

DEFENSIVE DRIVING AS A PREVENTATIVE STRATEGY
FOR ROAD TRAFFIC VIOLATIONS AND COLLISIONS IN ZIMBABWE

by
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submitted in fulfilment of the requirements for
the degree of

MASTER OF ARTS
in the subject

CRIMINOLOGY

at the

UNIVERSITY OF SOUTH AFRICA

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February 2002

SUMMARY

The purpose of this study was to assess the effectiveness of defensive driving as a preventative strategy for road traffic violations and collisions in Zimbabwe.

A sample of one hundred defensive driving graduates was used in the study. The descriptive survey method was used and data were collected using a questionnaire schedule.

Literature review revealed that the majority of similar studies by other researchers indicate that defensive driving is effective in preventing traffic violations and traffic collisions.

The major findings of the present study showed that:

- (a) The defensive driving course is effective in preventing traffic violations and collisions; and
- (b) The defensive driving course should be compulsory in Zimbabwe.

In view of these findings, this researcher urges the Traffic Safety Council of Zimbabwe to request the government to make legislation that compels every motorist to attend the defensive driving course. The same organisation should start conducting research on road traffic accidents.

KEY TERMS

Defensive driving course; Driver improvement programme; Driver training; Preventable accident; Preventative strategy; Road traffic safety; Road courtesy; Before and after study; Assessment of effectiveness; Evaluation.

ACKNOWLEDGEMENTS

This writer wishes to thank the following for the successful completion of this study:

- 1 Professor H. Conradie, for his expert advice and guidance.
- 2 Mrs Sibongile Dube, for professionally typing this research project.
- 3 God Almighty, the provider of all talents.

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CHAPTER 1

ORIENTATION TO THE STUDY

1.1. INTRODUCTION

This study seeks to assess the effectiveness of defensive driving as a preventative strategy for road traffic violations and collisions in Zimbabwe. According to Shonhiwa (1995:6), the Traffic Safety Council of Zimbabwe (TSCZ) has been offering the defensive driving course (DDC) to the motoring public since 1976 in an effort to prevent road traffic accidents. Sandwith (1980:7) states that the TSCZ (then, Rhodesia Traffic Safety Board) was formed in 1972 with the following objective "... to plan and implement educational, information and publicity programmes, to encourage the community to understand and adopt safe road usage principles as well as to investigate, advise and recommend to Government ways and means of reducing traffic accidents." The TSCZ (1979: DDC manual – session 1) holds that DDC is a driver improvement programme in which motorists are taught how to drive to prevent traffic offences and collisions. However, the statistics of traffic offences, convictions for traffic offences and traffic accidents given below indicate that Zimbabwe has a huge road safety problem.

This chapter serves as an orientation or a general introduction to the present study. It will discuss the following aspects of the research problem: background to the study, statement of the problem, rationale for the research, aim and hypothesis of the study, objectives of the research, scope of the investigation, research methodology, limitations of the study, definition of terms and construction of the dissertation.

1.2 BACKGROUND TO THE STUDY

It is necessary to see the road traffic safety problem in perspective before discussing the use of defensive driving. To that end, an exposition of the road safety problem in Zimbabwe will be given.

1.2.1. The road traffic safety problem in Zimbabwe

In order for the reader to understand the road traffic safety problem in Zimbabwe, this researcher will discuss the nature and magnitude of the problem.

1.2.1.1. The nature of the traffic safety problem

According to Cloete (1990a:108) and Cloete (1991:2), the two main components of the road traffic safety problem are traffic violations and traffic collisions. Cloete (1984a:27; 1990b:6) and Cloete and Conradie (1991:26) state that there is a close relationship between traffic violations and traffic collisions because research has revealed that 90% of all traffic accidents are preceded by detected or undetected traffic offences. The above-mentioned aspects of the road safety problem will be discussed below.

(a) Road traffic violations

In the opinion of Cloete (1990b:4-5), Cloete (1984b:3) and Cloete and Conradie (1991:25), unlike ordinary crimes which are mainly restricted to a specific group of persons, individuals from all walks of life commit traffic offences at one time or another. As it were, traffic violations are a "national crime" or a "folk crime". The reason for this is that from a moral or evaluative point of view, road users do not take traffic violations as serious crimes. Therefore, the individual is far more likely to contravene traffic legislation than any other law, which causes him or her to be labelled a criminal.

In terms of the Road Traffic Act (Chapter 13:11), 1996, the following, among others, constitute traffic offences:

- exceeding the speed limit – section 50,
- driving without due care and attention or reasonable consideration for others – section 51,
- negligent or dangerous driving – section 52,
- reckless driving – section 53,
- driving with prohibited concentration of alcohol in blood – section 54 and
- driving under the influence of alcohol or drug or both – section 55.

According to the Zimbabwe Republic Police (ZRP) (2000), the following, among others, are traffic offences:

- overloading passengers,
- overtaking where it is prohibited,
- failing to signal turns,
- failing to display reflectors,
- parking dangerously,
- failing to give precedence at a give way sign,
- failing to stop at a stop sign,
- driving through a red traffic light,
- driving an unroadworthy vehicle, and
- turning in front of oncoming traffic.

The above-mentioned traffic offences may be grouped into two categories. The first group includes traffic violations such as overloading passengers, overtaking where it is prohibited, failing to signal turns and so on. These offences entail only the payment of admission of guilt fines. However, if the offender fails to pay the fine, legal proceedings will follow (ZRP 2000). Cloete (1984b:3) refers to traffic violations in this category as less serious offences.

The second category includes traffic violations which cannot be settled by means of a fine only but will have to be referred to a magistrate court. Offences in this category include reckless driving, negligent driving, exceeding the speed limit by more than 50 kilometres per hour, driving while drunk, driving with a blood alcohol concentration above 0,08 grams of alcohol per 100 millilitres of blood and refusing to undergo a blood alcohol test (ZRP 2000). Traffic violations in this category are referred to as more serious offences (Cloete 1984b:3).

(b) Road traffic collisions

Cloete (1990b:6) and Cloete and Conradie (1991:26) state that there is a close correlation between road traffic violations and road traffic collisions because research has revealed that traffic offences play a part in about 90% of all traffic accidents. This boils down to the fact that if one breaks a traffic law one risks an accident. On the same note, Cloete (1990b:6) holds that motorists who have a poor record in respect of both offences and accidents are much more accident prone than the average driving population.

1.2.1.2 The magnitude of the traffic safety problem

Writing about the road safety problem in South Africa, Cloete and Conradie (1991:25) lament that in spite of the numerous measures that have been introduced to combat road traffic offences and accidents, the road safety problem has met with limited success. The same is also true of Zimbabwe. This is confirmed by the statistics of road traffic violations and collisions presented below. These statistics indicate that this country has an extensive road safety problem.

The present study seeks to evaluate the effectiveness of the defensive driving course. The subjects of the study are DDC graduates who completed DDC between January 1999 and December 1999. This study will put under the spotlight the driving performance of these graduates before completing DDC and

after completing DDC. Therefore the statistics which will be given cover a four-year period from 1997 to 2000.

(a) Road traffic violations

Table 1.1 below gives a picture of the total number of recorded traffic violations which were perpetrated by road users from 1997 to 2000 and the total number of convictions for traffic offences which were made by traffic courts during the same period.

Table 1.1 Traffic violations and convictions from 1997 to 2000

Year	Total number of traffic violations committed	Total number of convictions made
1997	148 050	90 571
1998	196 556	97 596
1999	212 614	120 139
2000	267 678	130 041

Source: ZRP Statistics 2000

According to table 1.1 the traffic offence rate in Zimbabwe increases annually. In the four-year period 1997 to 2000, the total number of traffic offences that were committed by road users rose every year. There was also a sustained rise in the total number of convictions made annually during the same period. This means that the traffic offence conviction rate in Zimbabwe is also on the increase.

Figure 1 shows a graphic representation of the traffic violations and convictions from 1997 to the year 2000.

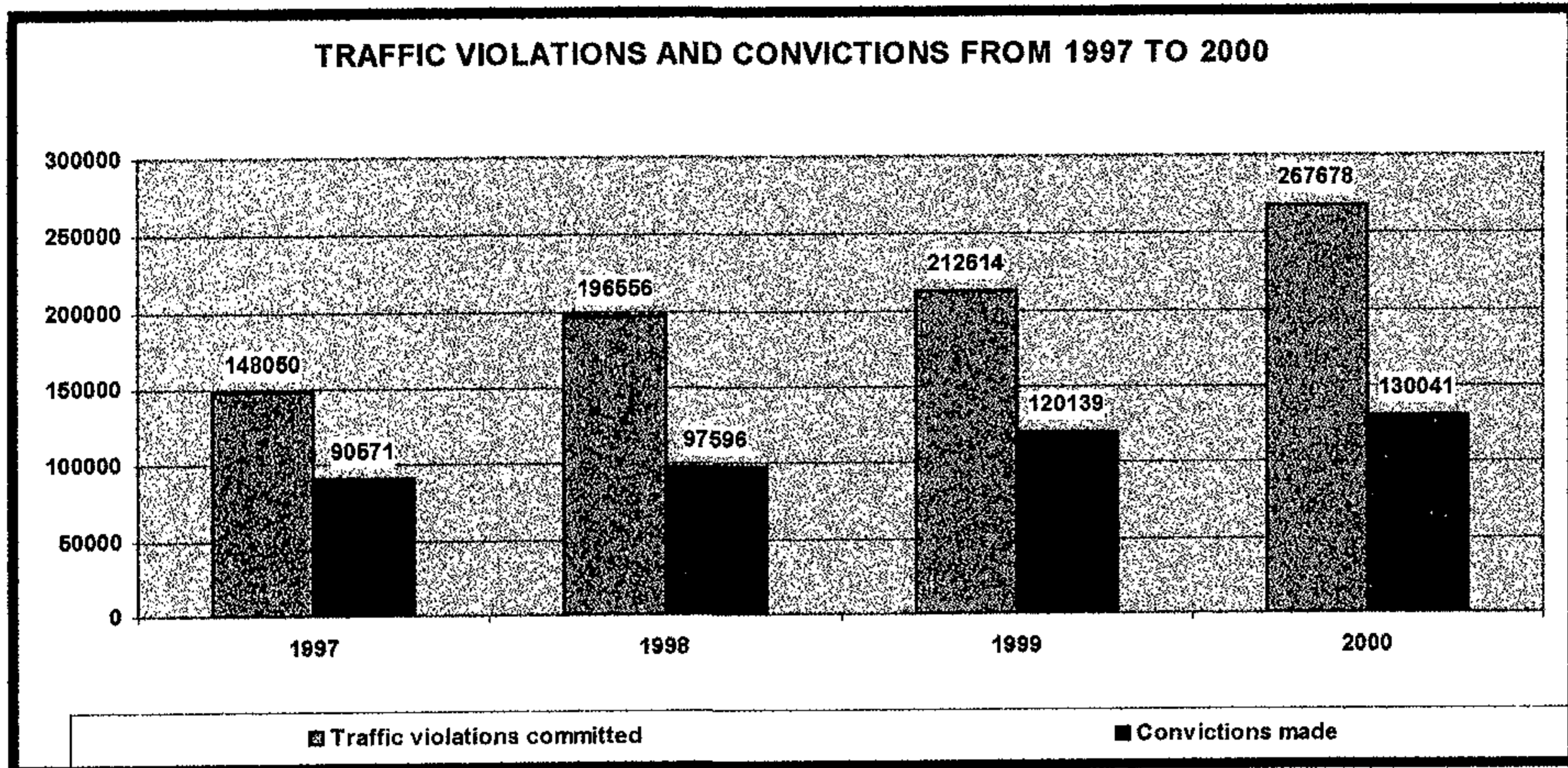


Figure 1

Table 1.2 presents a comparison in percentages of the increase or decrease in the total number of traffic violations committed between the following years: 1997 and 1998; 1998 and 1999, and 1999 and 2000.

Table 1.2 A comparison in percentages of traffic violations from 1997 to 2000

Year	Total traffic violations	Year	Total traffic violations	% increase	% decrease
1997	148 050	1998	196 556	33	-
1998	196 556	1999	212 614	8	-
1999	212 614	2000	267 678	26	-

Table 1.2 shows that as compared to 1997, the total number of traffic offences committed in 1998 rose by 33%. As compared to 1998, the traffic violation rate in 1999 increased by 8%. The traffic offence rate for 2000 as against that of 1999 increased by 26%.

A graphic representation of comparisons of traffic offences from 1997 to 2000 is given in figure 2.

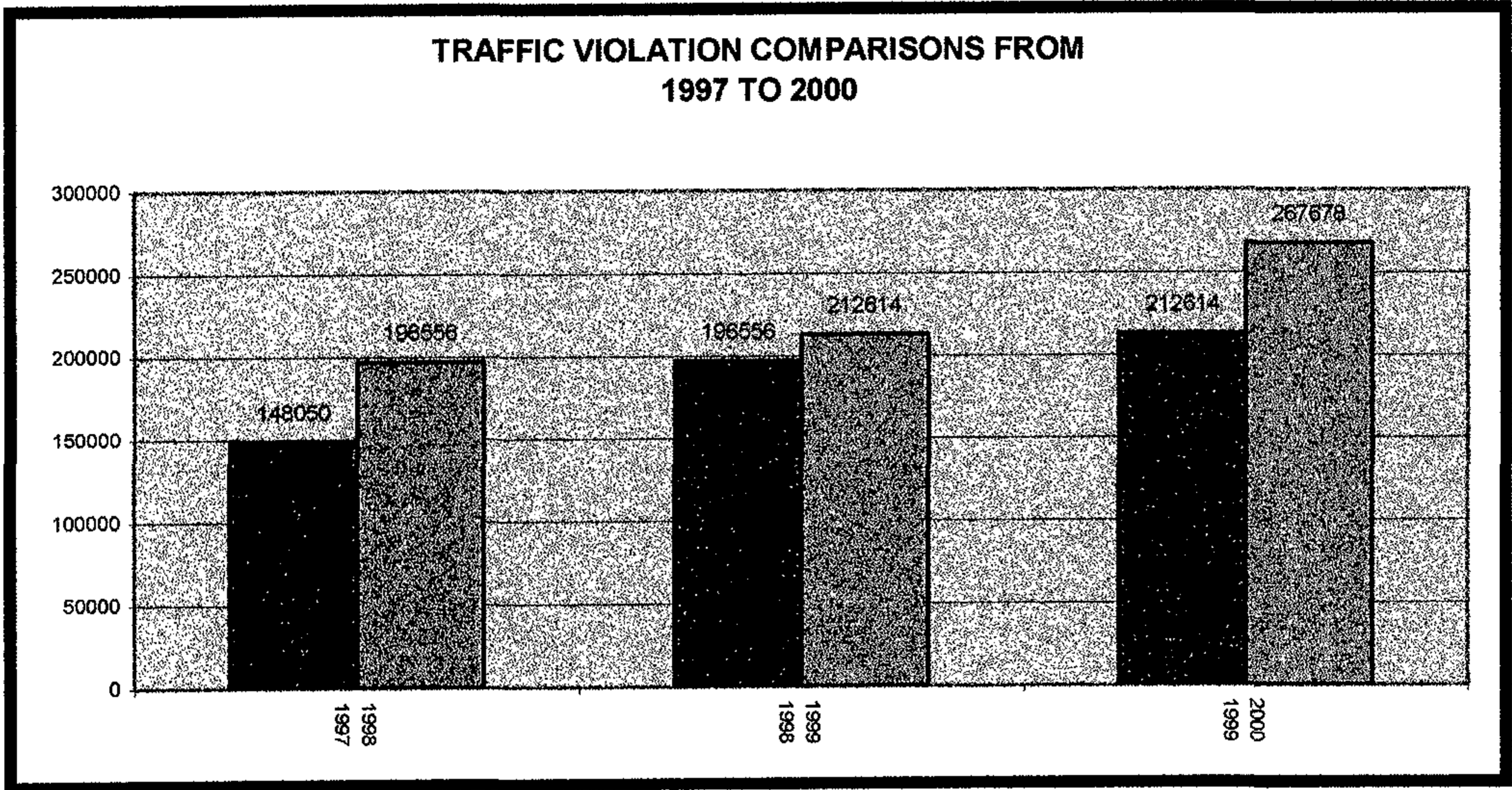


Figure 2

Figure 3 gives a graphic representation of traffic offence convictions from 1997 to 2000.

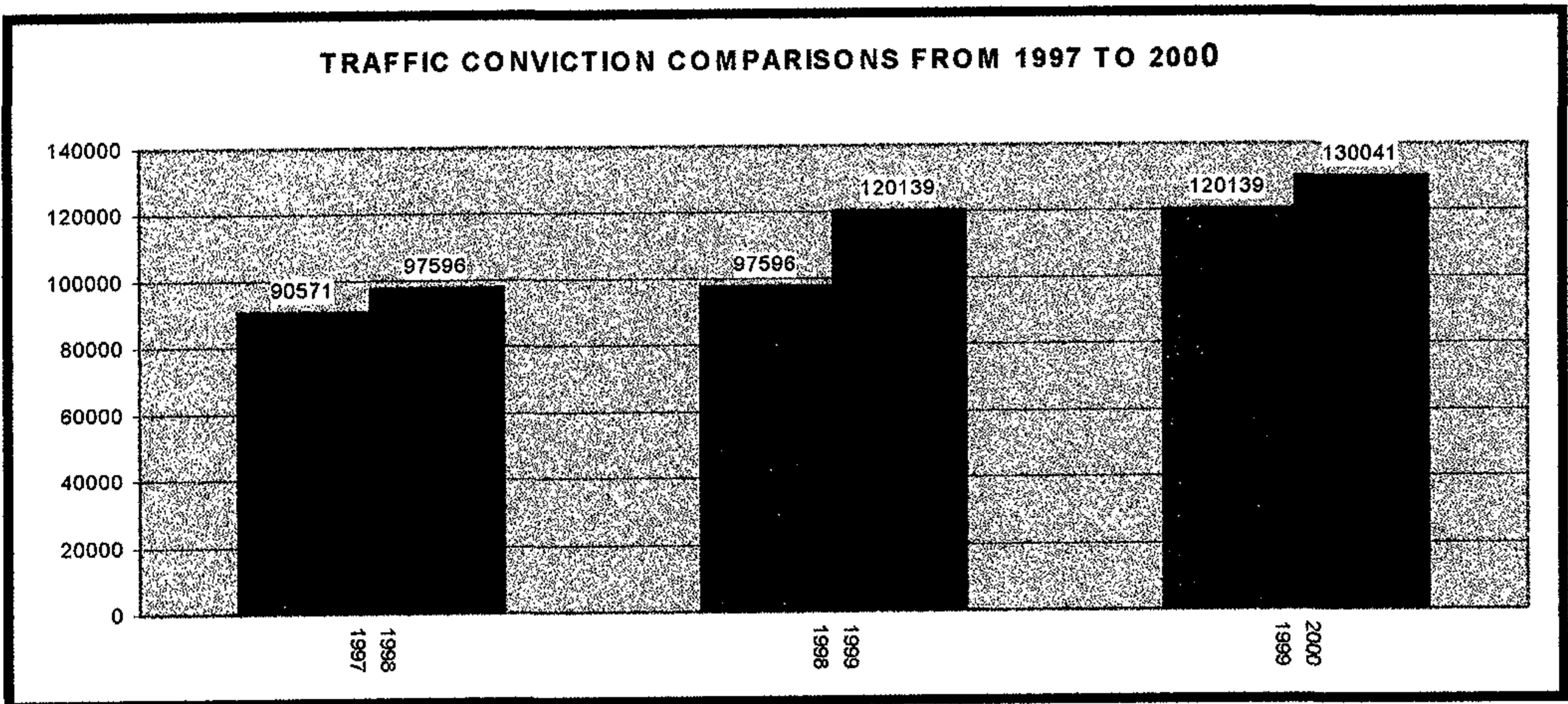


Figure 3

Table 1.3 gives a comparison in percentages of the increase or decrease in the traffic conviction rate between the following years: 1997 and 1998; 1998 and 1999; and 1999 and 2000.

Table 1.3 A comparison in percentages of traffic offence conviction rate from 1997 to 2000

Year	Total convictions	Year	Total convictions	% increase	% decrease
1997	90 571	1998	97 596	7.8	-
1998	97 596	1999	120 139	23	-
1999	120 139	2000	130 041	8.2	-

According to table 1.3 the traffic offence conviction rate in 1998 increased by 7.8% as compared to 1997. In 1999 as compared to 1998, the conviction rate rose by 23%. As compared to 1999, the total number of convictions made in 2000 increased by 8.2%.

(b) Road traffic collisions

Guruva (1995:10) quotes Sandwith (1980) who states that road traffic accidents are one of the biggest causes of death and crippling injuries in the world.

Table 1.4 shows the total number of collisions reported, the total number of persons killed and the total number of persons injured in road traffic accidents in Zimbabwe from 1997 to 2000.

Table 1.4 Traffic accidents and casualties from 1997 to 2000

Year	Total number of accidents	Persons killed	Persons injured
1997	43 357	1 331	18 095
1998	58 101	2 176	26 732
1999	48 737	1 762	22 232
2000	40 316	1 433	18 105

Source : ZRP Statistics 2000

According to table 1.4, there was an increase in the total number of accidents in 1998 as compared to 1997. Nevertheless, there was a decline in 1999 and yet another decrease in 2000. This decrease may be attributed to a legal requirement in terms of section 37 of the Road Traffic Amendment Act 2000 which provides that all drivers of public service vehicles should complete the defensive driving course so as to enhance their driving skills.

During the same period, the fatality rate showed a rise in 1998 as compared to 1997. However, in 1999 the death rate went down. There was a further decline in the fatality rate in 2000.

As for personal injuries, the number of injuries rose in 1998 as compared to 1997. Nevertheless, the injury rate showed a decline in 1999 and a further decrease in 2000.

Traffic accidents and casualties from 1997 to 2000 are presented graphically in figure 4.

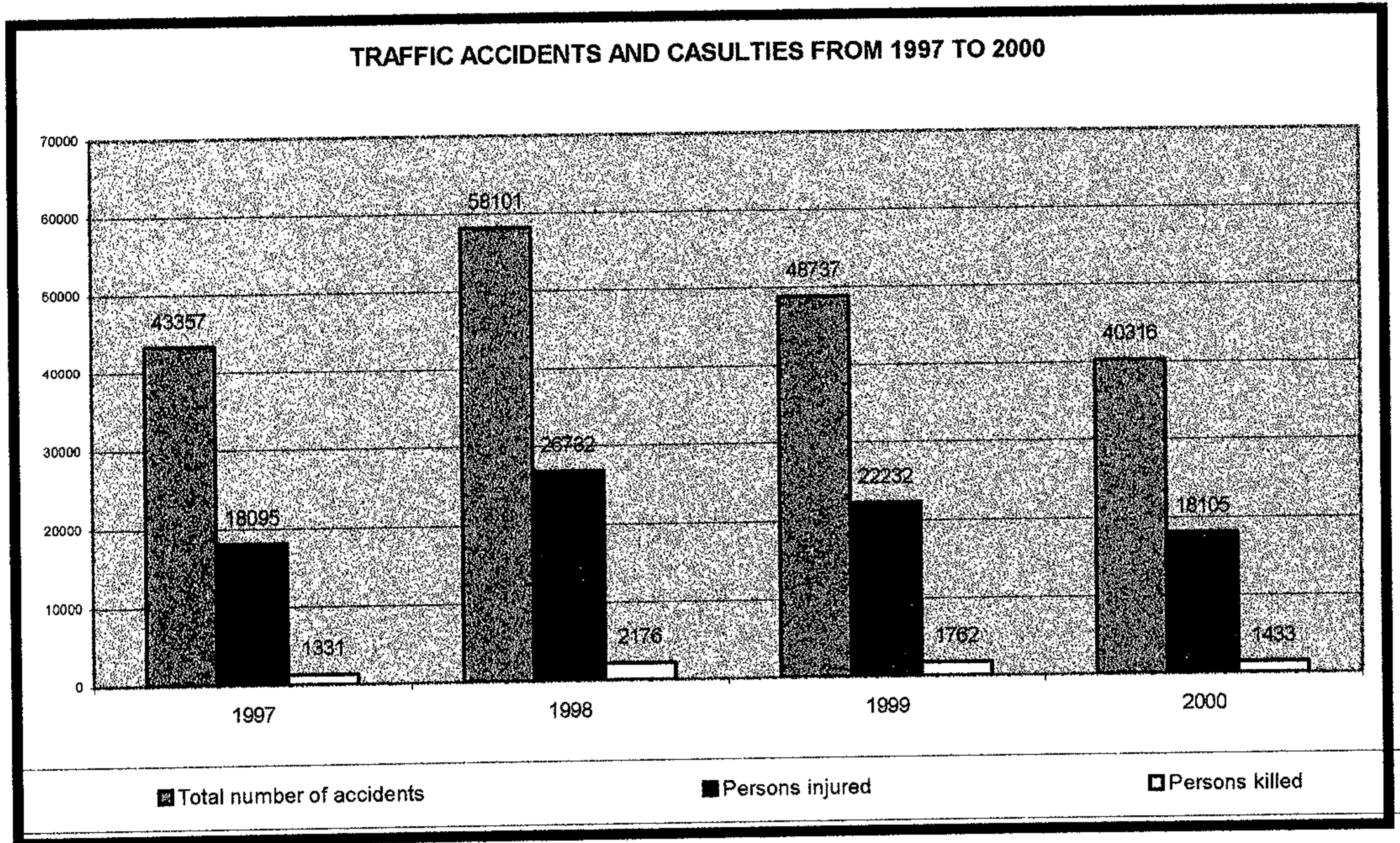


Figure 4

Table 1.5 below presents a comparison in percentages of the increase or decrease in the total number of accidents between the following years: 1997 and 1998; 1998 and 1999; and 1999 and 2000.

Table 1.5 A comparison in percentages of traffic accidents from 1997 to 2000

Year	Total number of accidents	Year	Total number of accidents	% increase	% decrease
1997	43 357	1998	58 101	34	-
1998	58 101	1999	48 737	-	16
1999	48 737	2000	40 316	-	17

Table 1.5 indicates that as compared to 1997, the rate of traffic accidents increased by 34% in 1998. As compared to 1998, the traffic collision rate decreased by 16% in 1999. The traffic accident rate in 2000 as compared to 1999 went down by 17%.

A comparison of traffic accidents from 1997 to 2000 is given graphically in figure 5.

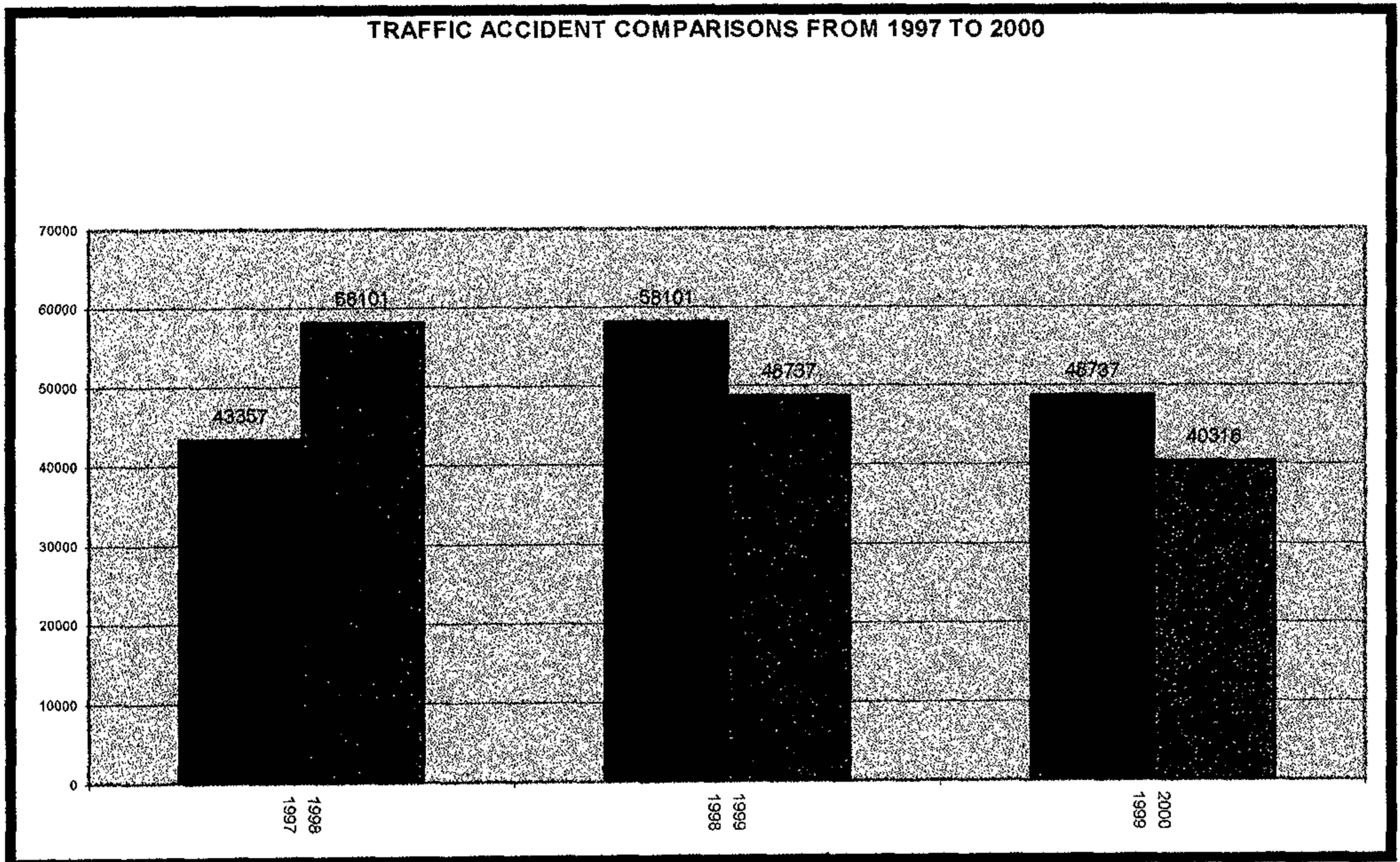


Figure 5

Table 1.6 below presents a comparison in percentages of the total number of persons killed annually between the following years: 1997 and 1998; 1998 and 1999; and 1999 and 2000.

Table 1.6 A comparison in percentages of road accident deaths from 1997 to 2000

Year	Persons killed	Year	Persons killed	% increase	% decrease
1997	1 331	1998	2 176	64	-
1998	2 176	1999	1 762	-	19
1999	1 762	2000	1 433	-	19

Table 1.6 indicates that as compared to 1997, the fatality rate increased by 64% in 1998. As compared to 1998, the death rate decreased by 19% in 1999. In 2000 as against 1999, the fatality rate decreased by 19% once again.

A comparison of road accident fatalities from 1997 to 200 is shown graphically in figure 6.

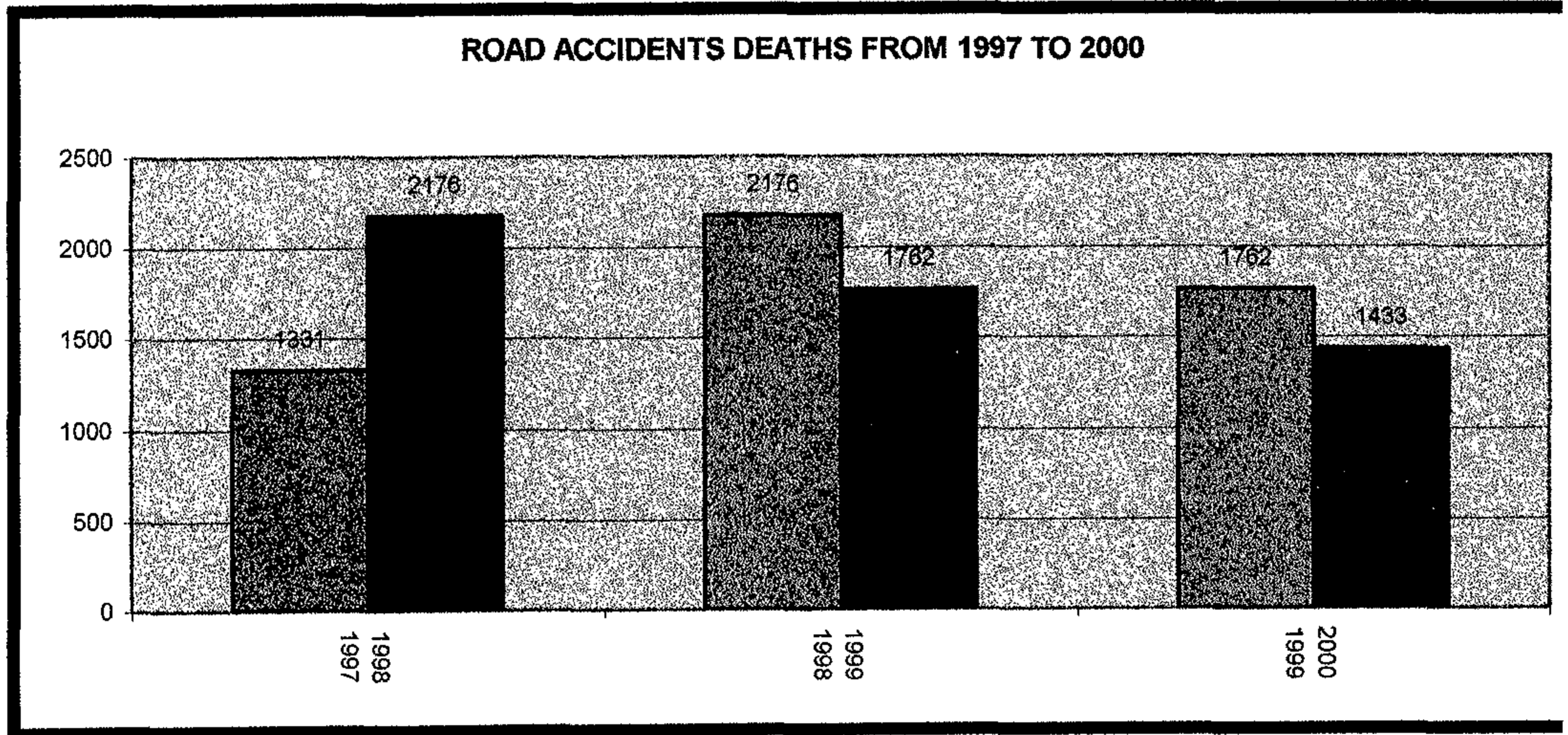


Figure 6

Table 1.7 below gives a comparison in percentages of the total number of persons injured yearly between the following years: 1997 and 1998; 1998 and 1999; and 1999 and 2000.

Table 1.7 A comparison in percentages of road accident injuries from 1997 to 2000

Year	Persons injured	Year	Persons injured	% increase	% decrease
1997	18 095	1998	26 732	48	-
1998	26 732	1999	22 232	-	17
1999	22 232	2000	18 105	-	19

According to table 1.7, as compared to 1997, the injury rate increased by 48% in 1998. As compared to 1998, the rate of traffic accident injuries decreased by 17% in 1999. In 2000 as compared to 1999, the rate of injuries decreased by 19%.

A graphic representation of road accident injuries from 1997 to 2000 is given in figure 7.

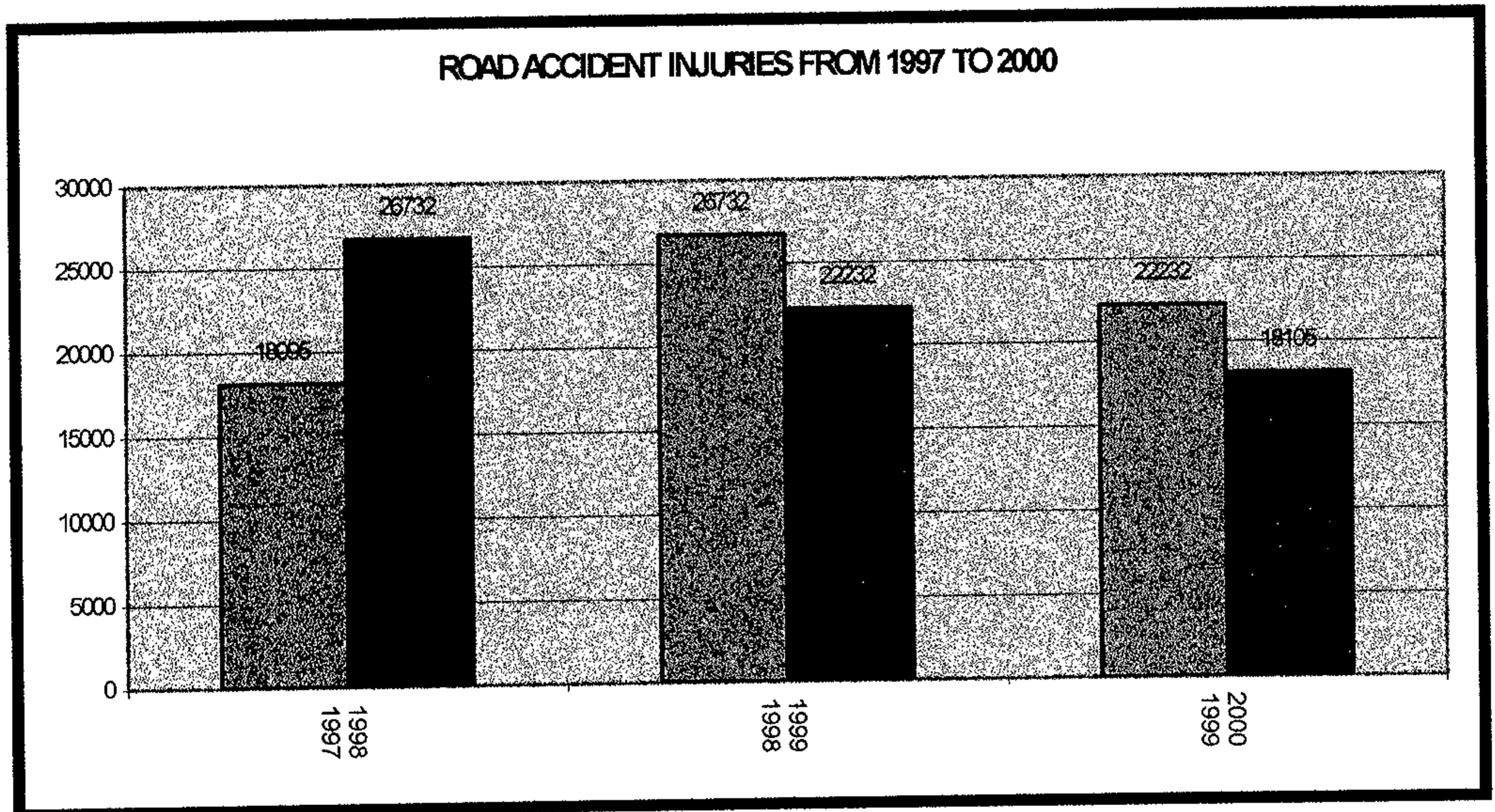


Figure 7

1.3. STATEMENT OF THE PROBLEM

Despite the fact that DDC has been offered by the Traffic Safety Council of Zimbabwe since 1976 as a means to prevent traffic accidents, the statistics given above indicate that Zimbabwe has a mammoth road safety problem. For instance, 267 678 traffic offences were committed and 130 041 convictions for breaking traffic laws were made in 2000. In the same year 40 316 traffic accidents were reported, in which 1 433 people were killed and 18 105 persons were injured. According to *The Chronicle* (7 August 2000), the average annual cost of these traffic accidents is estimated at Z\$400 million.

It is against this background that this study seeks to assess the effectiveness of defensive driving as a strategy for road traffic violations and collisions in Zimbabwe.

1.4. RATIONALE FOR THE RESEARCH

The researcher has targeted motorists who are employed by transport companies as subjects of his study. These drivers are under the charge of transport or fleet managers who are responsible for all transport operations in their companies. As such, fleet managers play a major role in the recruitment, selection, training and supervision of company drivers. It is the same fleet managers who identify the training needs of these drivers and recommend them to undergo driver improvement programmes such as DDC.

According to TSCZ (1979: DDC manual - commentary), the transport industry is the best possible laboratory for the development of sound training concepts because transportation companies must pay in accident costs for the weaknesses of any driver training programme. Therefore the researcher hopes that the findings of this study will help companies to reduce motor vehicle maintenance costs resulting from vehicle abuse and traffic accidents. Further to that, the

results of this study will assist companies in running their fleets efficiently and effectively.

Fatalities and injuries caused by traffic accidents result in significant social and economic costs (Zaal 1994:1). On the same note, Guruva (1995:12-13) states that apart from the loss of priceless lives, road traffic accidents cost Zimbabwe millions of dollars annually. For example, in 1983, road accidents cost this country over Z\$200 million. According to *The Chronicle* (7 August 2000), the average annual cost of traffic accidents is estimated at Z\$400 million at the moment. For this reason, the findings of this study will be used by the government to curb material, human and financial losses resulting from traffic accidents.

The results of this investigation will assist the TSCZ in assessing the usefulness of DDC. The TSCZ will be able to judge whether or not defensive driving is succeeding in achieving its objectives – teaching drivers how to drive to prevent traffic offences and accidents. Further to that, the TSCZ will use the findings of the present study to identify the strengths and weaknesses of DDC, which knowledge the organisation will use to improve the course.

Last, but not least, this investigation is justified because the government enacted the Road Traffic Amendment Act, 2000. Section 37 of the said Act requires all drivers of public service vehicles to complete the defensive driving course. In terms of section 2 of the Road Motor Transportation Act (Chapter 262) of 1972, a public service vehicle is (a) a motor vehicle or trailer used for the carriage or haulage of passengers or goods or both for hire or reward on one or more occasions; and (b) a contract goods vehicle. Therefore the findings of this study will assist the government in assessing the impact of DDC on the motorists concerned.

1.5. AIM AND HYPOTHESIS OF THE STUDY

1.5.1. Aim

The aim of this research is to assess or evaluate the effectiveness of defensive driving as a preventative strategy for road traffic violations and collisions. The overall goal of the study is to reduce the carnage on Zimbabwean roads and therefore promote road safety.

1.5.2. Hypothesis

Conradie (1995:41) cites Bailey (1978) who defines a hypothesis as a proposition that is stated in testable form and predicts a particular relationship between two or more variables. Conradie(1995:41)also cites Westhuizen(1977) who says that when formulating a hypothesis, the researcher is making an intelligent, informed, calculated guess about the probable findings of the study. For that reason, a hypothesis is tentative by nature because it can either be established or rejected by the research.

Writing on the retraining of drivers, Rottengatter and de Bruin (1987:143) say that the case for retraining drivers is based on the assumption that driver error is responsible for the majority of traffic accidents (Sabey & Taylor 1980) and that these collisions would be reduced if motorists were taught how to prevent them. Defensive driving courses have been developed to realise this goal.

Therefore, in light of the foregoing, the hypothesis for this research is:

- DDC graduates have fewer violations and collisions than other drivers do.

1.6. OBJECTIVES OF THE RESEARCH

The present investigation seeks to achieve the following objectives:

- (a) To determine whether DDC graduates have fewer traffic offences than they had before doing DDC.
- (b) To determine whether DDC graduates have fewer accidents than they had before completing DDC.
- (c) To find out whether DDC graduates benefited in terms of knowledge, skills and attitude after completing DDC.
- (d) To elicit information that can be used to improve the defensive driving course.

1.7. SCOPE OF THE INVESTIGATION

The Traffic Safety Council has five branch offices in Zimbabwe's five major towns, namely Harare, Bulawayo, Gweru, Masvingo and Mutare. Twenty motorists were selected as respondents from one transport company in each of the five towns to make a total of 100 respondents altogether. This means that the study sample is national in character. This factor will hopefully enhance the generalizability of the findings. The study was confined to motorists who had completed the defensive driving course between January 1999 and December 1999. The study examined the driving performance of these motorists for one year before doing DDC and for one year after completing DDC. The researcher felt that the respondents could still remember what happened between 1998 and 2000 because it was still fresh in their minds.

1.8 RESEARCH METHODOLOGY

According to the *Oxford Advanced Learner's Dictionary*, methodology is a set of methods that are used in a particular field of activity. Therefore, in the field of research, methodology refers to the methods and procedures the researcher uses in the research process to realise his research objectives (Mabuto 1989:27). Joubert (1998:16) shares the same view when he defines research technology (methodology) as the methods and techniques that the researcher uses in the research process to collect and analyse data. In

other words, research methodology is the strategy that guides the researcher in the process of gathering, analysing and interpreting information.

In this chapter the methodology that was employed to collect, analyse and interpret data in the present study will be discussed under the following subheadings: research method and research techniques.

1.8.1. Research method

Joubert (1998:16) states that a researcher uses a method to access the phenomenon under investigation. Further to that, the method is therefore a systematic operating procedure followed by the researcher in approaching the phenomenon under observation and the research topic.

Writing on the choice of research methods, Mabuto (1989:27) cites Festinger and Katz (1953) who state that the researcher is generally guided by the nature of the questions being asked and the extent of control required. Similarly, Mouly (1978), as quoted by Mabuto (1989:27), and Joubert (1998:16) hold that the choice of one method over the other is influenced by three factors, namely:

- (i) the purpose or aim of the research project;
- (ii) the nature of the phenomenon under observation and the research topic; and
- (iii) the procedures involved in the use of the method.

In this study, which happens to be an evaluation of a training programme, the descriptive survey method was used.

1.8.1.1 Descriptive survey

In the opinion of Grobbelaar (1998:32), surveys are a common method of collecting information and are especially used where large populations have to be observed. Babie

(1989:237) expresses the same view when he states that survey research is probably the best method available to the social scientist in gathering original data for describing a population too large to observe directly. According to Leedy (1980), as quoted by Mabuto (1989:27), the descriptive survey method can be employed to study current information with intense accuracy, after which the researcher describes precisely what he sees.

In a typical survey, the researcher chooses a sample of respondents and administers a standardised questionnaire to them. Careful probability sampling provides a group of respondents whose characteristics can be taken to reflect those of the larger population, and carefully formulated questionnaires give data in the same form from all respondents (Babie 1989:236). Babie (1989:237) is of the opinion that surveys are suitable for studies that have individual persons as the units of analysis. For that reason, the descriptive survey method was employed in the present study in which a large population of individual persons had to be studied. The population under investigation resides in Zimbabwe's five major towns, namely Harare, Bulawayo, Gweru, Masvingo and Mutare.

The research techniques that were used to implement the descriptive survey method will be discussed below.

1.8.2. Research techniques

Joubert (1998:16) defines a research technique as an aid or part of the complement of tools that are used to implement a scientific method. Further to that, he states that after deciding on a research method, the researcher then considers which techniques are best suited for a particular research activity.

In this investigation, the researcher deemed the following research process suitable: sampling, data collection and data processing and analysis.

1.8.2.1. Sampling

As defined by Babie (1989:163), sampling is the process of selecting observations. In the same vein, Zihute (1995:19) cites Polit and Hungler (1983) who define sampling as the process of selecting a part of the population to represent the whole population. In other words, sampling is the process of choosing what or who to observe.

Writing on sampling, Leedy (1980), as cited by Shonhiwa (1995:26), rightly states that the results of a survey are no more trustworthy than the quality of the population or the representativeness of the sample. This implies that the concepts population and sample are central to sampling. Therefore, the discussion that follows will focus on the aforementioned two concepts.

(a) Population under study

A population (universe) is the theoretically specified group of study elements (units); and a study population is that group of elements from which the sample is actually selected (Babie 1989:169-170).

From the above definitions, it is clear that the concept population can be seen from two perspectives, namely target population and study population. Shonhiwa (1995:26) cites Leedy (1980) who defines target population as all the possible cases of interest to which the findings will be generalised, and study population as those individuals from whom a sample is drawn. In the present study, the target population are all the DDC graduates in Harare, Bulawayo, Gweru, Masvingo and Mutare and the study population are the DDC graduates from five transport companies in the above-mentioned five towns who did the defensive driving course between January 1999 and December 1999.

(b) Sample

Grobbelaar (1998:41) cites Van der Westhuizen (1996) who defines a sample as a mathematical reduction of the population, a subset of the population or a valid representation of the population. Babie (1989:206) supports this view when he defines a sample as a special subset of the population that is observed for purposes of making inference about the nature of the total population. Similarly, Polit and Hungler (1983), as quoted by Zihute (1995:19), state that a sample is a subset of a population selected to take part in a research study.

Citing Williamson (1977), Shonhiwa (1995:27) holds that there are two basic kinds of sampling, namely probability and nonprobability. In probability sampling, every element of the population has a known, though not necessarily equal, chance of being selected. This means that every element has at least a chance of being included in the sample. In probability sampling, the sample is selected in accordance with probability theory; whereas in nonprobability sampling it is not selected in accordance with the aforementioned theory. Writing on sampling, Grobbelaar (1998:44) states that probability sampling has the object of being able to claim definite margins of error for estimates and bias, thereby making it possible to indicate the reliability of the investigation. However, nonprobability sampling cannot claim compliance with the requirements of error margins and bias.

In this study, a random or probability sample was used. The stratified sampling technique was employed to select a sample of 100 drivers who completed DDC between January 1999 and December 1999. Writing on stratified sampling, Babie (1989:188-190) states that it is a method of obtaining a greater degree of representativeness than simple random sampling and systematic sampling because the sampling error is decreased. The sampling error is reduced by the following two factors: (i) a large sample produces a smaller sampling error than a small sample; (ii) a homogeneous population produces samples with smaller sampling errors than does a heterogeneous population. Stratified sampling is based on the second factor in sampling theory. So, rather than selecting the

sample from the total target population at large, the researcher selects appropriate numbers of elements from homogenous subsets of that population. The ultimate function of stratification is to organise the population into homogenous subsets and to select the appropriate number of elements from each. Therefore, stratified sampling ensures the proper representation of the stratification variables to enhance representation of other variables related to them.

The target population in this investigation consisted of 4656 DDC graduates in Harare, Bulawayo, Gweru, Masvingo and Mutare. The strata were the five companies (homogeneous subsets of the population) whose drivers completed DDC between January 1999 and December 1999. The five companies represented the study population. From each subset of the population – the five companies - a sample of 20 drivers was selected using the systematic sampling technique with a random start. As a result, a sample of 100 DDC graduates was selected for the study. The study sample also doubled as a control group because of the nature of the questionnaire.

1.8.2.2 Data collection

According to Grobbelaar (1998:32), the questionnaire is by far the most important or popular method of data collection. In the present study a self-administered questionnaire, which was pretested, was used to collect data. Writing on survey research, Babie (1989:238) describes self-administered questionnaires as a survey method in which respondents are asked to complete questionnaires themselves.

Giddens (1995:687) states that there are two types of questionnaires in surveys, namely standardised questionnaires and open-ended questionnaires. On the one hand, standardised questionnaires have a structured set of questions to which only a fixed range of responses is possible. Fixed-choice surveys have the advantage that responses are easy to compare and tabulate, since only a small number of categories is involved. Nevertheless, because standardised questionnaires do not give an allowance for verbal

expression, their yield is likely to be limited in scope. On the other hand, open-ended questionnaires give the respondents the opportunity to express their opinions in their own words. Open-ended questionnaires are not limited to ticking fixed-choice responses. In that case, they are more flexible, and they produce richer information than standardised ones. Nevertheless, lack of standardisation means that responses may be more difficult to compare. Bearing in mind the advantages of both types of questionnaires, and therefore, in an effort to achieve better results, a combination of closed and open questions was used in this study.

In the opinion of Bell (1995:64), every procedure for gathering data must always be examined critically in order to assess to what extent it is likely to be reliable and valid. Bell (1995:64) defines reliability as the degree to which a test or procedure produces similar results under constant conditions on all occasions. In other words, reliability is the ability of the measuring instrument to consistently repeat the same process with the same accuracy. On the other hand, Bell (1995:65) states that validity tells the researcher whether or not the measuring instrument measures or describes what it is supposed to measure or describe. In other words, validity refers to the soundness or effectiveness of the measuring instrument. In the present study, the measuring instrument (questionnaire) was piloted in order to ensure its reliability and validity. The critical examination of the questionnaire was necessary in order to make sure that the questions asked were going to assist in achieving the objectives of the research. Bell (1995:84) endorses the above view when she states that all data-collecting instruments must be piloted so as to test how long it takes to complete them, to check that all questions and instructions are clear and to enable the researcher to remove any items which do not yield usable data.

Mail distribution of questionnaires is the typical method used in self-administered studies. However, one disadvantage with this method is the non-return of questionnaires. The major reason for not returning questionnaires is the complaint by respondents that it seems like too much trouble (Babie 1989:238 – 239). To overcome this problem, the method of home delivery of questionnaires, as suggested by Babie (1989:238), was used in this investigation. In this case, the researcher visited the selected transport company in Gweru, gave 20 questionnaires to the transport manager and explained the study. The

fleet manager in turn distributed the questionnaires to the sample for completion. As for the other towns, the researcher asked his respective counterparts (Traffic Safety Managers) to distribute the questionnaires in the same manner on his behalf. By using the home delivery method, the researcher was assured of a ninety-five percent response rate. Babbie (1989:238) states that not only does this method improve completion of the questionnaires, but it also reduces costs.

The researcher went back to the company in Gweru after one week to collect the completed questionnaires from the fleet manager. Similarly, the researcher's fellow Traffic Safety Managers in Harare, Bulawayo, Masvingo and Mutare did the same. After collecting the completed questionnaires, they sent them back to the researcher in Gweru. A 95% completion rate was recorded.

1.8.2.3 Data processing and analysis

According to Joubert (1998:18), data processing consists of analysing and interpreting information that has been collected. Bell (1995:126) is of the same opinion when she states that raw data collected from questionnaires need to be recorded, analysed and interpreted. Conradie (1990:206) rightly holds that the purpose of data analysis is to show what is typical of the response group, how widely the individuals in the response group differ, how the response group is otherwise distributed with regards to the variables which have been measured, to show how variables in the data are related to each other and to describe the differences between two or more groups.

In this study, the collected data were processed and analysed as follows:

- a) the questionnaires were edited for completeness and accuracy in order to remove possible errors which might affect analysis of the data;
- b) the edited questionnaires were coded;
- c) the coded responses were divided into categories and presented in tables;
- d) the tabulated data were statistically analysed and interpreted; and
- e) conclusions were drawn and recommendations were made.

1.9. LIMITATIONS OF THE STUDY

The problems that the researcher faced included limited time, late re-registration, delays in mailing study questionnaires and the illness and untimely death of his previous supervisor.

Time was a limiting factor because, since the researcher is employed, he had to carry out his study after working hours and during weekends.

The researcher could not re-register for the 2001 academic year before the deadline on 28 February 2001 because of the lack of foreign currency in Zimbabwe at that time. However, the University accepted the researcher's re-registration towards the end of March 2001 and gave him time to pay the registration fees before 15 August 2001.

There were delays in mailing questionnaires at the Post Office. The delays were caused by a shortage of fuel that has rocked this country for the past two years. The lack of fuel also affected the researcher's travel in Gweru where he needed to distribute questionnaires to respondents and collect them after they had been completed.

The illness and untimely death of the researcher's former supervisor, Mr Gobbelaar, slowed down the researcher's study progress.

1.10. DEFINITION OF TERMS

For the sake of clarity, key terms have to be defined in order to explain their meaning within the context of the study.

1.10.1 Defensive driving

Defensive driving is driving to prevent accidents in spite of the wrong actions of others or the presence of unfavourable driving conditions (TSCZ 1979: DDC manual – session 2). In other words, defensive driving means driving safely at all times.

1.10.2. Driver

According to Hornby (1989), as quoted by Guruva (1995:6), a driver is a person who operates and directs the course of a motor-vehicle from point A to point B. In the same view, Walton (1981:1) defines a driver as a person who drives or is in actual physical control of a vehicle.

1.10.3. Driver improvement

The TSCZ (1979: DDC manual – session 1) defines improvement as a change in behaviour for the better. Therefore driver improvement is a change in the driver's road behaviour for the better. It is a change in his or her driving behaviour according to an accepted standard.

1.10.4. Preventable accident

A preventable accident is one in which a driver has failed to do everything he or she reasonably could have done to prevent it (TSCZ 1979: DDC manual – session 1). This means that a preventable accident is an accident which can be prevented or avoided.

1.10.5. Preventative

The Oxford Advanced Learner's Dictionary holds that the terms preventative and preventive mean one and the same thing. Preventative means preventing or intended to prevent something undesirable. Therefore, preventative means that which stops something from happening.

1.10.6. Road

Section 2 (1) of the Road Traffic Act (Chapter 13:11), 1996 defines a road as any highway, street or other road to which the public or any section thereof has access. Similarly, Strydom (1991:56) states that the term road includes streets in towns and cities as well as any other way used for moving from point A to point B.

1.10.7. Road traffic

The Concise English Dictionary defines traffic as goods or persons passing along a road, railway or any way. In the same view, the *Collins English Learner's Dictionary* describes traffic as the flow of people and vehicles along the road. In other words road traffic refers to things (people, vehicles or animals) that use the road.

1.10.8. Road user

A road user is anyone who uses the roads in any way whatsoever (Strydom 1991: 56).

1.10.9. Strategy

According to the *Collins English Learner's Dictionary*, a strategy is a plan of action. This means that a strategy is an orderly approach to a problem in order to achieve a specific objective.

1.10.10. Traffic collision

Cloete (1990b:1) states that a traffic collision or accident results from a conflict or interruption in the normal interaction between the road user, his or her vehicle and the road and road environment. Zihute (1995:6) quotes *The Highway Code for children* (1970) which describes a traffic accident as a harmful and unexpected happening on the road that causes damage or injury to road traffic and the environment.

1.10.11. Traffic safety

In the opinion of Dean(1981), as quoted by Cloete (1984b:1), traffic safety is the systematic, collective and national effort that is aimed at ensuring the greatest degree of safety for the road user. Similarly, Vermaak (1999:12) quotes Karlson, Nthobatsang and Nygaard (1994) who define traffic safety as “--- an interaction of traffic on the road without causing injury or death to the people and damage to vehicles.”

1.10.12. Traffic violation

A violation is also known as an offence or crime. Snyman (1984:2) defines a crime as an unlawful, blameworthy act punishable by the state. In the opinion of Canagarayar (1981:4), a traffic violation refers to conduct relating to road use that has been legally prohibited as it could cause or give rise to bodily harm or material damage. In the same vein, Moolman (1984:47) defines a traffic offence as an act

or failure to act which is prohibited by traffic laws and punishable by the authorities. According to Cloete (1989:3), anyone who commits an act in contravention of established legal codes is automatically branded a criminal by law. Therefore, by implication, all road users who fail to comply with traffic legislation are criminals.

1.11. CONSTRUCTION OF THE DISSERTATION

Chapter 2 presents a literature review of the present study. Chapter 3 deals with the presentation, analysis and discussion of the study results. Chapter 4 summarises the findings of the study and gives the conclusion and recommendations.

1.12. SUMMARY

This chapter served as a general introduction that gave the reader an insight into the research problem. The chapter gave a background to the study and went on to discuss related topics which included statement of the problem, rationale for the research, aim and hypothesis of the study, objectives of the research, scope of the investigation, research methodology, limitations of the study, definition of terms and construction of the dissertation.

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

In this chapter, a review of relevant literature is presented. According to Geldenhuys (1986:96), the study of relevant literature serves a specific purpose by familiarising the researcher with work already done. Conradie (1990:179) supports this view when he states that literature review is done in order to determine what has already been written on the subject. Similarly, Simon (1979), as cited by Ovens (1992:24), says that literature review involves becoming acquainted with literature dealing both broadly with the selected topic and directly with related research in the field.

The discussion of relevant literature will be done under the following subheadings: theoretical review and empirical review.

2.2. THEORETICAL REVIEW

Under this subheading the researcher will discuss the concept of defensive driving. Since this study is an evaluation of a training programme, the concepts of training and evaluation will be dealt with. Post-licence driver training and the DDC offered by the TSCZ will also be discussed.

2.2.1. The concept of defensive driving

The following aspects of the concept of defensive driving will be discussed in the succeeding paragraphs: the meaning of defensive driving, the aim of defensive driving and the requirements for defensive driving.

2.2.1.1. The meaning of defensive driving

Stevens (1985:128) states that defensive driving is the opposite of offensive or aggressive driving. Driving defensively means driving safely at all times. Similarly, Sayer (1999:5) quotes Durant (1986) who defines defensive driving as driving as safely as possible through the use of a "system" in the approach to potential hazards. Such driving is based on a system of vehicle control and an awareness and assessment of hazardous situations.

According to Stevens (1985:128), defensive driving is based on a lively, alert mind accompanied by sound powers of observation and alertness, accurate judgement and a positive attitude. Correct interpretation of and reaction to stimuli in the traffic situation go hand in hand with alertness and accurate perception. The most important thing, however, is correct interpretation and not how fast it is done.

2.2.1.2. The aim of defensive driving

The aim of defensive driving is two-fold (Stevens 1985:129; Cloete 1990a: 128-129):

- (a) To look for a way out of a difficult situation. Here the defensive driver anticipates that a problem may arise in his or her vicinity; and as a result he or she prepares himself or herself in advance to evade the problem successfully.
- (b) To ensure the widest possible safety area around the vehicle by, for instance, not following the vehicle ahead too closely and by always visualising the position of one's vehicle in relation to others.

In the opinion of Cloete (1984b:11), defensive driving should not only include avoiding accident situations, but also making sufficient provision for errors made by fellow road users. Drivers must therefore be taught to abandon the idea that fellow road users will always obey the law.

2.2.1.3 The requirements for defensive driving

Roberts (1971), as cited by Stevens (1985:129) and Cloete (1990a:129), emphasises the necessity for having an overall picture of the traffic situation. Such a picture encompasses the following:

- (a) scanning the visible road ahead;
- (b) awareness of both the presence as well as the movement of other vehicles in the immediate vicinity;
- (c) being alert on both sides of the road for pedestrians, animals, parked vehicles and other objects along the road;
- (d) watchfulness at intersections, especially uncontrolled intersections;
- (e) judicious use of the rear-view mirror so as to observe potential hazards from the rear, especially vehicles following too closely; and
- (f) glancing at the instrument panel from time to time to monitor speed, fuel position and engine temperature.

2.2.2 The concept of training

The Institute of Personnel Management (IPMZ)(1994:47) defines training as the systematic development of knowledge, skills and attitudes required by an individual to perform a given task or job adequately. This is echoed by Zihute (1995:10) who quotes Nadler (1982) when he states that training embraces those activities which are designed to improve performance on the task(s) the employee is presently doing. According to the IPMZ (1994:47), the purpose of training is to improve the employees' performance so that they become more competent and gain greater satisfaction in their jobs, which in turn will contribute towards the productivity of the organisation.

In the opinion of the IPMZ (1994:47), training has three aims:

- (i) to shorten the learning time so that new employees become efficient as quickly and economically as possible;

- (ii) to improve the performance of current employees; and
- (iii) to help employees to develop their potential so that the needs of the organisation can be met within.

From the above, it is evident that training is related to improving the job performance of employees. The emphasis is job oriented and deals with current needs of the employee and the organisation, thus enabling the employees to perform their work efficiently and in turn assisting the organisation to meet its objectives (IPMZ 1994:47).

This study seeks to find out whether or not training drivers in defensive driving helps them acquire knowledge, skills and attitudes that will enable them to perform their driving tasks efficiently and effectively.

2.2.2.1. Training needs

The Institute of Personnel Management (1994:52) holds that the term “need” indicates that performance is inadequate but that providing the appropriate training can solve this inadequacy.

According to Knowles (1970), as cited by Zihute (1995:10), a training need is the gap between the present performance level and the expected performance level. In the same view, Guruva (1995:20) quotes Mabuto (1989) who states that Knowles (1970) maintains that training needs are those changes that should be made in trainees, by means of training techniques, to further the efficient execution of tasks. By implication, there exists a gap between what prevails and what is to be accomplished by employees. Guruva (1995:20) also cites McElroy (1981) who supports the above argument when he says that training is necessary when the performance of the individual needs to be improved.

From the road traffic accident statistics given in Chapter one, can it be stated that there is need for drivers to be trained in defensive driving in order to reduce the carnage on our roads? Cloete (1990b:107) supports this argument, when he says that road traffic training which is aimed at developing the skills of the road user is of fundamental importance in the promotion of road traffic safety. Nevertheless, whether or not such a training need exists in Zimbabwean drivers, it remains to be seen from the results of the present study.

2.2.2.2 Identification of training needs

Guruva (1995:21) quotes McElroy (1981) who states that when designing a training programme, training needs should be identified first in order to sufficiently provide for them. Therefore, training needs of drivers should be identified first so as to establish deficiencies in particular skills, knowledge and attitudes since competent and safe driving is a combination of knowledge, skill and attitude.

According to McElroy (1981), as cited by Guruva (1995:24-25), the purpose of identifying training needs is to enable the trainer to direct efforts in the right direction in order to attain the stated objectives. For training programmes to be meaningful, they should be designed according to what trainees need to learn and know at the end of the training period. This means that the training programme should not only be related to the needs of the trainees, but they should also be seen, by the trainees, to be related to their needs. Therefore training programmes must be based on clearly defined objectives which determine the scope of the training and guide the selection and preparation of the course materials. In order to make sure that the objectives really cover the needs of those to be trained, the duties and responsibilities of the trainees should be determined and clearly defined.

2.2.3. The concept of evaluation

The researcher deems it necessary to discuss the concept of evaluation since the present study is an evaluation of a training programme. To that end, the following aspects of the aforesaid concept will be discussed: the meaning of evaluation, the purpose of evaluation and the evaluation process.

2.2.3.1 The meaning of evaluation

The Zimbabwe Teachers Association (ZIMTA)(1992:17; 1994:22), Borg and Gull (1985), as cited by Shonhiwa (1995:19), and Moss (1993), as quoted by Zihute (1998:28), say that evaluation may be defined as a method of identifying the effect of a programme. It is the process through which judgement can be made about the value, worth or merit of any activity. In other words, it is a means of identifying the strengths and weaknesses of a particular activity or programme with the aim of making a decision about it. Zihute (1998:28) states that the decision will be whether to improve, expand, modify, cancel or leave the programme as it is.

In light of the above, Ozigi (1979), as quoted by Zihute (1995:11), is of the opinion that evaluation can be viewed as the qualitative aspect of measurement. According to Rossi and Freeman (1989), as cited by Shonhiwa (1995:19), therefore evaluation is an activity that is directed at collecting, analysing and interpreting data in order to determine the efficiency and effectiveness of intervention programmes. Shonhiwa (1995:19) shares the same view when he says that evaluation research is an application of social research procedures for assessing the conceptualisation, design, implementation and utility of intervention programmes. It is a process or a series of activities that involve the collection of information and making judgements and decisions against the present form of performance. Babie (1989:327) supports the same view when he states that evaluation research is appropriate whenever some social intervention happens or

is planned. A social intervention is an action that is taken within a social context for the purpose of providing some intended result. In view of the foregoing, evaluation research is a process of determining whether or not the intended result was produced.

2.2.3.2 The purpose of evaluation

In the opinion of Knowles (1977: 223), programme evaluation has two major purposes, namely:

- (i) improvement of organisational operation including such aspects as its planning process, structure, decision-making procedures, personnel, physical facilities, finances, recruitment, training, public relations and administrative management; and
- (ii) improvement of the organisation's programme including aspects such as objectives, clientele, methods and techniques, materials and quality of learning outcomes.

Nadler (1980), as cited by Shonhiwa (1995:20), says that evaluation is done for the following three basic reasons:

- (i) course improvement. This helps in deciding what institutional methods and materials are suitable and where change could be necessary for the reasonable attainment of goals.
- (ii) decisions about individuals. These assist in identifying needs of individuals in order to inform participants about their own progress and deficiencies.
- (iii) judging institutional methods and ability.

According to ZIMTA (1992:22; 1994: 17) and Nadler (1989:46), evaluation can be done the formative way (at every stage of the programme) or the summative way (at the end of the programme). ZIMTA (1992:22; 1994:17) states that the aforementioned two types of evaluation have the following four major purposes:

- (i) to give direction and purpose to the efforts of participants;
- (ii) to appraise with a view to discovering whether or not the objectives for the project are being realised;
- (iii) to provide data and information for immediate and future planning; and
- (iv) to identify and establish areas that would be linked with other programmes.

Putting it in a nutshell, ZIMTA (1992:22; 1994:17) states that evaluation helps in measuring, judging and appraising a project or programme. In other words, evaluation provides the means with which to assess the effectiveness of a training programme. Shonhiwa (1995:20) shares the same sentiments by quoting Knowles (1980) who says that evaluation is an essential and inescapable part of the process of administering training programmes. In the same view, Zihute (1995:13-14) states that a continuous check on programme objectives and how they relate to performance can indicate to the trainer whether or not the training is fruitful. Babie (1989:327) agrees with the above authorities when he says that evaluation research is designed to test the impact of intervention programmes.

2.2.3.3 The evaluation process

The evaluation process consists of the following steps (Knowles 1977:223 – 224):

- (i) formulating the questions you want answered;
- (ii) gathering the data that will enable you to answer the questions;
- (iii) analysing the data and interpreting what they mean as answers to the questions raised; and
- (iv) modifying your plans, operation and programme in the light of your findings.

Rossi and Freeman (1989), as quoted by Shonhiwa (1995:19), express a similar view when they hold that the evaluation process involves collecting, analysing

and interpreting data to determine the effectiveness of intervention programmes.

2.2.4. The aim of post – licence driver training

Cloete (1990b:109) states that, on the one hand, training after acquiring one's driver's licence refers to occupational training for professional motor vehicle drivers. In the opinion of Ankema (1984), as quoted by Cloete (1990b:109), heavy demands are made on this training as a result of the poor initial training which, it would appear, is not identified during testing for a driver's licence. On the other hand, holds Cloete (1990b:110), training after acquiring a driver's licence may be undergone voluntarily by ordinary motorists with the help of, among others, the Institute of Advanced Motorists. Here the motorist is trained in advanced driving techniques with a view to promote responsible road use and therefore road safety.

Road safety training courses are not aimed at improving the motorist's driving techniques so much as causing the driver to develop the ability to identify dangerous situations timeously in traffic. The driver should at the same time be motivated to be always prepared to avoid dangerous situations. The driver's ability to deal with such situations successfully must also be developed (Cloete 1990b:110).

Cloete (1990b:110) further states that in addition to the driver's change in attitude and perception in his own driving conduct, his readiness for inevitable risks in the road traffic situation, and his awareness of his responsibility towards other road users, his training must also provide that basic technical and physical knowledge essential to safe driving. The practical objective of the training is to give motorists the opportunity to experience the factors relating to the technique of operating a motor vehicle. In Cloete's (1990b:110) opinion, another objective which is pursued as part of the effort to give the driver greater control over his motor vehicle all the time is to train him in only those techniques that will not

further aggravate critical road traffic situations if wrongly or incompletely performed.

On the whole, says Cloete (1990b:110), the aim of road safety training is to bring about a lasting, constructive change in the perceptions and driving conduct of the motor vehicle driver.

According to Helander (1984), as cited by Evans (1991:105)), drivers who are subjected to intervention strategies such as retraining are about 20% less likely to be involved in traffic accidents than other drivers.

Therefore, this study wishes to assess the impact of the defensive driving course - a post-licence driver training programme - on drivers.

2.2.5 The DDC offered by the TSCZ

Since the present study is an evaluation of the defensive driving course that is offered by the TSCZ as a means to prevent road traffic violations and collisions in Zimbabwe, the researcher deems it necessary to give the reader an insight into the course. To that end, an exposition of the training programme (course) will be given in the succeeding paragraphs under the following subheadings: the TSCZ's definition of defensive driving, objectives of DDC, eligibility for the course, the content of DDC, course presenters, method of instruction and duration of the course.

2.2.5.1 The TSCZ's definition of defensive driving

According to the TSCZ (1979: DDC manual – session 2), defensive driving is driving to prevent collisions in spite of the incorrect actions of others or the presence of unfavourable driving conditions. The TSCZ (1979: DDC manual – session 8) further states that defensive driving is showing consideration for the

errors of other motorists and trying to avoid errors that will endanger or inconvenience other road users. In the opinion of the TSCZ (1979: DDC manual – session 1) defensive driving has therefore become an international standard in preventing motor vehicle collisions.

2.2.5.2 Objectives of DDC

From the definition of defensive driving given above, it is evident that one of the objectives of DDC is to teach motorists how to drive to prevent traffic collisions. Another objective is to teach drivers techniques to prevent traffic violations because the TSCZ (1979: DDC manual – session 1) advises every motorist that he or she has both a moral and legal obligation to know and obey all traffic rules and regulations.

In the opinion of the TSCZ (1979: DDC manual – session 1) the defensive driving course is a driver education course. It is a driver improvement programme in which motorists are taught how to drive safely and avoid traffic offences and collisions. The course is therefore a campaign to make every driver in Zimbabwe a defensive driver and thus reduce the toll of fatalities, human suffering and economic loss resulting from road traffic collisions. Therefore, as stated by the TSCZ (1979: DDC manual – session 8), the ultimate aim of the defensive driving course is to promote road traffic safety.

2.2.5.3 Eligibility for the course

Jokonya (2000:11) states that the defensive driving course is open to all licensed drivers. The TSCZ (1979: DDC manual – session 1) confirms this view by stating that the course is part of the Council's defensive driving campaign aimed at making every motorist in Zimbabwe a defensive driver. Section 37 of the Road Traffic Amendment Act, 2000 requires drivers of public service vehicles to complete the defensive driving course.

In terms of section 7 of the Road Traffic Act (Chapter 12:11) of 1996, the minimum age limit for a driver of a motor vehicle in Zimbabwe is 16 years. Therefore anyone who is 16 years and above and is a holder of a driver's licence is eligible to attend a defensive driving course.

2.2.5.4 The content of DDC

Writing on defensive driving, Jokonya (2000:10) states that the defensive driving course comprises eight sessions in which questions concerning safe driving techniques are raised and answers are provided. The topics of the sessions and the pertinent questions that are raised in each are given below.

Session one: Preventable or not?

Is there such a thing as a perfect trip? What is a preventable accident? Who prevents it? Are you putting your licence on the line every time you get behind the wheel, just because there is some traffic law of which you are not aware?

Session two: How to avoid a collision with the vehicle ahead

What does it mean to drive defensively? How does it differ from the way you are driving now? How can pre-planning keep you out of an accident? What are the six ways you can become involved in a collision with another car? How can you stay clear of collisions with the vehicle ahead? What is the two-second rule?

Session three: How to avoid a collision with the vehicle behind

How do you cope with a tailgater? If he rams into your vehicle, is he completely at fault? What do you look for and where do you look for it? What are the five elements of defensive driving?

Session four: How to avoid a collision with an oncoming vehicle

Why are head-on crashes the deadliest? What are some of the signs that an oncoming car may be about to cross the centre line into your path? What do you do when another car comes straight at you on a straight road? How can you become involved in an accident while making a right turn?

Session five: How to avoid an intersection collision

What four steps can keep you out of intersection collisions? Who has the right-of-way at an intersection that has no traffic control signals? When you approach an intersection, which way do you look first – to the left or to the right? What percentage of accidents happens at intersections?

Session 6: The art of passing and being passed

How can you get involved in an accident when passing? How can you get involved in an accident when being passed? How can you help another driver pass? How long does it take to pass another vehicle at 100 km/h? If another vehicle is approaching at 100 km/h how much distance do you need to pass safely? What are the steps to a perfect pass?

Session 7: The mystery crash

What is a “mystery crash”? What causes it? How can you avoid it? How can you best control your vehicle on a curve? What do you do when a tyre blows? Why is it dangerous to drive with all the car windows closed? How much can you drink and still drive safely?

Session 8: How to avoid other common types of collisions

How many vehicle-pedestrian accidents involve drunken pedestrians? What causes you to collide with a fixed object? How far from a railroad crossing should you stop? How can you avoid a collision with a cyclist? Why is reversing said to be a “dangerous manoeuvre”? How do you develop a “Defensive Driving Technique?”

2.2.5.5 Course presenters

Traffic safety officers who are employed by the TSCZ present the defensive driving course. These officers are trained and certified as course instructors by the TSCZ (Zihute 1995:2). The TSCZ also trains and certifies instructors for organisations (firms) that wish to run their own defensive driving courses (Jokonya 2000:11).

2.2.5.6 Method of instruction

The lecture method is mainly used for presenting the defensive driving course (Shonhiwa 1995:15). However, in the opinion of Vernor (1964), as cited by Shonhiwa (1995:15), the lecture method alone brings little change in the learning process and is not as effective as when it is combined with other techniques and devices. Therefore, Jokonya (2000:10) states that a wide variety of visual aids such as films, magnetic boards, and flip charts are also used in presenting the course.

When presenting the course, the instructor follows a detailed manual. The student takes part in classroom discussions and workbook exercises (TSCZ 1979: DDC manual - instructor's guide).

At the end of the course, the students write a test. The purpose of the test is to measure how effectively the students have learned and how effectively the instructor has taught (TSCZ 1979: DDC manual – instructor's guide).

2.2.5.7 Duration of the course

Jokonya (2000:10) states that the defensive driving course is held over four days for two and half hours a day. Since the whole training programme comprises eight sessions, two sessions are presented per day. According to the TSCZ (1979: DDC manual – commentary) each session is allotted 70 minutes with a 5 minute break between sessions.

Defensive driving courses can be arranged in the morning, afternoon or evening depending on the needs of the students (Jokonya 2000:10).

2.3. EMPIRICAL REVIEW

The empirical literature review will deal with previous studies on the impact of the defensive driving course that were done by other researchers.

2.3.1 Previous studies on the impact of DDC

A review of the defensive driving course literature revealed that studies have been carried out in Zimbabwe and abroad on the impact of DDC. These related research studies will be discussed below.

In Zimbabwe, Farai Zihute (1995) executed a study "to assess the effectiveness of the defensive driving courses offered by the Zimbabwe Traffic Safety Board in the city of Gweru from 1991 to 1994". According to Zihute (1995:40), 58 graduates took part in his study where data was collected using the questionnaire

method. The findings of this study support the view that DDC is effective as a driver improvement programme. The drivers in the study generally reported fewer accidents after the course than before. The drivers also reported that their rate of accident involvement had gone down considerably. An analysis of the before-after results indicates that DDC was effective in reducing collisions. On the whole, DDC brought about positive attitudes in the drivers resulting in fewer traffic offences and collisions than before completing the course.

Fleet News (1988), as quoted by Zihute (1995:15), reports that a company in Birmingham, in the UK, called Scherings conducted a study on driver re-education on its drivers. The company was satisfied by the positive results of the study when its officials remarked: "Driver training has dramatically cut a 360-strong company fleet's accident record and also saved a lot of money into bargain".

Another Zimbabwean researcher, Sylvester Shonhiwa (1995), executed a study to evaluate the effectiveness of the defensive driving course among forty drivers from fifteen companies in Harare who did the defensive driving course from January 1992 to December 1994. Shonhiwa (1995:42) states that data for his research was collected using a questionnaire schedule. The findings of the study revealed that there was a 40.6% reduction in collisions among drivers who had done DDC compared to the number of collisions recorded before completing the course. Further to that, there was a slight reduction in traffic offences after completing DDC.

Shonhiwa (1995:22-23) quotes Hall (1973) who carried out a study in Australia which was entitled "Influencing adult drivers' behaviour". In this investigation, it was noted that some strategies like vigorous enforcement programmes or engineering construction that channels the movements of motor vehicles may help reduce traffic collisions and violations but the strongest influence in driver behaviour is education. Hall's (1973) findings also showed that for the first three

years after DDC, the driver's collision and violation records were better than that of a driver who was not trained. The findings further revealed that trained commercial drivers had fewer collisions and violations than private motorists.

The *Donver Driver Improvement School* (1987), as cited by Shonhiwa (1995:23), conducted a study in the USA on the impact of DDC. The results of the study revealed that all drivers who had three or more violations before attending the course showed appreciable improvement after attending it. The findings in this study also revealed that 90% of the drivers who attended DDC had clear collision records in the next three months.

In the USA, a comprehensive study to evaluate the National Safety Council's Driver Improvement Programme was done by Dr Thomas W. Planek, Stuart A. Schupack and Richard C. Fowler. This investigation sought to answer the question: Do DDC graduates have fewer accidents and violations than other drivers? The findings of the study answered the above question positively. According to Stephenson (1988:1), about 8000 DDC graduates from 88 co-operating agencies in 26 states and a comparison group of 24000 individuals who had not completed DDC training participated in the project. All drivers who did DDC reported their accidents and offences for one year before doing the course, and again for the year after completing the course. The comparison group gave similar reports for only the second year; their reported driving experience thus coincided with the after-DDC experience of the group that had done the course. The major finding reported in this study was that self-reported accidents among DDC graduates were reduced by about one-third in the year following DDC, while moving offences were cut by one quarter. Other findings show drivers who completed the course to have reduced some types of collisions by 40% more and to have increased by far their use of seat belts. Even more important to driver education professionals, however, are findings about the differential success of instruction, revealing the areas in which DDC produced the greatest and the least improvement in driving ability.

Sayer (1999:8), a road traffic safety practitioner with the Transport Research Laboratory in the UK, quotes E. Lahdeniemi (1995) who carried out a study in Finland which was entitled "Effects of defensive driving training in a bus company". The aim of this study was to determine the effects of defensive driving training intended for the driver of heavy vehicles, and to gather information for the further development of the training. All the drivers of a particular bus company participated in the defensive driving training. In order to determine the safety effects, the traffic collisions of the company were monitored over a four-year period, 1989-1990 (before DDC) and 1991-1992 (after DDC). The monitoring revealed that the accidents of the bus company fell by 65% in the period after DDC.

Sayer (1999:4-5) states that S. Payne, A. Brownlea and A. Hall (1984) carried out a study in Australia which was entitled "Evaluation of Queensland defensive driving course". In this study a defensive driving course that has been administered by the Queensland Road Safety Council since 1969 was evaluated. The findings of the study revealed that road accident records for the 12 months periods before and after DDC indicated that the course was not effective for reducing traffic violations for 17 – 19 year-olds or for females aged over 20 years. Significant accident reductions were found for male drivers aged between 20 and 39 years who drive as part of their work but a cost-benefit analysis for this group concluded that the benefits of the collision reduction did not exceed the cost of the programme. Based on this analysis, there was no justification for either the extension of such courses in Australia or for continuing the programme in Queensland, the researchers concluded.

J.D. Wynne-jones (1984), as quoted by Sayer (1999:6), conducted an examination of published literature on evaluations of defensive driving courses in Wellington, New Zealand. Nine relevant scientific studies were examined and the results were published in a road traffic safety seminar paper entitled "Do defensive

driving courses really reduce accidents?”. It was concluded that little or no road accident savings were demonstrated as a result of attending DDC.

Sayer (1999:7) states that the Journal of American Insurance (1984) in Illinois, USA, is of the opinion that successful completion of the National Safety Council's defensive driving course or a high school driver training programme does not statistically warrant a mandatory vehicle insurance discount. This opinion is based on a report entitled “Do defensive driving courses make better drivers?” which was published by the Insurance Institute for Highway Safety in which the merits of DDC were examined. The report evaluated sixteen studies of DDC. Only five of these studies were considered to be “scientifically rigorous” or valid tests of DDC effectiveness. Insurance Institute for Highway Safety researchers A.T. Lund and A.F. Williams found that DDC had no effect on collisions and decreased the frequency of traffic violations only slightly. Similarly, a National Highway Traffic Safety Administration study of the effect of DDC on teenagers' collision rates found that neither a special education course emphasising safety nor a less elaborate programme of instruction has resulted in lower collision involvement or decreased traffic violations.

From the above discussion of related research studies, it is evident that some of the findings support the view that defensive driving can be used as a strategy for road traffic violations and collisions while others do not. Be that as it may, whether or not defensive driving is effective against traffic offences and accidents remains to be revealed by the results of the present study.

2.4. SUMMARY

This chapter gave a review of relevant literature on defensive driving. The discussion focused on the theoretical review and empirical review of the

literature. The theoretical review dealt with the concept of defensive driving, the concept of training, the concept of evaluation, the aim of post – licence driver training and the DDC offered by the TSCZ. The empirical review dealt with previous studies on the impact of DDC which were carried out by other researchers.

CHAPTER 3

PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

3.1 INTRODUCTION

In this chapter, the results of the present study are presented, analysed and discussed under the following subheadings: biographic data, committing traffic violations and involvement in traffic collisions before and after DDC and assessment of the defensive driving course.

3.2. BIOGRAPHIC DATA

Table 3.1 Age range of drivers

Response	Frequency	Percentage
16 – 25 years	6	6.3
26 – 40 years	42	44.2
41 – 60 years	46	48.4
61+ years	1	1.1
Total	95	100

The results of the study, as shown in table 3.1, indicate that the majority of the respondents consisting of 48.4% are in the 41-60 year age group. This is followed by 44.2% of the respondents who are in the 26-40 years age range, 6.3% in the 16-25 years age range and 1.1% in the age group 61+ years.

Writing on age and collision - involvement, Cloete (1990a:121) states that man enters a safe driving phase only in his 40th year. This is a result of experience and a greater sense of responsibility.

Table 3.2 Distribution by gender

Response	Frequency	Percentage
Male	87	91.6
Female	8	8.4
Total	95	100

Table 3.2 shows that most of the respondents are males accounting for 91.6% whereas females account for only 8.4% of the driving population. The results of this study are supported by a study which was carried out by Guruva (1995:29).

As regards collision-involvement and driver training, Cloete (1990a:120-121) cites Kaiser who states that it was established in Germany that women drivers are less likely to violate traffic laws resulting in collisions than men.

Table 3.3 Distribution by residential area

Response	Frequency	Percentage
High density area	52	54.7
Low density area	37	39
Total	89	93.7
No response	6	6.3
Total	95	100

According to table 3.3, the majority of the respondents consisting of 54.7% indicated that they live in the high density area while 38.9% of them said they live in the low density area.

Table 3.4 Distribution by educational qualification

Response	Frequency	Percentage
Primary school	9	9.5
Secondary school	48	50.5
College/ University	37	38.9
Total	94	98.9
No response	1	1.1
Total	95	100

As shown by table 3.4, the majority of the respondents consisting of 50.5% have a secondary school qualification. As much as 38.9% of them possess a college or university qualification and 9.5% have a primary school qualification.

Table 3.5 Distribution by licensing year

Response	Frequency	Percentage
1963-1975	16	16.8
1980-1990	22	23.2
1991-1995	32	33.7
1996-1998	25	26.3
Total	95	100

Table 3.5 indicates that the majority of the respondents consisting of 33.7% obtained their licences between 1991 and 1995. This is followed by 26.3% of the respondents who got their licences between 1996 and 1998. Divers consisting of 23.2% of the respondents obtained their licences between 1980 and 1990 and 16.8% got theirs between 1963 and 1975. This means that the majority of the drivers obtained their licences after independence, that is from 1980 onwards.

Table 3.6 Distribution by frequency of driving

Response	Frequency	Percentage
Daily (4 or more times per week)	74	77.9
A few times per week (1-3 times)	11	11.6
A few times per month (1-3 times)	4	4.2
Very seldom	6	6.3
Total	95	100

The results of the study, as revealed by table 3.6, indicate that most of the respondents consisting of 77.9% drive daily or more than four times per week. This is followed by 11.6% of the respondents who said they drive a few times per week. Motorists comprising 4.2% of the respondents said they drive a few times per month and 6.3% said they drive very seldom.

Table 3.7 Distribution by vehicle ownership

Response	Frequency	Percentage
Yes	44	46.3
No	51	53.7
Total	95	100

According to table 3.7, the majority of the respondents comprising 53.7% do not own vehicles whereas 46.3% own vehicles. This indicates that the study was focused on those driving public service vehicles, which explains why more than half of the respondents do not own vehicles.

Table 3.8 Distribution by occupation

Response	Frequency	Percentage
Professional driver	33	34.7
Artisan	13	13.6
Manager	11	11.5
Sales representative	10	10.8
Clerk	9	9.4
Training officer	9	9.4
Transport officer	5	5.3
Messenger	5	5.3
Total	95	100

Table 3.8 shows that of all the respondents, the majority consisting of 34.7% are employed as professional drivers (those who drive for a living), 13.6% as artisans, 11.5% as managers (these include supervisors and foremen), 10.8% as sales representatives, 9.4% as training officers, 5.3% as transport officers and another 5.3% as messengers.

Table 3.9 Distribution by basis on which DDC was attended

Response	Frequency	Percentage
Compulsory	75	78.9
Voluntary	20	21.1
Total	95	100

Table 3.9 reveals that most of the respondents comprising 78.9% said they were compelled to attend DDC whereas 21.1% said they attended the course on a voluntary basis.

3.3. COMMITTING TRAFFIC VIOLATIONS AND INVOLVEMENT IN TRAFFIC COLLISIONS BEFORE AND AFTER DDC

3.3.1. Committing traffic violations before and after DDC – percentages there of

Table 3.10 Percentages of traffic violations before and after DDC

Type of violation	Many times	Sometimes	Seldom	Never
Failing to signal turns	6.3 (1.1)	14.7 (4.2)	18.9 (14.7)	60 (80)
Exceeding speed limit by 10k/h or more	13.7 (2.1)	33.7 (13.7)	20 (22.1)	32.6 (62.1)
Overtaking where it is prohibited	1.1 (-)	13.7 (1.1)	14.7 (11.6)	70.5 (87.4)
Turning in front of oncoming traffic	2.1 (-)	10.5 (1.1)	14.7 (5.3)	72.5 (93.7)
Driving an unroadworthy vehicle	6.3 (-)	15.8 (9.5)	13.7 (13.7)	64.2 (76.6)
Driving through a red traffic light	- (-)	6.3 (1.1)	11.6 (2.1)	82.1 (96.6)
Driving under the influence of alcohol or drugs	3.2 (-)	8.4 (4.2)	10.5 (9.5)	77.9 (86.3)
Failing to obey a stop sign	2.1 (-)	18.9 (2.1)	9.5 (6.3)	69.5 (91.6)
Failing to obey a give way sign	2.1 (-)	13.7 (2.1)	15.8 (9.5)	67.4 (88.4)
Failing to park correctly	2.1 (1.1)	18.7 (4.2)	26.4 (16.8)	49.5 (76.8)

- Percentages in brackets are for traffic offences committed after DDC.

The results in table 3.10 show that the most common traffic violation is exceeding the speed limit by 10k/h or more. Failing to signal turns has a percentage of 6.3% and driving un-roadworthy vehicles follows this. The least committed traffic violation is

driving through red traffic lights. As much as 32.6% of the respondents indicated that they would never exceed the speed limit. This is a very small portion considering the likely fatal effects of such a violation. The most observed regulation is that of not driving through red traffic lights since 82.1% of the respondents indicated that they would never drive through red traffic lights. After DDC only 2.1% indicated that they exceeded stipulated speed limits many times. Some of the respondents indicated that they violated the traffic regulations sometimes. The majority indicated that they never committed the crimes after DDC. Before DDC 32.6% of the respondents said they never exceeded the stipulated speed limits, but after DDC 62.1% said they never exceeded the speed limit. This is an indicator of the effectiveness of DDC in combating traffic violations. This view is confirmed by a study on the impact of DDC which was reported by Stephenson (1988:1).

Table 3.11 Percentages of warnings, fines or arrests for traffic violations before and after DDC

Type of violation	Many times	Sometimes	Seldom	Never
Failing to signal turns	1.1 (1.1)	4.2 (1.1)	4.2 (1.1)	90.5 (96.8)
Exceeding speed limit by 10k/h or more	4.2 (-)	13.7 (7.4)	27.4 (3.2)	54.7 (89.5)
Overtaking where it is prohibited	- (-)	3.2 (1.1)	2.1 (-)	94.7 (58.9)
Turning in front of oncoming traffic	1.1 (-)	6.3 (-)	2.1 (-)	90.5 (100)
Driving an unroadworthy vehicle	2.1 (-)	11.6 (4.2)	11.6 (4.2)	74.7 (94.6)
Driving through a red traffic light	1.1. (-)	2.1 (-)	5.3 (2.1)	91.6 (97.9)
Driving under the influence of alcohol or drugs	3.2 (-)	1.1 (-)	2.1 (-)	93.7 (100)
Failing to obey a stop sign	2.1 (-)	4.2 (-)	6.3 (2.1)	87.4 (97.9)
Failing to obey a give way sign	2.1 (-)	4.2 (-)	3.2 (2.1)	89.5 (97.9)
Failing to park correctly	2.1 (1.1)	9.5 (1.1)	10.5 (5.3)	77.9 (52.7)

*. Percentages in brackets are for warnings, fines or arrests for traffic violations after DDC.

In sympathy with the traffic violations, the warnings, fines and arrests made by traffic officials indicate a very high degree of synchronisation. Table 3.11 indicates that 4.2% of the respondents said that they were sometimes fined, cautioned or arrested by traffic officials before DDC for failing to signal turns, to obey stop signs and to obey give way signs. This is supported by 27.4% of the respondents who indicated that they seldom exceed stipulated speed limits. Before DDC no drivers were cautioned for overtaking where it is prohibited and 94.7% said they were never cautioned. When the drivers completed DDC no warnings or cautions were issued for violating traffic regulations many times, serve for incorrect parking that constituted 1.1%. The majority of the drivers indicated that they were never cautioned after DDC. All of the respondents indicated that they would never drive under the influence of alcohol.

Table 3.12. Percentages of traffic violations by area, type of road and time before and after DDC

Place, situation or circumstance	Many times	Sometimes	Seldom	Never
Urban area	2.1 (1.1)	24.2 (5.3)	23.2 (20.0)	49.5 (73.7)
Rural area	6.3 (-)	8.4 (5.3)	17.9 (9.5)	67.4 (85.3)
Gravel road	3.2 (-)	9.5 (1.1)	11.6 (9.5)	73.7 (85.5)
Tarmac road	1.1 (1.1)	14.7 (5.3)	21.1 (9.5)	62.1 (84.2)
Daytime	1.1 (2.1)	17.9 (3.2)	18.9 (11.6)	61.1 (92.1)
Night-time	5.3 (-)	14.7 (2.1)	13.7 (13.7)	65.3 (84.2)

- Percentages in brackets indicate violations by area, type of road and time after DDC.

According to table 3.12, the study results show that most traffic violations happen in rural areas at night. Before DDC 49.5% of the respondents indicated that they never violated traffic regulations in urban areas and 73.7% indicated that they never violated the regulations when using gravel roads. Before DDC violations occur many times in rural areas and at night. Violations sometimes occur in urban areas, in tarred roads and mostly at night.

When the drivers completed DDC, the majority indicated that thereafter, they never committed traffic offences. The only notable increase in violations is where the traffic violation increased by 1% to 2.1% for such offences committed during the day after completing DDC.

The results of the present study are supported by the findings of a study cited by Stephenson (1988:3) that was carried out by Planeck et al (1988). The results of this study indicated that drivers who had done DDC reduced their violations on all types of roads in both rural and urban areas.

Table 3.13. Percentages of warnings, fines or arrests for traffic violations before DDC by place, situation or circumstance

Place, situation or circumstance	Many times	Sometimes	Seldom	Never
Urban area	1.1 (-)	8.4 (2.1)	25.3 (7.4)	65.3 (90.5)
Rural area	1.1 (-)	4.2 (-)	1.1 (-)	93.7 (100)
Gravel road	- (-)	1.1 (-)	3.2 (1.1)	95.8 (98.9)
Tarmac road	- (-)	8.4 (1.1)	11.6 (5.3)	80.0 (93.7)
Daytime	1.1 (-)	6.3 (-)	10.5 (6.3)	81.1 (93.7)
Night-time	- (-)	2.1 (1.1)	11.6 (2.1)	84.2 (95.8)

* Percentages in brackets are of warnings, fines or arrests for traffic violations by area, type of road and time before and after DDC.

Table 3.5 indicates that differentials exist on the warnings, fines and arrests made to the drivers basing on place, area and time. Before the defensive driving course, 1.1% of the respondents said that they were issued with warnings, fines and arrests when in a rural area. The same is for the urban area. However, 65.3% of the respondents said they were never issued any warnings, fines nor arrests in the urban area and 93.7% for the rural area. The possible reason for the high percentage in the rural area is mainly due to less control by the traffic officials. This is contrasted by 8.4% of the respondents who said they were sometimes cautioned in the urban area while 4.2% said they were cautioned in the rural area. The percentage of cautions for the gravel roads is very minimal. This could be attributed to the general situation of the gravel roads, but 95.8% of the respondents said they were never cautioned on the gravel tracks before DDC. This

contrasts significantly to the tarmac roads where 8.4% said they were sometimes cautioned and 80% said they were never cautioned. For the time of the day, daytime cautions far outweigh the night-time cautions. This could be attributed to the degree of monitoring which is very high by day and slack by night. After DDC a phenomenal drop in cautions (warnings, fines or arrests) was realised. The distribution of the responses shows a positive relationship between doing DDC and a drop in traffic violations either by place, type of road, or time of day. This is shown by increased percentages in the responses of the drivers who said after DDC they were never cautioned.

3.3.2 Involvement in traffic collisions before and after DDC – percentages thereof

The effectiveness of DDC in reducing or eliminating collisions is represented in table form below.

Table 3.14 Percentages of traffic collisions before and after DDC

Type of collision	Many times	Sometimes	Seldom	Never
Motorcar pedestrian	- (-)	3.2 (1.1)	1.1 (-)	95.8 (97.9)
Motorcar animal	1.1 (-)	1.1 (-)	8.4 (3.2)	83.5 (95.8)
Motorcar fixed object	- (-)	5.3 (1.1)	10.5 (3.2)	84.2 (94.7)
Reversing	- (-)	3.2 (1.1)	13.7 (5.3)	83.2 (92.6)
Intersection	- (-)	3.2 (2.1)	5.3 (1.1)	91.6 (95.8)
Run-off-the road	- (-)	3.2 (2.1)	6.3 (1.1)	90.5 (95.8)
Side swipe (same direction)	- (-)	3.2 (-)	1.1 (-)	94.7 (100)
Side swipe (opposite direction)	- (-)	2.1 (-)	- (-)	97.9 (100)
Head-on	- (-)	1.1 (-)	1.1 (-)	96.8 (97.9)

* Percentages in brackets indicate traffic collisions after DDC.

According to table 3.14, DDC is very effective in preventing traffic collisions. For all types of collisions, only 1.1% of the respondents indicated that they were involved in motorcar–animal collisions. This was before DDC, and this was totally reduced after DDC. The major type of collision is that involving motorcar–fixed object. This sometimes happened 5.3% of the times, and after DDC 1.1% of the respondents indicated being involved in such collisions. After DDC at least 92.6% of the respondents indicated that they were never involved in any form of traffic collision up from at least 83.2% before DDC.

Table 3.15 Percentages of traffic collisions by area, type of road and time of day before and after DDC

Place, situation or circumstance	Many times	Sometimes	Seldom	Never
Urban area	3.2 (-)	4.2 (1.1)	11.6 (3.2)	80 (95.6)
Rural area	- (-)	3.2 (-)	4.2 (1.1)	91.6 (98.5)
Gravel road	1.1 (-)	1.1 (1.1)	3.2 (1.1)	93.7 (97.5)
Tarmac road	- (-)	4.2 (1.1)	5.3 (1.1)	89.5 (97.9)
Daytime	- (-)	5.3 (-)	8.4 (3.2)	85.3 (96.8)
Night-time	- (-)	5.3 (-)	8.4 (3.2)	85.3 (96.8)

* Percentages in brackets are for involvement in traffic collisions by area, type of road and time after DDC.

Table 3.15 indicates that traffic collisions frequently occur in urban areas, on gravel roads and at night. This is evidenced by a 3.2% many times response for the urban area and 1.1% for the gravel roads and night-time. Before DDC at least 80% indicated that they were never involved in any form of collision in the urban area. This is followed by 85.3% for daytime, 89.5% for tarred road, 91.6% for rural areas, 85.3% for night-time and 93.7% for gravel roads. The reason why urban areas have a sizeable percentage of collisions is due to traffic volumes, which are higher than the rural volumes. DDC markedly reduced all traffic collisions as shown by the inverse minimum response or no traffic collision. A study done by Planeck et al (1988), as cited by Stephenson (1988:3), showed similar results.

3.3.3 Effect of age and gender on traffic violations

After completing DDC all the drivers indicated that they were seldom or never cautioned for failure to obey give way signs. The greatest proportion of drivers who said they were never cautioned is the 41–60 years group, followed by the 26–40 years group. As stated by Stephenson (1988:3), similar results were produced by Planeck et al's (1988), study in which drivers of all ages reported lower violation rates after completing DDC training. However, DDC appeared to be most effective in reducing the violation rates of drivers over 25 years and less effective for younger drivers.

Before DDC the following numbers of respondents according to age were cautioned:

Table 3.16 Drivers cautioned on tarred roads

Age group	Sometimes	Seldom	Never
16 – 25	-	1	4
26 – 40	3	-	39
41 – 60	5	10	31
61 +	-	-	-

After DDC men and women's response was very high with only one from both groups saying they were sometimes cautioned. This is confirmed by the results of a study reported by Stephenson (1988:3) which revealed that both women and men had fewer violations after completing DDC, although women reported a smaller decrease.

3.3.4. Age and involvement in traffic collisions after DDC

Before receiving training in DDC, only drivers from the 16–25 age group were involved in motorcar– animal collisions many times. One from the 41–60 age group also indicated that he/she was sometimes involved in a motorcar–animal collision. From all age groups a total of 85 respondents out of 95 said they were never involved in any motorcar–animal collisions even after DDC. This is the same with run-off-the road collisions where 86 out of 95 said they were never involved in some accidents. A total of 3 from all age groups indicated that they were sometimes involved in run-off-the road accidents.

According to Stephenson (1988:1), age is a factor that may be expected to influence acceptance of DDC concepts and consequent course benefits. Just as in the present study, the amount of reduction of accident rate in the study by Planeck et al (1988) was about the same for drivers of all ages, with the exception of drivers under 24 years.

3.3.5. Effect of age and education on traffic violations

The general response showed that prior to the enrolment to the DDC the 26–40 and 16–25 age groups committed a number of traffic violations resulting in them being warned, fined or arrested by traffic officials. After DDC the total response showed that from the whole age cross-section, they indicated they would never or seldom fail to obey give way signs. This points to a fundamental improvement in the general safety of the road as road carnage in Zimbabwe is also and largely attributable to reckless driving and failure to obey the traffic rules like stopping at give way signs. The above findings are supported by Planeck et al's (1988) study, as quoted by Stephenson, which revealed that drivers of all educational levels had fewer violations and accidents after DDC. According to Stephenson (1988:2), DDC graduates' educational level is taken into account because education could potentially affect the degree of programme acceptance and the resulting success or failure of instruction.

Before DDC the response distribution shows that those with college or university qualifications committed more violations habitually. This occurred mostly in urban areas. While this could be attributable to class and style of living, the results may not be conclusive. Those with secondary school qualifications indicated that they sometimes committed traffic violations habitually before DDC. Overallly the picture is telling the reader a positive correlation between education and habitual traffic violations. It appears it is the educated who commit more traffic violations than the less educated.

3.3.6. Involvement in traffic collisions before and after DDC

The response distribution shows that there is no statistical difference between the different age groups and the different types of traffic collisions that occurred in 1998 before doing DDC. Nominally, it appears that the 16–25 years age group had traffic collisions many times but that is not statistically significant. Before DDC there is an almost equal response on all the age groups against traffic collisions due to run-off-the-road. Equal numbers indicated that they were sometimes involved in this type of collision. This is again the same even if the analysis is done according to gender groupings. There is not much variation with all saying they were involved in road collisions due to sideswipes. The responses show that women were sometimes involved in traffic collisions when reversing more than men even after DDC. The cross-tabulation results only confirm the initial findings but only one response showed a collision of this nature with the rest indicating a marked improvement. This is a phenomenal improvement especially against the backdrop of a situation where women committed more such collisions before DDC in 1998.

Table 3.17 Day- time traffic violations after DDC

Own car	Seldom	Never
Yes	5	39
No	1	50

The cross-tabulations show that there is no significant relationship in terms of the daytime traffic violations and vehicle ownership. Whether vehicle was or was not owned by the driver, respondents said they seldom or were never involved in daytime traffic violations after DDC.

3.3.7. Company management's view of DDC

The degree to which company management has treated DDC appears to be highly correlated with the traffic violations that are happening on the roads. For those who said

DDC is compulsory, they seldom or never drive through red traffic lights. This is in contradistinction to those who say it should be voluntary. Drivers comprising 5% of the respondents who said that management should take DDC as voluntary sometimes drive through red traffic lights. This is again confirmed by the result that of all the drivers who said their management say DDC is compulsory, they often park correctly. The general conclusion is that where management has made it a policy that its drivers should do DDC, the degree of traffic violations was significantly reduced.

As stated by Stephenson (1988:2), DDC participants usually attend the course either voluntarily or at the say-so of the employer. Since voluntary or compulsory participation could affect an individual's motivation and consequently, the benefit derived from the course, it was important to learn if the way the DDC participants entered the course affected the results.

3.4 ASSESSMENT OF THE DEFENSIVE DRIVING COURSE

The study results show that the defensive driving course was efficient in reducing traffic violations and collisions. Studies carried out by Zihute (1995:40) and Shonhiwa (1995:42) endorse the same view. This has great implications on the policy thrust of the Traffic Safety Council of Zimbabwe and how its regulations could be fine-tuned broadly to reduce road carnage. DDC essentially showed that all participants had no problems in understanding the course. The special topics covered as part of the DDC programme were all rated as very useful by the respondents. This probably explains why the overall response to this course was generally positive.

3.4.1 Effectiveness of the DDC programme

An evaluation of the defensive driving course by the participants is given in the succeeding paragraphs.

Table 3.18. Description of the defensive driving course content

Response	Frequency	Percentage
Inadequate	5	5.3
Fairly adequate	18	18.9
Adequate	72	75.8
Total	95	100

According to table 3.18 the results of the study show that 5.3% of the respondents said the defensive driving course content was inadequate because it did not include road assessments (practicals). As much as 18.9% of the respondents thought that the course was fairly adequate, but however, it should also include topics on motorcar maintenance and first aid. The majority of the respondents consisting of 75.8% felt that the course content was adequate.

Table 3.19 Whether or not the 8 DDC films were helpful

Response	Frequency	Percentage
Yes	93	97.9
No	2	2.1
Total	95	100

Table 3.19 shows that 97.9% of the respondents said that the 8 DDC films were helpful whereas only 2.1% felt that the films were not helpful.

The films shown to the DDC participants are part of the audio-visual aids that are used in presenting the course. In this regard the TSCZ (1979: DDC manual – instructor’s guide) states that audio-visual aids make it easier for the instructor to put his or her point across and the aids assist in holding the class’s attention and interest. This means that the audio-visual aids help the instructor to teach and the students to learn. Drivers making up 2.1% of the respondents who said the films were not helpful felt that rather than use light vehicles only in the dramatisations, heavy vehicles should have also been used.

Table 3.20 Whether or not the course duration of 4 days is enough

Response	Frequency	Percentage
Yes	73	76.8
No	22	23.2
Total	95	100

Table 3.20 indicates that 76.8% of the respondents felt that the duration of the defensive driving course was sufficient whereas 23.2% said that the period was not enough.

Table 3.21 What the course duration should be

Response	Frequency	Percentage
Longer	23	24.2
Shorter	1	1.1
Total	24	25.3
Maintained duration as enough	71	74.7
Total	95	100

The findings in table 3.21 reveal that 24.2% of the respondents said that the duration of DDC should be longer than four days while 1.1% said it should be shorter than that.

Table 3.22 Whether or not the period of 70 minutes per session is enough

Response	Frequency	Percentage
Yes	72	75.8
No	21	22.1
Total	93	97.9
No response	2	2.1
Total	95	100

The results of the study in table 3.22 show that 75.8% of the respondents were of the opinion that the period of 70 minutes given to one session is sufficient. However, 22.1% felt that the time was not enough.

Table 3.23 What the time per session should be

Response	Frequency	Percentage
Longer	23	24.2
Maintained time is enough	72	75.8
Total	95	100

Table 3.23 shows that 24.2% of the respondents said that the time allotted to one DDC session should be longer than 70 minutes.

Table 3.24 Whether or not the presentation of the course was effective

Response	Frequency	Percentage
Yes	91	95.8
No	4	4.2
Total	95	100

Table 3.24 shows that 95.8% of the respondents said that the presentation of the course was effective. This view is confirmed by both the before and after report on DDC graduates which points strongly to the success of the course in reducing traffic offences and accidents. If DDC produced improvement in driving ability, this suggests that the instruction was effective. However, only 4.2% of the respondents said that the presentation was not effective because the presentation pace was too fast.

Table 3.25 How much knowledge gained from DDC

Response	Frequency	Percentage
Tremendous	74	77.9
Fair	21	22.1
None	0	0
Total	95	100

According to table 3.25, the results of the study reveal that the majority of the respondents consisting of 77.9% said that they gained tremendous knowledge from attending DDC, whereas 22.1% of them said that the knowledge they gained was average (fair). No one of the respondents said they did not benefit from the course.

The sentiments of the majority of the respondents are supported by the TSCZ (1979: DDC manual – session 3) when it states that in the opinion of road traffic safety experts, knowledge of good driving should be acquired through a planned programme such as DDC.

Table 3.26 How much skill gained from DDC

Response	Frequency	Percentage
Tremendous	68	71.6
Fair	22	23.2
None	2	2.1
Total	92	96.8
No response	3	3.2
Total	95	100

As shown by table 3.26, the results of the study indicate that 71.6% of the respondents said that the amount of skill they gained from DDC was tremendous. Drivers comprising 23.2% of the respondents said the amount of skill they gained was fair, and 2.1% said that they did not gain anything in terms of skill from the course. The sentiments of the majority of the respondents who said that they gained tremendously in terms of skill are supported by the TSCZ (1979: DDC manual – session 3) which states that skill is the

ability to manipulate the controls of a motor vehicle and successfully perform basic traffic manoeuvres such as turning, overtaking and parking. Once again, the before and after report on the DDC graduates strongly suggesting that DDC is successful in reducing traffic violations and collisions confirms the respondent's view that they gained a lot of skill from the course. Without the necessary skills, they would not have been able to reduce their frequency of violating traffic laws and involvement in traffic accidents as shown by the results of the study.

Table 3.27 How much positive attitude gained from DDC

Response	Frequency	Percentage
Tremendous	76	80
Fair	15	15.8
None	1	1.1
Total	92	96.8
No response	3	3.2
Total	95	100

Table 3.27 indicates that the majority of the respondents consisting of 80% said that they gained tremendously in terms of a positive attitude in their driving as a result of attending DDC. As much as 15.8% of them said the benefit they gained was fair; and only 1.1% said they did not gain anything in terms of attitude.

According to *The Department of transport manual* (1981:1) a driver's attitude includes the following: a sense of responsibility for the safety of the others, a determination to concentrate on the job of driving, patience and courtesy. Since attitude is so important a part of safe driving, every motorist must make a real effort to develop these qualities. Writing on driver training, Canagarayar (1981:171) says that the development of proper attitudes is an important pre-requisite that gives rise to careful driving.

Discussing attitude, the TSCZ (1979: DDC manual – session 1) holds that courtesy and consideration toward other road users is the most important basic attitude there is. It is the foundation on which all other defensive driving techniques are based.

Table 3.28 Driving performance before and after DDC

Response	Frequency	Percentage
The same	0	0
A bit better	5	5.3
Much better	90	94.7
Total	95	100

As shown by table 3.28, the study findings indicate that no one of the respondents said that their driving performance after DDC was the same as before attending DDC. Only 5.3% of the respondents said that their driving performance after DDC was a bit better than before DDC. The majority of the respondents consisting of 94.7% said that their driving performance after DDC was much better than before DDC.

Studies done by Zihute (1995:40), Shonhiwa (1995:42), Hall (1973) as cited by Shonhiwa (1995:22-23) and Lahdeniemi (1995), as quoted by Sayer (1999:8), all reveal that the driving performance of DDC graduates was much better after DDC than before attending the course. According to Sandwith (1980:9), DDC has been a tremendous success and, as a result, it has been received with great enthusiasm by the general public.

Table 3.29 Effects of DDC on traffic violations

Response	Frequency	Percentage
Yes	92	96.8
No	3	3.2
Total	95	100

Table 3.29 shows that 96.8% of the respondents said that DDC was effective in preventing traffic violations whereas only 3.2% of them felt that the course was not effective. Studies carried out by Zihute (1995:40), Shonhiwa (1995:42), Hall (1973), as cited by Shonhiwa (1995:42), and Lahdeniemi (1995), as quoted by Sayer (1999:8), endorse the view that DDC is effective against traffic violations. Motorists consisting of 3.2% of the respondents who said that the course was not effective against traffic violations argued that even if some drivers receive training in defensive driving, they still commit traffic offences as they drive.

Table 3.30 Effects of DDC on traffic collisions

Response	Frequency	Percentage
Yes	93	97.9
No	2	2.1
Total	95	100

Table 3.30 indicates that 97.9% of the respondents said that the defensive driving course was effective in preventing traffic collisions whereas 2.1% thought that the course was not effective at all. The opinion of the majority of the respondents who said that DDC was effective against traffic collisions is supported by the results of a study carried out by Planeck et al (1988), as cited by Stephenson (1988:1). Studies done by Shonhiwa (1995:42) and Zihute (1995:40) also support the same view. Also endorsing the same sentiments, Sandwith (1980:8) says that reasonable gains in the prevention of traffic accidents have been made with the introduction in Zimbabwe of DDC. Table 1.4 in Chapter 1 shows that traffic accidents that were reported in the year 2000 (after DDC) were fewer than those that were reported in 1998 (before DDC). In 1998 a total of 58 101 accidents were reported as compared to 40 316 in the year 2000. This means that traffic accidents were reduced by 7785 in the year 2000 as a result of DDC.

Table 3.31 Whether or not DDC is cost-effective to employer

Response	Frequency	Percentage
Yes	90	94.7
No	4	4.2
Total	94	98.9
No response	1	1.1
Total	95	100

As indicated by table 3.31, the majority of the respondents consisting of 94.7% said that DDC was cost-effective to their employers whereas 4.2% felt that the course was not cost-effective at all. As quoted by Zihute (1995:15), *Fleet News (1988)* reported that the findings of a study carried out by a transport company in Birmingham (UK) reveal that DDC training reduced the fleet's accident record and saved a lot of money. WHO (1984:26) shares the same view when it says that better screening and training of drivers could yield a positive commercial return. This confirms that DDC is cost-effective to the employer as was said by the majority of the respondents in this study.

Table 3.32 Whether or not DDC should be compulsory in Zimbabwe

Response	Frequency	Percentage
Yes	92	96.8
No	3	3.2
Total	95	100

According to table 3.32, the majority of the respondents consisting of 96.8% said that the defensive driving course must be made compulsory for every motorist in Zimbabwe. Only 3.2% of the respondents said that the course must not be made compulsory. Out of those respondents who said DDC should not be made compulsory, 1.1% felt that some drivers might not like the course, 1.1% felt that motorists should be persuaded rather than compelled to do the course, and 1.1% said that only company drivers and public service vehicle drivers should be compelled do the course. In support of the move to make DDC

mandatory, *The Times* (8-14 2001) advises the government of Zimbabwe to make the course compulsory because “--- every year road accidents have claimed many lives and left thousands maimed on Zimbabwe’s roads. Millions of dollars have also been lost through damaged and destroyed vehicles and property.” In the same view, the TSCZ(1979:DDC manual – session 1) alludes to the idea of DDC being made compulsory by stating that its defensive driving campaign is a campaign to make every driver in Zimbabwe a defensive driver in order to reduce the number of deaths, human suffering and economic loss due to traffic collisions.

3.5 SUMMARY

This chapter dealt with the presentation, analysis and discussion of the results of the present study under the following sub-headings: biographic data, committing traffic violations and involvement in traffic collisions before and after DDC, and assessment of the defensive driving course.

CHAPTER 4

SUMMARY, CONCLUSION AND RECOMMENDATIONS

4.1 INTRODUCTION

This chapter will present a summary of the problem under study, the methodology used in the study and the results of the study. The chapter will also give conclusions drawn from the findings of the study and recommendations.

4.2 SUMMARY OF THE STUDY PROBLEM AND METHODOLOGY

The following aspects of the problem under study and the methodology will be discussed below: the aim of the study, the objectives of the study and methodology.

4.2.1 The aim of the study

The aim of the research was to assess the effectiveness of defensive driving as a strategy for road traffic violations and collisions in Zimbabwe. In other words, the purpose of the study was to evaluate the DDC offered by the TSCZ.

4.2.2 The objectives of the study

The following were the objectives of the study

- (a) to determine whether DDC graduates have fewer traffic violations than they had before attending DDC.
- (b) to determine whether DDC graduates have fewer collisions than they had before completing DDC;

- (c) to find out whether DDC graduates benefited in terms of knowledge, skills and attitude after completing DDC; and
- (d) to elicit information that can be used to improve the defensive driving course.

4.2.3. Methodology

The stratified sampling technique was used to select a sample of 100 drivers who had done DDC between January 1999 and December 1999. The target population was all DDC graduates in Harare, Bulawayo, Gweru, Mutare and Masvingo. The strata were the five companies whose drivers had completed DDC between January 1999 and December 1999. The five companies selected from the above mentioned towns represented the study population. From each of these five companies a sample of 20 drivers was selected using the systematic sampling technique with a random start. The descriptive survey method was used in the study and data were collected using a questionnaire schedule.

4.3. SUMMARY OF THE RESULTS OF THE STUDY

A synthesis of the results of the present study yielded major findings and minor findings.

4.3.1. Major findings

The major findings of this study were based on or related to the objectives of the study, namely whether or not DDC graduates have fewer traffic violations than they had before doing DDC; whether or not DDC graduates have fewer collisions than they had before completing DDC; whether or not DDC graduates benefited from the course in terms of knowledge, skill and the right attitude; and to elicit information that can be used to improve the defensive driving course. The results are given below.

4.3.1.1 The majority of the respondents consisting of 96.8% said that DDC was effective in preventing traffic violations. This means that DDC graduates have fewer traffic violations than they had before attending DDC. Literature study supports this view.

4.3.1.2 According to 97.9% of the respondents, DDC was effective in preventing traffic collisions. This means that DDC graduates have fewer collisions than they had before completing the course. This view is confirmed by literature study.

4.3.1.3 The majority of the respondents were of the opinion that they had benefited tremendously in terms of knowledge, skill and attitude. As much as 77.9% of these respondents said that they gained tremendous knowledge from attending DDC; 71.6% of them said that the amount of skill they gained from doing DDC was tremendous; and 80% of the DDC graduates (respondents) said they gained tremendously in terms of a positive driving attitude on completion of the course. The above views are endorsed by literature study.

4.3.1.4 According to 75.8% of the respondents, the defensive driving course content was adequate. This means that it is not necessary to include any additional topics in order to improve the course.

4.3.2 Minor findings

The minor findings of this study are given below. These results are also important because they assist the reader in deciding or determining whether or not defensive driving can be used as a preventative strategy for road traffic violations and collisions in Zimbabwe. In fact, the minor findings buttress the major findings.

4.3.2.1 This study reveals that the most common traffic violation before doing DDC was exceeding the speed limit by 10k/h or more. However, after DDC, the majority of the respondents consisting of 62.1% said they never exceeded the speed limit.

In fact, according to the results of the study, the majority of the respondents said that they were never involved in any form of traffic violation after DDC.

- 4.3.2.2** The results of this study indicate that DDC graduates reduced their traffic violations on all types of roads in both urban and rural areas.
- 4.3.2.3** The majority of the respondents said that there was a phenomenal drop in the cautions, fines or arrests which were made by traffic officials on all types of roads whether it was in rural areas or urban areas after DDC.
- 4.3.2.4** The study shows that the most common type of collision before DDC was the motorcar – fixed object collision. However, after DDC 92.6% of the respondents indicated that they were never involved in this type or any other type of collision.
- 4.3.2.5** According to the majority of the respondents DDC reduced markedly all types of collisions on any type of road during daytime and night-time.
- 4.3.2.6** The majority of the respondents consisting of 97.9% said the eight DDC films shown during the course were very helpful.
- 4.3.2.7** Most of the respondents consisting of 76.8% said that the course duration of four days was enough.
- 4.3.2.8** The majority of the respondents consisting of 75.8% were of the opinion that the period of 70 minutes that is allotted to one DDC session is enough.
- 4.3.2.9** According to 95.8% of the respondents the presentation of the course by the TSCZ officers was effective.
- 4.3.2.10** The majority of the respondents consisting of 94.7% said that their driving performance after DDC was much better than before DDC. This opinion is

supported by literature study.

4.3.2.11 Most of the respondents consisting of 94.7% are of the opinion that DDC is cost-effective to their employers. Literature study confirms this view.

4.3.2.12 All the respondents rated the 8 special topics that are covered in the defensive driving course as very useful.

4.3.2.13 All the respondents said that they had no problems in understanding the defensive driving course.

4.3.2.14. The majority of the respondents consisting of 96.8% said that the defensive driving course must be compulsory in Zimbabwe.

4.4. CONCLUSIONS DRAWN FROM THE FINDINGS

The purpose of the present study was to assess the effectiveness of defensive driving as a preventative strategy for road traffic violations and collisions in Zimbabwe. The results of the study reveal that DDC graduates of transport companies have fewer traffic violations and collisions than other drivers do. Therefore, the findings of the study give overwhelming support for the efficiency of DDC as a driver improvement programme. As shown by the study results, DDC is effective in reducing traffic violations and collisions. Against this background, the researcher can safely conclude that defensive driving can be used as a strategy for road traffic violations and collisions in Zimbabwe. With regard to the hypothesis of the study, namely "DDC graduates have fewer road traffic violations and collisions than other drivers do" a very strong support was realised. In other words, the hypothesis was established by the research.

4.5. RECOMMENDATIONS

The recommendations the researcher is going to make will be based on the findings of this study. From the statistics given in Chapter one, it is evident that road traffic collisions are very costly to Zimbabwe. Therefore, in order to “reduce the toll of deaths, human suffering and economic loss due to traffic accidents” (TSCZ 1979: DDC manual – session 1), the authorities must take a drastic stance in respect of driver re-education since the majority of these traffic collisions are caused by human error. To that end, the researcher makes the following recommendations:

- 4.5.1 As expressed by the majority of the respondents in this study, training in defensive driving must be compulsory. It must be a legal requirement that every motorist should attend the defensive driving course.
- 4.5.2. According to the TSCZ (1979: DDC manual – session 5), about 30% of all traffic accidents happen at intersections and about 40% of all urban collisions occur there. Zaal (1994:54) says that by their very nature, intersections provide potential points of conflict within the road traffic network. According to estimates, intersection traffic collisions are one of the most common type of road traffic accidents.

Intersection collisions may be attributed to the fact that in Zimbabwe there are four types of crossroads, namely uncontrolled intersections, intersections controlled by give way signs, intersections controlled by stop signs and intersections controlled by traffic lights. Apparently, crossroads controlled by traffic lights and those controlled by stop signs give drivers clear instructions. But uncontrolled intersections and intersections controlled by give way signs are a problem because they give drivers too much room to give interpretations and make decisions they think are correct. Sometimes drivers give wrong interpretations and make incorrect decisions resulting in crashes. For this reason

the TSCZ should advise the authorities to do away with uncontrolled crossroads and crossroads controlled by give way signs and replace them with four-way stops as is the case in South Africa. Further to that, since railroad crossings are also intersections, they should be controlled by stop signs too.

4.5.3 As much as 18.9% of the respondents felt that basic training in first aid should be included in DDC. This writer is of the opinion that 18.9% can be representative of the driving population in Zimbabwe. Therefore a topic in first aid should be included in DDC. The TSCZ (1979:DDC manual – session 4) alludes to this idea by advising that in the event of an accident where injuries have been sustained, first aid should be rendered to the injured in order to restore breathing, stop bleeding, treat for shock and prevent the mishandling of the accident victims before the ambulance arrives.

4.5.4 From the statistics given above, Zimbabwe has an extensive road traffic safety problem. For example, 40 316 accidents were reported in the year 2000 in which 1 433 persons were killed and 18 105 persons were injured. Therefore the TSCZ should start conducting epidemiological research on road accidents (WHO 1984:28) without delay. Further to that, WHO (1984:7) points out that there is a clear and important role for applied research to guide, monitor and assess road safety policies.

4.6 SUMMARY

This chapter presented a summary of the study problem and the methodology, a summary of the research results, conclusions drawn from the findings and recommendations.

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APPENDICES**Appendix A**

Traffic Safety Council
P O Box 492
GWERU

1 March 2001

TO WHOM IT MAY CONCERN

Dear Sir/Madam

Questionnaire for drivers

Please be advised that the questionnaire attached is intended for motorists in your company. Its purpose is to solicit data on the defensive driving course.

This writer is currently carrying out a research study which aims at assessing the effectiveness of defensive driving as a means to prevent road traffic violations and collisions in Zimbabwe.

The success of the study will be two-fold:

1. It is a fulfilment of the requirements for the writer's Master of Arts degree in Criminology at the University of South Africa; and
2. It will provide useful information for use in evaluating defensive driving as a strategy for road traffic violations and collisions in Zimbabwe. In other words, can defensive driving be used in preventing road traffic violations and collisions in particular and promoting road traffic safety in general?

With respect, your permission is requested in order to allow any twenty motorists in your company to participate in this study. Please, be assumed that data collected will be treated as strictly confidential; and the results of the study will be communicated to those interested in them.

The writer is most grateful for any assistance you are able to offer in this regard.

Yours faithfully

DANAI GURUVA

APPENDIX B

QUESTIONNAIRE

CONFIDENTIAL

Questionnaire for drivers on defensive driving as a preventative strategy for road traffic violations and collisions.

Hello, motorist. This researcher is carrying out a survey on DEFENSIVE DRIVING AS A PREVENTATIVE STRATEGY FOR ROAD TRAFFIC VIOLATIONS AND COLLISIONS. Your co-operation in answering ALL the questions below will be greatly appreciated. All the information provided by you would be treated as strictly confidential. For that reason, your name should not appear on the questionnaire. The information you provide will be used purely for scientific purposes. If you are interested in the findings of this study, they will be communicated to you.

SECTION A

Respondent details

Please, tick your answer in the appropriate box or give the answer in the space provided.

1. What is your age?

16 – 25 years	26 - 40 years	41 – 60 years	61 + years
1	2	3	4

2. Gender

Male	Female
1	2

3. In which residential area of your town do you live?

High density area	Low density area
1	2

4. Highest educational qualification.

Primary school	1
Secondary school	2
College/University	3

5. When did you obtain your driver's licence? 19.....

6. How often do you drive a vehicle?

Daily (4 or more times per week)	1
A few times per week (1-3 times)	2
A few times per month (1-3 times)	3
Very seldom	4

7. Do you own a motor vehicle?

Yes	1
No	2

8. In what capacity are you employed by your company?

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9. On what basis does your management expect you to do the defensive driving course?

Compulsory	1
Voluntary	2

SECTION B

Data on the defensive driving course

Please, tick your answer in the appropriate box or give the answer in the space provided.

Part 1: Committing traffic violations before and after doing the defensive driving course.

10. How often did you commit the following types of traffic violations as a habit in 1998 before doing the defensive driving course?

Type of traffic violation	Many times 1	Sometimes 2	Seldom 3	Never 4
Failing to signal turns				
Exceeding speed limit by 10k/h or more				
Overtaking where it is prohibited				
Turning in front of oncoming traffic				
Driving an unroadworthy vehicle				
Driving through a red traffic light				
Driving under the influence of alcohol or drugs				
Failing to obey a stop sign				
Failing to obey a give way sign				
Failing to park correctly				

11. How often did you commit the following types of traffic violations as a habit in the year 2000, after completing the defensive driving course?

Types of traffic violation	Many times 1	Sometimes 2	Seldom 3	Never 4
Failing to signal turns				
Exceeding speed limit by 10k/h or more				
Overtaking where it is prohibited				
Turning in front of oncoming traffic				
Driving an unroadworthy vehicle				
Driving through a red traffic light				
Driving under the influence of alcohol or drugs				
Failing to obey a stop sign				
Failing to obey a give way sign				
Failing to park correctly				

12. How often were you warned, fined or arrested by the traffic police or traffic officials for committing the following types of traffic violations in 1998 before doing the defensive driving course?

Types of traffic violation	Many times 1	Sometimes 2	Seldom 3	Never 4
Failing to signal turns				
Exceeding speed limit by 10k/h or more				
Overtaking where it is prohibited				
Turning in front of oncoming traffic				
Driving an un-roadworthy vehicle				
Driving through a red traffic light				
Driving under the influence of alcohol or drugs				
Failing to obey a stop sign				
Failing to obey a give way sign				
Failing to park correctly				

13. How often were you warned, fined or arrested by the traffic police or traffic officials for committing the following types of traffic violations in the year 2000, after completing the defensive driving course?

Types of traffic violation	Many times 1	Sometimes 2	Seldom 3	Never 4
Failing to signal turns				
Exceeding speed limit by 10k/h or more				
Overtaking where it is prohibited				
Turning in front of oncoming traffic				
Driving an unroadworthy vehicle				
Driving through a red traffic light				
Driving under the influence of alcohol or drugs				
Failing to obey a stop sign				
Failing to obey a give way sign				
Failing to park correctly				

14. How often did you commit traffic violations as a habit in 1998, before doing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

15. How often did you commit traffic violations as a habit in the year 2000, after completing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

16. How often were you warned, fined or arrested by the traffic police or traffic officials for violating traffic rules in 1998, before doing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

17. How often were you warned, fined or arrested by the traffic police or traffic officials for violating traffic rules in the year 2000, after completing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

Part 2: Involvement in traffic collisions before and after doing the defensive driving course

18. How often were you involved in the following types of traffic collisions in 1998 before doing the defensive driving course?

Type of traffic collision	Many times 1	Sometimes 2	Seldom 3	Never 4
Motorcar – pedestrian				
Motorcar – animal				
Motorcar – bicycle				
Motorcar – fixed object				
Reversing				
Intersection				
Run-off-the-road				
Side swipe (same direction)				
Side swipe (opposite direction)				
Head-on				

19. How often were you involved in the following types of traffic collisions in the year 2000, after completing the defensive driving course?

Type of traffic collision	Many times 1	Sometimes 2	Seldom 3	Never 4
Motorcar pedestrian				
Motorcar animal				
Motorcar bicycle				
Motorcar fixed object				
Reversing				
Intersection				
Run-off-the-road				
Side swipe (same direction)				
Side swipe (opposite direction)				
Head-on				

20. How often were you involved in traffic collisions in 1998, before doing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

21. How often were you involved in traffic collisions in the year 2000, after completing the defensive driving course, in the following places, situations or circumstances?

Place, situation or circumstance	Many times 1	Sometimes 2	Seldom 3	Never 4
Urban area				
Rural area				
Gravel road				
Tarmac road				
Daytime				
Night-time				

Part 3: Assessment of the defensive driving course

22. Did you have any problems in understanding the defensive driving course?

Yes	1	No	2
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If yes, what was the problem?

23. Assess the usefulness of the following topics that are dealt with in the defensive driving course.

Session	Topic	Very useful 1	Fairly useful 2	Not useful
1	Perfect trip errors			
2	How to avoid a collision with the vehicle ahead (same direction)			
3	How to avoid a collision with the vehicle behind (same direction)			
4	How to avoid a collision with an oncoming			

	vehicle			
5	How to avoid a collision with a vehicle at an intersection			
6	The art of passing and being passed			
7	The mystery crash – the single vehicle crash			
8	How to avoid other common types of collisions			

24. How do you describe the defensive driving course content?

Inadequate	Fairly adequate	Adequate
1	2	3

25. Indicate any additional topics you would like to be included in the course.

26. Were the eight defensive driving course films helpful?

Yes	1	No	2
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If no, why?

27. Is the period of four days in which the course is taught sufficient?

Yes	1	No	2
-----	---	----	---

If no, what should the period be?

Longer	1	Shorter	2
--------	---	---------	---

28. Is the time of seventy minutes in which a defensive driving course session is presented enough?

Yes	1	No	2
-----	---	----	---

If no, what should the time be?

Longer	1	Shorter	2
--------	---	---------	---

29. Was the presentation of the course by the Traffic Safety Council of Zimbabwe officers effective?

Yes	1	No	2
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If no, why do you say so?

30. After completing the defensive driving course, how much of the following benefits did you gain?

Benefits	Tremendous 1	Fair 2	None 3
Knowledge			
Skills			
Attitude			

31. As a defensive driving course graduate, how do you rate your present driving performance against your driving performance before the course?

The same	A bit better	Much better
1	2	3

32. Is the defensive driving course effective in training drivers to prevent traffic violations?

Yes	1	No	2
-----	---	----	---

If no, why?

33. Is the course effective in training drivers to prevent traffic collisions?

Yes	1	No	2
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If no, why do you say so?

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34. According to your experience, is the defensive driving course cost-effective to your employer/company?

Yes	1	No	2
-----	---	----	---

If no, why not?

35. Would you recommend that every motorist in Zimbabwe should undergo training in defensive driving?

Yes	1	No	2
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If no, why?

Thanks for your time and effort!

APPENDIX C

MAP OF ZIMBABWE SHOWING THE TOWNS WHERE THE RESEARCH WAS CARRIED OUT.

