



Working with what we have

## **Resilience for the Future**

Whakamahinga ki ngā mea kei a tātou:  
He manawaroa mō ngā rā anamata  
Transportation Conference 2026



# How can an imaginative use of eRUC drive equitable and resilience transport outcomes

Prof Simon Kingham

**Ahorangi, Te Kura Aronukurangi | Professor, School of Earth & Environment**

Te Whare Wānanga o Waitaha | University of Canterbury

# Context

- Changing way we raise revenue
- Shift to electronic Road User Charges (eRUC)
- What could happen?

# Main contributors at the national level

- Fuel Excise Duty (FED)

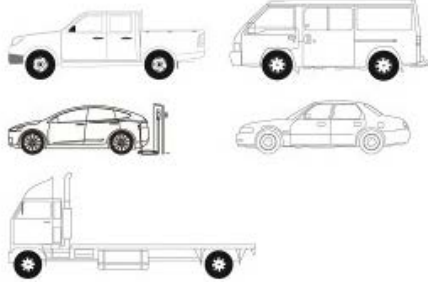

- Currently 77 cents per litre (petrol)
- Collected at source (when refined fuel leaves refinery or is imported)
- Amount of FED is related to distance travelled and fuel efficiency of vehicle
- FED is simple to collect, low compliance costs and unavoidable

	Unleaded 91 Petrol	Unleaded 95 Petrol	Petrol/ Ethanol Blends	Automotive Diesel	Biodiesel	Methanol	LPG
National Land Transport Fund	70.024	70.024	-	-	-	-	10.4
Methanol Excise Duty	-	-	-	-	-	30.2	-
ACC <sup>1</sup> Levy	6	6	6	-	-	-	-
Petroleum or Engine Fuel Monitoring Levy	0.72	0.72	0.72	0.72	0.72	-	-
Local Authorities Fuel Tax	0.66	0.66	0.66	0.33	0.33	0.66	-
<b>Totals</b>	<b>77.404</b>	<b>77.404</b>	<b>7.38</b>	<b>1.05</b>	<b>1.05</b>	<b>30.86</b>	<b>10.4</b>

# Main contributors at the national level

- Road User Charges (RUC)
  - Applies to vehicles not solely powered by petrol e.g. diesel & EVs
  - Distance based (pre-purchased increments of 1,000 kms)
  - Rates vary on vehicle weight and axle configuration
  - RUC has higher compliance & administration costs than FED
  - Greater risk of evasion than FED as relies on honesty of vehicle owner

RUC rates are \$ per 1000km, GST inclusive

RUC vehicle type number	Description and example (images are indicative only)	Weight bands	RUC rate
1	Powered vehicles with 2 axles (except type 2, type 12 or type 299 vehicles) 	Up to 3500kg	76
		3501kg - 6000kg	82
		6001kg - 9000kg	167
		Any RUC weight over 9000kg	352
12	Plug-in petrol hybrid vehicles with 2 axles 	1001 - 3500kg	38

# Shift to RUC

16 JANUARY 2024

## Electric vehicles to pay road user charges



HON SIMEON BROWN

*“This transition to RUC is about **fairness and equity**. It will ensure that all road users are contributing to the upkeep and maintenance of our roads, irrespective of the type of vehicle they choose to drive.”*

<https://www.beehive.govt.nz/release/electric-vehicles-pay-road-user-charges>

# Bill to expand Road User Charges introduced

<https://www.rnz.co.nz/news/political/578768/bill-to-expand-road-user-charges-introduced>

5:19 pm on 13 November 2025

Share this

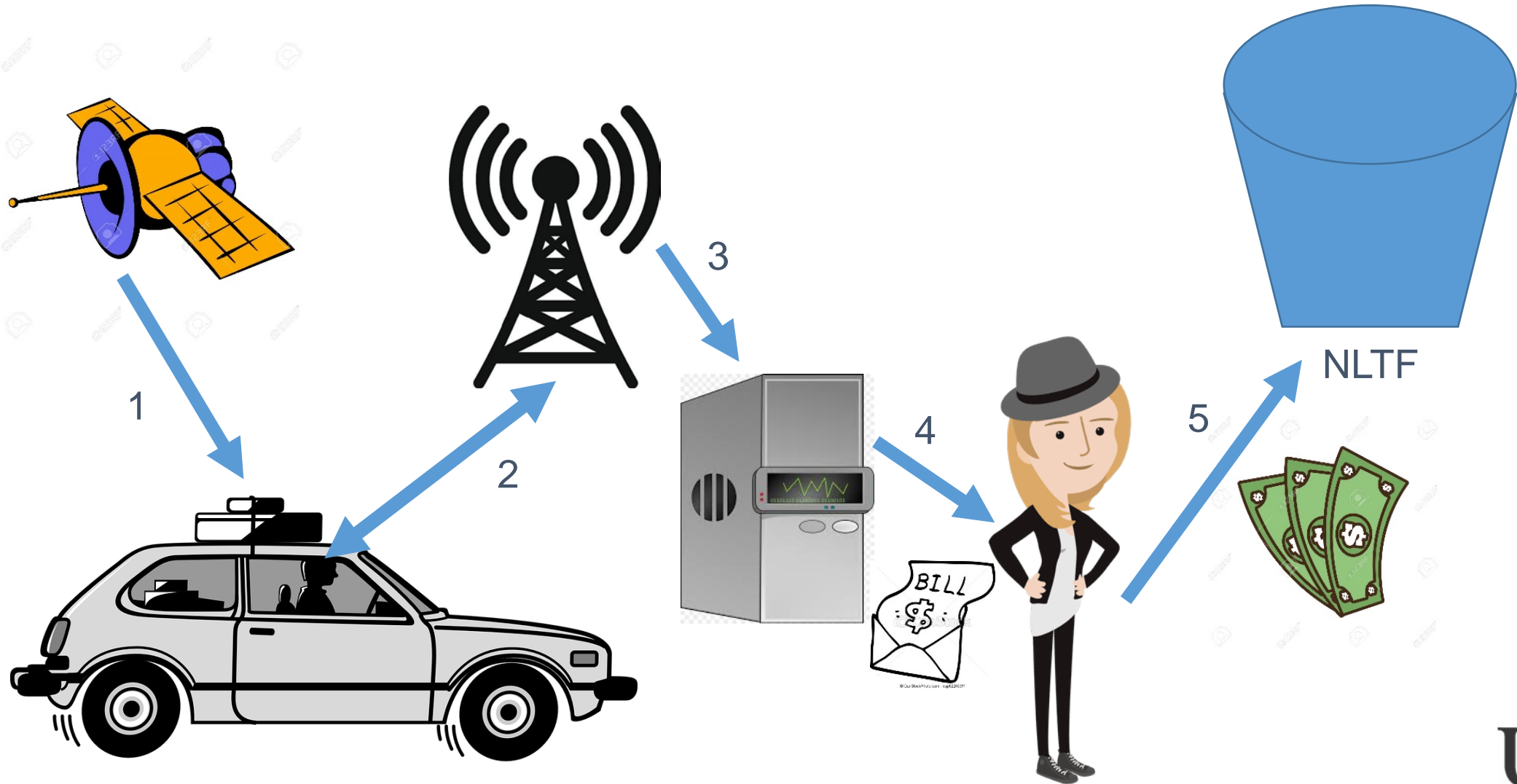


**Russell Palmer**, Political Reporter  
✉ [russell.palmer@rnz.co.nz](mailto:russell.palmer@rnz.co.nz)

*“It isn’t **fair** to have Kiwis who drive less and who can’t afford a fuel-efficient car paying more than people who can afford one and drive more often.”*

<https://www.beehive.govt.nz/release/next-steps-replacing-petrol-tax-electronic-road-user-charges>

# Proposal – electronic RUC (eRUC) for all



# eRUC – not new in NZ



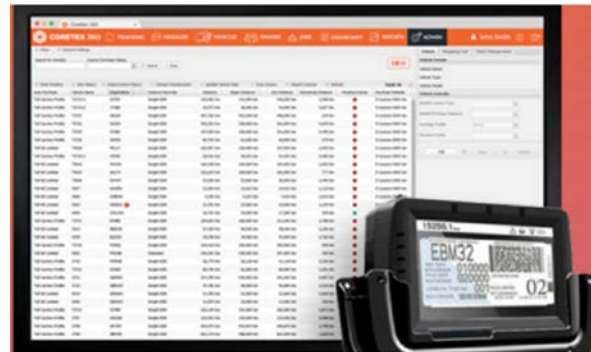
## Road User Charges Management

Use Teletrac Navman's RUC Manager to manage your road user charges

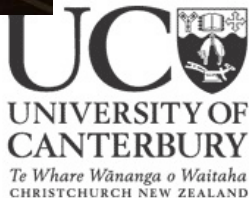
The screenshot shows a software interface for managing RUCs. It features a table with columns for 'Age', 'Group', 'EOR Status', 'Licence MP', 'Cost', and 'Max LHM'. The table lists several licences with their respective details. On the right side, there is a 'Details' panel for a specific licence, 'DUM002', showing its status, cost, and other relevant information.

## eRUC Now Available on Coretex 360

Fully automated Electronic RUC now available on Coretex's web-based system



More than you're expecting for less than you'd think



# Pricing externalities / Managing impacts

- Could we use eRUC for more than just revenue raising for roads?
- Could we charge for other transport-related costs?
  - Help with equity and fairness

# Pricing externalities / Managing impacts

## Air pollution from cars killing thousands of NZers yearly

5:23 pm on 6 July 2022

Share this



**Kirsty Frame**, Social issues reporter

 [@kirstyframed](https://twitter.com/kirstyframed)  [Kirsty.frame@rnz.co.nz](mailto:Kirsty.frame@rnz.co.nz)

In findings which have startled scientists, new data shows car pollution is killing thousands of New Zealanders each year and costing the country billions of dollars.

<https://www.rnz.co.nz/news/national/470457/air-pollution-from-cars-killing-thousands-of-nzers-yearly>

# Pricing externalities / Managing impacts

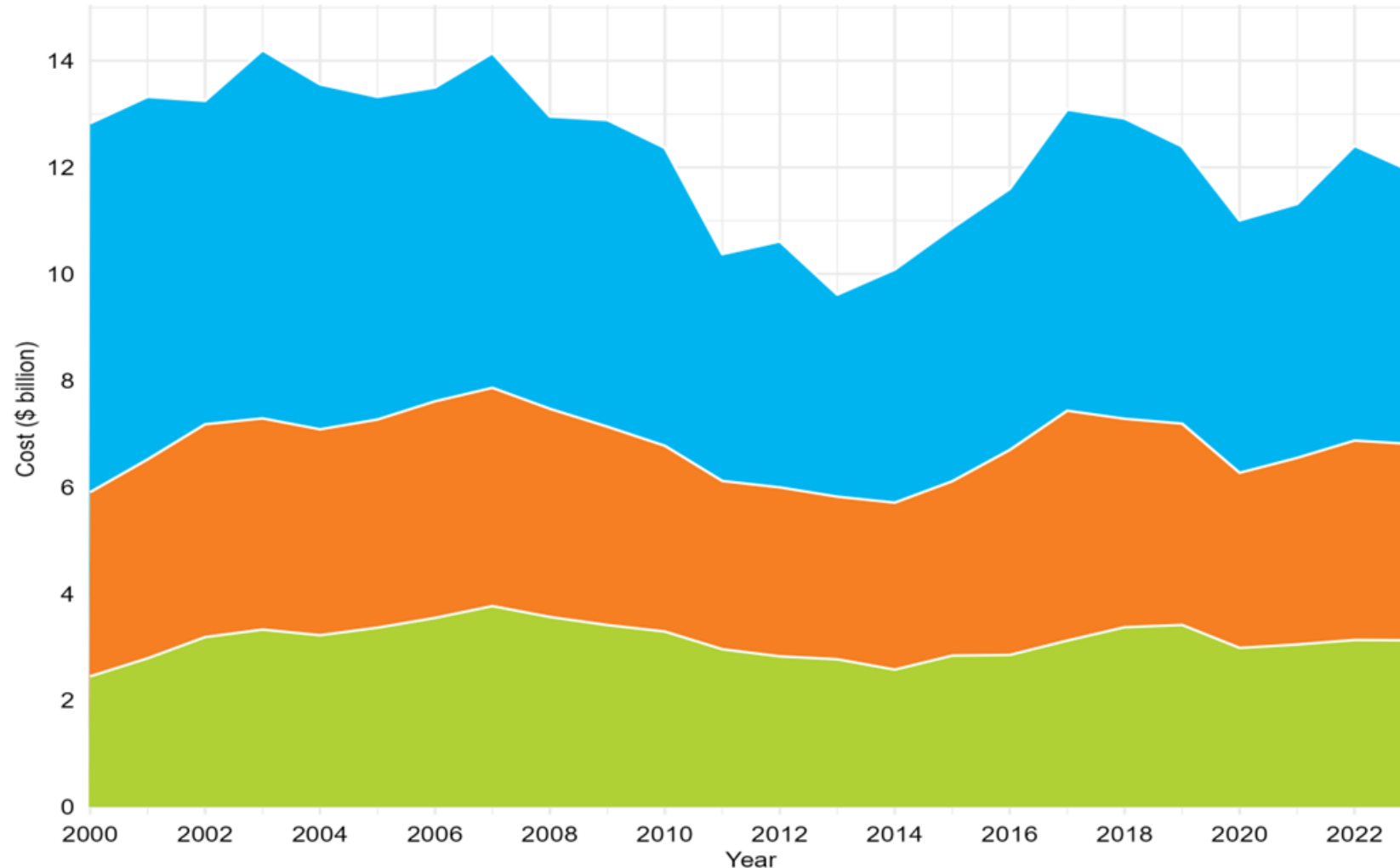


<https://www.unicef.org.uk/publications/the-toxic-school-run/>

# Pricing externalities / Managing impacts

Figure 1: Total social cost of reported injuries (June 2024 prices)

Fatalities Serious injuries Minor injuries



<https://www.transport.govt.nz/are-a-of-interest/safety/social-cost-of-road-crashes-and-injuries>

# Pricing externalities / Managing impacts

## School drop off chaos results in parking fines

 Tatiana Gibbs | THE PRESS

August 23, 2023

➔ Share



Traffic Inducing Traffic

<https://www.greaterauckland.org.nz/2015/11/26/25-years-of-new-zealand-travel/walk-to-school-cartoon/>

# Pricing externalities / Managing impacts

## New \$4.3m preschool may never open because road noise would be an 'annoyance' to children

Lee Kenny

October 12, 2022 · 7:24pm

Comment (67) ↗ S

<https://www.stuff.co.nz/national/education/130150078/new-43m-preschool-may-never-open-because-road-noise-would-be-an-annoyance-to-children>

# Pricing externalities / Managing impacts

## LIGHT (< 500 vpd)



5.1 average connections

"We have great neighbours and live in a safe street"  
"I enjoy talking with my neighbours"

## MODERATE (1400-2500 vpd)



5.9 average connections

"Most people get out and about and talk on the street"  
"Family-orientated and friendly"

## HEAVY (8,400-14,000 vpd)



2.1 average connections

"My street is a car thoroughfare"  
"Lived here over 35 years, a decline in people talking to neighbours and children playing"

**Re-working Appleyard in a low density environment: An exploration of the impacts of motorised traffic volume on street livability in Christchurch, New Zealand.**

*Wiki J., Kingham S., and Banwell K.*

World Transport Policy and Practice  
Volume 24.1 Mar 2018

Pricing externalities / Managing impacts

# 'Everyone fangs it up here': The upmarket Auckland street drivers use as a 'rat run'



Erin Johnson

March 21, 2025 · 5:00am

➔ Share

<https://www.stuff.co.nz/nz-news/360621202/everyone-fangs-it-here-upmarket-auckland-street-drivers-use-rat-run>

# Pricing externalities / Managing impacts

6,617 views | Jan 24, 2019, 07:56am EST

## Motorists Should Pay Full Costs Of Road Pollution, Deaths And Damage, Says EU Transport Commissioner



**Carlton Reid** Senior Contributor ⓘ

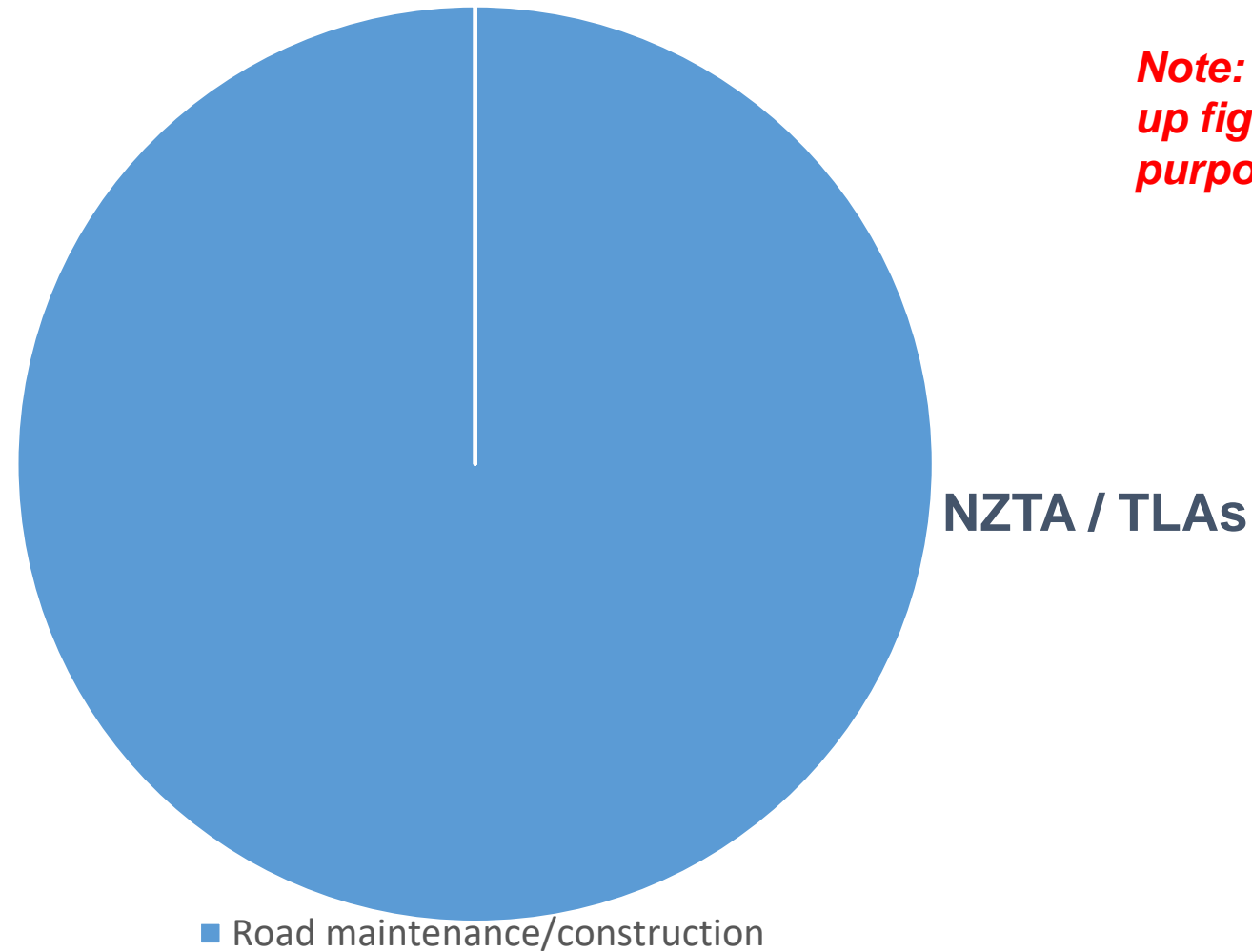
Transportation

*I have been writing about transport for 30 years.*

<https://www.forbes.com/sites/carltonreid/2019/01/24/motorists-should-pay-full-costs-of-road-pollution-deaths-and-damage-says-eu-transport-commissioner/#1f816942c0b3>

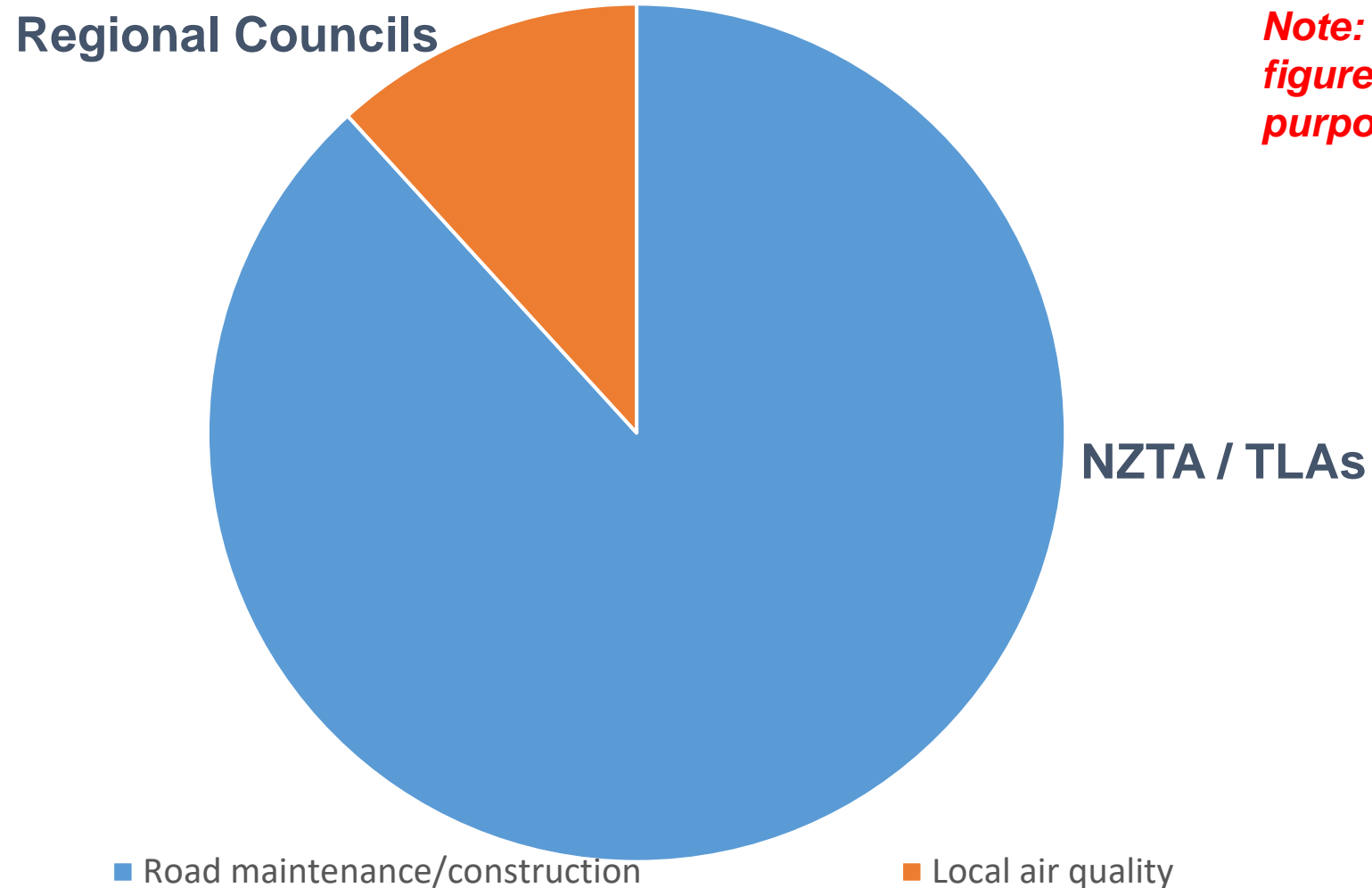
<https://www.linkedin.com/pulse/speech-conference-multimodal-sustainable-transport-which-violeta-bulc/>

# Directed cost-based funding / hypothecation



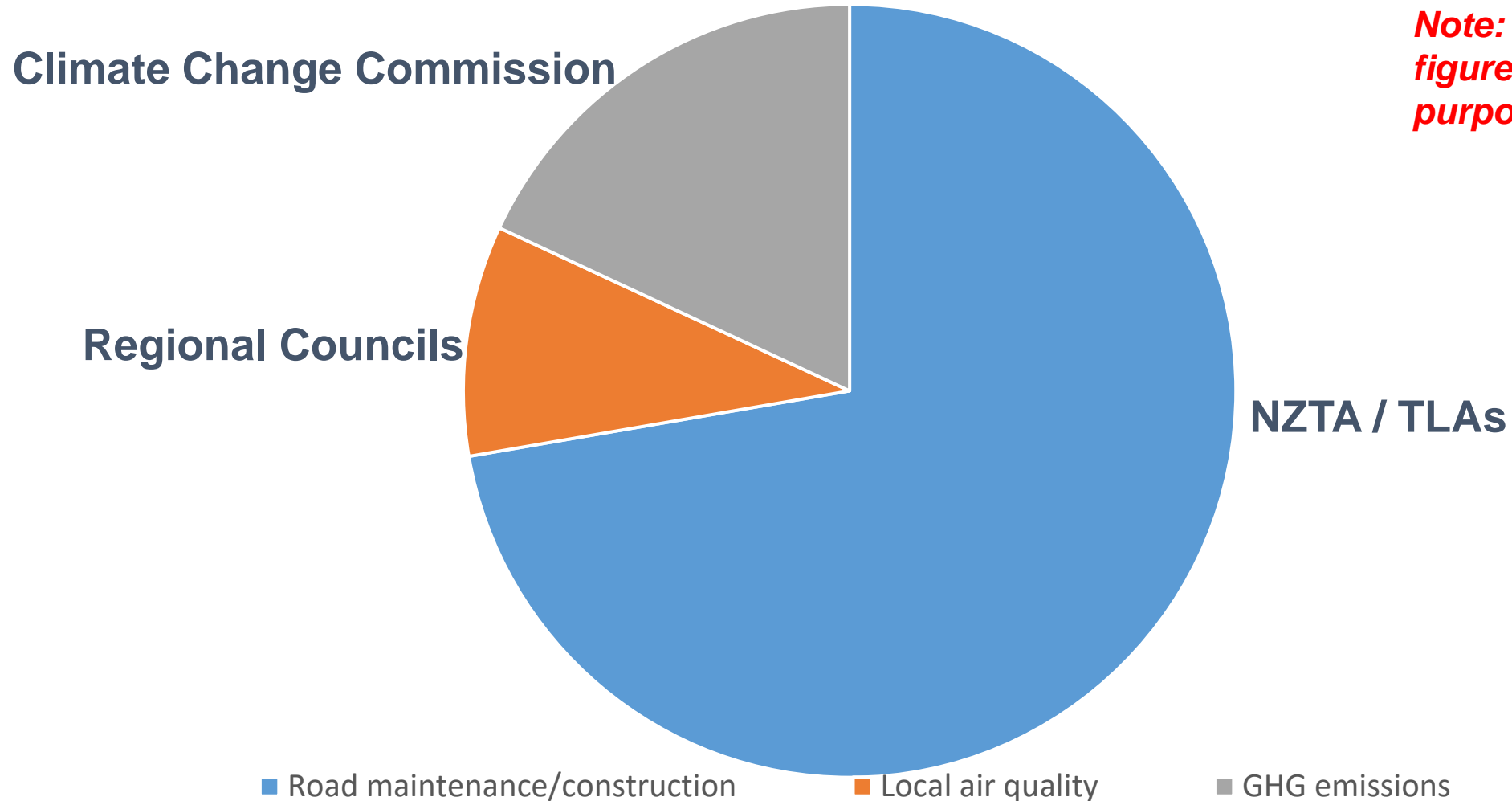
*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation



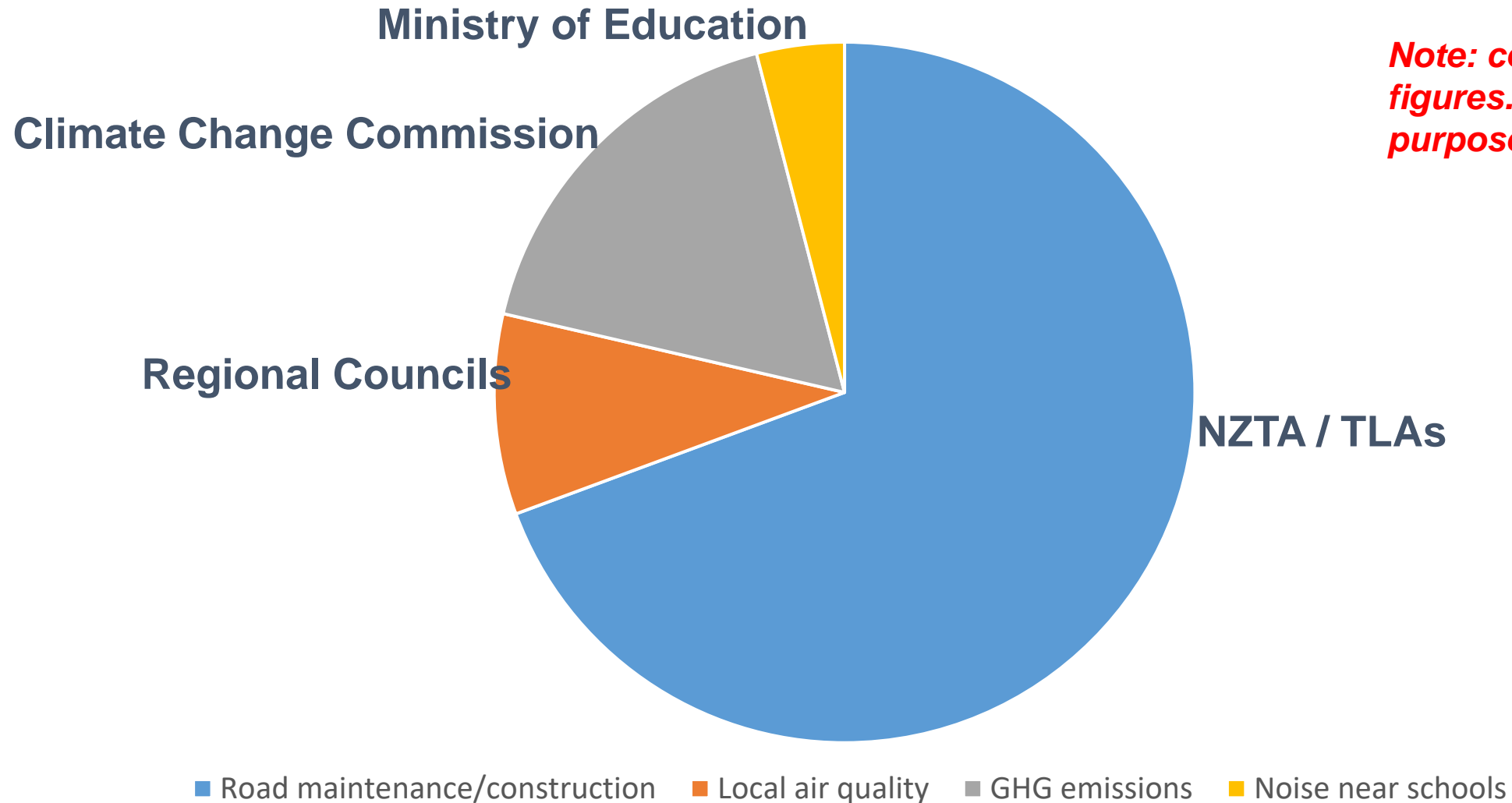
*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation



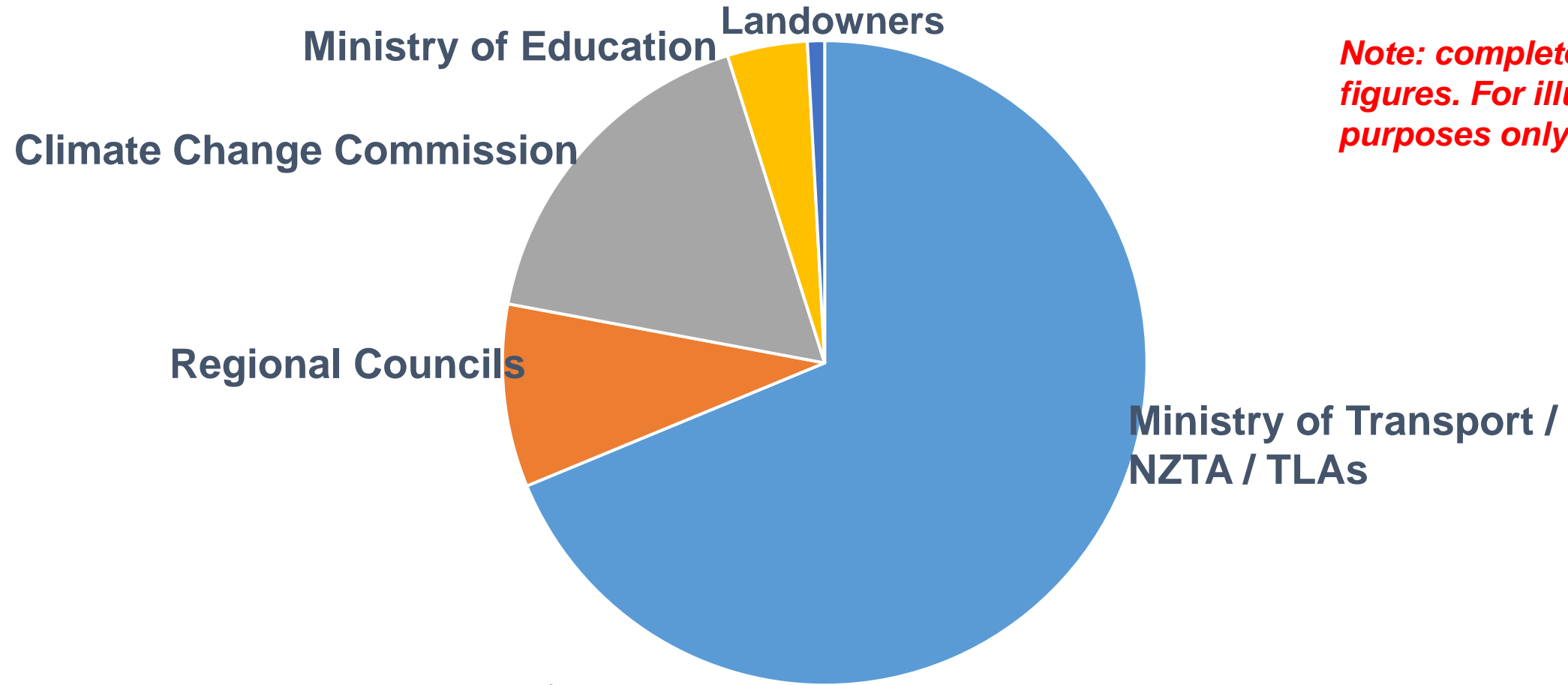
*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation



*Note: completely made up figures. For illustrative purposes only.*

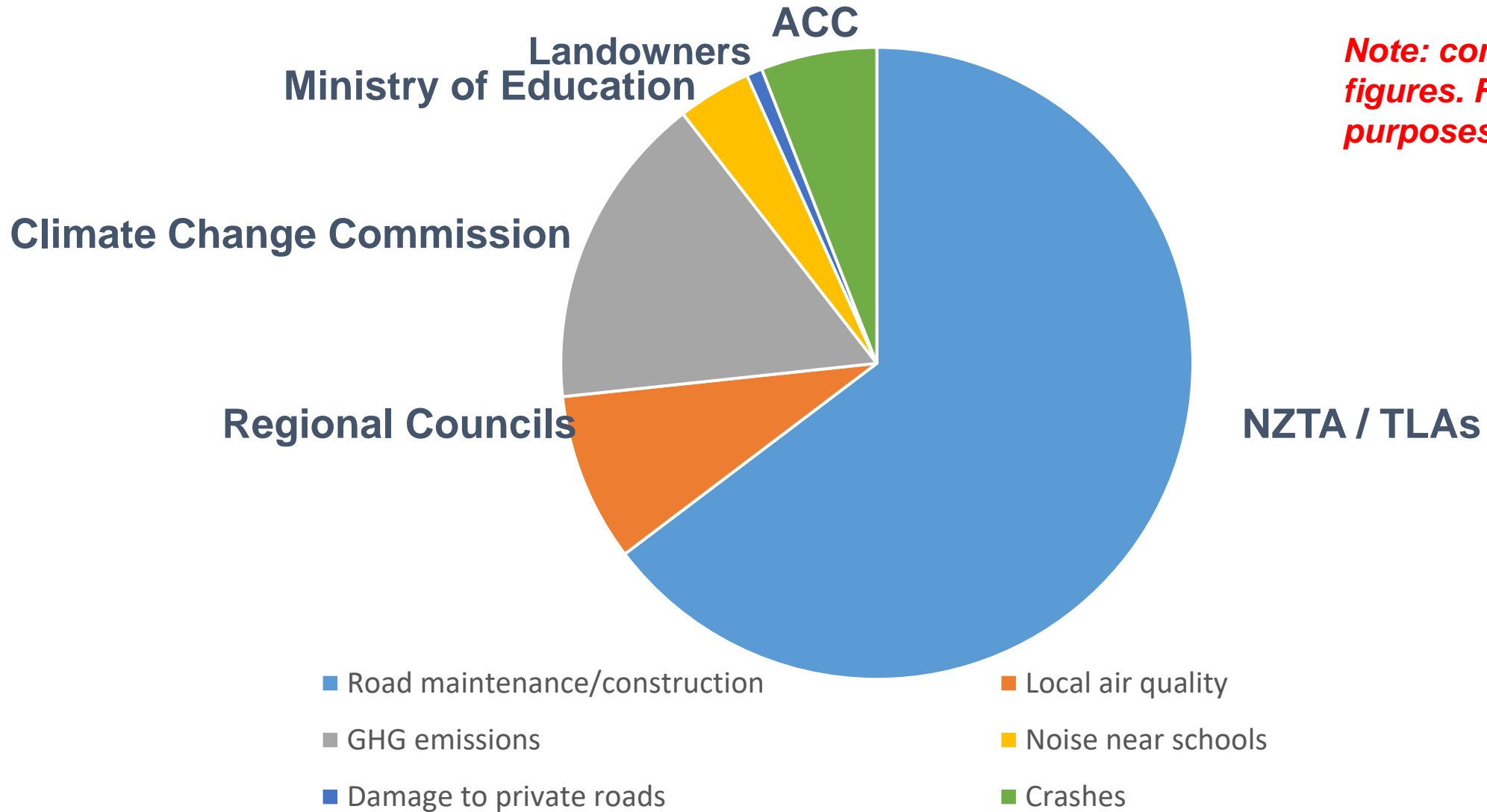
# Directed cost-based funding / hypothecation



*Note: completely made up figures. For illustrative purposes only.*

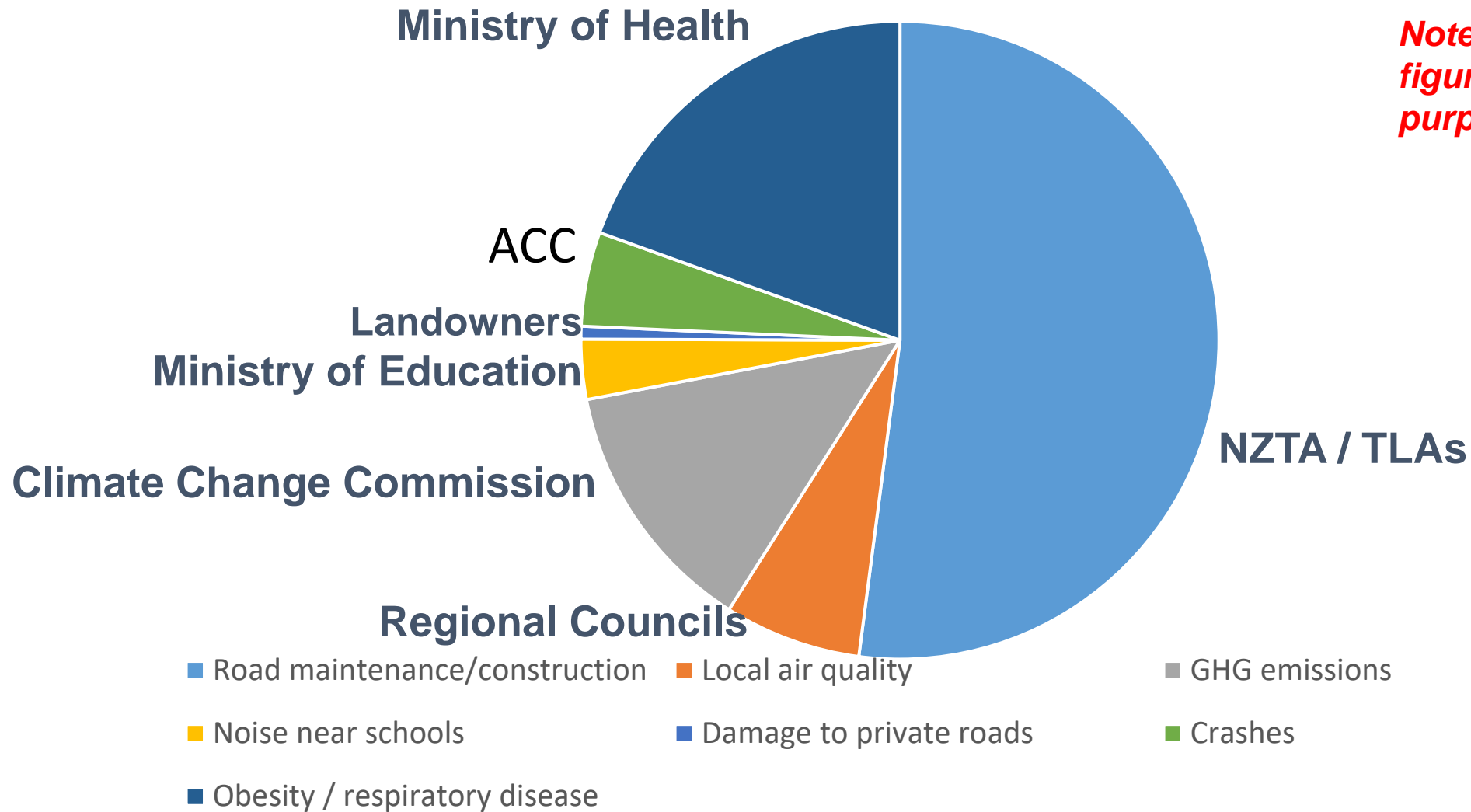
- Road maintenance/construction
- GHG emissions
- Damage to private roads
- Local air quality
- Noise near schools

# Directed cost-based funding / hypothecation



*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation



*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation – by route

Route A  
- 100 kms



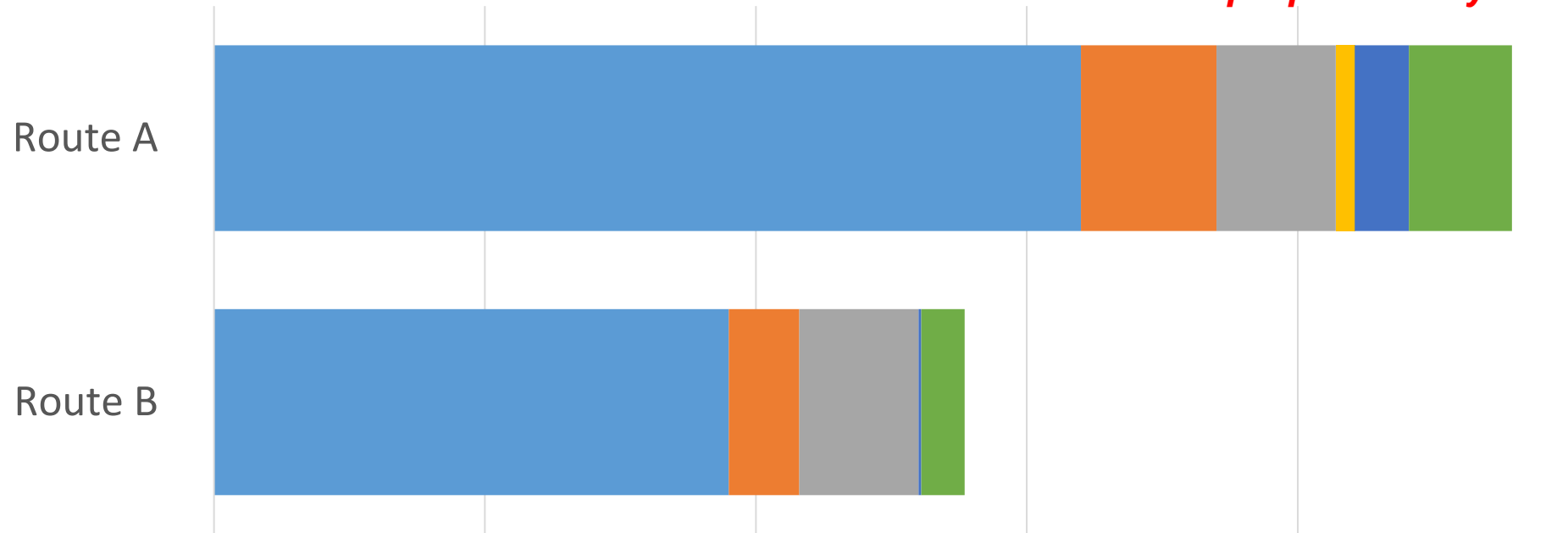
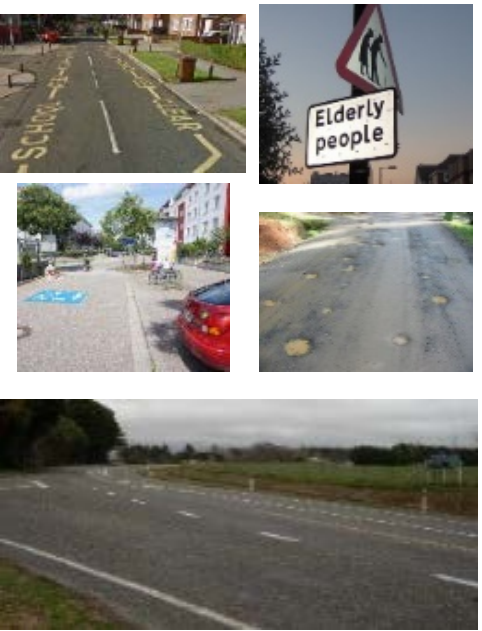
Route B  
- 115 kms



# Directed cost-based funding / hypothecation – by route

Cost per km, by route

*Note: completely made up figures. For illustrative purposes only.*



- Road maintenance/construction
- Local air quality
- GHG emissions
- Noise near schools
- Crashes
- Obesity / respiratory disease

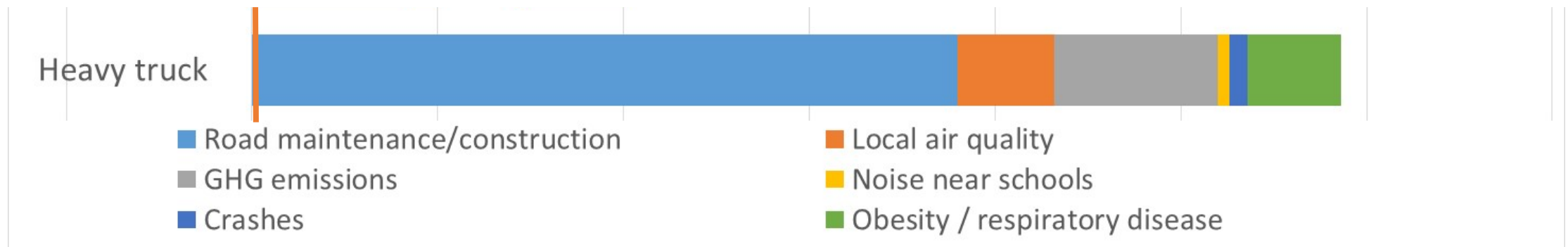
# Directed cost-based funding / hypothecation – by mode



# Directed cost-based funding / hypothecation – by mode

Cost per km, by mode

*Note: completely made up figures. For illustrative purposes only.*



**Not official government policy**

Save money – speed cameras

# NZTA to put new speed cameras in trailers and SUVs, starting in Auckland



**NZ Herald**

7 May, 2025 03:46 PM ⌚ 3 mins to read

<https://www.nzherald.co.nz/nz/nzta-to-put-new-speed-cameras-in-trailers-and-suvs-starting-in-auckland/QL3UPEOYTJHRDK6FCK66IZUGJU/>

# Save money – congestion pricing



<https://www.itsinternational.com/its1/feature/more-equitable-approach-road-charging-technology-there-yet>

# Save money – parking tickets



# Will Big Brother be watching us?

## New Study Shows Google Tracking Persists Even With Privacy Tools

A new SafetyDetectives study reveals the surprising extent of Google tracking across the web in the US, UK, Switzerland, and Sweden. Discover how Google Analytics, AdSense, and YouTube embeds collect your data, even when using DuckDuckGo.



BY DEEBA AHMED · JULY 11, 2025 · 2 MINUTE READ

<https://hackread.com/new-study-google-tracking-persists-privacy-tools/>

# Will it be politically acceptable?

## Road-user charges can pay for more than just road maintenance – NZ could lead the way

Published: August 18, 2025 1.47pm NZST

Getty Images



The government heralded its plan to move New Zealand's entire vehicle fleet to road-user charges as a fairer method of funding road maintenance.



Author




**Simon Kingham**  
Professor of Human Geography,  
University of Canterbury

<https://theconversation.com/road-user-charges-can-pay-for-more-than-just-road-maintenance-nz-could-lead-the-way-262946>

# Will it be politically acceptable?

← Post


 **Holyhekatuiteka** ✓  
@2ETEKA

He's a full on nutbag who uses articles from the guardian in his presentations. Why are we saturated with Brit academics who come here to fuck up our country. Go back to their own shit hole that they've stuffed up.

11:54 AM · Aug 20, 2025 · 13 Views

1 1 1 1 1

 Post your reply Reply

 **Irn Boru** @ImBoru · 2h  
Mentally unhinged, and he no doubt thinks he's "saving" the planet and humanity. Lunatic.

1 1 22 1 1

 **Holyhekatuiteka** ✓ @2ETEKA · 2h  
Communists have out of date luncheon for brains. Simon is the perfect example

1 1 8 1 1

This guy is a zealot, and a far left maniac who wants to end privacy, and private property as is typical of these mongers.

This guy is one of the key characters behind ERUCs. Are you getting the picture now? This is exactly where it's going to lead - control and you'll be taxed out of your cars and travel will be limited. During the lockdown Simon consulted with the health and transport ministry on how they could make some lockdown policies permanent - watch the video below.

 **Irn Boru**  
@ImBoru

@SimonKingham is mentally deranged and a danger to society.

He's advocating globalist societal state control, 15 minute cities and digital ID.

He's an ideological nutcase who needs kept away from sharp objects and should stick to non toxic crayons.

# Summary

- Current system is old/crude and misses opportunities
  - But it is cheap
- Technology means electronic road user charging (eRUC) 'easier'
- eRUC offers opportunities to cost / charge:
  - For impacts and externalities
  - To drive desirable behaviour change
- But is big brother watching us
  - And will it be politically acceptable
- From eRoad User Charges (eRUC) to eRoad Use and Impact Charges (eRUIC)

# Thanks

**Simon Kingham**

Ahorangi | Professor

Te Whare Wānanga o Waitaha | University of Canterbury

Ōtautahi | Christchurch,

Aotearoa | New Zealand

[simon.kingham@canterbury.ac.nz](mailto:simon.kingham@canterbury.ac.nz)



# Other issues with current system ...

We price every kilometre on the network at the same rate

## *Direct costs of use*

- some roads cost more than others to build
- Road wear and tear varies (e.g. logging truck on unsealed road vs new SH)

## *Indirect costs of use*

- congestion
- other externalities which are specific to time, location or both

Specific / local charging is difficult and expensive

- tolling system / congestion pricing expensive to run
- revenue-raising for local government is cumbersome and leaky (regional fuel tax)

# Key issues and risks

- There are some key challenges we need to understand before we can implement:
  - Costs:
    - devices
    - ongoing operational costs
  - Privacy concerns
  - Basic technology is straightforward and already exists in eRUC
  - Range of payment mechanisms required from large fleets to “unbanked” individuals
  - Transition from the current system needs to be efficient and practicable
  - Enforcement and ensuring minimal tax evasion is important to protect revenue
  - Political and public acceptability

# Pricing externalities / Managing impacts

## THE CONVERSATION

Academic rigour, journalistic flair

Arts + Culture **Business + Economy** Cities Education Environment + Energy Health + Medicine Politics + Society

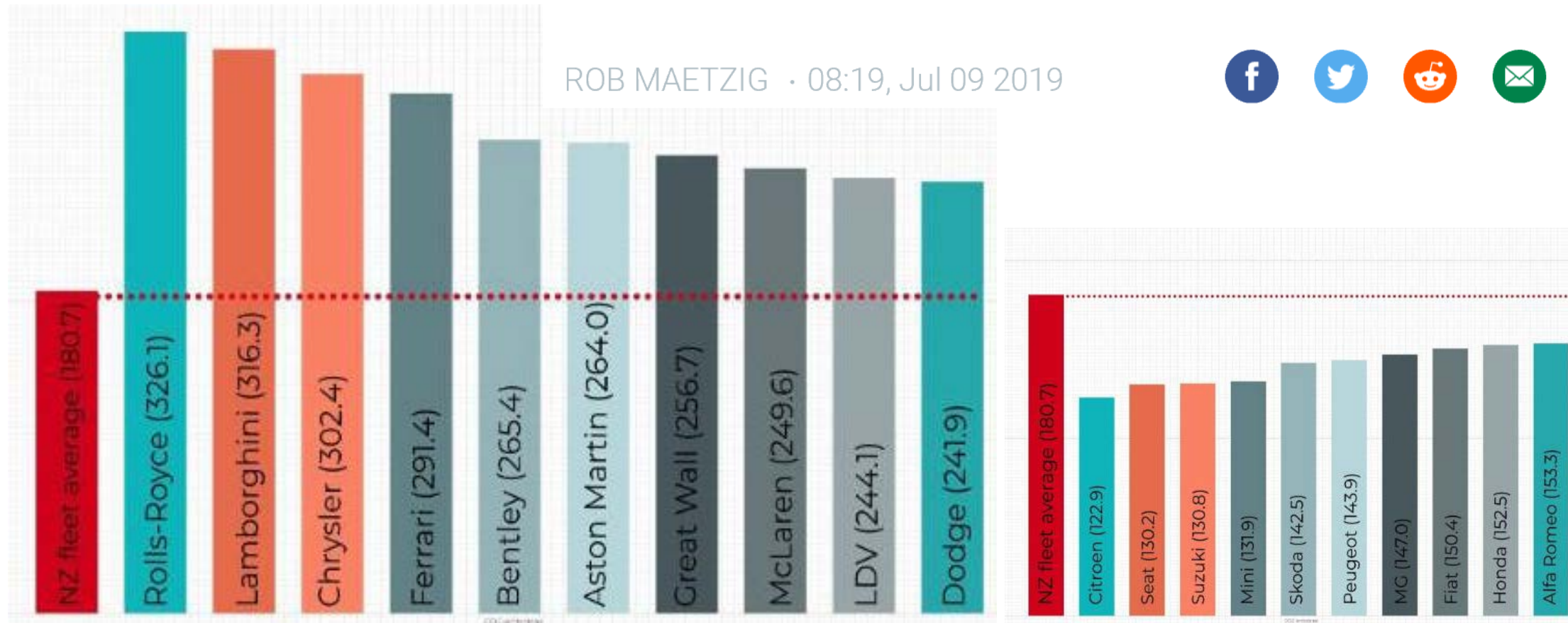
# Trucks are destroying our roads and not picking up the repair cost

June 23, 2017 11.54am AEST

# Pricing externalities / Managing impacts

## The cleanest and dirtiest car brands in New Zealand

ROB MAETZIG · 08:19, Jul 09 2019



<https://www.stuff.co.nz/motoring/113716572/the-cleanest-and-dirtiest-car-brands-in-new-zealand>

# Pricing externalities / Managing impacts

## Online Shopping Was Supposed to Keep People Out of Traffic. It Only Made Things Worse

<https://time.com/5481981/online-shopping-amazon-free-shipping-traffic-jams/>

**Don't blame parcel delivery vans for clogging up city traffic, look to the tradies**

Published: September 26, 2019 8.41am NZST

<https://theconversation.com/dont-blame-parcel-delivery-vans-for-clogging-up-city-traffic-look-to-the-tradies-123776>

# Main contributors at the national level

- Fuel Excise Duty (FED)
- Road User Charges (RUC)

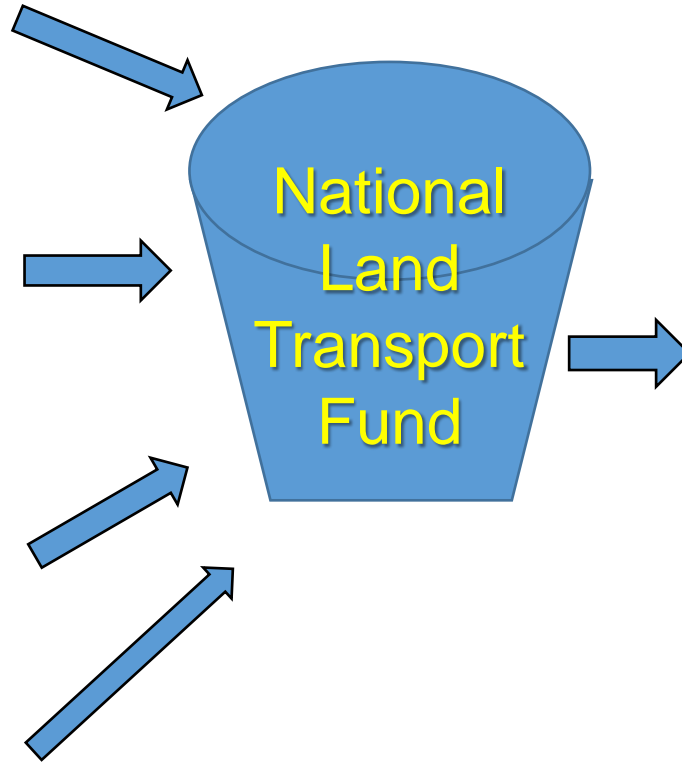
# Revenue

Fuel Excise Duties (FED)  
3.2m light petrol vehicles

Road User Charges (RUC)  
950,000 light diesel vehicles  
190,000 heavy diesel vehicles  
80,000 Electric vehicles  
350,000 hybrid vehicles

Motor Vehicle Registration & Licensing

Other Crown revenues



Activity class
<b>State Highway Maintenance</b>
State Highway Pothole Prevention
State Highway Operations
<b>Local Road Maintenance</b>
Local Road Pothole Prevention
Local Road Operations
<b>Other continuing programmes</b>
Public Transport Services
Investment Management
Safety
<b>Improvements</b>
Public Transport Infrastructure
State Highway Improvements
Local Road Improvements
Walking and Cycling Improvements

