

Funding, Road Wear and Breaking Restrictions

Authors:

Alastair Lovell – Principal Planner, Auckland Transport
 Rob Douglas-Jones – Road Operations Manager, Auckland Transport
 Nik Vorster – Transport Economist, Auckland Transport
 Peter Scott – Southern Corridor Road Manager, Auckland Transport
 Graeme Salt – Geotechnical Pavement Engineer, Geosolve

RUCs and how they are distributed by NZTA

The Ministry of Transport is responsible for creating and maintaining the legislation and Regulations for Road User Charges¹ (**RUCs**).

All owners of diesel-powered vehicles pay RUCs at rates set according to the distance travelled and vehicle class². Factors such as the total number of axles, number of drive axles, gross weight of vehicle and number of wheels are used to classify a vehicle in a specific category (class) for the purpose of licensing and driver qualifications as well as setting RUCs³. Heavier vehicles cause more damage to the road surface hence they pay higher RUCs⁴.

Revenue collected from RUCs goes into the National Land Transport Fund (**NLTF**) along with excise duty collected from the sale of motor fuels. The NLTF is the primary funding source for the National Land Transport Programme (**NLTP**), which is allocated by NZTA for a range of activity classes benefitting road users. During 2012-2015, the NLTP⁵ expenditure was distributed in the following ways:

- State highways 41%
- Local roads maintenance and renewals 17%
- New and upgrading local roads 4%
- Road policing and safety 9%
- Public transport 10%
- Other 19%.

The most recent available data indicates that RUCs contributed 38% of revenue in the NLTF 2012-2015 revenue⁶. Excise duty collected from the sale of motor fuels was the major contributor to the NLTF over this time.

Auckland Transport's allocation of funding from NZTA

NZTA allocated \$1.28 billion to Auckland Transport during the 2012-15 NLTP period⁷.

Auckland Transport's road maintenance and renewal expenditure for the same period was approximately \$783 million (\$261 million per year) of which NZTA contributed approximately \$254 million (\$84 million per year)⁸.

¹ Ministry of Transport, www.transport.govt.nz/land/roadusercharges/light-petrol-vs-diesel/
² Ministry of Transport, www.transport.govt.nz/land/roadusercharges/light-petrol-vs-diesel/
³ Ministry of Transport, www.transport.govt.nz/land/roadusercharges/light-petrol-vs-diesel/
⁴ Ministry of Transport, www.transport.govt.nz/land/roadusercharges/light-petrol-vs-diesel/
⁵ New Zealand Transport Agency, www.nzta.govt.nz/planning/nltp-2012-2015/revenue.html; <http://www.nzta.govt.nz/planning/nltp-2012-2015/renewals.html> and <http://www.nzta.govt.nz/planning/nltp-2012-2015/levels.html>
⁶ Ministry of Transport, NLTF revenue series data, 2008-09 to 2012-13. Available at: <http://www.transport.govt.nz/ourwork/tmif/infrastructureandinvestment/ii016/>.
⁷ Auckland transport, Regional Land Transport Programme 2012-2015

The \$529 million⁹ shortfall was funded primarily by Council rates.

RUCs, road design and wear

As noted previously above, basic RUC rates are based on vehicle class multiplied by vehicle kilometres travelled (**VKT**), collected and distributed by NZTA at a national level¹⁰ hence cannot be readily allocated to a particular region, road, or land use.

Although all local roads are built to accommodate the standard legal commercial weight limit of 42 tonne, most local roads are not being specifically designed to industrial estate or state highway standard to carry a high number of equivalent standard axle loads (**ESALs**).

The damage caused to the surface of a local road not intended to carry a high number of ESALs can be significant and will accelerate the rate of deterioration, reducing the life of the road and increasing the renewal costs across the 25 year life of the road¹¹.

Road design therefore forms an important part of the existing environment under the RMA when considering the adverse effects of a land use activity, such as a quarry, being proposed as part of a resource consent application¹².

Brookby quarry road lifecycle renewal cost example

Brookby quarry is the most recent quarry in Auckland to propose a major expansion, and as a result it is also the quarry on which Auckland Transport has the most information .

The rural local roads surrounding Brookby quarry are not designed to a standard to carry high proportions quarry truck loadings. The degrading effects on these roads are significant and are projected to halve their 25 year design life before needing to be renewed again.

It costs \$750,000¹³ per km to renew a local road across its 25 year life where a local road is not being subjected to a high proportion of quarry truck loadings. The road will last its intended 25 year life cycle.

By comparison, Auckland Transport's Sothern Road Corridor Manager has projected that the renewal costs (**attached**) for the roads surrounding Brookby quarry will increase significantly to \$2,250,000 per km over 25 years.

This is approximately \$37.5 million of additional renewal costs if we include the 20km of road (within a 10km radius) surrounding Brookby quarry that are used heavily by quarry truck traffic.

This is a significant adverse effect of the quarry which should be spread fairly across the quarry operator's customer base rather than being subsidised by Council rates. This concept was accepted in the Brookby quarry Environment Court decision.

⁸ Auckland transport, Regional Land Transport Programme 2012-2015

⁹ Auckland transport, Regional Land Transport Programme 2012-2015

¹⁰ Ministry of Transport, www.transport.govt.nz/land/roadusercharges/light-petrol-vs-diesel/

¹¹ Rebuttal evidence of Graeme Salt

¹² Rebuttal evidence of Alastair Lovell

¹³ Auckland Transport, Southern Road Corridor Manager

Hunua and Drury quarries

It is worthwhile noting the (land use) resource consents under which Hunua and Drury quarries operate are very old and therefore have no restriction on truck movements. The road lifecycle costs for Hunua have not been calculated but would probably be similar to Brookby. Drury, with its proximity to the State Highway network is less of a concern.