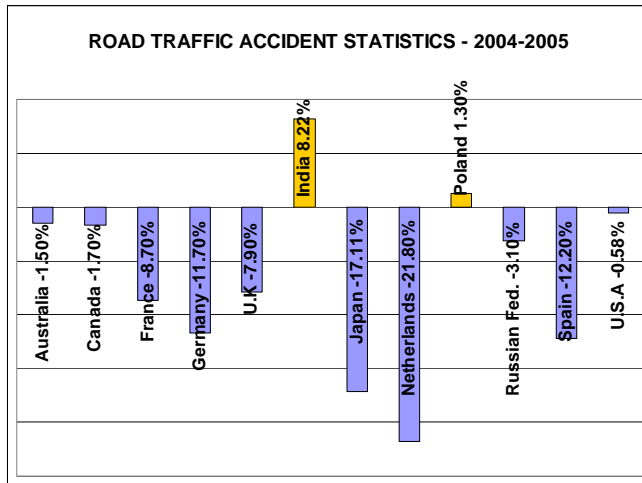


EXECUTIVE SUMMARY

Road Traffic Accidents (RTA) are the most tragic and unforeseen yet preventable cause of death that happens to any road user. According to World Health Organization’s report, more than 1.2 million people are killed and 50 million injured each year. During the year 2006, India reported more than 96,000 deaths on account of Road Traffic Accidents.

While some of the highly motorised and developed countries reported a steep decline in the number of fatalities; the developing countries showed a big leap in the fatality chart. Experts point out many reasons for this scenario. Rapid urbanization, increased income level, increasing migration of the rural poor to the urban areas, easy availability of financial assistance from various institutions, availability of latest brands and makes of vehicles due to globalization are some of the reasons contributing to the increase of vehicle usage in the developing countries. On the contrary, the infrastructural developments such as the improvement of roads, technology driven traffic management systems, Public transport systems etc have not developed in pace with the sudden increase in vehicle population.

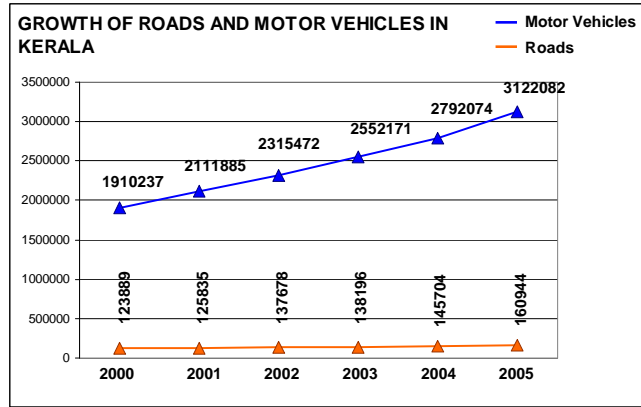


According to the State Crime Records Bureau; Kerala stands on top as one of the highest accident making State in the country by reporting 3543 fatalities and 49876 injuries. The following chart explains about the ratio of Road Infrastructures in comparison to the sudden increase of vehicle population during the last 10 years.

While, the infrastructural developments are not in pace with the explosion of vehicle population; the road user behaviour too has a great rendering towards Road Safety. Over speeding, Aggressive driving, Lack of consideration for other road users, Road Rage, Violation of traffic rules, Impaired driving are some of the Road User behaviour that causes Accidents.

The sudden increase in vehicle population, lack of road infrastructure, Lack of proper Traffic Management and lack of good road user culture aggravates the road safety situation in Kerala. Under the prevailing situation, every road user must respect and show consideration for other road users with regard to their right of way and to use the limited road space available in a proper manner. An

inconsiderate driver in a busy street can create big confusion. Sudden maneuvering of auto rickshaws, weaving by two wheeler riders and straying of pedestrians are yet some other reasons for the chaotic traffic situations. Records show that more than 95% of Road Traffic Accidents are due to the mistakes of the road users. Development of a Good road user culture is the only remedy for the rising epidemic of Road Traffic injury. Road Safety Awareness, Education for drivers and different types of Road Users and strict enforcement of traffic rules are the major measures to be taken to generate a healthy road user culture.



E.1 ROAD SAFETY PROGRAMME BY KERALA STATE TRANSPORT PROJECT

Road Safety Awareness and education is an integral component of Road Development Project under the Kerala State Transport Project. With the improvement of road surface the driving quality has improved tremendously. Therefore, the chances of over speeding have also increased. On appraising the road safety scenario of the completed stretches of the 1st year Road Maintenance Contract (RMC) area; it is understood that there is a rapid increase in road accidents under the areas where the road constructions have been completed. Therefore, a component called “**Road Safety Awareness Programme for the Communities Living along the Project Area**” was initiated with the following objectives:

E.2 OBJECTIVE:

The main objective of the Programme is to increase awareness among the different road user groups about the various road safety issues and to educate them to follow healthy road safety practices and by means of that a good road safety culture will be generated in the community.

E.3 PROJECT TASKS:

The following seven tasks were carried out as part of the Project:

1. Fact finding survey to evaluate the road safety scenario of the project area and to establish contacts with the Panchayat and Police Stations of the 1st year RMC area.

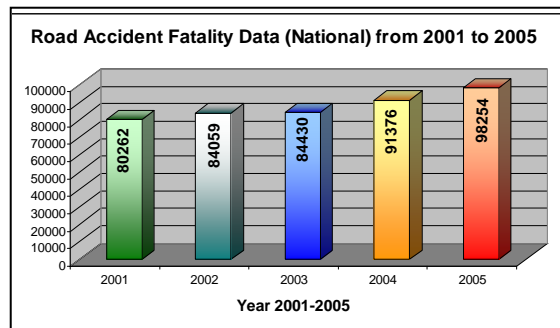
2. Road Safety Awareness Programme targeting two-wheeler riders of age group 15-25
3. Introduction of Road Safety Forums in Schools
4. Road Safety Awareness Seminars for the Taxi Drivers
5. First aid and Trauma care training for the taxi drivers
6. Public Awareness Programmes
7. Feedback and a Reporting Mechanism

E.4 METHODOLOGY

The knowledge of how accidents are caused is essential to suggest expeditious remedial action. Road safety requires a complete and comprehensive system of collection and compilation of data, analysis, diagnosis/definition of the problem, identification of problem areas/accident hotspots, preventive measures covering the entire spectrum of issues from education, regulation to enforcement and post-accident relief services to save the unfortunate victims of accidents. Proper collection and compilation of data is the first and foremost task in this regard. Therefore the Programme referred various available data conforming to the regional and national road safety statistics to analyze, compare and to evaluate the road safety scenario of the project area. This could also set some measurable indicators and target achievement plans.

E.5 NATIONAL ROAD SAFETY SCENARIO:

The 58.8 million registered vehicles using the Indian roads have taken a heavy toll on human life. Between 1970 and 2002, the total number of registered vehicles in India has increased 31 times. However, the road length in the same period has increased by only 2.71 times. India has only about 1% of the world's vehicles but accounts for as much as 8% of the world's accidents.

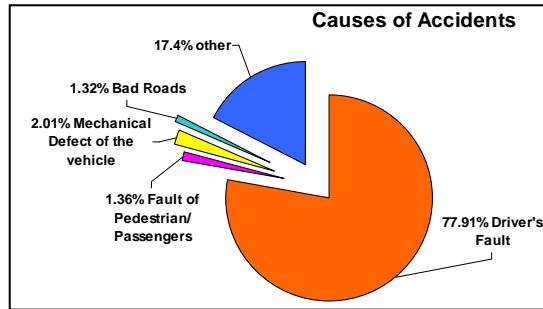


These crashes have a major impact on the country's economy. A Working Group set up by the Planning Commission in the year 2000 to look into road accidents, injury prevention and control had gone into the issue of social cost of accidents in India and had estimated the cost at Rs.55,000 crores in the years 1999-2000, which constituted 3% of the GDP for the year.

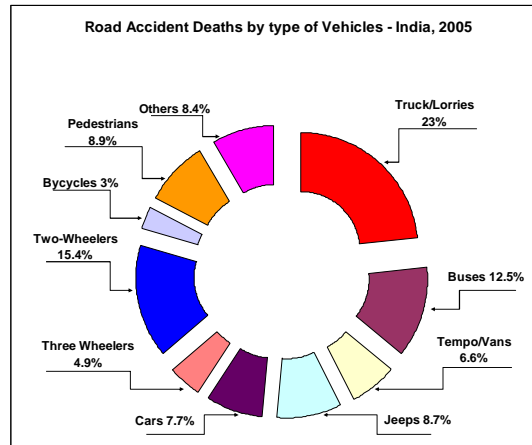
Causes of Accidents

An analysis carried out on the accident data for the year 2003 shows that the main causes of road accident in our country are: drivers' fault (77.91%), pedestrian fault/fault of passengers (1.36%), mechanical defect in vehicles

(2.01), bad roads (1.32%) and other factors like bad weather, cattle coming in the way, fallen trees, road blockage, absence of rear reflectors. road signages, non-functioning of road signals etc. (17.40%) – 'ROAD SAFETY IN INDIA' by S.K. Mishra, Director (Road Transport), MORTH, Govt. of India.



According to the National Crime Records Bureau (NCRB); '83,209 males and 15,045 females totaling 98,254 were killed during the year 2005, while traveling by various modes of transport on roads. 22,584 persons (23.0%) of these were occupants of 'Truck or Lorry', 16,109 (16.4%) were riding on 'Two-wheelers', 12,241 (12.5%) were killed while traveling in buses and 8,762 (8.9%) were pedestrians'.



'Tamil Nadu and Maharashtra have accounted for 19.3 per cent and 11.9 per cent respectively of total 'Road Accident' cases in the country. Tamil Nadu and Andhra Pradesh have reported 14.2 per cent and 11.1 per cent respectively of total Road Accident Deaths in the country'. – 2006 Annual Report by NCRB.

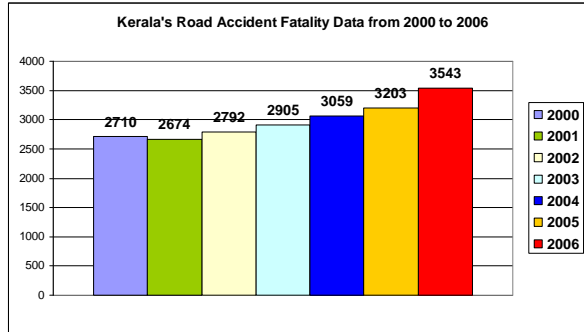
E.6 ROAD SAFETY SCENARIO IN KERALA

The rapid socio economic development in Kerala has generated high demand for safe and adequate transport facilities. Kerala State has a road length of 1.6 lakh kilometers, which is about 4% of total road length in the country. The availability of roads in Kerala per Sq. Km is 4.14 Km and for every one lakh population there are 459 km.

The vehicle density in the State is very high compared to many other States in India. Kerala has 9157 vehicles per 100 sq. km. of area and 10167 vehicles per lakh population. The corresponding all India figure is 1673 and 5489. Kerala State, which has nearly 3% of the countries population, accounts for 12% of the

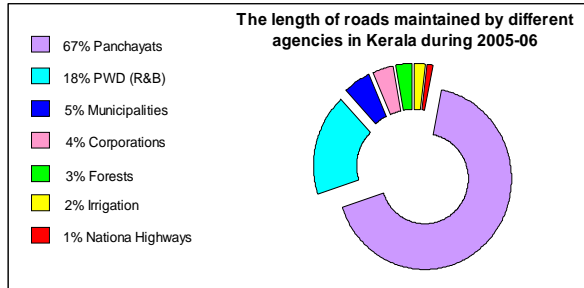
country's road traffic accidents. The State has recorded the highest accident rate of 17 accidents per 1000 vehicles as against the national average of 7.27 accidents per 1000 vehicles. The accident rate in Kerala is more than twice that of all India average. Road fatalities registered an increase of 10.6% during 2005-06 over the previous year. The State recorded a total of 41645 accidents causing death of 3543 persons and injuries to 49876 persons during 2006. Daily accident frequency has doubled from 57 in 1991 to 114 in 2006. The annual economic

loss due to road accidents is estimated at between 1% and 3% of annual gross domestic product. Unless road safety in Kerala State is improved significantly, the resultant economic and social costs of accidents would continue. This would also continue to pose a threat to the emergence of a safe transport infrastructure conducive to economic growth.



Road Networks in Kerala

A well-knit and coordinated system of transport plays an important role in the sustained economic growth and safe movement of traffic. Total road length in Kerala during 2005/06 is 160944 Km. Road density in the State is 414 km/ 100 sq.km and it is far ahead of national average of 74.9km/100 sq.km. The length of road per lakh population is 505.46 km and it is much higher than the national average of 259.20km. Roads maintained by different agencies as on 31.03.2006 are shown in the chart – Kerala Economic Review -2006



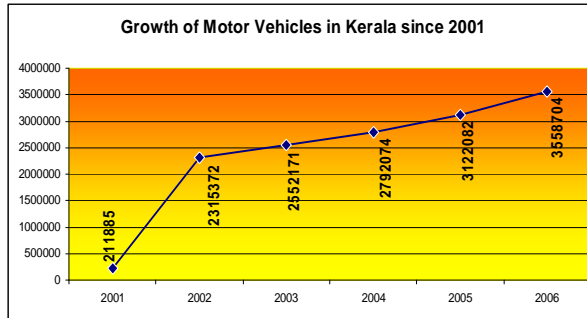
Agency wise Distribution of State Roads

Sl. No.	Name of Department/ Agency	Length (KM)	Percentage
1	Panchayats	108451	67.38
2	PWD (R&B)	28203	17.52
3	Municipalities	8917	5.54
4	Corporation	6644	4.13
5	Forests	4175	2.59
6	Irrigation	2664	1.66
7	PWD (NH)	1526	0.59

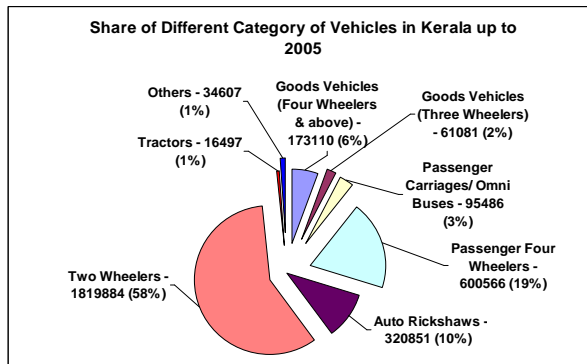
8	Others (Railways, KSEB)	364	0.23
	Total	160944	100

Growth of Motor Vehicle Population

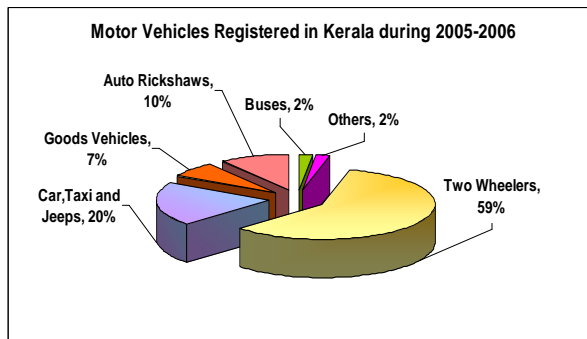
The growth of vehicle population in Kerala is 13.48 percent. The growth of Motor Vehicles since 2000/01 is shown in the figure. The number of Motor Vehicles having valid registration as on 31.3.2006 is 35,59,504 as against 31,22,082 in the previous year. The newly registered vehicle comes to 437422 (12.28%) during 2005/06.



About 1198 vehicles are newly added to the vehicle population every day. Out of which 758 are two wheelers. The number of goods vehicles, ie four wheelers and above registered in the State increased form 135058 as on 3/2001 to 194232 as on 3/2006. The highest vehicle population was recorded in Ernakulam District with 51518 (12.57%) followed by Thrissur with 41640 vehicles (10.16%). Wayanad has the lowest number with 4239 (1.03%).

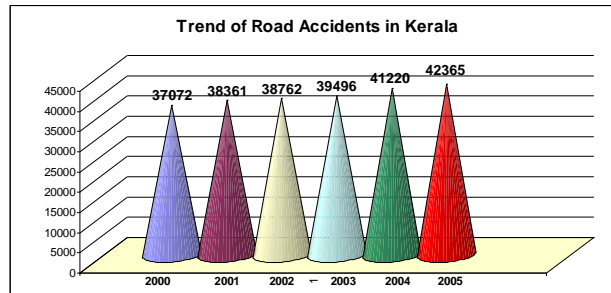


The percentage of category wise motor vehicles registered during 2005/06 is shown in the figure. An analysis of growth of Motor Vehicle and its impact on local development in the State reveals that the vehicle population has increased from 15.1 lakh in 1998 to 35.59 lakh in 2006, while only marginal increase has been achieved in augmentation of road length. The tremendous increase in the volume of road traffic in recent years is considered as one of the reason for the increase in road accidents.

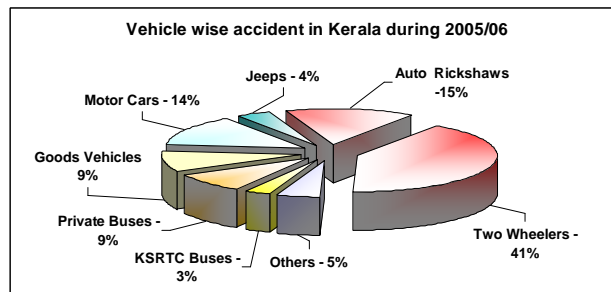


E.7 ROAD ACCIDENTS IN KERALA

The road accident rate in Kerala is rising year after year. Even though several initiatives have been taken up by the concerned departments to enforce road discipline and enforcement of rules, road accidents are steadily increasing. The increasing trend of traffic accidents is a matter of great concern. The total number of road accidents in Kerala during 2001 was 37256 which increased to 41645 in 2006. The year 2006 recorded 3543 traffic fatalities and 49876 cases of injuries, which is the highest in the history of Kerala. That means, each day in this tiny state, an average of 10 persons are killed and 136 injured in 114 road traffic accidents. The trend of increase in road traffic accidents in Kerala during the year 2000 to 2005 is shown in the chart.



The State Crime Records Bureau's (SCRB) record shows that the share of accidents due to KSRTC buses were 1513 (4 per day) and private buses 4447 (12 per day). The number of traffic crashes involving two wheelers have grown from 7668 in 1990/91 (21 per day) to 21569 in 2005/06 (59 per day). Accidents due to two wheelers account for nearly 41 percent of the total accidents reported in the State. The following chart explains about the share of different category of vehicles involved in traffic crashes in Kerala during the year 2005/2006.



E.8 MAJOR ROAD SAFETY INITIATIVES BY KSTP

Kerala State Transport Project (KSTP), a project by the Public Works Department is the major road safety initiative taken by the Government of Kerala. This was officially launched in June 2002 to improve 1600 km of State Road network and 77 km of Inland Water Transport (IWT) with World Bank assistance.

The project had four main components: (a) Upgrading and widening of about 600 km length high priority state highways and piloting IWT component for improving of inland waterways of about 77 km canal length, for exploring the revival of the IWT system in Kerala (b) periodic maintenance of 1000 km State roads; (c) Reforming Road and IWT associated institutions and strengthening their

capacities by implementing the Institutional Strengthening Action Plan (ISAP) and (d) Road safety action plan along with the improvement of black spots and to conduct Road Safety Awareness Programmes. Some of the highlights of the project are as follows:

- Prepared a comprehensive Road Safety Action Plan involving the major stakeholder Departments such as Police, Motor Vehicles Department (MVD), PWD, Education and Health Departments.
- GeoKAMS, a highly sophisticated software for recording and managing road accident data were produced.
- 116 Hazardous locations on National Highways were improved.
- 21 Black spots were improved by using various engineering measures.
- The entire KSTP areas are given high priority for road safety and measures are taken at par with international standards.
- A road safety model stretch between Chakkai and Mevaram (67 Kms) on NH-47 is being developed as a Demonstration Corridor.
- More than 4000 professional drivers were given training in Defensive Driving, First Aid and Trauma Care.
- More than 400 schools participated in the Junior Road Safety Officer (JRSO) training programmes and by means of that more than 1000 JRSOs and nearly 500 School Road Safety Officers (SRSOs) were trained. This programme could benefit approximately 25000 school students living along the KSTP area.
- Public Meetings were conducted at 20 towns along the KSTP area for communicating with the road side communities about the various road safety issues and precautions to be taken by them to prevent/safeguard themselves from road traffic accidents.
- Various road safety education materials such as colorful handbooks for school children, road safety guide for drivers, brochures and pamphlets for general public, videos for educating various road user groups etc. were produced under the project.