The Crash Investigation Alliance – a Gold Coast based Local and State Government partnership

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Abstract

The Crash Investigation Alliance (CIA) is localised shared responsibility between the City of Gold Coast (the City) and Queensland Police Service (QPS). The CIA combines its road safety, traffic engineering, fatal crash investigation and enforcement resources to investigate fatal and serious injury (FSI), separate to ongoing QPS investigations. Benefits of the CIA include escalation of crash treatment selection processes, localised post-crash enforcement strategies and reporting to stakeholders for sites where a FSI crash has occurred. This paper aims to describe the CIA's crash investigation process, post-crash strategies and summarise the investigations undertaken since its inception in August 2017.

Local and state government partnership

The City's Gold Coast Road Safety Plan 2015-2020 (GCRSP) supports the CIA to investigate and respond to FSI crashes to determine engineering treatment options while respecting confidentiality of ongoing Police investigations (City of Gold Coast, 2015). The CIA reports quarterly to the Gold Coast Road Safety Partnership Advisory Group (PAG) which also provides direction on the implementation of the GCRSP. Its membership comprises of representatives of local and state government road authorities, enforcement agencies, academic institutions and road safety advocates.

QPS's Strategic Plan 2018-2022 supports the CIA through its vision of delivering safe and secure communities through innovation, collaboration and best practice (Queensland Police Service, 2018). CIA investigations and recommendations are reported into Queensland Police Records and Information Management Exchange (QPRIME), a database that captures and maintains information for all reported traffic incidents.

Prior to the CIA

Prior to this partnership there was no effective process for both organisations to share critical and confidential information about FSI crashes. Similarly, there was no effective process to provide information on what remedial treatments were proposed where FSI crashes occurred. Exchanging this information often encountered lengthy delays resulting in investigations by the City solely relying on crash data alone. This did not allow the proper understanding of road conditions, road user activities and behaviours prior to a crash.

CIA resources

The CIA combines its skills, knowledge and expertise to manage a process that can be initiated within 72 hours following a FSI crash.

The City provides resources from its Transport and Traffic Branch. This comprises of officers with qualifications, skills and experience in road safety audit, traffic engineering and road asset planning. These officers inform the development and implementation of crash treatments and road safety messaging initiatives.

QPS provides resources from its Road Policing Command (RPC) which oversees crash investigations by the Forensic Crash Unit (FCU) and gathers intelligence collected on crashes from QPRIME. The RPC activates the CIA for FSI crashes occurring on the City's local road

network only incidents on private property are excluded. Hospitalisation crashes that are not investigated by QPS are examined by the CIA at the discretion of the City or QPS. QPRIME provides critical information and intelligence about road conditions, road user activities and behaviours prior to the crash occurring. This is gathered from CCTV footage (where available), accounts from witnesses and information from sources such as next of kin, family and associates.

CIA investigations

Sites are inspected as a group to observe and document existing road conditions, identify safety issues and share information about road environment conditions and road user behaviours prior to the crash.

Since its inception in August 2017, the CIA has investigated 20 FSI crashes across all road user types (pedestrians, cyclists, motorcyclists and drivers). Investigations have taken place in coastal, urban and hinterland settings. Road environment issues investigated relate to intersection control, pedestrian crossing facilities, sight distance, roadside delineation, road alignment, pavement condition and street lighting. Road user behaviours investigated include driver inexperience, elderly drivers, alcohol and drugs in the system or a combination of speeding with alcohol/drugs in the system and misuse of pedestrian crossings. Alcohol and speeding accounted for three-quarters of these investigations.

Road user behaviours identified

In the 12 month period leading up to February 2019, 11 fatal and two serious injury crashes were investigated. CIA established the following road user activities and behaviours that contributed to these crashes.

- Pedestrians
  - Older pedestrian's familiarity with the local area and assumptions of vehicle movements leading to impaired judgement or limited personal awareness when crossing between two signalised pedestrian crossings.
  - Older mobility scooter rider's familiarity with the local area and assumptions of vehicle movements leading to impaired judgement or limited personal awareness when crossing a marked pedestrian crossing.
  - e-Skateboard rider on a well-lit, high speed road under the influence of drugs and alcohol at night, in off-peak conditions, leading to high risk activities with oncoming traffic.
- Drivers
  - Driving impatiently after a long day's work leading to excessive speeding on a congested road.
  - Driving at night in off-peak conditions on a windy road leading to risky behaviour and excessive speeding between following vehicles.
- Motorcyclists
  - Riding the next morning when possibly over the legal blood alcohol content limit influencing excessive speeding and risky behaviour.
  - Rider and pillion passenger not wearing helmets riding at night in off-peak conditions influencing risky behaviour and excessive speeding.

The identified road user behaviours enable the City to implement road safety messaging through its social media channels and on its network of portable and permanent variable message signage.

Crash treatments post CIA investigation

From these investigations the City is able to install low cost remedial treatments in a short time frame to make a site safer. Also, the justification for further investigations such as a road safety audit process, speed limit review or crash treatment identification can be escalated if required. This results in the establishment of larger-scale projects that aim to reduce FSI risk. A summary of typical treatments is noted below.

- Less than half the crashes resulted in low-cost remedial treatments (maintenance of the roadside verge, installation of intersection control, line marking, signage, improved delineation or lighting maintenance).
- Road safety audits are programmed at two sites where the FSI crash rate is low but are higher-order roads with mixed road use and mixed urban land use (close to a shopping centre or multi-use sports complex).
- At one site, a road safety audit recommended upgrading a priority controlled intersection with a roundabout. This site was awarded Federal Black Spot funding.
- At one site, no crash treatment could be advised given causal factors of the crash (very low speed).
- At one site, no crash treatment could be advised given causal factors of the crash (rider and pillion passenger not wearing helmets).
- At one site, no crash treatment could be advised given the causal factors resulting in a rear-end crash (very high speed).
- At one site, no crash treatment could be advised given the causal factors resulting in a rear-end crash (medical condition).

Enforcement activity post CIA investigation

CIA investigations add value to informing QPS enforcement operations on and around roads where a FSI crash has occurred. QPRIME data is also analysed to develop a profile of traffic incidents or crash occurrences to determine which aspects QPS Fatal 5 (distraction, drink driving, speeding, fatigue, and unrestrained occupants) needs to be enforced. This approach has been advantageous in supporting engagement and enforcement initiatives in the City's hinterland areas where there is a history of motorcyclist FSI crashes. A major example to note is a rural road where a FSI crash occurred. QPRIME identified a history of traffic incidents relating to speeding vehicles but no enforcement strategies had previously been deployed. This led to a new enforcement program being introduced into this area conducting high visibility presence, mobile radar and vehicle registration checks.

Conclusion

The CIA is an example of a road safety initiative that provides meaningful state and local government collaboration. The CIA has received, via the PAG, positive feedback and ongoing support from internal stakeholders, representatives of local and state government road authorities, enforcement agencies, academic institutions and road safety advocates. This support demonstrates that this initiative has been a success. To ensure longevity of the initiative the City's new Road Safety Plan 2021-2026 (in development) will also include actions to retain the CIA in future years.

References

City of Gold Coast. (2015, April). *Gold Coast Road Safety Plan 2015-2020.* Retrieved from City of Gold Coast: http://www.goldcoast.qld.gov.au/gold-coast-road-safety plan-31543.html

Queensland Police Service (2018). Queensland Police Service Strategic Plan 2018-2022 Retrieved from Queensland Police Service: https://www.police.qld.gov.au/corporatedocs/research/Documents/2018%20QPS%20Strategic%20Plan.pdf