

# Patterns in NZ Truck/Bike Crashes

**Dr Glen Koorey, ViaStrada Ltd**

**Prof Alistair Woodward, Univ. of Auckland**

**Dr Hamish Mackie, Mackie Research Ltd**

NZ Transportation Group Conference  
March 2018



# Presentation outline

- The problem
- Cycle Safety Panel recommendations
- Truck-bike crash analysis
- A Safe System solutions approach



*Alistair & Hamish*

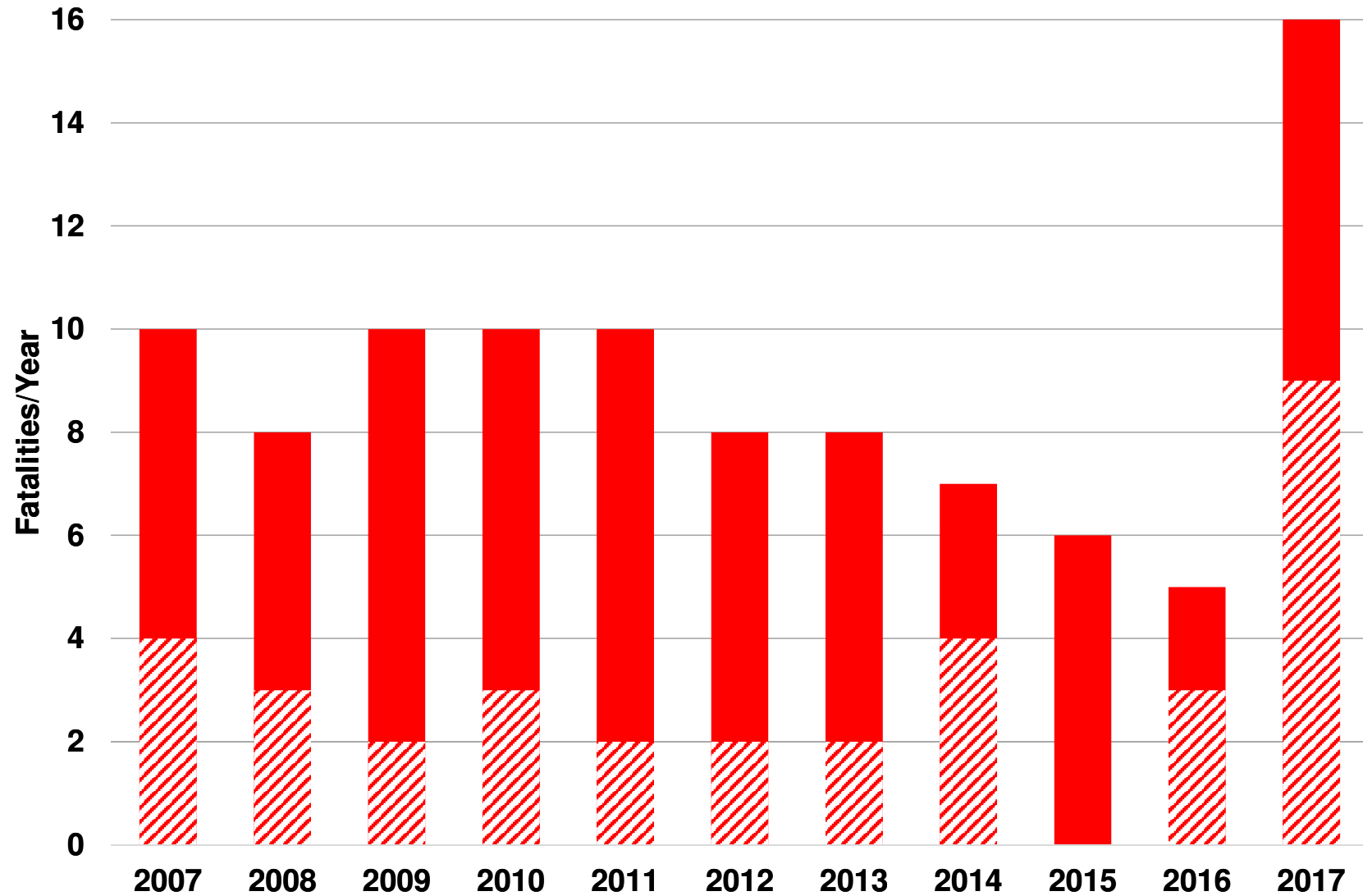


*NB: "Truck" is >3.5 tonne; does not include vans, utes or buses*

# Trucks vs Bikes: The problem...

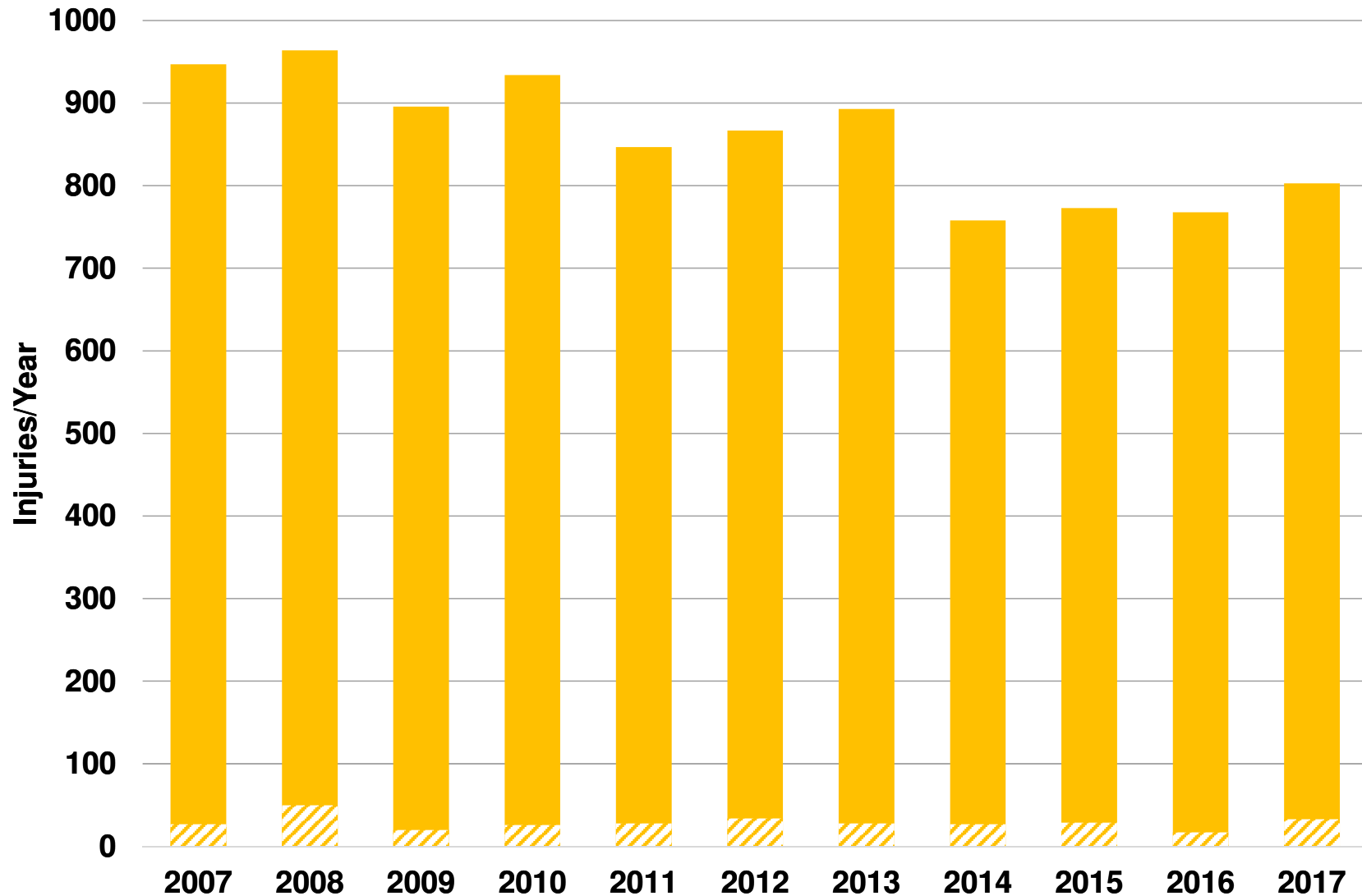
- Cyclist vs motor veh: Fatalities over time

— Trucks:  becoming more prevalent



# A minor part of the Cycle Injury problem too

- Reported Cycling injuries over time
  - Injuries involving Trucks (Ave: <5%)




# No love lost...

*"Even when facilities are provided for them they often want to go on the open road and often in situations where it's just not compatible for a cyclist to be there" – Ken Shirley, RTF*

## TRANSPORT Cyclists, trucks and the road

From **Jesse Mulligan, 1–4pm**, 1:22 pm on 19 February 2018

 Listen 6' 37"  
[Add to playlist](#) | [Download](#)

The National Road Carriers Association has today called on cyclists and motor cyclists to be a little less arrogant on the roads.

They're concerned there's a small group of riders and cyclists who assume truckies will see them and make way for them, without taking into account the size and immovability of the big vehicles.

We put that to the Cycling Action Network spokesperson Patrick Morgan.

## NEW ZEALAND / TRANSPORT Touring cyclists warned against riding at night

5:17 pm on 17 February 2018

 Tom Neal, Nelson Reporter  
[tom.neal@radionz.co.nz](mailto:tom.neal@radionz.co.nz)

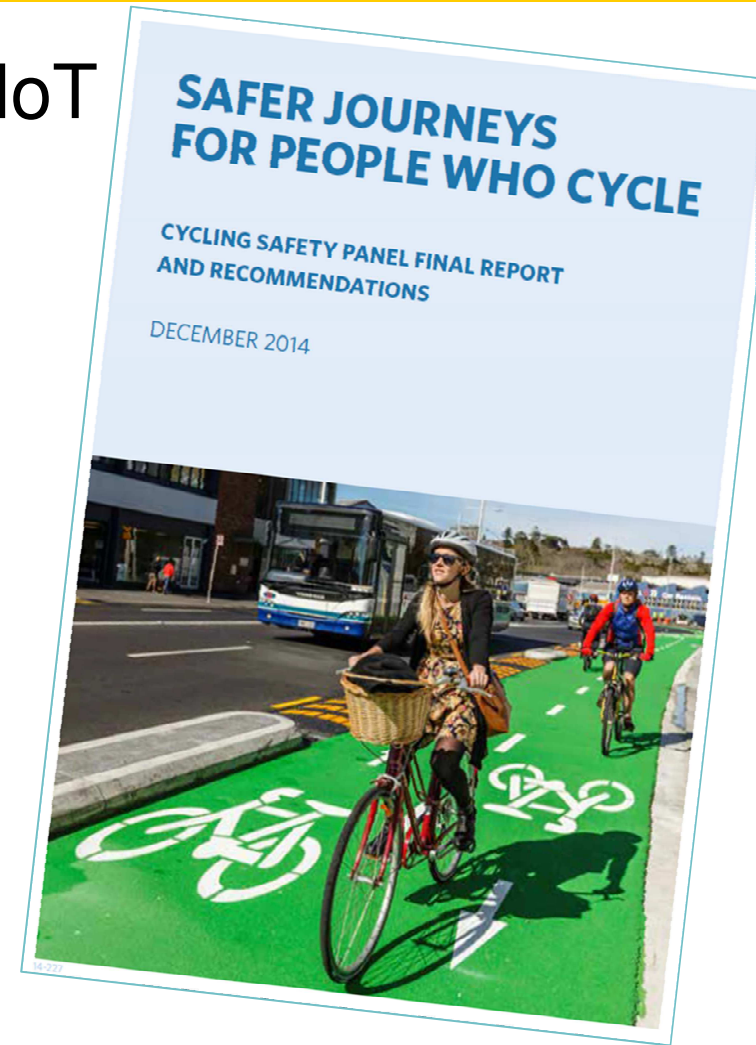
...s riding at night have been warned that they are putting all road users at risk.

Share this      

*"Some of the truck drivers think the road belongs to them. Sometimes they're in such a rush and push me out of the road" – cycle tourist Elie Pennetier*

# But what about the Cycle Safety Panel?

- 2014 Expert group convened by NZTA/MoT
  - 35 Recommendations made (incl. 15 high priority recc's)
  - Many of them related to truck-bike safety



# High priority recc's

## Truck-related:

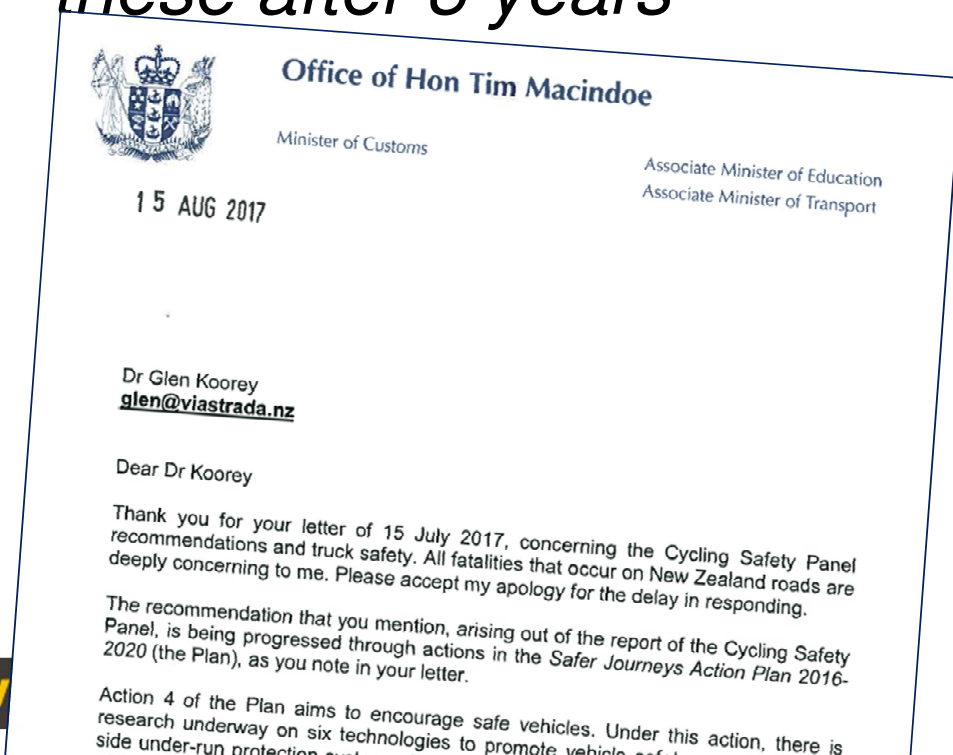
- **Separate cyclists** from high freight density traffic
- Trial minimum **mandatory passing distances**
- Increase/incentivise **training for truck drivers**
- Raise **cyclist awareness** of risks near heavy vehicles
- Investigate truck **side under-run** & other safety features

SAFE SYSTEM ENABLERS	
1.	Give <b>greater priority to active transport needs</b> (cycling and walking) in all land transport planning and investment decisions. This needs to be reflected in the Government Policy Statement on Land Transport Funding (GPS), the National Land Transport Programme (NLTP), the Transport Agency's Investment Assessment Framework, the Economic Evaluation Manual (EEM) and councils' long-term community plans.
2.	Establish and resource <b>dedicated teams</b> in the Transport Agency and Ministry of Transport with staff and funding to plan, implement and evaluate investments in cycling. Local government is encouraged to do the same.
3.	Improve the quantity and quality of <b>data collection</b> , especially for non-motor vehicle crashes.
SAFE SPEEDS	
4.	Ensure the needs of cycling are considered in the implementation of the Safer Speeds Programme.
SAFE ROADS AND ROADSIDES	
5.	Accelerate the provision of completed, fit-for-purpose, connected <b>cycle networks</b> .
6.	<b>Design intersections</b> so they are safe for cyclists. Trial European design guidelines for roundabouts and other innovative treatments.
7.	<b>Separate cyclists</b> from high-speed and high-volume or high freight density traffic.
8.	Progressively remove <b>parking from arterial roads</b> where it is a safety risk.
9.	Develop and promote nationally applicable <b>design guidelines</b> for cycling infrastructure.
SAFE ROAD USE	
10.	<b>Trial mandatory minimum passing distances</b> for motor vehicles overtaking cyclists in conjunction with an information campaign explaining the rule change to all road users.
11.	a. Increase and incentivise <b>training for commercial drivers</b> about driving safely near cyclists b. Raise <b>cyclist awareness</b> of the risks of riding near heavy vehicles.
12.	Increase the safety of <b>cycling to school</b> through a package of Safe System measures.
13.	Improve all road user <b>attitudes and behaviours</b> towards sharing the road safely.
SAFE VEHICLES	
14.	Investigate the costs and benefits of introducing mandatory <b>truck side-under-run protection</b> and other <b>vehicle safety features</b> .
15.	Adopt improved standards for <b>bicycle lights</b> .

# High priority recc's

Truck-related:  

- *Very little tangible progress on many of these after 3 years*

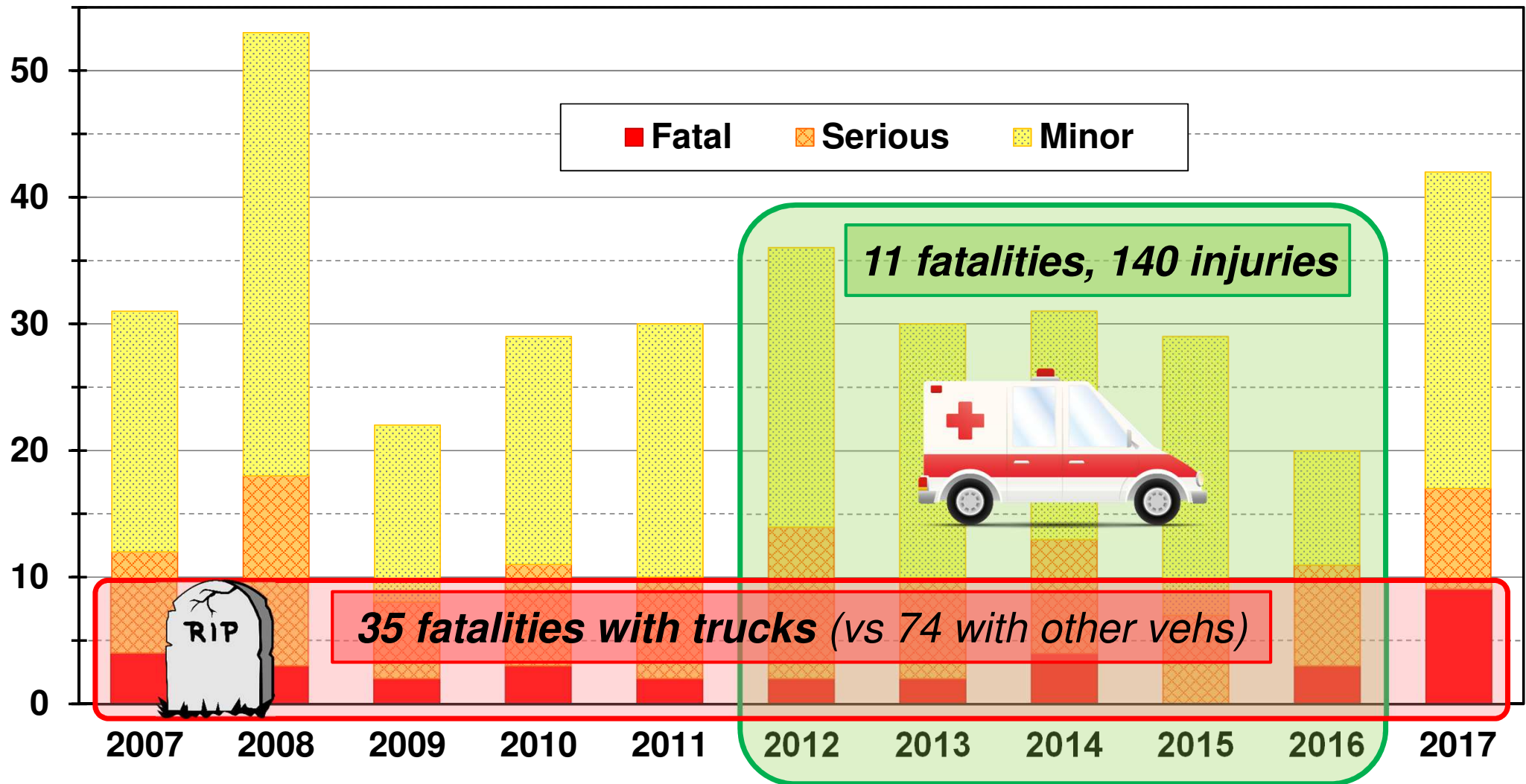


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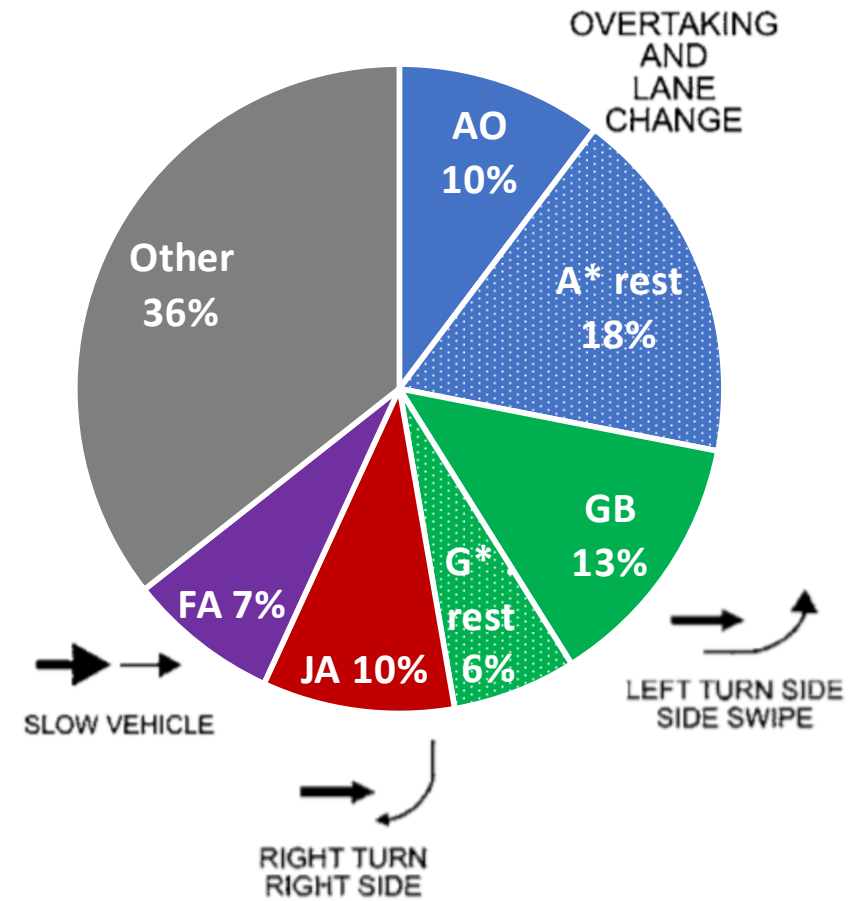
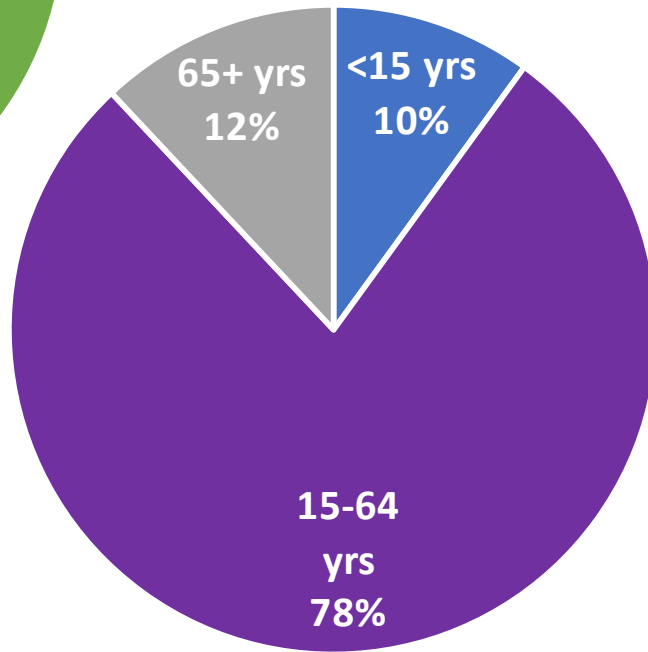
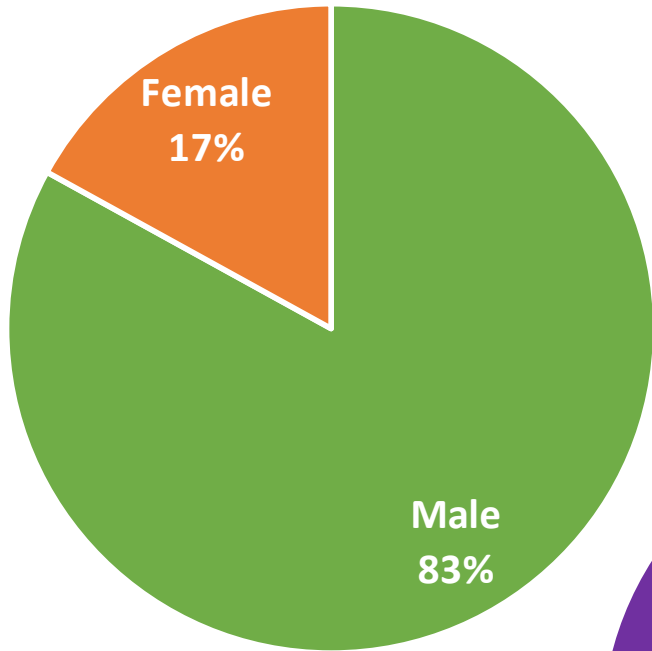




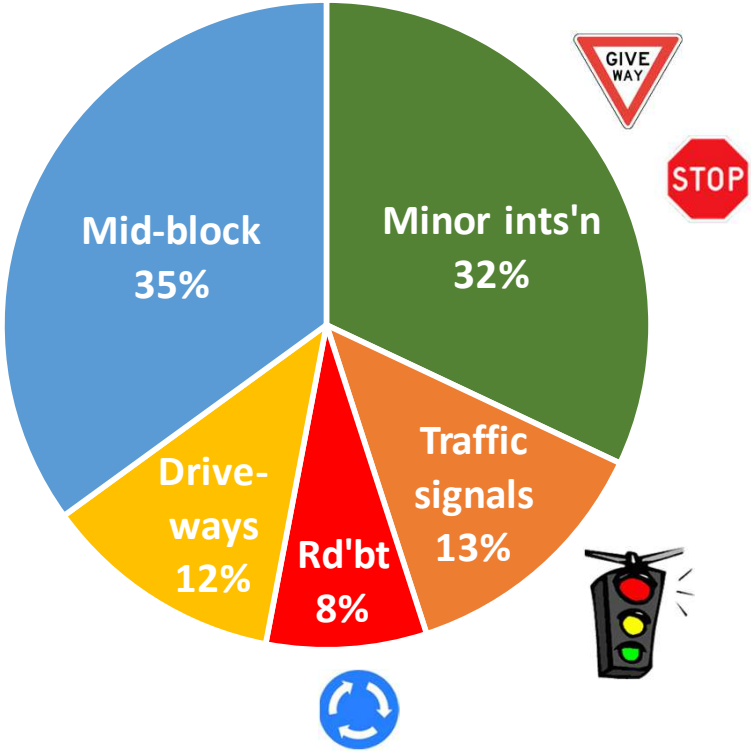
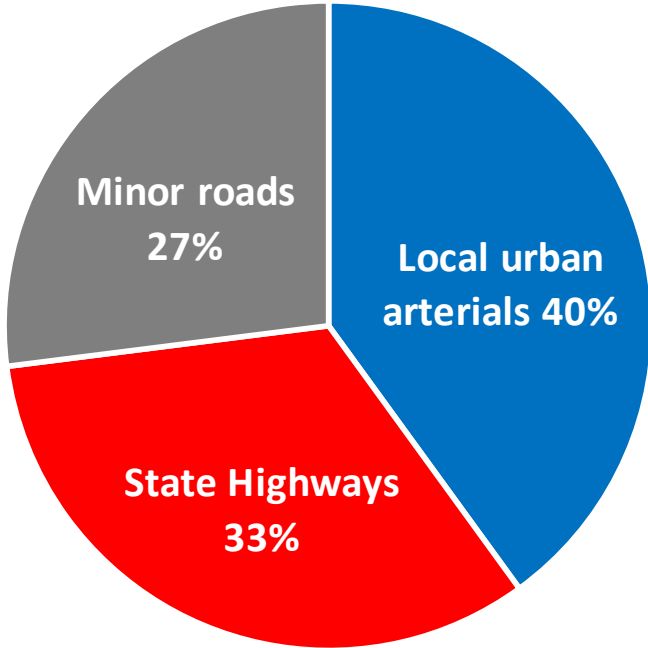
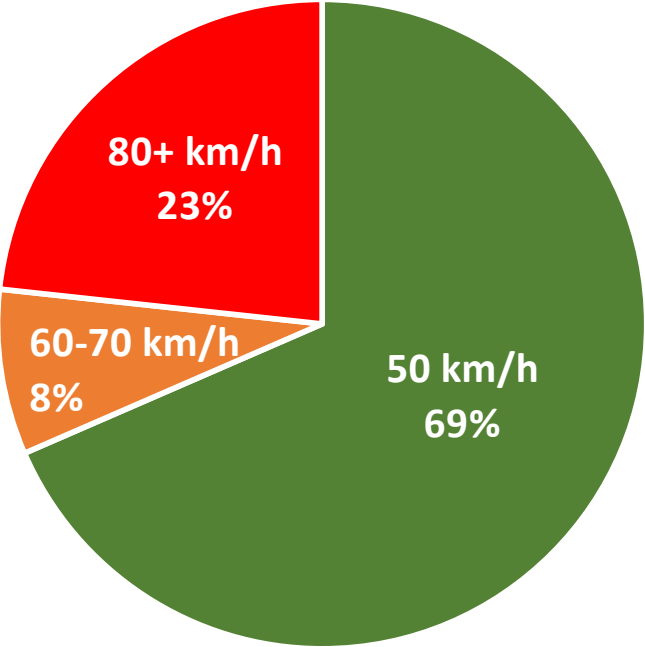
# A closer look at truck-bike crashes



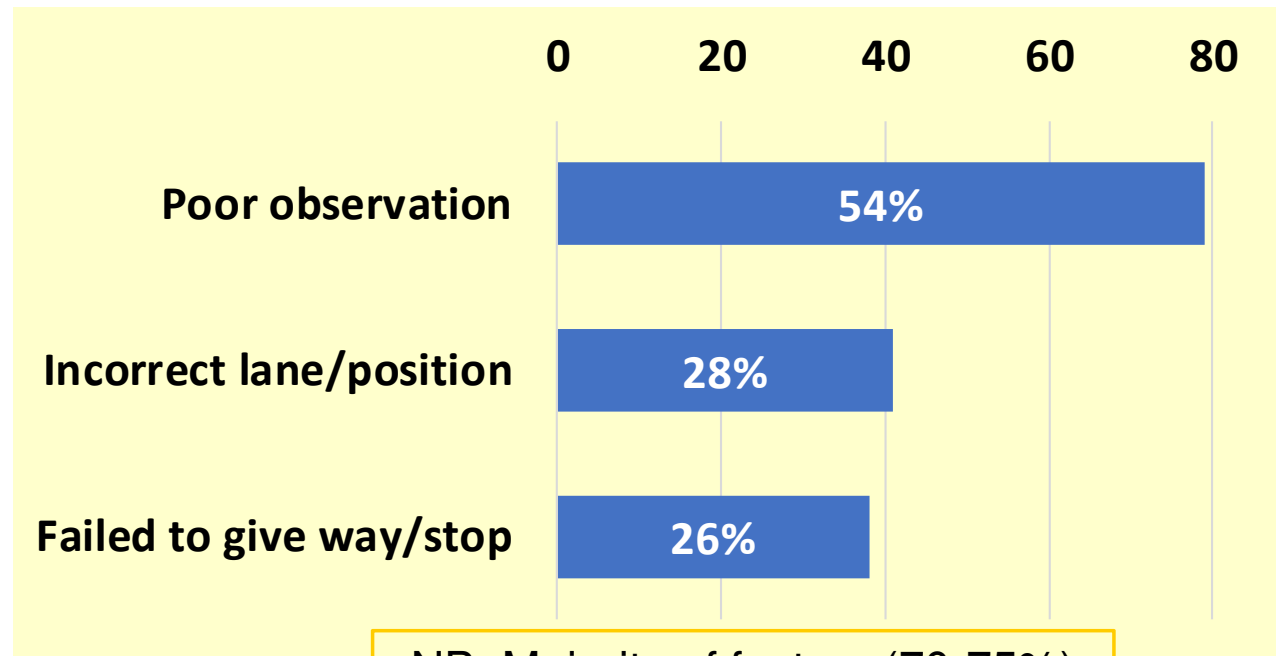
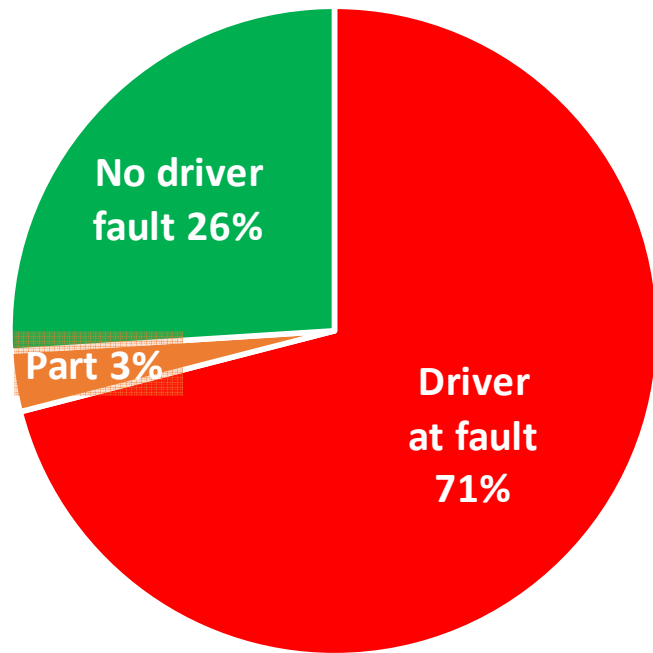
# Truck-bike injuries: Key crash patterns



# Truck-bike injuries: Road environment



# Truck-bike injuries: Road user factors



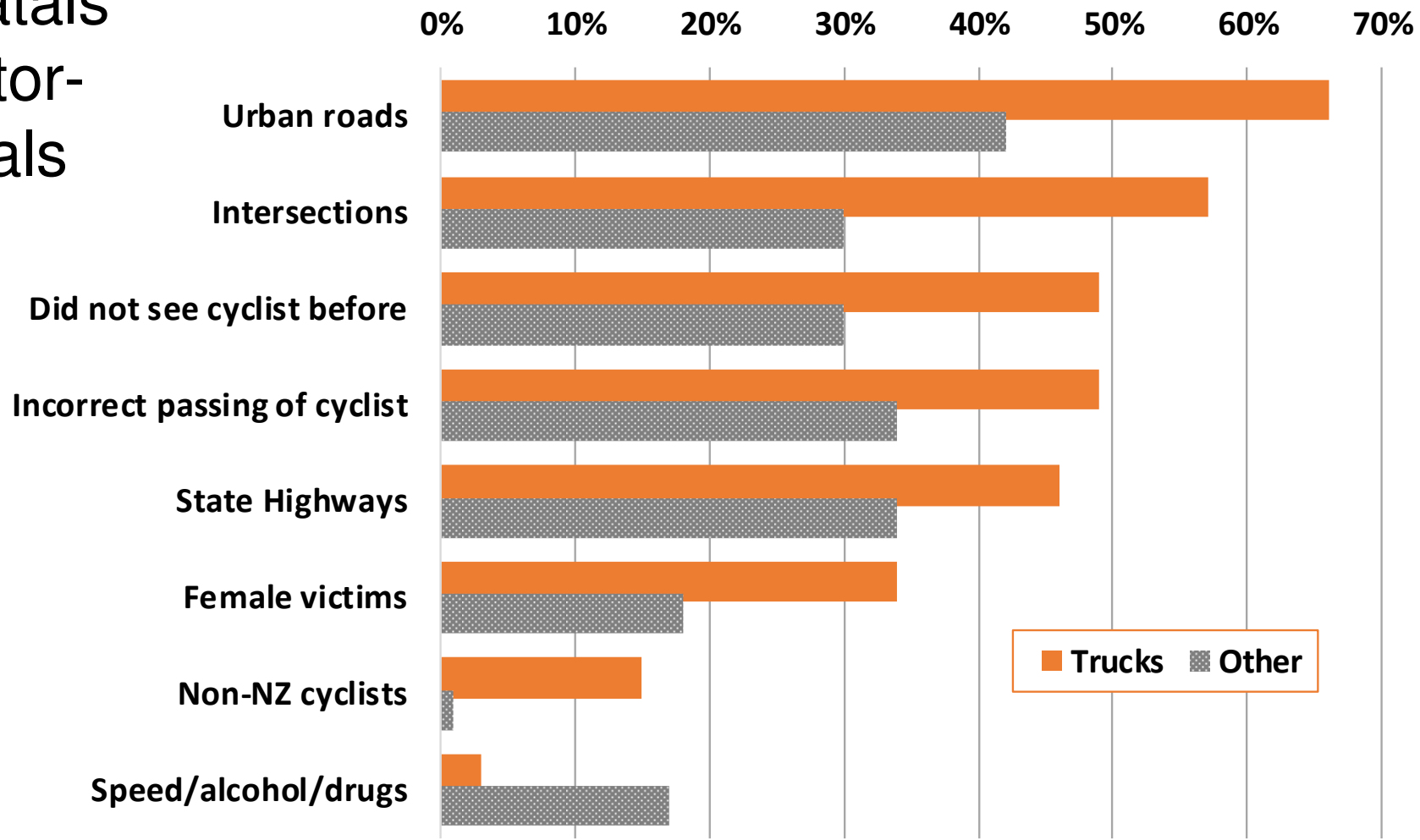
NB: Majority of factors (70-75%) recorded against the truck driver



*Speed/alcohol **not** recorded as a major factor (3%)*

# Truck-bike fatalities: Key crash patterns

- Truck-bike fatalities vs Other motor-veh./bike fatalities



# Safe systems solutions

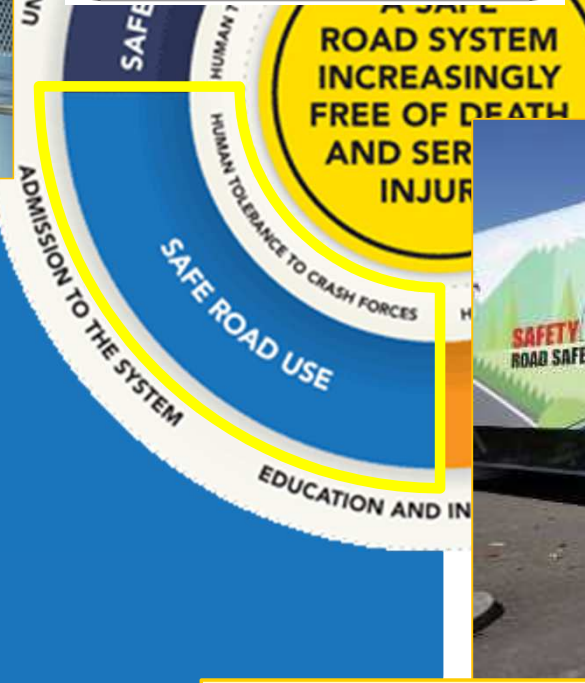
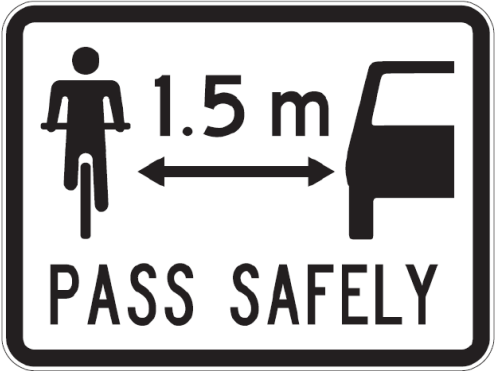


# Safe systems solutions: Roads & roadsides



c/ Bicycle Dutch, BW Tour, NZTA

# Safe systems solutions: Safe road use



c/ Richard Barter, NZ Trucking Assn



# Safe systems solutions: Safe speeds



# Safe systems solutions: Safe vehicles

The collage features several key elements:

- Truck Sensor:** A close-up of a truck's side mirror with a green sensor highlighted.
- Cyclist on Sidewalk:** A cyclist on a sidewalk with a green bounding box around them.
- CycleEye Sensor:** A close-up of a black sensor labeled 'CycleEye'.
- Red Truck and Cyclist:** A red truck with a cyclist in a yellow top and green pants riding past it.
- Blind Spot:** A person on a bicycle in a truck's blind spot.
- Side Guard Advertisement:** A white truck with a side guard advertisement that reads: "SIDE GUARDS SAVE LIVES. Now on all University of Washington Fleet Service Buses. 32% reduction in collisions with bicyclists. 37% reduction in collisions with pedestrians." The University of Washington logo is also present.

In the center is a circular diagram with concentric rings and text:

- Outer Ring (clockwise from top):** LEGISLATION AND ENFORCEMENT, LEADERSHIP AND CAPABILITY, EDUCATION AND INFORMATION.
- Second Ring (clockwise from top):** SAFE SPEEDS, SAFE VEHICLES.
- Third Ring (clockwise from top):** HUMAN TOLERANCE TO CRASH FORCES, HUMAN TOLERANCE TO CRASH FORCES.
- Inner Ring (clockwise from top):** SAFE ROAD USE, SAFE VEHICLES.
- Center:** SYSTEMICALLY DANGEROUS.

c/ CycleEye, UW, CLOCS

# CLOCS Scheme, London

<https://www.clocs.org.uk/>

## CLOCS Compliance

- Under Run Bars
- Class V1 Mirror
- Cyclist Signage
- Left Turn Alarm (Spoken warning)
- Front Blind Spot Proximity Sensors
- Rear Blind Spot Proximity Sensors



## Required Equipment



# Safe systems solutions: Summary

- Separated Cycleways
- Better Intersections
- Shoulder widening



- Lower rural speed limits
- Lower urban speeds?

- Cycle skills training
- Truck driver training
- Minimum overtaking gap
- Workplace H&S processes
- “Share the Road” workshops

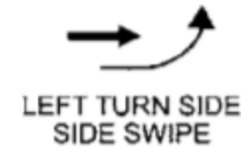


- Side under-run protection
- Better cab visibility/mirrors
- Truck-side cyclist sensors
- “Approved trucks” only?

*Central/local Govt  
systematic issues?*

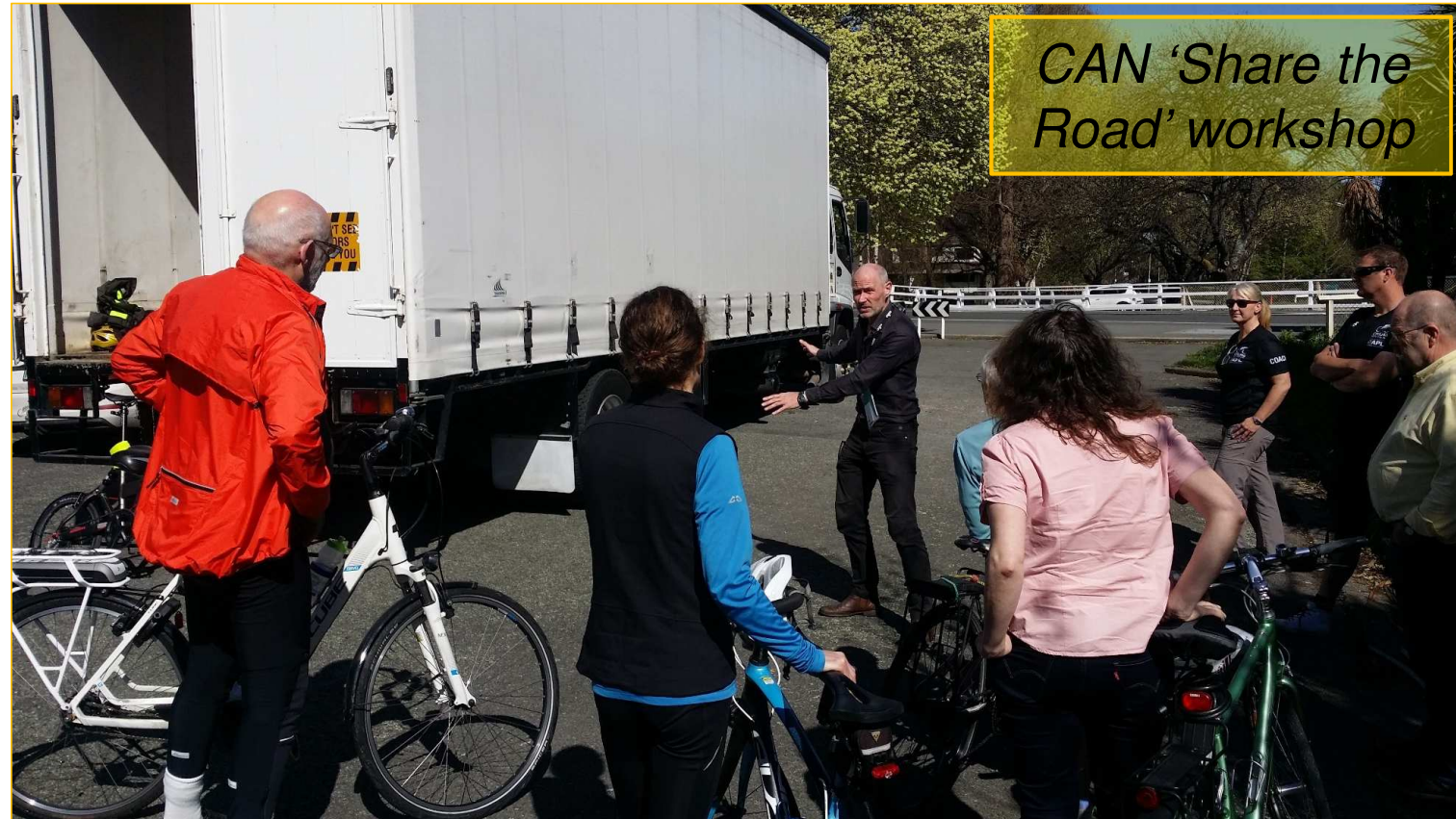
# Conclusions

- Truck crashes make up 30-35% of cycling fatalities in NZ
  - Lately the proportion has been higher
- Common themes:
  - Conflicting movements / incompatible speeds
  - Poor observation, incorrect lane/position, failure to give way / stop
- Recommendations:
  - Undertake a **safe-system analysis** of truck-bike crashes in NZ
  - Implement **minimum mandatory passing gaps** overtaking cyclists
  - Require **side under-run / cycle sensors** on all new trucks in NZ



# Thank you!

- Any questions?



CAN 'Share the Road' workshop



- [glen@viastrada.nz](mailto:glen@viastrada.nz)