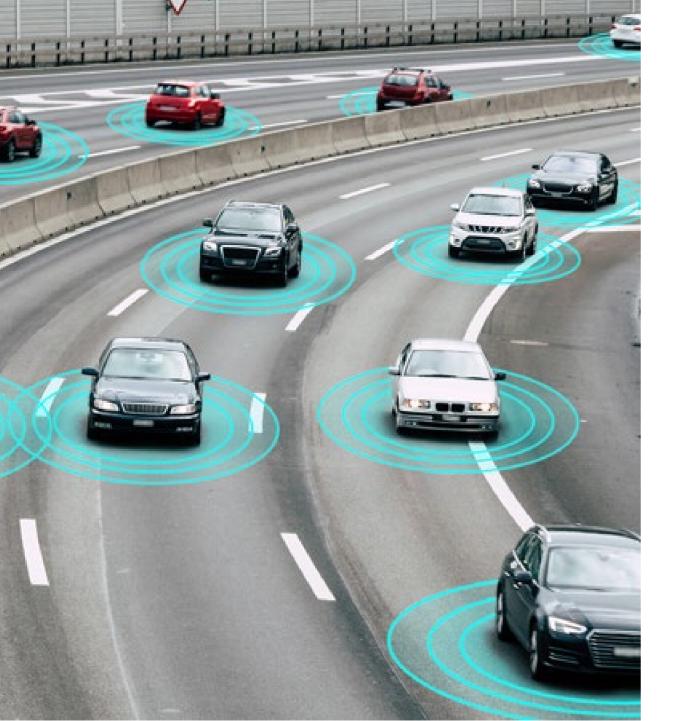# Can connected vehicle data help stop deaths on our roads?

→ COMPASS IOT TRACK DAY, MARCH 2024

SARAH DODS, Region Leader Advanced Analytics & AI

ROADMAP

→ Road trauma reduction targets

→ Risk & industrial safety parallels

→ Measuring what matters

→ Changing the conversation

Road trauma statistics are sobering

Australian and Victorian governments committed
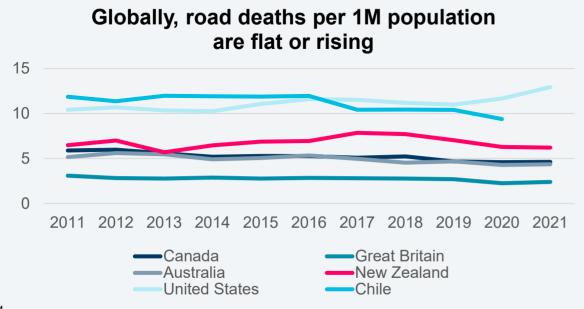to a 50% reduction in road death from 2020 to 2030.

118 more people have died on Victorian roads
in 2023 than if that reduction was on track.

569 lives would have been saved nationally
since 2020 if we were meeting our goals.

Victoria annual road deaths:

	2020	2021	2022	2023	Total
Goal	211	200	190	179	780
Actual	211	234	242	297	984
Lives not saved		34	52	**118**	**204**

BUT THEY'RE ALL DEAD

Globally, road deaths per 1M population are flat or rising

"Safe System" framework now adopted by agencies globally.

Where can we make a difference?

– Safe Vehicles   limited by fleet turnover

– Safe Roads   limited by funding

– Safe Speeds   community acceptance

– Safe Drivers   people will make mistakes

– Post Crash Care   tyranny of distance

GHD global research shows common themes

- GHD Board sponsored research

- Activated via GHD Global road safety network

  - 70 road safety policies and action plans

  - On-line surveys of agency staff

  - Interviews with Road Agency and Municipal Government executives.

- Global and regional themes

NA

EMEA

APAC

3 big consistent challenges

1. Speed management

2. Funding access & prioritisation

3. Community support & political leadership

How might connected vehicle data make a difference?

↳ **ROADS DON'T CRASH, DRIVERS DO**
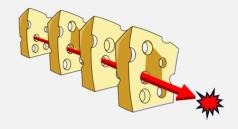
A CRASH INVOLVES ALL OF:

a human driver
(safe drivers)

In a vehicle
(safe vehicles)

Travelling at a speed
(safe speeds)

Interacting with the road surface
(safe roads)

Interacting with local conditions

Are crashes random or is there systemic risk?

Likelihood = Probability x Exposure

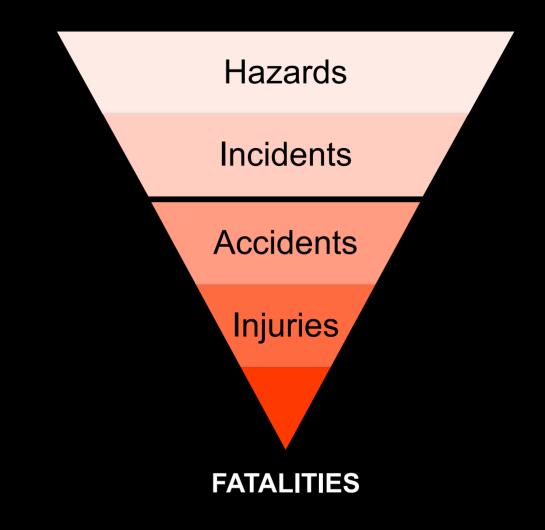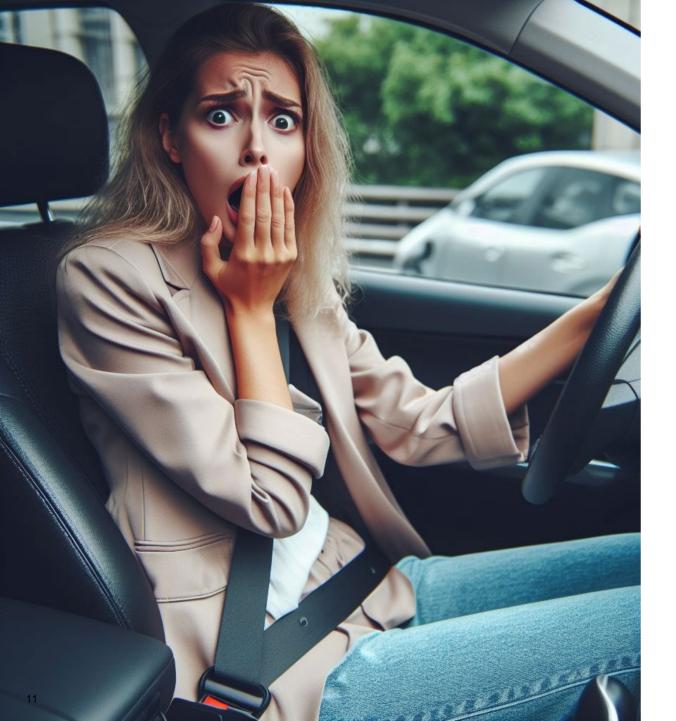| Consequence	RARE	UNLIKELY	POSSIBLE	LIKELY	ALMOST CERTAIN
SEVERE	Medium	Medium	High	Extreme	Extreme
MAJOR	Low	Medium	Medium	High	Extreme
MODERATE	Low	Low	Medium	Medium	High
MINOR	Low	Low	Low	Medium	Medium
MINIMAL	Low	Low	Low	Low	Low

Road safety management lacks key information

Probability in industrial safety management has lead and lag indicators

- **Lead indicators:** measure risk. Aim to find and fix **risk** before someone gets hurt

- **Lag indicators:** measure outcome. Aim to understand how someone got hurt

Current road safety management

- Strong on lag indicators (crash data)

- Hazards: roads, vehicles, not drivers or speed
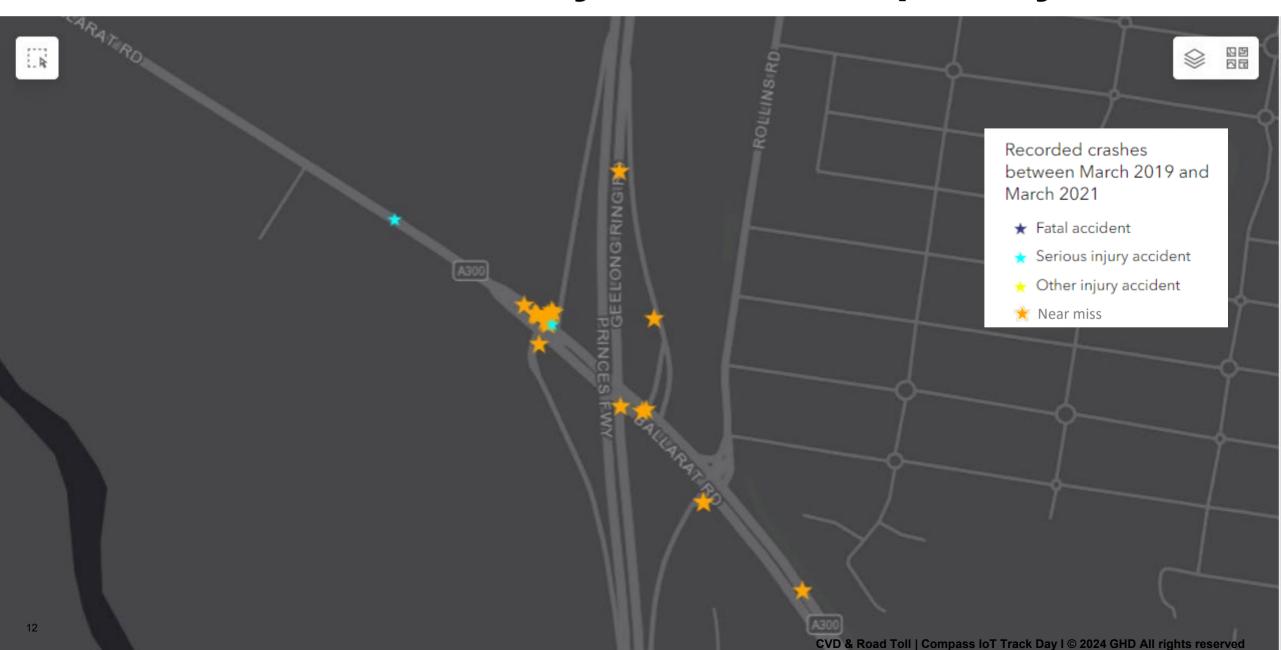
- No incidents data layer

Hazards

Incidents

Accidents

Injuries

FATALITIES

In road safety, incidents are near misses

- We've all had them

- Not likely to report them

- Connected vehicle data captures them (automatically and anonymously)

- High G forces (braking and/or swerving)

- >47% bodyweight against seatbelt

- Vehicle likely to lose traction
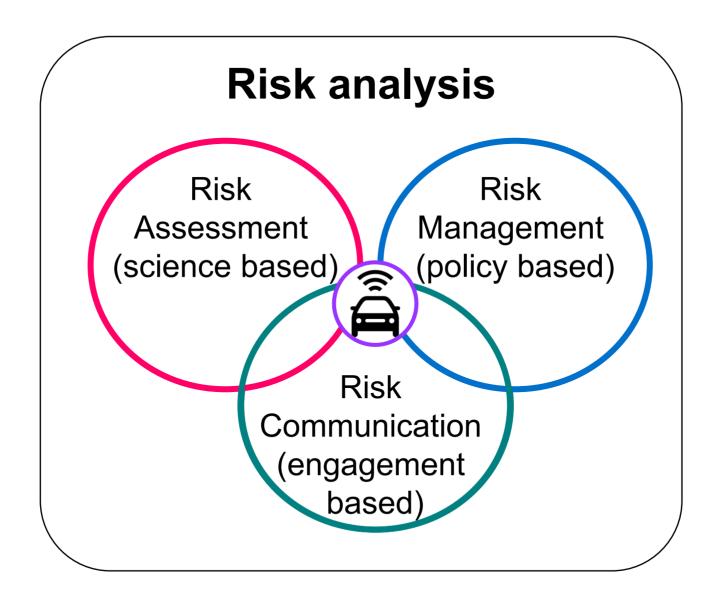
Which crash site would you treat as a priority?

Recorded crashes between March 2019 and March 2021

★ Fatal accident
★ Serious injury accident
★ Other injury accident
★ Near miss

Behaviourial Indicators

Speed vs posted speed limit

Fatality or Serious Injury (FSI) risk

Kinetic energy

Connected vehicle data objectively records driver behaviour and response to change

Risk analysis has 3 dimensions: CVD role in each

Risk analysis

- Risk Assessment (science based)
- Risk Management (policy based)
- Risk Communication (engagement based)

As you drive today, please consider:

➔ **How your risk behaviours (while having fun safely) translate to data**

➔ **How that data captures your interaction with your vehicle, the road, context and conditions**

➔ **How that data, everywhere, all the time, could improve safety, optimise risk mitigation & save lives**

➔ **What we can already do now with the data of a few, and what will become possible as more of the fleet gets connected**

GHD Digital

*Thank You

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