

Media release:

Quantum leap of faith: Taxi-drivers do speed along long distance routes – research project

Taxi-drivers covering long distances between Cape Town and the Eastern Cape do not adhere to the speed limit, they are often ignorant of the 100km/h speed limit for taxis and they drive faster if they are not the owners of the vehicle. However, taxis contribute proportionally little to road fatalities.

These are some of the findings of a research project conducted by Dr Thinus Booysen, a senior lecturer in the Department of Electrical and Electronic Engineering at Stellenbosch University (SU).

In the project, Booysen evaluated road death statistics and the role that minibus taxis play. “With the voluntary assistance of drivers, I have been using detachable tracking devices, sponsored by Trinity Telecoms, to track long-distance minibus taxis over the last year. Information captured includes speed, location, and time, which allows me to look at arrival times, departure times, maximum speeds, and average speeds for each road segment on the route.”

The results have been somewhat surprising, says Booysen.

“From the outset, it was clear that the minibus taxis did not adhere to the speed limit. Interestingly, when questioned about this, some drivers erroneously claimed that the speed limit for taxis is 120km/h. They also claimed that passengers usually encourage them to speed, to ensure timely arrival. The maximum speeds recorded frequently exceed 140km/h on almost all segments of the route, with maximum recorded speed, across all taxis and segments, of 159 km/h. The median of the maximum recorded speeds per segment is between 120 and 135km/h for all the segments from Worcester to Cofimvaba in the Eastern Cape. On the return trip, the speeds are more varied, with the medians above 120km/h between Tarkastad and Graaff-Reinet, and between Aberdeen and Worcester. The median of the maximum speeds recorded between Laingsburg and Worcester (the home straight on the return trip) is a disturbing 137km/h on the return journey.”

Booyesen adds that the passengers on the taxis that were monitored are mostly isiXhosa-speaking people from the Eastern Cape, now living in the Cape Town area. “These travellers often face the feared prospect of travelling to the Eastern Cape in a minibus taxi through the night. These visits are for ceremonies such as funerals and for the festive seasons such as Christmas and again over the Easter weekend.”

Booyesen explains that for non-festive seasons, taxis aggregate at tacitly known locations on a Friday night (e.g. the Engen Winelands 1-Stop), and depart at around 19:00 for the 1200 km journey to the Mthatha region in the Eastern Cape. These taxis then return on Sundays, passing through Queenstown at around 15:00, and have to deliver their passengers on time for work on a Monday morning.

In the festive season however, taxis run every day, taking and returning passengers mostly through the night.

“The most commonly used vehicle is the Toyota Quantum, which is certified to carry 15 passengers. Minibus taxis are required, by law, to keep to a speed limit of 100km/h. The route followed passes through Beaufort-West and Graaff-Reinet to Mthatha and surrounds, and an estimated 300 of these taxis pass through Beaufort-West on a Friday night. The drivers drive through the night, and the same driver who ferries urban dwellers through the week, has to cover the distance to the Eastern Cape. On the return journey, the driver also continues his weekly urban driving upon arrival, often without sleep.”

Negative perceptions

“It is in this context and the negative perceptions of the sector, that we should evaluate road death statistics, and evaluate the role that minibus taxis play. Africa has less than 2% of the world’s registered vehicles, but contributes to 20% of the road deaths. Speeding is blamed for 40% of accidents caused by human-error. Minibus taxis make up around 5% of all vehicles on the road, and are involved in 8% of accidents, leading to less than 5% of road fatalities. Many people therefore believe that these taxis are the main contributor to the 14 000-odd annual road deaths in this country. However, the long-distance taxis typically cover almost ten times the distance of the average motor vehicle, which diminish their contribution in terms of fatalities per km. The long-distance trips occur in the middle of the night, when the

roads are mostly deserted. The lower fatality and accident rates could also be because the drivers are essentially working, and tend not to drive while under the influence of alcohol. ”

Solutions

According to Booysen, one of the main contributors to speeding seems to be the departure: For every hour the taxi departs later from the Eastern Cape, the return trip takes 30 minutes less. “It therefore makes sense to try to optimise the logistical challenge of collecting all the passengers from their various destinations to ensure timely departure.”

Another interesting contributor has been whether the driver is also the owner of the vehicle: Maximum recorded speeds were around 10kmh higher if the driver was employed by the owner, rather than the owner himself. “It may therefore make sense to give the driver shares in the asset to reduce speeding,” says Booysen.

Tracking devices could be employed to curb speeding. If all taxi owners were required to install tracking devices into their vehicles, driver behaviour could be monitored from a central location (no remote speed traps required), for all taxis on the road, and in real time. This could be done by making tracking-assisted insurance compulsory, or by compelling vehicle manufacturers (e.g Toyota) to equip vehicles with these devices. The latter approach was taken in Brazil, where it is a legal requirement that all vehicles are equipped with tracking devices, albeit for theft prevention.

“It is clear therefore that taxi drivers significantly exceed the speed limit, which is considered to be one of the major contributors to road accidents, but they tend to do so in the middle of the night, when the roads are empty. In addition to the proposed interventions, in the short term, law enforcement should be strengthened to control the reckless speeding by minibus taxis.”

Dr Booysen will be running a second phase of the project this festive season, with kind support from Mix Telematics. Ten minibus taxis have been equipped with tracking devices that also monitor reckless driving such as harsh acceleration and harsh cornering.

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