

# Geography and Road User Charges: how it could change the way we use our streets.

Prof Simon Kingham

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

**Te Whare Wānanga o Waitaha | University of Canterbury**

# 'Biggest change in 50 years': Petrol tax to go, everyone to pay road user charges



Bridie Witton

August 6, 2025 • 11:54am

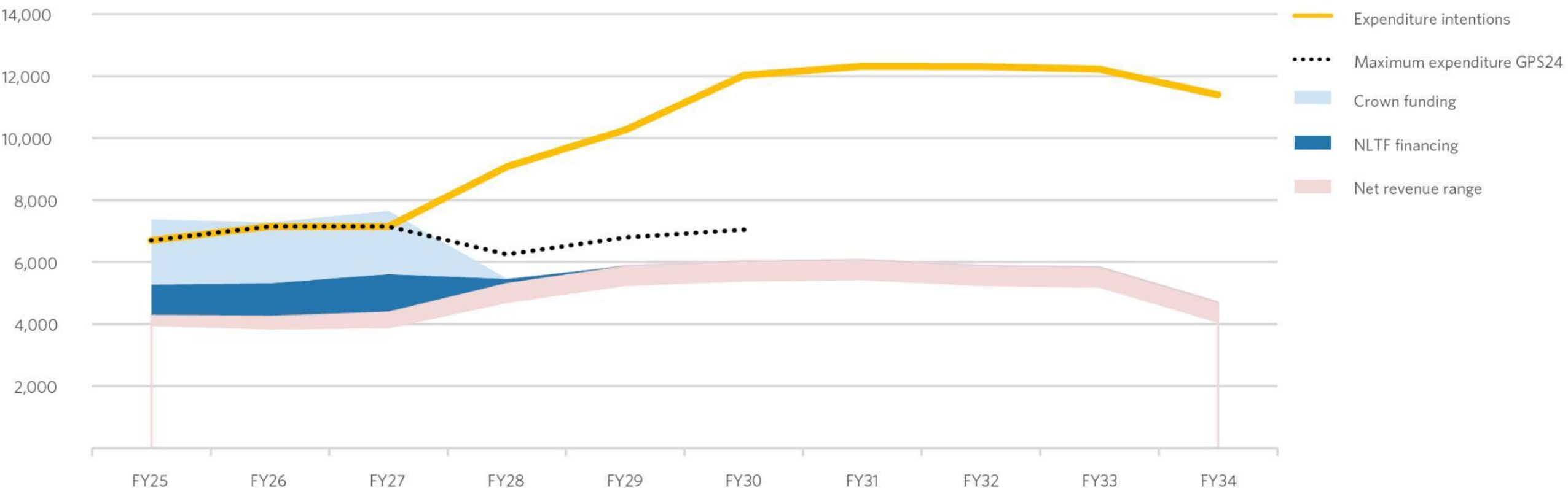
Comment (1174) ➔

<https://www.stuff.co.nz/politics/360782053/petrol-tax-getting-scrapped-road-user-charges-expand-all-vehicles-2027>

# Road User Charges

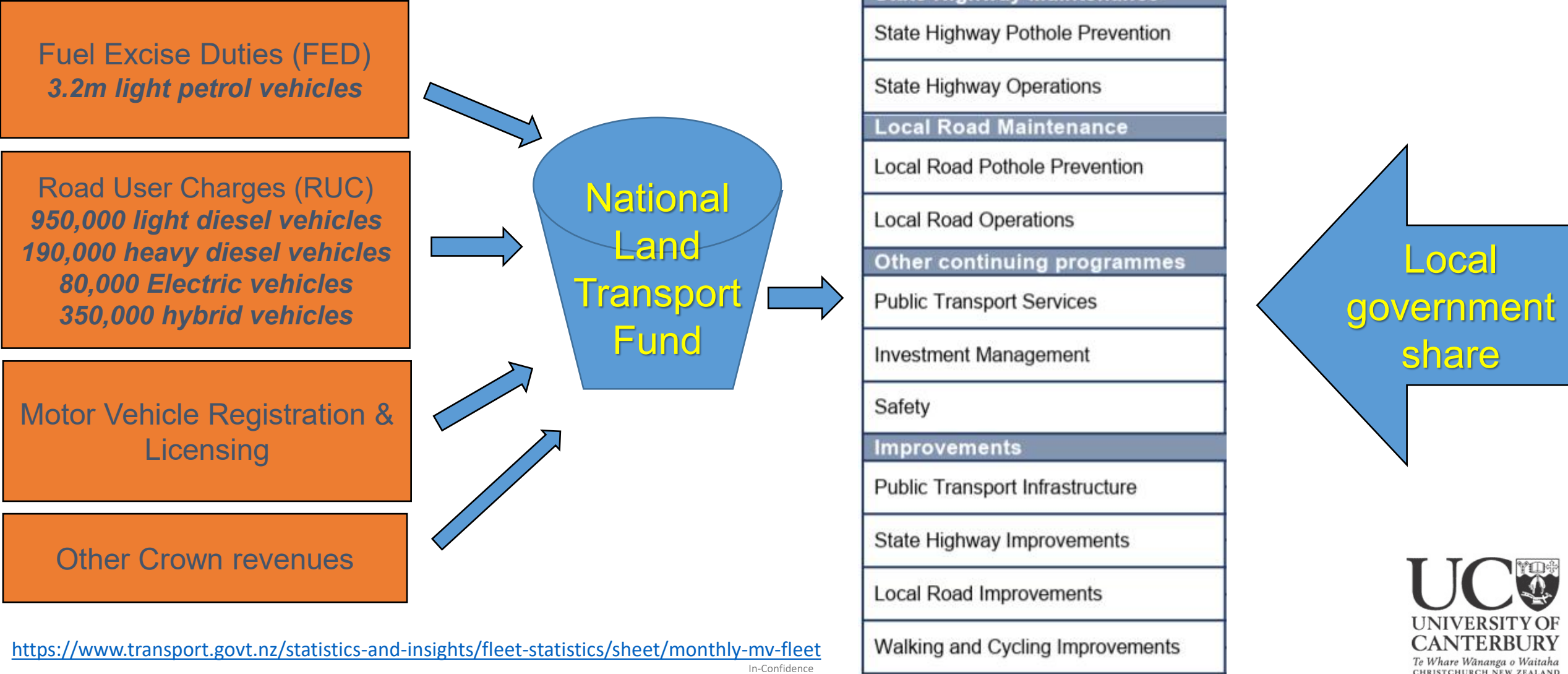
- What are Road User Charges (RUC)?
- What does the change mean?
- What will happen?
- What could happen?
- What could this mean for how we travel?
- What could this mean for our towns and cities?

# Revenue and Expenditure 2024/25 to 2033/34



<https://www.nzta.govt.nz/planning-and-investment/national-land-transport-programme/2024-27-nltp/future-nltp-investment-revenue-and-expenditure#revenue-and-expenditure-202425-to-203334>

# Revenue



# Main contributors at the national level

- Fuel Excise Duty (FED)

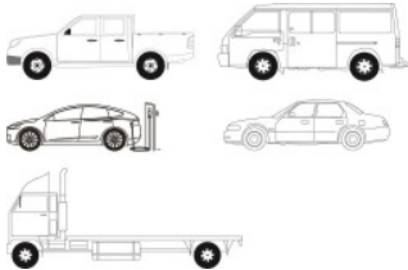

- Currently 77 cents per litre (petrol)
- Collected at source (when refined fuel leaves refinery or is imported)
- Amount of FED is related to distance travelled and fuel efficiency of vehicle
- FED is simple to collect, low compliance costs and unavoidable

	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

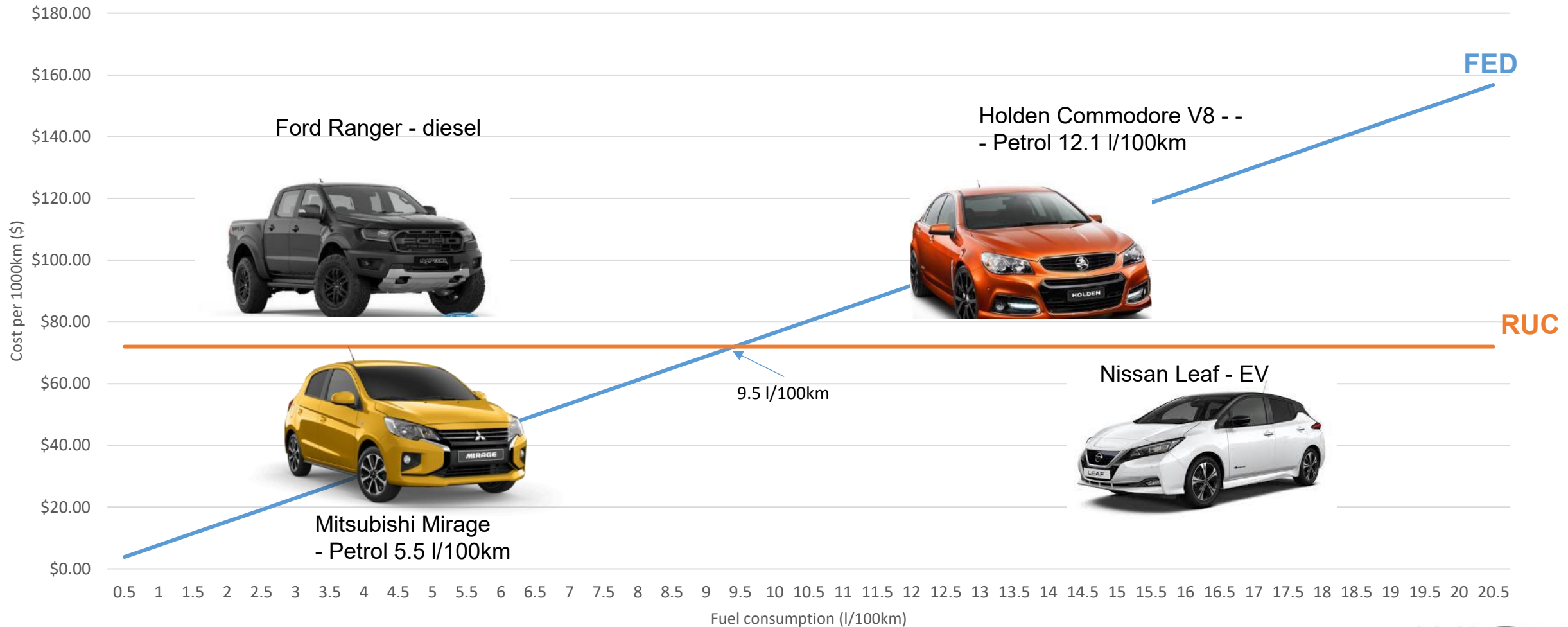
- Road User Charges (RUC)

- applies to heavy vehicles (3.5 tonnes or more) & light vehicles not solely powered by petrol e.g. diesel and electric.
- distance based charge (licenses pre-purchased in increments of 1,000 kms)
- Rates vary depending 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 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



# But, emerging equity issues for light vehicles





# So, Road User Charges for all

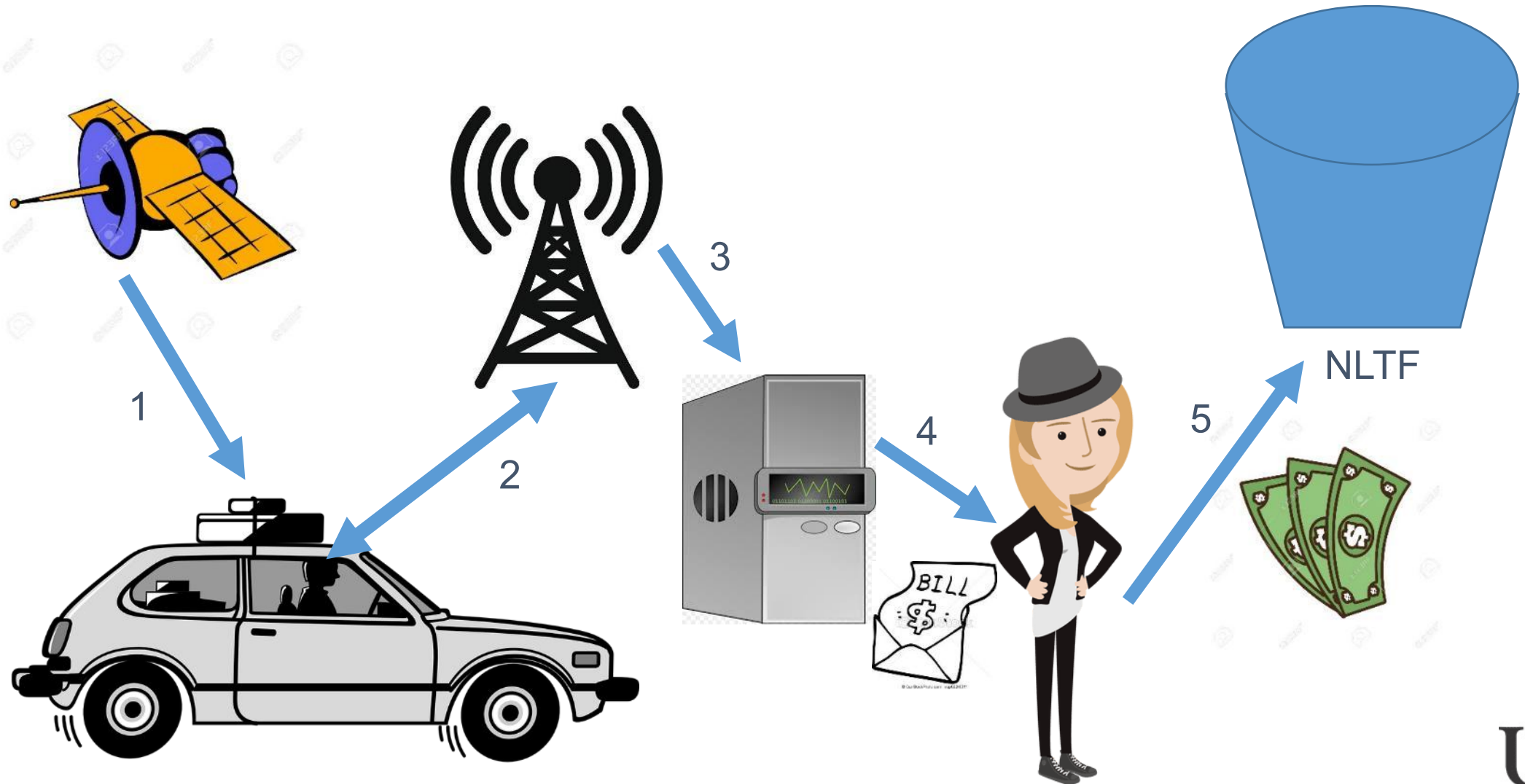
- No more Fuel Excise Duty

# Why?

- “For decades, petrol tax has acted as a rough proxy for road use, but the relationship between petrol consumption and road usage is fast breaking down. For example, *petrol vehicles with better fuel economy contribute less FED per kilometre towards road maintenance, operations, and improvements.*”
- “We are also seeing a *fast uptake of fuel-efficient petrol hybrid vehicles.* In 2015, there were 12,000 on our roads, while today there are over 350,000.
- “As our vehicle fleet changes, so too must the way we fund our roads. *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>

# How – electronic RUC (eRUC) for all



# eRUC – not new in NZ



## Road User Charges Management

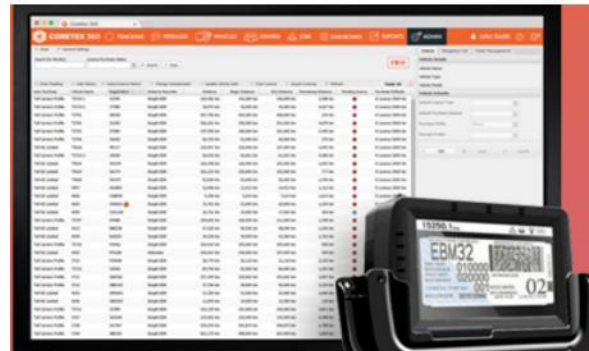
Use Teletrac Navman's RUC Manager to manage your road user charges

The screenshot shows the Teletrac Navman's RUC Manager software interface. It displays a list of vehicles with columns for Group, EDR Status, Licence #, City, and Km Left. The 'Details' panel on the right shows information for vehicle 'DUM002', including its licence number '49000', vehicle type 'HSE', and a QR code.

Group	EDR Status	Licence #	City	Km Left
UN001	ERUC Dev	04900000	177201	749
UN003	ERUC Dev	19912345	055723	277
UN005	ERUC Dev	00000000	057597	5106
UN007	ERUC Dev	20700000	184531	415
UN009	Road EDR	20000000	000000	10000
UN011	ERUC Dev	20000000	000000	2000
UN013	ERUC Dev	00000000	004970	30
UN015	ERUC Dev	00000000	000000	107
UN017	ERUC Dev	00000000	000000	811

## eRUC Now Available on Coretex 360

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



**RUC monkey**

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?

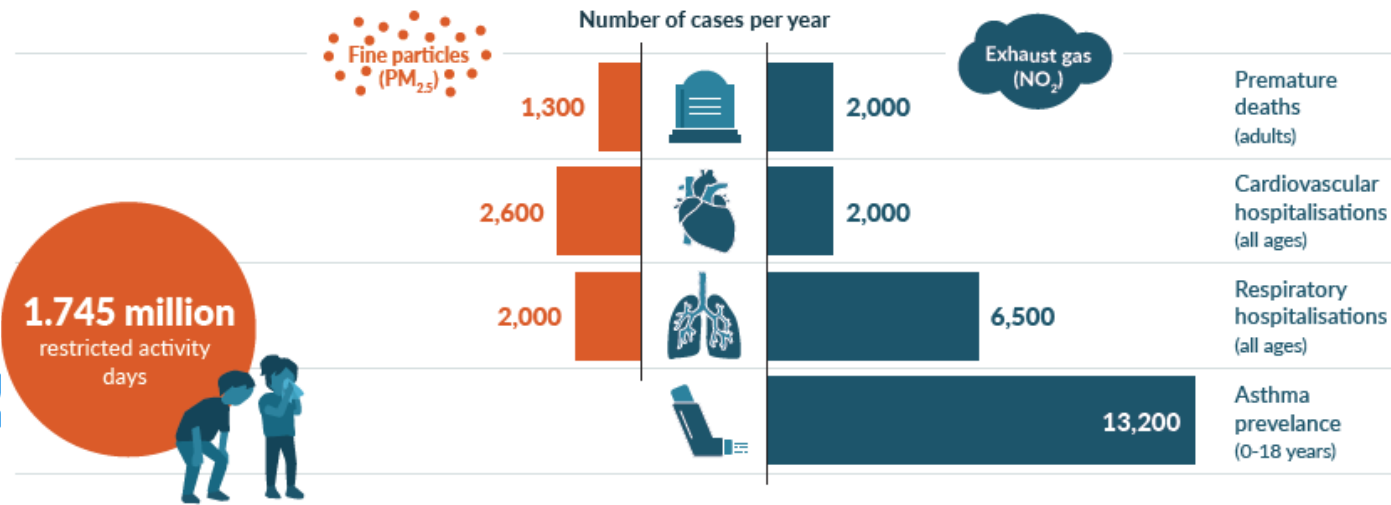
# Pricing externalities / Managing impacts

**Air pollution contributes to premature deaths of 3300 adults in one year**

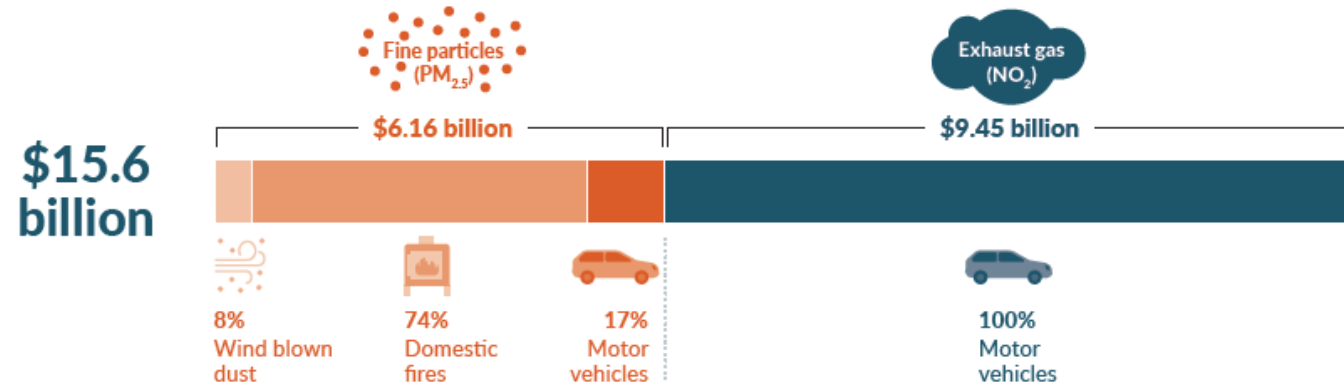
Kate Green • 14:00, Jul 06 2022

<https://www.stuff.co.nz/environment/129187840/air-pollution-contributes-to-premature-deaths-of-3300-adults-in-one-year>

Health impacts from human-made air pollution (2016)



Social costs of health impacts from human-made air pollution (2016)





# Pricing externalities / Managing impacts



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



# Pricing externalities / Managing impacts

## Social cost of road crashes and injuries

Last updated on: 30/04/2020

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*The social cost of road crashes and injuries 2018 update has now been published.*

It finds that the total social cost of motor vehicle injury crashes in 2017 is \$4.8 billion (up by 15 per cent from \$4.2 billion in 2016) at June 2018 prices. This estimate covers all injuries recorded by NZ Police, hospitals and ACC.

<https://www.transport.govt.nz/mot-resources/road-safety-resources/roadcrashstatistics/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

<https://www.thepress.co.nz/nz-news/350059618/school-drop-chaos-results-parking-fines>



# Pricing externalities / Managing impacts



Traffic Inducing Traffic



# 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"

## 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"

## MODERATE (1400-2500 vpd)



5.9 average connections

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

**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

## 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

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



Erin Johnson

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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

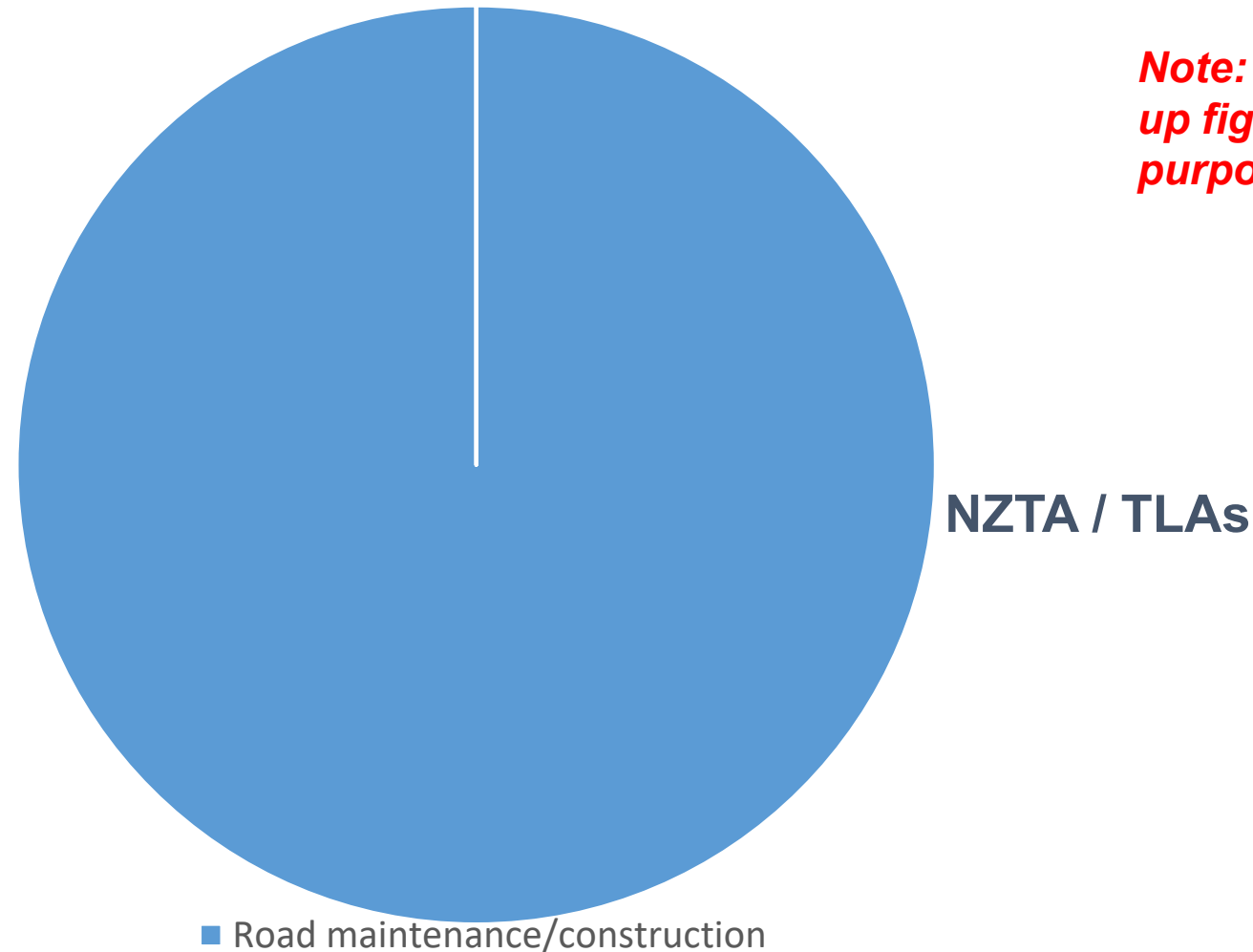
*I have been writing about transport for 30 years.*

<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/>

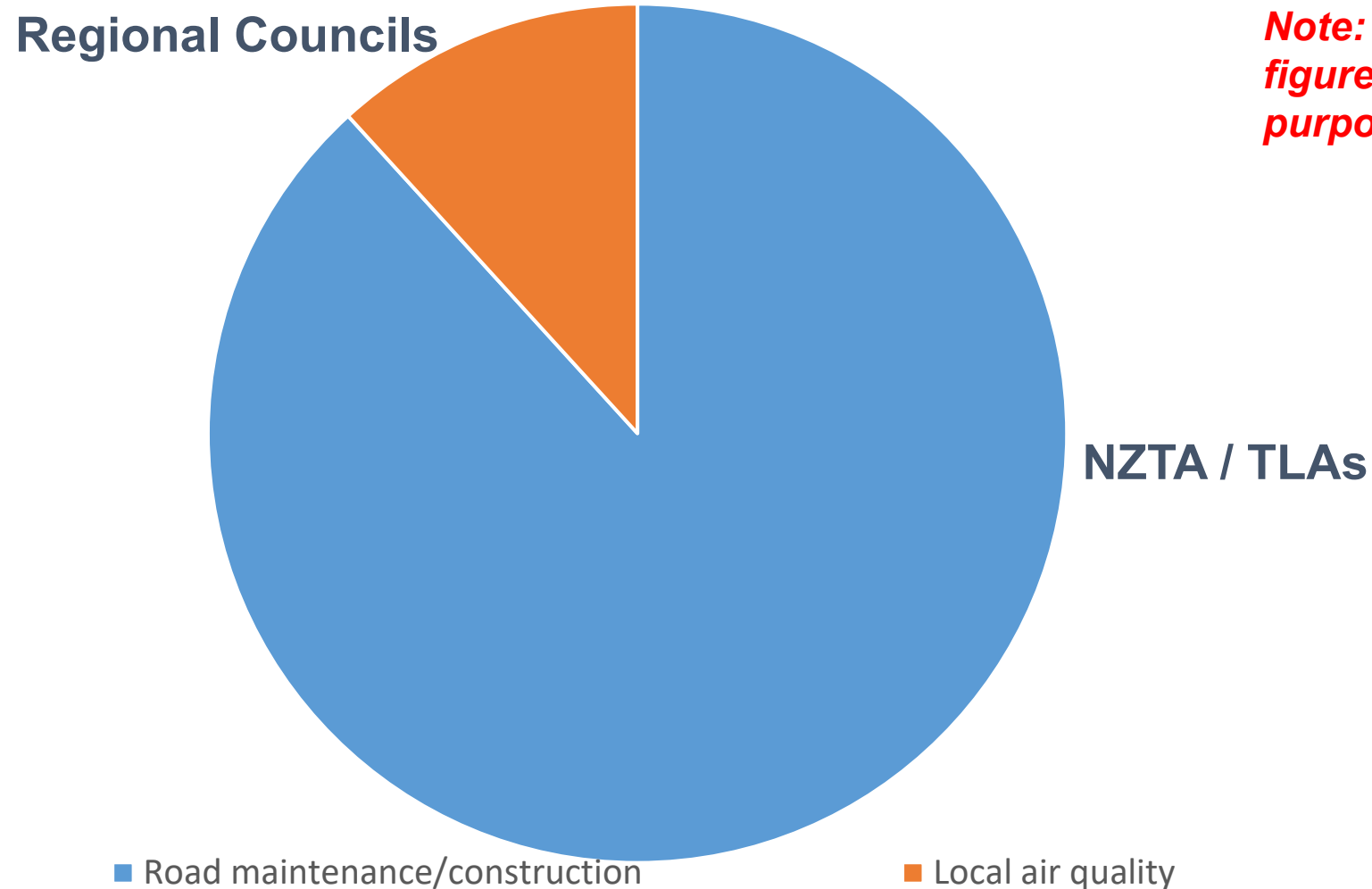


# Directed cost-based funding / hypothecation



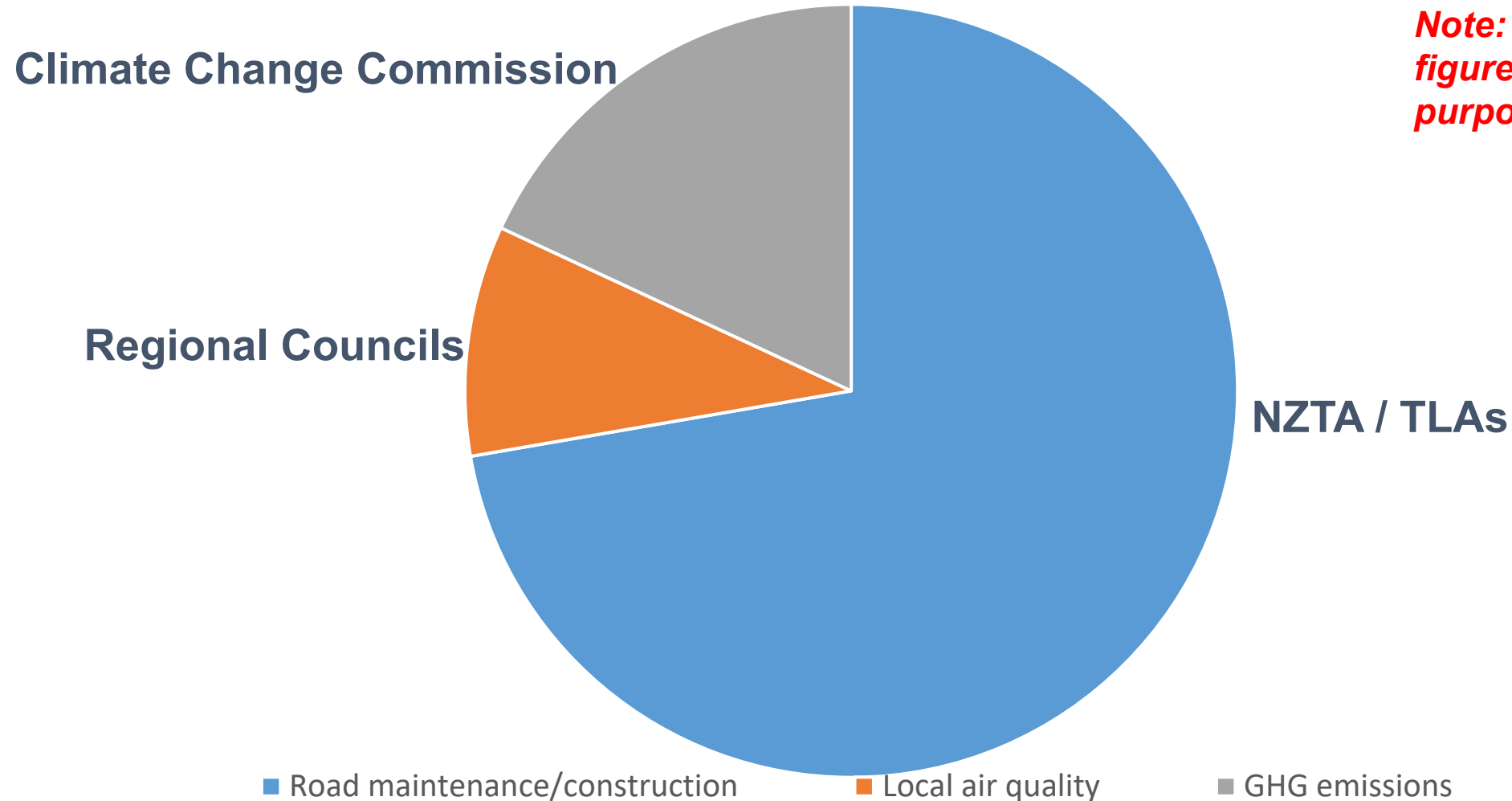
*Note: completely made up figures. For illustrative purposes only.*

# Directed cost-based funding / hypothecation



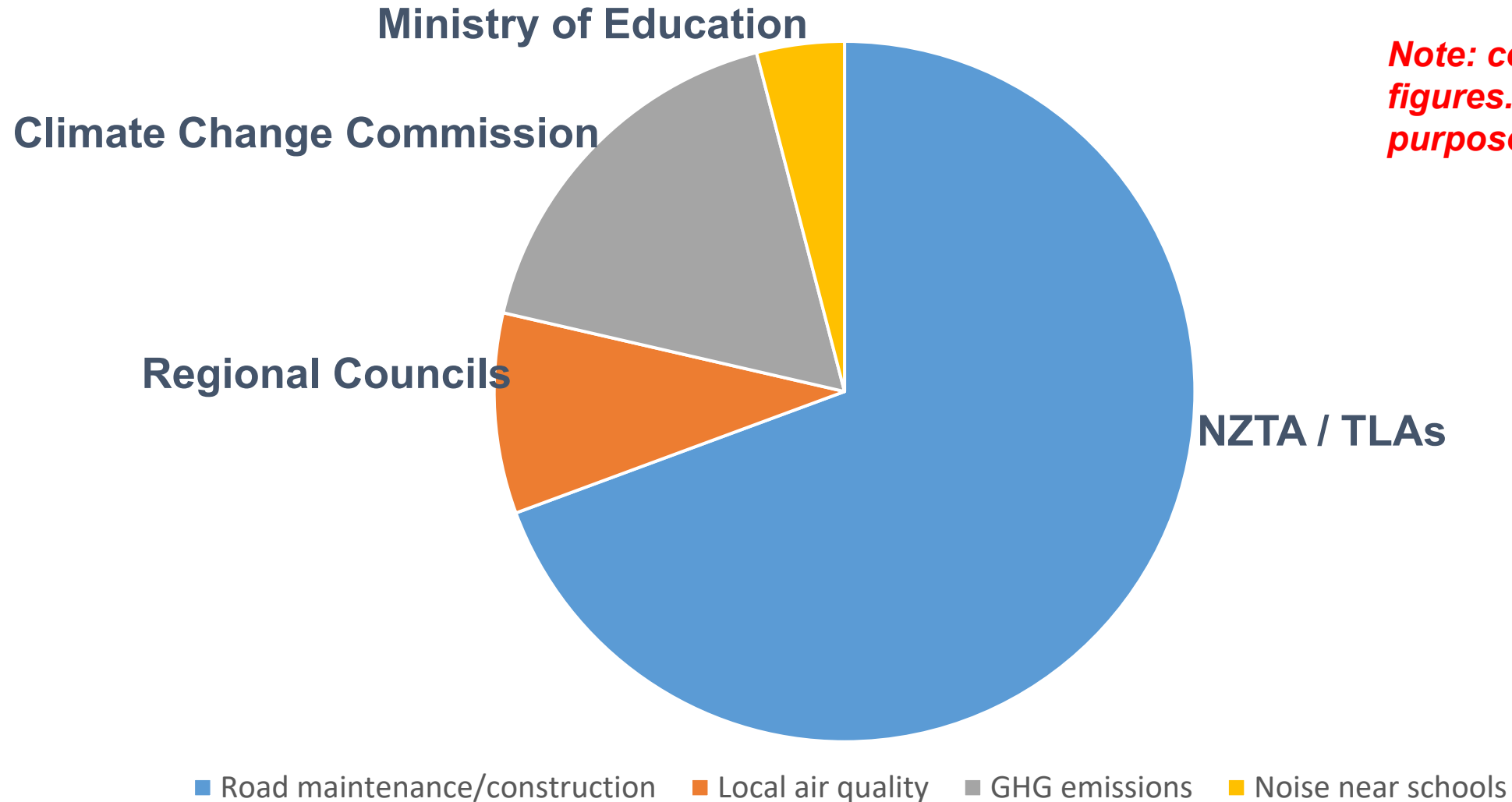
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# Directed cost-based funding / hypothecation



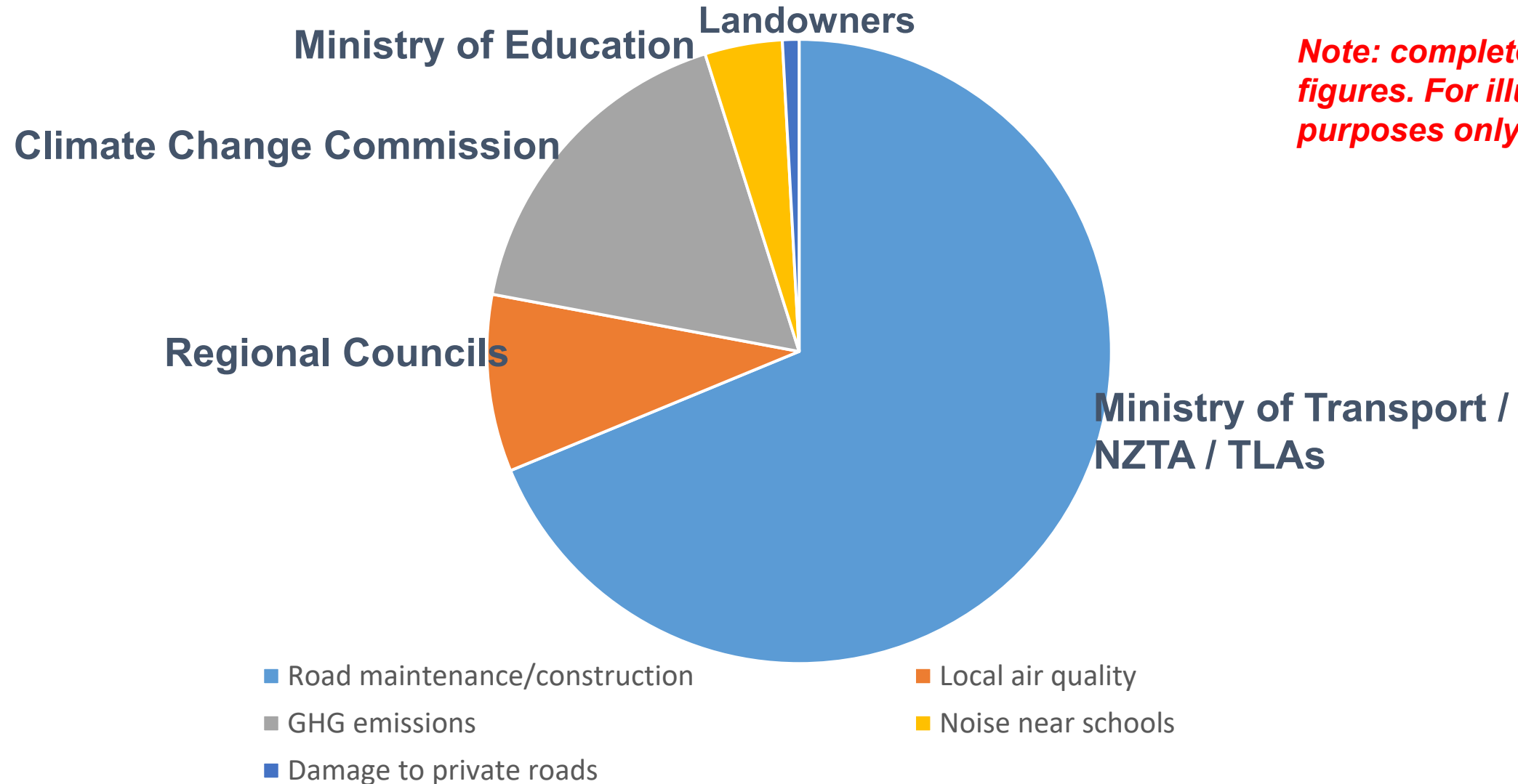
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# Directed cost-based funding / hypothecation

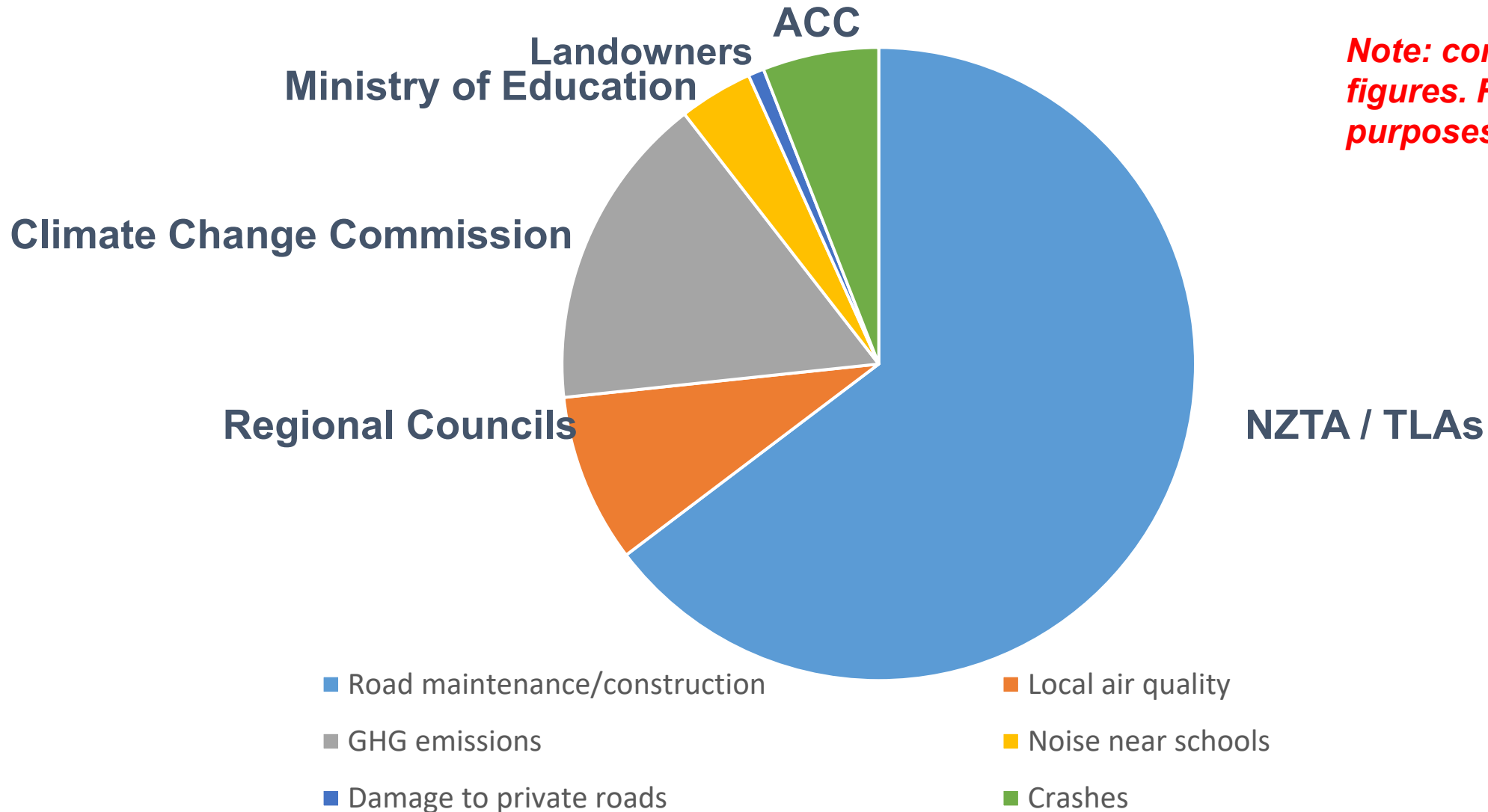


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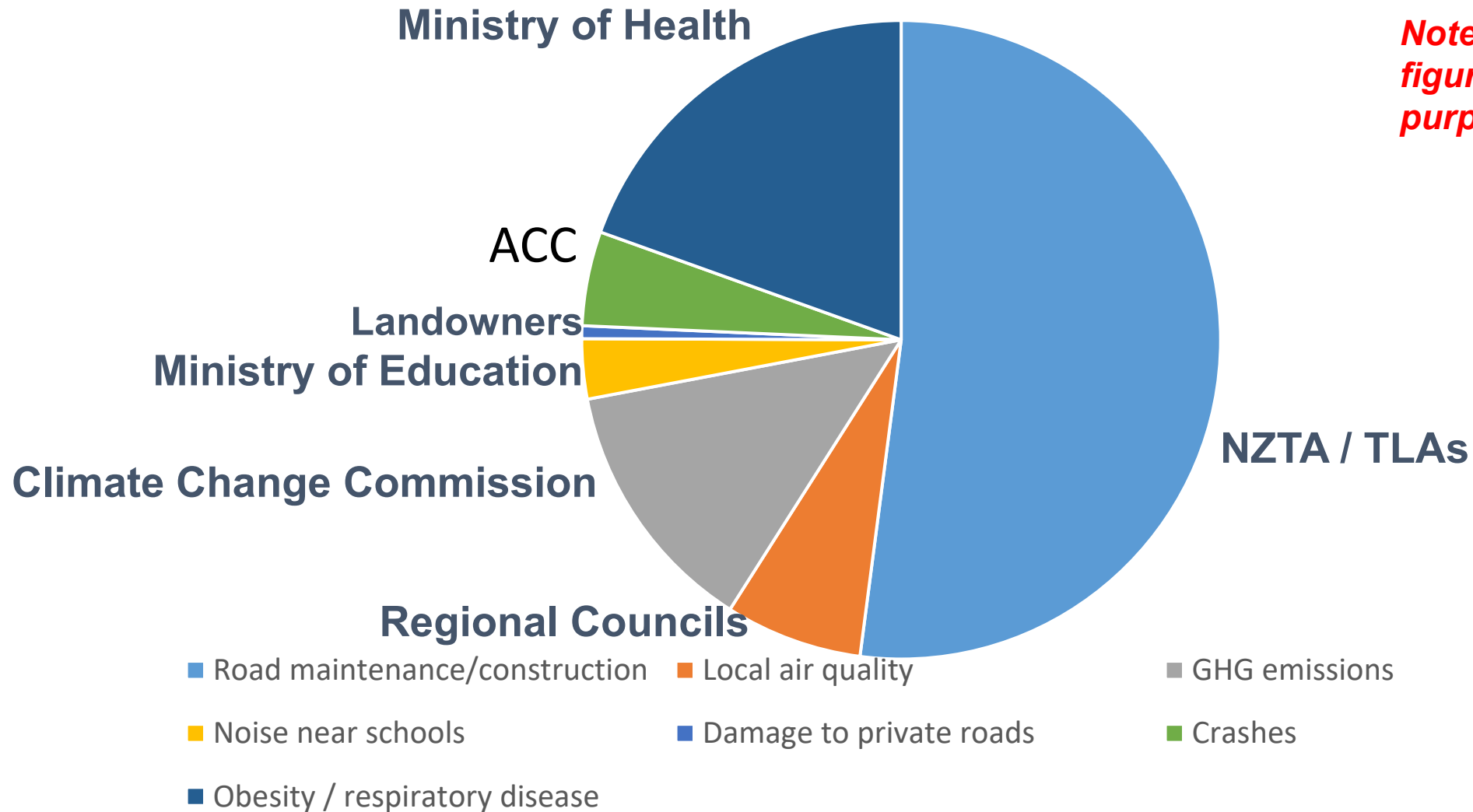
# Directed cost-based funding / hypothecation



# Directed cost-based funding / hypothecation



# Directed cost-based funding / hypothecation





# Directed cost-based funding / hypothecation – by route

- Route A  
-100  
km



Route B  
- 115 kms



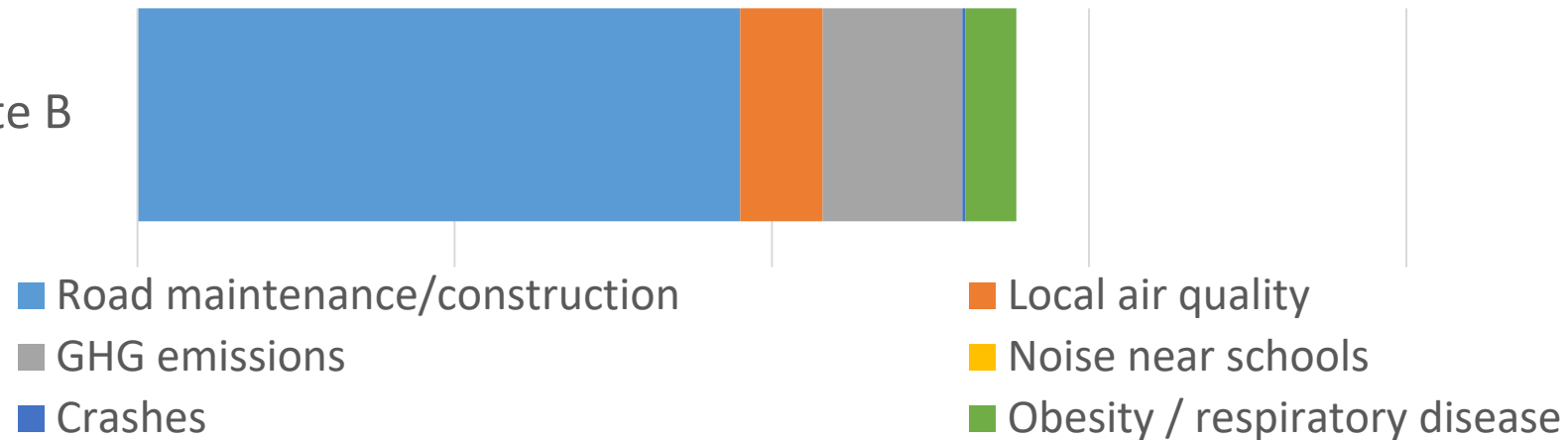
# Directed cost-based funding / hypothecation – by route

## Cost per km, by route

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



Route B



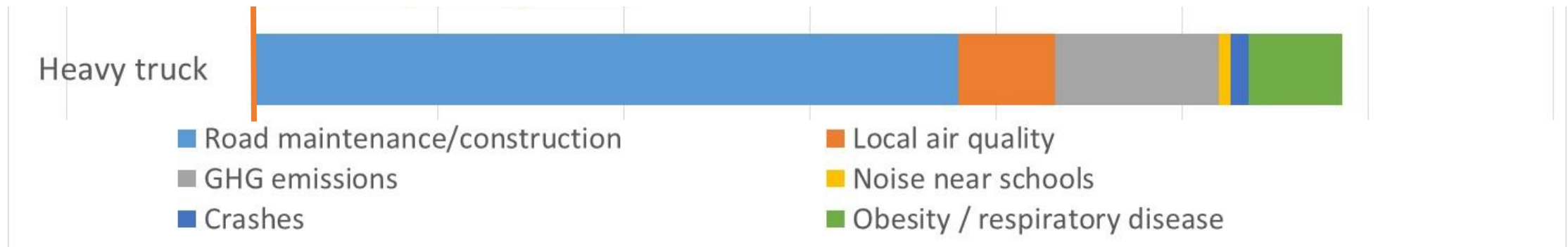
# Directed cost-based funding / hypothecation – by mode



# 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

## 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/>

In-Confidence



# Save money



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

# Save money





# 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?

Motor Vehicle Industry interview on The Platform

[https://www.youtube.com/watch?v=pFLOVe0\\_6pA](https://www.youtube.com/watch?v=pFLOVe0_6pA)

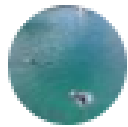
- *Big Brother will truly be watching.*
- *THIS IS BIG BROTHER. CHINA DOES THIS KIND OF THING.*
- *Don't forget with these GPS transponders they will also have a tool to bring in congestion charges , tolls and every time you speed, issue you a infringement notice. Big brother alright!!*
- *A device owned and monitored by a private company forced to be fitted in citizens cars ? Pack your bags national your outa here.*
- *This is simply 1984 ie..government over reach & a police state.*

# 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



**Irn Boru**  
@IrnBoru

@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.

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



Post



**Holyhekatuiteka** ✓  
@2ETeka



He's a full on nutbag who uses article 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



**Irn Boru** @IrnBoru · 2h

Mentally unhinged, and he no doubt thinks he's "saving" the planet and humanity. Lunatic.

# Summary

- Current system is old/crude and misses opportunities
  - But it is cheap
- Technology means electronic road user charging (eRUC) 'easier'
- eRUC offers exciting opportunities to:
  - cost / charge impacts and externalities
  - drive desirable behaviour change
  - and it could change how we use our streets and our cities
- But is big brother watching us?
  - And will it be politically acceptable
- Will move from eRoad User Charges (eRUC) to eRoad Use and Impact Charges (eRUIC)

# Thanks

**Simon Kingham**

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

**Te Whare Wānanga o Waitaha | University of Canterbury**

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@simon-kingham-56805216



# 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

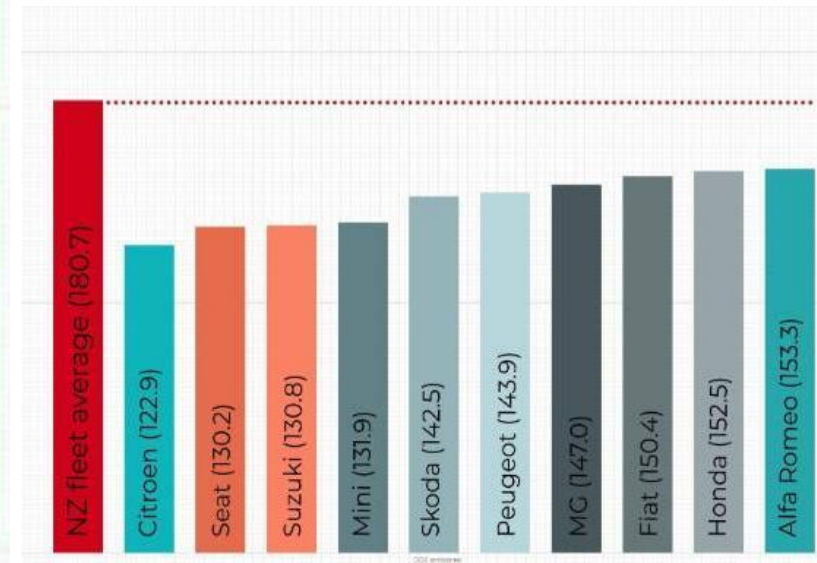
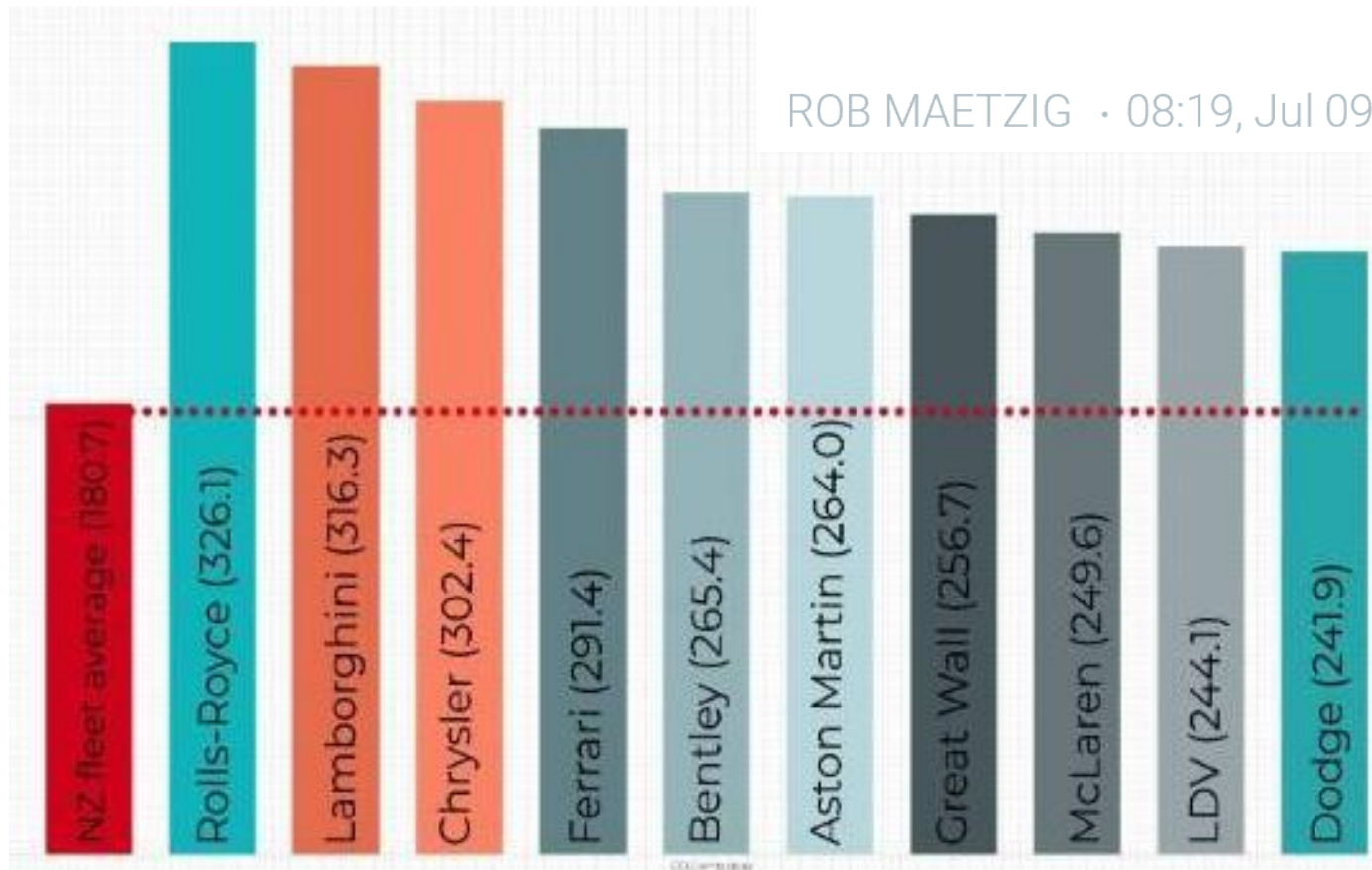
# Trucks are destroying our roads and not picking up the repair cost

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>

In Confidence

# 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)