National Defence Défense nationale

Canadian Forces College

Collège des Forces Canadiennes

CULTURE OF DRIVING SAFETY IN THE JAMAICA DEFENCE FORCE

Lieutenant-Colonel Maxwell Gordon

JCSP 50

Service Paper

Disclaimer

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

PCEMI n° 50

Étude militaire

Avertissement

Les opinons exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

Canada

CANADIAN FORCES COLLEGE - COLLÈGE DES FORCES CANADIENNES

JCSP 50 - PCEMI n° 50
2023 - 2024

Service Paper – Étude militaire

CULTURE OF DRIVING SAFETY IN THE JAMAICA DEFENCE FORCE

Lieutenant-Colonel Maxwell Gordon

CULTURE OF DRIVING SAFETY IN THE JAMAICA DEFENCE FORCE

AIM

1. This paper aims to propose initiatives that are geared at developing a safety culture among military drivers thereby changing their attitude and behaviour. The intended outcome of this change is for the JDF to realize a reduction in the frequency and severity of motor vehicle accidents.

INTRODUCTION

2. The Jamaica Defence Force (JDF) contends with intolerable levels and frequency of motor vehicle accidents. This obtains against a backdrop of Jamaica's high levels of road fatalities. In 2023, Jamaica recorded 425 road fatalities which is only 13% less than in 2022 which was four more than in 2021.[1] While there is, generally, a downward trend in both the frequency and the severity over the last five years, many of the accidents were avoidable had there been more care on the part of the drivers. Each year, millions of dollars are spent on repairs to damaged vehicles and medical bills incurred from the treatment of injured service members. However minor the accident, the use of the vehicle is lost for some time to facilitate the administrative procedures such as retesting of drivers and assessment and repairs to the vehicle. Ultimately, operations become negatively affected. Furthermore, citizens expect to be safe around JDF personnel, and killing a Jamaican in a motor vehicle accident would negatively affect the JDF's image.

3. Data drawn from the Inspector General Branch of the JDF showed that in 2019 there were 271 reported accidents; 273 accidents were recorded in 2020; 247 accidents in 2021; 163 in 2022 and a slight increase to 173 reported accidents in 2023.[2] These accidents range from collisions with static objects to multiple service vehicle collisions within Up Park Camp and other military bases. The JDF must develop a culture of safety among drivers to see sustainable reductions in motor vehicle accidents since road user behaviour is an important factor in most collisions.[3]

4. Despite the reduction which, may be attributed to compliance measures such as speed limit restrictions, sustainable reductions are best achieved through a programme that instils a culture of safety, potentially drawing inspiration from the aviation industry's established safety practices. This paper will first outline why the high number of accidents may be attributed to a less-than-ideal culture of safe driving. It will also show that the maintenance of a consistently high rate of accidents over the years might have perpetuated the less-than-ideal culture. The paper will recommend a cocktail of initiatives and activities that, cumulatively, are geared at inculcating or improving the JDF's culture of safety regarding driving. These recommendations are based on research that highlighted three factors that significantly correlate to driving safety:

---

[1] "Road Crashes and Fatalities Declined Last Year – Jamaica Information Service." n.d. Jis.gov.jm. Accessed February 18, 2024. https://jis.gov.jm/road-crashes-and-fatalities-declined-last-year

[2] Inspector General Branch Audit Cell (2024)

[3] Tazul Islam, Md, Laura Thue, and Jana Grekul. "Understanding Traffic Safety Culture: Implications for Increasing Traffic Safety." *Transportation Research Record* 2635, no. 1 (2017): 79-89.

driver safety training, driver input in safety programmes, and drivers' perception of management's commitment to safety.[4] The paper, in treating each of the correlated factors, will set out evidence of the correlation and then discuss the recommended measures along such a line of effort. The JDF has not conducted research, nor has there been any known research concerning the JDF, consequently, reliance will be placed on relatable industries and factors from which reasonable transfer of principle and findings may be achieved.

DISCUSSION

Defining JDF's Driving Culture and how it Impacts Driver Behaviour

5. The JDF's driver training is centred on defensive driving which aims to avoid accidents. The JDF's history will show that this has not adequately mitigated the probability of accidents. The JDF, recently, installed a cloud-based fleet management and vehicle tracking solution provided by Amber Connect Group (Amber Connect System) and took steps to enhance enforcement of the regulation speed limits. Nonetheless, there continue to be breaches of the speed limit, and checks of the database after an accident usually show a breach of the speed limit at some point before the accident even if not at the point of impact. In 2022, a report prepared by the Inspector General Branch showed that no unit had standing orders governing the integration, use, or management of the Amber Connect System while a few had some form of standard operating procedures which are generally triggered by an accident.[5]

6. The organization, in the middle of 2022, according to the same report, showed that approximately 70% of the tracking devices were serviceable whilst there were only a small number of vehicles without a device.[6] Nonetheless, the number of drivers charged for offenses associated with exceeding the speed limit was low despite the high number of violations. Reports generated by the Inspector General Branch showed that over the period July to December 2022, there were 12849 speeding violations. [7]

7. The findings cited illustrate that, in one context, voluntary compliance among drivers cannot be relied on and their attitude to risk requires mediation. Additionally, commanders have not, beyond seeking to enforce speed limits in limited ways, created an environment that is centred on safe driving practices. This has allowed for a culture of risk-taking among drivers and where they believe they will not be caught breaking a rule, they take unnecessary risks which sometimes cause accidents.

8. The paper recommends a shift where greater emphasis is placed on building an organizational culture of safety among drivers and the connected operators of service vehicles. There are many and varied definitions of organizational culture but many accord that "culture refers to the taken-for-granted values, underlying assumptions, expectations, and definitions

---

[4] Arboleda, Ana, Paula C. Morrow, Michael R. Crum, and Mack C. Shelley II. "Management Practices as Antecedents of Safety Culture Within the Trucking Industry: Similarities and Differences by Hierarchical Level." *Journal of Safety Research* 34, no. 2 (2003): 189-197.
[5] Inspector General Branch, Amber Connect System Implementation Report, 2022
[6] ibid
[7] Inspector General Branch, Jamaica Defence Force, Speeding Violations Report, 2023

present which characterize organizations and their members." In effect, it is the way an organization and its members think and behave.[8] Research has shown that there is a strong relationship between a culture of safety and the frequency and severity of accidents.[9] This is why the culture of safety is important. In the military setting, commanders bear the responsibility for crafting and ensuring the development of the organization's culture. There are strong positive relationships between management safety practices and how they are translated by members of the organization.[10]

9. To change the culture, the organization must focus on creating a safety climate. Cooper and Phillips described safety climate as 'shared employee perceptions of how safety management is being operationalized in the workplace, at a particular moment in time'.[11] Safety climate can be taken to mean a sub-component of the culture or simply a reflection of the culture as the literature is divided in this regard.[12] Nonetheless, we can rely on Schneider's definition that climate is characterized by temporary attitudes, feelings, and perceptions of individuals.[13] It seems to follow that what is done or allowed to be done will establish the climate and the climate will, in turn, evolve the culture. This supports one of the arguments of this paper that the JDF's failure to effectively deal with the drivers' attitude towards speeding and the high rates of accidents, whether major or minor, has further fuelled the culture of risk-taking.

10. The JDF should strive to achieve a safety culture where there is a 'collective commitment of care and concern, whereby those in an organization share similar perceptions and positive attitudes to safety'.[14] Culture can be changed through initiatives to reorient the climate. Through this paper, a cocktail of activities and initiatives will be proposed that are geared toward achieving a collective commitment to care and concern and building a positive attitude toward safety. This proposal is by no means a panacea and there must be a concomitant acceptance that accidents will continue to occur. The main goal is a significant reduction in frequency and severity through an overall improvement in attitudes towards safety.

Proposal

11. In the article Management Practices as Antecedents of Safety Culture Within the Trucking Industry: Similarities and Differences by Hierarchical Level conducted by A. Arboleda et al, they concluded that "driver fatigue training, driver opportunity for safety input, and top management commitment to safety are measures that trucking firms should implement to

---

[8]Cameron, K. "A Process for Changing Organization Culture." *Handbook of Organization Development* 14, No. 5 (2008): 2-18.
[9] Arboleda et al. "Management Practices as Antecedents of Safety Culture Within the Trucking Industry.
[10] Clarke, Sharon. "Perceptions of Organizational Safety: Implications for the Development of Safety Culture." *Journal of Organizational Behavior: The International Journal of Industrial, occupational and Organizational Psychology and Behavior* 20, No. 2 (1999): 185-198.
[11] Cooper, M. Dominic, and Robin A. Phillips. "Exploratory Analysis of the Safety Climate and Safety Behavior Relationship." *Journal of Safety Research* 35, No. 5 (2004): 497-512.
[12] ibid
[13] Schneider, Benjamin, Mark G. Ehrhart, and William H. Macey. "Organizational Climate and Culture." *Annual Review of Psychology* 64 (2013): 361-388.
[14] Cooper and Phillips. "Validation of a Safety Climate Measure'.

strengthen the perception of safety culture."[15] The similarities between the trucking industry and the JDF experience allow for the transfer of the principles they established. Interestingly, most of the accidents involving JDF vehicles occur during administrative moves and not whilst deployed on patrols or other operational duties. It seems advantageous, in the absence of any similar research germane to the JDF, that this report forms the basis for this proposal.

Quality Assurance and Safety Department

12. The idea that through training, behaviours can be changed is an established one. There are strong correlations to improved competence gained through training and experience.[16] It is not simply to drive more but to practice the correct thing. The JDF should seek to establish a structure that sets the standard of driver behaviour and monitors it. In this regard, it is proposed that the JDF establish a Quality Assurance and Safety Department (QASD). The QASD would have the role of ensuring that driving standards are met and maintained across the organization. It would do this through a series of routine and non-routinized assessments of drivers and instructors. The department would have the authority to examine drivers at any point and provide corrective training and any other remedial action considered necessary including a ban on the driver for unsafe conduct. They would also observe driver behaviour which is considered a significant contributor to vehicle accidents worldwide.[17] The department would submit reports of its activities and the state of driving competence which would allow for commanders at various levels to make decisions regarding how they enforce safe practices.

13. Currently, there is no established element of the organization with a direct remit of ensuring standards are maintained. Whilst it is within the remit of commanding officers to ensure disciplined practices, the emphasis is to be placed on safe practices. This does not in any way reduce the ability to leverage the disciplinary system to reinforce safe practices but complements it.

14. The QASD would oversee a process of ensuring drivers are subject to appropriate skills and knowledge validation processes. The emphasis would be on the total competence of the driver in all three domains of learning: cognitive, psychomotor, and effective. A key feature in this aspect of the proposal is the individualized approach to managing competence and behaviour. Research has shown that the management of tasks relative to the decisions drivers make about speed is a key distinction between experienced and learner drivers.[18] This research finding supports the recommendation that each driver should be assessed and restricted to specific speed limits that are within their competence. As a starting point, drivers upon first qualification should be limited to the lowest speed limit of 40 kilometres per hour until they develop sufficient experience and can demonstrate satisfactory competence at higher speeds. There are exceptions for persons who have driving experience before being qualified to drive

[15]Arboleda et al. "Management Practices as Antecedents of Safety Culture Within the Trucking Industry.
[16] Tronsmoen, Torbjørn. "Associations Between Driver Training, Determinants of Risky Driving Behaviour and Crash Involvement." *Safety Science* 48, No. 1 (2010): 35-45.
[17] De Waard, Dick, and K. A. Brookhuis. "The Measurement of Drivers' Mental Workload." (1996).
[18] Da Silva, Fátima Pereira, Jorge Almeida Santos, and Andreia Meireles. "Road Accident: Driver Behaviour, Learning and Driving Task." *Procedia-Social and Behavioral Sciences* 162 (2014): 300-309.

service vehicles. These persons may be subjected to the assessment at the time of qualification for an appropriate speed category. This would be the remit of the QASD. The capacity that this entity would have is not within the scope of this paper but would be determined by its remit and the size of the organization at any point.

Driver Opportunity for Safety Input

15. One of the issues that often negatively impact organizations that seek change is the perception of lower-level staff members of the changes being implemented. The other aspect is whether the lower-level staff owns and accepts the need for change and has bought into the new direction. This issue can be overcome through their participation. It has been found that employees, especially rank and file members, attitudes, behaviour, and perceptions are more favourable in organizations that use a participative or democratic managerial style when compared to traditional hierarchical ones.[19] Following the findings of A. Arboleda et al, the direct involvement of drivers in devising initiatives and perpetuating the safety climate is critical to the efficacy of the efforts to change the culture.

16. In this regard, it is proposed that there are safety seminars and programmes that are to be developed and implemented by drivers. There should be designated safety advocates throughout the organizations. Further, a system of incentivizing and encouraging the reporting of near accidents and bad practices. These reports should be used to inform the seminars developed by drivers for drivers.

17. Additionally, a driver logbook should be designed and issued. This is another aspect of the proposal that is geared at ensuring driver participation. This would include a trip log, allowing for the tracking of work rates, a checklist, and a standard safety brief that each driver would be required to deliver to passengers. This document facilitates accountability and tasking considerations. This aspect also targets the affective domain of learning where it could improve how the drivers felt about their trade and how proficient they need to be and would have a record to show this much. The improved and increased participation of driver in the shaping of the safety climate would increase communication between them and their leaders. According to research, there is a significant positive relationship between “safety communication, safety commitment, and accidents. safety communication, safety commitment, and accidents”.[20]

Leadership Commitment to Safety

18. The third and perhaps the most critical limb of the effort to shape culture is the commitment of commanders, at all levels, to developing a culture of safety in the organization, specifically driving safely. Research findings suggest that the messages organizations send to their employees and the nature of leader-member relations play an important role in ensuring

[19] Beehr, Terry A., and Nina Gupta. "Organizational Management Styles, Employee Supervisory Status, and Employee Responses." *Human Relations* 40, No. 1 (1987): 45-57.
[20] Hofmann, David A., and Frederick P. Morgeson. "Safety-related Behavior as a Social Exchange: The Role of Perceived Organizational Support and Leader–member Exchange." *Journal of Applied Psychology* 84, no. 2 (1999): 286.

employee safety.[21] Additionally, there is further work by researchers that show that employees comply with safety guidelines at a higher rate when their leaders participate with them in the safety activities and the employees have an input.[22]

19. To this end, the JDF must ensure the provision of the appropriate safety equipment and that safe vehicles are available. This requires improvement to the inspection and maintenance systems. A failure in this regard renders the efforts to develop the safety culture handicapped as drivers would likely question the organization's commitment to safety.

20. Leadership's commitment to safety can also be demonstrated in the approach taken to driver behaviour. It must be evident that safe practices are encouraged. The high number of speeding violations should be met with the appropriate disciplinary approach. However, there must be a clear delineation between administrative and disciplinary processes. Where a driver self-reports and infractions, the disciplinary process should only be engaged in exceptional circumstances to not discourage the practice. Additionally, the Amber Connect System provides significant data that can be used to assess driver behaviour such as aggressive cornering and harsh braking. Monitoring drivers and conducting appraisals and reviews would help to underscore the seriousness with which leadership takes safe driving practices.

Conclusion

21. The JDF continues to be plagued by intolerable levels of motor vehicle accidents. Over the years, there have been several efforts to curtail the number of accidents. There have been fewer accidents in 2023 than in 2022. The reason for this has not been the subject of any known research. Nonetheless, this paper contends that for a sustainable reduction in the frequency and severity of accidents to be realized, the JDF must orient the culture of its drivers to one of safety. This can be achieved by creating a climate of safety through the implementation of a cocktail of initiatives proposed. The initiatives are rooted in the findings of A. Arboleda *et al* presented in their article Management Practices as Antecedents of Safety Culture Within the Trucking Industry: Similarities and Differences by Hierarchical Level. They posited that “driver fatigue training, driver opportunity for safety input, and top management commitment to safety are measures that trucking firms should implement to strengthen the perception of safety culture.”[23] Drawing on the similarities between the trucking industry and the JDF experience and the absence of JDF-specific research and data it is proposed that the JDF establishes a Quality Assurance and Safety Department to oversee and ensure driver competence; ensure the involvement of drivers in safety programme development and delivery; and demonstrates leadership’s commitment to safety through resourcing and interest.

[21] ibid
[22] Hayes, Bob E., Jill Perander, Tara Smecko, and Jennifer Trask. "Measuring Perceptions of Workplace Safety: Development and Validation of the Work Safety Scale." *Journal of Safety Research* 29, No. 3 (1998): 145-161.
[23] Arboleda et al. “Management Practices as Antecedents of Safety Culture Within the Trucking Industry.