

ROAD ACCIDENTS AND ROAD SAFETY MEASURES

IN TAMIL NADU:- An Analysis

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ABSTRACT

Road accident in India is increasing despite recent legislative amendments, awareness programmes and enforcements of traffic rules. Road users behavior has been found to be the primary reason of accidents in 70% to 90% cases. An attempt has been made in this paper to elaborate the actions taken by the Tamil Nadu State Government and its impact on road accidents. The awareness about wearing helmets and stringent actions against the rule defaulter were made positive result in reducing the Road Accidents and fatalities during 2017 in TamilNadu.

Key Words: Road Safety Measures of Tamil Nadu, Road Accidents, Fatalities

1. Introduction

The process of rapid and unplanned urbanization has resulted in an unprecedented revolution in the growth of motor vehicles world-wide. The alarming increase in morbidity and mortality owing to road traffic incidents over the past few decades is a matter of great concern globally. It could be notable that the roads occupy an eminent position in transportation and carry nearly 65% of freight and 87% of passenger traffic. Traffic on roads is growing at a rate of 7 to 10% per annum while the vehicle population growth, for the past few years, is of the order of 12% per annum. Moreover, the lengths of roads are more prosperity of the nation.

Rapid growth of population coupled with increased economic activities has favored in tremendous growth of motor vehicles. This is one of the primary factors responsible for road accidents. Road traffic accidents are a human tragedy. They involve high human suffering and socioeconomic costs in terms of premature deaths, injuries, loss of productivity and so on. Consequently, road safety has become an issue of National concern. Every year over 1 million people are killed and 50 million people are injured on road accidents around the world. In India, more than 70,000 people get killed due to road accidents every year, and this needs to be recognized as an important public health issue. To avoid premature deaths and human suffering various steps were taken by the Tamilnadu Government . These includes strict enforcement , suspension of driving licences of drivers who commit the traffic violations such as over load of goods, over speed, drunken driving, using mobile phones while driving etc. involving vehicle manufacturers and dealers in road safety measures, regulating the working hours of Tourist Taxi, Maxi Cab drivers etc.,

2. Review of Literature

There are many literature are available in the field of Road Safety and Road Rules violations. Jha Deepak et.al (2017) after conducting a survey on 52 persons and reports that, majority of the respondents felt that people do not follow traffic rules and do not give way to non-motorized vehicles and pedestrians. Most of them were of the opinion that people should follow traffic rules. However 17 percent of them agreed that they will break the traffic rules under one or another out of four situations.

Manisha Ruikar (2018) reports that eventhough every healthcare institution provides care for RTI (Road Traffic Injuries) patients, details of RTI are not clearly available, due to the poor information system. Hence the real problem is likely to be much higher than the reported figures. He further says strengthening and undertaking research on public health burden and impact, understanding the risk factors, characteristics of trauma and measuring the impact of interventions through well designed public health and clinical research methods

(trauma registry, surveillance programmes, hospitals and population based studies etc.,) is the need of the hour.

Gopalakrishnan S (2012) explains that human factor contribute significantly to increasing number of road accidents. Most drivers continue to be acting like maniacs in a tearing hurry and error in Judgement often leads to major accidents. Reckless driving, over speeding, decline to follow traffic rules and drunken driving are main reason for road accidents . The statistics also show that most of the road accidents in the highways are due to drunken driving only. Globally, some 480,000 deaths and 20 million of people get injured by drunken driving every year. In most high-income countries about 20% of fatally injured drivers have excess alcohol in their blood, i.e., Blood Alcohol Concentration (BAC) in excess of the legal limit. In contrast, studies in low- and middle-income countries like India have shown that between 33% and 69% of fatally injured drivers and 29% of non fatally injured drivers had consumed alcohol before their crash.

Sanjoy Kumar Singh (2017) found that the 30-59 years, the economically active age group, is the most vulnerable population group. In general, male face higher fatality and accident risk than their female counterparts. Moreover road accidents are relatively high in May-June and December-January which shows that extreme weather influences the occurrence of road accidents. There are several factors responsible for accidents but drivers fault is the most important factor; drivers' fault accounted for 78% of total accidents , 76.5% of Total injuries and 73.7% of the total fatalities.

Bhagyaiah and Shrinagesh (2014) reports that majority of those died due to Road crashes were males , Seventy percent of those killed were between 16 and 49 years of age. Pedestrians and riders of two wheelers were the mass vulnerable. Collision with a vehicle caused 86.4% of all crashes and 60% of

the victims died before reaching a hospital. They further says that the limitations of the police data base, which is the legal source of information on fatalities resulting from road traffic crashes, indicate a need for strengthening the road traffic crash surveillance system so that reliable accurate and the resulting fatalities and injuries can be collected.

3. Methodology

The present study is analytical in nature, Compound Annual Growth Rate (CAGR) on vehicles, accidents and fatalities are calculated and simple average is also used as a statistical tool. The data available in the Transport Commissioner's Office, Statistical Unit is used as primary source of data. The data from 2001 to 2017 is taken for the purpose of study.

The objective of the study is to

- (i) Analyse the growth of the Vehicular Population of Tamil Nadu
- (ii) The Measures taken by the Government of Tamil Nadu in controlling the Road Accidents and follow up action to safeguard the human lives met accidents and
- (iii) Its impacts on reducing the accident and fatalities in Tamil Nadu.

4. Road safety initiatives by the Government of India

(i) The Government has approved a National Road Safety Policy. This Policy outlines various policy measures such as promoting awareness, establishing road safety information data base, encouraging safer road infrastructure including application of intelligent transport, enforcement of safety laws etc.

(ii) The Government has constituted the National Road Safety Council as the apex body to take policy decisions in matters of road safety.

(iii) The Ministry has requested all States/UTs to constitute State Road Safety Council and District Road Safety Committees, and to hold their meetings regularly.

(iv) The Ministry has formulated a multi-pronged strategy to address the issue of road safety based on 4 'E's viz. Education, Engineering (both of roads and vehicles), Enforcement and Emergency Care.

(v) Road safety has been made an integral part of road design at planning stage.

(vi) Tightening of safety standards for vehicles like Seat Belts, anti-lock braking system etc.

(vii) Ministry of Road Transport & Highways has introduced Motor Vehicle (Amendment) Bill, 2016 in Lok Sabha in August 2016 containing the different provisions of road safety. The Bill addresses road safety issues by providing for stricter penalties for traffic offences, permitting electronic and IT enabled enforcement, improving fitness certification and licensing regime, statutory provision for protection of good Samaritans etc.

(viii) The House referred the Bill to Standing Committee. Based on the recommendation of the Standing Committee, the Bill was revised and introduced in Lok Sabha in April 2017. Lok Sabha has passed the Bill. The Bill is pending in the Rajya Sabha.

(ix) Motor Vehicle (Amendment) Bill, 2016 also envisage the creation of National Road Safety and Traffic Management Board (NRSTMB).

Table 1.1.

Road accidents and deaths in some States of India in 2016

Sl.No.	Name of the State	Total Population (Census 2011)	Vehicle Population (in 000')	Total Accidents in 2016	All India Percentage Share	Total No. of persons killed in 2016	All India Percentage Share
1	Tamil Nadu	72147030	23845 (31.3.17)	71431	14.9	17218	11.4
2	Madhya Pradesh	72626809	10900 (31.3.15)	53972	11.2	9646	6.4
3	Karnataka	61095297	17872 (31.3.17)	44403	9.2	11133	7.4

Sl.No.	Name of the State	Total Population (Census 2011)	Vehicle Population (in 000')	Total Accidents in 2016	All India Percentage Share	Total No. of persons killed in 2016	All India Percentage Share
4	Maharashtra	112374333	30226 (31.3.17)	39878	8.3	12935	8.6
5	Kerala	33406061	9600 (31.3.15)	39420	8.2	4196	NA
6	Uttar Pradesh	199812341	15445 (31.3.12)	35612	7.4	19320	12.8
7	Andhra Pradesh	49386799	8727 (31.3.16)	24888	5.2	8541	5.7
8	Rajasthan	68548437	13632 (31.3.16)	23066	4.8	10465	6.9
9	Telangana	35193978	9606 (31.3.17)	22811	4.7	7219	4.8
10	Gujarath	60439692	14414 (31.3.12)	21859	4.5	8136	5.4

5. Road Safety Measures taken by the Government of Tamil Nadu

5.1. Road Safety Millennium Goal

1. The United Nations General Assembly having considered this important issue, adopted the UN Decade of Action for Road Safety (2011-2020) aiming to reduce fatalities in road accidents by 50% by 2020. This was accepted by the countries across the globe including India.
2. 50% of fatal accidental deaths to be reduced by the year 2020.

TARGET FOR MINIMUM REDUCTION OF ROAD ACCIDENT DEATHS IN TAMILNADU FROM 2017-2020

No of Deaths in 2017	No. of Deaths Not to Exceed in 2018	No. of Deaths in 2018	No. of Deaths Not to Exceed in 2019	No. of Deaths Not to Exceed in 2020
16157	11962	1189 (Upto Jan)	7767	3572

5.2. Institutional Arrangements

1. State Road Safety Council headed by Hon'ble Transport Minister
2. Road Safety Commissioner
3. State Lead Agency in the Office of the Transport Commissioner
4. District Road Safety Committees
5. Office of the ADGP (Traffic & Road Safety)
6. Additional Superintendent of Police (HQs) in the Districts nominated as Nodal Officers for monitoring Traffic and Road Safety works.
7. More responsibilities given to senior Police Officers by way of indicating road safety in their annual performance.
8. Post of Commissioner of Trauma Care created and Trauma Care Centres throughout the State being set up.
9. Responsibilities fixed on Zonal Joint Transport Commissioners/ Deputy Transport Commissioners and Regional Transport Officers.
10. Gazettee Notification issued for including the Chief General Manager, NHAI and Project Directors NHAI in the State Road Safety Council and District Road Safety Committees respectively.
11. A Draft Road Safety Policy has been framed and sent to Government for approval

5.3. Awareness Campaigns

1. Short films on road safety awareness with following themes prepared and sent to all District Collectors and Superintendents of Police, Regional Transport Officers, State Transport Undertakings and District Public Relation Officers.
 - a) Avoid use of mobile phones while crossing Road/Driving vehicle
 - b) Wearing Seat belt

- c) Avoid Drunken Driving
 - d) Wearing Helmet
 - e) Safe Driving
 - f) Respecting the Traffic Rules
 - g) 108 Ambulance Services
1. Funds allotted to the District Collectors, Zonal Joint Transport Commissioners/ Deputy Transport Commissioners, Regional Transport Officers and State Transport Undertakings for Road Safety awareness Campaigns.
 2. The Director of School Education updating Text books from 1st Standard to 10th Standard on Road Safety.
 3. Regular press releases on all important decisions and actions taken being issued in the News Papers throughout the State.
 4. 8 Road Safety Jingles prepared by Transport Department are relayed through All India Radio. Similarly the vehicle manufactures and dealer have also participated in this venture and the R.S Jingles are being relayed through private FM enhanced where the AI radio has not the reach. They have contributed to this cause through there CSR Fund.

5.4. Enforcement Work

1. Reporting system of road accidents streamlined.
2. Carrying of original Driving Licence is compulsory.
3. Action taken to suspend / Cancel Driving Licences for the following offences:
 - 1) Over speeding
 - 2) Over load in goods carriages
 - 3) Carrying persons in goods carriages
 - 4) Using mobile phone while driving
 - 5) Drunken Driving
 - 6) Red light jumping

4. The State Level Control Room activated in the Office of the ADGP (Traffic & Road Safety) to monitor operation of 272 Highways patrolling vehicles.
5. Directions issued for booking criminal cases against the Consignor and Consignee of goods in addition to driver and the vehicle owner for carrying goods hanging beyond the body of the vehicle if it causes fatal accident.
6. Directions issued to District Collectors for fixing speed limit on all roads in the District.
7. Revocation of suspended Driving Licences made tough.
8. All Regional Transport Offices and Police Stations designated as Traffic Awareness Centres to deal with helmetless driving.
9. Vehicles involved in fatal accidents being detained, Driving Licences of the Drivers and Permit of Transport Vehicles being suspended including State Transport Undertaking buses.
10. 571 Road Safety Corners created in the show rooms of two wheeler dealers for imparting road safety awareness before handing over the two wheeler to the buyer.

5.5. State High ways/National High ways/NHAI

1. Identification and rectification of black spots.
2. Completion of Road Safety audit work and taking follow up action to rectify defects.
3. To take all precautionary measures on under construction roads.
4. State Highways and National Highways directed to put speed breakers on the service roads joining the main road.
5. NHAI directed to provide Transverse Bar Markings on Accident Prone Spots (rumbling strips) with proper signages on all the intersections and junctions.
6. NHAI directed to close all unauthorised cuts on NHAI roads throughout the districts.

5.6. State Transport Undertakings

1. Buses involved in fatal accidents being detained.
2. Plying more buses in peak hours to avoid over loading.
3. Review the time chart prescribed for drivers to control over speeding by drivers.
4. The working hours for drivers to be reviewed.
5. Drivers to be sent compulsory twice in a year for refresher training.
6. Periodical health checkup of the drivers.
7. Drivers who do not commit any accident during the calendar year to be rewarded with cash prize every year.

5.7. Highlights of 108 Ambulance-2017

- In the year 2017, 12,39,254 victims utilized 108 ambulance for emergency, out of which 2,23,339 victims utilized 108 ambulance for Road Traffic Accident
- Total 73,121 life saved in 2017 and out of which 8608 Road Traffic related victims life saved in 2017
- Road Traffic Accident response time decreased to 15 minutes in 2017 from 18 minutes in 2016
- Average per month utilization of 108 ambulance for Road traffic related emergency has been increased to 18611 cases per month in 2017 from 17994 cases per month in 2016
- Road Traffic accident en-route death reduced to 115 in 2017 from 140 in 2016
- 67,246 cases have been catered to hospital (Non-IFT) in the month of Jan'18, which is best since inception and also 21,849 road traffic accident related emergencies in Jan'18, have been catered to hospital which is highest since inception.
- In the month of Jan'18 overall State Responses Time is 16 minutes 25 seconds and Road Traffic Accident related emergency Response Time is 14 minutes and 3 seconds, which is least since inception.

- 926 ambulances are operated across the state which includes 721 basic life support ambulance, 64 advanced life support ambulance, 65 Neonatal ambulances and 76 four wheel drive ambulance. Other than this we operate 41 First Responder Bikes in congested roads of major cities.
- The good samaritans are honoured.
- Details of frequent accident spots sent to the District Collectors, Superintendents of Police, High Ways & NHAI for taking rectification works.
- The Ambulances operated by NHAI are upgraded and to be linked with 108 Emergency Services.
- Rehabilitation centers for survivors of Road Accidents being setup in the districts.
- Integrated Trauma Care Policy for the state is under preparation.

5.8. Road Safety Fund

1. The Government have constituted the Road Safety Fund which is sanctioned through Inter Departmental Committee on Road Safety Fund for various activities.
2. Every year the Government of Tamil Nadu is allocating Rs. 65 Crores. So far it has allotted Rs.325 Crore from the year 2013-14 onwards.

Table 1.2.

ACCIDENT DETAILS IN TAMIL NADU FROM 2001 – 2017

YEAR	Total Accidents	Fatal Accidents	Non Fatal	Fatalities	No. of persons injured
2001	51978	8579	43399	9571	54282
2002	53503	9012	44491	9939	55130
2003	51025	8393	42632	9275	55242
2004	52508	8733	43775	9507	57283
2005	53878	8844	45034	9760	61967
2006	55145	10055	45090	11009	64341

YEAR	Total Accidents	Fatal Accidents	Non Fatal	Fatalities	No. of persons injured
2007	59140	11034	48106	12036	71099
2008	60409	11813	48596	12784	70251
2009	60794	12727	48067	13746	70504
2010	64996	14241	50755	15409	75445
2011	65873	14359	51514	15422	74245
2012	67757	15072	52685	16175	94523
2013	66238	14504	51734	15563	75681
2014	67250	14165	53085	15190	77725
2015	69059	14524	54535	15642	79701
2016	71431	16092	55339	17218	99381
2017	65562	15061	50501	16157	74572
CAGR	1.38	3.37	0.90	3.13	1.89

In Tamil Nadu the Road accidents are increasing year by year. The highest road accidents has happened during the year 2016, the increase of accident during the year 2016 comparing 2001 was around 37 percent, and it has decreased to 26 percent during 2017 due to various steps and road safety measures taken by the Government of Tamil Nadu. During the year 2017, the accidents decreased and thereby it has reduced the fatalities and non fatalities to some extent. The reduced accidents has made tremendous decrease in the number of persons injured. During the year 2017, it was 74,572 which is around 25 percent decrease comparing the previous year 2016.

The average per day death in road accidents was 47 in 2016 and it has reduced to 44 during the year 2017. The accidental injuries per day has also reduced to 204 from 272 comparing the year 2017 and 2016. It is interesting to note that the continuous effort of the transport department has saved the life of 3 persons every day during the year 2017.

Table-1.3.

Fatal accidents and fatalities occurred during 2017 according to type of vehicles

Types of vehicles	Total Accidents	%age of share	Fatalities	%age of share
Bus : Govt	2796	4.26	1029	6.37

:Private	3238	4.94	827	5.12
Goods Carriages	7373	11.25	2506	15.51
Four wheelers	18748	28.60	3994	24.72
Two wheelers	25393	38.73	5322	32.94
Three wheelers	3000	4.58	478	2.96
Others	5014	7.65	2001	12.38
Total	65562	100.00	16157	100.00

The maximum accidents are caused by two wheelers (38.73% of total accidents) followed by four wheelers like car, jeep, etc(28.60% of total accidents) and stands second in accidents followed by Goods carriages (11.25%)

In fatalities also, maximum fatalities are caused due to two wheelers (32.94% of total fatalities) followed by four wheelers like car, jeep, etc(24.72% of total fatalities) and by Goods carriages (15.51%)

Among the total vehicle population of 251.47 lakhs, the two wheeler vehicle population is 84.08% (211.44 lakhs). The maximum fatalities are caused by two wheelers due to non wearing of helmets.

Table-1.4.

Deaths due to non-wearing helmets

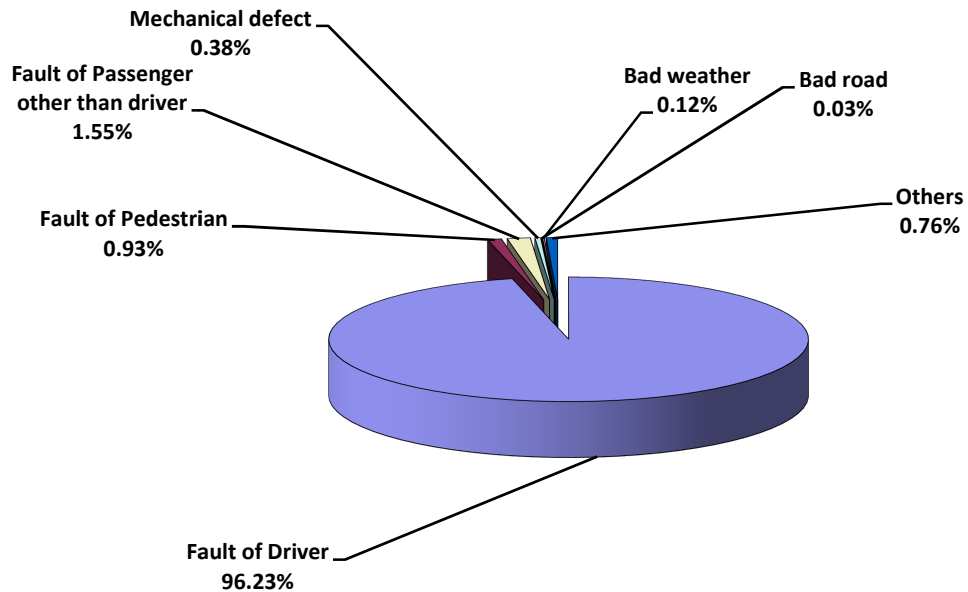
YEAR	DEATHS DUE TO TWO WHEELERS	DEATHS DUE TO NON WEARING OF HELMETS
2016	5666	4091
2017	5322	2956

In the year 2016, 72 Percent of the Death were occurred due to non wearing of helmets and it has decreased to 52 Percent during the year 2017 due to various steps taken by the State of TamilNadu.

Table 1.5.
Accidents according to causes during 2017

NUMBER OF ROAD ACCIDENTS ACCORDING TO CAUSES										
Types of Causes	Fatal Accidents	Fatal Deaths	Percentage	Greivous Injury		Minor injury		Non-injury	Total Accidents	Percentage
				N.A	N.P.I	N.A	N.P.I	N.A		
Fault of Driver	14460	15548	96.23	4953	6530	42671	66224	1621	63705	97.17
Fault of Passenger Other than Driver	146	151	0.93	6	6	275	478	13	440	0.67
Fault of Pedestrian	253	250	1.55	23	24	531	644	1	808	1.23
Fault of Mechanical Defect	59	61	0.38	1	1	137	276	4	201	0.31
Bad Road	5	5	0.03	0	0	16	18	0	21	0.03
Bad Weather	19	19	0.12	6	7	27	60	0	52	0.08
Others	119	123	0.76	16	19	199	284	1	335	0.51
Total	15061	16157	100.00	5005	6587	43856	67984	1640	65562	100.00

FATALITIES ACCORDING TO CAUSES



The major cause for the accidents occurred due to fault of driver (97%) which may be due to drunken driving, over speed, aggressive driving, Use of Cell phone etc., During the year 2017, 65562 accidents occurred and 63705 were occurred due to fault of the driver in TamilNadu upto December 2017.

The Supreme Court Committee on Road Safety has given directions to suspend the driving licences of the drivers who commit the following traffic violations

- a) Over Speeding.
- b) Over Loading of passengers.

- c) Carrying passengers in goods carriages.
- d) Drunken Driving.
- e) Red Light Jumping.
- f) Using Mobile Phone While driving.

Table-1.6.
Details of Driving Licences suspended for traffic violations

OFFENCES	OVER SPEEDING	OVER LOAD IN GOODS CARRIAGE	CARRYING PERSONS IN GOODS CARRIAGE	USING MOBILE PHONE WHILING DRIVING	DRUNKEN DRIVING	RED LIGHT JUMPING	TOTAL
Jan 2017 to July 2017	907	460	464	2373	5086	199	9489
Aug-17	728	365	479	2292	4856	385	9105
Sep-17	4201	2390	3703	11909	6656	2330	31189
Oct-17	4271	1605	5939	13773	5691	5811	37090
Nov-17	3892	1892	7184	14757	4603	5830	38158
Dec-17	3616	2185	5717	12054	3501	4590	31663
Total	17615	8897	23486	57158	30393	19145	156694
Percentage of share	11.24	5.67	14.98	36.47	19.39	12.21	100

As per the directions of the Supreme Court Committee on Road Safety stringent action were taken against the drivers violating the rules. During the year 2017 upto December 1,56,694 licences were suspended in our State for the traffic violations. Major traffic violation in our State is using Cell Phone while driving . Around 36 percent of drivers were punished for using cell phone during driving and the Drunken driving is the second most violation committed by the drivers. There is an urgent need to make awareness among the drivers about using cell phones during driving and stringent action also initiated against the violations.

Similarly, the Drivers who have committed the offence of fatal accidents, the stringent action is taken against them and suspend their license for the maximum period of six months under section 19 (1) of the Motor Vehicle Act,1988.

Table-1.7.

Action against Drivers who made fatal accidents 2008-09 to 2017-18

YEAR	Action against Drivers who made fatal accidents		
	Driving Licences Suspended	Driving Licences Cancelled	Total
2008-09	6742	358	7100
2009-10	5699	99	5798
2010-11	4866	50	4916
2011-12	4987	178	5165
2012-13	5030	117	5147
2013-14	5872	110	5982
2014-15	5871	72	5943
2015-16	6293	23	6316
2016-17	6723	64	6787
2017-18 (Upto December)	6547	922	7469

In our State 7,469 drivers were taken action for fatal accidents during the year 2017-18, of which 922 drivers licences were cancelled and the remaining drivers licences is temporarily suspended. Stringent actions were taken to enforce the law and safeguard the life of the human. Eventhough severe action were taken against the defaulters the occurrence of fatalities is increasing year by year. It has reduced to some extent upto the year 2012-13

and increased slowly and reduced the same level again. During the year 2017-18 more drivers licences were cancelled which highlight during the last ten years.

Apart from the above activities, the enforcement officials of this Department conducts checking periodically and issue check reports to the headquarters.

Table-1.8.

ACCIDENTS OCCURRED ACCORDING TO TIME OF OCCURENCE

TIME OF OCCURANCE	FATAL ACCIDENTS			TOTAL ACCIDENTS		
	2015	2016	2017	2015	2016	2017
0-3 am	720	836	661	2744	2883	2308
3-6 am	1070	1184	1076	4216	4175	3613
6-9 am	1573	1824	1763	8185	8592	7897
9-12 am	1791	2020	1877	9823	10448	9402
12-3 pm	2021	2145	1967	10479	10391	9404
3-6 pm	2303	2536	2458	11976	12501	11666
6-9 pm	3184	3575	3429	14271	15072	14486
9-12 pm	1862	1972	1830	7365	7369	6786
	14524	16092	15061	69059	71431	65562

The maximum number of accidents occurs during 6-9 p.m. due to the heavy vehicular movements during this time. Second major accidents occurring time was 3-6 p.m. in all the years. In all the years very minimum accidents are occurred during the 0-3 a.m. period.

Table-1.9.

DISTRICTWISE FATALITIES - COMPARISON
DURING 2016 & 2017

S.NO	DISTRICT/CITY	JAN-DEC 2016	JAN-DEC 2017	Difference	NO OF DEATHS % OF INCREASE OR DECREASE
		NO OF DEATHS	NO OF DEATHS		
1	CHENNAI CITY	1184	1300	116	9.80
2	ERODE	588	646	58	9.86
3	SALEM	797	819	22	2.76

4	ARIYALUR	162	166	4	2.47
5	CUDDALORE	570	567	-3	-0.53
6	NILGIRIS	55	48	-7	-12.73
7	RAMANATHAPURAM	303	295	-8	-2.64
8	PUDUKOTTAI	383	372	-11	-2.87
9	THENI	278	267	-11	-3.96
10	KANNIYAKUMARI	296	283	-13	-4.39
11	NAGAPATTINAM	271	256	-15	-5.54
12	TIRUVARUR	188	169	-19	-10.11
13	NAMAKKAL	520	499	-21	-4.04
14	PERAMBALUR	184	163	-21	-11.41
15	TUTICORIN	392	370	-22	-5.61
16	TANJORE	483	455	-28	-5.80
17	KRISHNAGIRI	624	595	-29	-4.65
18	COIMBATORE	1047	1015	-32	-3.06
19	MADURAI	736	701	-35	-4.76
20	DINDIGUL	662	627	-35	-5.29
21	VIRUDHUNAGAR	366	330	-36	-9.84
22	KARUR	377	340	-37	-9.81
23	TIRUVANNAMALAI	478	439	-39	-8.16
24	TIRUVALLUR	454	409	-45	-9.91
25	SIVAGANGAI	342	295	-47	-13.74
26	TIRUNELVELI	619	549	-70	-11.31
27	KANCHEEPURAM	1057	984	-73	-6.91
28	DHARMAPURI	371	290	-81	-21.83
29	VILLUPURAM	915	834	-81	-8.85
30	TRICHY	711	617	-94	-13.22
31	TIRUPPUR	927	813	-114	-12.30
32	VELLORE	878	644	-234	-26.65
TOTAL		17218	16157	-1061	-6.16

The above table reveals that the fatalities during 2017 in Districts Chennai city, Erode, Salem and Ariyalur districts are in increasing trend when compared to previous year 2016. In Vellore, Tiruppur, Trichy, Villupuram and Dharmapuri and in all the remaining district, the fatalities are tremendously decreased when compared to previous year 2016 due to the continuous efforts of the Transport Department of Tamil Nadu State.

Table-1.10

Comparative statement of total number of vehicles and total number of accidents

Year	Road Accidents In Tamil Nadu			Total No. of Vehicles (As on 31st Dec)	Accidents compare to 100 vehicles	Fatal Accidents compare to 100 vehicles	FATALITIES PER 10,000 VEHICLES
	Total Accidents	Fatal Accidents	No. of persons dead				
2007	59140	11034	12036	9807155	0.60	0.11	12
2008	60409	11813	12784	10789970	0.56	0.11	12
2009	60794	12727	13746	11820613	0.51	0.11	12
2010	64996	14241	15409	13220752	0.49	0.11	12
2011	65873	14359	15422	14861695	0.44	0.10	10
2012	67757	15072	16175	16625653	0.41	0.09	10
2013	66238	14504	15563	18286774	0.36	0.08	9
2014	67250	14165	15190	19995382	0.34	0.07	8
2015	69059	14524	15642	21558272	0.32	0.067	7
2016	71431	16092	17218	23354026	0.31	0.07	7.4
2017	65562	15061	16157	25147056	0.26	0.06	6

The Total vehicle population increased by 156% when comparing the base year 2007, and the accidents increased by around 11% only in the same period. So the accidents are comparatively controlled to some extent. It is well known fact that the fatality per 10,000 vehicles are reducing year by year due to the road improvements and continuous efforts of the Government. During the year 2011 it was 12 and slowly decreased and now it stands as 6 per 10,000 vehicles. The accidents per 100 vehicles was 0.60 during the year 2007 and it has reduced to 0.26 and the fatality accidents was also decreased to 0.06 during the year 2017 per 100 vehicles, it was 0.11 percent during 2007.

Table-1.11.

ACCIDENTS COMPARISON BETWEEN 2016 AND 2017 IN TAMIL NADU

MONTH	Total Accidents		Difference	% of increase or decrease	Fatalities		Difference	% of increase or decrease
	2016	2017			2016	2017		
January	6184	5752	-432	-6.99	1466	1433	-33	-2.25
February	6160	5288	-872	-14.16	1374	1331	-43	-3.13
March	6227	5716	-511	-8.21	1559	1384	-175	-11.23
April	5993	5251	-742	-12.38	1500	1340	-160	-10.67
May	6012	5715	-297	-4.94	1487	1556	69	4.64
June	5953	5623	-330	-5.54	1433	1408	-25	-1.74
July	5797	5737	-60	-1.04	1371	1429	58	4.23
August	6295	5640	-655	-10.41	1451	1446	-5	-0.34
September	6055	5302	-753	-12.44	1501	1385	-116	-7.73
Oct	5977	5484	-493	-8.25	1460	1365	-95	-6.51
Nov	5282	4908	-374	-7.08	1253	1015	-238	-18.99
Dec	5496	5146	-350	-6.37	1363	1065	-298	-21.86
Total	71431	65562	-5869	-8.22	17218	16157	-1061	-6.16

The Total accidents decreased to 8.22 Percent comparing the year 2016. The maximum decrease in accidents were occurred during the month of February 2017. The minimum decrease in accidents were occurred during the month of July 2017. The fatalities comparing 2016 has decreased 6.16 percent in the year . It means that we have saved the life of around 1061 persons during the year 2017 comparing the previous year. The maximum fatality decrease occurred during the month of December 2017, and the minimum decrease occurred during the month of August 2017. Eventhough the fatality is decreased by 6.16 percent comparing the previous year . but the fatality in May, July 2017 has increased by 69, 58 respectively comparing the previous

year same months. An indepth study is needed to identify the reason for the increase in that particular months.

Table- 1.12.
Accidents in Tamil Nadu and Fatality per lakh population

Year	Total No. of Road Accidents	Fatal Accidents	No. of Persons Died	No. of persons killed by two wheelers	Percentage to total deaths	Fatalities per 1,00,000 Population
2011	65873	14359	15422	3862	25	21.38
2012	67757	15072	16175	4466	28	23.84
2013	66238	14504	15563	4467	29	20.94
2014	67250	14165	15190	4704	31	20.12
2015	69059	14524	15642	4887	31	20.41
2016	71431	16092	17218	5666	33	22.11
2017	65562	15061	16157	5322	33	20.25
CAGR	-0.07	+0.68	+0.67	4.69	5.30	-0.77

It is well known fact that the number of accidents and total deaths were in decreasing trend when comparing the year 2016,2017. But overall picture shows that the accidents are not decreased expected level when comparing the previous years. The CAGR shows the Accidents as -0.07 which is very meager when numbers. Eventhough the accidents were decreased, the fatalities and two wheeler death are in increasing trend comparing the base year 2011. It is notable that the deaths caused by two wheelers are increasing year by year due to various reasons. During the year 2011 it was 25 percent when comparing the total fatalities, it has increased slowly and reached 33 percent in 2016 and also it stands in the same level in 2017.

MAJOR FINDINGS

- The highest road accidents has happened during the year 2016, the increase of accident during the year 2016 comparing 2001 was around 37 percent, and it has decreased to 26 percent during 2017 due to various steps and road safety measures taken by the Government of Tamil Nadu
- The maximum accidents are caused by two wheelers (38.73% of total accidents) followed by four wheelers like car, jeep, etc(28.60% of total accidents) and stands second in accidents followed by Goods carriages (11.25%)
- In fatalities also, maximum fatalities are caused due to two wheelers (32.94% of total fatalities) followed by four wheelers like car, jeep, etc(24.72% of total fatalities) and by Goods carriages (15.51%)
- 72 Percent of the Death were occurred due to non wearing of helmets and it has decreased to 52 Percent during the year 2017 due to various steps taken by the State of TamilNadu.
- The average per day death in road accidents was 47 in 2016 and it has reduced to 44 during the year 2017. The accidental injuries per day has also reduced to 204 from 272 comparing the year 2017 and 2016. It is interesting to note that the continuous effort of the transport department has saved the life of 3 persons every day during the year 2017.
- Major traffic violation in our State is using Cell Phone while driving . Around 36 percent of drivers were punished for using cell phone during driving and the Drunken driving is the second most violation committed by the drivers.
- In our State 7,469 drivers were taken action for fatal accidents during the year 2017-18, of which 922 drivers licences were cancelled and the remaining drivers licences is temporarily suspended.
- The maximum number of accidents occurs during 6-9 p.m. due to the heavy vehicular movements during this time. Second major accidents occurring time was 3-6 p.m. in all the years.
- The fatalities during 2017 in Districts Chennai city, Erode, Salem and Ariyalur districts are in increasing trend when compared to previous year 2016.

- The Total accidents decreased to 8.22 Percent comparing the year 2016. The maximum decrease in accidents were occurred during the month of February 2017
- The Vehicular population increased by 156% comparing the base year 2007.

CONCLUSION:

The ultimate goal is to reduce the number of accidents and fatalities. The measures to decrease the accident rates are generally divided into four groups engineering, enforcement , education and Emergency care. More concentration should be given to implement the above road safety measures.

Accident prone stretches of different roads may be assessed by finding the Block spots in which accidents occurred frequently by the zonal officers.

Effective enforcement by both Police and Transport officials for drunken driving will reduce the number of accidents.

The Passengers and pedestrians should be taught the rules of the road, correct manner of crossing etc. by introducing necessary instruction in the schools for the children and by the help of posters and electronic media exhibiting the serious results due to carelessness of road users. The various measures taken by the Tamil Nadu State during the last year has made positive effects on reducing the accidents and fatalities. The continuous efforts on this line will lead the State in all India level on reducing the overall accident and safeguarding the human Capital in the State.

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