

Research Article

Issues regarding safety in Kuwait roads

Hana AlSaeid*, Farraj F. Al-Ajmi, Anwer Ali Al-Naki, Mohammad T. A. Alkhamis, Talal Almutairi, Hamad Matar and Fawaz A. Alrashidi

Civil Engineering Department, College of Technological Studies (PAAET), P.O. Box 2458, Mishref 40175, Kuwait

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Abstract

The aim of this paper is to investigate and analyse the safety and increasing accident rate problems in Kuwait. A review of relevant literature has been carried out, then a questionnaire has been piloted and implemented to collect data. The main survey was carried out in 2013. 700 distributed questionnaires resulted in the return of 427 completed questionnaires. Data is limited due to time constraints. Results show that socio economic factors, attitudes and work commitment factors all contribute to the behaviour of road users in Kuwait. There is very little knowledge of modelling and analysing factors that affect drivers' behaviour towards safety in Kuwait.

Keywords: *Traffic safety in Kuwait, attitudes to road safety, socio economic characteristics, attitudinal surveys*

Background

There is a limited number of studies in place that comprehensively analyse traffic accident patterns in Kuwait and the region of the Arabian Gulf. The majority of studies are extremely dated and thus the conclusions that have been drawn from them may by now be significantly out of date (Bener and Jadaan, 1990 & Bener *et al.*, 2003). The need for this form of study is clear, due to the fact that the fatality rate for drivers is significantly higher in these countries than in western countries. In 2007, mortality rates of 29, 37.1 and 16.9 per 100,000 were seen in Saudi Arabia, United Arab Emirates (UAE) and Kuwait respectively due to road traffic accidents (W.H.O. 2011). Compared to the rates of 6.1 for the UK and 14.8 for the USA (W.H.O. 2011) it can be seen that there is a dramatic difference in the levels of fatalities being observed.

In 2002 AL-Ghamdi studied and analysed road traffic accidents in Riyadh, the capital city of Saudi Arabia. He found that the majority of severe accidents (58.7%) occurred on straight road sections rather than at intersections (AL-Ghamdi 2002). It was also found that excess speeds were the cause of the vast majority of these accidents and that they were due to vehicles colliding with pedestrians who were crossing the roads. He also reported that where accidents occurred at intersections (26%), these were attributed to either

excessive speed or running of red lights (AL-Ghamdi 2002). A paper published by Ali H. Ziyab and Saeed Akhtar (Ziyab and Akhtar 2011) examined trends in road traffic incidents in Kuwait during a ten year period from 2000 to 2009. From this paper it was shown that, over the time period under consideration, there was a 76.5% increase in vehicle ownership in Kuwait, which correlated to a 121.3% increase in road traffic crashes during the same period (*ibid.*). Further work on this includes Al-Madani and Al-Janahi (2002) and Koushki and Balghunaim (1991).

In order to reduce or potentially eliminate the causes of accidents, investigations must identify the causal factors so that preventative measures can be identified. This paper reports on an investigation and an analysis of the safety and increasing accident rate problems in Kuwait. This research should be considered as a first step in research into this important area, and recommendations for further research will also be concluded from this research. Further and future attention to this important topic is needed to achieve improvement in this area.

One of the main aims of this research has been to collect, investigate and analyse traffic accident records from all available sources in Kuwait. These include government, local authorities, local government, traffic departments and police reports as well as any other available source in Kuwait. However, a number of sources of data, such as collision reports, police reports, and hospital records in Kuwait, were more difficult to obtain since there was not a clear system for

*Corresponding author's ORCID ID: 0000-0003-4265-6406
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accident data gathering and reporting. In addition, there are a number of organisations involved in collecting, reporting and assessing accident data in Kuwait. Most of these organisations do not share their data or information. These organisations include traffic police, local council, local authorities and the Ministry of Traffic.

As a result of the above mentioned factors, collection of traffic accident data has proven more challenging than anticipated. Instead, a questionnaire was designed to investigate public attitudes to road safety problems in Kuwait. The survey, as well as the pilot survey, analysis, recommendations and limitations of the study are presented in this paper. Finally, investigation of possible policies and measures to tackle the identified problems are investigated and discussed.

Methodology

There has been a dramatic increase in the level of vehicle ownership in developing countries in recent years. This increase, along with a distinct lack of coherent and efficient safety regulations, has led to a situation where accident levels increased dramatically and awareness of the implications of unsafe behaviour has deteriorated.

In this paper, we develop analysis and investigations to examine patterns and travel behaviour of households in Kuwait regarding road safety.

Survey Design

A comprehensive road users questionnaire was designed and piloted in May 2013. Data on current travel patterns, driving behaviour, ability to change time of travel, and socio economic characteristics have been obtained. The main survey was finalised and carried out over the period of September-November 2013. This was in order to avoid the holidays of schools and other government organisations, to target a season where work and school activities are "typical". The aim was to collect data from all sectors that represent government, public and private sectors, as well as health and education sectors in Kuwait.

For the main survey, 650-700 questionnaires were distributed in order to guarantee a return of at least 400 completed questionnaires. The number of completed surveys was 427, a completion rate of about 64.6%. Data collection took place over 75 days during September to November 2013. At each selected organisation, a volunteer was selected to be in charge of distributing the questionnaires and collecting them back. A short training period was spent with each volunteer to guarantee the randomness of selection of respondents from the companies' employees. The questionnaires were distributed according to instructions, then were collected one week later. All respondents, including employees and students, had

access to a private car and both Kuwaitis and non-Kuwaitis were included. The surveys were distributed over a large number of public and private sector and government organisations.

Results and discussion

Data was collected on issues including mode of travel, frequency of travel and other travel characteristics. In terms of safety aspects and driving characteristics relevant to speeding, a number of attributes and information were collected. Initially, respondents were asked how often they were caught speeding. As Figure shows, a considerable percentage of respondents reported that they had been caught speeding – more than 46% of respondents had been caught up speeding in the past year. About 52% of respondents had never been caught speeding. The percentage of those caught speeding could be even higher, since some people might have been shy or embarrassed to report this. Only 2% of respondents did not answer as to whether they had been caught speeding.

The data has been analysed in relation to the mode of travel. Respondents were most often caught speeding while driving alone. This group – those driving alone – accounts for about 28% of those caught around once in the past year, about 6% of those caught around once a month, about 14% of those caught several times a year and about 5% of those caught several times a month. About 54% of total responses reported that they have never been caught speeding while driving alone. Taxi riders were the least likely to be caught speeding, with only around 5% of responses saying they had been caught around once over the past year and only 1% caught several times a year. 93% of respondents said that they had never been caught speeding while being a passenger in a taxi. The second highest group of respondents caught speeding were those who drive to the shops, they have been caught speeding about once over the last year. About 5.6% of respondents reported that they had been caught speeding about once a month, 7.06% said they had been caught several times a year and about 4% had been caught speeding several times a month. About 62% of respondents indicated that they had never been caught speeding while driving to the shops. Driving with a family member attracted the third highest response regarding being caught speeding, with about 19% of respondents reporting being caught about once over the past year, 3% about once a month, 6% several times a year and 8% saying they had been caught several times a month. About 70% of all respondents said they had never been caught while driving with a family member. Travelling as a passenger in a car was the fourth group, reporting being caught speeding while driving to other purposes and while driving to work.

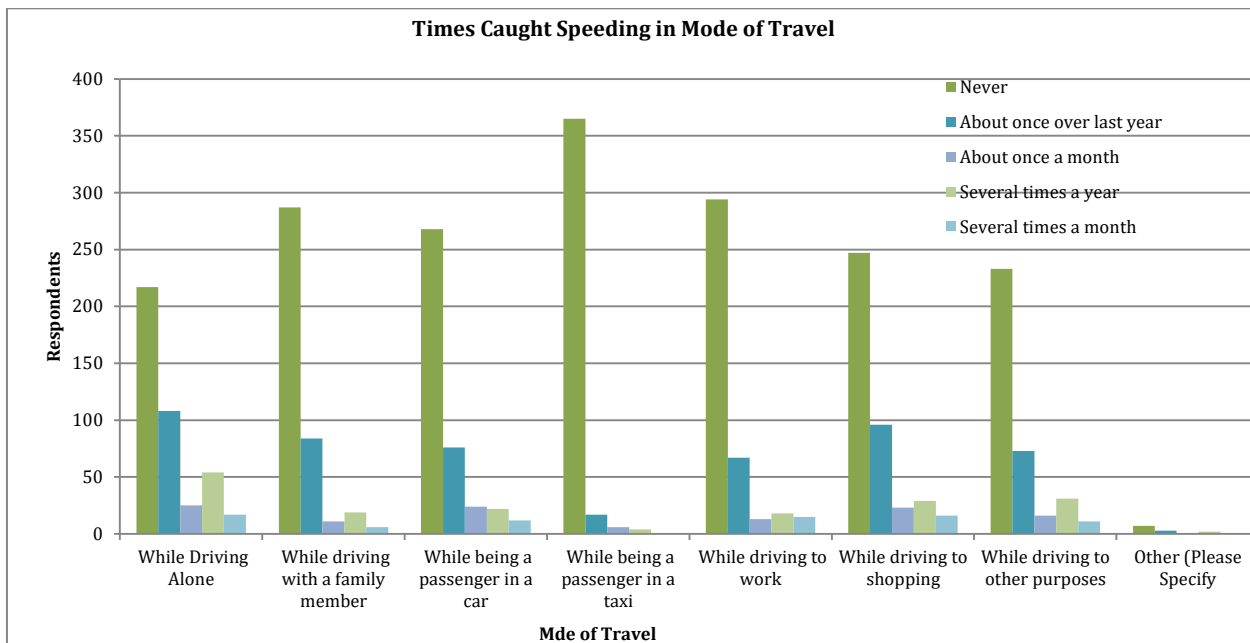


Figure 1 Times respondent caught speeding using current mode of travel

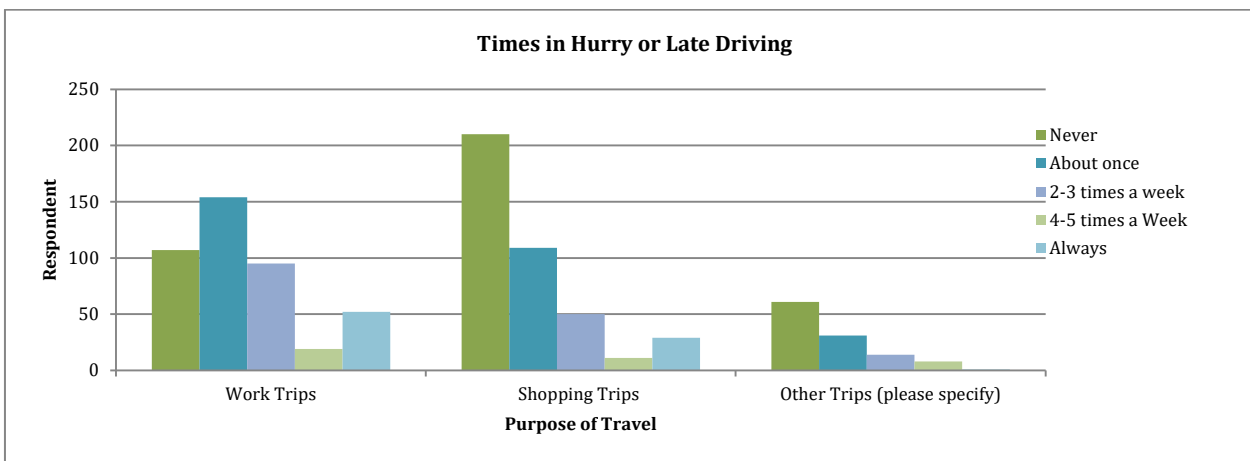


Figure 2 How often respondents are in a hurry or late when driving

Respondents were then asked to report how often they were in a hurry or late when driving to work, shopping or other activities. As presented in Figure 1 it can be seen that, interestingly, a high number of respondents – 36.17% of all responses to the survey – indicated that they have been in a hurry or late while driving to work. 22.29% of all responses indicated that they have been in a hurry or late when driving to work at least 2-3 times a week, 4.49% said this was true 4-5 times a week and 12.09% said they were always in a hurry or late when driving to work. When driving for shopping trips, a considerable number admitted that they were not in a hurry. 51.34% of the the total responses indicated that they have never been in a hurry or late while driving for shopping trips, compared to 26.65% who said they had been in a hurry or late about once when on shopping trips. 12.22% of respondents indicated they have been in a hurry or late when going on a shopping trip 2-3 times a week, 2.69% 4-5 times a

week and 7.09% said they are always in a hurry or late when going shopping.

For a work trip, 25.06% of total responses said they have never been in a hurry or late before. A total of 115 responses indicated that other things cause them to be in a hurry or late when driving. Out of the total of 115 “other than work or shopping” responses, 53.04% reported that they are never in a hurry or late, 26.96% said they have been in a hurry or late about once and 12.17% have been in a hurry or late 2-3 times a week. Only 7% of this category indicated being late or in a hurry 4-5 times a week and only about 1% of respondents are always in a hurry and late.

Respondents were asked to specify the activities that make them late or in a hurry, but only a few commented. It can be seen in Figure 2 that work trips are most associated with being in a hurry or late compared with, for example, shopping trips.

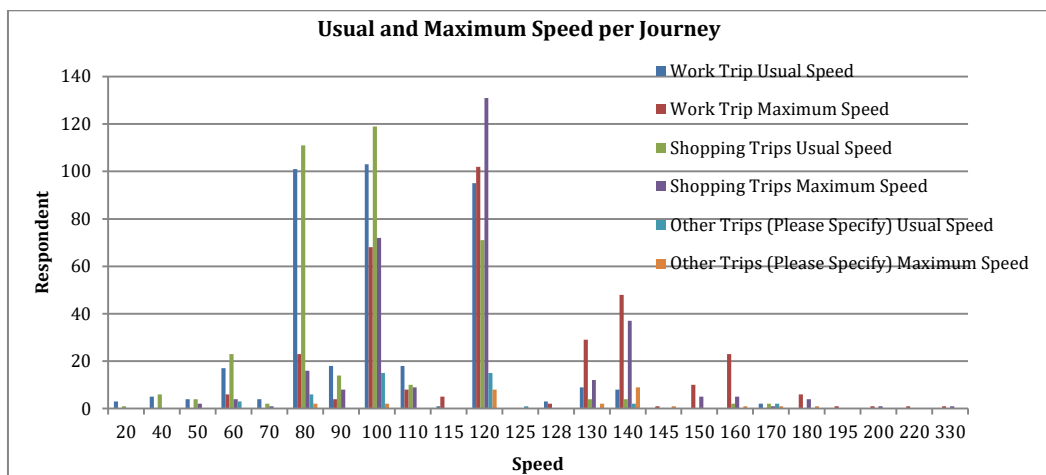


Figure 3 Usual and maximum speed per journey

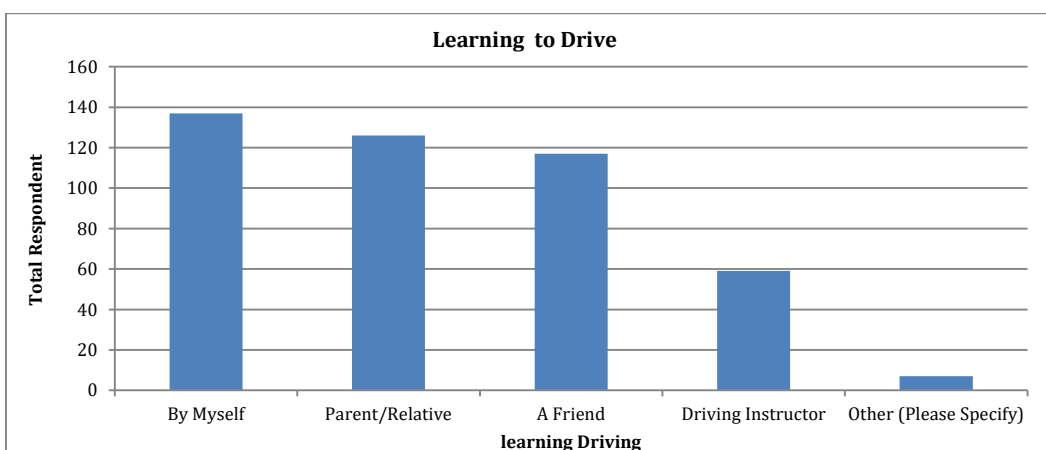


Figure 4 How respondents learn to drive

Respondents were then asked their usual and maximum driving speeds. It can be seen from Figure 3 that 120 km/h was the maximum speed reported by a high number of respondents. In terms of shopping trips, a total of 131 respondents reported driving at 120 km/hr as their maximum speed. 102 reported that this was their maximum speed when driving to work, while 95 respondents reported that 120 km was their usual speed on the way to work. 111 respondents reported driving at a speed of 80 km/h, and 119 at 100 km/h as their usual speed during their shopping trips. When it comes to driving to work, 101 respondents indicated that they drive at a speed of 80 km/h as their usual speed, while 103 said 100 km/h. As seen in Figure 3 at a higher speed the number of respondents driving at both usual and maximum speed decreases.

Respondents were also asked how they learned to drive. From Figure 4 it can be seen that learning to drive without assistance (i.e. by myself) was the most common means of learning, reported by almost 31% of respondents. Respondents who learned how to drive from their parents or relatives were the second highest group, followed by those taught by a friend. Interestingly, only around 13% of respondents reported that they were taught to drive by a driving

instructor. This is only higher than those who learned how to drive by other means not specified – which represents < 2.0% of total responses.

Respondents were also asked if they had ever driven illegally on the road before obtaining their driving licence. About 43% of respondents reported that they had driven illegally before obtaining their driving licence, while 57% didn't. Figure 5 below shows all responses to this question.

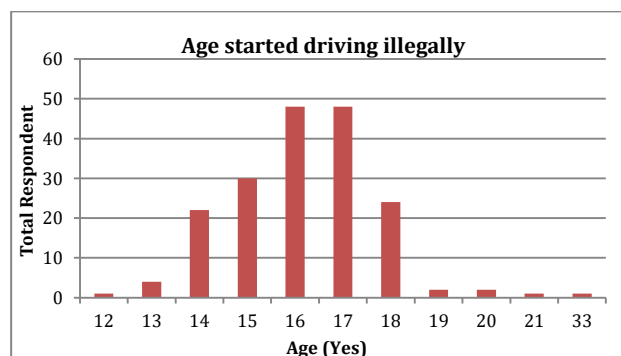


Figure 5 Age respondents started driving before obtaining a driving licence

When respondents were asked if they had driven illegally before obtaining their driving licence, a total of 243 respondents – which accounts for 56.91% of the overall 427 respondents – indicated that they had never driven illegally before obtaining their licence. This is over half of the respondents surveyed. 183 (42.86%) respondents admitted driving illegally before obtaining their driving licence. It can be seen from Figure 5 that 16 and 17 year olds were the age group that was most inclined to drive illegally before obtaining their driving licences. This represents 48 (26.23%) respondents each for the 16 and 17 year old age groups. The 15 year olds, representing 30 (16.39%) respondents, were the third highest age group to admit to driving illegally prior to obtaining their driving licence, followed by 18 year olds, 24 (13.11%) of whom drove illegally prior to obtaining their driving licence. The 22 14 year olds who admitted driving illegally before obtaining a driving licence make up 12.02% of respondents – more than the total of the 19, 20, 21 and 33 year olds put together, who represent 3.28%. One 12 year old (0.55%) and four 13 year olds (2.19%) drove before obtaining a licence.

Conclusions and recommendations

In this research, data was collected on a number of issues including mode of travel, frequency of travel and other travel characteristics. In terms of safety aspects and driving characteristics relevant to speeding, a number of attributes and information were collected. Initially, respondents were asked to report on how often they had been caught speeding. From the data collected it was seen that a considerable percentage of respondents had been caught speeding – more than 46% of respondents were caught speeding at some stage in the previous year. This percentage could be, in reality, even higher. The data has been analysed in relation to the mode of travel, to show that those most often caught speeding were the respondents who drive alone. Taxi riders, on the other hand, were the group least likely to report being caught speeding, with about 93% of responses indicating that they had never been caught speeding while a passenger in a taxi. The second highest group of respondents caught speeding were those driving to the shops. Driving with a family member attracted the third highest response, with about 30% of respondents reporting being caught at least once.

Respondents were then asked to report on how often they were in a hurry or late when driving to work, shopping or other activities. It was seen that, interestingly, just under 60% of respondents said they have been in a hurry or late while driving to work at some stage during the week. On the other hand, while driving on shopping trips, a considerable number admitted that they did not experience being in a hurry

while driving. When asked to specify the activities that keep them late or in a hurry, only a few respondents commented, saying that work trips were most associated with being in a hurry or late compared with, for example, shopping trips.

Respondents were asked their usual and maximum driving speeds. 120 km/h was the maximum speed reported by a high number of respondents. In terms of shopping trips, 135 respondents reported driving at 120 km/hr as their maximum speed, while 107 reported driving to work at this speed as their maximum speed, and 93 respondents drove at 120 km/h as their usual speed. Respondents were then asked to report on how they learned to drive. Results show that 31% of respondents learned to drive without the assistance of anyone else. Interestingly, only around 13% of respondents said that they had been taught to drive by a driving instructor. When respondents were asked if they had driven illegally before obtaining their driving licence, about 40% said yes. Results show that 16 and 17 year olds are most likely to drive illegally before obtaining their driving licence, which is very alarming.

The above results show that high driving speeds, illegal driving without a driving licence, and speeding are the main causes of road safety concerns in Kuwait. Tougher regulations and penalties are urgently needed to improve safety and driving behaviour. Finally, this research has been a starting point to reveal the factors and statistics regarding safety and accident statistics in Kuwait. Further research is still needed to have a better understanding of all factors that affect safety.

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About Author

Dr. Hana M AlSaeid is a full-time Associate professor at Civil Engineering Department, College of Technological Studies, Kuwait, where she teaches Highway Geometric Design, Pavement Design, Transport Quality Control, Roads construction, Transport Field Training. She had granted her PhD in Civil Engineering, Transport Engineering Division, from one of the top transport research centers in the whole world (University of Newcastle Upon Tyne, UK). Her M.Sc., in Civil Engineering, Transportation Engineering -with Merit degree-was from San Jose State University, USA. Dr. AlSaeid is a very regular speaker -for training programs, conferences, workshops- on all subjects relevant to transport engineering and planning covering all areas of traffic, pavement, highway, urban planning and airport engineering, in addition to arbitration, claims resolutions and value engineering. She is an expert in transport engineering and planning covering all areas of traffic, pavement, highway, urban planning and airport engineering. In addition to arbitration, claims resolutions and value engineering.