.

Tim Davin
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