



ALARMING STATE OF ROAD ACCIDENTAL DEATHS IN PUNJAB (INDIA) (1980-2012)

Dr. Simranjeet Singh Bains,

Associate Prof. in Economics,

Lyallpur Khalsa College, Jalandhar.

ABSTRACT

In the last two decades India has emerged as a vibrant economy, witnessing rapid urbanization, migration of people and changing pattern of consumption. The intensity of motorized vehicles has risen by many folds without a matching investment in infrastructure development. Road safety has figured as the most sensitive and crucial issue while addressing to the problem of accidental deaths in the country. Road accidents form the highest proportion of accidental deaths. The present study is an attempt to determine the density of vehicular traffic, density of road network and intensity of road accidental deaths in different districts of Punjab from 1996 to 2012.

The available data is subjected to primary and graphical analysis. District-wise density of vehicular traffic, density of road network and intensity of road accidental deaths is examined to have a microscopic view of acute problem in the state of Punjab. It is found in the study that intensity of road accidents is more in big cities (Ludhiana topped the list in terms of magnitude of road accidents, road accidental deaths and accidental injuries on roads. It is followed by S.A.S. Nagar, Patiala and Jalandhar.) The situation is alarming and growing at a very high rate (above nine percent) in Punjab and there are no signs of declining in near future unless emergent steps are taken to cure this menace.

In the last two decades India has emerged as a vibrant economy, witnessing alterations in the socio-demographic, economic and political way of life. There has been rising income trend especially among the middle income classes. This has led to rapid urbanization, migration of people and changing pattern of consumption. They are readily adopting mechanization and experiencing revolution in technology in all spheres of life. The intensity of motorized vehicles has risen by many folds without a matching investment in infrastructure development. Road safety has figured as the most sensitive and crucial issue while addressing to the problem of accidental deaths in the country. Road accidents form the highest proportion of accidental deaths. There are both natural and un-natural causes of accidental deaths. The natural causes (Avalanche, Cold and Exposure, Cyclone/Tornado, Starvation/Thirst, Earthquake, Epidemic, Flood, Heat Stroke, Landslide, Lightning, Torrential Rains etc.) constitute a meager part to the extent of 5 to 6 percent of total accidental deaths. The different causes of unnatural deaths are Air-Crash, Collapse of Structure (House Building, Dam, Bridge), Drowning Boat, Electrocution, Explosion, Falls (Fall from Height, Fall into Pit/Manhole), Factory/Machine Accidents, Fire (Fireworks/Crackers, Short-Circuit, Gas Cylinder/Stove Burst), Fire-Arms, Sudden Deaths (Heart Attacks, Epileptic Fits/Giddiness, Abortions/Child Birth, Influence of Alcohol), Killed by Mines or quarry disaster, Poisoning (Food Poisoning/Accidental Intake of Insecticide, Spurious/poisonous liquor, Leakage of poisonous gases, Snake Bite/Animal Bite), Stampede, Suffocation, Traffic Accidents (Road, Rail-Road Accidents, Other Railway Accidents).

Road accidents (figuring among the unnatural causes of accidental deaths) usually refer to traffic accidents in which there is a motor vehicle collision with another vehicle, person, animal, obstruction like trees or poles etc. Such an accident leads to injury, death, disability, vehicle damage and property damage. It is a worldwide phenomenon which causes human and financial loss and the cost has to be borne by the society and the individuals involved. The World Health Organization (WHO) uses the term road traffic injury to describe the vehicle collisions. A 2004 report by WHO states that road traffic injuries are a major problem which needs effective and sustainable efforts for prevention. The report forecasts that if new initiatives are not taken to combat this problem worldwide road traffic injuries would rise by 65 percent by 2020 and by 80 percent in low-income and middle-income countries.

There is an urgent need to take appropriate actions to put a check on the deteriorating road safety measures. Road safety measures include appropriate engineering aspect of both roads

and vehicles, as well as provision of efficient health and hospital services. In India the problem is unique and catastrophic with little precedence of such a situation in highly motorized countries. Here the road space is jointly shared by cars, buses, three-wheelers, rickshaws, animal carts, scooters, bicycles and pedestrians. Highways pass through rural areas with high density of population and there is an absence of parallel road links for slow and non-motorized traffic. Illegal encroachments on the road spaces are a further nuisance which causes many road accidents. Driving licenses are issued without effective scrutiny and examination. India's road traffic injuries pose a huge public health and development problem killing almost around 1.4 lakh people, injuring or disabling about 4.7 lakh persons and damaging 1.6 crore vehicles a year (NCRB, 2013).

The rate of deaths due to road accidents (number of deaths in road accidents / number road accidents * 100) is highest in the state of Punjab to the extent of 72.6 after Meghalaya, Mizoram and Nagaland whereas it is only 31.0 in all India basis. (NCRB, 2013) There has been a spurt in number of vehicles as Punjab figures among the states having high density of registered vehicles. The present study is an attempt to determine the density of vehicular traffic, density of road network and intensity of road accidental deaths in different districts of Punjab.

METHODOLOGY

The data on total registered vehicles, road accidents, persons killed, persons injured road length, roads per sq. K.M. of area and roads per lakh of population, in the state of Punjab from 1996 to 2012 is subjected to primary and graphical analysis. District-wise density of vehicular traffic, density of road network and intensity of road accidental deaths is examined to have a microscopic view of acute problem in the state of Punjab.

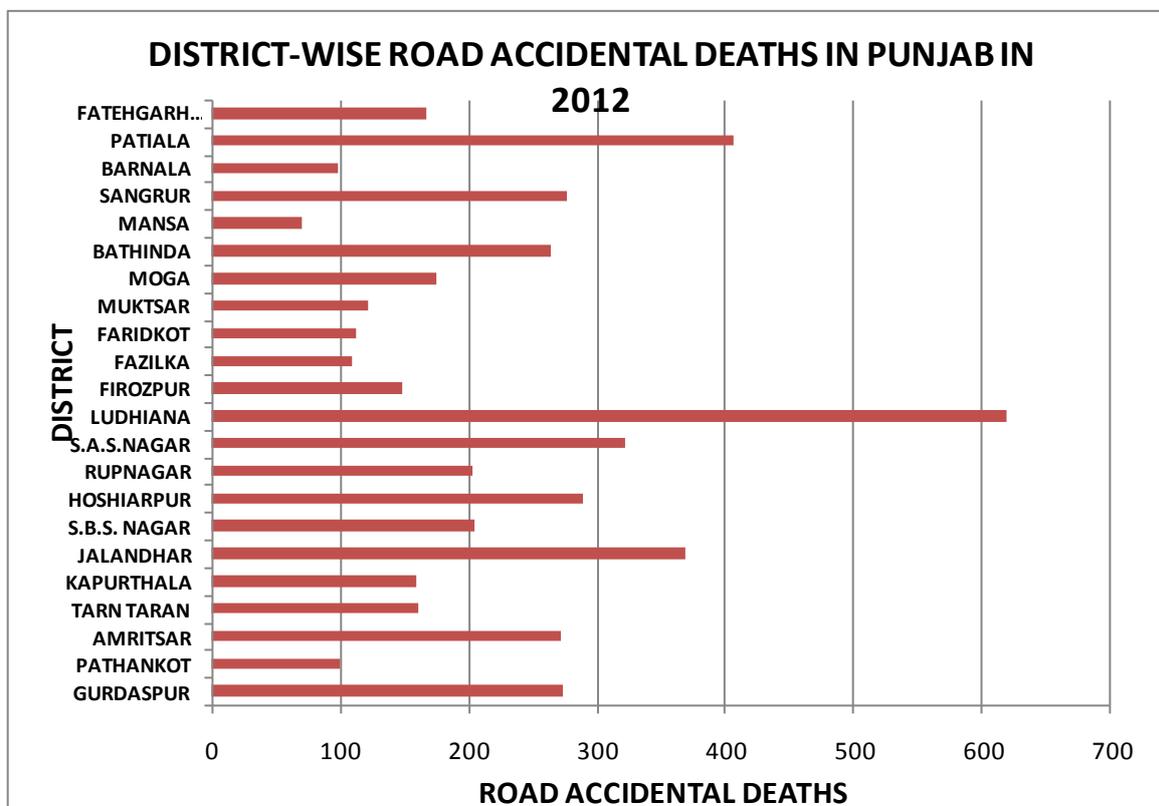
Sources of Data

	Type of Data	Source
i)	Decade-wise magnitude of registered vehicles in Punjab (1980-2010)	State Transport Commissioner, Chandigarh.
ii)	Decade-wise magnitude of road accidents, persons killed and persons injured in Punjab (1980-2010)	Director General Police, Crime, Punjab Police Headquarters, Chandigarh.
iii)	District-wise road length, roads per sq. K.M. of area, roads per lakh of population	Chief Engineer Office, P.W.D. (B&R), Punjab.

DISCUSSION

Clearly shown in Table 1 given in Appendix, that over a period of three decades magnitude of vehicular traffic has risen by about sixteen times, from 360154 in 1980 to 5711715 in 2010, which is the cause of high intensity of road accidents. Rise in earnings of middle class clubbed with easy availability of automobile loan from financial institutions was the primary cause of substantial increase in number of vehicles on roads. The quantum of road accidents has increased by 5.45 times from 1010 in 1980 to 5507 in 2010. The highest spurt was in the last decade (2000-2010) to the extent of 1631. Lack of investment in road infrastructure and accessibility of fast moving vehicles constitutes the reason for voluminous road accidents. The magnitude of accidental deaths and persons injured has also risen tremendously by 7.5 times (from 472 in 1980 to 3544 in 2010) and 4.9 times (from 836 in 1980 to 4171 in 2010) respectively in Punjab.

Clearly shown in Table 2 given in Appendix, among the various districts of Punjab, Ludhiana had the highest number of vehicular traffic to the extent of 1336866, followed by Jalandhar (908604) and Amritsar (803007), which collectively forms 48.7 percent of total vehicular traffic of Punjab as in March, 2012. These three districts have comparatively made ample growth in secondary and tertiary sectors of state economy.



The rise in income earnings due to business activity and sharp rise in landed property were reasons responsible for voluminous increase in number of vehicles in the districts. Ludhiana topped the list in terms of magnitude of road accidents, road accidental deaths and accidental injuries on roads. It is followed by S.A.S. Nagar and Patiala. The magnitude of road accidental deaths in Ludhiana was 620 in the year 2012, followed by Patiala (407), Jalandhar (370) and S.A.S.Nagar (323).

Density of road network is maximum in Ludhiana to the extent of 268 kilometers per square K.M. of area followed by Jalandhar (221 K.M.) and Amritsar (204 K.M.). Length of roads per lakh of population is maximum in Muktsar to the extent of 452 K.M. followed by S.B.S. Nagar (400 K.M.) and Rupnagar (376 K.M.). These are the districts with comparatively low density of population. The State must prioritize to invest appropriately in road infrastructure, especially the national and state highways in order to reduce road accidents and fatalities there on.

The National Highways are partly maintained by National Highway Authority of India and partly by Public Works Department (B&R) in Punjab. National Highways must be intensely scrutinized for any engineering defects and they must be rectified at the earliest possible. Roads maintained by Public Works Department (B&R) in Punjab accounts for 67258 kilometers as on March, 2012. Among them National Highways are 1738 K.M., whereas Provincial Highways are 65520 K.M.

Many highway accidents are a result of haywire round turnings and abrupt changeover from multi-lane roads to single lane roads. A glaring example is the six lane highway on Amritsar – Jalandhar route, near Dhilwan where the incidence of accidents was quite high due to abrupt switching from six lane to single lane, which led to collisions on that spot. To combat this menace, various sign boards, in place of single traffic board were put repeatedly in regional language Punjabi and English reading “CAUTION – DRIVE SLOW – SINGLE ROAD AHEAD” to warn the vehicles about the approaching end of the wide six lane road. This made the high speed vehicle drivers to take notice of the repeated warnings and get alert which resulted in substantial decline in number of accidents in that vulnerable spot. This sincere effort put in by district traffic police department had a positive impact in curbing the blunders of faulty road constructions and need to be acknowledged.



Another area along the Chandigarh- Phagwara bypass near village Bhularahi just short of Jalandhar by 22 Kilometers, was a risky spot, prone to vehicle crashes. The roundabout was a construction fault where a speeding vehicle was unable to break the momentum and turn the vehicle, which led to skidding and crashing of the vehicle into the roundabout. Here too the various light reflecting traffic signboards, visible even in dark, were installed reading “CAUTION – DRIVE SLOW – ROUNDABOUT AHEAD” saved many lives by giving warnings about the impending roundabout and the risk got averted.



These efforts by traffic police department need to be acknowledged and commended.

SUGGESTIONS AND POLICY IMPLICATIONS

1. Their speed limits, cargo carrying limit (over-loading) and passenger carrying limit must be regulated and strictly followed. It is also suggested that yellow, orange and such bright colours should be used on heavy vehicles because the bright colours make them more visible when parked under low light conditions. It is more relevant in countries like ours, where the parking and lighting regulations are scantily followed. White coloured cars are most visible and had least chances to be involved in an accident. (Monosh University, Accident Research Centre of Melbourne).
2. There is need to identify black spots and correct the defects (engineering and architectural aspects) of road infrastructure. Moreover the inferior construction of roads is causing deterioration of safety standards for heavy and fast moving vehicular

traffic. A large number of fatal accidents can be avoided by appropriately curing such defects by concerned authorities at the earliest.

3. Large number of road accidents happen at night, so it is required not to keep traffic lights in standby mode at nights. Furthermore directional and warning boards must be installed with neon lights and blinkers, so as to enhance their visibility at nights.
4. It is also found in the study that intensity of road accidents is more in big cities (Ludhiana topped the list in terms of magnitude of road accidents, road accidental deaths and accidental injuries on roads. It is followed by S.A.S. Nagar, Patiala and Jalandhar.) The traffic rules and regulations must be intensely supervised using modern techniques of surveillance and offenders must be stringently penalized. Universal enforcement of use of seat belts at both front and rear seats while driving should be made. Standardized helmets by two wheelers should be must both for driver and pillion rider.
5. Dedicated traffic police force is vital for patrolling and managing traffic in cities and towns. A special highway police force must be constituted to enforce road safety on the National Highways. This issue was discussed by a specialized committee, which was of the view that borrowing personnel from the state police force was not a satisfactory arrangement as there was no guarantee of continuity, capacity or uniformity in dealing with traffic management and road safety issues on National Highways. The committee noted that the Central Government was examining the possibility of employing the Central Industrial Security Force (CISF) for the purpose (Report, 2007).
6. Authorities issuing driving licenses should follow proper procedure of written, physical and medical examination at the time of issuing fresh and renewed licenses. It should be made mandatory to have a periodical checkup of vehicles, which also must pass basic environment standards.
7. There is a need to develop and efficiently run a dedicated emergency medical service at least at all national and state highways to extend required medical assistance in case of any mishappening. It will substantially reduce fatalities and large economic cost to society.
8. Arrangement for sharing knowledge of traffic signals and their adherence should be given in educational institutions as they (youth) constitutes the major proportion in casualties. Children below a certain age must not be allowed to cycle on busy roads.

Moreover bright coloured cycles with reflectors both in front and back, should be encouraged as they are less prone to accidents in low light.

9. The menace of stray dogs and cows should be addressed as they possess a big hazard, especially to vehicles at night time.
10. It is also proposed to launch a drive against drunken driving with stringent penalties and moreover liquor shops must be removed from national/state highways.

CONCLUSION

It is concluded from above discussion that there has been a spurt in intensity of road accidental deaths and injuries during the period of analysis (1980-2012) in the state of Punjab, causing a rise in proportion of road accidental deaths in total accidental deaths by 24.3 percent. Higher growth in density of vehicular traffic as compare to growth in the density of roads is the primary cause of the problem. Moreover the quality of roads (engineering, architecture and constructional aspects) is not appropriate, causing deterioration of safety standards for heavy and fast moving vehicular traffic. Among the different type of vehicles, the fatality rate is maximum by trucks and lorries due to overloading, driving under the influence of intoxicants and lengthy working schedule. Ludhiana topped the list in terms of magnitude of road accidents, road accidental deaths and accidental injuries on roads. It is followed by S.A.S. Nagar and Patiala.

The situation is alarming and growing at a very high rate (above nine percent) in Punjab and there are no signs of declining in near future. It is expected that at given growth of earnings of large populace, the density of vehicular traffic is yet to climb peak rate, indicating worsening of the problem. There is an urgent need to synchronize various agencies involved in road infrastructure development and vehicular traffic management. A comprehensive approach including all the efforts stated above must be executed with outmost dedication to check burgeoning road accidental deaths.

REFERENCES

Report of the Committee on “**Road Safety and Traffic Management**”, *The Secretariat for the Committee on Infrastructure*, Planning Commission, Government of India, February 2007.

CRR I Annual Report, *Central Road Research Institute*, New Delhi, 2007.

Accidental Deaths & Suicides in India, *National Crime Records Bureau*, Ministry of Home Affairs, G.O.I. New Delhi, (2013).

Cropper, M.L. & Kopits, E, **Traffic Fatalities and Economic Growth.**
“**World Bank Policy Research Working Paper**” *Washington D.C., World Bank, 2003.*

WHO, **Global Status Report on Road Safety**, 2013.

WHO, **United Nations Decade of action for road safety 2011-2020**, 2013

WHO, **Road Traffic Injuries Fact Sheet**, No.358, March 2013.

Global Road Safety Partnership, <http://www.grsproadsafety.org/about-us/our-purpose>,
1999.

Mohan D, **Moving around in Indian Cities**, *Economic and Political Weekly*, Vol XLVIII
No.48, Nov. 30, 2013.

Monosh University, *Accident Research Centre of Melbourne*, 2010.

APPENDIX

TABLE 1: MAGNITUDE OF ACCIDENTS, PERSONS KILLED, PERSONS INJURED, (1980-2010)

YEAR	NUMBER OF REGISTERED VEHICLES *	NUMBER OF ACCIDENTS **	NUMBER OF PERSONS KILLED **	NUMBER OF PERSONS INJURED **
1980	360154	1010	472	836
1990	1329482	1621	1133	1322
2000	2910233	3876	2406	3165
2010	5711715	5507	3544	4171

Source: * State Transport Commissioner. **Director General of Police, Crime, Punjab.

TABLE 2: DISTRICT WISE REGISTERED VEHICLES, MAGNITUDE OF ACCIDENTS, PERSONS KILLED, PERSONS INJURED, TOTAL ROAD LENGTH, ROADS PER SQ. K.M. OF AREA AND ROADS PER LAKH OF POPULATION IN PUNJAB AS ON MARCH, 2012

DISTRICT	NUMBER OF REGISTERED VEHICLES *	NUMBER OF ACCIDENTS **	NUMBER OF PERSONS KILLED **	NUMBER OF PERSONS INJURED **	TOTAL ROAD LENGTH (K.M.) ***	ROADS PER 100 SQ. K.M. OF AREA (K.M.) ***	ROADS PER LAKH OF POPULATION (K.M.) ***
GURDASPUR	294935	322	274	130	4282	120	185
PATHANKOT	9785	140	100	68	1556	-	-
AMRITSAR	803007	353	273	243	5394	204	213
TARN TARAN	77632	173	162	102	3080	126	270
KAPURTHALA	194312	183	159	134	2935	147	291
JALANDHAR	908604	438	370	244	5812	221	264
S.B.S. NAGAR	102824	219	205	100	2471	195	400
HOSHIARPUR	318674	346	289	132	5529	164	347
RUPNAGAR	196112	319	203	218	2591	189	376
S.A.S.NAGAR	98145	541	323	409	2396	219	236
LUDHIANA	1336866	871	620	487	10099	268	286
FIROZPUR	256255	148	148	184	3562	67	173
FAZILKA	5321	105	110	39	2384	-	-
FARIDKOT	205043	134	113	60	1947	133	310
MUKTSAR	65600	150	122	92	4140	158	452
MOGA	106326	217	175	146	3354	151	335
BATHINDA	270364	323	265	193	3824	113	271
MANSA	69244	109	70	90	2339	108	301
SANGRUR	272298	375	277	275	5393	149	322

BARNALA	40733	153	98	85	1746	124	289
PATIALA	510245	664	407	577	5544	172	288
FATEHGARH SAHIB	114483	230	168	73	1970	167	325
PUNJAB	6256808	6513	4931	4081	81808	162	291

Source: * State Transport Commissioner **Director General of Police Crime (Pb) ***Chief Engineer P.W.D. (B&R), Punjab.

Note: 1. Roads maintained by Irrigation Department, Punjab, has not been included as these relates to path of canals/drains. 2. Data pertaining to roads per sq. K.M. of area and roads per lakh of population is not available for the district of Pathankot & Fazilka.