

Arriyadh Traffic Safety Strategy

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Background:

Saudi Arabia, in common with many countries throughout the Middle East, has a serious road accident problem. Compared with other countries in the region road accident fatality rates and risk levels are high and year on year, road deaths continue to increase.

Road accidents in the city of Arriyadh reflect the national picture and are a major and growing problem. Indeed about 30 per cent of accidents occurring in the Kingdom of Saudi Arabia happen within the city limits and, despite its urban environment, it still has about a quarter of all road accident casualties and more than 21 per cent of the country's fatalities. It is worth noting in particular that pedestrians constitute 30% of road accident fatalities in the city; about 30% (24,900) of drivers involved in accidents are under 18 years of age; and speeding is the most frequent driving law violation.

Executive summary

The high commission for the development of Arriyadh (ADA) has completed the strategic traffic safety study for the city of Arriyadh. This study consisted of three phases, the first phase "Establishing the Facts" commenced on 31 August 2002. The objectives of this Phase were to assess the traffic safety situation in the City, to review the stakeholders' roles and the management and co-ordination of traffic safety, and to assess the performance of the main sectors involved so that the key issues could be identified. A set of performance indicators was devised for each of the major sectors that have an influence on road safety in Arriyadh and each performance indicator was given a weighting relative to its importance in the overall management of road safety. This framework allowed the project team to very quickly determine the sectors that most need improvement. In December 2002 a workshop was organized where the stakeholders were given the opportunity to express their collective views on the many issues identified.

The second phase was concerned with "Examining the options" and began in January 2003. This phase extended the fact-finding of the initial phase to further areas including the operation of heavy goods vehicles, transportation of hazardous loads, and a review of the existing accident information system. It also examined the possible options in each sector classified on three levels of (i) do nothing, (ii) gradual change and (iii) radical change. The project team commented on the consequence of a non-intervention policy if no changes were made to the existing conditions in the city. For the other two options, some of the sectors would be improved by adopting gradual change while

others would need a radical change. At the end of this phase, a second workshop was held for the various stakeholders during which an acceptable combination of options was agreed as feasible by the delegates, and the main issues were recorded.

This final stage, Phase three, began in June 2003 and focused on formulating an overall Strategy for road safety improvement based on the outcome of the second phase workshop; that is, the recommended actions that were accepted in principle by the various sectors. During the team's visit to Arriyadh, further meetings were held with key stakeholders to gain final agreement of the various steps that each will need to take to implement the strategy within their sector.

There was overall agreement that the need now is for a comprehensive full-scale five-year road safety program. The components of such a plan can be considered as: -

- Road safety management co-ordination and funding.
- An improved data collection and analysis system.
- Road safety engineering activities.
- Traffic law enforcement.
- Improved driving standards.
- Vehicle inspection.
- Road safety education for school children.
- Road safety publicity.
- Emergency medical services.
- Motor vehicle insurance.
- Road safety research and accident costing.

Within the Five-Year Program, all road safety activities undertaken to date would be consolidated and new activities and interventions developed that will enable the annual toll of road accident deaths and injuries to be reduced.

The actual implementation of each Sector of the Plan needs to be phased and identified according to the actual timing of the proposed activities. It is assumed that the various key tasks will be completed in the time indicated after the strategy is approved by the City Governor. In this way, the activities of the various agencies concerned can be focused towards achievable targets within each year of the Program but operating within the context of an overall framework.

The main objectives of the study:

The overall goal of the study is to provide guidance on improving the traffic safety of the city of Arriyadh and highlight its importance to the development of the city.

Methodology

In order to evaluate the city's traffic safety situation and performance, a number of tasks have been conducted which include reviewing the available

literature and statistics, then conducted small number of surveys for key issues about driver behavior, besides consulted the stakeholders to review their present organizational practices, needs, issues and views.

To evaluate the traffic accident situation, many steps have been examined, such as the traffic accident and injury data, the traffic violations, driver behavior data, road infrastructure conditions and crash cost information.

The ADA has collected over 85 reports and has reviewed and summarized the main issues and recommendations arising from the most important documents. The ADA has also held meetings with all key stakeholders:

The study involved the main sectors relevant to traffic safety in the city, such as

- **Road safety management & coordination-**
- **Road safety engineering-**
- **Road safety education-**
- **Enforcement-**
- **Vehicle safety-**
- **Emergency & medical care-**
- **Evaluation & research.**

Road safety management and coordination

This sector includes sub sectors like "crash and injury prevention" and "insurance and accident costing", It was found that this sector was the weakest according to the performance assessment, hence none of the sub sectors reach the 80 percent level required and all need some improvement. Only two conditions "knowing the true cost of road crash" and "all motorists insured" met the 80 percent target for satisfactory performance in this sector.

Road safety engineering

This sector contains sub sectors such as "accident prevention" and "accident reduction". The weakest area according to the performance assessment was "Accident reduction", however, none of the sub sectors reached the 80 percent level required and all need some improvement. A major problem is the lack of accident location details available to the engineers.

Education

This sector was reviewed in three parts; road safety education, driver training and testing, and traffic safety publicity. The weakest area according to the performance assessment was "Traffic safety publicity, however none of the sub sectors reached the 80 percent level required and all need some improvement.

Enforcement

This sector was reviewed in two parts: traffic law and traffic law enforcement. The weakest area according to the performance assessment was

"Enforcement on city roads". However none of the sub sectors reached the 80 percent level required and all need some improvement.

Vehicle safety

This sector was also reviewed in three sub sectors: Vehicle Testing, Standards and Hazardous Goods and Overloading. The weakest area according to the performance assessment was the "Hazardous goods and overloading". However the two other sub sectors reached the 80 percent level required.

Emergency and medical care

According to the performance assessment this sector performed reasonably well and the emergency services sub sector fell below the 80 per cent performance target. This was largely because it was felt that first aid training and protection of the scene of crashes could be improved as well as training opportunities for paramedics.

Evaluation

The review in this sector examined how research was organized and the scope of the program but the focus was on evaluation and this is reflected in the performance framework, which looked exclusively at monitoring and evaluation. There was thus only one sub sector. The overall performance is low because there has been very little scientific evaluation of road safety improvements largely because of difficulties with the crash and injury database. It should be note that the review does identify that

Implementation of the strategy

The Traffic Safety Strategy approved by the high committee (ADA) (headed by Prince Salman Bin Abdulaziz) in 2004. and this committee agreed on constituting a high committee for traffic safety, headed by Prince Sattam Bin Abdulaziz vice president of ADA, and membership of the following stockholders: Arriyadh Municipality, Saudi Red Crescent Society, Member of ADA – President of Planning and Project , Deputy Ministry of Transportation, Deputy Ministry of Education, Deputy Ministry of Health, Deputy Ministry of Information, Deputy Ministry of Islamic Affairs, Endowments, Da'wah and Guidance, Head of Arriyadh region police, Head of Arriyadh traffic.

The objective behind constituting the high committee for traffic safety is to monitor and follow the implementation plan of the strategic as well as ensuring full coordination between the relevant stockholders, and achieve the strategic goals. The other objective of this committee is to supervise the five-year executive plans, which include the tasks and responsibilities of all the stakeholders.

The executive plan includes strategic objectives to reduce the number of fatalities and injuries resulted from traffic accident during the coming ten years. The main tasks of the relevant agencies include a definite executive plan for carrying these tasks, by focusing on the work and necessary improvements to reach the definite goals.

Outcome of implementation

There has been a significant decrease in the number of fatalities and serious injures, as a result of the implementation of the traffic safety strategy, the number of fatalities in 2006 reach 353 and this figure is less than the fatalities for the year 2003, 2004, and 2005 where there was 430 and 408 fatalities. See the figure below.

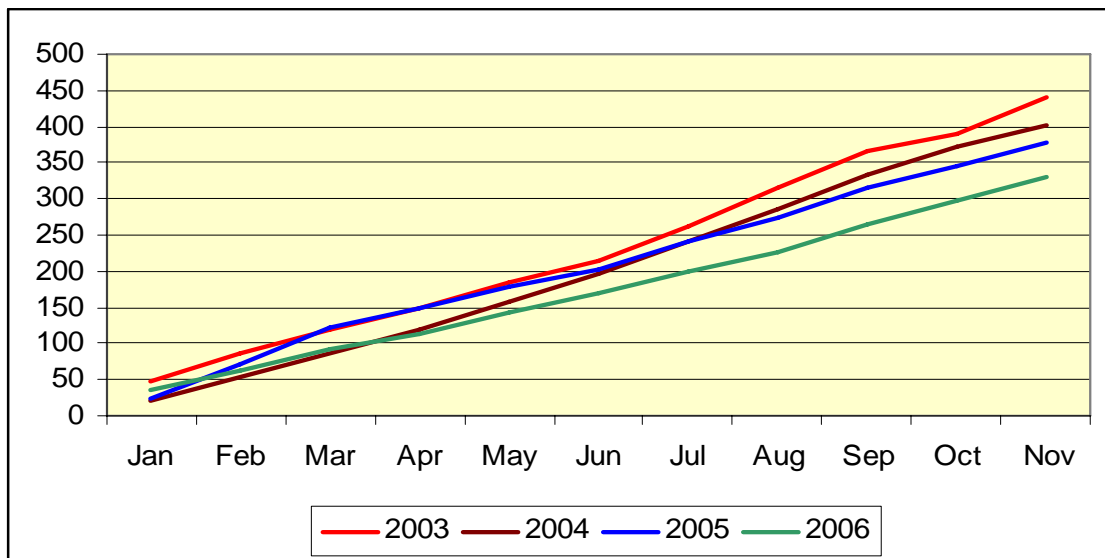
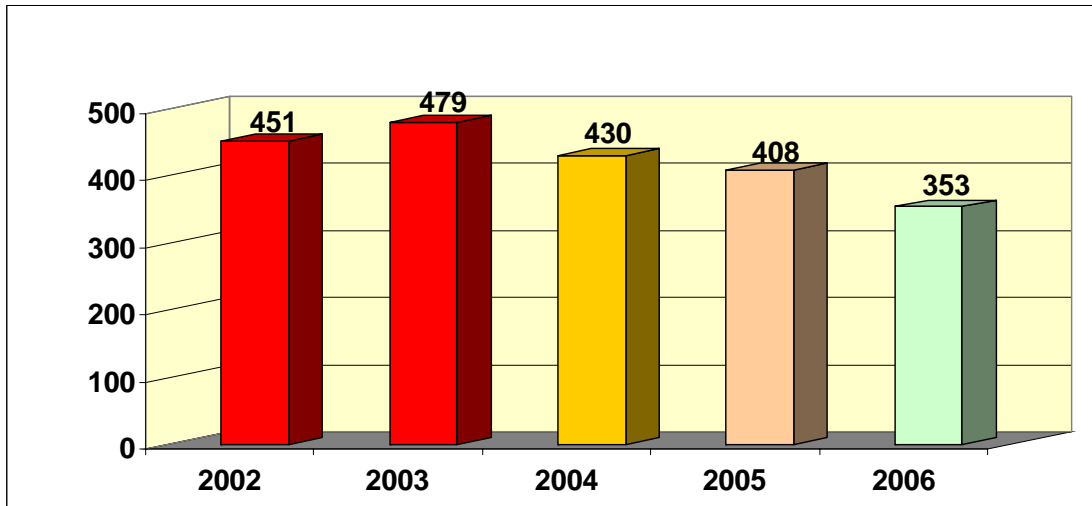


Table 1: the monthly report for fatalities during the last five years

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2002	27	33	39	52	30	56	39	45	41	32	32	25	451
2003	48	37	33	32	36	28	47	54	51	24	49	40	479
2004	20	35	32	31	41	36	46	46	47	39	30	27	430
2005	25	47	49	29	28	24	38	33	41	30	34	30	408
2006	37	25	29	23	29	26	29	28	40	32	31	24	353

Serious Injuries

The percentage of serious injuries resulted from accidents has also decreased to 1481 cases in the year 2006, and this number is less than the percentage of the last two years 2004 and 2005, where there was 1546 and 1555 cases respectively.

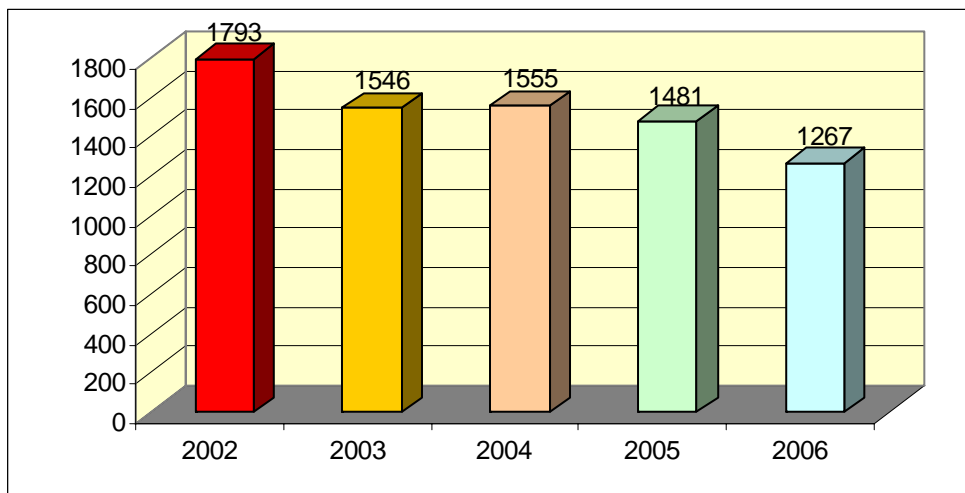
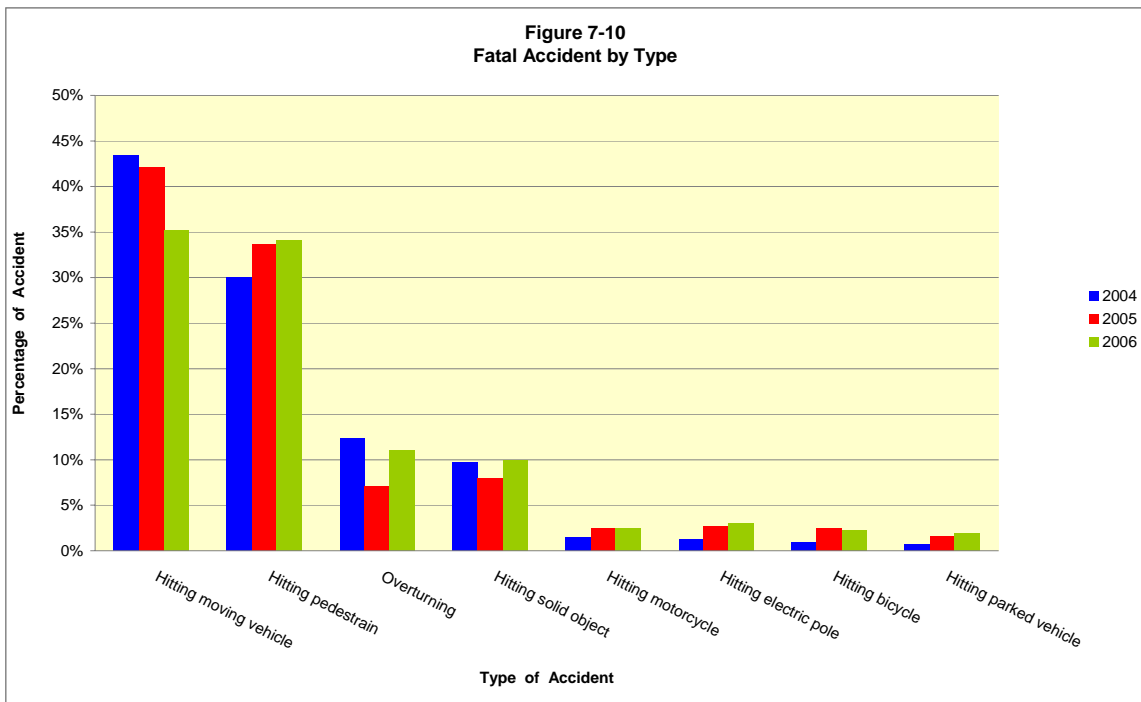
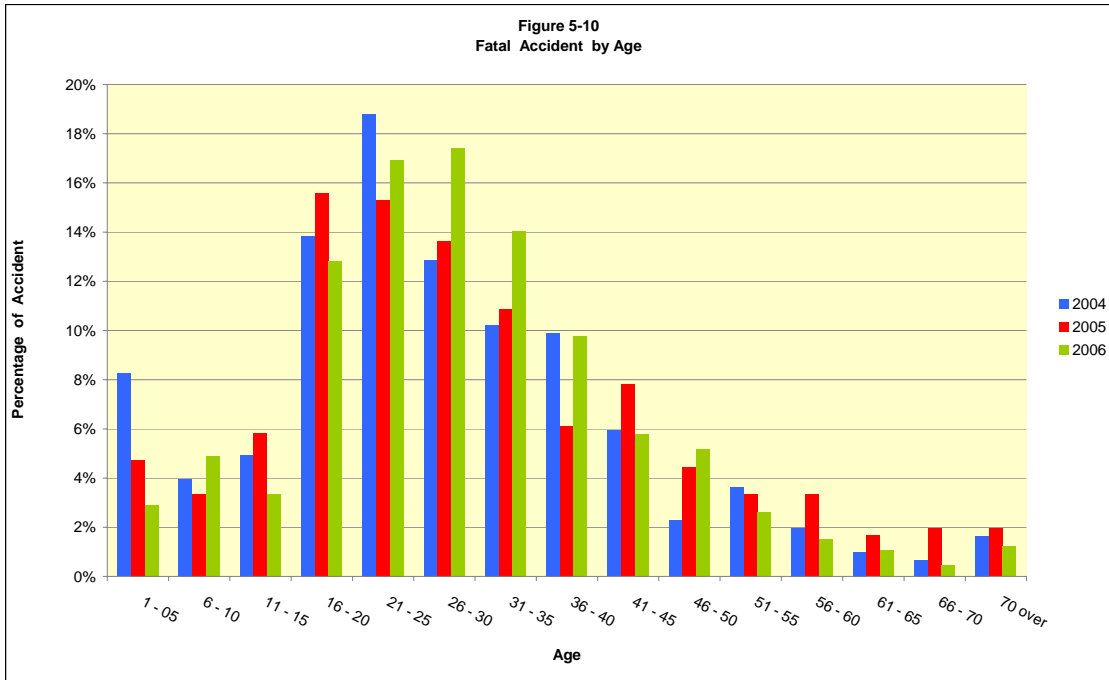
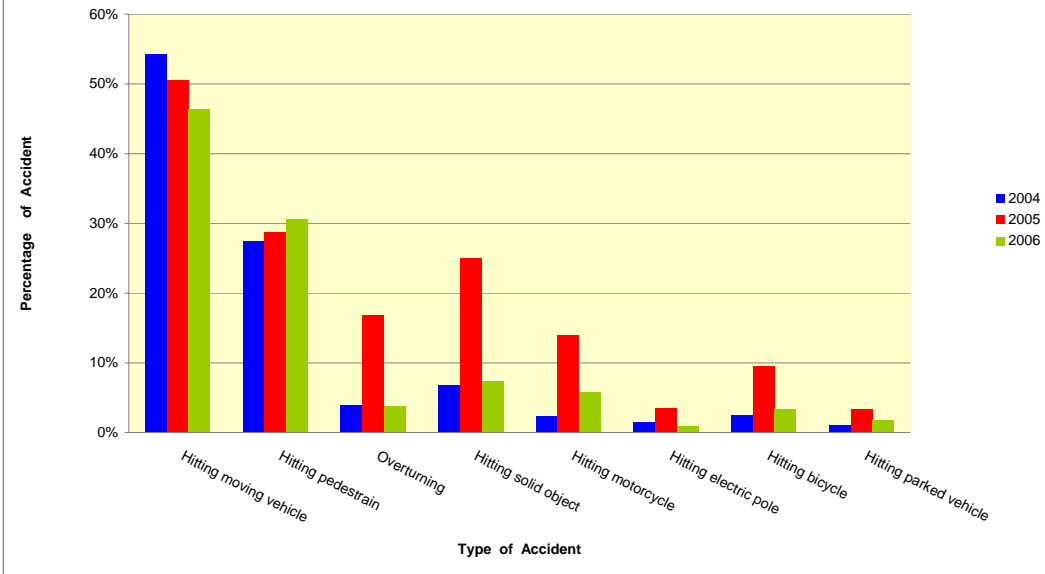


Table 2: the monthly report for serious injuries during the last five years

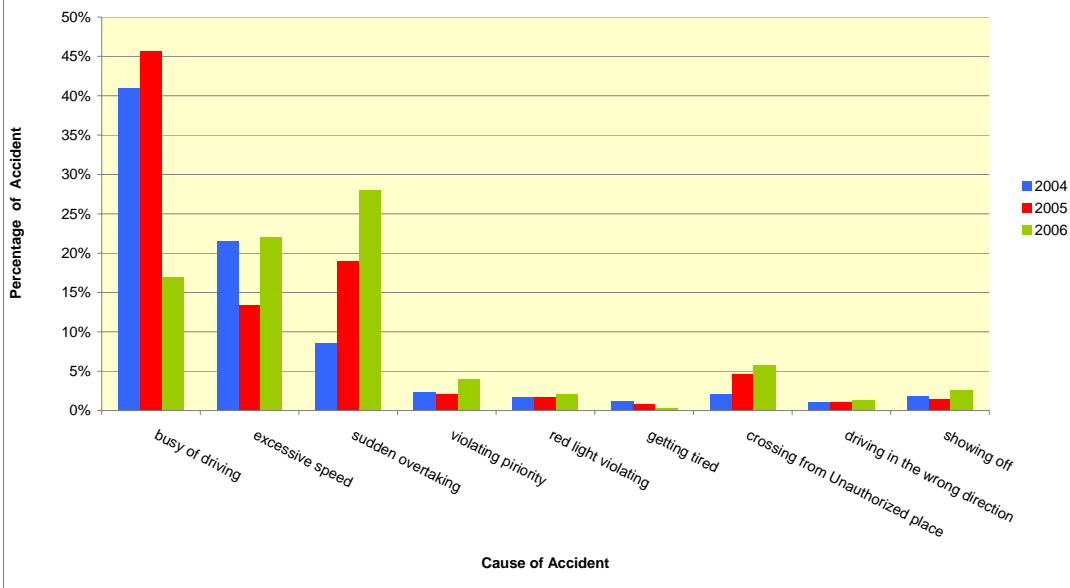
Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2002	151	148	125	149	163	148	171	166	119	153	159	141	1793
2003	144	181	124	122	136	112	116	148	116	109	143	95	1546
2004	52	132	129	190	129	117	143	153	157	130	131	92	1555
2005	129	149	125	131	123	112	123	130	115	124	130	90	1481
2006	100	111	113	111	118	89	124	69	110	139	90	102	1267

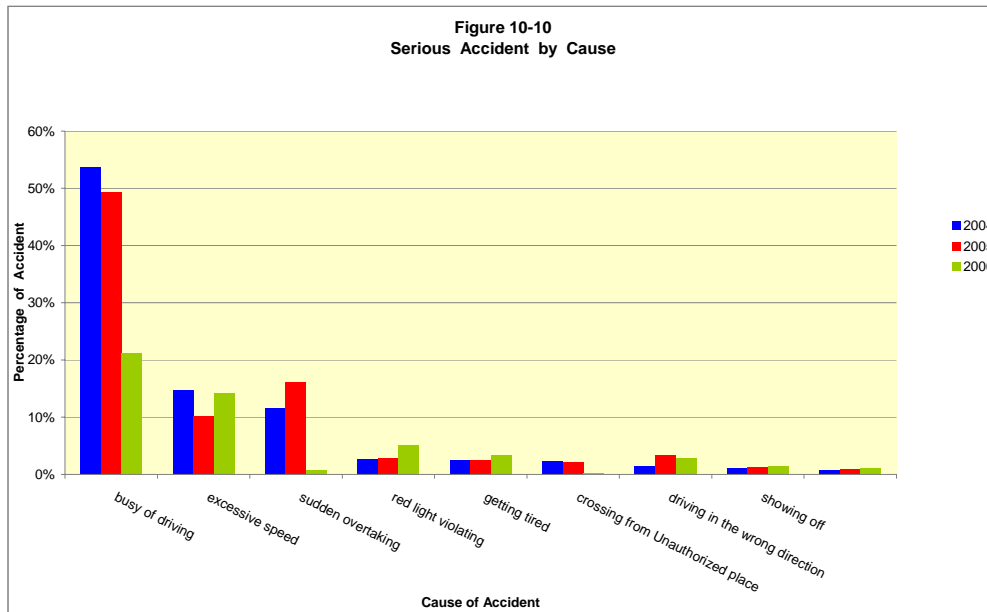


**Figure 8-10
Serious Accident by Type**



**Figure 9-10
Fatal Accident by Cause**





Conclusion

The crash and injury data clearly showed the relatively high risk of crashes in the Kingdom and costs were estimated at around 21 billion SR per annum or over 4 per cent of the annual GDP.

The behavior and knowledge studies demonstrated that there were problems of speeding and red light running in the City and that seatbelt wearing levels were somewhat variable although good in the case of taxi drivers and users. Knowledge surveys indicated that poor behavior was probably not due to a lack of knowledge and this has implications for behavioral measures.

The results of the review of the literature and the consultation process were expressed in the form of strengths, weaknesses and issues. In addition, a framework of performance indicators and scores was developed to enable a comparison to be made of the key sectors involved and to identify and prioritize those sectors which need most strengthening for the future.

The study has been highly successful in systematically identifying the problems in managing and delivering road safety in Arriyadh and in prioritizing the sectors and the aspects that need improvement.

For driver behavior, the literature review and four behavioral surveys conducted, suggest that driver behavior in Arriyadh is poor compared to many European countries. The literature suggests that drivers are 'aggressive' and the surveys identified a considerable amount of speeding, driving through traffic signals when they are on red and not wearing seat belts. The attitudinal and behavioral survey revealed that many drivers acknowledged that they frequently broke traffic laws; and expected to receive a traffic violation in the near future. While they were personally worried about road safety they

reported behaving dangerously themselves and though there was a good chance they would be fined in the future. It may be that the soon to be introduced 'penalty points' system may influence the way they think and drive, and this needs to be monitored.

In terms of vehicle testing and standards, most of the individual sectors scored well - with some scoring very well - although the accident data show that there is a very serious, and worsening, road safety problem in Arriyadh. Similarly, the behavioral surveys and the consultations with stakeholders revealed that driver behavior was relatively poor - and that road safety was recognized by many as a serious and worsening problem in the City, despite the modern road network and a relatively modern vehicle fleet.

It must be emphasized that road safety is a continuous and continuing problem. Completion of the first Five-Year Program does not mean the end of the problem or that the problem has been solved. For example, the targets outlined in Chapter 4 relate to a 10-year period. Eventually it will be necessary to develop a second and possibly third Five-Year Program to continue reducing the number and severity of road accidents in the Capital. This will cost millions of US dollars but conversely will save (in terms of reduced losses of productivity, vehicle damage and less use of medical resources) many more millions of dollars.

It must be made clear that the success of any strategy by the actual implementation of any Five-Year Program depends entirely on the close co-operation of the various stakeholders.

finally, it is vital to seize the opportunities for improving road safety and that actions are implemented which can save lives and injuries from road crashes and also make Arriyadh a model for safety city in the future.