Abstract
The study examined the trends in motorcycle accidents in Lokoja for the period 2000 – 2009 with a view to reducing deaths and injuries resulting from the accidents. Motorcycles are now becoming a very popular mode of public transportation in Nigeria which provides a convenient and relatively inexpensive alternative to the automobiles. However, motorcycle accidents and the attendant unpleasant consequences are on the increase in Nigeria. The socio-economic cost of Road traffic accidents and injuries in Nigeria is immense. There is therefore the need to study the trends of accidents in order to promote safety in the country. The data used for this study covered the number of accidents the number of deaths and the member of injuries resulting from motorcycle accidents in Lokoja between 2000 – 2009. These were collected from the zonal office of the Federal Road Safety Commission in Lokoja. The number of registered motorcycles in the town was collected from the State Revenue Office while data on road development in the city were obtained from the State Ministry of Works and Transport. The data were analysed and the trends in deaths and injuries due to motorcycle accidents were shown in graphical form. The multiple regression method was then used to model the pattern of motorcycle deaths and injuries in Lokoja. The pattern showed that significant relationships exist between the number of accidents, the number of deaths, number of injuries and the increasing number of registered motorcycles in the city. The study recommends that in order to reduce motorcycle accidents in the city, public enlightenment should be organised, use of protective head helmets should be enforced and adequate financial and human resources should be allocated to Road Safety in Nigeria.

Keywords: Motorcycles, Accidents, Deaths, Injuries, Safety

INTRODUCTION
Accident is an unintended and unforeseen event, usually resulting in personal injury or property damage and even death bringing agony and discomfort to many families all over the world. Accident can however happen through various forms but motorcycle accident is now becoming a common incident on our
roads. Motorcycle accidents and the attendant unpleasant consequences are on the increase and at such an alarming and disturbing rate.

Volumes of accident statistics being made available to the public often reflect the colossal scale of losses of human resources, injuries, pain and grief to the affected families. According to the U.S National Highway Traffic Safety Administration (NHTSA), in 2006, 13.10 cars out of 100,000 ended up in total crashes. The rate for motorcycles is 72.34 per 100,000 registered motorcycles (NCSA, 2007). Motorcycles also have a higher fatality per unit distance travelled when compared with automobiles. In 2004, figures from the UK Department for Transport indicated that motorcycles have 16 times the rate of serious injuries per 100 million vehicle kilometres compared to cars, and double the rate of bicycles (Clarke et al., 2004).

Generally, Road accidents claim the majority of the economically useful age as its victims. It also kills or disfigures skilled and unskilled workers young and old, male and female, the rich and the poor whose loss to the country is particularly serious (Aderamo, 2012a). A national study by the Australian Transport Safety Bureau (ATS) found that motorcycle riders aged below 40 are 36 times more likely to be killed than other vehicle operators of the same age. Also, motorcycle riders aged 40 years and over are around 20 times more likely to be killed than other drivers of the same age. According to 2005 data from the NHTSA, 4,008 motorcycle occupants were killed in the United States roads in 2004, an 8% increase from 2003 (AHAS, 2007).

There has been an increase in the use of motorcycles in Nigeria largely on account of its rising popularity as a form of commercial transport (Oluwadiya, et al., 2004). Motorcycles possess the advantage to ply roads that are too narrow or too rough for automobiles and they are also able to manoeuvre in traffic pile-up. While mortality in motorcycle accident is largely due to head injury, limb injury is the leading cause of morbidity (See Bothwell, 1962; Umebese and Okukpo, 2001). The socio-economic cost of Road Traffic Accidents and injuries in Nigeria is immense. The direct cost of traffic casualties can perhaps best be understood in terms of the labour cost to the nation’s economy. Road Traffic Accidents have significantly retarded Nigeria’s socio-economic aspirations and development due to the premature loss of qualified and potential contributing professionals and able-bodied men and women in the labour force (Pratte, 1998).

Much attention regarding the occurrence of road accidents in Africa and particularly in Nigeria are often focused on the national level, while generalization is often done in order to address the known causes of these accidents on Nigerian roads. This study examines the trend of motorcycle accidents in an urban centre, Lokoja in Nigeria with a view to stem the trend and improve safety on Nigerian roads.

**Motorcycle in Public Transport**

The motorcycle is a motorized two-wheeled vehicle for transporting one or two riders. Motorcycles provide a convenient and relatively inexpensive alternative to automobiles. They are more manoeuvrable than automobiles and they deliver higher fuel economy.

Motorcycles are prevalent in the developing world, because they are relatively cheap to own and operate; usually less regulated (in terms of licensing, enforcement and insurance) and can be faster than other modes on very congested roads, by swerving and bypassing other vehicles. Motorcycles now compete with public transport modes in developing countries as residents require greater mobility to access jobs and services. The commuter without a vehicle, who is the primary customer of public transport, may find it more convenient to use a motorcycle as soon he is able to afford it, particularly when the public transport is not competitive.

Riding a motorcycle has many advantages over a car. Motorcycles are cheaper to run, easier to repair, easier to park, more flexible in traffic, less boring and can stop anywhere – thus providing a door-to-door service. Motorcycle, indeed, stands as a new evolution in public transportation that needs to be given
needed attention. Many factors have been responsible for the growth of the use of motorcycles for commercial transport in recent years. These are the poor state of roads in many developing countries and the inability of bus companies to meet growing demand.

In many Asian cities, motorcycles and three-wheeled vehicles are the primary modes on urban roads. In China, the use of motorcycle taxis can be traced to the late 1980s and early 1990s. The motorcycle taxis are present throughout China, including Beijing, Shanghai and Guangzhou. Their popularity is based primarily on their low price. In Phnom Penh and other cities in Cambodia, motorcycle taxis are the primary form of public transport. Motorcycle taxi drivers are called motodups. They form in queues outside major tourist attractions, office buildings, public markets and near corners of residential streets. In Maroua in Cameroon, the most common way to get around is by motorcycle taxis (West, 2011). Motorcycle taxis are a licensed form of transport in Goa, India. They are much cheaper than other taxis. Motorcycle taxis in Goa are driven by men called ‘Pilots’.

Other countries using motorcycle taxis are Indonesia where they are called Ojek; Philippines with sidecar taxis as well as ‘habal-habal’ – motorcycle taxis with extended seats (Bloom, 2009); Sweden, Thailand where motorcycle taxis are common forms of public transport in Bangkok and most other cities, towns and villages.

In the United Kingdom, 3 firms currently offer a taxi bike service based in London. The bikes are now licensed by Transport for London and the Public carriage Office, who also license London’s black cabs. In the United States, a motorcycle for hire service began in California and New York City in 2011. Passengers are provided with helmets, airbag vests, and Bluetooth in-helmets cell phones. In Vietnam, motorcycle service, locally known as xe ôm, a lightweight mode of transportation, is one of the most popular. It surpasses buses when it comes to speed and mobility.

The phenomenon of growth of motorcycles has been taking place in cities of other regions of the world as well (Darido, 2010). Studies in Africa have shown that in Douala and Kampala for example, the use of motorcycles for commercial transport has grown very rapidly in recent years.

In Nigeria, the introduction of motorcycle popularly called okada as an alternative mode of transport in urban centres, was prompted by high cost and inevitable transport service provision which impacted negatively on economic activities and inability of the urban populace (Gbadamosi, 2006). Of particular concern is the fact that increasing demand for public transport has not been able to match the level of provision of transport services. The situation is also worsened by the increasing level of poverty of urban residents in Nigeria. Further, the economic depression of the 1980s set the stage for the introduction of an affordable means of inter-city transport. This was found in the use of motorcycle (Olubomehin, 2012). In Lagos, for example, it was often difficult to get conventional means of transportation to move people into and out of many areas (Ikeano, 1991). The inadequacy of the transport system was handled with the emergence of motorcycles for commercial purpose in the streets of Lagos.

Many studies have been carried out on the use of motorcycles as means of public transportation in Nigeria. Ogunmodede et al (2012) identified factors influencing high rate of commercial motorcycle accidents in Nigeria. They found overspeeding, wrong overtaking, bad roads, sudden mechanical defects and alcohol intake as major factors. They also discovered that commercial motorcycle riders do not comply with Road Safety Highway Codes. Olubomehin (2012) examined the development and impact of motorcycles as means of commercial transportation in Nigeria. He identified rapid rate of urbanization in the face of inadequate means of transportation, high rate of unemployment prevalent in the country in the 1980s as a fall-out of the downturn in the Nigerian economy at this period and the relative lucrative nature of commercial motorcycle business as factors responsible for the growth of motorcycle business in Nigeria.
Ogunsanya and Galtima (1993) also studied the use of motorcycles as mean of public passenger transport in Yola, Adamawa State. They found that economic depression and inadequate transport facilities were factors giving rise to the use of motorcycles as means of public transportation in Nigeria. Oluwadiya et al (2004) carried out a study on assessing motorcycle limb injuries in Nigeria. The study conducted at the Obafemi Awolowo University Teaching Hospital, Ile-Ife found that 79.3% of the victims of motorcycle accidents that reported to the hospital had injuries involving their limbs, 66.1% patients had lower limbs injuries, 21.7% patients had upper limb injuries while the remaining 12.2% injured both upper and lower limbs. They concluded that motorcycle accident is an important cause of limb injuries in the developing world and recommended that motorcyclist need to be encouraged to use protective/safety devices. These studies point to areas of concentration and attention in an attempt to solving the problems of motorcycle accidents and improving the contribution of motorcycles in ameliorating public transport services in Nigeria.

MATERIALS AND METHODS

The data used for this study are the road network map of Lokoja, the total number of motorcycle accidents for the period 2000 – 2009; the total member of persons killed in motorcycle accidents and the total number of persons injured within the study period. The number of registered motorcycles in Lokoja was also collected. The road network map of Lokoja is as shown in the figure 1.0.

The map of Lokoja road network was collected from the Kogi State Ministry of Lands and Housing, Lokoja. This was used to determine road lengths. Data on total number of motorcycle accidents, number of persons killed, number of persons injured were collected from the Zonal Office of the Federal Road Safety Commission, Lokoja, Police Headquarters and Okada Riders Association. Data on total number of registered motorcycles was collected from the State Revenue Office, Lokoja.

The trends in total motorcycle accidents, total deaths and total injuries from motorcycle accidents were then determined and plotted. The multiple regression method was used to determine the relationships between motorcycle accident deaths, motorcycle injuries and number of registered motorcycles, road lengths and total motorcycle accidents using the SPSS (Statistical Package for the Social Sciences) and Microsoft Excel.
Fig. 1.0: Road Network Map of Lokoja, Kogi State
Source: Ministry of Lands and Housing, Lokoja, Kogi State

RESULTS AND DISCUSSION
Trend in Total Motorcycle Accidents

The trend in motorcycle accidents in Lokoja for the period 2000 – 2009 shows there were 15 motorcycle accidents in 2000. This rose to 29 accidents in 2004 and dropped to 28 accidents in 2005 and 2006. In 2007 motorcycle accidents rose to 57 and in 2008, it attained a value of 67. By 2009, the figure had risen to 78 motorcycle accidents. The trend shows fluctuation in motorcycle accidents between 2000 and 2006. Between 2006 and 2009 the trend has been that of gradual rise in the number of motorcycle accidents in Lokoja. Figure 2.0 shows the graph of motorcycle accidents in Lokoja between 2000 – 2009.
The increasing trend of accidents especially from 2006 is due to the rapid urbanization been experienced in the state and particularly in Lokoja, the state capital. This resulted in increase in the number of motorcycles in the town and consequently more accidents.

**Trend in Motorcycle Accident Deaths**

The trend in motorcycle accident deaths in Lokoja for the period 2000 – 2009 is as shown on figure 3.0. The pattern shows that only 2 motorcycle accident deaths were recorded in 2000. The trend fluctuated between 9 deaths in 2001, 5 deaths in 2002 and 4 deaths in 2003. Death toll from motorcycle accidents rose to 14 in 2004 and this number was retained in 2005. From 2004, death from motorcycle accident began to experience a steady rise to 18 in 2006; 26 in 2007, 33 in 2008 and 38 in 2009.

This pattern is also a reflection of rapid urbanization and an influx of all manner of people into the motorcycle business both old and young, careful and careless. The pattern may also be a reflection of inadequate first aid available to victims and prompt medical attention.

**Trend in Motorcycle Accident Injuries**

The trend in motorcycle accident injuries in Lokoja for the period 2000 – 2009 shows that in 2000, 28 cases of injuries were recorded. There were fluctuations in motorcycle accident in jury cases between 2001 and 2006. The figure rose to 30 cases in 2001 but dropped to 21 cases in 2002. The figure dropped further to 10 cases in 2003 rising to 45 cases in 2004 and fell to 43 in 2005 and 39 cases in 2006. However,
the trend started to experience a steady rise from 86 cases in 2007 to 101 cases in 2008 culminating to 118 cases in 2009.

This pattern is also a reflection of urbanization, attitude of motorcycle riders and availability of first aid and prompt medical attention for people involved in motorcycle accidents. The trend of motorcycle accident injuries in Lokoja for the study period is as shown on figure 4.0.

Modelling Motorcycle Accidents

The multiple regression model was adopted to determine the relationship between motorcycle accidents and relevant economic and physical factors. The model relates total motorcycle accident casualties with total motorcycle accidents; number of registered motorcycles; population estimates of the study area and total length of roads in the city. The model derives from that used by Flanders in Belgium in 2001 in his study of Road Accident Deaths in India (see also Aderamo, 2012b).

The original form of the model is

\[ RF = RA + PE + LR + PT + e \]

where RF represents Road Fatalities; RA represents Total Road Accidents; PE represents Population Estimates; LR represents Length of Roads and PT represents Traffic Population; e is the error term.

In this study, the model takes the form.

\[ MAC = TMA + NRM + PE + LR + e \]

where MAC = Motorcycle Accident Casualties

TMA = Total Motorcycle Accidents

NRM = Total Number of Registered Motorcycles in the town

PE = Population Estimate

LR = Length of Roads in the town

e = An error term

Two multiple regression models were developed for the study. One for Motorcycle Accident Deaths and the other for Motorcycle Accident Injuries for the period 2000 – 2009. The data used were all in respect of Lokoja town. The collected data were analysed with the Statistical Package for the Social Sciences (SPSS) version 16.0 and Microsoft Excel.

The data used for the analysis is as shown on table 1.0

Table 1.0: Statistics on Motorcycle Accidents in Lokoja

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Registered Motorcycles</th>
<th>Total Accidents</th>
<th>Total Deaths</th>
<th>Total Injuries</th>
<th>Length of Roads (km)</th>
<th>Population (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>850</td>
<td>15</td>
<td>2</td>
<td>28</td>
<td>15</td>
<td>237.92</td>
</tr>
<tr>
<td>2001</td>
<td>1530</td>
<td>9</td>
<td>9</td>
<td>30</td>
<td>18</td>
<td>245.53</td>
</tr>
<tr>
<td>2002</td>
<td>2730</td>
<td>13</td>
<td>5</td>
<td>21</td>
<td>19.5</td>
<td>253.39</td>
</tr>
<tr>
<td>2003</td>
<td>5400</td>
<td>7</td>
<td>4</td>
<td>10</td>
<td>20</td>
<td>261.50</td>
</tr>
<tr>
<td>2004</td>
<td>6033</td>
<td>29</td>
<td>14</td>
<td>45</td>
<td>20</td>
<td>269.87</td>
</tr>
<tr>
<td>2005</td>
<td>6129</td>
<td>28</td>
<td>14</td>
<td>43</td>
<td>25</td>
<td>278.50</td>
</tr>
<tr>
<td>2006</td>
<td>8539</td>
<td>28</td>
<td>18</td>
<td>39</td>
<td>25</td>
<td>287.42</td>
</tr>
<tr>
<td>2007</td>
<td>8625</td>
<td>56</td>
<td>26</td>
<td>86</td>
<td>28</td>
<td>296.61</td>
</tr>
<tr>
<td>2008</td>
<td>11225</td>
<td>67</td>
<td>33</td>
<td>101</td>
<td>29.5</td>
<td>306.10</td>
</tr>
<tr>
<td>2009</td>
<td>11875</td>
<td>78</td>
<td>38</td>
<td>118</td>
<td>29.5</td>
<td>315.90</td>
</tr>
</tbody>
</table>

Source: The Authors
Motorcycle Deaths Model

The model for the motorcycle deaths takes the form

\[ MCD = TMA + NRM + PE + LR + e \] \hspace{1cm} (3)

where MCD represents Motorcycle Accident Deaths; TMA Total Motorcycle Accidents; NRM Total Number of Registered Motorcycles; PE Population Estimate and LR Length of Roads.

Table 2.0 shows the Regression Summary for Motorcycle Accident Deaths and the independent variables. The four independent variables explain 98.9% of the total variation in Motor Accident Deaths. The remaining 1.1% are variables which cannot be included in the model due to their exogenous features. These include traffic laws and socio-economic factors.

### Table 2.0: Regression Summary for Motorcycle Deaths and the Independent Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Regression Coefficient</th>
<th>Standard Error</th>
<th>t-values</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCD</td>
<td>Constant</td>
<td>123.944</td>
<td>46.902</td>
<td>-2.643</td>
<td>0.046</td>
</tr>
<tr>
<td></td>
<td>TMA</td>
<td>0.183</td>
<td>0.075</td>
<td>2.432*</td>
<td>0.059</td>
</tr>
<tr>
<td></td>
<td>NRM</td>
<td>0.001</td>
<td>0.102</td>
<td>-0.394</td>
<td>0.710</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>0.690</td>
<td>0.230</td>
<td>3.001*</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td>LR</td>
<td>-3.133</td>
<td>1.030</td>
<td>-3.043*</td>
<td>0.029</td>
</tr>
</tbody>
</table>

* Significant at 5.0% level

Source: Computer Output

The regression summary shows that Total Motorcycle Accidents; Number of Registered Motorcycles and Population Estimates all have positive association with motorcycle accident deaths. This implies that the increasing population of the city as a result of urbanization has impact on motorcycle accident deaths in the city. Increasing population is also associated with higher probability of accident occurrence.

The regression summary also shows that increasing and improvement road network reduces motorcycle deaths as motorcyclists have the opportunity to drive on smooth and convenient networks.

### Table 3.0: ANOVA

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4</td>
<td>1379.048</td>
<td>344.762</td>
<td>114.523</td>
</tr>
<tr>
<td>Residual</td>
<td>5</td>
<td>15.052</td>
<td>3.010</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>1394.100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computer Output

Also, Table 3.0 shows that the regression is significant since the F-statistic of 114.523 is greater than the critical value of 5.19 at 0.05 level of significance. The t-values also show that total Motorcycle Accidents, Population Estimate and Length of Roads are significant at 0.05 level. The coefficient of determination, \( R^2 \) which is 98.9% shows that the model is a good fit for the data. The predictive ability of the model is therefore confirmed. The regression model obtained is

\[ MCD = 123.944 + 0.183TMA + 0.001NRM + 0.690PE – 3.133LR \] \hspace{1cm} (4)

Motorcycle Injuries Model

The multiple regression model for motorcycle injuries takes the form:

\[ MCI = TMA + NRM + PE + LR + e \] \hspace{1cm} (5)
where MCI represents Motorcycle Accident Injuries; TMA represents Total Motorcycle Accidents; NRM represents Total Number of Registered Motorcycles; PE represents Population Estimate and LR represents Length of Roads.

The Regression Summary for Motorcycle Accident Injuries and the independent variables is shown on table 4.0. The four independent variables explain 99.6% of the total variation in Motorcycle Accident Injuries. The remaining 0.4% are variables which cannot be included in the model due to their exogenous features. This could be due to emergency services factors whereby victims of motorcycle accidents may not receive prompt first aid assistance.

Table 4.0: Regression Summary of Motorcycle Injuries and the Independent Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Regression Coefficient</th>
<th>Standard Error</th>
<th>t-values</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCI</td>
<td>Constant</td>
<td>-126.945</td>
<td>85.884</td>
<td>-1.478</td>
<td>0.199</td>
</tr>
<tr>
<td></td>
<td>TMA</td>
<td>1.458</td>
<td>0.137</td>
<td>10.611*</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>NRM</td>
<td>-0.003</td>
<td>0.002</td>
<td>-1.345</td>
<td>0.237</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>0.844</td>
<td>0.421</td>
<td>2.004*</td>
<td>0.101</td>
</tr>
<tr>
<td></td>
<td>LR</td>
<td>-5.024</td>
<td>1.886</td>
<td>-2.664*</td>
<td>0.045</td>
</tr>
</tbody>
</table>

* Significant at 5.0% level

Source: Computer Output

The regression summary shows that Total Motorcycle Accidents and Population Estimates both have positive association with Motorcycle Injuries. This shows that increase in the number of motorcycle accidents result in increasing number of injuries and increasing population of the city as a result of urbanization result in more accidents and also injuries.

The Number of Registered Motorcycles result in a negligible decrease in motorcycle injuries. This could be as a result of positive efforts by the Federal Road Safety Commission to reduce road traffic accidents in the country. Also, increasing length of roads lead to reduction in motorcycle injuries as motorcyclists have the opportunity of using improved road networks which could promote safety.

Table 5.0: ANOVA

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4</td>
<td>11946.429</td>
<td>2986.607</td>
<td>295.876</td>
</tr>
<tr>
<td>Residual</td>
<td>5</td>
<td>50.471</td>
<td>10.094</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>1394.100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computer Output

The t-values also show that Total Motorcycle Accidents, Population Estimate and Length of Road are significant at 5% level. The F-test also shows that the regression is significant since the F-statistics of 295.876 is greater than the critical value of 5.19 at 0.05 level of significance. Further, the value of the coefficient of determination $R^2$ which is 99.6% shows that the model is a good fit for the data. The predictive ability of the model is therefore confirmed. The multiple regression model obtained is

$$MCI = -126.945 + 1.458TMA – 0.003NRM + 0.844PE – 5.024LR$$  (6)
CONCLUSION AND RECOMMENDATIONS

This study shows the trends in motorcycle accidents in Lokoja, Kogi State, Nigeria. The trends in terms of total motorcycle accidents, deaths and injuries due to motorcycle accidents for the period 2000 – 2009 have been examined.

The study found that increasing population, number of registered motorcycles, and road development had significant effect on motorcycle accident in the city.

In order to reduce motorcycle accidents in Lokoja and also reduce the incidence of deaths and minimize injuries in the event of motorcycle accidents in Lokoja, the following recommendations become relevant:

- Government should enact a law to make alcohol consumption an offence for all motorcyclists.
- Road Safety Organizations should periodically organize trainings, seminars and public enlightenment programmes to educate motorcyclists on the need for more care on the road.
- Motorcyclists should be made to undertake tests and licenses issued before they can be permitted to ride on our roads.
- Regulation on compulsory use of protective head helmets should be enforced.
- The Federal Road Safety Commission should be equipped with materials and human resources to embark on regular and massive breath testing of motorcyclists to detect riders who ride under the influence of alcohol. Drunken riders should be made to face the wrath of the law.
- Adequate financial and human resources should be allocated to road safety in Nigeria.

REFERENCES


Clarke, D.D; Ward, P; Bartle, C; Truman, W. (2004). In-depth study of motorcycle accidents, Department for Transport, U.K.


