

Effect of Crash Barriers on Driver Behaviour *Sachintha Rajapaksha¹ and Vasantha Wickramasinghe²*

Abstract

Crash barriers are widely used in mountainous roads with having open road sections. Crash barriers are often defined as safety barriers due to the positive safety impacts achieved. The current study is having the aim of checking whether there exists any relationship between the behaviour of the drivers with the presence of crash barriers. Here, the speed and lateral displacement of the vehicle are considered as driver behaviour. Class “A” road having consecutive similar radii bends with and without the presence of crash barriers was selected. The selected crash barrier was a Steel-type W-Guardrail crash barrier with having a height of 1.5m and a length of 50m in total. Data collection was done on a weekday from 4.00 pm to 6.00 pm using a drone and three cameras. Video footage data was extracted using tracking software. Speed and lateral position of each vehicle were collected at 5m apart along the curve. For the analysis, the average speed and lateral displacement values of each vehicle were used. The same data extraction procedure was adopted for both curves. Totally 180 number of vehicles were collected. As the primary objective, a hypothesis test was done to determine the effect of crash barriers towards the vehicle speed and the vehicle lateral position. According to the 2-tailed t-test results, obtained p-value <0.05 and hence, the null hypothesis is rejected. This implies that the existence of a crash barrier significantly effects for the vehicular speed and lateral displacement.

Keywords: *Crash barriers distance, Speed, Lateral position*

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