
Preventing Work-related Traffic Accidents involving Motorcyclists

Report on Session

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Synopsis

The Workplace Safety and Health Institute (WSHI) held the WSH Institute Solutioning Session – Preventing Work-related Traffic Accidents (WRTA) involving Motorcyclists on 19 February 2016. 41 participants from 14 organisations comprising mainly vocational riders and their supervisors attended focus group discussions to share their perspectives on what cause WRTAs among vocational motorcyclists and explore possible solutions.

The study found that WRTAs involving vocational motorcyclists arise from a mix of environment, third party road users, work and individual factors. For instance,

- Work: Prioritisation of sales above safety, poor fleet/delivery management, pay-per-trip practice
- Environment: Debris on roads, oil patches, slippery lane markings during/after rain
- Third party road users: Speeding by taxis and heavy vehicles, lack of awareness for riders, failure to check blind spots
- Individual: Reckless riding, overworked/fatigue, failure to maintain bikes

They shared that more visible traffic enforcement in “higher risk” areas could help to deter reckless road users. Employers should also assess and manage risks from vocational riding, including the use of pay-per-trip compensation practices.

As WRTA is likely caused by a plethora of factors ranging from environment, employers and self, stakeholders responsible for each layer of factors must step up in their respective areas to collectively make vocational riding a safer occupation in Singapore

1 Background

Motorcyclists are involved in more than 50% of all traffic injury accidents in Singapore in the last few years¹. Vocational riders may face higher risks of traffic accidents compared to other riders as they may spend more time on the roads.

In 2012 to 2015, there were a total of 210 cases of non-fatal traffic accidents involving motorcyclists reported to the Ministry of Manpower² (MOM). 139 were work-related cases. Based on descriptions in the incident reports³, 64% of these cases involved or were caused by third party road users (i.e. collision with or avoiding collision with other road users). 19% were related to poor road conditions (i.e. potholes, fallen gravel, oil spills/patches). Individual factors such as delayed reflexes and faulty vehicle conditions made up 12% and 6.5% of the other probable causes respectively.

Most accidents resulting in major injuries happened during 10am to 2pm on weekdays. Minor injuries clustered between 9am to 5pm on weekdays. Very few cases happened during graveyard shift hours or during overtime work.

Most injured riders were either in their first year of employment with their current employer or had been with their current employer for four to six years. More than 90% were male riders.

2 Purpose of Session

As this was a relatively new area of work-related accidents, little was known on why these cases happened and what could employers and workers do to reduce such risks. There were also very limited published papers on WRTA involving motorcyclists.

Hence, to get a better understanding of the factors related to WRTA involving vocational riders in Singapore, WSH Institute (WSHI) applied qualitative research methods to:

- a) Understand the causes of work-related traffic accidents involving vocational motorcyclists; and
- b) Explore potential solutions that stakeholders can undertake to reduce these work-related traffic accidents.

¹ Data referenced from Traffic Police

² Work-related traffic accidents were officially included in the annual WSH statistics since 2014, with unpublished data collected since 2012.

³ Text descriptions were coded to convert them to quantifiable data.

3 Methods

WSHI held four focus group discussions (FGD) with vocational riders and their supervisors from the Transportation and Logistics, and Food and Beverage sectors. A fifth group of general (non-vocational) riders comprising staff who ride formed the control group. The session was organised as WSHI's Solutioning Session and held on 19 February 2016 at the e2i building.

Extensive pre-FGD planning such as data and literature review, design of groups and selection of participants' profiles, scripting of questions and probes, briefing, training and mock-run of FGD with facilitators and note-takers and tiered recruitment strategies were undertaken to ensure that the purpose of the session was met. More importantly, it was also to ensure that the data collected was as accurate as possible and provide useful insights. A Participant's Information Sheet was provided to each participant to explain their role and informed consent was sought for audio recordings.

After the FGD, each pair of facilitator and note-taker held immediate debriefing to capture other observations and notes. Typed notes were submitted to the Principal Investigators (PIs) the following week. An After Action Review was completed thereafter to highlight areas done well and those that require changes for the next FGD. A summary was presented to the management of the Occupational Safety and Health Division (OSHD), MOM.

4 Results

41 participants from 14 organisations attended the FGD. 21 were vocational riders, 14 were supervisors, two were WSH officers and there were four general riders. Data was collected on the participants' perceived cause of WRTA among riders in Singapore and these were ranked and voted to identify the top two most important factors.

The second half of the FGD focused on getting ideas on what could be improved to reduce WRTAs resulting from these two primary factors. These were distilled into recommendations for OSHD and other public agencies in this paper.



4.1 Probable Causes of WRTA Involving Motorcyclists

Both riders and supervisors shared that WRTAs are multi-factorial. A mix of work, environment, third party road users and individual factors came into play and increased the likelihood for traffic accidents to occur at work.

A. What companies did that increased riders' risk of accidents?

Unreasonable company policies and practices were brought up frequently in all vocational riders and supervisors' groups. The examples shared were:

1. Sales and profits placed above riders' safety leading to:
 - a. Overloading orders per trip (e.g. 8 deliveries on 1 trip, each order expected to reach clients within 30mins from time of order)
 - b. Inter-outlet sales competition among outlet managers
 - c. Riders forced to make deliveries during bad weather (e.g. assumed safe to ride so long as there was no lightning, even if there was heavy rain)
2. Client's demands and expectations on delivery time were prioritised above riders' safety
 - a. Disincentives or pay is deducted if client complains
 - b. Riders under pressure to speed to meet pre-committed delivery time
3. Poor route and load management by company, sometimes aggravated by lack of manpower led to rushed work
4. Inadequate fleet management systems led to poorly maintained bikes
 - a. Maintenance services often awarded based on lowest quoted price and less on the quality of services
5. Pay-per-trip remuneration for riders

B. What other road users did that increased riders' risk of accidents?

Riders often cited reckless road behaviours by other road users who did not understand riders' perspective on the roads. In particular, the reckless road behaviours are:

1. Not checking blind spots or keep a look out for riders
2. Sudden switch of lanes or change directions (with/without signal, especially taxis when they were trying to pick up passengers on the roads)
3. Speeding (especially by heavy vehicles, taxis)

4. Drivers' impatience
5. Foreign drivers/riders not having same road culture and road behaviours as locals

C. What environment hazards that increased riders' risk of accidents?

Environment hazards such as debris on the roads, oily patches and slippery lane markings were also frequently raised by the riders, including non-vocational riders. These affected motorcycles more strongly than cars or other larger vehicles. Common hazards that increased risks of accidents include:

1. Debris such as loose gravel released from heavy vehicles
 - a. Common on roads near construction sites
 - b. Common on roads on the western part of Singapore, where more heavy vehicles frequent
2. Oil spills or patches and wet roads increase chances of skidding
3. White lane markings turn very slippery when wet (during rain)
4. Potholes, uneven roads
 - a. Due to different patching materials used for road works, wears down at different rate or not levelled well
 - b. More severe wear and tear on roads frequented by heavy vehicles

D. What riders did that increase their risk of accidents?

Some inherent risks are present with the use of motorcycles. Individual's behaviours also played a role in heightening the risk of WRTA. The group shared that:

1. Motorcycles are inherently more sensitive to poor road conditions, collisions with other vehicles and bad weather than other larger vehicles
2. Riders exhibit risk-taking behaviours e.g. Weave in between vehicles
3. Reckless, younger, inexperienced and single riders were more reckless
4. Riders did not maintain and check their bikes regularly or properly
 - a. Too new, not sure what and how to check
 - b. Some would rather use time for deliveries
5. Some riders moonlight to supplement income. Full-time and part-time work lead to being fatigued
6. Unfamiliar with company bikes

4.1.1 Most Important Causes of WRTA

In their groups, participants were asked to vote what they perceived as the top 2 most important causes (defined as causing majority of the WRTAs) and discuss solutions for them.



From Vocational riders

- Work pressure (time, client expectations)
- Road discipline of all road users ; not understanding riders' perspectives
- Bad weather and road conditions



From General riders

- Riders' attitudes
- Bike maintenance



From Supervisors

- Riders' behaviours
- Time pressure at work
- Bike issues
- Unfamiliar with routes

4.2 Recommendations

Based on the collected data, both riders and supervisors raised similar recommendations that touched on all broad causes of WRTAs. These ideas were further distilled as recommendations for public agencies and employers.

Recommendations for Public Agencies

1. Raise public and road users' awareness of risks on roads via:
 - a. Media campaigns on positive driving and riding behaviours
 - b. Use of videos to convey messages to riders (use more engaging methods suited for the intended audience⁴)
 - c. Highlight to employers on vocational riders' challenges, their duty of care under WSH Act, and practices that improve the safety of their riders (see Recommendations for Employers in the next section)

⁴ WSHI advise that the use of simple language and illustrations will be more effective than written instructions. Hence, future campaigns or training for riders should be made simpler and less dependent on reading large amounts of information. Classroom-based learning may also not be the most suitable learning platform for everyone.

2. More visible enforcement on traffic safety violations by road users, especially where industrial vehicles frequent
 - a. To enforce more actively, increase enforcement visibility such as having more speed cameras in certain 'high risk' locations
 - b. To check on companies' risk management practices for WRTA and increase employers' awareness on duties under the WSH Act and its subsidiary regulations.
3. Provide or make mandatory refresher driving and defensive riding courses for vocational drivers and riders.

Recommendations for Employers

1. Review and correct work policies and practices such that riders are not faced with increased risk to WRTAs
 - a. Proper route management so that riders are not overloaded with orders
 - b. Manage clients' expectations on longer delivery time on days with and during bad weather
 - c. Implement good fleet maintenance arrangements for both company and self-owned bikes used for work that ensures that machine safety is not compromised
 - d. Regularly seek feedback and suggestions from their direct or outsourced riders through informal discussions / toolbox meetings on their work-related challenges
 - e. Explore the use of technology to manage the risks of WRTA (i.e. use of cameras on bikes/riders)
 - f. Manage the risk of WRTA brought about pay-per-trip practice
2. Continue to improve their fleet management through monitoring of incidents and near misses data, logging and highlighting observed positive or negative riding behaviours

5 Conclusion

As WRTA is likely caused by a plethora of factors ranging from environment, employers and self, stakeholders responsible for each layer of factors must step up in their respective areas to collectively make vocational riding a safer occupation in Singapore.

In short, the participants were of the view that more visible traffic enforcement in "higher risk" areas could help to deter reckless road users. Employers should also assess and manage risks to vocational riding, including the use of pay-per-trip compensation practices.

These findings provide evidence for the Ministry of Manpower to work with partner agencies such as the Traffic Police and the Land Transport Authority, as well as employers to reduce WRTAs.

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