

FATAL ROAD CRASHES, CONTRIBUTORY FACTORS AND THE LEVEL OF LAWLESSNESS

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ABSTRACT

In order to combat the occurrence of road traffic accidents and to plan and undertake road traffic safety programmes and projects, three main sources of information are required, namely **road traffic accident, contributory factors** to accidents and **road traffic offence survey** statistics.

Accident statistics provide information on the number and types of accidents and resulting fatalities, categories of vehicles involved and days and times that crashes happen; as well as rates and trends in the occurrence of crashes. Contributory factors, which are generally categorised under road user, vehicle, road and the environment, give an indication of the significance and the roles that these factors play in the causing of accidents.

Information obtained from traffic offence surveys is mainly utilised to:

- determine the general level of lawlessness on the road and street network on an annual basis;
- complement and clarify reported contributory factors to road accidents; and
- to measure the effect and impact of road safety and law-enforcement programmes and projects on the level of lawlessness and the occurrence of road accidents.

Traffic offence information includes road user offences such as speed, alcohol, the wearing rate of seatbelts and pedestrians jay-walking. Vehicle contraventions include information of smooth and damaged tyres; faulty lights, etc.

Some of the main reported contributory factors to fatal crashes and results and findings of the 2005 survey are briefly compared and discussed in the paper. Remedial measures to curb the increase in the level of lawlessness and resulting crashes are recommended, together with the setting of objectives and performance targets for certain role players in traffic management.

1. INTRODUCTION

Road traffic crashes are random events or incidents. However, crashes do not just happen – they happen because of certain real contributory factors which are circumstantial elements that are present immediately before and at the time of the crash. These factors are generally classified under four main categories, namely: **road users (drivers and pedestrians), vehicles, the roadway and the environment**. The first three factors reflect human behaviour, which includes traffic authorities, attitudes and performance, while the

fourth factor, the environment, could to a certain extent be regarded as being beyond the control of the driver, the pedestrian or the authorities.

It is very seldom that a crash happens because of only one contributory factor. In most cases there are 2, 3 and even 4 or more factors from any one or more of the above categories present simultaneously. It is further accepted that 90% or more road traffic crashes happen as a direct result of traffic offences or non-compliance with prescribed norms and standards. In this regard the human element plays a major role. For example, should a crash result from a tyre burst, generally classified under *vehicle factors*, it still is the responsibility of the driver or owner of the vehicle to see that the worn or damaged tyre is replaced timeously. It is further the responsibility of the law enforcement agencies to see to it that vehicles with smooth tyres are detected and dealt with appropriately.

Major traffic offences and contraventions that mostly contribute to traffic crashes or the severity of crashes, have been identified and to some extent monitored during the past few years through available information and independent, on-the-road traffic offence surveys. The purpose of this paper is to highlight some of these offences and contraventions as contributory factors and to show their relationship in the occurrence of crashes. Because there was no offence survey undertaken in 2004, the information discussed below is mainly that for 2005 in comparison with 2003.

2. FATAL ROAD TRAFFIC CRASHES AND FATALITIES : 2003 AND 2005

The number of fatal road crashes increased by 1,375 (13,43%) from 10,239 in 2003 to 11,614 in 2005. Over the same period the estimated number of fatalities increased by 1,773 (14,35%) from 12,353 to 14,126 in 2005. The number of fatal crashes and fatalities for the years 2003, 2004 and 2005 are given in Tables 1 and 2 below.

Table 1 : Number of Fatal Crashes per Province										
Year	GA	KZ	WC	EC	FS	MP	NW	LI	NC	RSA
2003	2,284	2,189	1,209	880	729	948	848	879	273	10,239
2004	2,284	2,295	1,239	940	713	963	862	886	289	10,471
2005	2,621	2,461	1,335	1,107	775	1,113	937	986	279	11,614
% Change in the Number of Fatal Crashes										
2003-2004	0.00	4.84	2.48	6.82	-2.19	1.58	1.65	0.80	5.86	2.27
2003-2005	14.75	12.43	10.42	25.80	6.31	17.41	10.50	12.17	2.20	13.43

Table 2 : Estimated Number of Fatalities per Province										
Year	GA	KZ	WC	EC	FS	MP	NW	LI	NC	RSA
2003	2,608	2,597	1,455	1,139	954	1,144	1,037	1,066	353	12,353
2004	2,564	2,678	1,422	1,247	941	1,321	1,053	1,065	345	12,636
2005	2,922	2,899	1,584	1,362	1,014	1,485	1,157	1,349	354	14,126
% Change in the Number of Fatalities										
2003-2004	-1.69	3.12	-2.27	9.48	-1.36	15.47	1.54	-0.09	-2.27	2.29
2003-2005	12.04	11.63	8.87	19.58	6.29	29.81	11.57	26.55	0.28	14.35

In 2003 pedestrian fatalities represented 43,08% of all fatalities; 42,24% in 2004 which further decreased to 41,67% in 2005.

3. REPORTED CONTRIBUTORY FACTORS TO FATAL CRASHES

The contributory factors to fatal crashes reported by the SAPS for 2003 and 2005, as percentages of each specific category and of the total, are given in Table 3 below.

Table 3 : Contributory Factors to Fatal Crashes	% of Category		% of Total	
Factor Category	2003	2005	2003	2005
Pedestrian and Driver (road user) Factors				
Jay walking - pedestrians	54.89	55.13	48.43	48.81
High / inappropriate Speed	27.71	28.90	24.46	25.58
Turned in front of oncoming traffic	4.59	3.06	4.05	2.71
Unsafe / unlawful Overtaking	4.26	3.97	3.76	3.51
Intoxicated Driver	2.71	2.42	2.40	2.14
Intoxicated Pedestrian	0.99	1.24	0.88	1.10
Ignore Traffic signal / Stop sign	2.24	2.49	1.97	2.20
Fatigue - driver fell asleep	1.83	1.88	1.61	1.66
Unsafe following distance	0.77	0.92	0.68	0.82
Total	100.00	100.00	88.24	88.53
Vehicle Factors				
Tyre burst	63.88	56.71	3.31	2.73
Smooth tyres	1.81	4.11	0.09	0.20
Faulty brakes	18.28	24.38	0.95	1.17
Faulty lights	7.90	4.11	0.41	0.20
Faulty steering	0.23	1.92	0.01	0.09
Vehicle overloading	7.90	8.77	0.41	0.42
Total	100.00	100.00	5.18	4.82
Road & Environment Factors				
Poor visibility	21.14	16.27	1.39	1.08
Poor street lighting	15.63	8.13	1.03	0.54
Poor road condition	9.77	15.48	0.64	1.03
Slippery road	9.24	14.68	0.61	0.98
Narrow road lane	4.62	3.77	0.30	0.25
Sharp bends / curves	26.29	23.41	1.73	1.56
Blind rise / Corner	6.04	4.96	0.40	0.33
Poor road signs	1.07	3.37	0.07	0.22
Road works	2.49	2.78	0.16	0.18
Stray Animals	3.73	7.14	0.25	0.48
Total	100.00	100.00	6.58	6.65

The above information for 2005, amongst others, shows that under road user factors pedestrians jay-walking (55,13%) and high or inappropriate speed (28,90%) played a major role in the occurrence of fatal crashes. The most prominent vehicle factors are : tyre bursts (56,71%) and faulty brakes. Mostly reported road and environmental factors include: sharp bends (23,41%), which could also be related to speed too high for circumstances or inadequate signs; poor visibility (16,27%); poor road condition (15,48%) and slippery road (14,68%).

4. NATIONAL TRAFFIC INFORMATION SYSTEM (NATIS) : NUMBER OF REGISTERED, UN-ROADWORTHY AND UN-LICENCED VEHICLES

From December 2003 the vehicle population increased by 784,650 (10,92%) from 7,186,537 to 7,971,187 to December 2005. Motorised vehicles increased by 11,08% and towed vehicles by 9,54%. In 2004 the average age of all vehicles was in the order of 10 years.

The number of un-roadworthy and un-licenced vehicles increased by 80,670 (13,85%) from 582,562 (8,11% of the total population) in December 2003 to 663,232 (8,32% of the total population) in 2005. Un-roadworthy vehicles are those of which the owners failed to submit the vehicles for compulsory annual roadworthy tests (including buses, minibuses taxis and freight transport vehicles) or on change of ownership. Un-licenced vehicles are those of which the owners failed to renew the vehicle licences within the time frame allowed. Detail in this regard per vehicle category is given in the Table 4 below.

Table 4 : Number of Un-Roadworthy & Un-Licensed Vehicles	Number registered Dec 2003	Number Un-Rdw & Un-Lic Dec 2003	% Un-Rdw & Un-Lic Dec 2003	Number registered Dec 2005	Number Un-Rdw & Un-Lic Dec 2005	% Un-Rdw & Un-Lic Dec 2005
Motorised Vehicles						
Motorcars	4,154,593	312,384	7.52	4,574,972	352,358	7.70
Minibuses	241,938	30,003	12.40	256,205	36,349	14.19
Buses	27,221	2,874	10.56	32,308	3,464	10.72
Motorcycles	162,871	26,578	16.32	237,556	47,861	20.15
LDV's - Bakkies	1,406,217	99,713	7.09	1,564,437	107,071	6.84
Trucks	231,302	29,471	12.74	259,651	33,607	12.94
Other & Unknown	193,342	16,456	8.51	203,662	14,425	7.08
Total Motorised	6,417,484	517,479	8.06	7,128,791	595,135	8.35
Towed Vehicles						
Caravans	107,371	8,960	8.34	107,804	8,972	8.32
Heavy Trailers	105,579	11,463	10.86	115,415	12,573	10.89
Light Trailers	535,943	41,775	7.79	599,958	44,193	7.37
Unknown	20,160	2,885	14.31	19,220	2,359	12.27
Total Towed	769,053	65,083	8.46	842,397	68,097	8.08
All Vehicles	7,186,537	582,562	8.11	7,971,187	663,232	8.32

The information above is as contained in the National Traffic Information System (NaTIS) and does not reflect any possible additional fraudulently obtained roadworthy certificates.

5. LEVEL OF LAWLESSNESS – 2005 ROAD TRAFFIC OFFENCE SURVEY

In order to determine the level of lawlessness on the road, annual road traffic offence surveys are undertaken (with the exception of 2004). Since 2002 the survey was standardised so as to be comparable, as far as possible, on a year on year basis. The 2005 survey was done during the day and at night-time from September to November between Wednesday evenings and Monday afternoons to cover weekends. A total of 98,239 vehicles were involved, including 68,768 for speed and 13,084 at roadblocks for roadworthy checks. A total of 16,387 drivers were tested for alcohol of which 71,40% were drivers of light motor vehicles (motorcars and LDV's); 12,48% minibus taxis; 1,98% buses and 14,14% trucks.

The traffic offences that were surveyed and briefly discussed below included, amongst others, the following:

Pedestrians Jay-walking

Driver related offences:

- Exceeding the speed limit in urban and rural areas;
- Driving while exceeding the legal alcohol limit;
- Illegal overtaking across barrier lines;
- Ignoring red traffic signals; and
- The wearing rate of seatbelts, which influence the severity of casualties.

Vehicle related offences:

- Worn and/or smooth tyres; and
- Faulty head and rear lights.

5.1 Pedestrian and Driver Offences

5.1.1 Pedestrians Jay-Walking

The average number of pedestrians jay-walking per hour increased by 657 (198,49%) from 331 in 2003 to 988 per hour in 2005. Surveys were done at locations where pedestrians dangerously crossed the road away from intersections or pedestrian crossings and where the road markings did not provide protective control. Detailed provincial information in this regard for 2003 and 2005 is given in Table 5 below.

Table 5 : Pedestrians Jay-walking : Average per Hour			
Province	2003	2005	% Change
GA	150	956	537.33
KZ	605	759	25.45
WC	282	1,158	310.64
EC	526	1,390	164.26
FS	323	1,094	238.70
MP	278	826	197.12
NW	274	566	106.57
LI	478	1,573	229.08
NC	181	715	295.03
RSA	331	988	198.49

5.1.2 Speed

Information obtained from traffic monitoring stations on national roads across the country showed that during December 2005 there was a general increase in the number of vehicles exceeding the speed limit of 120km/h on these routes in comparison with December the previous year. The percentage of vehicles exceeding the limit over weekends was generally higher than during the other days of the week (Monday to Thursday). In December 2004 an average of 21,23% of the traffic exceeded the limit during weekdays. In December 2005 this increased to 26,50%. Detailed provincial information in this regard is given in Table 6 below.

Table 6 : % of Traffic Exceeding the Speed Limit : December											
Year	Day	GA	KZ	WC	EC	FS	MP	NW	LI	NC	RSA
2004	Weekday	28.20	2.76	23.70	17.90	23.50	24.00	24.30	22.50	24.20	21.23
	Weekend	29.10	4.56	26.20	18.60	27.60	29.90	26.70	27.30	26.60	24.06
2005	Weekday	27.30	3.59	24.00	24.90	31.00	27.50	24.00	24.60	25.10	26.50
	Weekend	29.90	6.73	27.20	32.20	29.60	35.30	28.20	28.10	28.20	30.68

The 2005 offence survey showed that, during daytime the percentage of light motor vehicles exceeding the speed limit of 60km/h on roads and streets in urban areas decreased from 61,0% in 2003 to 37,7% in 2005. The night-time percentage in 2005 was in the order of 30,4%. During daytime the percentage of light motor vehicles exceeding the speed limit of 120km/h on major rural roads increased marginally from 27,0% in 2003 to 28,0% in 2005. The night time percentage in 2005 was in the order of 19,7%.

5.1.3 Intoxicated Drivers

The percentage of drivers of light motor vehicles, driving while exceeding the legal breath alcohol limit of 0,24mg/litre, decreased by more than half, from 1,5% in 2003 to 0,7% during the daytime. The night-time percentage decreased from 5,1% in 2003 to 3,5% in 2005. Detailed provincial information is given in Table 7 below.

Table 7 : % Light Motor Vehicle Drivers >Alcohol Limit				
Province	Day (06:00-16:00)		Night (18:00-24:00)	
	2003	2005	2003	2005
GA	1.0	1.1	2.7	4.8
KZ	0.3	0.4	4.5	3.0
WC	2.8	1.0	8.1	2.2
EC	2.2	0.7	2.5	1.0
FS	0.4	0.7	4.4	3.0
MP	2.4	0.0	13.4	5.2
NW	3.0	0.3	2.9	3.0
LI	2.7	0.0	8.9	2.8
NC	2.0	0.7	4.7	3.1
RSA	1.5	0.7	5.1	3.5

The national weighted* average percentage of drivers of minibus taxis, buses and trucks driving while exceeding the legal alcohol limit of 0,1mg/litre during the day and night in 2003 was 1,7%. The 2005 survey results for drivers of these vehicle categories are summarised in Table 8 below. (*based on distance travelled per type of vehicle).

Table 8 : 2005 - % Drivers Exceeding the Legal Alcohol Limit						
Province	Minibus Taxis		Buses		Trucks	
	Day	Night	Day	Night	Day	Night
GA	2.2	9.1	8.4	11.1	1.8	1.6
KZ	2.8	1.6	0.0	0.0	0.8	1.0
WC	0.7	6.4	0.0	0.0	1.7	0.0
EC	2.1	8.8	0.0	0.0	0.6	2.4
FS	2.5	4.8	6.3	0.0	0.0	1.3
MP	2.3	9.8	0.0	0.0	0.0	1.6
NW	0.5	3.3	0.0	0.0	0.7	1.8
LI	2.4	4.0	0.0	0.0	0.0	3.6
NC	7.6	7.1	4.6	0.0	1.7	3.6
RSA	2.1	6.6	3.4	3.9	1.1	1.5

The information above shows an increase in the drinking and driving rate of drivers of minibus taxis to 2,1% during the day and 6,6% during the night and bus drivers to 3,4% during the day and 3,9% at night. The rate of truck drivers decreased slightly to 1,1 during the day and 1,5% during the night.

5.1.4 Overtaking Offences

Barrier line offences on rural roads decreased by 76,8%. In this regard the average of 3,3 offences per hour in 2003 reduced to an average of 0,8 offences per hour in 2005. Provincial detail is given in Table 9 below.

Table 9 : Drivers Ignoring Barrier Lines			
Province	Av. no of Offences per Hour		
	2003	2005	% Change
GA	1.6	0.0	-100.00
KZ	2.1	0.2	-91.12
WC	4.3	0.4	-91.84
EC	4.5	0.9	-80.89
FS	2.4	0.0	-100.00
MP	9.5	6.2	-34.57
NW	5.7	0.6	-90.09
LI	1.2	2.0	63.71
NC	2.6	0.0	-100.00
RSA	3.3	0.8	-76.76

5.1.5 Red Traffic Signal Offences

Information in Table 10 below shows that the percentage of drivers ignoring red traffic signals in urban areas reduced by 74,8%, from an average of 1,4 offences per phase in 2003 to an average of 0,3 offences per phase in 2005.

Table 10 : Drivers Ignoring Red Traffic Signals			
Province	Av. no of Offences per Phase		
	2003	2005	% Change
GA	1.2	0.3	-73.33
KZ	1.2	0.2	-80.83
WC	1.9	0.4	-79.47
EC	1.6	0.4	-73.13
FS	0.7	0.2	-67.14
MP	1.8	0.5	-75.00
NW	1.3	0.4	-68.46
LI	0.9	0.4	-51.11
NC	1.5	0.2	-86.67
RSA	1.4	0.3	-74.81

5.1.6 Seatbelt Wearing Rates

With regard to the non-wearing rate of seatbelts (at road blocks): drivers not wearing seatbelts increased slightly from 16,2% in 2003 to 17,2% in 2005. The percentage of front seat passengers not wearing seatbelts decreased from 37,5% in 2003 to 35,7% in 2005. An extremely high percentage of backseat passengers, more than 90%, do not wear seatbelts. Detailed information on the non-wearing of seatbelts is given in Table 11 below.

Table 11 : % Vehicle Occupants Not Wearing Seatbelts (At roadblocks)						
Province	Drivers		Front Passengers		Back Passengers	
	2003	2005	2003	2005	2003	2005
GA	17.3	15.9	39.2	32.2	98.4	99.0
KZ	16.4	15.9	40.8	34.2	93.3	97.0
WC	17.2	18.1	33.2	31.1	78.4	95.8
EC	16.3	24.1	36.1	45.1	91.2	99.5
FS	18.8	18.3	36.4	30.2	88.5	99.1
MP	11.2	17.7	36.6	60.6	92.6	97.1
NW	12.1	18.2	31.9	39.4	93.8	90.7
LI	17.4	13.4	42.1	29.9	90.3	93.0
NC	13.1	21.5	31.9	31.0	89.0	99.6
RSA	16.2	17.2	37.5	35.7	92.0	97.3

5.2 Vehicle Contraventions

5.2.1 Smooth and Damaged Tyres

Information given in Table 12 below shows that there was a significant increase in the percentage of vehicles on the road with smooth or damaged tyres. The percentage of light motor vehicles increased from 9,0% to 16,0%; minibus taxis increased from 11,0% to 25,0%; buses from 5,0% to 17,0% and trucks from 20,0% in 2003 to 29,0% in 2005.

Table 12 : % Motor Vehicles with at least 1 Smooth or Damaged Tyre								
Province	Light Motor Vehicles		Minibus Taxis		Buses		Trucks	
	2003	2005	2003	2005	2003	2005	2003	2005
GA	8.0	14.0	11.0	23.0	2.0	19.0	21.0	27.0
KZ	7.0	20.0	9.0	24.0	7.0	22.0	23.0	32.0
WC	9.0	19.0	10.0	29.0	7.0	12.0	25.0	31.0
EC	13.0	17.0	8.0	23.0	5.0	18.0	19.0	27.0
FS	9.0	15.0	14.0	27.0	5.0	20.0	13.0	30.0
MP	6.0	9.0	14.0	20.0	7.0	3.0	18.0	22.0
NW	11.0	15.0	11.0	28.0	5.0	13.0	17.0	38.0
LI	9.0	16.0	13.0	27.0	5.0	30.0	19.0	27.0
NC	11.0	18.0	14.0	27.0	10.0	18.0	0.0	37.0
RSA	9.0	16.0	11.0	25.0	5.0	17.0	20.0	29.0

5.2.2 Faulty Vehicle Lights

The information in Table 13 below reflects the percentage of vehicles per category with faulty headlights, in which case at least one main beam in the dipped position is not functioning.

Table 13 : % Vehicles with Faulty Front Lights : Main Beam Dipped								
Province	Light Motor Vehicles		Minibus Taxis		Buses		Trucks	
	2003	2005	2003	2005	2003	2005	2003	2005
GA	2.2	5.3	5.0	8.2	3.1	2.7	2.4	8.2
KZ	0.7	5.4	5.9	5.0	0.0	3.7	1.1	5.0
WC	1.6	5.3	4.7	10.5	0.0	10.3	1.5	10.5
EC	2.0	6.6	3.3	8.9	0.0	2.6	2.4	8.9
FS	3.1	6.7	4.5	14.9	0.0	12.8	1.1	14.9
MP	3.2	1.9	3.4	3.5	2.4	3.0	3.5	3.5
NW	4.4	7.0	11.0	12.4	3.1	3.3	4.3	12.4
LI	2.8	9.0	6.3	12.7	0.0	11.6	2.8	12.7
NC	3.1	5.7	4.8	11.9	1.7	7.9	3.8	11.9
RSA	2.1	6.0	5.3	9.0	1.4	5.0	2.2	9.0

The information in Table 13 above indicates, amongst others, an increase from 2,1% to 6,0% in light motor vehicles with faulty head lights. The percentage trucks in this regard increased from 2,2% in 2003 to 9,0% in 2005.

Information given in Table 14 below shows the percentage of vehicles recorded with at least one or more tail lights not functioning. The percentage of light motor vehicles increased from 2,0% in 2003 to 3,0 % in 2005. The other categories of vehicles either remained at the same percentage or show slight decreases.

Table 14 : % Vehicles with Faulty Rear Lights : Tail Light								
Province	Light Motor Vehicles		Minibus Taxis		Buses		Trucks	
	2003	2005	2003	2005	2003	2005	2003	2005
GA	0.8	1.7	3.1	2.7	3.1	0.0	3.1	2.7
KZ	2.2	1.5	1.9	1.7	1.3	0.0	5.2	1.7
WC	2.5	3.0	5.1	8.6	1.7	3.5	5.5	8.6
EC	1.9	2.9	3.6	4.3	3.2	2.6	5.9	4.3
FS	1.9	5.0	6.8	5.2	3.0	4.7	5.2	5.2
MP	3.7	2.1	2.9	0.7	3.6	0.0	4.3	0.7
NW	4.0	4.8	10.0	6.5	1.5	0.0	3.7	6.5
LI	2.3	7.2	3.2	10.6	3.7	10.1	4.1	10.6
NC	3.8	3.2	7.4	4.2	1.7	10.5	4.3	4.2
RSA	2.0	3.0	4.0	4.0	2.5	2.0	4.4	4.0

Table 15 below reflects the percentage of vehicles with faulty rear flicker lights which shows a general increase from 2003 to 2005. Light motor vehicle increased from 2,1% to 4,0% and buses increased from 1,7% to 7,0%.

Table 15 : % Vehicles with Faulty Rear Lights : Flicker Light								
Province	Light Motor Vehicles		Minibus Taxis		Buses		Trucks	
	2003	2005	2003	2005	2003	2005	2003	2005
GA	1.9	2.9	3.6	5.0	1.6	10.8	2.4	5.0
KZ	1.6	1.5	3.5	3.0	1.3	7.7	2.5	3.0
WC	2.0	7.5	4.7	9.0	0.0	1.7	1.8	9.0
EC	2.5	4.9	6.0	6.4	4.8	5.1	6.2	6.4
FS	1.9	5.9	5.4	9.5	3.0	4.7	4.4	9.5
MP	3.5	1.7	4.5	1.4	0.0	0.0	2.7	1.4
NW	1.9	4.6	4.7	7.4	0.0	6.7	2.8	7.4
LI	2.7	6.1	5.3	9.6	4.9	5.8	3.1	9.6
NC	2.6	4.5	6.7	10.5	1.7	0.0	3.8	10.5
RSA	2.1	4.0	4.4	6.0	1.7	7.0	2.9	6.0

5.2.3 Number of Vehicles with Defects

Based on the above percentages of vehicles with faulty lights and smooth or damaged tyres, the number of vehicles with defects in this regard that daily travel on the street and road network, is given in Table 16 below.

Table 16 : Number of Vehicles with Defects						
Vehicle category	Tyre Defects			Faulty Front Lights		
	2003	2005	% change	2003	2005	% change
Light motor vehicles	515,131	1,020,314	98.07	120,197	382,618	218.32
Minibus taxis	26,613	64,051	140.67	12,823	23,058	79.83
Buses	1,361	5,492	303.54	381	1,615	323.88
Trucks	67,376	108,769	61.44	7,411	33,756	355.46
Total	610,482	1,198,627	96.34	140,812	441,048	213.22

The information above reflects a generally unacceptable high number of vehicles with some of the most critical vehicle safety elements being defect. What is of even greater concern, is the high increases in this regard over the past 2 years – which clearly reflects the inability of the authorities to curb the continuously deteriorating situation.

6. DISCUSSION

The information from the various sources given above, compliment and support each other and shows a general breakdown in the level of law compliance amongst the road using public.

The percentage of vehicles exceeding the speed limit is unacceptable. The effect and possible consequences of high speeds are worsened by the general poor roadworthy status of a large number of vehicles on the road. During intensive research undertaken by the CSIR in South Africa from the mid 1970's to the mid 1980's, it was found that the lowering of speed limits (resulting in lower operating speeds on the rural road network) had an *overwhelming* effect on the occurrence of road accidents. A reduction in the speed limit from 120 km/h to 80 km/h during this period resulted in a decrease in the casualty crash rate (number of casualty crashes per million vehicle kilometres travel) from about 0,59 to about 0,44. It was also found that a decrease of 1 km/h in the mean or average vehicle speed in rural areas resulted in a decrease of 9 fatal accidents and 120 total accidents per month. It should be noted that during this period there were also very high levels of self-discipline and self-regulation present amongst South African road users, accompanied by a high level of law enforcement.

It is generally accepted in basically all countries, including South Africa, that not more than about 15% of the traffic should exceed the limit and that this 15% should be subject to effective enforcement and prosecution. The current situation in this regard by far exceeds this requirement.

Excessive and inappropriate speeds, in combination with intoxicated drivers, also affect the safety of the high number of pedestrians jay-walking (some also intoxicated) and which is reflected in the high number of pedestrian deaths.

In some overseas countries it is an issue of major concern if the percentage of intoxicated drivers exceed 0,5%, with 0,2% seen as a possible reasonable acceptable limit. The current South African driving and drinking rate exceeds these expectations by about 20 to 30 times.

Although there might have been slight improvements with regard to certain offences, like overtaking across barrier lines and jumping red traffic signals, one such an offence is one too many. A culture of overall compliance and improved road user behaviour should be engendered.

Future road safety strategies should steer away from setting targets such as reducing the number of crashes and fatalities. There is nothing the authorities can do to prevent a crash – this is a matter for the driver of a vehicle to manage. Strategic targets should rather be aimed at reducing the level of lawlessness or, positively: to improve the level of law compliance. Such targets could include, amongst others: reduce the percentage of intoxicated drivers to 0,2%; reduce the percentage of un-roadworthy vehicles to 1,0%, etc.

The cost of fatal crashes was estimated at R8,02 billion in 2003; R8,89 billion in 2004 and in the order of R 9,99 billion in 2005. The estimated cost of fatal crashes during December 2005 alone was about R1,02 billion, a large portion of which is directly paid for by law compliant as well as lawless road users themselves in fuel levies to the Road Accident Fund (RAF). It is therefore time that road users themselves start to make a contribution towards road safety through improved, courteous and more law compliant behaviour.

7. CONCLUSION

The ever-growing number of road traffic crashes and related deaths demonstrate that the current systems for combating traffic offences are inadequate. Given the fact that no less than 14,126 people died on our roads during 2005 (almost 39 per day), road safety clearly should be a national priority. The level of “un-safety” is directly related to the degree of lawlessness on the roads, which is too high and can no longer be tolerated. Traffic offences, reckless, negligent, inconsiderate, aggressive, selfish, intimidating and arrogant driver behaviour also encourage road rage to a large extent.

There are many inter-related functional areas involved in the day-to-day management and control of road traffic and safety, some of which have a greater direct effect on the level of law compliance and road safety than others. Some functional areas are also basically rendered useless if it is not fully supported by other functions. For example the effect of road safety communication and radio and TV advertising is almost meaningless if not supported and followed-up by strong and visible law enforcement actions. Law enforcement in turn, becomes meaningless if an efficient and effective adjudication process does not support it.

Traffic law enforcement officers have a key role in encouraging improved road user behaviour. Of all the functional areas involved in traffic management, traffic enforcement could possibly be regarded as the most direct and effective measure to effect and ensure a higher level of law compliance. All types and categories of traffic offences need to be targeted more effectively in order to curb the increase in road crashes.

In addition to improved enforcement, more attention should also be given to improved and more effective and participative road safety education at schools and other training institutions, as well as within communities themselves. This should contribute towards more responsible pedestrian behaviour. However, road authorities should also accept a much more proactive approach in the identification, provision and improvement of adequate and safe pedestrian facilities.

8. RECOMMENDATIONS

In order to improve the level of law compliance the following recommendations are submitted for consideration:

8.1 Traffic law enforcement.

Improved and more visible, driver inter-active law enforcement from 06:00 in the morning to at least 22:00 daily, as well as over weekends (Fridays, Saturdays and Sundays), the time and days when most fatal crashes happen, should be considered as a matter of urgency in order to reverse the current unacceptable road safety situation. In this regard the following specific issues are recommended:

- 8.1.1 An increase in the number of traffic officers at all traffic authorities to keep pace with the increase in the number of vehicles and level of lawlessness, which should also provide for the expected increased demands on this profession during the 2010 World Cup event;
- 8.1.2 Traffic authorities should consider the introduction of dedicated traffic patrol teams to continuously undertake daily interrupted patrols on hazardous routes in particular. The duties of such patrol teams should consist of the following three main categories of functions:

- (a) Road Patrolling, implying travelling with the traffic stream between “traffic stops”, during which attention shall be given to moving violations, stationary and abandoned vehicles, cyclists, pedestrians and animals on the road. Patrol vehicles should be fitted with electronic devices such as number plate recognition systems and cameras to assist officers in the detection and recording of offences;
 - (b) Traffic stops at which vehicles shall be stopped at random during “mini roadblocks” and checked for driver offences (driving licences, alcohol, seatbelts, etc) and vehicle contraventions (tyres, lights, brakes, steering, etc). As a point of departure traffic teams should aim at stopping and checking at least 15 drivers and vehicles on a daily basis, which is an achievable number over an 8-hour shift;
 - (c) Control of Selective Moving Violations at selected, high-priority hazardous locations where, amongst others, illegal and unsafe overtaking, excessive speeds and overloading must be targeted.
- 8.1.3 The draft National Road Traffic Law Enforcement Code (NRTLEC) should be finalized and published as a regulation under the RTMC Act as soon as possible. The Code will, amongst others, provide for the setting of enforcement targets; measuring of performance and achievement of objectives; as well as measures to be taken in case of non-performance.
- 8.1.4 The adjudication process of traffic violations must be improved in order to effect expeditious handling of notices and metering out of penalties. In this regard the implementation of the AARTO Act should be considered as a priority; and
- 8.1.5 A closer working relationship must be forged between law enforcement and road safety communication, advertising and promotion agencies. Road safety promotion material should be developed and utilised in support of enforcement operations.

8.2 Road Safety Education.

Improved and more effective and participative road safety education programmes and projects at schools and other training institutions, as well as within communities themselves, with the view to make them co-owners, must be developed and introduced.

8.3 Hazardous Pedestrian Locations.

Road authorities must adopt a much more proactive approach in the identification of hazardous pedestrian locations on the road and street network. Remedial measures for the provision and improvement of adequate and safe pedestrian facilities, in the form of all-weather sidewalks along certain roads and safe and visible crossings, possibly in combination with street lighting, traffic signals and traffic calming measures, where feasible, should be introduced as a matter of urgency.

9. REFERENCES

- [1] Department of Transport; 2002, 2003 and draft 2005 Road Traffic Offence Reports.
- [2] Road Traffic Management Corporation (RTMC); National Traffic Information System (NaTIS) generated data and reports.
- [3] Road Traffic Management Corporation (RTMC); National Fatal Accident Information Centre (NFAIC) generated reports.
- [4] CSIR , National Institute for Transport and Road Research; The Rural Speed Limit and Traffic Accidents, Technical Report RV/26, January 1987, R Fieldwick and E J H de Beer.