

## Development of Transport system in the Mountainous state of Jammu and Kashmir

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### Abstract

Development and expansion efficient means of transportation are the precondition for fast and balanced economic growth. The means of transportation plays a significant role in judicious utilisation of natural resources of a region. In a region like Jammu and Kashmir where most of the area is hilly and mountainous roads play a vital role in the transportation of people and goods. Over the years, due to one or the other reason, the region remains behind in terms of construction of roads and bridges by which people of the area suffered drastically. The only highway that connects the region to the country is very dangerous and often accidents occur. It only by the end of this decade that some efforts have been made by the Union Government for the construction of new roads including highways. The study presents an overview of the transportation sector, accidents occurred and assessment of infrastructure created in the region over the years.

**Key-words:** infrastructure, outlays, expenditure, road length, accidents.

### Introduction

For the development of an economy road transport is an essential sector/element as it is essential in providing mobility to people and goods. Transport industry is the second largest employment and is significant contributor to the Indian's GDP. However, it also exposes people to the risk of road accidents, injuries and serious casualties. Exposure to adverse traffic environment is high in India because of the unprecedented rate of motorization and growing urbanization fuelled by high rate of economic growth. As a result, incidents of road accidents, traffic injuries and casualties have remained unacceptably high in the India (Ministry of Road Transport & Highways). Road accidents in the country have decreased by around 4.1 per cent during 2016, with 4,80,652 road accidents in 2016 as against 5,01,423 in 2015. However, casualties resulting from these accidents have increased by about 3.2 per cent during the same period. In India, nearly, 1,50,785 persons were killed in 2016 as against 1,46,133 in 2015. (Press Information Bureau, Government of India).

Indian has witnessed a 3 per cent decrease in road accidents between January to July 2017, along with a 4.75 per cent reduction in road accident casualties. The number of road accidents have come down from 2,43,870 between January to July 2016 to 2,36,458 during the same period in 2017, casualties have decreased from 79,354 between January to July 2016 to 75,583 during the same period in 2017. The road accidental deaths have reduced in 25 states and Union Territories in the first half of 2017. Only states like Assam, Bihar, Orissa and Uttar Pradesh have seen increase in road accident casualties between 2-8 per cent during this period (Ministry of Road Transport & Highways).

The Ministry analyses the road traffic injuries based on the data received from the Police Department of all State/UTs. The total number of persons died due to accidents in Indian had reached the mark of 147913. As per Global status report on road safety 2018 of World Health Organization (WHO) published by them on the based on Road accidents data for 2016, India is one of the leading countries where number of road accidents are higher. As

per the data and reports of the police department of States/UTs reveals that road accidents have been declining since 2015. Road Accidents declined by 4.14 per cent in 2016 as compared to 2015 and in the year 2017 road accidents decreased by 3.2 per cent compared to 2016 (Traffic Statistics, 2019). Many causes are responsible for the road accidents, few of them can be; use of mobile phones, drunken driving/consumption of alcohol/ drug, overloaded vehicle, poor light condition, jumping red light, over-speeding, overtaking, neglect of civic bodies, weather condition, driving on wrong side, defect in road condition, defect in condition of motor vehicle, fault of cyclist, fault of pedestrian etc. (Kong Ting and Wu Xiao, 2009). These days, road traffic injuries are one of the leading causes of death, disabilities and hospitalization in the country. Road traffic injuries constitute the 8<sup>th</sup> leading causes of death in India in 2016 (IMHE), and are the leading cause of health loss among young men of age 15-49 years.

### **Causes of Road Accidents**

Road accidents can occur due to human errors, bad and damaged road conditions and vehicular conditions. Broadly road accidents take place due to the following;

#### ***Violations of traffic rules***

Violation of any traffic rule can be any human error or driver's fault. Violations such as over- speeding or wrong side driving constitute not only human error alone, but also road design fault. Drunk and driving, red-light jumping and use of handheld devices (such as mobile phones) are sole traffic rule violations. Over speeding is the cause of lots of road accidents (World Commission on Environment and Development, 1987).

#### ***Road features and traffic rules violation***

Road condition is one of the prominent causes of road accidents in India. Vehicle speed tends to be high on straight road in open areas which corroborates the high percentage share of over speeding in the traffic violations associated with road.

#### ***Overloading and old (condemn) vehicles***

Old vehicles are prone to collapse. Tyres bursts, break failures, unable to balance on highways have been resulted in several incidences of road accident.

#### ***Licence type and road accidents***

Issuance of licences to unprofessional and untrained/ignorant drivers is very challenging and a serious traffic hazard. A proper mechanism should be followed while issuing a licence and it must also be dealt with better facilities and opportunities for training and evaluation procedures.

#### ***Use of safety devices***

Avoidance of safety devices such as helmets and seatbelts cause huge number of fatal road accidents. Though their use do not prevent accidents but are critical for averting fatal and critical injuries in an event of road accidents (Tolu Isaac Atomode, 2013).

### **Road network in Jammu and Kashmir**

Although a huge budget has been released for the development of road transport in the Kashmir valley, but the development remained only in papers. Residents of Jammu and Kashmir, especially valleyties live a miserable life due to the old century highway connecting the valley with the rest of the country. The NH<sub>1</sub> highway is the only road which is used for all season to transport the essentials and passengers to the valley and also supplies fresh and dry fruits from valley to the rest of the country. Though an alternate

route namely Mughal road had been constructed few years back, but it still is very dangerous and also remain closed for winter seasons due to heavy snowfall.

Road safety has become an issue of concern at state, national and international level. Road traffic accidents are an outcome of the interplay of various factors, some of which are the length of road network, vehicle population, human population and adherence/enforcement of road safety regulations etc. Road accident causes injuries, fatalities, disabilities and hospitalization with severe socio-economic costs across the country.

#### **Accidents in Jammu and Kashmir**

A survey conducted in 2013 by National Crime Records Bureau (NCRB) and it was found that Jammu and Kashmir topped the list of “high accidental death-prone areas”. As per the insights of the report, an accident in Jammu & Kashmir state has a 64 per cent chance of causing death as opposed to 36.4 per cent for all India. Road accidents in Jammu and Kashmir kill more people than some epidemics, but the Central and the State governments refuse to see it for what it is not less than a crisis. The obsolete traffic management and transportation system resulted in huge number of deaths and left a huge chunk of population injured with disabilities.

In Jammu and Kashmir, road accidents are claiming more lives than the armed-related violence. 14,407 civilians were killed in 77,786 road accidents in the 13 years from 2004 to June 2017, which also injured 1,07,622 people as per records from the J&K Traffic Police and the central Ministry of Home Affairs (MHA). In 2015, as per the figures compiled by the Traffic Police, 917 persons lost their lives in 8,142 road accidents which were reported from various parts of the state mostly on the NH<sup>1</sup> highway. If we have a look on figures during the year 2016, as per the report compiled by the Traffic Department, indicating the data for the first three quarters of the year 2016, 4,132 road accidents were reported from the Jammu, Kashmir and Ladakh regions, in which 665 persons lost their lives. Of these, 3,621 were non-fatal accidents, while 511 were fatal (C. Mihyeon et al, 2005). Nearly 6,000 were also injured in the accidents. The shocking fact is that Jammu district registered the highest number of 113 road accidental deaths. Besides 946 persons were injured in 1,103 road accidents in the district during the period out of which, 112 were very fatal. The second highest number of accident-related deaths followed by Jammu district were reported from Ramban district of the Jammu division, where 66 persons were killed in 192 road incidents (Dhingra S.L et al. 2002).

Srinagar, the summer capital reported 38 accidental deaths on roads, where a total of 255 road accidents were reported during the first three quarters of the year 2016 from Srinagar, in which 35 accidents were fatal and 216 non-fatal. A total of 254 persons also sustained injuries in these road accidents. During the same period, the lowest number of road deaths and accidents were reported from Shopian district in south Kashmir, where one person lost his life and 49 were injured in 36 road accidents., In Ladakh region, Leh district reported 68 road accidents out of them, 26 proved fatal and in which 38 persons were killed, besides 123 were injured. Kargil district reported 46 road accidents in which 31 persons lost their lives while 72 sustained injuries. (Traffic Police, Govt. of Jammu and Kashmir).

#### **Traffic Accidents in Jammu and Kashmir**

Table 1 shows the total number of road accidents state wise in India during 2015-2017. The overall scenario shows that there is decrease in the road accidents in the country. The data

figure reveal that in 2015 the number road accidental deaths in India were 501423 which reduced to 464910 during 2017 but the situation in Jammu and Kashmir during the same period shows an aggravation in the data figures from 5836 in 2015 which reduced to 5501 in 2016 but again showed an increasing trend of 5624 during 2017. Similarly, the number accidents in Jammu and in 2019 decreased to 4309. The highest number of accidental death occur on the NH<sub>1</sub> highway which often occurs due to overloading and negligence of drivers on such a difficult and tough road.

**Table 1: State wise number of road accidents in India: 2015 to 2017**

S. No.	States/UT's	Total number of road accidents		
		2015	2016	2017
1	Andhra Pradesh	24258	24888	25727
2	Arunachal Pradesh	284	249	241
3	Assam	6959	7435	7170
4	Bihar	9555	8222	8855
5	Chhattisgarh	14446	13580	13563
6	Goa	4338	4304	3917
7	Gujarat	23183	21859	19081
8	Haryana	11174	11234	11258
9	Himachal Pradesh	3010	3168	3114
10	Jammu & Kashmir	5836	5501	5624
11	Jharkhand	5162	4932	5198
12	Karnataka	44011	44403	42542
13	Kerala	39014	39420	38470
14	Madhya Pradesh	54947	53972	53399
15	Maharashtra	63805	39878	35853
16	Manipur	671	538	578
17	Meghalaya	606	620	675
18	Mizoram	70	83	68
19	Nagaland	54	75	531
20	Odisha	10542	10532	10855
21	Punjab	6702	6952	6273
22	Rajasthan	24072	23066	22112
23	Sikkim	219	210	196
24	Tamil Nadu	69059	71431	65562
25	Telangana	21252	22811	22484
26	Tripura	647	557	503
27	Uttarakhand	1523	1591	1603
28	Uttar Pradesh	32385	35612	38783
29	West Bengal	13208	13580	11631
30	Andaman & Nicobar Islands	258	238	189
31	Chandigarh	416	428	342

32	<b>Dadra &amp; Nagar Haveli</b>	69	70	67
33	<b>Daman &amp; Diu</b>	70	71	79
34	<b>Delhi</b>	8085	7375	6673
35	<b>Lakshadweep</b>	3	1	1
36	<b>Puducherry</b>	1530	1766	1693
	<b>Total</b>	<b>501423</b>	<b>480652</b>	<b>464910</b>

#### Persons killed in accidents in Jammu and Kashmir

Table 2 shows the number accidental deaths in India during 2015-17. From the table it can be analysed that the total number accidental deaths in India had increased from 146133 in 2015 to 147913 in 2016 with a higher number of 150785 in 2017 (Motor Vehicles Department, 2018). Similarly, the overall accidental death rate in Jammu and Kashmir has also shown an increasing trend during the reference period with 917 deaths in 2015 and 926 accidental deaths in 2017 and accidental deaths shows a decline 739 in 2019 and the persons injured during accidents in Jammu and Kashmir in 2019 has reached to 5711 (Indiastat).

**Table 2: State wise number of persons killed in accidents in India**

S. No.	States/UT's	Total Number of Persons Killed in Road Accidents during		
		2015	2016	2017
1	<b>Andhra Pradesh</b>	8297	8541	8060
2	<b>Arunachal Pradesh</b>	127	149	110
3	<b>Assam</b>	2397	2572	2783
4	<b>Bihar</b>	5421	4901	5554
5	<b>Chhattisgarh</b>	4082	3908	4136
6	<b>Goa</b>	311	336	328
7	<b>Gujarat</b>	8119	8136	7289
8	<b>Haryana</b>	4879	5024	5120
9	<b>Himachal Pradesh</b>	1096	1271	1203
10	<b>Jammu &amp; Kashmir</b>	917	958	926
11	<b>Jharkhand</b>	2893	3027	3256
12	<b>Karnataka</b>	10856	11133	10609
13	<b>Kerala</b>	4196	4287	4131
14	<b>Madhya Pradesh</b>	9314	9646	10177
15	<b>Maharashtra</b>	13212	12935	12264
16	<b>Manipur</b>	139	81	136
17	<b>Meghalaya</b>	183	150	182
18	<b>Mizoram</b>	72	70	60
19	<b>Nagaland</b>	30	46	41
20	<b>Odisha</b>	4303	4463	4790
21	<b>Punjab</b>	4893	5077	4463
22	<b>Rajasthan</b>	10510	10465	10444
23	<b>Sikkim</b>	70	85	78
24	<b>Tamil Nadu</b>	15642	17218	16157

25	<b>Telangana</b>	7110	7219	6596
26	<b>Tripura</b>	158	173	161
27	<b>Uttarakhand</b>	913	962	942
28	<b>Uttar Pradesh</b>	17666	19320	20124
29	<b>West Bengal</b>	6234	6544	5769
30	<b>Andaman &amp; Nicobar Islands</b>	23	17	21
31	<b>Chandigarh</b>	129	151	107
32	<b>Dadra &amp; Nagar Haveli</b>	42	46	43
33	<b>Daman &amp; Diu</b>	42	38	36
34	<b>Delhi</b>	1622	1591	1584
35	<b>Lakshadweep</b>	0	1	0
36	<b>Puducherry</b>	235	244	233
	<b>Total</b>	<b>146133</b>	<b>150785</b>	<b>147913</b>

### Comparison of road accidents with other metropolitan cities

Due to increase in income and decency in the living standard of people in Jammu and Kashmir number of vehicles on roads and better quality of roads has increased resulting in driving at a higher speed. The high speed vehicles are more prone to accidents leading towards increasing number of accidents. Traffic accident in Jammu and Kashmir are happening of an on due several reasons. A comparison of Srinagar city with some of the top most cities of Indian Union had been made in table 3. The table shows that in 2017 Srinagar witnessed 363 road accidents compared to Delhi, Mumbai, Kolkata, Lucknow and Kolkata 6673, 3160, 1515 and 3131 accidents respectively. The table 3 further shows that severity of accidents in all the cities namely Srinagar, Delhi, Kolkata, Lucknow and Mumbai is 16.5, 23.7, 10.5, 43.2 & 15.5 respectively. From the table it can be concluded that still Srinagar city is safe from all the road eventualities and fatalities,

**Table 3: Comparison of road accidents with some major cities of India in 2017**

<b>Cities</b>	<b>Fatal Accidents</b>	<b>Injury Accidents</b>	<b>Total Accidents</b>	<b>No. of Persons Killed</b>	<b>No. of Persons Injured</b>	<b>Severity of Accidents*</b>
Srinagar	59	259	363	60	345	16.5
Delhi	1565	5017	6673	1584	6604	23.7
Kolkata	318	2215	3131	329	2559	10.5
Lucknow	581	824	1515	655	917	43.2
Mumbai	467	2603	3160	490	3287	15.5

### Road length in Jammu and Kashmir

In Jammu and Kashmir there was a road network of about 24581 km in March 2009. Over the years, there has been consistent improvement in road network across Jammu and Kashmir through the construction of new roads and upgradation of the existing roads the total road length of the state has increased to 44597 km in 2013 and further increased to 11400 km in 2019 as shown in table 4.

**Table 4: Surfaced & Total Length of Roads in Jammu & Kashmir (J&K)**  
(in km)

Year	Surfaced	Total
2009	11468	24581
2010	13024	25770
2011	14178	26980
2012	1980	36353
2013	30731	44597
2019	-	11400

#### Construction of highways in Jammu and Kashmir

Table 5 shows the growth of national highways in the state of Jammu and Kashmir. The length of national highways in the state were 1245 km in 2009 which has increased to 1696 km in 2013 and further increased to 2423 km in 2019.

**Table 5: Length of National highways**

(in km)

Year	Length
2009	1245
2010	1245
2011	1245
2012	1245
2013	1696
2014	<b>2319</b>
2015	<b>2593</b>
2016	<b>2601</b>
2017	<b>2601</b>
2018	<b>2601</b>
2019	<b>2423</b>

Source: Statistica

#### Financial outlays for construction of roads and buildings in Jammu and Kashmir

Table 6 presents an outlay of the total financial expenditures incurred in Jammu and Kashmir over the years for the construction of roads and bridges. From the table there is increasing trend of financial outlays from 43125 lakh in 2007-08 to 784321787.48 lakhs in 2019. From 2016 the financial outlays have shown a tremendous increase, this is because the four laning of the NH<sub>1</sub> has been undertaken, which will ease the travel and cut the distance by many kilometres from Jammu to Srinagar.

**Table 6: Outlay on Roads and Bridges****(Rs.)**

Year	Approved
2007-2008	43125
2008-2009	67065
2009-2010	85083.50
2010-2011	77972.90
2011-2012	77033.90
2012-2013	53992.14
2013-2014	51984.89
2016-2017	440900124 .95
2018-2019	784321787.48

Source: Government of India, Ministry of Road Transport & Highways, New Delhi

### Projects under consideration

Table 7 presents a picture of the projects that are under process and consideration. In Jammu and Kashmir 13 projects with a length of 816km is under progress and that is expected to be completes with in few years.

**Table 7: Status of Projects under Implementation/Construction**

S. No.	State	No. of Packages	Length (in km)
1.	Andaman & Nicobar	17	457
2.	Arunachal Pradesh	35	1050
3.	Assam	84	3243
4.	Himachal Pradesh	3	198
5.	Jammu & Kashmir	13	816
6.	Manipur	32	2096
7.	Meghalaya	21	1200
8.	Mizoram	9	843
9.	Nagaland	25	834
10.	Sikkim	17	751
11.	Tripura	10	648
12.	Uttarakhand	17	849
13.	West Bengal	8	101
	<b>Total</b>	<b>291</b>	<b>13630</b>

Source: Government of India, Ministry of Road Transport & Highways, New Delhi

### Growth of Vehicles in Jammu and Kashmir

Sustained economic growth and increased per capita income have led to rapid growth of motorized vehicles in Jammu and Kashmir. There were 306 registered vehicles in Jammu and Kashmir in 1951 among which 27 two wheelers and 279 were four wheelers which include Cars, Jeeps, Taxis, Buses, Goods Vehicles and few other categories as well. The total number of registered motor vehicles in the state grew 182445 in 2013 which includes



132550 two wheelers and 49,895 four wheelers (Table 8). Among different category of vehicles, highest percentage were recorded by two-wheelers. This pattern of category-wise vehicular composition and increasing rates have revealed the preference of road-users for personalized means of transport (cars and two-wheelers) over the public road transport. The increase trend in personalized means of transport and decline in share of public transport have significant implications on traffic congestion and safety. The significant increases in vehicular ownership and transport demand create general urban transportation problems such as severe traffic congestion, air and noise pollution, and serious parking difficulties.

**Table 8: Number of vehicles registered in Jammu and Kashmir**

Year (As on 31 <sup>st</sup> March)	All Vehicles	Two Wheelers*	Cars, Jeeps and Taxis	Buses @	Goods Vehicles	Others**
1951	306	27	159	34	82	4
1956	426	41	203	47	119	16
1960	605	76	282	54	157	36
1965	1006	202	428	70	242	64
1970	1658	503	628	92	322	113
1975	2472	946	766	114	335	311
1980	4521	2117	1059	140	473	732
1985	9170	5179	1607	223	822	1339
1990	19152	12611	2694	298	1238	2311
1995	30295	20831	3841	423	1794	3406
2000	48857	34118	6143	562	2715	5319
2005	81499	58799	10320	892	4031	7457
2010	127746	91598	17109	1527	6432	11080
2017	1642005	1192950	223677	17046	77373	130959
2019	15516947	11273378	2113748	161085	731175	1237563

#### **Poor and mix up of traffic**

Less developed routes and mix of the different types of vehicles on a single route causes more hurdles and occupies lot of space resulting in the traffic jams and congestion on the roads of J&K. From the vehicle registration records it is very evident that number of two wheelers and cars has been increasing in the region every passing day. Therefore, it can be conclude that people are opting for private vehicles rather than public transport system. The number of vehicles on the roads has doubled from over 7 lakh in 2010 to over 14 lakh (14,881,90) in March 2017, which further increased to 15516947 as per the J & K Transport Commissioner's office, foregrounding the need for better public transport. Data also show that more than half of those killed in the year 2015 were in the productive age group of 15 to 34, pointing to a calamitous loss of young lives. Table 9 shows the motor vehicle per

1000 population in the state of Jammu and Kashmir. The table reveals that in 2010 the registered motor vehicles per 1000 population in Jammu and Kashmir were 64 only which has grown up to 77 in 2012 and similarly shows an increase in the year 2012 and 2019 from 77 to 124 respectively, meaning thereby that the vehicles per 1000 population is still very low but is increasing.

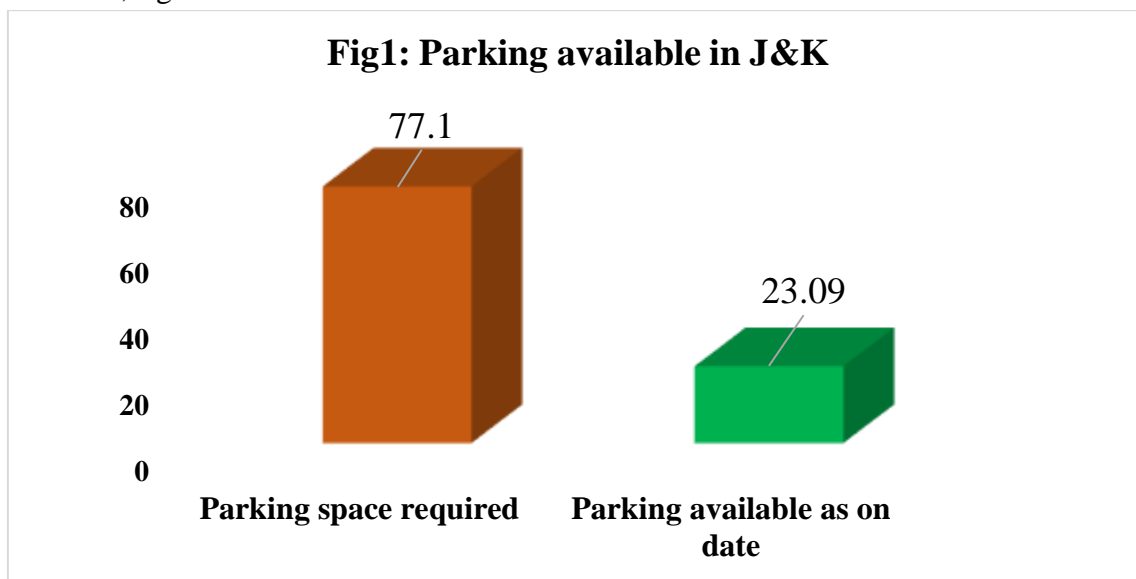
**Table 9: Registered Motor Vehicles (per 1000 Population)**

Year	Registered Motor Vehicles (per 1000 Population)
2010	64
2011	74
2012	77
2019	124

Source: *Indiastat*

**Increasing demand for parking**

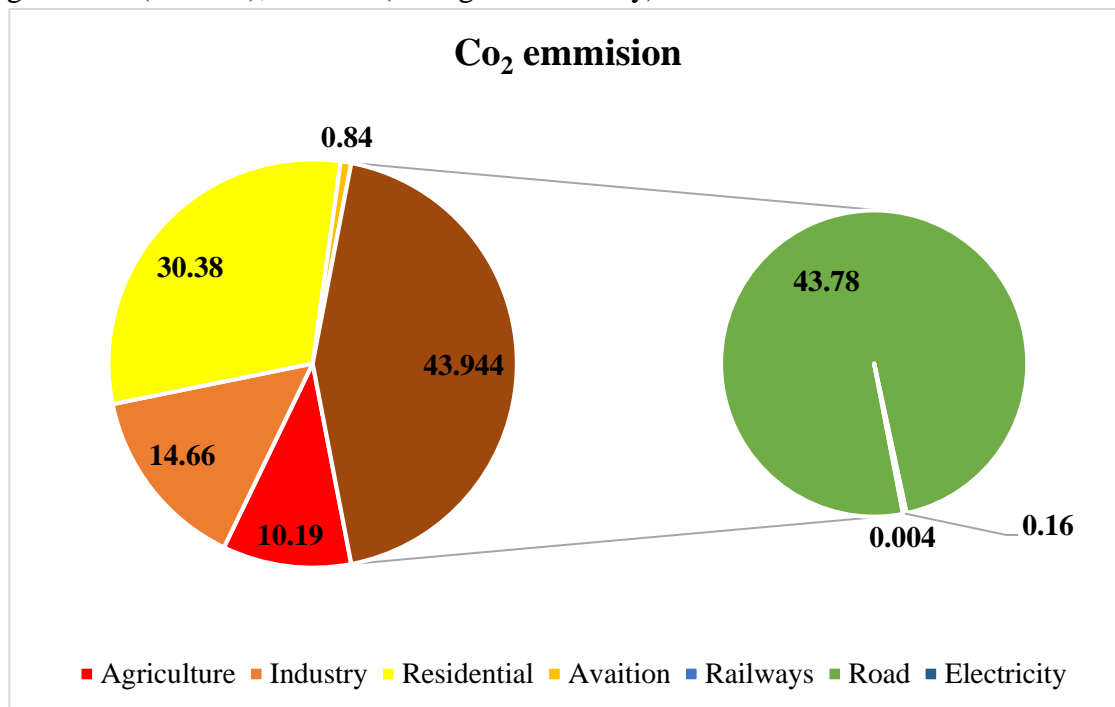
Recent order of High Court of Jammu and Kashmir has exposed the Srinagar Municipal Corporation when there was no sufficient parking for the car owners in the city. Over the years increase in the number of vehicles has increased and therefore, demand for parking lots has also increased. The mechanised parking lots should be constructed in the cities of the region and that too in vertical expansion in order to avoid the nuisance due to unreasonable parking on roads. The present availability of the parking in the Srinagar city is only for 23.9 per cent of the car owners with a space requirement of 77.1 per cent still deficient; fig 1.



**Carbon dioxide Emission from transport in Jammu and Kashmir**

Greenhouse gases has created havoc to the environmental pollution and transport is the one of the major emitters and contributors of greenhouse gases. Cars and trucks produce air pollution throughout their life, including pollution emitted during vehicle operation, refuelling, manufacturing, and disposal. The major pollutants emitted from vehicles are nitrogen oxides, carbon dioxide, carbon-monoxide and sulphur dioxide. The population in 2011 was 1.22 crore approximately. The per capita GHG emission without LULUCF is estimated to be 0.9 tons of CO2 equivalent/capita and with LULUCF it is 0.1 tons/capita.

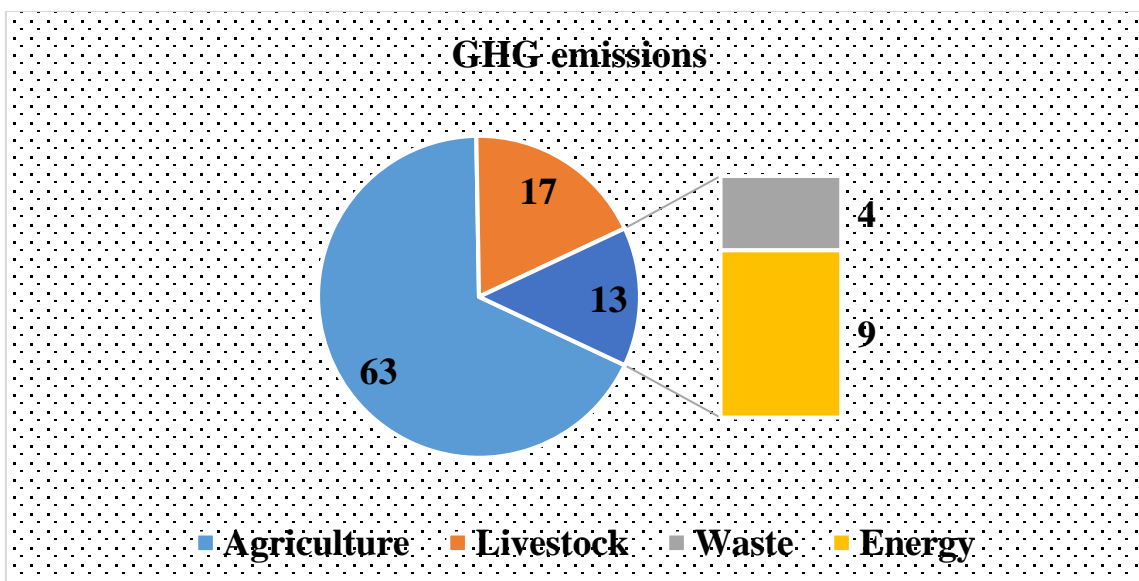
The average annual carbon dioxide emissions per person, in India is 1.6 tons (Department of Ecology, 2019). The average annual carbon dioxide emissions per person, in J&K is 0.9 tons. Fig 2 shows that the transport sector in Jammu & Kashmir emitted 43.78 per cent of the total Green House Gases, followed by industry (43.94%), Residential (30.38%), agriculture (10.19%), in 2019 (Srinagar Smart City).



**Fig 2: CO<sub>2</sub> Emission from Energy Consumption in J&K**

**Sectoral assessment of greenhouse gas emission in Jammu and Kashmir**

In terms of greenhouse gas emission, Jammu & Kashmir stands 23<sup>rd</sup> with respect to aggregate GHG emissions in the Country in 2019. The sectors wise emission of greenhouse gases in Jammu and Kashmir is presented in fig 2. The net Greenhouse Gas (GHG) emissions from J&K, that is emissions from Energy, Agriculture, Livestock and wastes have been calculated to be 12663.89 thousand tons of CO<sub>2</sub> equivalents in 2019. Out of this, CO<sub>2</sub> emissions were 5441.81 thousand tons; CH<sub>4</sub> emissions were 294.20 thousand tons; and N<sub>2</sub>O emissions were 4.1410 thousand tons (Ji Han, et al, 2010), The largest percentage of GHG emissions fig 3; (63.0 %) is from the Agriculture followed by livestock, Energy and Waste sectors. (J & K Climate Change Centre, 2019)



**Fig 3: Contribution different sectors in GHG emissions**

### Single lane roads and behaviour of drivers & street vendors

The characteristic of majority of roads in developing countries is of single lane based and India no exception in this regard. Single lane roads are the cause of less traffic movement on roads and also is a reason for traffic congestion. One more reason is that people are not following the traffic rules and lane driving which becomes a hurdle in smooth functioning of traffic in these countries (D S T, 2019). One more reason to this is the old cars whose registration is renewed once or twice. Because the behaviour of the owners of these cars is like that they know the value of their cars is very less and they do not care of this old car and creates problems for the other car owners by unethical and senseless driving in such congested routes. Other reason for congestion on roads is due to street vendors and hawkers, they occupy the roads by their personal belongs and by keeping the sign boards on the main routes in front of their shops and malls.

### Conclusion

To conclude, the traffic system in the region of Jammu and Kashmir is progressing leaps and bounds with increase in accidental deaths and injuries. Growth of vehicles has caused a huge environmental pollution in the form of CO<sub>2</sub>, carbon monoxide (CO) and greenhouse gas emissions. With the increase in number of vehicles in the twin cities of Srinagar and Jammu, there has arose a significant problem associated with the parking space for these vehicles during the peak hours in the these cities. It is not possible to overcome the challenges like traffic congestion and traffic mess and traffic jams within days in the cities of Srinagar and Jammu, where the growth of the registered vehicles has registered a significant percentage. It requires a suitable time, infrastructure, proper planning, proper management, and proper flows of funds to sustain the system of transportation.

### Initiatives for Road Safety

- Government Road Safety Policy proposes measures like promoting awareness, establishment of road safety information database, safer road infrastructure encouragement through intelligent transport, proper enforcement of safety laws etc.

- Under Section 215 of Motor Vehicle Act 1988, a council in the name of 'National Road Safety Council' has been created by the government to take policy decisions in matters of road safety.
- Provision for creation of District Road Safety Committees, was proposed to all the states/UT's and conduct regular meetings.
- 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 was created under 'Care Section 215' of Motor Vehicle Act 1988.
- At planning stage road safety has been made an integral part of road design.
- Road Safety Audit of selected stretches of National Highways has been made an essential component.
- Accident prone spots (Black spots) identification and rectification on national highways have been provided of greater importance.
- Establishment of 'Institute of Driving Training and Research' (IDTR) in each and every States /UT's.
- Driving Training Centre (DTC) should be established in every state/UT's with one-time assistance to the extent of 50 per cent of the project cost, subject to a maximum of Rs 1.00 crore, from the Central Ministry.
- Creating awareness among general masses through campaign on road safety through the electronic, social and print media.
- Strict guidelines for drivers to fasten seat belts.
- Effective trauma care and management for all the road accidental cases, this includes the provision of rescue operation and administration of first aid at the site of an accident and the transport of the victim from accident site to nearby hospital.
- A provision of construction of Hospitals alongside the National Highways and State Highways with adequately equipped to provide for trauma care and rehabilitation.
- A mobile app for highway users i.e. 'Sukhad Yatra 1033' should be launched which enables highways users to report potholes and other safety hazards on National Highways including accidents.
- Road Safety Week for spreading awareness and strengthening road safety should be observed every year.
- Regular free Eye Check-up Camp and distribution of eye glasses is conducted for truck/bus drivers operating on National Highways.
- A direction from Supreme Court for removal of Liquor Shops form all the High ways should be strictly followed.
- The Government should encourage increased activity in programmes of road safety research by identifying priority areas, funding research in those areas adequately and establishing centres of excellence in research and academic institutions. The Government should facilitate dissemination of the result of research and identified examples of good practices through publication, training, conferences, workshops and websites.
- The Government should take appropriate measures to ensure that the required legal, institutional and financial environment for road safety is further strengthened and a mechanism for effective coordination of various stakeholders is put in place. The

reforms in these areas should provide for the active and extensive participation of the community at large, of the private sector, academia and NGOs.

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