



# Managing Law Enforcement

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## 1. Introduction and Background

The ever-growing number of road traffic crashes and related deaths demonstrate that the current systems for combating traffic offences prove to be inadequate. Given the fact that no less than 12,700 people now die on our roads annually (almost 38 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 and arrogant driver behaviour also encourage road rage to a large extent. Amongst others, one of the main purposes for the establishment of the RTMC is to reduce the daily carnage on our roads.

The objectives of the Arrive Alive road safety campaign, launched on 1 October 1997, were to reduce the number of fatalities by 5% on a year-to-year basis and to effect a substantial decrease in the critical traffic offences that contribute to road crashes. After an initial slight decrease, the number of crashes and resulting fatalities and casualties started increasing again, to such an extent that the current number of all types of crashes per year is now estimated to be in the order of about 879 000, costing the country around R38 billion per annum.

In the order of 95% of crashes happen as a direct result of traffic offences. Traffic offences need to be targeted more effectively in order to curb accidents. Recent studies undertaken by both the Department of Transport and the Medical Research Council show that road traffic lawlessness is on the increase. In the order of 59% of drivers and 61% of pedestrians killed in road crashes were found to be under the influence of alcohol. Illegal and unsafe overtaking across barrier lines and ignoring red traffic signals are on the increase. Excessive speed, speed too high for circumstances and big speed differences between vehicles; as well as aggressive and reckless driver behaviour, aggravate other offences that result in crashes.

The purpose of this paper is to briefly look at the functional areas involved in the management of road traffic, with particular emphasis on law enforcement. The current level of enforcement is addressed and recommendations are made to improve the overall management of the enforcement function to ensure that it plays the prominent role within the overall system as intended.

Recommendations are made for the setting of targets and measuring of performance towards achieving objectives – you can't manage what you can't measure.

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## 2. Summary of fatal crashes, fatalities, rates and cost

The number of fatal crashes during the year 2004, from January to December, increased by 277 (2,70%) from 10,246 in 2003 to 10,523 in 2004, the detail of which is as follows:

- Pedestrian related crashes increased by 0,56% from 5,115 in 2003 to 5,144 in 2004;
- Overtaking related crashes increased by 6,62% from 2,898 in 2003 to 3,090 in 2004;
- The number of fatal crashes resulting from failure to stop or yield increased by 4,52% from 623 crashes in 2003 to 651 crashes in 2004;
- Crashes related to poor visibility and unsafe following distances increased by 9,02% from 771 in 2003 to 840 in 2004;
- Crashes relating to unsafe turning manoeuvres decreased by 9,03% from 293 in 2003 to 267 in 2004;

- According to reports from the South African Police Service (SAPS) to the NFAIC, the number of fatal crashes that occurred due to excessive speeds, increased by 1,093 (46,10%) from 2,370 in 2003 to 3,463 in 2004. In 2003 fatal crashes in which speed played a role were 23,13% of a total of 10,246 fatal crashes. In 2004 fatal crashes in which speed played a role increased to 32,91% of a total of 10,523 fatal crashes; and on the number of fatalities:
- The number of fatalities during the year 2004, from January to December, increased by 361 (2,92%) from 12,348 in 2003 to 12,709 in 2004; and
- The estimated number of fatalities resulting from speed-related fatal crashes increased by 1,326 (46,41%) from 2,857 in 2003 to 4,183 in 2004.
- Fatalities resulting from overtaking related crashes increased from 33,56% in 2003 to 35,70% in 2004;
- Fatalities resulting from poor visibility (including no lights and dirty or poor reflectors on vehicles) and unsafe following distance related crashes increased from 8,34% in 2003 to 8,46% in 2004.

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### 3. Summary of contributory factors to road crashes and fatalities

In the order of 95% of crashes happen as a direct result of a traffic offence. The factors given above are further aggravated by excessive speed and speed too fast for circumstances; drivers driving under the influence of alcohol, unfit vehicles and driving without a valid driving licence or a professional driving permit. Additional factors include general reckless, negligent and aggressive driver behaviour. Some information in this regard is as follows:

- Information provided by the Medical Research Council (MRC) show that 61% of pedestrians and 59% of drivers killed in road crashes were under the influence of alcohol. Information collected by the Department of Transport during annual traffic offence surveys show that on a daily basis, on average between the hours of 18:00 and 21:00, in the order of 6% of drivers are driving under the influence of alcohol.
- On average, 3 vehicles per hour overtake other vehicles illegally across barrier lines. Detailed investigations of about 80 fatal accidents in which 5 or more persons were killed, indicated that the major contributory factor to 30% of these crashes was illegal overtaking;
- In the order of 7% of buses and minibuses are fitted with at least one tyre that is smooth or damaged;
- About 20% of trucks, including trailers, are fitted with at least one smooth or damaged tyre;
- 13% of all vehicles have at least one brake light that is faulty and which contributes to the occurrence of head-rear crashes due to poor visibility.
- In the order of 67% of drivers do not wear seat belts;
- 27% of front seat passengers and 97% of rear seat passengers do not wear seatbelts, contributing to an increase in the severity of crashes. The non-wearing of seatbelts could have contributed to the increase of 10% in passenger deaths from 2003 to 2004 while driver and pedestrian deaths remained almost unchanged. In one province passenger deaths increased by

almost 50% over a period of one year;

- On average the percentage of vehicles exceeding the speed limit increased by 9,6% from 2003 to 2004. On average almost 30% of vehicles (including buses, minibuses and trucks) exceed the speed limit of 120 km/h and 6% drive faster than 140 km/h. In some regions the percentage of vehicles continuously exceeding 120 km/h, is in the order of 50%. During the early evening, between the hours of 18:00 and 21:00 and over weekends, when about 60% to 70% of accidents happen, the percentage of vehicles exceeding the limit is even higher than given above.
- In accordance with SAPS reports on fatal crashes the number of crashes that were contributed to by excessive speed or speed too fast for circumstances increased by 1,093 (46,10%) from 2,370 in 2003 to 3,463 in 2004. In 2003 fatal crashes in which speed played a role were 23,13% of a total of 10,246 fatal crashes. In 2004 fatal crashes in which speed played a role increased to 32,91% of a total of 10,523 fatal crashes.
- On the road surveys showed that in the order of 8% of drivers drive without a driving licence or have licence cards of which the validity expired;
- 16% of drivers driving vehicles that require the driver to have a professional driving permit either cannot produce such permit or produce a permit that expired and was not renewed within the prescribed time;

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#### 4. Number of Registered Vehicles, Un-Roadworthy and Un-Licensed Vehicles and Driving Licences

The number of registered vehicles on the National Traffic Information System (NaTIS) increased by 454,855 (6,14%) from 7,408,033 on 30 September 2004 to 7,862,888 on 30 September 2005. In this regard the following should be noted:

- The number of vehicles that are either un-roadworthy or un-licensed or both, increased by 49,677 (9,74%) from 509,956 vehicles at the end of September 2004 to 559,635 vehicles on 30 September 2005. These vehicles represent 7,12% of the total vehicle population. The estimated outstanding amount due to un-paid vehicle licence fees is in the order of R 67,77 million.
- At the end of September 2005 there were a total of 7,435,556 drivers issued with driving licences. The number of driving licence cards that had expired for 4 months or more were 214,354, representing 2,88% of all driving licences. The estimated outstanding amount due to Driving Licence Cards that were not renewed is in the order of R 28,43 million.
- At the end of September 2005 there were a total of 624,383 drivers issued with Professional Driving Permits (PrDP's). The number of PrDP's that had expired for 4 months or more were 89,065, representing 14,26% of all PrDP's. The estimated outstanding amount due to PrDP's that were not renewed is in the order of R 5,95 million.

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## 5 Functional areas in Road Traffic Management

The perceived impact, direct and indirect abilities of all the various functional areas within the road traffic management environment to effectively combat road traffic offences are schematically shown in the table under Annexure A.

With the exception of road user and driver education, the other functions, although they play a very important and necessary role in the total traffic management system, could be seen as mainly behind the scene traffic management support functions. Of all the functional areas within the traffic management system, some of which even stretch beyond the list above (medical and rescue services, adjudication, etc), it is mainly vigorous and more interactive traffic law enforcement that will make the biggest contribution to curb the increase in traffic offences and effect a turn-around in the number of traffic offences and crashes.

In order to achieve the optimal functionality within the law enforcement environment, adequate, effective and well coordinated management systems need to be in place.

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## 6. Current Level of Law enforcement

During the 2003 Traffic Offence Survey the presence of traffic officers on the road was amongst others also recorded. Traffic officers were observed only 5 times over a total distance of 4,600 kilometres travelled over a period of about 2½ months on the inter-city and inter-provincial road network. In only 3 of the observations were there active law enforcement operations undertaken. The observed traffic law enforcement levels, if any, were far too low for the high level of lawlessness discussed above.

This unacceptably low level of enforcement could be ascribed to two main reasons: the number of traffic officers as well as the level of performance of the current force, each of which are briefly discussed below.

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### 6.1 Number of Traffic and Municipal Officers

A survey on the number of traffic and municipal officers undertaken amongst the provinces at the end of 2004 indicated that there are currently in the order of 9,773 officers. Detail in this regard is given in the table below.

Dec 2004 - Number of Officers per Province

Province	GA	KZ	WC	EC	FS	MPN	WLI	NC	Total
Provincial	430	422	414	272	357	402	468	466	3,291
Metro	2,314	1,198	1,248						4,760
Local	254	123	150	360	188	280	49	241	1,722
Total	2,998	1,743	1,812	632	545	682	517	707	1379,773

With regard to the figures in the table above, it should be recognised that it is mainly only the provincial traffic officials that are responsible for enforcement on the “rural” road network, which includes national roads, as well as all major, minor and tertiary provincial roads. The estimated length of these roads is in the order of about 350,000 kilometres. This information should further be considered in terms of the metropolitan areas where metropolitan officers also attend to general crime prevention and numerous other functions. It is estimated that, at the most, only about one third of these officers is responsible for traffic control and enforcement.

Providing for the fact that, for various reasons traffic officers work together in teams of 2; as well as allowing for the maximum number of working hours per week, public holidays and annual leave, the current “coverage” of the road network by traffic teams in the various provinces are indicated in the table below.

One Traffic Team per ..... km of road per Type of Road –

Rural & Urban Roads (2 shifts per day - 7 days per week)									
Province	G	A	KZ	W	CEC	FS	MPN	W	LI NC Total
Rural roads	1451,033	488	1,435	1,069	467	550	568	5,097	756
Urban roads	50	692	296	898	1,683	555	4,357	910	3,291
Total	78	844	377	1,129	1,281	503	911	685	4,082

The information in the table above indicate that, on average in the Northern Cape one traffic team on Provincial level is responsible for about 5,097 kilometres of rural road; in the Eastern Cape one team is responsible for 1,435 kilometres, etc. Considering the fact that these figures also include supervisory staff (who normally do not do active enforcement) and omit to take cognisance of other duties of officers, for example court attendance, etc, clearly indicate the dire need for more officers to be deployed to ensure more visible and active enforcement.

The minimum number of traffic officers required to provide at least a daily 16-hour service (2 shifts per day) for 7 days per week on only the rural road network was determined. In this process it was accepted that officers work in teams and that each team would consist of 2 officers; and that each team would be responsible for 100 kilometres of road. Provision was made for the maximum number of working hours allowed by legislation; as well as weekends, holidays and annual leave, etc. This rather conservative estimate (which does not take into consideration the percentage (%) time spent on other duties), indicates that, over and above the current 3,291, an additional 5,764 officers are needed to comply with the required level of coverage of only the rural road network, making the total number of provincial officers required

9,055. On a Provincial basis only, the needs are as shown in the table below.

Required No. of Provincial Traffic Officers to comply with

Enforcement needs on the Rural Road Network

Province	GA	KZ	WC	EC	FS	MP	NW	LI	NC	Total
Current No. of Traffic Officers	430	422	414	272	357	402	468	466	60	3,291
Number of Officers required	2,081	1,928	1,074	766	632	829	762	755	228	9,055
Shortfall	1,651	1,506	660	494	275	427	294	289	168	5,764
Needs = At least 2 teams per day - 16 hours per day (8 hours per team) - 7 days per week –										

per 100 km of rural road (Team = 2 officers)

The above theoretical required no. of officers per Province also took into account :

the length of road, number of vehicles and human population density per area;

as well the annual number of fatal crashes per province

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## 6.2 Current Level of Performance

In general, the current level of performance of the available active officers leaves much to be desired.

Information collected from various traffic authorities during the Arrive Alive campaign, Operation Juggernaut and now the Provincial Patrol Car project, indicates that, on average, officers do law enforcement during only 25% of their available time, and that on average only 1,2 notices for traffic offences are issued per officer-hour of enforcement, and this includes speed enforcement by camera. Excluding speed camera enforcement, on average only ONE notice for a traffic violation is issued every 5 to 6 officer-hours. It is also estimated that only 5% of all offences are detected, for which a notice is issued, including speed.

There are currently 866 Card Verification Devices (CVD's) distributed amongst the various Provincial and Local traffic authorities. Information collected on the use of these devices from December 2004 to the end of July 2005 indicates that 30% of the devices were never used to do a NaTIS query on driver and vehicle information. Those that are being used are used on average for only one query per day only.

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## 7. National Road Traffic Law Enforcement Code (NRTLEC)

In his address during the launch of the Arrive Alive Patrol Car project in March 2005, the Minister of Transport stated as follows:

“A further issue that will receive top priority by the RTMC will be the drafting and finalisation of a National Road Traffic Law Enforcement Code. This Code will be published as a regulation in terms of the RTMC Act and will cover each and every aspect of enforcement in detail. Amongst others, much needed requirements with regard to the planning and scheduling of enforcement operations and setting of performance targets and evaluation measures will be provided for.”

The draft Code, which will be circulated in due course for comments, is similar to the “General Operating Policy” of ITMPOSA, which is selectively summarised as follows:

“The best means available to the Traffic Department for the prevention of violations is conspicuous patrol of freeways, streets and public places by uniformed officers in conspicuously marked vehicles.

Enforcement efforts must be concentrated against those violations and in those times and places which give rise to the greatest number of collisions.

Enforcement must be selective to be most effective in decreasing the number of collisions. It must be selective as to time, place and type of traffic violation; it must be directed at the locations of greatest frequency during the hours of the day or night, day of the week, and season of the year of greatest frequency. An adjunct to effective selective traffic law enforcement is the use of quality control traffic law enforcement. “

The Code is far too comprehensive to discuss in such a short space of time. However, a summarised list of the contents of the Code is provided under Annexure B, with a brief selective extract relating to traffic patrols and general enforcement as follows:

The objectives of traffic patrols and enforcement should be to:

- Prevent the occurrence of road traffic offences through preventative patrol;
- Increase the active visibility of traffic enforcement and the level of interrupted patrolling on at least a 16 hour per day, 7 days per week basis on the road and street network;
- Promote enforcement of selected critical traffic offences and contraventions;
- All enforcement actions and operations should be intelligence based;
- Improve personal interaction between traffic officials and the road using public;
- Improve community relations by increasing the quality and quantity of contact between citizens and law enforcement.
- Provide assistance to stranded road users and attend to broken-down and abandoned vehicles;
- Participate in and manage effective incident management systems;
- Respond, attend to, safeguard and investigate road traffic crashes;
- Aid victims of accidents;
- Reduce traffic congestion and accident hazards through systematic enforcement of traffic laws;
- Improve road user security;
- Improve the image of and respect for traffic officers;



- Change the behaviour of drivers; and
- Promote traffic law compliance in general and thereby reduce the number of road crashes and road rage incidents.

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## 8. Measurable Operational Requirements of Patrol Teams

It is expected that the duties of Patrol Teams on a daily basis, will in general be to undertake interrupted patrolling operations on identified hazardous sections of roads and streets which shall consist of the following three main categories of functions:

- Road Patrolling, implying travelling with the traffic stream between traffic stops, during which attention shall be given to moving violations, stationary and abandoned vehicles, animals on the road and, on freeways : cyclists and pedestrians;
- Traffic Stops at which vehicles shall be stopped at random and checked for driver offences and vehicle contraventions.
- Control of Selective Moving Violations at selected locations where, amongst others, illegal overtaking, excessive speeds and overloading will be targeted.

A self-explanatory list of supportive enforcement equipment that should be fitted to patrol vehicles is attached under Annexure C.

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### 8.1 Road Patrolling

The main function and duty of the driver shall be to safely drive the patrol vehicle, while the responsibilities of the co-driver shall, amongst others be as follows:

- Operate the equipment fitted to the vehicle, observe drivers and vehicles on the road and identify driver offences and obviously unfit vehicles or other vehicle contraventions;
- In the case of “non-serious” offences, or when traffic conditions prohibit the safe stopping of contravening drivers, the co-driver shall select and display an appropriate message on the variable message sign fitted on the roof of the patrol vehicle. In such cases the co-driver shall record the detail of the offending vehicle and provide the information to the Traffic Control Centre. (The Centre will prepare and send courtesy letters to the offenders reminding them of the incident);
- On observing serious offences or contraventions, where the offending driver needs to be stopped, the co-driver shall request the driver of the patrol vehicle to stop the driver of the offending vehicle. In such cases the co-driver shall be responsible to operate the variable message sign and select and display the appropriate messages. Drivers and vehicles stopped for other offences shall also be checked for alcohol, seatbelts, driving and vehicle licences and vehicle fitness aspects; and

- The camera/video recorder and built-in speed measuring equipment shall be used to record detected moving offences. In such cases offenders shall be stopped and, depending on the nature of the offence arrested or issued with a notice.

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## 8.2 Traffic Stops

After about every 20 to 30 minutes of road patrolling or about every 25 to 60 kilometres of travel, depending on:

- the type of route, average traffic volumes, location of the route, etc; and
- the average patrol speed maintained;

the patrol vehicle shall be stopped at a safe, visible and convenient, preferably specially provided, location at the side of the road for driver and vehicle inspection purposes.

Depending on local circumstances, and the issues mentioned above, the duration of such stops should vary from about 20 to 50 minutes, during which period the following functions must be performed:

- Vehicles of all types shall be randomly selected from passing traffic and driver, passengers and vehicles shall be subjected to at least the following enforcement issues:

- Driver : Driving licence/PrDP; alcohol & seatbelt (at least 10 drivers, representing all types of vehicles, shall be screened for alcohol daily);
- Passengers : Seatbelts (front seat and backseat passengers); and
- Vehicles : Licence disc; correlation of plate numbers with licence disc numbers; lights; brakes; tyres; steering and chassis defects (particularly buses, minibuses, LDV's, trucks and heavy trailers)

The minimum number of vehicles, per type of vehicle, to be stopped and both the driver and vehicle checked per day of the week, per traffic team shall be in accordance with the requirements contained under section 9 below; and

- On stopping of vehicles as required above: all driving and vehicle licences shall be scanned with the CVD (or similar device) and followed up by a NaTIS query. Amongst others, all queries done will be recorded on the system and linked to each traffic patrol team which will, amongst others, be used to determine the daily performance and achievement of set targets for each team.

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## 8.3 Control of Selective Moving Violations

About one third of the daily shift hours of each team should be dedicated to enforcing selective moving violations, amongst others, as follows

- At selected locations unsafe and illegal overtaking manoeuvres and reckless, negligent and inconsiderate driver behaviour, particularly at identified hazardous pedestrian locations, shall be controlled;

- During certain times speed control shall be undertaken at hazardous locations with handheld devices as well as speed cameras. Speed cameras should be used for vehicles allowed to travel at 120 km/h (depending on the type of road); and hand held devices should simultaneously be used for speed control of buses and minibus taxis (100 km/h limit vehicles) and trucks (80 km/h limit vehicles);
- At specially provided areas overload control should be undertaken; and
- All drivers of vehicles stopped for speed, overloading and other moving offences shall also be checked for carrying and validity of driving licences and PrDP's, as well as wearing of seatbelts by drivers and passengers. During such stops selected vehicle fitness aspects (licence disc, licence plate, lights, brakes, etc) shall be also checked.

Although certain authorities may prefer to have special teams for each of the above functions, all traffic enforcement teams should be multi-skilled and should be able to undertake all of the above functions during a daily 8-hour shift.

Routes to be patrolled should be determined by management and supervisory personnel and should be based on the following criteria:

- Number of fatal crashes per route;
- Number of total crashes per route;
- Crash rates in terms of crashes per vehicle kilometres travel; and
- Traffic offence rates.

Traffic teams should be allocated different routes on a daily or weekly basis in order to break monotony of traffic control operations as well as to curb fraud and corruption to certain extent.

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## 9. Setting of Targets

Management and supervisory personnel at traffic authorities should identify the most hazardous routes within their areas of jurisdiction, based on the criteria given under section 8.3 above. Such identified routes should then be patrolled in accordance with the following proposals:

Each identified route should be patrolled for at least 16 hours per day by two traffic teams (2 shifts) during which the following functions should be performed by each team (times depending on locations of routes and local conditions):

Road patrolling (moving)	2 to 3 hours daily	See 8.1 above
Traffic stops	3 to 4 hours daily	See 8.2 above
Moving violations	Approximately 2 hours daily	See 8.3 above
Total	8 hours daily	

During traffic stops at least the following number of vehicles should be stopped and checked in accordance with section 8.2 above:

Minimum No. of Vehicles per Type to be Stopped and Checked per Day per Traffic Team

Day of Week	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Week Total
Trucks	1	2	2	2	2	2	1	12
Buses	2	2	2	2	2	2	2	14
Minibus Taxis	3	3	3	3	3	3	3	21
Minibuses	3	3	3	3	3	3	3	21
Light Delivery Vehicles (LDV's)	2	2	2	2	2	2	2	14
Motorcycles	1	1	1	1	1	1	1	7