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## **Acronyms**

AIDS	Acquired Immunodeficiency Syndrome
BECE	Basic Education Certificate Examination
DVLA	Driver and Vehicle Licensing Authority
GRTCC	Ghana Road Transport Coordinating Council
HIV	Human Immunodeficiency Syndrome
JSS	Junior Secondary School
MSLC	Middle School Certificate Examination
NHIS	National Health Insurance Scheme
NRSC	National Road Safety Commission
SPSS	Statistical Package for the Social Scientist
STDs	Sexually Transmitted Diseases
TUC	Trade Union Congress

## **Executive Summary**

The fundamental economics of African travel is attributed to the issue of speeding for profit and target set by car owners due to the absence of transport subsidies etc. In a recent study in Zambia carried out by the University of Zambia, it was found out that over-speeding caused most road traffic accidents. The situation is no different in Ghana where the economy in Ghana encourages speed and overloading. Most of this is attributed to the outcomes of the terms and working conditions of commercial transport operations in Ghana. This study assessed the social and economic factors that affect driver behaviour in Ghana, its effects on safety and the mitigation factors required to address the problem.

The demographic profile of the driver population was determined to be very favourable for good safety practice. Most of them (80 percent) are male adults within the active age group of (18-59). Over 70 percent are responsibly married with children for whom they are the breadwinners. About 80 percent of them are educated with about 60 percent meeting the minimum requirement of Junior Secondary Education set by the Driver and Vehicle Licensing Authority (DVLA) for 2008. The mode of training is predominantly informal resulting in the transfer of bad driving habits from one bad driver to the other. About 12 percent are even self-taught, which poses a great danger to other road users. Even though most of them (70 percent) claim to have valid "DVLA licenses", only 19 percent of them are currently driving with valid licenses. Much as their knowledge in driving rules and regulation is acceptable, knowledge in road signage and marking is poor.

With regards to the management and administration of the industry; about 80 percent of the vehicles are privately owned with each vehicle owner defining a different terms of employment and conditions of work to suit their purpose. There are limited employment opportunities at an estimated ratio of three drivers per one vehicle (1:3) The maximum time a driver stays with one vehicle is about three years and a driver can be unemployed for a period of over two years. This generates safety problems like the use of spare drivers and the related issue of over speeding to maximize returns. The absence of a standard code of practice results in the absence of protection for the drivers, such as the non-payment of social security, the

ease for an employer to employ and lay a driver off etc. Coupled with this the age profile of most of the vehicles is above 5 years and this creates maintenance problems for the drivers.

Moreover, most of them work in poor conditions without rest or the benefit of taking an annual leave. Most are poorly remunerated far below the minimum wage. They try to maximize passenger km on the principle of more passengers, faster speed to earn more money. The situation is aggravated by the lack of effective law enforcement and regulation. Long hours of work in trying to maximize passenger km keeps them away from family, cause them to live under poor conditions on the road, are exposed to the dangers of contracting diseases, exposed to theft and other forms of dangers which creates both physical and emotional problems for them. Some of the physical and emotional health challenges reported includes fatigue, frustrations, loneliness, sleeplessness, waist pains, chronic headaches etc. for which they resort to all forms of self medications with some using unauthorized drugs and alcohol with their related safety implications.

The mitigation factors required to address these issues are multi faceted and complex involving different stakeholders. There is the need to standardise the code of practice in the industry. Driver Unions or other interest parties could establish companies for which vehicle owners could buy equities with fixed income. This will allow the industry to be operated as a corporate business entity with structured and formalised systems, which can be easily regulated. In the absence of this; Unions should dialogue and bargain with vehicle owners to ensure that the terms and conditions of service are defined within the terms of the Trade Union Congress's (TUC) regulatory framework. Other policy issues relating to affordability and maintenance of vehicles, enforcement, driver qualifications, licensing etc. would also be addressed.

## **CHAPTER ONE**

### **GENERAL OVERVIEW**

#### **1.1 Introduction**

Vehicular transport in Ghana is growing with increased socio economic activities. With so many cars on our roads, the motor vehicle has become a fact of life for Ghanaians but our reliance on them comes at a cost. Many have died or sustained serious injuries in traffic accidents. A rough estimate of the service level indicates that about 22 million passengers are moved by road whilst a total of about 122million tons of freight is moved per annum. Road transport passenger services are predominantly provided by commercial transport services. By their sheer numbers, commercial road transport operations are involved in multiple vehicle accidents, which cause high rates of deaths and injuries to other road users.

Powerful social and economic factors influence and control the normative pattern of the work of the drivers who operate commercial transport services. Some of these factors influence wrongful driver behaviour. Statistics indicate that over 90 percent of traffic accident situations in the country can be attributed to driver errors. The role of these factors in influencing driver safety outcomes has gained increased attention from policy makers in recent times. A typical example is in Scotland whereby an exercise to control drunk driving reduced accident fatalities by 28 percent in 1999 (Source: [www:Scotland.gov.uk/stats/transport](http://www:Scotland.gov.uk/stats/transport)).

There is a need therefore to assess the risk factors relating to driver working conditions, which contribute to such accident situations. The study is to provide a comprehensive assessment of the driver component of the factors that contribute to the high level of road traffic accidents in the country. The object is to define the root causes of bad driver behaviour to the road accident situation in Ghana on a very objective and scientific basis as input for setting an agenda for the required interventions.

## 1.2 Study Objectives

Generally, the study is to improve understanding of the occupational factors causing certain commercial driver behaviour that contribute to road traffic accident situations for purposes of ensuring appropriate policy responses. Specifically the study is aimed at the following;

- To provide a comprehensive overview of the occupational factors resulting in road traffic accident situations.
- To assess the magnitude and significance of each factor in addressing the road safety needs in the country.
- To make a proposal to reduce the risk of road traffic accidents from such factors.
- To recommend on the effective measures for addressing the problem.
- To provide data for research by others on other driver related factors which also contribute to road traffic accidents.

## 1.3 Scope of Study

The scope of the study is to define explanatory variables in terms of the working conditions at the driver level. These shall include but not be limited to;

- ❖ Demographic Factors
  - *Age*: - assessment in the variations in commercial driver behaviour and risk factors across age groups.
  - *Educational Status*: - the significance of educational status in commercial driver related road traffic accidents.
  
- ❖ Training
  - *The level and mode of commercial driver training and the correlation with accident situations.*
  
- ❖ Health Status
  - *Examination of factors affecting the state of health of commercial drivers and the consequent effects on their occupation.*

❖ Occupational Factors

- *Definition of the occupational profile of commercial driver groupings by work features and the risk factors relating to each group.*
- *Relationship between commercial driver involvement in road traffic accidents and the years of driver experience.*
- *Employer policy on terms of employment and service, remuneration, economic rewards, compensation, vehicular maintenance.*

❖ Employment Prospects

❖ Working Conditions

- Hours of work, waiting time for loads, service regulations and enforcement, scheduling, operational pressures, pay method and rate, tenure at job, time pressure etc.

❖ Characteristics of driver behaviour and the structural causes of certain driver behaviours.

❖ Personal characteristics and the factors that motivate such behaviours.

## 1.4 Approach and Methodology

### 1.4.1 Data Collection

A. Secondary Data- Secondary data were collected on accident statistics, composition of vehicle fleet by category, syllabus for learner drivers, etc. Data sources that were contacted include the following:

- i. The Head Office of the National Road Safety Commission (N.R.S.C.), Accra.
- ii. The Head Office of the Driver and Vehicle Licensing Authority (D.V.L.A.), Accra, and
- iii. The internet.

B. Primary Data - The collection of secondary data was complemented with field data.

#### *i* Methods of Field Data Collection

Structured questionnaires were used to conduct field surveys on various aspects of the working conditions of the commercial driver. Checklist and informal surveys were also used to conduct informal surveys with some commercial drivers. Questionnaires for the collection of data from project communities were pre-tested and finalised. Subsequently, edited questionnaires were coded. Field data collection was undertaken in all the selected regions and data returns were duly validated for errors. Data entry was undertaken using the Statistical Package for the Social Scientist (SPSS). The data outputs were further analysed using the SPSS, after which this draft report has been prepared. After the client's comments, a final report would be submitted.

*ii* Sampling - The random sampling approach was used to select six out of the ten regions based on the location of Regional Road Safety Offices and the population of vehicles. The selected regional capitals are namely Accra, Ho, Kumasi, Sunyani, Takoradi, and Tamale. A total of 700 driver related questionnaires were administered and duly edited thereafter to ensure consistency as well as clarity and reliability. The percentage distribution of each category of questionnaire was

randomly determined. Accordingly; long distance vehicles (passenger and freight) had 20 percent each of the total questionnaires, medium distance vehicles (passenger and freight) also had 20 percent each of the questionnaires dedicated to it, whereas short distance vehicles (passenger and freight) also had 10 percent each of the questionnaires dedicated to it. The number of questionnaires administered in all project communities were determined by the sampling method listed below.

$$\frac{N}{1 + N(\mu)^2}$$

Where **N** is the total number of vehicles per project community, and  $\mu$  is the rate of error allowed in determining the sample size.

**Table 1: Project Communities and Questionnaire Category**

<b>Project Communities</b>	<b>Passenger Long Distance</b>	<b>Passenger Medium Distance</b>	<b>Passenger Short Distance</b>	<b>Freight Long Distance</b>	<b>Freight Medium Distance</b>	<b>Freight Short Distance</b>	<b>Total</b>
<b>Accra</b>	44	44	22	44	44	22	<b>220</b>
<b>Ho</b>	12	12	6	12	12	6	<b>60</b>
<b>Kumasi</b>	40	40	20	40	40	20	<b>200</b>
<b>Sunyani</b>	16	16	8	16	16	8	<b>80</b>
<b>Takoradi</b>	16	16	8	16	16	8	<b>80</b>
<b>Tamale</b>	12	12	6	12	12	6	<b>60</b>
<b>Total</b>	<b>140</b>	<b>140</b>	<b>70</b>	<b>140</b>	<b>140</b>	<b>70</b>	<b>700</b>

**Note**

- Long Distance Vehicles(200+ Kilometers)
- Medium Distance Vehicles (101 – 200 Kilometers)
- Short Distance Vehicles (Below 100 Kilometers)

**Table 2: Vehicle Category**

<b>Vehicle</b>	<b>Percentage</b>
Passenger Long Distance	20
Passenger Medium Distance	20
Passenger Short Distance	10
Freight Long Distance	20
Freight Medium Distance	20
Freight Short Distance	10
<b>Total</b>	<b>100</b>

## CHAPTER TWO

### STUDY FINDINGS

#### 2.1 Demographic Features

Generally, the demographic characteristics of the drivers in terms of sex and age distribution, marital status and family responsibilities favour good safety practice. This is due to the fact that most of the drivers are responsible family men for which reason they should take safety precautions.

##### 2.1.1 Age and Sex Distribution

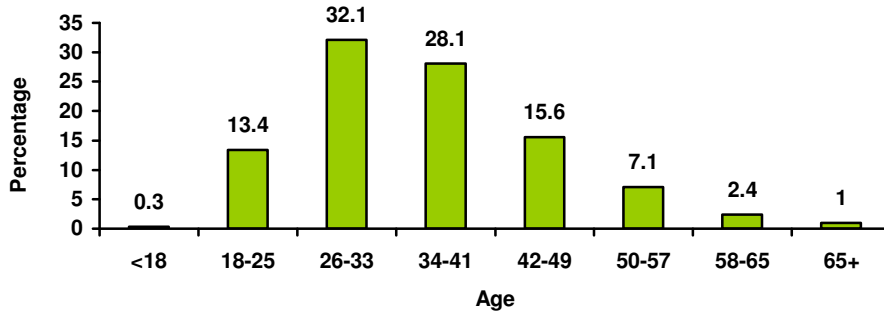
Majority of the respondents were male adults within the active productive age cohort of above 18 years to 58 years. The distribution also indicates that there are a few people within the youngest age cohort of 18-25 years and the older cohorts from 58 years and above. Majority (75.8 percent) are in the very active group of between 26 - 49. This gives an indication of a large proportion of a driver population within a responsible age group who can accept and be able to practice good safety culture. Of some concern is the small proportion of 0.3 percent who are below 18 years of age in commercial operation. These are mostly located in the Western and Brong Ahafo regions, as indicated in Table 3 and Figure 1 below. The few female commercial drivers were located in the Brong Ahafo region.

**Table 3: Sex of Drivers**

Sex of Respondents (%)	
Male	Female
99.9	0.1

Source: Ablin Consult Field Survey, 2007

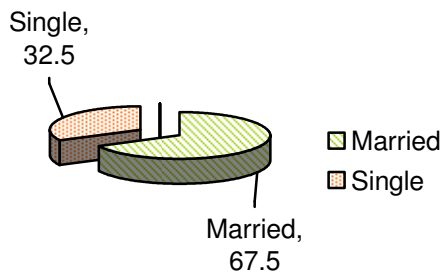
**Figure 1: Age Distribution**



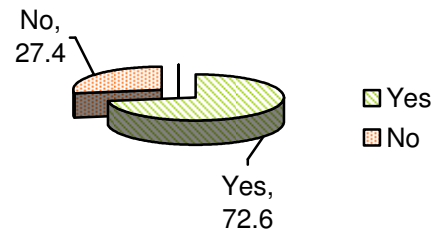
### 2.1.2 Marital Status

Majority (67.5 percent) of the drivers are married with some having children. This gives an indication of a group of people who should be concerned for safety issues since most of them are breadwinners who provide for the up keep of their families. (See Figures 2 and 3 below). The Ashanti and Volta regions have the least number of married drivers and the highest is in the Greater Accra region.

**Figure 2: Marital Status**



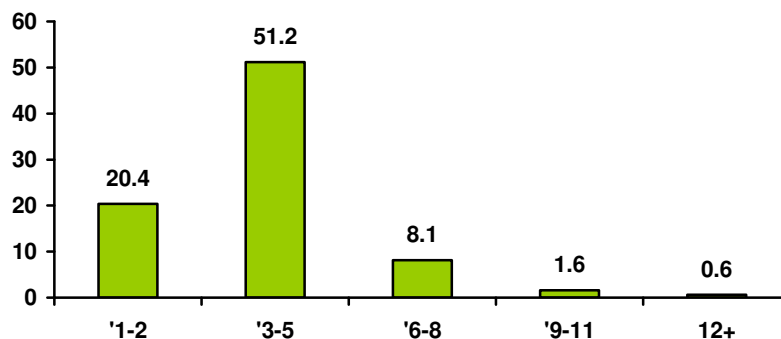
**Figure 3: Drivers with children**



### 2.1.3 Number of Children

About 73 percent of the commercial drivers have family sizes within or above the national average of four (4) children per family. About (51.2 percent) of them have children within the national average whilst 28 percent have children exceeding the national average. Only 20 percent of them have children below the national average. (See Fig. 4). This indicates a very active group of males with family responsibilities, which should be of safety advantage since there is the need for most of them to take safety precautions to safeguard their lives as breadwinners with dependants. Drivers in the Greater Accra have the highest number of children whilst those in the Volta region have the least.

**Figure 4: Number of children**



### 2.1.4 Educational Background

Most of the drivers (86 percent) meet the stipulated minimum requirement of a Basic Education Certificate (BECE) and or a Middle School Leaving Certificate (MSLC) which the Driver and Vehicle Licensing Authority (DVLA) plans to implement from 2008. The illiteracy rate of the driver population at 14.4 percent is however lower than the national average of 21 percent. The details are as indicated in Table 4 below.

**Table 4: Educational Level of Drivers**

<b>Educational Background</b>	<b>Percentage</b>
None	14.4
Primary	20.0
JSS	44.7
SSS	19.2
Vocational/Technical	1.7
<b>Total</b>	<b>100</b>

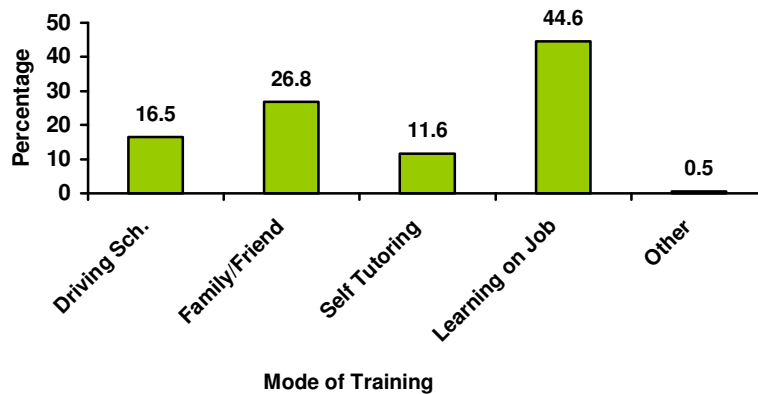
Source: Ablin Consult Field Survey, 2007

The highest level of educational attainment for most drivers is at the Junior Secondary Level (JSS). Greater Accra and the Brong Ahafo regions have the highest number of drivers with education above JSS level. The Brong Ahafo region has more than a third (38 percent) of the drivers with educational levels above JSS. The Northern region has the highest number of illiterate drivers followed by the Ashanti region. The statistical results of the educational level of the drivers gives an indication of good safety practice in terms of the driver's ability to read understand and assimilate issues relating to safety rules and regulations.

## **2.2 Driver Eligibility**

(i) Training - Generally the mode of driver training gives some course for concern in terms of safety.

**Figure 5: Mode of Driver Training**



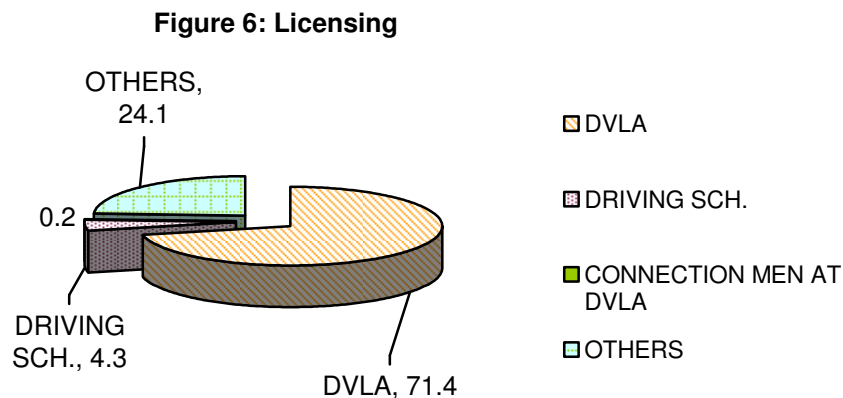
With the exception of only 16.5 percent of the drivers interviewed who learnt driving through formalized means, which is through an established driving school, the remaining 83.5 percent learnt driving through various informal arrangements. Even 11.6 percent were self-taught without the assistance of any instructor. Training by this means is of serious safety threat to other road users especially during the period of self-tuition when they join other road users on the road without the assistance of an instructor.

Learning by apprenticeship is the commonest mode of driver training for most of the commercial drivers. This method of learning how to drive accounted for 44.6 percent. The approach is such that a driver's apprentice starts with the performance of little activities such as moving a vehicle during washing time with skills acquired from observing his master over a period and then progresses to the level of spare driving before qualifying as a driver. This approach of driver training results in the successive transfer of bad driving cultures and habits from one badly trained driver to the other which has serious consequences on safety.

The practice of learning by informal means is considered somewhat legal since there is no regulation on the means by which a driver should be trained so far as the person is able to pass the test requirements for licensing. The Volta region

has the highest number of drivers training by formal driving schools. Learning on the job is most predominant in all the regions with the exception of the Western region. The Northern region has the highest number of drivers who teach themselves how to drive. This could be attributed to poor enforcement of traffic regulations in the region.

(ii) Licensing – The authenticity of the license holding as claimed by most of the commercial drivers could be said to be encouraging in terms of quantity. In all, about 70 percent made a claim of having licenses issued by the DVLA leaving a third as those driving with false documents. Out of the latter, 0.2 percent obtained the licenses from “connection men” at DVLA whilst 24 percent are carrying fake licenses obtained from various unidentified sources with some using other peoples license. Whilst it might seem that the numbers of drivers with fake licenses are few, it still has serious safety implications. Since the authenticity of the license holding of the drivers who claim to have obtained their license from the DVLA could not be established by physical certification; there is every possibility that some of such claims could be false and the situation could be worse than they claimed.



The Greater Accra has the highest number of drivers with valid licenses whilst the Northern and Volta regions have the highest number of drivers with invalid licenses.

(iii) Type of License – Majority of the drivers have higher order licenses that is above category ‘B’. However, some of the license holding do not match the type of vehicle being driven at the moment. With the exception of those in the License ‘C’ category, all the others do not match with the vehicle category. The situation with the most significant safety implication is the 4 percent of the drivers with license ‘A’ holding who are driving other vehicles apart from motorcycles.

**Table 5: License Type**

License Type	Percentage Distribution of License Type	Type of Vehicle	Types of Vehicle by Driver (Percentage)
License A	4.2	Motorcycles	0
License B	12.0	Cars	26.5
License C	24.7	Light Duty Vehicles	24.1
License D	40.1	Heavy Duty Vehicles	27.2
License E	2.2	Earth Moving Equipments	5.0
License F	16.8	Any Other	17.2
<b>Total</b>	<b>100</b>		<b>100</b>

Source: Ablin Consult Field Survey, 2007

(iv) Validity of Current License - Out of the 75.7 percent of drivers who claimed to have ‘valid’ DVLA licenses, 52.4 percent currently have expired licenses whilst 19 percent of the drivers are using cover notes awaiting the issuance of the new license by the DVLA..

**Table 6: Validity of Current Driver License**

DVLA License Holders	Validity	Percentage
	Use of Expired License	52.4
	Cover Note	19.0
	Other Peoples license	4.3
	<b>Sub Total</b>	<b>75.7</b>
<b>Others</b>	Bribe my Way	14.6
	Avoid certain routes	9.5
	<b>Sub total</b>	<b>24.1</b>
	<b>Grand Total</b>	<b>100</b>

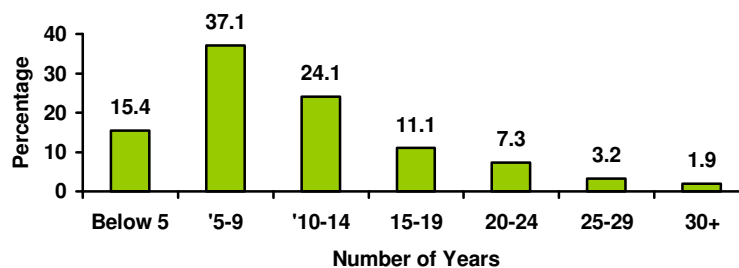
Source: Ablin Consult Field Survey, 2007

Out of the 24.1 percent of drivers currently operating with invalid driving license, about 15 percent bribe their way through enforcement. Others simply avoid routes where they are likely to be arrested by the Police. Given the possibility that (which is most unlikely), all those with cover notes happen to be within the expiry period there is still a significant number (52 percent) of the drivers driving with expired licenses. The situation has serious safety implications since in real terms only One Hundred and Thirty Three (133) that is 19 percent out of the Seven Hundred (700) drivers interviewed were operating with valid licenses. It was realized that most drivers do not appreciate the importance of the periodic renewal of their licenses. Most of them think that once they have been issued with one they have unlimited rights to drive for as long as they like.

### 2.3 Driver Competence

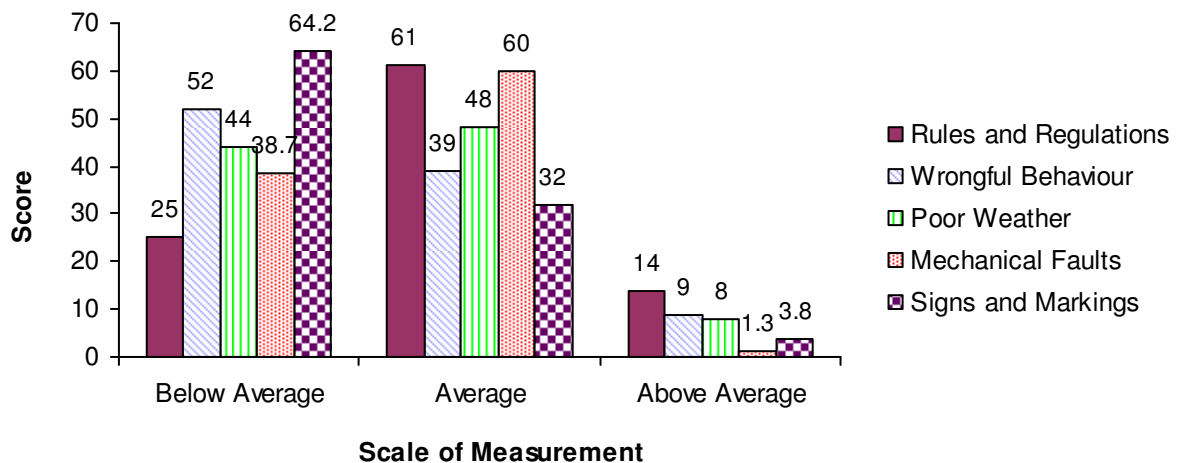
(i). Years of Work Experience - About 85 percent of the drivers have over five (5) years experience in the profession. This should ideally give some positive indication for safety issues on the assumption that better skills and improved performance have been acquired from the years of experience. However, this does not reflect with the statistics on the percentage of accident situations attributed to driver error in the country.

Figure 7: Years of Driving Experience



(ii). Knowledge – The results of an aptitude test on driver knowledge on rules and regulations, defensive driving with specific reference to driver response to wrongful behaviour by other drivers, bad weather conditions, development of mechanical faults etc yielded the responses indicated in Figure 8. It is observed that driver knowledge in rules and regulation and response to mechanical faults was good at about 62 percent. Response to poor weather conditions and wrongful behaviour by other drivers was averaged at about 52 percent whilst knowledge in road signage and marking was mostly poor with almost 60 percent scoring below average and this is of much safety significance.

**Figure 8: Results on Aptitude Test on Driver Competence**

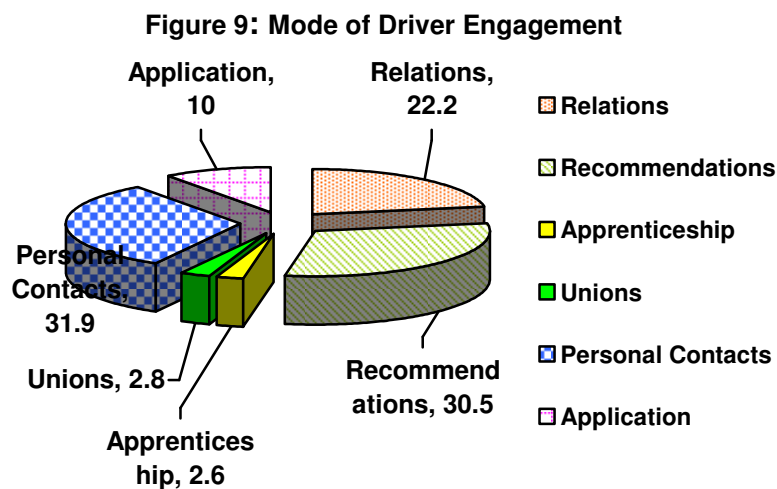


Using a scale of a below average score (<50 points), an average score (i.e. 50 points) and an above average score (i.e. 60 - 100 points); the results for the overall performance indicated that about 45 percent of the drivers do not meet the requirements in the instructors syllabus on these issues and this could also be of serious safety implications.

## 2.4 Occupational Characteristics

### 2.4.1 Vehicle Ownership and Mode of Engagement

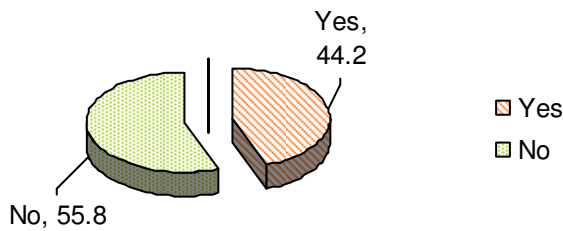
About 80 percent of the drivers do not own the vehicles they are driving. The Northern and Volta regions have the highest number of drivers driving their own vehicles whilst the Western and Ashanti regions have the least number of owners driving their own vehicles. The Volta region has the highest number of drivers securing employment by family contacts whilst the Western region has the highest by recommendations. The Ashanti and Brong Ahafo regions are mostly by personal contacts. The mode of engagement by most employers is very informal and unstructured as indicated by Figure 9. Only about 95 percent of those in formalized commercial transport service operation are employed by formal means.



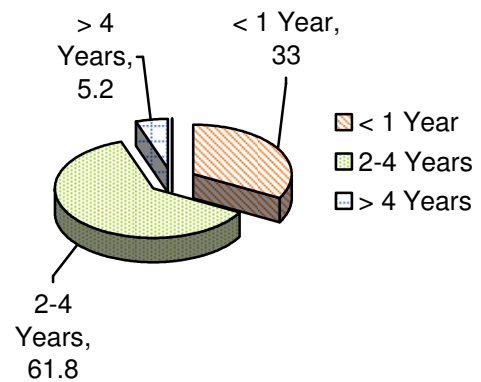
The rest are mostly by personal contacts, recommendations from relatives etc. as indicated above. This generates a lot of uncertainty about the job market and a driver's ability to secure a job since the prospects are very vague and subjective. Generally, it is estimated that there are about three drivers per every commercial vehicle (1:3). The Volta and Ashanti regions have the highest number of job opportunities at 69 percent and 62 percent respectively. The Northern and Western regions have the lowest at 7 percent and 13 percent

respectively. Thus, most of the drivers act as spare drivers to their colleagues who have vehicles to operate, and this is evident in responses indicated in Figure 10 below. This aggravates the problem of spare driving with its associated safety problems, since most spare drivers try to maximize the time limit within which they get access to a vehicle. Only 44 percent of the drivers are certain about their job security up to the end of the year. The rest are not and this creates uncertainties about job security for the average driver.

**Figure 10: Adequacy of Job Opportunities**



**Figure 11: Average Years per Vehicle**



Most of the drivers are not subjected to any formal testing before being engaged. Besides the ability to move a vehicle, other issues like qualification, good conduct, years of driving experience, validity of license holding, accident records etc. are not considered to be of much significance. There are no legal contracts backing their employment and most of them can be employed and be relieved of their duties by their employers at will with no legal consequences and obligations. The average time most drivers (62 percent) stay with the same employer is between two (2) to four (4) years (details indicated in Figure 11 above).

The average duration for a driver to be without a job after losing one is about three (3) years. These factors thus generates a high sense of insecurity which is of some margin of safety risk; since the drivers try to maximize their gain by working for longer periods to make as much money as they can once they are in employment.

#### 2.4.2 Trip Characteristics

The typical trip characteristics of most drivers are detailed as follows;

(i) Routing and Scheduling – Regulated scheduling and routing are significant in safety terms since uncontrolled routing and scheduling in commercial transport operations can result in congestion on some routes as well as uncontrolled speeding on others which can result in accident situations. About 47 percent of routing and scheduling is done by the unions; 28 percent by employers of the drivers in formal operations; 23 percent by those in informal operations who are not union members with 1.5 percent undefined.

**Table 7: Trip Scheduling**

<b>License Type</b>	<b>Percentage</b>
Owner/Employer	28.1
Driver	23.2
Owner/Union	47.2
Others	1.5
<b>Total</b>	<b>100</b>

Source: Ablin Consult Field Survey, 2007

The mode of routing is very informal. There are no national policy guidelines for routing, and individual operators be it formal or informal decide on which route they would want to operate their services to maximize returns. This results in skewed distribution of transport services in the country with some routes having more operators than others since operators usually prefer routes where they can maximize returns. The vehicle owners in informal operation usually negotiate with Union Executives to secure a preferred route for their services at a fee determined by the Union Executives. Those in formal operations simply operate

on preferred routes without consulting any authority. The rest is left to market forces to decide when to move from one route to another.

In terms of scheduling, those in informal operations are mostly scheduled by Union Executives and this constitutes the prevalent mode of scheduling at 47 percent. Twenty-eight percent (28 percent), of formal operations are scheduled by employers; whilst 23 percent constituting non-union operators determine their own schedules. With the exception of some few formal operators such as the Intercity Transport Services, vehicle loading and take-off for all categories of operations do not follow any rigid procedures. They load on first come first serve basis and take-off time is subject to when loading is completed. Scheduling is however used as a good mechanism for checking over speeding by insisting on serving the first vehicle on the basis of start time at the destination point. Nevertheless, this only applies to those who are union members. The non-union members do not operate by any such regulations and this has implications on safety.

(ii) Distance Traveled and Waiting Time – Most of the drivers are short to medium distance operators constituting 61 percent, whilst the remaining 39 percent are long distance operators (See Fig. 12 below). The average waiting time for a short distance operator for loading is about one hour; that of a medium distance operator ranges from about an hour and a half to almost a day; whilst long distance drivers could wait up to two weeks before being loaded. The significance is that most of them consider the waiting time to be their official rest times so much so that some use it to substitute their annual leave period, hence, do not see any reason to proceed on official annual leave.

Figure 12: Average Distance Traveled

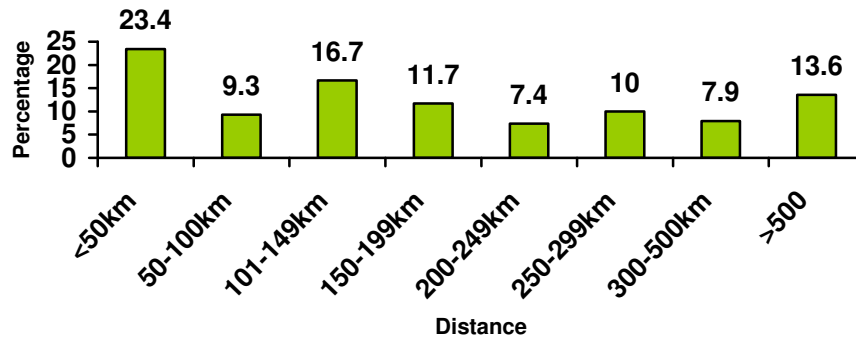


Table 8: Waiting Time (Minutes)

Waiting Time	Percentage
<b>Short Distance Operations</b>	
<30	12.4
30-59	25.2
<b>Medium Distance Operations</b>	
60-89	16.5
<b>Long Distance Operations</b>	
90-119	0.6
120-179	12.6
>1day	18.3
Varied	14.4
<b>Total</b>	<b>100</b>

Source: Ablin Consult Field Survey, 2007

Since the loading period is strictly a function of passenger availability or freight availability, there are no mandatory waiting limits for the driver. This makes the waiting times very irregular and then its substitution with annual leave or rest times could be very ineffective. Thus, there might be the need to set numerical limits of hours of rest during working time for the driver.

(iii) Travel Time and Speed – About 83 percent of the drivers travel over an hour per single trip (refer to Table 9). Very few of them travel for 30mins per trip. Those in short distance operation, who travel over long periods, attribute it to traffic congestion whilst those in long distance operations attribute long travel times to poor road infrastructure.

**Table 9: Travel Time per Trip (Minutes)**

Travel Time	Percentage
<30	1.9
30-59	15.1
60-89	10.9
90 -119	1.1
120-149	8.8
150-179	4.7
180-240	22.4
240-360	26.4
>360	8.7
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

Even though there are more drivers in short to medium distance operations than long distance drivers; majority of them, that is about 60 percent travel within the range of 3 hours to above 6 hours per trip at an average speed of 100km /hr for mostly medium to long distance passenger operations to an average of 50km/hr for short distance passenger operations.

(iv) Trip Frequency – The drivers in short to medium distance operation category make more trips in a day than those in the long distance category do. A short distance driver makes an average of more than six (6) trips per day whilst a medium and long distance passenger operators make an average of one or two (2) trips per day. The long distance freight drivers take about two weeks or more to make a trip.

**Table 10: Reasons for Trip Frequency**

Reasons	Percentage
Personal Gains	31.9
High Sales Requirements	43.1
Sense of Obligation	6.3
Good Health	0.6
Competition	6.3
Traffic Congestion	1.3
Shortage of Buses/Drivers	10.5
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

The drivers assigned various reasons for trip frequency as indicated in Table 10 above. The reasons for trip frequencies are;

Forty-three (43) percent is determined by the need to meet the daily sales set by their employers. About a third (30 percent) undertake more trips for personal gains after acquiring their daily sales. Other drivers (10 percent) do it when there are more passengers than vehicles (increase in demand). A small proportion of the drivers (0.6 percent) feel their resilience is enough for them to undertake more trips whilst others do it to make up for the time lost in traffic. Some also do it out of competition with their colleagues. Ironically, some of those in the formal operations, 6.3 percent, said that they are sometimes pressured to take more trips so far as there are passengers to be served.

Trip frequency is determined by rules set by the unions (especially for long and medium distance operations). Most of the drivers operate at their own discretion. This determines the number of working hours by the driver, which in turn is of safety implications since long hours of driving causes fatigue, which also causes negligence, carelessness etc. that could result in road accidents. About 66 percent of the drivers work beyond the five working days in a week, a detail of “number of working days per week” is indicated in Table 11 below. Most of these drivers comprise those in passenger operations. Majority of the long distance freight operators however work for up to an average of four days in a week due to long waiting periods for loading.

**Table 11: Number of Working Days per Week**

<b>License Type</b>	<b>Percentage</b>
1 Day	4.9
2 Days	6.4
3 Days	5.2
4 Days	3.4
5 Days	9.1
6 Days	49.6
7 Days	16.9
Not Consistent	4.5
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

The trend in the duration of working hours by the drivers is that most of them work for as long as 12 hours in a day for almost six days in a week. About 20 percent of them work for up to 20 hours in a day with little or no rest. Whilst some of them are regulated by the unions during the daytime, there are no limitations during the night hours. This increases the risk of a driver in safety terms since by that time there is accumulation of fatigue from the day's work.

## CHAPTER THREE

### MANAGEMENT AND SUPERVISION

#### 3.1 Introduction

The management and supervision of the drivers is mostly done by individual employers (60 percent). Twenty-four percent of the drivers manage themselves and these constitute those who own their vehicles. About 13 percent of the drivers are managed and regulated by their respective unions, whilst 4 percent are not even sure if they are regulated or not. The details are as indicated in Table 12 below. The results shown in Table 12 implies that any attempt to address issues relating to driver performance should take the role of the employers into consideration

**Table 12: Management and Supervision of Drivers**

<b>Management and Supervision</b>	<b>Percentage</b>
Employer	53.2
Employer's Representative	6.4
Self Regulation	23.9
Union	12.5
Not Definite	4.0
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

#### 3.2 Code of Practice

There is no standard code of practice for informal commercial transport operation in the country. The formal commercial transport operation is guided mostly by the work code of the Trades Union Congress (TUC) but with specific inputs to suit their individual needs. Those in informal operation who are union members are supposed to be protected by the same work code but this is not operational in reality. This is due to the fact that the number of people owning vehicles is large in numbers and operate on diverse principles, needs and expectations, which are difficult to control. They do not operate on standardized principles nor, do they enjoy collective bargaining on wages, terms of employment, condition of service

etc. This causes uncertainties and insecurity amongst the drivers because each has a different obligation to meet. To a large extent this affects driver performance on the road, in terms of speeding to meet daily sales or driving for long hours to make extra money due to low wages etc.

### 3.3 Union Membership

About 76 percent of the drivers belong to one union or the other who operate from organized lorry stations. The requirements for joining unions are registration and payment of dues with the latter being the most significant requirement. The terms and conditions for joining a union are as summarized in the Table 13 below.

**Table 13: Conditions and Terms of Union Membership**

<b>Conditions</b>	<b>Percentage</b>
Payment of Dues, Book Fee etc	91.5
Personal Savings Contributions	1.1
Registration of Membership	7.4
<b>Total</b>	<b>100</b>

Source: Ablin Consult Field Survey, 2007

### 3.4 Union Support Systems

The most significant support system provided by the union is in the form of social support for funerals of which only 56 percent benefit from. Other forms of support are spare driving opportunities for unemployed drivers and collective bargaining for approved minimum transport fares with the Government as and when the need arises. The distribution of the union support systems is as indicated in Table 14 below.

**Table 14: Union Support Systems**

<b>Support Systems</b>	<b>Percentage</b>
Social Support	56.4
None	43.6
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

Those drivers who are non-union members are of the opinion that the benefits from the unions do not meet their needs. This is because, they do not benefit from any legalised employment protection systems even though they are supposed to operate under the constitutional framework of the Trades Unions Congress (TUC). Most of the drivers also do not appreciate the lack of accountability on the part of the union leadership. They specifically defined the following as some of the reasons for which they are non-union members.

**Table 15: Reasons for not belonging to any Union**

<b>Reasons</b>	<b>Percentage</b>
Company Vehicle	5.0
Non Existence	14.0
Don't have a Station	7.4
Not Beneficial	14.9
Don't want Restrictions	9.9
Exorbitant Fees	8.3
Mistrust of Union	13.2
No Driving License	2.5
No Particular Reason	9.1
Refused Membership Status	5.8
Not Instructed by Employer	0.8
Membership Revoked	7.4
Not Required	1.7
<b>Total</b>	<b>100</b>

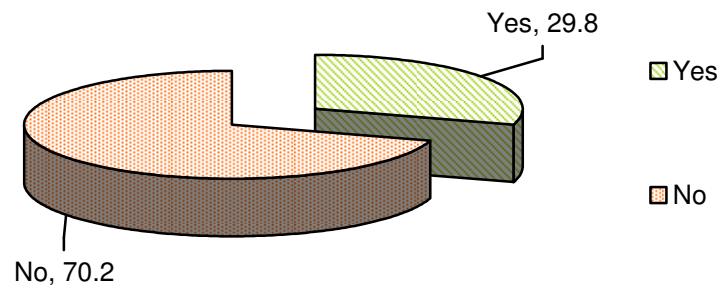
Source: Ablin Consult Survey, 2007

Even the collective bargaining efforts of the Unions with Government about the fixing of fares is considered to be to the disadvantage of the drivers since their counterparts outside the unions are able to charge fares with no restrictions.

### **3.5 Driver Protection**

Involvement in Motor Accidents - About a third of the drivers reported that they had been involved in motor vehicle accidents (response distribution is indicated in figure 13 below). However, this result could be subjective since it is by their own report.

**Figure 13: Involvement in Motor Accidents**



Most of the drivers in informal operations are of the opinion that there is no priority for their protection by their employers. The study revealed that with the exception of 70 percent that are covered by motor insurance, 30 percent do not have any form of protection at all. The distribution of other protective benefits apart from motor insurance is indicated below in Table 16. These were identified as personal insurance cover, medical care in case of accidents, compensation etc. The drivers enjoying such benefits are more associated with those in formal operations than those in informal operations. Most of those in informal operations depend on family goodwill, friends etc. for resources for medical care after accident situations. The drivers in the Western and Volta regions recorded the highest number of accident involvement at 54.4 and 48 percent respectively. The least number of 13 percent was recorded in the Brong Ahafo region.

**Table 16: Forms of Driver Protection**

Forms	Percentage
Personal Insurance	36.6
Medical check up	15.0
Payment of Compensation	6
Others	5.8
None	40
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

Other benefits enjoyed by some drivers from their vehicle owners and employers include the provision of accommodation or payment of rent, the payment of

bonuses or commissions for extra effort, payment of children’s school fees etc. These are indicated below in Table 17.

Most of these are however ad hoc arrangements with no legal backing and only subject to the goodwill of a particular employer at a time. Thus, most drivers enjoy such benefits as special favors from their employers rather than the norm. The drivers in the Volta and Brong Ahafo regions are the most registered for personal insurance at an average of 70 percent, whilst the Northern region is the least at 3.3 percent. The drivers in the Western and Northern regions benefit more from the payment of compensation than the others.

**Table 17: Type of Benefits**

<b>Type of Benefits</b>	<b>Percentage</b>
Accommodation/Rent	9.9
Bonus/Commission	12.9
Children's School Fees	10.3
Gifts	0.4
Social Security	30.0
Medical Expenses	30.9
Provisions	0.4
Soft Loans	5.2
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

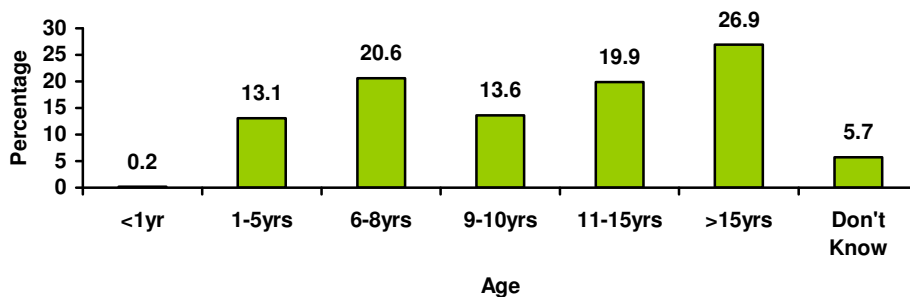
Most drivers feel insecure about the possibility of accidents and the resultant effects of death, injury, health care, family care, retirement etc. With the exception of the 20 percent of the drivers in formal operations only, 10 percent of those in informal operations are having their Social Security paid. Even though there is a legal provision on behalf of all workers both formal and informal, this requirement is not being met by most vehicle owners. The unions are not also committed to ensuring that the vehicle owners adhere to this, due to the large numbers of vehicle owners which make it almost impossible to enforce. Only 31 percent are enjoying support for health care from their employers. There was no mention of registration under the National Health Insurance Scheme (NHIS) by any of the drivers. The factors surrounding driver protection influence driver behaviour in diverse ways. There is an excessive drive to make as much money

as possible due to insecurity generated from some of these factors. The resultant effects are over-speeding, driving for long hours etc., which are some of the factors causing road traffic accidents.

### 3.6 Vehicle Protection

(i) Age Profile of Vehicles – A significant proportion of the commercial vehicles in the country are old. This is clearly depicted in Figure 14 below. The age profile is mostly above five (5) years. Only 13 percent are below 5 years, about 34 percent are up to ten (10) years with those up to (15) years and above constituting over 50 percent. This reflects on maintenance needs and the related high costs of vehicle operation. The vehicle operation costs determines how well the vehicles are maintained and this also determines its road worthiness. The condition of the vehicles on the road is important for safety reasons since these are in commercial operations with high carriage capacity coupled with a high frequency of movement.

Figure 14: Age Profile of Vehicle



(ii) Servicing and Replacement of Vehicle Parts - About 80 percent of the drivers feel they do not have control over vehicle protection. This is mostly regarded as the responsibility of their employers since the amounts involved are substantial in relative terms (See Tables 18 and 19). This is guided by

diverse contractual arrangements between the drivers in informal operations and their employers whilst those in formal operations have a straightforward arrangement whereby the employer services the vehicle without the driver's involvement.

However, in the later instance, the drivers reported that most employers (80 percent) do not respond quickly to such needs. Since the vehicle is the main source of their income, they are sometimes compelled to continue operating with faulty part until enough funds are secured to replace it or the vehicle is rendered immobile. In some instances drivers out of compulsion resort to the use of stereotype parts manufactured by local artisans as substitutes in order to continue their operations. This is of significant safety risk since the failure of the fake parts could cause accident situations. Other drivers buy second hand or brand new imported parts on credit with or without the employers knowledge for payment in installment. This becomes an additional burden on the driver even though by the terms of work it should not be his responsibility.

**Table 18: Financing of Change of Parts**

<b>Financing of Change of Parts</b>	<b>Percentage</b>
Owner/Employer	77.5
Driver	22.5
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

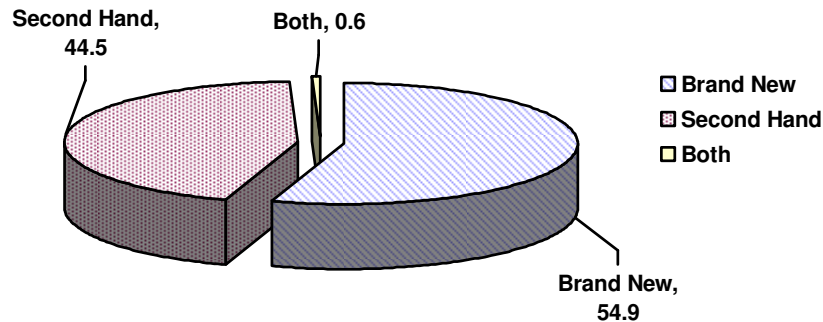
**Table 19: Financing General Servicing**

<b>Financing of General Servicing</b>	<b>Percentage</b>
Owner/Employer	79.5
Driver	20.5
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

(iii) Replacement of Tyres – About 55 percent of the commercial drivers use brand new tyres, especially those in formal operations whilst over 45 percent use second hand tyres with very few of them combining the two.

Figure 15: Type of Tyres Used



The reasons for the choice of brand new tyres are quality and durability accounting for 72.5 percent, and safety at 27.5 percent. The major reason assigned for the use of second hand tyres is affordability with little or no consideration for safety. Other reasons are associated with distance, whereby short distance operators resort to the use of second hand tyres based on supposedly limited utilization, whilst long distance drivers prefer brand new tyres on the basis of the possibility of their getting stranded in areas with no service facilities. Other users of second hand tyres also believe that they perform better than brand new tyres. Most of those who buy brand new tyres buy two sets at a time whilst most of those who buy second tyres normally buy four sets. Those who combine both categories replace each tyre as a situation demands with whatever funding they have available to do so. The issue of affordability is significant in all situations. Where new tyres are bought, very few are bought at a time because of affordability whilst in the case of the second hand tyres, more tyres are also bought.

(iv) Fuel - There are different contractual arrangements with individual employers concerning fuelling. Whilst some employers (25 percent) i.e. mostly those in formal operations, provide separate money for purchasing fuel or have some standing contracts with selected fuel stations for filling their vehicles, others (75 percent) mostly informal operators, require drivers to purchase fuel from the

daily sales. The terms surrounding the later option is that a vehicle is fuelled before being handed to the driver. So the driver is required to refuel before parking to make up for the provision of fuel by the employer. Some drivers both in the formal and informal operations buy fuel on credit under special arrangement with some fuel stations for payment in installment for them to be able to operate especially in instances where they have to commence work without any money.

The major element relating to vehicle servicing be it replacement of parts and fuelling, is affordability. This is of safety significance since a huge proportion of the financial obligation to meet these demands remain the drivers responsibility. This could compel the driver to try as much as possible to make more money, by over-speeding to reach their destinations for increased trips as well as by working for longer hours to make money. These could result in stressful situations which can cause, reckless and careless behaviour with its associated safety risks.

(V) Insurance - Only 58 percent of the vehicles are insured. The Volta and Northern regions have the highest number of insured vehicles whilst the Ashanti region has the least.

## CHAPTER FOUR

### PERSONAL WELFARE

#### 4.1 Introduction

Due to the vague nature surrounding the terms and conditions of the operations of the commercial drivers, especially in the informal operations, drivers resort to the use of their discretion to meet the demands of their employers. In doing this drivers turn to sacrifice some important needs to suit the demands of the work and these are discussed as follows;

#### 4.2 Hours of Work per Day

Majority of the drivers work over long periods of hours per day, as indicated in Table 20 below. Only about 16 percent mostly long distance cargo drivers who travel at a slow pace and therefore work below the standard eight (8) hours per day as per the national standard. The remaining 84 percent work beyond the standard eight (8) working hours per day. The average commercial driver works for not less than 12 hours in a day. About 30 percent could work almost up to a whole day and about 14 percent do not have limits but continue to work as a situation demands.

**Table 20: Hours of Work Each Day**

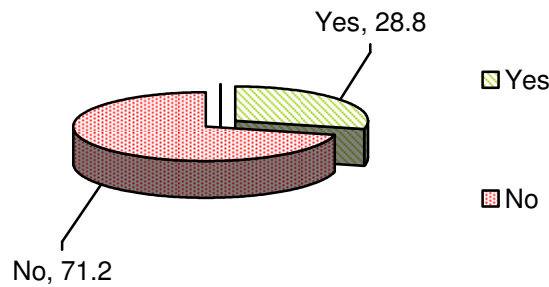
<b>Travel Time</b>	<b>Percentage</b>
Below 4hrs	3.7
4-8hrs	12.4
9-12hrs	40.0
13-20hrs	26.7
21-24hrs	3.4
Not Definite	13.8
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 200

### 4.3 Annual Leave

About 70 percent of the drivers in informal operation work round the year with the exception of those in the formal operations who take some form of leave.

**Figure 16: Annual Leave**



**Table 21: Reasons for not taking Leave**

Reasons	Percentage
Financial Needs	16.8
Terms of Work	32.5
No Reason	2.3
Loss of Job	9.1
Weekend Rest Adequate	26.1
Not Necessary	13.2
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

Most drivers do not go on leave for various reasons, as indicated in Table 21 above. Since they do not operate by any code of work, some drivers think it cannot be a prerogative of a commercial driver in informal operation to go on leave. Some substitute their weekends with leave even though most of them work for up to six days in a week. Some fear for the possibility of losing their jobs should they go on leave, since their employers could make alternative arrangements for other drivers to drive the same vehicle. Some also fail to go on leave for financial reasons since they make extra money aside their wages and cannot afford to lose such supplementary funds. Thirteen percent of the drivers

do not even see any need for a leave since they believe they are healthy with adequate stamina for the purpose. Even though there have been no formal studies to determine the impact of excessive work on the driver’s health, subsequent reports on the consequences of this factor in terms of fatigue and other related issues would be discussed in later chapters.

#### 4.4 Income

The commercial transport drivers in formal operations receive their remuneration in the form of monthly income. That of the informal operators is based on a two-day daily sale, i.e. the driver is paid an equivalent of two days sales. Table 22 provides a sample of daily sales by different vehicle categories.

**Table 22: Sample of Daily Sales by Commercial Drivers**

Vehicle Type	Amount Paid in Daily Sales		Monthly Income Paid to Drivers GH(¢)
	Old Vehicle GH (¢)	New Vehicle GH (¢)	
Taxi	10.0	15.0	20.0 – 30.0
207 Benz Bus	20.0	25.0	40.0 – 50.0
Benz Bus	30.0	35.0	60.0 – 70.0
Urvan (mini bus)	20.0	25.0	40.0 – 50.0
33 Seater Bus	40.0	45.0	80.0 – 90.0
Tipper Trucks	120.0	180.0	240.0 – 360.0

Source: Ablin Consult Survey, 2007

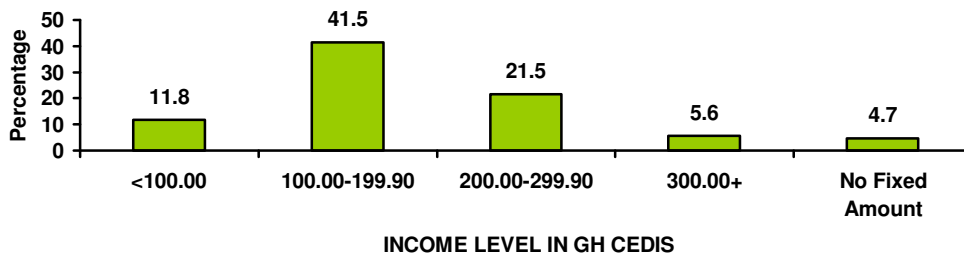
*Note: \*("New Vehicles" does not refer to brand new vehicles per say, but imported vehicles that are in good condition usually referred to as "home use")*

The amount paid to a driver is dependant on the condition of the vehicle. The rate is set with a lot of caution since it is the general belief that high sales rate will result in excessive use of the vehicle which will shorten its service life. Each driver receives a two-day equivalent of the daily sales as income. For instance, a taxi driver making a daily sales of GH¢10.0 will receive GH ¢ 20.0 as wages per month which is far below the national minimum wage of GH¢54.0 per month. Most drivers therefore depend on maximization of passenger kilometers in addition to the daily sales to meet their financial needs. To this effect, most drivers are able to increase their income. The income distribution is as indicated in Figure 17 below. In situations where a driver fails to meet the daily sales

except for ill health or vehicle breakdown, the amount is deducted from the monthly income and most instances the driver ends up in arrears. Drivers in the Greater Accra, Ashanti and Brong Ahafo regions receive more income than those in the other regions. Those receiving minimum income are the drivers in the Northern region.

Some drivers are paid on the basis of the number of trips made and their load carried per month since they do not make daily sales by the nature of their operations.

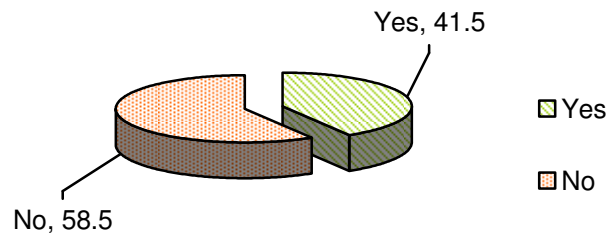
**Figure 17: Monthly Income**



More than (80 percent) of the drivers make more than GH¢100.0 per month. Majority of the drivers are within the income bracket of GH¢100.0 - GH¢200.0. Only 12 percent are within the income range of less than GH¢100.0. Comparing this with what they are actually paid, it can be seen that most drivers make extra passenger kilometers to raise their income levels. This explains the long hours of work and its related safety problems.

Some drivers 42 percent reported that they also engage in additional income generating activities to supplement what they earn.

**Figure 18: Other Income sources**



This is generated from other income sources as indicated in Table 23 below. These are supplementary jobs resorted to by the drivers especially in situations where they lose their jobs and have to wait until the next employment opportunities arise.

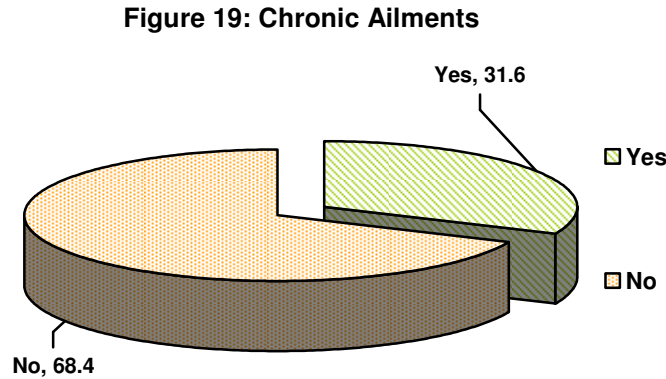
**Table 23: Other Jobs**

Other Jobs	Percentage
Construction Worker	1.6
Electrician	3.2
Mechanic	4.9
Farmer	54.9
Fishing	3.2
Footballer	1.6
Farm Hand	1.6
Mason	3.2
Corn Mill Operator	1.6
Painter	1.6
Pastor	1.6
Photographer	1.6
Shoe Maker	1.6
Sprayer	1.6
Tailor	1.6
Trader	11.4
Welder	3.2
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

## 4.5 Health Status

i. Physical Health Problems - Chronic Ailments - About a third of the drivers reported that they suffer from one health problem or the other for which they are dependent on permanent medication as indicated by Figure 19. These ranged from hypertension, diabetes, asthma, ulcer, piles etc.



Other recurrent health problems for which drivers seek medical care are as indicated in Table 24 below. Almost (50 percent) complained about waist pains from hours of sitting and driving on rough roads. The frequency of occurrence of other health problems like bodily pains and headaches were reported to be high. The problem of bodily pains could be attributed to long hours of driving in the sun, especially in traffic, whereas, stomach problems can be attributed to poor eating habits.

**Table 24: Health Problems**

Health Problem	Percentage
Backache	6.0
Bodily Pain	15.0
General Body Weakness	3.0
Elbow Problem	1.0
Fever	7.0
Head ache	11.0
Stomach Problem	7.0
Stress	5.0
Waist Problem	48.0
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

About 80 percent of the drivers resort to self medication to solve their ailments. Also, about (30 percent) reported that they take one form of medication or the other for bodily pains and headaches at the close of each day.

*ii. Eye Condition* – About (90 percent) claimed they do not need eye glasses to drive which is very good for safety purposes. However only (52 percent of them could confirm this since about 48 percent have not had their eyes checked.

*iii. Chest Infections* – About a third of the drivers complained of infections in the chest from exposure to excessive dust. Some suffer from persistent colds and coughs at regular intervals as a result of these problems.

*iv. HIV/AIDS/ STD's* – Some drivers complained of regular contraction of STD's from multiple sexual partners especially those drivers who spend most nights from home. There were reported cases of some drivers who have died or are currently HIV positive. None of the drivers could report on their HIV status as at the time of the study.

#### 4.5.1 Stress Related Health Problems

Operational Pressures - Some of the operational pressures characterizing the operations of the drivers that cause stress in drivers are as listed in Table 25 below.

**Table 25: Type of Stress by Vehicle Category**

<b>Vehicle</b>	<b>Type of Stress</b>
Passenger Long Distance	Poor Road Infrastructure Physical Strain Long waiting period for loading Possibility of Accident Long Driving Periods Lack of Sleep Poor vehicle condition Police Harassment Absence from family Pressures of limited parking spaces
Passenger Medium Distance	Poor Road Infrastructure Physical Strain Possibility of Accident Difficult Passengers Lack of Sleep Pressure to meet Vehicle Owners Demands Poor vehicle condition Police Harassment Personal Gains
Passenger Short Distance	Poor Road Infrastructure Traffic Congestion Physical Strain Difficult Passengers Fuel crises Pressure to meet Vehicle Owners demands Poor Vehicle Condition Police Harassment Personal Gains
Freight Long Distance	Poor Road Infrastructure Physical Strain Possibility of Accident Long driving Periods Lack of Sleep Poor Vehicle Condition Long Waiting time for load Long Absence from Home Police Harassment
Freight Medium Distance	Poor Road Infrastructure Physical Strain Pressure to meet vehicle owners demands Personal gains
Freight Short Distance	Poor Road Infrastructure Traffic Congestion Physical Strain Personal gains

Source: Ablin Consult Survey, 2007

Some of the recurring stress related factors identified by the respondents, which are common to all categories of drivers, are as summarised in Table 25 below.

**Table 26: - Stress Related Factors Common to all Drivers**

<b>Stress Related Factor</b>	<b>Percentage</b>
Poor Road Infrastructure	11.7
Traffic Congestion	14.9
Physical Strain	6.0
Fear of Accident	0.4
Difficult Passengers	3.6
Fuel Crisis	3.0
Long Driving Periods	27.6
Lack of Adequate Sleep	11.8
Pressure to meet demands of owner	10.2
Poor Vehicle Condition	2.4
Police Harassment	4.0
Long waiting time for Load	2.4
Lack of Rest Stops	2.0
Distracted driving from the use of Cell Phones	
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

(i) Long Driving Periods – Long driving periods was identified by all the drivers as being most stressful. This causes fatigue from long hours of driving without rest.

(ii) Poor Road Infrastructure – Some of the drivers were passionate about the current condition of the road infrastructure. There were reports of high roughness levels, poor signing and markings, poor traffic management etc. These were said to cause travel delays, fatigue and the destruction of vehicle parts resulting in frequent vehicular breakdowns.

(iii) Traffic Congestion – This prolongs travel time which affects their daily sales, discomfort from excessive heat, fuel wastage and dejection amongst various drivers.

(iv) Physical Strain – This is a direct result of long hours of driving. This results in fatigue, headaches, general body pains etc. for which some drivers resort to self medication, excessive alcohol use as well as the use of unauthorized drugs for sustenance.

(v) Fear of Accidents – Most drivers and their families are hunted by the fear of accidents any time they go on the road and some resort to the use of all sorts of protective mechanisms to secure an appropriate frame of mind to do the work.

(vi) Fuel Crises – Most drivers complained that their financial needs are usually impeded by fuel crises since they are not able to meet the daily sales in such situations.

(vii) Pressure to Meet the Demands of Employers- Drivers get stressed out from the pressure of meeting the varied requirements of their employers. Since there is no standard code of practice to guide their informal operations most of them are faced with varied terms and conditions of service which impose a lot of pressure on them. Specific significance is when they are made to run special errands for their employers without due recognition of the implications on the time and fuel utilization which is not factored into the daily sales demands set by the same employers.

(viii) Poor Vehicle Conditions – Most of the drivers complained about the poor condition of the vehicles they use. Most of the vehicles are over aged due to the high cost of new vehicles and the inability of most vehicle owners to afford new ones. Others are high cost of vehicle parts which also create affordability problems. This affects the earnings in terms of loss of daily sales. In some instances drivers mobilize resources from outside the business to meet maintenance demands. Most drivers get frustrated when their vehicles breakdown since they lose essential revenues for their livelihood.

(viii) Police Harassment - Most drivers feel harassed by the activities of the police. This is partly due to their own inability to abide by rules and regulations as well as excessive demands by the police personnel.

(ix) Long Waiting Times for Loading – Most drivers find it stressful to wait for their turn for loading especially the middle and long distance cargo drivers who sometimes have to wait for weeks before they get their load.

(x) Lack of Rest Stops – Most drivers feel frustrated by the lack of rest stops on the roads. Each driver has to find their own means of rest along the route of travel. Some are forced to sleep in their vehicles and be exposed to hazards such as armed robbery, mosquitoes and other health problems. Others resort to keeping multiple partners along the route of travel which poses a health hazards in terms of the spread of sexually transmitted disease especially HIV/AIDS.

#### 4.5.2 Family Related Factors Causing Stress

The pattern of their work which requires several successive days from home affects their family set ups and relationships. This results in the inability of the drivers to spend quality time at home with their families. Others are their inability to meet financial needs, to respond to urgent family problems, reliance on family members and friends to attend to family needs etc. The details are indicated in Table 27 below.

**Table 27: Family Related Factors Causing Stress**

<b>Reasons</b>	<b>Percentage</b>	<b>Rank</b>
Financial Demands from Family	20.3	2
Lack of Quality Time with family	59.8	1
Dealing with Essential Family Issues	7.7	4
Reliance of Spouses/Family Members/Friends	8.8	3
Relegation of Family Issues to Background	2.5	5
Others	0.9	6
<b>Total</b>	<b>100</b>	

Source: Ablin Consult Survey, 2007

Most drivers face difficult lifestyle on the road. There are poor living conditions on the road and this affects their health. Some sleep in their vehicles when they have to stop over night or when their vehicles breakdown. In such instances, they are exposed to mosquitoes, poor sleeping postures which results in less energy restoration due to lack of adequate space. Others suffer from bad eating habits with related stomach problems during the journey time. Other problems relate to the maintenance of personal hygiene due to lack of rest stops, harassment by the opposite sex, pressure to keep other partners aside their spouses, exposure to criminal activities such as armed robbery. About 75 percent also reported of loneliness. What is worth noting is that much as financial demands from family members cause some stress on drivers; it is not of the highest priority. Thus the desire for personal gains which drives most of the drivers to spend long hours from home might not be worth it.

#### 4.5.3 Extent of Influence of Stress Related Factors on Road Accident

Stress in commercial transport operations signifies the inability or the disinclination to be effective or continue in an activity because of emotional impediments. The characteristics are healthy but exhausted individuals. (Torsvall and Akerstedt, 1987) manifested through tension, frustration, sleeping difficulties, fatigue, headaches etc. The summary of responses by the respondents to the effects of these factors in their operations is as summarized in Table 28 below.

**Table 28: Effects of Pressure of Work**

Stress Related Factor	Response (%)	
	Yes	No
Tension	28.8	71.2
Frustration	44.7	55.3
Sleeping Difficulties	33.3	66.7
Fatigue	79.5	20.5
Headaches	67.5	32.5
Average	50.76	49.2

Source: Ablin Consult Survey, 2007

The most significant stress related effect is fatigue, which is the direct effect of long driving hours. This is followed by persistent headaches. This is attributed to prolonged exposure to heat from the sun during drive-time. Most of the respondents reported daily intake of pain killers to curb the pain. Others also admitted to the taking alcohol and even some banned drugs to manage fatigue.

(i) Fatigue – This occurs when driving has been going on over a long period and the central nervous system maintains an adequate pattern but functions more slowly than normal (Angus and Heslegarve ,1995). When the individual is repeatedly overcome by fatigue, interruptions occur interactively with surroundings and performance becomes irregular or fitful. It is said to be a function of the amount of activity (for example the number of hours of awake or driving in this case) in relation to the brain's physiological waking capacity. Even though no reliable statistics could be established for the frequency of fatigue related road traffic accidents; examples from investigations in some developed countries are as indicated; 19 percent for Finland, 7 percent for the United Kingdom and 24 percent for Bavaria with an estimated average of 3 percent for official road accident statistics in the whole world. Given the fact that the operations in the developed countries are well regulated as compared with the situation in Ghana, it can be inferred that the impact could be significant. This is endorsed by the responses by most drivers (80 percent) reporting it to be a major problem in their operations.

Research establishes some of the factors causing fatigue to include lack of rest, lack of sleep, alcohol and drug intake etc. The impact of alcohol and drug intake on fatigue is significant since most of the commercial drivers ironically use these to counteract fatigue with the belief that it gives them boosters to be able to operate over a long period. The number of commercial road transport operators (about 60 percent) who reported on the intake of one form of 'booster' or the other for the required stamina for long hours of operations compares favourably

with the proportion who indicated fatigue to be the most significant stressful factor in their operations.

(ii) Headaches and Bodily Pains - About a third of the drivers reported on persistent headaches associated with their work. Over 90 percent resort to the taking of painkillers on regular basis. Out of this proportion about 50 percent reported on the intake of painkillers every night. The health implication of this phenomenon is yet to be established.

(iii) Frustration – There are many frustration related factors to the work of the commercial road transport driver and these have mixed up effects on them. These factors compel them to make wrong decisions which are of safety implications. Even though it is the same job; all drivers do not have the same career profiles. Repeated and prolonged work problems relating to frequent vehicle break downs, inability to meet daily sales, random demands by their employers, job insecurities, exposure to various forms of risk situations on the road, lack of protection, etc are all good discriminators of probable accident involvement.

(iv) Sleeping Difficulties – Sleep is where there is no longer any interaction with the surrounding environment. The biological clock drives human physiology in a constant undulating flow between high metabolic rates during the day and low ones at night. Changing the time of activities to the night hours means being subjected to the reduced functional capability due to lowered metabolic rate and during the subsequent (daytime) sleep being exposed to the high metabolic rates that disturb sleep. Furthermore, how long a person is awake is equally important, which means that sleeping late at night and waking early in the morning as most commercial drivers do have a double effect on them. This has a direct effect on the drivers by affecting their alertness and the ability to drive safely. Cumulative sleep depth also affects performance. Some evidence suggest that following severe sleep restriction, recovery of performance may not be complete even after

three nights of recovery (Balkin et al, 2000). Even though (33 percent of the respondents reported lack of sleep as a problem, it can be inferred from the number of working hours reported in Table 20, that more drivers do not get adequate sleep and this is of serious safety risk. Indeed more than 65 percent of the drivers who drive for long hours admitted to having fallen asleep behind the wheel. The most common safety threat reported is near misses and almost all the drivers reported of this experience.

#### 4.5.4 Job Satisfaction

It was recognized that there are many interacting factors that may determine a drivers level of satisfaction with their job. These include direct financial benefits, compensation plans, management attitudes towards business practices, employee relations and morale, safety training and support programmes as well as, vehicle maintenance programmes.

**Table 29: Level of Job Satisfaction**

<b>Level</b>	<b>Percentage</b>
Very Satisfied	31.7
Satisfied	52.6
Not Satisfied	15.7
<b>Total</b>	<b>100</b>

Source: Ablin Consult Survey, 2007

The drivers in the Brong Ahafo and Western regions are those who are most satisfied with their jobs as compared with the other regions. Those in the Northern regions are the least satisfied, with as much as 78 percent recording that they are not satisfied. This is followed by those in the Ashanti region and the Greater Accra regions.

## **CHAPTER FIVE**

### **RECOMMENDATIONS, LIMITATIONS AND CONCLUSION**

#### **5.1 Introduction**

It is observed from the study that a number of issues relating to the terms and conditions of commercial transport service operations in the country affects safety outcomes. These require focused effort if there is to be a sustained and balanced programme of mitigating the rate of road traffic accidents caused by human errors. There is therefore a need to assess and implement a wide range of counter measures to address the variety of limitations mitigating against the operations of these drivers and these are discussed as follows;

#### **5.2 Terms of Employment**

Drivers should be sponsored with appropriate guarantees by authentic referees before engagement. Other requirement should be certification of license holding, state of health certificates, experience and employment records before being engaged for commercial driving.

#### **5.3 Code of Practice**

Drivers do not have the protection of regulations and controls in their practice. The commercial logic of the driving profession requires flexibility and on time transportation of goods and passengers. This has generated many inconsistencies with respect to the rules and regulations guiding the industry. The level of sanctions and punitive measures are very varied. In addition, the predominance of individual ownership of vehicles coupled with the absence of a standardised regulatory system with mutual obligations of the parties involved for operations does not allow for effective safety management of the industry. There is therefore a need for the harmonisation of the required principles and regulations for operation under a simple code of practice for effective and regulated operations. A formal contractual framework incorporating the code of

practice should be agreed between parties for the appropriate legal instruments to operate and to provide some level of security.

In addition to the above, individual vehicle ownership could be replaced by converting the unions into corporate business entities from which vehicle owners could buy shares into and be paid fixed incomes; whilst drivers are employed and paid under autonomous management under a corporate framework. Independent corporate entities could also operate in the same framework under a defined code of practice to provide some security in the industry. This will allow for the easy management of safety issues in relation to the terms and working conditions in the industry.

#### **5.4 Driver Training**

There is a whole generation of drivers with poor training background in the commercial road transport industry. This is attributed to poor training mechanism. The present requirements for this is limited. A common curriculum for professional training of drivers should be used by all in driver training. Current reforms by the DVLA in respect of this is in the right direction. It is proposed that basic vocational training institutions in commercial driving should be established to train professional drivers to feed the industry.

#### **5.5 Working Hours**

Excessive competition by drivers to get as much business offers as possible results in high level of speeding on the road. It is suggested that the framework of hours limitations should explicitly define permissible working hours.

#### **5.6 Rest Stops**

Adequate rest stops should be provided along the major roads for rest, meal breaks, naps and security. Studies in South Africa indicate that the provision of rest stops for drivers have also provided benefits in HIV prevention since drivers

are able to avoid risky sexual activities. It is proposed that the Unions should invest resources in the provision of such services for their members.

### **5.7 Rewards and Incentives**

There should be safety related rewards at the union level in the form of monetary rewards, bonuses, gifts, regression, patches, pins and plaques to motivate drivers towards good safety practice.

### **5.8 Safety Commitment at the Union Level**

Safety commitment by vehicle owners and managers should be encouraged so that they can be carried to the drivers. Safety programmes with direct reporting functions should be integrated into the functions of the unions. There should be models of safe driving and periodic driver screening etc. Also competitions in accident records amongst union members could be instituted. This can stimulate peer pressure towards safety conduct amongst the unions. Rewards could be supplemented with safety training. The hallmark of safe drivers should be based on simple rules such as;

- Quality Training
- Compliance with regulations and policies
- Maintenance of vehicles
- Recognition of drivers with good safety attitudes and driving records.

Unions should also be team-based so they can create greater support network amongst themselves.

They should also institute personal support programmes that focus on the driver as an individual. There should be outreach programmes to solicit driver concerns so that individuals are not lost in the crowd. Complete and accurate records of driving performance should be kept by the Union to assess performance. They should set up programmes for driver retention by vehicle owners to protect the interest of drivers. They should negotiate with responsible agencies for the payment of social security by vehicle owners. Unions and other employers should establish schedules to enable drivers adhere to speed limits.

## **5.9 Enforcement of Rules and Regulations**

Lack of enforcement is one essential factor facing the industry. (Bayliss and Coleman, 1994). Enforcement is commonly held to depend on the ability to detect and deter infractions by both high probabilities of detection and adequate penalties. However, this criteria is not met in Ghana. The study revealed that drivers routinely flout regulations due to lack of enforcement. The fact that most of the drivers are driving with invalid license and uninsured vehicles is evident of poor enforcement. Most drivers also violate regulations on speed limits, overloading, operation with non-road worthy vehicles etc. It was observed that this is so because drivers do not bear the full impact of punitive measures because some bribe their way through.

Thus, they are not deterred from repeating the offences. The factors attributed to this include, lack of personnel, resources and commitment on the part of the enforcement officers. While there are adequate legal instruments to back enforcement, there is no consistent enforcement strategy. There should be a consistent level of enforcement across the country to influence behaviour towards effective compliance. The strength of enforcement should be effective to counter act the wrongful behaviour of drivers. The costs of non-compliance should move beyond bribery to reflect actual cost which should be greater than potential commercial gains from violating regulations.

### **5.10 Role of Government**

Safe drivers are a public commodity so governments will have to take some responsibility in improving driver working conditions through safety education, training and enforcement. Leasing and grant facilities for the procurement of brand new vehicles should be provided by government to support the industry. Private leasing of funds for the procurement of new vehicles should also be encouraged.

Also, there is no official governmental agency responsible for transport service operations in the country with the exception of the Ghana Road Transport Coordinating Council (GRTCC). There is a need to establish a national transport regulatory agency within the set up of the Ministry of Transportation to streamline the requirements of the industry since the unions are only established to protect driver interest with non-obligatory membership requirements.

There is no special training for 'Professional' road drivers. A person becomes one by merely obtaining a license to drive such vehicles. Perhaps there might be need for Ghana to follow the examples of some developed countries such as France and Germany where professional drivers undergo a two to three year training in vocational driving before qualifying to be a commercial driver. This should also be complemented with refresher courses to improve and upgrade the quality of drivers in operation.

### **5.11 Road Infrastructure**

Road infrastructure should be improved and maintained. Safety facilities such as speed calming measures, widened pavements, markings and signing, traffic control devices etc should be ensured.

### **5.12 Family Members**

Safety programmes should include the family members such as the spouses of the drivers and even children to sensitize them on the importance of safety as back up support for the drivers.

### **5.13 Employers**

There should be dialogue between appropriate authorities and vehicle owners. Drivers should have more personal relationships with their vehicle owners. Drivers should be made to have a sense of ownership for the vehicle they operate. Their opinions should be solicited in operational decisions such as vehicle maintenance, general business decisions etc. Vehicle owners should insist on validity of license before entrusting vehicles to drivers. There should be periodic rechecks to ensure adherence. There should be mutual agreements on equity and attainability of daily sales. There should also be managerial vigor.

### **5.14 Fatigue**

There should be better control of fatigue related factors in regulation, policy and risk management. For example effective working time limit should be instituted. There should be better enforcement of these control measure. Work periods should not extend far beyond the stipulated working hours. The possibility of adopting the use of technical innovations such as the use of mechanical Tachographs as a recorder on hours of driving should be considered.

### **5.15 Health**

The unions and employers should offer periodic health checks for the drivers.

## 5.16 Safety Policies

The National Road Safety Commission should develop safety policy to guide the recommended factors.

**5.17 Factors Classified by Drivers as Causing Accidents** - When asked to identify hallmarks of bad driving practices drivers indicated the following responses. (Table 30).

**Table 22: Limitations of Other Drivers**

Limitations	Percentage	Rank
Lack of Understanding of Rules and Regulations	2.1	6
Pressure from Owner	8.4	3
Future Insecurity	3.2	5
Low Educational Level	2.1	6
Wrongful Conduct	67.4	1
Poor Training and Inexperience	9.4	2
Vehicle Operation, Maintenance	4.2	4
Low Remuneration	3.2	5
<b>Total</b>	<b>100</b>	

Source: Ablin Consult Survey, 2007

Most of the drivers endorse wrongful conduct on the road as a major problem within their ranks. These were defined as over speeding, drink driving, reckless and careless driving, and non-compliance with traffic regulations. Most of these factors are interrelated and difficult to assess on merit. It can only however be deduced that the factors relating to emotional stress could be some of the reasons causing such behaviours. Interestingly low remuneration scored the second lowest in rank, which indicates that the problem of financial gain may not be of such a high level of significance. Thus, it can be inferred that one important intervention required to address the safety problem is enforcement. It is therefore proposed that all efforts be made to ensure that enforcement play a key role in all the interventions for road safety in Ghana.

## **5.2 Study Limitations**

The exact association between driver working conditions and accident levels could not be established as part of this study since there are no records to prove this. There is no prevalent accident database establishing the contribution of driver error in accident situations. Accident investigations in Ghana are only based on secondary data which comes from police and hospital records. Such data only give statistics on the number of injuries, fatalities and damage resulting from the accident situations without providing information on the causes. Thus, most of the information on the causes of accidents are obtained from media reports of eye witness accounts which are not properly substantiated or documented.

Currently some of the general perceptions on the causes of driver behaviour on the accident situations include; over speeding, drink driving, reckless and careless driving, non compliance with traffic regulations etc. However, these are not based on authentic studies. Also, since there were no data records from formal set ups, the study was based on primary data about self-reports on driver behaviour with its associated biases.

## **5.3 Conclusions**

The demand for vehicular transport has increased because of the urban sprawl, the evolving services sector, lack of a reliable public transport system and the prestige of car ownership as a status quo. While highway safety ultimately comes down to situations and actions on the road, driver safety play an essential role in providing drivers with the physical, and the psychological tools needed to deal with the safety issues that arise whilst driving. It may be concluded from the results of this study that a significant relationship exist between driver working conditions and traffic safety.

## APPENDIX – ONE

### Sex of Respondent

Names of Region	Sex Percentage	
	Male	Female
Brong Ahafo Region	98.8	1.2
Western Region	100	0
Northern Region	100	0
Volta Region	100	0
Ashanti Region	100	0
Greater Accra Region	100	0

### Age of Drivers

Age Group	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Below 18	-	1.3	1.7	-	-	-
18-25	13.8	17.6	16.7	19.4	16.0	7.6
26-33	18.8	38.0	31.7	36.2	38.0	28.9
34-41	27.5	17.7	18.3	22.2	34.0	30.9
42-49	28.8	15.2	20.0	13.9	7.0	17.8
50-57	7.5	7.6	8.3	8.3	3.5	9.3
58-65	3.6	1.3	3.3	-	0.5	4.0
65+	-	1.3	-	-	1.0	1.8

### Marital Status of Drivers

Names of Region	Marital Status (%)	
	Married	Single
Brong Ahafo Region	70	30
Western Region	62	38
Northern Region	74.6	25.4
Volta Region	58.3	41.7
Ashanti Region	58.4	41.6
Greater Accra Region	76.2	23.8

### Number of Children

No. of Children	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
1-2	48.2	54.5	1-2	52.2	71.2	39.8
3-5	44.6	34.1	3-5	47.8	26.6	44.6
6-8	5.4	11.4	6-8	-	2.2	11.3
9-11	1.8	-	9-11	-	-	2.7
+12	-	-	-	-	-	1.6

### Educational Background of Drivers

Educational Level	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
None	3.8	8.9	33.3	19.4	27.0	3.6
Primary	10.1	11.4	36.7	36.1	22.5	17.4
JSS	48.1	63.3	25.0	13.9	43.8	47.8
SSS	32.9	16.3	5.0	8.3	6.4	28.1
Tertiary	5.1	0	0	-	-	3.1

### Learning of Driving

Learn Mode	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Driving School	29.1	20.3	3.3	41.1	14.0	12.4
Family/Friend	31.6	34.2	13.3	36.1	32.0	20.1
Self tutoring	11.6	16.5	28.3	8.3	1.5	15.1
Learning on the Job	27.8	29	55.0	13.9	52.5	51.1
Others	-	-	-	-	-	1.4

### Possession of Valid Driver's License

Names of Region	Driving License (%)	
	Yes	No
Brong Ahafo Region	94.9	5.1
Western Region	96.2	3.8
Northern Region	100.00	0.00
Volta Region	94.1	5.9
Ashanti Region	95.5	4.5
Greater Accra Region	99.1	0.9

### Practical Driving Years

Driving Years	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Below 5	23.2	13.3	10.0	25.00	19.9	-
5-9	43.5	56	36.7	27.8	38.1	29.5
10-14	23.2	5.3	23.3	30.6	2.9	28.2
15 - 19	4.3	9.3	15.0	8.3	7.0	13.2
20-24	1.4	16.1	10.0	8.3	11.1	8.2
25-29	-	-	1.7	-	21.6	6.4
30+	-	-	3.3	-	-	4.1

### Vehicle Ownership

Names of Region	Ownership (%)	
	Yes	No
Brong Ahafo Region	25	75
Western Region	12.8	87.2
Northern Region	21.70	78.30
Volta Region	41.7	58.3
Ashanti Region	19.5	80.5
Greater Accra Region	12	88

### Mode of Engagement

Driving Years	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Through Family Relation	30.3	20.0	17.4	50.0	6.1	32.1
Recommendation of Others	15.2	64.6	21.7	20.0	11.5	39.3
By Apprenticeship	-	4.6	10.9	-	2.7	1.5
Through Union	-	-	10.9	-	-	3.1
Personal Contacts	53.5	10.8	39.1	30	56.1	15.8
By Application	-	-	-	-	23.6	8.2

### Longest Driving Period

Period	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
< 1 year	35	16.7	10.0	-	7.0	9.4
1	14.3	8.3	20.0	25	1.8	4.7
2-4	28.6	20.8	60.0	16.7	54.4	20.3
5-7	21.4	37.5	10.0	33.3	28	28.1
8.10	-	16.7	-	-	3.5	20.3
>10	-	-	-	25	5.3	17.2

### Involvement in Road Traffic Accident

Names of Region	Road Accident (%)	
	Yes	No
Brong Ahafo Region	13	87
Western Region	54.4	45.6
Northern Region	23.30	76.70
Volta Region	51.4	48.8
Ashanti Region	31.7	68.3
Greater Accra Region	23.7	76.3

### Priority for Vehicle Protection

Names of Region	Vehicle Protection (%)	
	Yes	No
Brong Ahafo Region	43.3	56.6
Western Region	43.3	56.4
Northern Region	83.10	16.90
Volta Region	86.1	13.9
Ashanti Region	33.2	66.8
Greater Accra Region	51.4	48.6

### Priority for Driver and Vehicle Protection

Priority on Driver & Vehicle Protection	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Personal Insurance	69.2	20	3.3	76	14.3	59.1
Medical Check-up	7.7	13.3	43.3	24	3.2	22.7
Payment of Compensation	23.1	66.7	53.3	-	34.9	9.2
Vehicle & personal Insurance	-	-	-	-	47.6	9.0

### Adequate Job Opportunity

Names of Region	Job Opportunities (%)	
	Yes	No
Brong Ahafo Region	53.2	46.8
Western Region	12.7	87.3
Northern Region	6.70	93.30
Volta Region	69.4	30.6
Ashanti Region	62.5	37.5
Greater Accra Region	41.8	58.2

### Condition and Terms of Union Membership

Union membership	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Payment of dues ,book fee	100	-	-	90	100	100
Personal saving contribution	-	-	-	10	-	-
Registration of membership	-	100	100	-	-	-

### Management of Driver's

Management of Driver's	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Employer	36.7	62.8	40	19.4	48.2	67.6
Family member/myself	36.7	14.1	22.8	77.8	41.8	18.5
Union	23.3	23.1	35.1	-	2.0	11.3
Not definite	3.3	-	1.8	2.8	8.0	2.7

### Annual Leave

Names of Region	Annual Leave (%)	
	Yes	No
Brong Ahafo Region	27.5	72.5
Western Region	47.4	52.6
Northern Region	16.90	83.10
Volta Region	55.9	44.1
Ashanti Region	12.8	87.2
Greater Accra Region	35.6	64.4

### Type of Tyres

Names of Region	Type of Tyre (%)	
	Brand New	Used
Brong Ahafo Region	74.7	25.3
Western Region	56.4	43.6
Northern Region	47.40	52.60
Volta Region	61.1	38.9
Ashanti Region	45.8	54.2
Greater Accra Region	57.8	42.2

**How much Fuel per Day**

Fuel per day	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
< 20.00	21.3	6.6	31.1	-	12.4	7.1
20.00 – 39.9.00	54.1	17.1	37.9	46.9	64.5	33.8
40.00 – 59.9.00	3.3	38.2	22.4	50.0	21.5	16.2
60.00– 69.9.00	-	-	-	-	1.7	12.4
70.00-89.9.00	-	1.3	5.2	-	-	9.5
90 +	18	32.9	3.4	3.1	-	21.0

**Average Monthly Income**

Monthly Income	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
GH 100.00	13.8	61.0	76.9	36.6	55.8	65
GH 100.00-199.9.00	22.4	22.1	15.4	40.0	2.1	18.2
GH 200.00- 299.9.00	8.6	11.7	7.7	16.7	2.1	2.8
GH 300+	55.2	5.2		6.7	40.0	10.7
No fixed amount	-	-	-	-	-	3.3

**Only Job**

Names of Region	Only Job (%)	
	Yes	No
Brong Ahafo Region	76.3	23.7
Western Region	97.3	2.7
Northern Region	88.30	11.70
Volta Region	91.2	8.8
Ashanti Region	90.8	9.2
Greater Accra Region	93.8	6.3

### Stress and Demand of Job

Stress and Demand of Job	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Poor Road Infrastructure	-	-	2.1	19.4	2.1	7.6
Traffic Congestion		-	-	3.2	2.1	25.9
Physical Strain	15	-	-	-	36.2	2.7
Difficult Passenger	35	-	2.1	-	12.8	2.7
Traveling Long Distance	-	76.1	36.2	25.8	17.0	22.7
Lack of Adequate Sleep	-	19.7	4.2	6.5	4.3	14
Pressure to meet Demand of Owner	20	-	12.8	6.5	-	18.4
Poor vehicle condition	5	-	17.0	-	-	1.1
Police Harassment	15	-	4.3		21.3	2.2
Long Waiting Time for Load	5	4.2	21.3	9.6	-	2.2
Long Absence from Family	5	-	-	-	-	0.5
Fuel Crisis	-	-	-	29.0		-
Possibility of Accident					4.2	-

### Physical Health Problem

Names of Region	Health Problem (%)	
	Yes	No
Brong Ahafo Region	16.2	83.8
Western Region	13.5	86.5
Northern Region	1.80	98.20
Volta Region	2.9	97.1
Ashanti Region	1.8	98.2
Greater Accra Region	13	87

### Tension

Names of Region	Tension (%)	
	Yes	No
Brong Ahafo Region	39.2	60.8
Western Region	14.7	85.3
Northern Region	33.30	66.70
Volta Region	32.4	67.6
Ashanti Region	14.00	86.00
Greater Accra Region	40.70	59.30

**Frustration**

Names of Region	Frustration (%)	
	Yes	No
Brong Ahafo Region	29.70	70.30
Western Region	40.40	59.60
Northern Region	39.00	61.00
Volta Region	81.00	19.00
Ashanti Region	29.00	71.00
Greater Accra Region	64.20	35.80

**Sleeping Difficulties**

Names of Region	Sleeping Difficulties (%)	
	Yes	No
Brong Ahafo Region	31.30	68.70
Western Region	32.30	67.70
Northern Region	63.80	36.20
Volta Region	39.30	60.70
Ashanti Region	30.30	69.70
Greater Accra Region	28.20	71.80

**Fatigue**

Names of Region	Fatigue (%)	
	Yes	No
Brong Ahafo Region	38.20	61.80
Western Region	65.60	34.40
Northern Region	72.90	27.10
Volta Region	81.50	18.50
Ashanti Region	85.60	14.40
Greater Accra Region	90.00	10.00

**Headache**

Names of Region	Headache (%)	
	Yes	No
Brong Ahafo Region	45.50	54.50
Western Region	51.40	48.60
Northern Region	78.00	22.00
Volta Region	50.00	50.00
Ashanti Region	84.20	15.80
Greater Accra Region	64.40	35.60

**Loneliness**

Names of Region	Loneliness (%)	
	Yes	No
Brong Ahafo Region	48.50	51.50
Western Region	38.30	61.70
Northern Region	27.60	72.40
Volta Region	80.60	19.40
Ashanti Region	24.20	75.80
Greater Accra Region	29.50	70.50

**Eye Glasses**

Names of Region	Eye Glasses (%)	
	Yes	No
Brong Ahafo Region	11.60	88.80
Western Region	20.50	79.50
Northern Region	5.10	94.90
Volta Region	5.90	94.10
Ashanti Region	2.10	97.90
Greater Accra Region	4.40	95.60

**Level of Satisfaction**

Level of satisfaction	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Satisfied	49.3	47.4	21.7	53.1	60.4	57.0
Very Satisfied	42.7	50.0	-	37.5	27.9	32.6
Not Satisfied	8.0	2.6	78.3	9.4	11.7	10.4

**Schedule**

Names of Region	Schedule (%)	
	Yes	No
Brong Ahafo Region	11.60	88.80
Western Region	20.50	79.50
Northern Region	5.10	94.90
Volta Region	5.90	94.10
Ashanti Region	2.10	97.90
Greater Accra Region	4.40	95.60

### Multiple Family Demands

Family Demand	Brong Ahafo Region (%)	Western Region (%)	Northern Region (%)	Volta Region (%)	Ashanti Region (%)	Greater Accra Region (%)
Compensation for Money	8	2.8	56.2	45.8	61.3	13.9
Keeping Quality Time	52	94.4	27.1	57.9	24.7	66.3
Dealing with Essential Issues	36	-	8.3	-	-	6.4
Reliance of Family Member	-	2.8	-	26.3	-	9.6
Relegation of Family Issues	4	-	6.3	-	10.8	3.8
Other	-	-	2.1	-	3.2	-

### Awareness of Driving Rules and Regulation

Names of Region	Rules and Regulation (%)	
	Yes	No
Brong Ahafo Region	100.00	0.00
Western Region	100.00	0.00
Northern Region	100.00	0.00
Volta Region	94.40	5.60
Ashanti Region	93.40	6.60
Greater Accra Region	98.20	1.80