

GIG ECONOMY RIDER SAFETY



Evaluating Food Delivery Rider Visibility



David Milling, Tia Gaffney
and Dickson Leow

DEFINING THE PROBLEM TO BE SOLVED

A string of deaths of Food Delivery Riders (FDRs) operating in the so called 'gig economy' in recent months has spurred the discussion surrounding FDR safety. We already know that motorcyclists (including scooter riders) and cyclists (including e-cyclists) are at increased risk of injury in a crash (high severity outcomes). When we combine this fact with increased exposure metrics, more time on the road and more kilometres travelled, it's a recipe for significantly increased injury risk.

Reducing the risk to Food Delivery Riders is the shared responsibility of industry, OH&S regulators, the road authority, police, and the individual rider. Motorcycle and cyclist safety are difficult areas for these groups to tackle. Kinetic energy combined with minimal protective systems in a crash (no restraints, no airbags and no crashworthy crumple zones) means that the majority of the crash energy is absorbed by the motorcyclist or cyclist. In crashes with other vehicles, riders can be seriously injured or killed – even when the crash is not their fault.

For this reason, the primary aim of any FDR safety program should be to achieve **crash avoidance** as far as practicable.



THE STATISTICS

The Food Delivery sector is booming. The global motorcycle and bicycle market is expected to grow from \$74.36 billion in 2020 to \$78.3 billion in 2021 at a compound annual growth rate (CAGR) of 5.3%¹. The COVID pandemic has seen a dramatic uptake in the demand for food delivery services in Australia. Food ordering app Menulog saw a 54 percent increase in Melbourne orders from March to July², 2020.

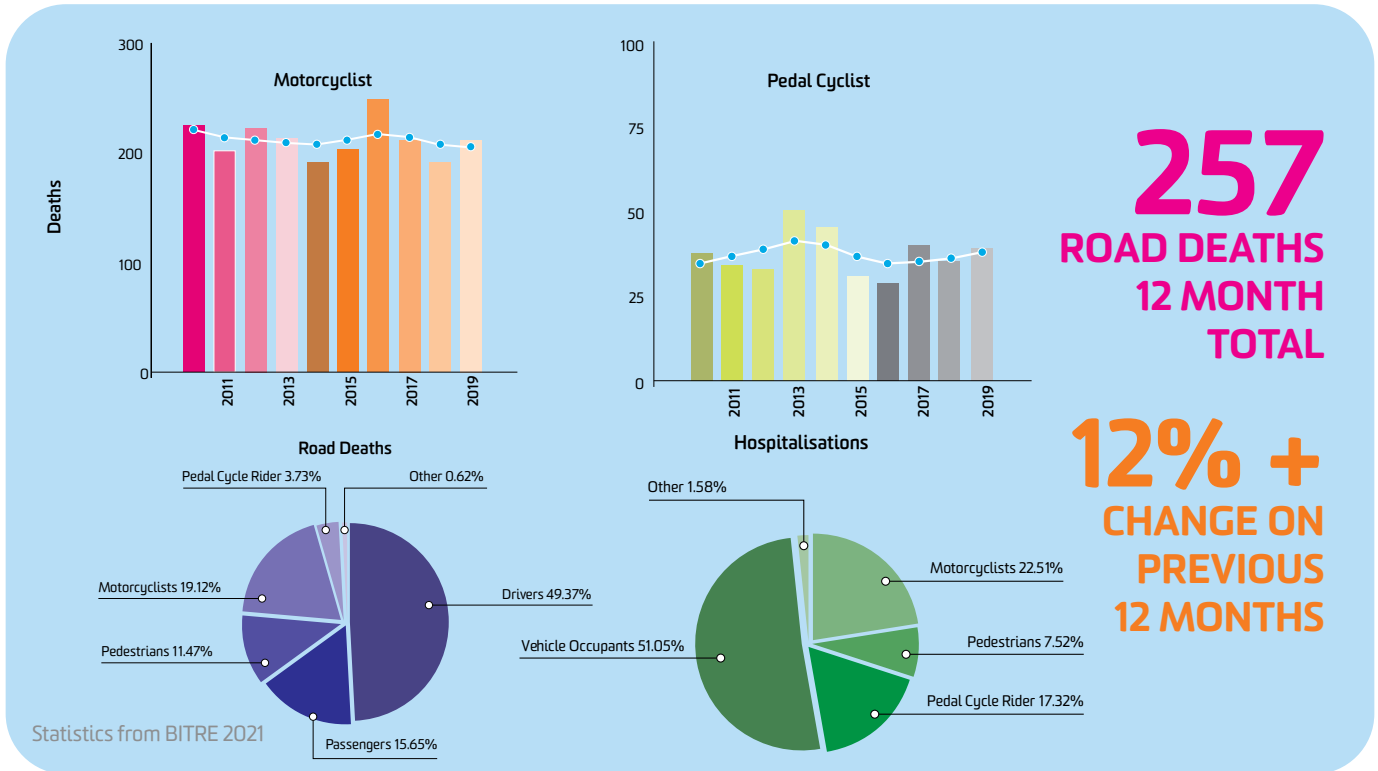
Motorcyclists and bicyclists are vulnerable road users.

For the last decade (Oct 2010-Oct 2019) there has not been any measurable reduction in motorcycle or bicycle user deaths. Each year, motorcycle riders comprise 17% of road deaths and an astounding 27% of serious injuries (BITRE 2019), despite motorcycles accounting for 5.7% of all Australian passenger vehicle registrations and 1.2% of passenger vehicle kilometres travelled. While bicyclists account for 3% of fatalities, they account for 14% of serious injuries. Together, two-wheeled vehicles (bicycles and motorcycles) account for an astounding 41% of serious injuries and 20% of fatalities.

¹ Global Motorcycle and Bicycle Market Report 2021: COVID-19 Impact and Recovery to 2030 Featuring Yamaha, Honda, BMW, Harley Davidson and Kawasaki - ResearchAndMarkets.com (yahoo.com).

² <https://www.commercialrealestate.com.au/news/comfort-food-deliveries-the-bright-spot-of-melbournes-covid-19-lock-down-973067/>

IN 2019, MOTORCYCLE RIDERS WERE NEARLY 30 TIMES AS LIKELY TO BE FATALLY INJURED IN CRASHES COMPARED TO VEHICLE OCCUPANTS (BITRE 2020 ON A VKT BASIS).



THE STATISTICS (CONTINUED)

Over 50% of the motorcycle crashes in Victoria involved multiple vehicles; about 40% of motorcycle FSI crashes occurred at intersections with approximately 20% involving turn-in-front collisions.

Cyclist crashes are steadily increasing. One in five people injured on Australian roads and paths is a cyclist³. Motor vehicle crashes with cyclists have been rising steadily, with a 3% increase from 2006 to 2018 (Beck 2019).

LOOK BUT FAIL TO SEE

Many crashes between vehicles and two-wheeled vehicles occur because a vehicle driver has failed to see a motorcycle or bicycle present on the road. Rider visibility is not a new problem – for example, the issue of motorcycles being seen by other road users was first addressed by Victorian Parliament in 1966.

A method for preventing crashes with two-wheeled vehicles and their riders is to make them look brighter, larger, and more prominent – to make them more visible on the roadway.

DEVELOPING A SOLUTION

The protection of Food Delivery Riders on the road requires a holistic approach. Improvements to licencing, vehicle selection and driver education and training are all important aspects.

Research suggests that improving the visibility of riders will decrease crash likelihood.

Improving motorcycle and bicycle rider visibility (conspicuity) is a cost-effective countermeasure which is likely to reduce the incidence of Look but Fail to See crashes.

ARRB has demonstrated experience in evaluating reflectivity, retro-reflectivity and contrast of road elements and infrastructure using robust measurement methods. This evidence-based methodology can be extended to evaluate visibility of FDR gig economy workers and their equipment.

Interested stakeholders in government, industry and the community wishing to reduce avoidable crashes are encouraged to contact ARRB as we drive development of a best practice framework for rating visibility metrics for the FDR gig economy industry.



CONTACT

For information contact Tia Gaffney, Principal Professional Leader Transport Safety, at tia.gaffney@arrb.com.au or call [0415 984 519](tel:0415984519)

³ <https://www.aihw.gov.au/reports/injury/pedal-cyclist-injury-deaths-hospitalisations/contents/table-of-contents>