GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS
NATIONAL TRANSPORT RESEARCH CENTRE (NTRC)

+++

ROAD AND ROAD TRANSPORT STATISTICS

(YOUSAF ZIA)
RESEARCH OFFICER

NOVEMBER, 2011

EXECUTIVE SUMMARY

The study-report contains past 10 years statistical data pertaining to road and road-transport collected through various provincial sources. Some salient conclusions drawn from the analysis are as under:-

i) Number of vehicles on roads stands at 10 million with a growth rate of 8.5% per annum.

ii) As regards the classification of traffic stream, motor cycles found to be the dominated type of vehicle with a percentage share of 53% followed by cars and tractor-trollies with 22% and 11%, respectively.

iii) Excluding motor cycles, passenger-vehicles contribute 29.2% followed by the goods vehicle with a share of 17.0%.

iv) The road-network in the country consists of 259,463 km with 70% of paved roads. "Kacha Roads" have a decline of 23.5% whereas paved roads show an increase of 21.5%. During last 10 years, 23% "Kacha Roads" have been converted into Metalloid roads.

v) Although overall rate of increase in case of paved road is 21.5% but there is a decline of 0.5% in the year 2010-11 due to the deadly flood of summer 2010.

vi) A total of 9,808 accidents occurred in the country in year 2010, out of which 5,577 in Punjab, 2,732 in Khyber Pakhtunkhwa, 1,273 in Sind and 226 in Balochistan.

vii) No rise/fall could be found in the trend of road accidents. Mean-values for fatal accidents in Punjab, Khyber Pakhtunkhwa, Sind and Balochistan are worked out as 2510, 690, 835 and 72, respectively.

viii) On average 2510 fatal and 2746 non-fatal accidents took place in Punjab during the past ten years. Casualties regarding killed and injured persons have been 3027 and 6219 per year, respectively.

ix) On average, 690 fatal and 1940 non-fatal accidents took place in Khyber Pakhtunkhwa during the past ten years with a yearly average of 853 and 3611 killed and injured casualties.

x) On average, 835 fatal and 608 non-fatal accidents took place in Sindh during the past ten years with 930 and 1271 killed and injured casualties per year.

xi) In Balochistan accidents are in the range of 50-140 during the past ten years with 70 and 231 killed and injured casualties per year.

xii) High figures of road-accidents and resulted causalities specially in Punjab and Khyber Pakhtunkhwa, should draw the attention of highway safety experts and enforcement agencies. There is a lot of work to be done in this regard.

xiii) Mostly the vehicles involved in the accident were motor cars and motor cycles. The dominant cause was over-speeding, reckless driving, etc.

xiv) Keeping in view the ever increasing importance of the number of axles especially in the context of damage done to road-network, motor-vehicles should be registered with respect to their number of axles by the registration authorities in the provinces. According to them a directive from the federal government is awaited.

CONTENTS

Page No.

Tables

Figures

1. BACKGROUND

Like other sectors of economy, time series statistics is essential for planning, development and improvement of the transport system. Researchers, planners, policy makers and administrators largely depend on a sound data base for carrying out in-depth analysis. The need for data increases exponentially as the economy grows, and develops complex interdependencies. In order to meet the requirements of data users, the National Transport Research Centre (NTRC) since its inception started compiling transport statistics in a systematic manner. In the past, NTRC used to organize special teams of Investigators to extract information directly from the records of various concerned national/provincial agencies. Consequently, a sound data base has been established in NTRC which contains time series statistics from 1947 to 2000 in respect of the following:

- Road Transport
- Road Length
- Accidents

The present publication continues the series upto the year 2011.

2. INTRODUCTION

National Transport Research Centre (NTRC) with other outstanding functions has always been known as a dynamic and reliable source of data in the field of transport regarding road transport, road length, accidents and driving licenses issued. Previously, the data was collected by sending Enumerators into field. A data base consisting

of road and road transport statistics from 1947 to 2000 has been established in NTRC.

It, however, was not possible for NTRC after the year 2000 to organize field teams mainly due to the unavailability of field staff and budgetary constraints, as a result of which no data could be collected from 2001 to 2006. Keeping in view the need for data, special arrangements were then made during 2007 to fill the gap. The response from the Government of Punjab has been excellent in this regard whereas partly success was achieved from other provinces.

3. NEED FOR INFORMATION

National Transport Research Centre (NTRC) is the only research organization in the country in transportation field. Knowing that an efficient communication system is vital for trade, commerce, economic development and national integration, it has always been a basic and one of the most significant functions of NTRC to collect primary and secondary data. Such information is not only required by the Centre for their various research studies being undertaken from time to time but also many public and private agencies working in the transportation field need the same as an useful input to their projects. The information is also used by the National Highways Authority (NHA) and its Consultants, Finance Division (FD), Federal Bureau of Statistics (FBS) and Statistics Division (SD). The data is incorporated in their

quarterly and yearly reports e.g. "Statistics Bulletin" by FBS, "Economic Survey of Pakistan" by Finance Division and the pocket size "Statistics Diary" by Statistics Division. The data is needed by international agencies as well e.g. World Bank, Asian Development Bank, JICA, etc. while working on different sorts of projects in Pakistan.

4. SOURCES OF INFORMATION

This booklet contain information for the years from 2001-02 to 2010-11. The following public departments were contacted in each province to get the information:

1. Excise and Taxation Department
2. Communications & Works Department
3. Traffic Police
4. Environment Department
5. Works and Services Department
6. Planning & Development Department
7. Frontier Highway Authority
8. Frontier Works Organization
9. City Development Authorities and Nazims
10. Provincial Transport Authorities

5. LEAKAGE FACTOR

As a matter of fact, data collecting and storage system in developing countries has always been full of flaws. Weak implementation and enforcement is also a common characteristics. On account of handling data manually, many difficulties and faults are created which, in turn, promote leakage. The general tendency of not

paying taxes rises such leakages. Leakage problem was faced badly while collecting the data of number of vehicles on roads.

Number of those motor-vehicles that are plying on the roads in the country should include all tax-paying vehicles. Unfortunately, there is no direct evidence but there exists a significant factor of leakage. Though no exact ratio or proportion could be determined to work out that factor but indirect evidences suggest about 10% to 15% leakage in Punjab and 20% to 25% in different districts of Sindh. The situation becomes worst when we assess Baluchistan and FATA/NA mainly due to weak enforcement and social structure. Being a pure research oriented organization, NTRC has nothing to do with execution and implementation but can try to estimate such proportion from observation, production / import figures, yearly registration, leasing procedure from financial institutions and other indirect evidences. Such factors have been incorporated in the process of estimation.

6. GENERAL PROBLEMS

Some problems were faced while collecting data. As a normal practice, provincial departments were first approached through mail followed by telephone. Having got a very poor response, physical visits were then made with limited financial and manpower resources. It was found at the time of visits that, generally, the record collecting

and keeping system in the provinces of Sind, Baluchistan and Khyber Pakhtunkhwa is not admirable. For instance, more than one organization is responsible to keep road-kilometerage data. There is no coordination among such agencies and no agency is found to be responsible for the compilation and aggregation. Canal roads, which contribute a significant proportion in Punjab and Sind specially, were used to be looked after by the Irrigation Department in the past but since the introduction of Nazim System, such roads no longer belong to any specific department. Similarly, the road previously belonging to Cantonment Boards or Municipal Corporations, were handed over to Nazims without the past record. Nazims and Deputy Nazims were found not to bother about that. On a number of times, despite a lot of efforts, Nazims could not be physically approached at the times of field visits. Adding more to the problem, construction and maintenance of some roads were found to be handled by different departments.

In case of collecting data regarding the number of vehicles on roads, designing/format of the proforma was found different in different provinces. Despite the ever increasing importance of number of axles, no vehicles are registered with respect to number of axles in any province. Same types of vehicles are registered against different categories in different provinces; even in different districts of the same provinces causing a problem of differentiation between passenger and goods vehicles. Many districts in Sind register only motor cycles and tractors. Except in Punjab, district management in other provinces do

not send the record to the headquarter (D.G. office in Provincial Capitals) regularly. A province is divided into different zones consisting of different districts but a poor coordination as regards to data keeping made the work difficult for Enumerators.

Tax structure and registration fee play their role. Registration fee in Baluchistan is much more less than that in Sind. Lasbela, a district of Baluchistan is not far away from Karachi. Normally a considerable number of vehicles running down in Sind are registered in Lasbela.

In Sind, Baluchistan and Khyber Pakhtunkhwa, sufficient computers are not being used by the staff responsible for keeping data. Under-use of machines mainly due to not using proper and relevant software was also observed.

MOTOR VEHICLES ON ROAD

Table 1

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2001-02	Percentage
1	M.cycles/Scooters	2481083	49.46%
2	Motor Cars	1039714	20.73%
3	Jeeps	43370	0.86%
4	Station Wagons	122720	2.45%
5	Tractors	630572	12.57%
6	Buses	96638	1.93%
7	Taxis	96422	1.92%
8	Rickshaws	80804	1.61%
9	Delivery Vans	116876	2.33%
10	Trucks	145213	2.90%
11	Pickups	78266	1.56%
12	Ambulances	4142	0.08%
13	Oil Tankers	7632	0.15%
14	Water Tankers	919	0.02%
15	Others	71494	1.43%
Total		**5015865**	**100.00%**

Table 2

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2002-2003	Percentage
1	M.cycles/Scooters	2656258	49.98%
2	Motor Cars	1109625	20.88%
3	Jeeps	44400	0.84%
4	Station 'Wagons	126356	2.38%
5	Tractors	663204	12.48%
6	Buses	98326	1.85%
7	Taxis	104118	1.96%
8	Rickshaws	80879	1.52%
9	Delivery Vans	120273	2.26%
10	Trucks	146705	2.76%
11	Pickups	80631	1.52%
12	Ambulances	4283	0.08%
13	Oil Tankers	7639	0.14%
14	Water Tankers	922	0.02%
15	Others	71425	1.34%
Total		**5315044**	**100%**

Table 3

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2003-04	Percentage
1	M.cycles/Scooters	2882493	50.46%
2	Motor Cars	1193109	20.89%
3	Jeeps	47829	0.84%
4	Station Wagons	132465	2.32%
5	Tractors	722721	12.65%
6	Buses	100404	1.76%
7	Taxis	112624	1.97%
8	Rickshaws	81029	1.42%
9	Delivery Vans	121315	2.12%
10	Trucks	149174	2.61%
11	Pickups	84354	1.48%
12	Ambulances	4431	0.08%
13	Oil Tankers	7652	0.13%
14	Water Tankers	937	0.02%
15	Others	71355	1.25%
Total		**5711892**	**100%**

Table 4

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2004-05	Percentage
1	M.cycles/Scooters	3064994	50.68%
2	Motor Cars	1264706	20.91%
3	Jeeps	51845	0.86%
4	Station Wagons	140539	2.32%
5	Tractors	778086	12.86%
6	Buses	102405	1.69%
7	Taxis	120315	1.99%
8	Rickshaws	81466	1.35%
9	Delivery Vans	121940	2.02%
10	Trucks	151807	2.51%
11	Pickups	87567	1.45%
12	Ambulances	4546	0.08%
13	Oil Tankers	7677	0.13%
14	Water Tankers	954	0.02%
15	Others	69412	1.15%
Total		**6048259**	**100%**

Table 5

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2005-06	Percentage
1	M.cycles/Scooters	3791153	53.51%
2	Motor Cars	1499217	21.16%
3	Jeeps	65749	0.93%
4	Station 'Wagons	140752	1.99%
5	Tractors	822304	11.61%
6	Buses	103559	1.46%
7	Taxis	122067	1.72%
8	Rickshaws	77769	1.10%
9	Delivery Vans	143261	2.02%
10	Trucks	151771	2.14%
11	Pickups	93517	1.32%
12	Ambulances	4548	0.06%
13	Oil Tankers	7681	0.11%
14	Water Tankers	961	0.01%
15	Others	60211	0.85%
Total		**7084520**	**100%**

Table 6

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2006-07	Percentage
1	M.cycles/Scooters	4463846	55.36%
2	Motor Cars	1682225	20.86%
3	Jeeps	85427	1.06%
4	Station 'Wagons	169074	2.10%
5	Tractors	877800	10.89%
6	Buses	108373	1.34%
7	Taxis	119138	1.48%
8	Rickshaws	78992	0.98%
9	Delivery Vans	148876	1.85%
10	Trucks	173313	2.15%
11	Pickups	104563	1.30%
12	Ambulances	4631	0.06%
13	Oil Tankers	7831	0.10%
14	Water Tankers	981	0.01%
15	Others	38545	0.48%
Total		**8063615**	**100%**

Table 7

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2007-08	Percentage
1	M.cycles/Scooters	5037013	56.73%
2	Motor Cars	1853457	20.88%
3	Jeeps	82872	0.93%
4	Station 'Wagons	163216	1.84%
5	Tractors	900521	10.14%
6	Buses	109881	1.24%
7	Taxis	129809	1.46%
8	Rickshaws	89348	1.01%
9	Delivery Vans	163495	1.84%
10	Trucks	177785	2.00%
11	Pickups	115316	1.30%
12	Ambulances	5203	0.06%
13	Oil Tankers	8798	0.10%
14	Water Tankers	1009	0.01%
15	Others	40739	0.46%
Total		**8878462**	**100%**

Table 8

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2008-09	Percentage
1	M.cycles/Scooters	5355864	56.89%
2	Motor Cars	2019164	21.45%
3	Jeeps	79025	0.84%
4	Station Wagons	167584	1.78%
5	Tractors	911688	9.68%
6	Buses	121058	1.29%
7	Taxis	138575	1.47%
8	Rickshaws	88404	0.94%
9	Delivery Vans	167160	1.78%
10	Trucks	191912	2.04%
11	Pickups	125540	1.33%
12	Ambulances	5650	0.06%
13	Oil Tankers	9741	0.10%
14	Water Tankers	1066	0.01%
15	Others	31315	0.33%
Total		**9413746**	**100%**

Table 9

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2009-10	Percentage
1	M.cycles/Scooters	5412050	54.74%
2	Motor Cars	2387153	24.15%
3	Jeeps	78250	0.79%
4	Station Wagons	171350	1.73%
5	Tractors	940810	9.52%
6	Buses	123300	1.25%
7	Taxis	146360	1.48%
8	Rickshaws	89105	0.90%
9	Delivery Vans	170350	1.72%
10	Trucks	200500	2.03%
11	Pickups	130321	1.32%
12	Ambulances	4010	0.04%
13	Oil Tankers	10000	0.10%
14	Water Tankers	1100	0.01%
15	Others	21765	0.22%
Total		**9886424**	**100%**

Table 10

No. of Motor Vehicles on Road- Pak

S.No.	Type of Vehicles	2010-2011	Percentage
1	M.cycles/Scooters	5468825	52.36%
2	Motor Cars	2822207	27.02%
3	Jeeps	78483	0.75%
4	Station Wagons	175201	1.68%
5	Tractors	970862	9.30%
6	Buses	125584	1.20%
7	Taxis	154582	1.48%
8	Rickshaws	89812	0.86%
9	Delivery Vans	173601	1.66%
10	Trucks	209472	2.01%
11	Pickups	135285	1.30%
12	Ambulances	4454	0.04%
13	Oil Tankers	10265	0.10%
14	Water Tankers	1135	0.01%
15	Others	24005	0.23%
Total		**10443773**	**100%**

Table 11

Estimated Motor Vehicles on Road- Pak (2001-02 TO 2010-11)

S.No.	Type of Vehicles	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
1	M.cycles/Scooters	2481083	2656258	2882493	3064994	3791153	4463846	5037013	5355864	5412050	5468825
2	Motor Cars	1039714	1109625	1193109	1264706	1499217	1682225	1853457	2019164	2387153	2822207
3	Jeeps	43370	44400	47829	51845	65749	85427	82872	79025	78250	78483
4	Station 'Wagons	122720	126356	132465	140539	140752	169074	163216	167584	171350	175201
5	Tractors	630572	663204	722721	778086	822304	877800	900521	911688	940810	970862
6	Buses	96638	98326	100404	102405	103559	108373	109881	121058	123300	125584
7	Taxis	96422	104118	112624	120315	122067	119138	129809	138575	146360	154582
8	Rickshaws	80804	80879	81029	81466	77769	78992	89348	88404	89105	89812
9	Delivery Vans	116876	120273	121315	121940	143261	148876	163495	167160	170350	173601
10	Trucks	145213	146705	149174	151807	151771	173313	177785	191912	200500	209472
11	Pickups	78266	80631	84354	87567	93517	104563	115316	125540	130321	135285
12	Ambulances	4142	4283	4431	4546	4548	4631	5203	5650	4010	4454
13	Oil Tankers	7632	7639	7652	7677	7681	7831	8798	9741	10000	10265
14	Water Tankers	919	922	937	954	961	981	1009	1066	1100	1135
15	Others	71494	71425	71353	69412	60211	38545	40739	31315	21765	24005
	Total	5015865	5315044	5711892	6048259	7084520	8063615	8878462	9413746	9886424	10443773

Table 12
Percentage of Motor Vehicles on Road- Pak (2001-02 TO 2010-11)

S.No.	Type of Vehicles	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
1	M.cycles/Scooters	49.46%	49.98%	50.46%	50.68%	53.51%	55.36%	56.73%	56.89%	54.74%	52.36%
2	Motor Cars	20.73%	20.88%	20.89%	20.91%	21.16%	20.86%	20.88%	21.45%	24.15%	27.02%
3	Jeeps	0.86%	0.84%	0.84%	0.86%	0.93%	1.06%	0.93%	0.84%	0.79%	0.75%
4	Station 'Wagons	2.45%	2.38%	2.32%	2.32%	1.99%	2.10%	1.84%	1.78%	1.73%	1.68%
5	Tractors	12.57%	12.48%	12.65%	12.86%	11.61%	10.89%	10.14%	9.68%	9.52%	9.30%
6	Buses	1.93%	1.85%	1.76%	1.69%	1.46%	1.34%	1.24%	1.29%	1.25%	1.20%
7	Taxis	1.92%	1.96%	1.97%	1.99%	1.72%	1.48%	1.46%	1.47%	1.48%	1.48%
8	Rickshaws	1.61%	1.52%	1.42%	1.35%	1.10%	0.98%	1.01%	0.94%	0.90%	0.86%
9	Delivery Vans	2.33%	2.26%	2.12%	2.02%	2.02%	1.85%	1.84%	1.78%	1.72%	1.66%
10	Trucks	2.90%	2.76%	2.61%	2.51%	2.14%	2.15%	2.00%	2.04%	2.03%	2.01%
11	Pickups	1.56%	1.52%	1.48%	1.45%	1.32%	1.30%	1.30%	1.33%	1.32%	1.30%
12	Ambulances	0.08%	0.08%	0.08%	0.08%	0.06%	0.06%	0.06%	0.06%	0.04%	0.04%
13	Oil Tankers	0.15%	0.14%	0.13%	0.13%	0.11%	0.10%	0.10%	0.10%	0.10%	0.10%
14	Water Tankers	0.02%	0.02%	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
15	Others	1.43%	1.34%	1.25%	1.15%	0.85%	0.48%	0.46%	0.33%	0.22%	0.23%
	Total	100.00%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Fig-01. Estimated Motor Vehicles On Roads - Pak (2001-11)

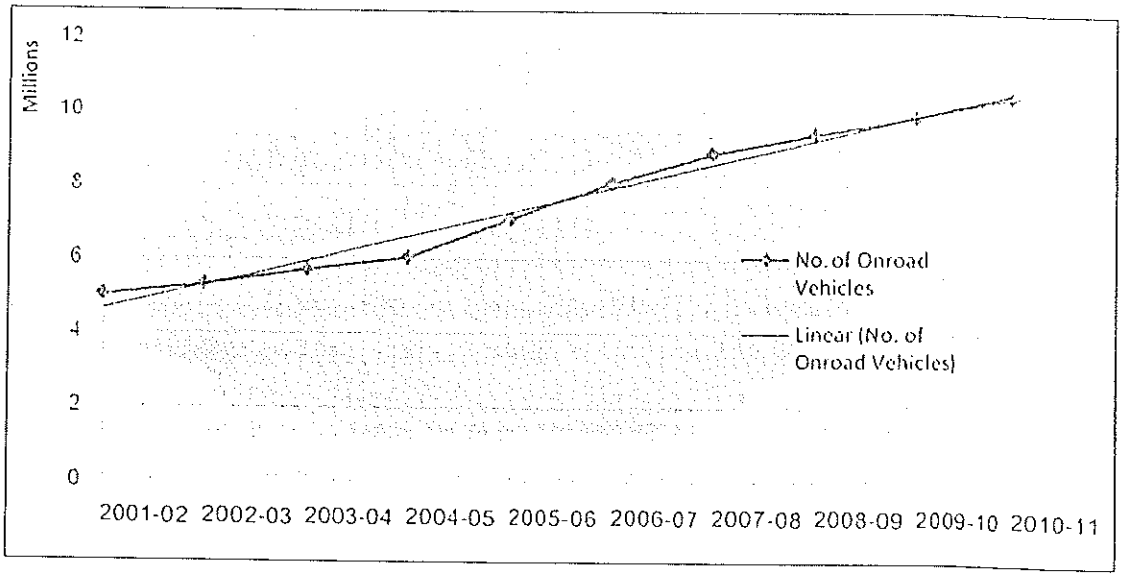
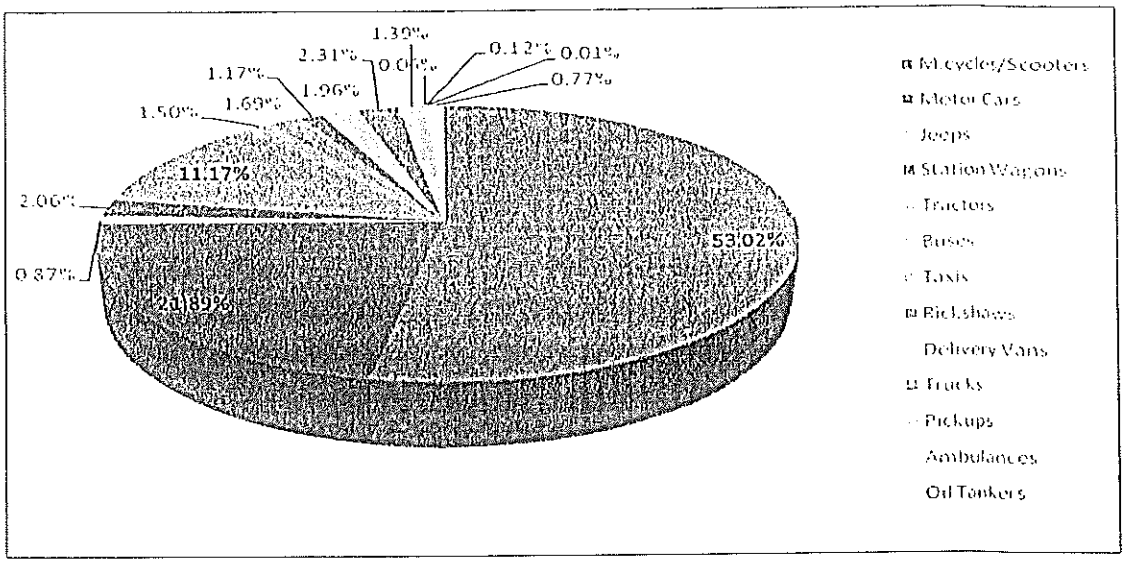


Fig. 01 shows the trend of vehicles plying on the roads in the country. The curve rises from 2001-02 to 2004-05 at the rate of 20.58 % followed by a jump of 46.79 % from 2004-05 to 2007-08. During this period, leasing business by banks and other financial institutions was on its peak when new schemes and packages were being offered on soft obligations.

According to the diagram, the number of vehicles on roads was double from 5 million in 2001-02 to 10 million in 2010-11. The straight lines on either side of the curve reflect the general trend. The Growth Rate comprising of past 10 years has been 8.5 %.

Fig-02. Average Percentage Share Of Vehicles On Roads - Pak (2001-11)



From the Fig.02, it is clear that two wheelers dominate the traffic stream with 53% followed by motor cars with 22% and tractors with 11.17%. Passenger vehicles (car, jeep, buses, taxis, rickshaws, wagons) contribute 29.18% as compared with 17.03% by goods vehicles.

S.No.	Type of Vehicle	Percentage share
1.	Motor cycles	53.02
2.	Motor cars	21.89
3.	Jeeps	0.87
4.	Station Wagons	2.06
5.	Tractors	11.17
6.	Buses	1.50
7.	Taxis	1.69
8.	Rickshaws	1.17
9.	Delivery Vans	1.96
10.	Trucks	2.31
11.	Pickups	1.39
12.	Ambulances	0.06
13.	Oil Tankers	0.12
14.	Water Tankers	0.01
15.	Others	0.77

LENGTH OF ROADS

Table 13

Estimated Length of Roads by Provinces (Km)

Year	Category	PUNJAB	SINDH	K.P.K.	BALUCHISTAN	GB & AJK	TOTAL
2001-02	Total	101923	79525	40769	27934	1510	251661
	Low Type[1]	41627	32480	16651	11409	617	102784
	High Type[2]	60296	47045	24118	16525	893	148877
2002-03	Total	102128	79685	40851	27991	1513	252168
	Low Type	40072	31266	16029	10983	593	98943
	High Type	62056	48419	24822	17008	920	153225
2003-04	Total	103708	80918	41483	28424	1537	256070
	Low Type	39498	30819	15799	10826	585	97527
	High Type	64210	50099	25684	17598	952	158543
2004-05	Total	104577	81596	41831	28661	1549	258214
	Low Type	38626	30138	15451	10586	572	95373
	High Type	65951	51458	26380	18075	977	162841
2005-06	Total	104904	81851	41961	28751	1554	259021
	Low Type	37054	28911	14822	10155	549	91491
	High Type	67850	52940	27139	18596	1005	167530
2006-07	Total	104456	81129	42509	29548	1547	259189
	Low Type	34807	27034	14165	9846	510	86362
	High Type	69649	54095	28344	19702	1037	172827
2007-08	Total	104115	80863	42369	29451	1552	258350
	Low Type	33864	26301	13781	9579	505	84030
	High Type	70251	54562	28588	19872	1047	174320
2008-09	Total	104114	80863	42369	29452	1552	258350
	Low Type	32949	25591	13409	9321	491	81761
	High Type	71165	55272	28960	20131	1061	176589
2009-10	Total	105085	81618	42765	29727	1565	260760
	Low Type	32179	24993	13095	9103	480	79850
	High Type	72906	56625	29670	20624	1085	180910
2010-11	Total	105253	80625	42550	29500	1535	259463
	Low Type	32147	24000	13000	9000	450	78597
	High Type	73106	56625	29550	20500	1085	180866

[1] Low type (An earth, gravel, or stone roadway that has a bituminous surface course less than 1"thick).
[2] High type (A mixed bituminous or bituminous penetration roadway on a flexible base having a combined surface and base thickness of 7" or more).

Fig-03. Estimated Length of Roads By Provinces (KM) 2010-11

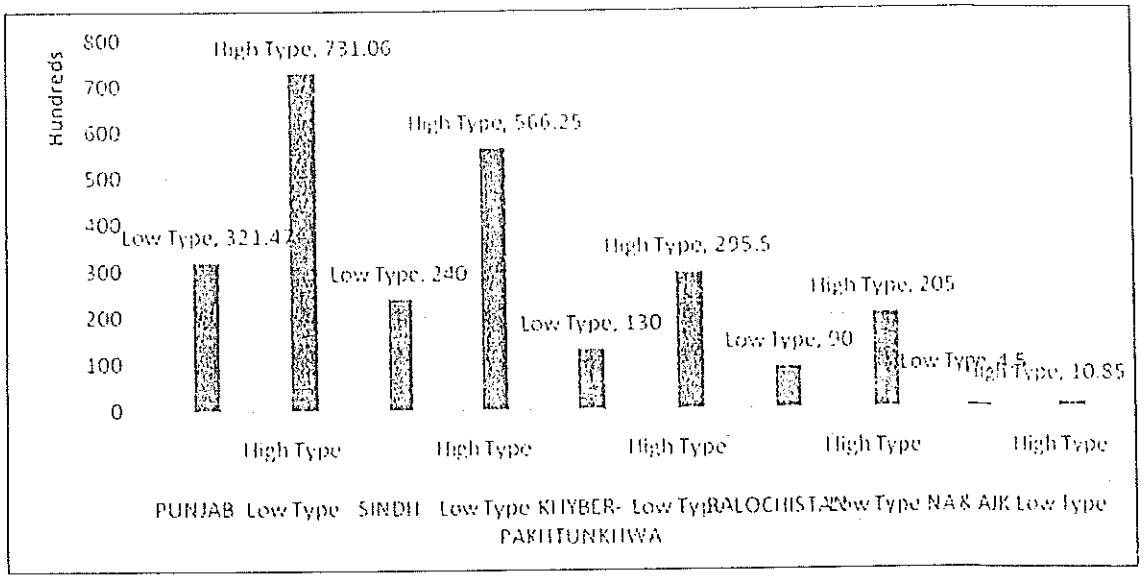
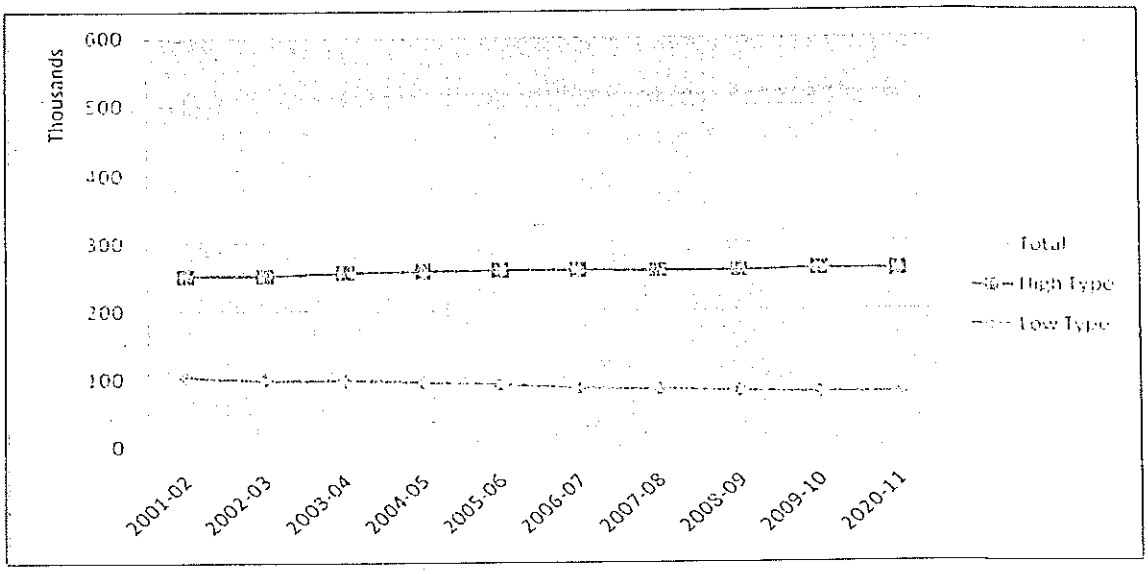


Fig-04. Yearly Rise/Fall in Road-Kilometerage (2001-11)



As regards to the road-kilometerage in the country, an increase of 21.48% is observed in case of paved/metal roads whereas a decline of 23.5% is worked out for 'Kacha Roads'. The overall rate of increase/decrease is just –2.2 %. Generally, such rates depend upon

yearly financial allocations, interest of the concerned authorities, socio-economic environment, political pressure, etc.

The proportion of low type and high types roads is found to be different in different provinces. In Punjab, the ratio of Low Type Roads (LTR) to High Type Roads (HTR) stands at 30.53 % to 69.46 % whereas in Sindh it is 29.77 % to 70.23 % followed by in Khyber Pakhtunkhwa and in Baluchistan 30.5 % to 69.5 % and 30.5 % to 69.5 %, respectively. Yearly change in this ratio reveals that there is a decline in Low Type Roads and rise in case of High Type Roads, as referred to the Figure No.4. The main reason is the yearly conversion of Low Type Roads into High Type Roads in the provinces that put such projects on priority.

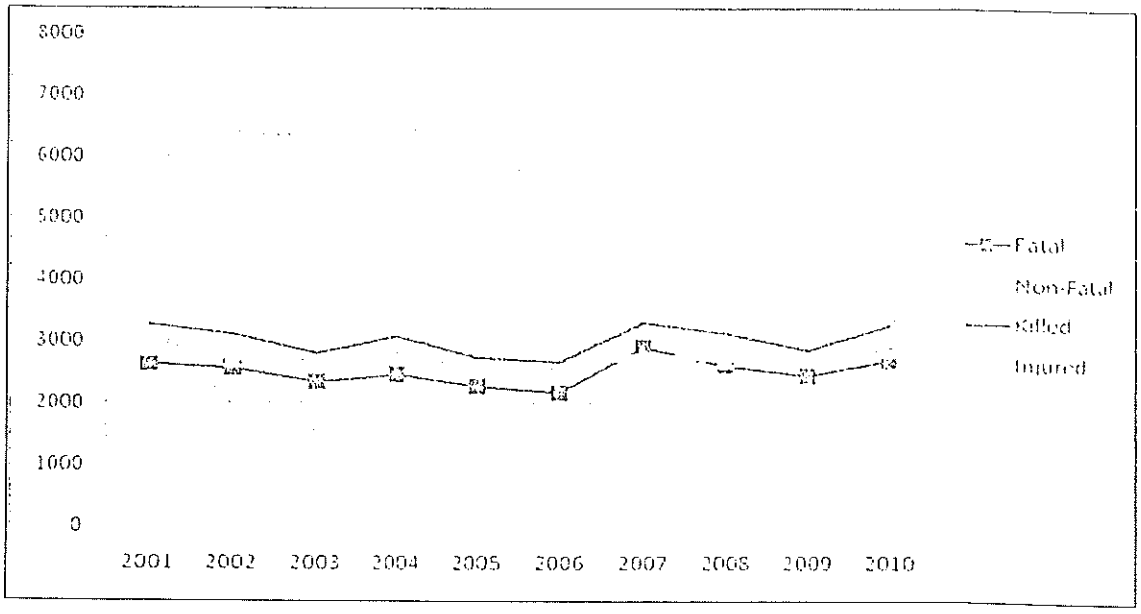
ACCIDENT STATISTICS

Table 14

Estimated Accident Statistics

Province	Year	No. of Accidents				No. of Causalities		
		Fatal	Non-Fatal	Others	Total	Killed	Injured	Total
PUNJAB	2001	2629	3042	0	5671	3272	7214	10486
	2002	2565	2712	0	5277	3124	6387	9511
	2003	2344	2709	0	5053	2806	6300	9106
	2004	2460	2745	0	5205	3088	6629	9717
	2005	2275	2567	0	4842	2732	5758	8490
	2006	2170	2552	0	4722	2669	5825	8494
	2007	2909	2796	0	5705	3315	6508	9823
	2008	2609	2713	0	5322	3141	5688	8829
	2009	2445	2733	0	5178	2866	5820	8686
	2010	2691	2886	0	5577	3260	6061	9321
Average Accidents		**5210**	**2746**	**0**	**5255**	**3027**	**6219**	**6246**
KHYBER-PAKHTUNKHWA	2001	659	1839	0	2498	709	3006	3715
	2002	649	1854	0	2503	746	2795	3541
	2003	613	1973	0	2586	832	3235	4067
	2004	706	2005	0	2711	891	4012	4903
	2005	476	1999	0	2475	867	4063	4930
	2006	818	2100	0	2918	898	4261	5159
	2007	775	2106	0	2881	917	4079	4996
	2008	733	1943	0	2676	913	3396	4309
	2009	658	1667	0	2325	786	3287	4073
	2010	817	1915	0	2732	966	3976	4942
Average Accidents		**690**	**1940**	**0**	**2631**	**853**	**3611**	**4464**
SINDH	2001	984	894	115	1993	1079	1640	2719
	2002	904	693	99	1696	976	1236	2212
	2003	885	673	113	1671	976	1310	2286
	2004	861	618	109	1588	943	1334	2277
	2005	835	611	106	1552	920	1217	2137
	2006	835	631	80	1546	943	1312	2255
	2007	783	507	107	1397	872	1159	2031
	2008	787	549	74	1409	900	1240	2140
	2009	736	436	99	1271	832	1093	1925
	2010	738	466	68	1273	858	1168	2026
Average Accidents		**825**	**608**	**97**	**1540**	**930**	**1271**	**2201**
BALOCHISTAN	2001	43	134	2	179	44	214	258
	2002	55	129	1	185	67	240	307
	2003	64	145	1	210	67	216	283
	2004	56	142	0	198	59	247	306
	2005	88	108	0	196	97	179	276
	2006	64	143	0	207	68	229	297
	2007	79	123	0	202	43	269	312
	2008	87	131	1	218	105	216	321
	2009	90	120	0	210	44	278	322
	2010	98	128	1	226	108	223	331
Average Accidents		**72**	**130**	**1**	**203**	**70**	**231**	**301**

Fig-05 Accidents Statistics in Punjab (2001-10)



Number of fatal and non-fatal accidents took place in Punjab during past ten years are shown in the figure-05. No significant rise or fall is observed except in the year 2001 when the number of injured victims exceeded 7000 persons. Fatal accidents range from 2300 to 2900 per year followed by non-fatal from 2700 to 3000 per year during the period. On average 2510 fatal and 2746 non-fatal accidents took place in Punjab during the past ten years. The average of killed and injured casualties has been 3027 and 6219, per year respectively.

Fig-06 Accidents Statistics in Khyber Pakhtunkhwa (2001-10)

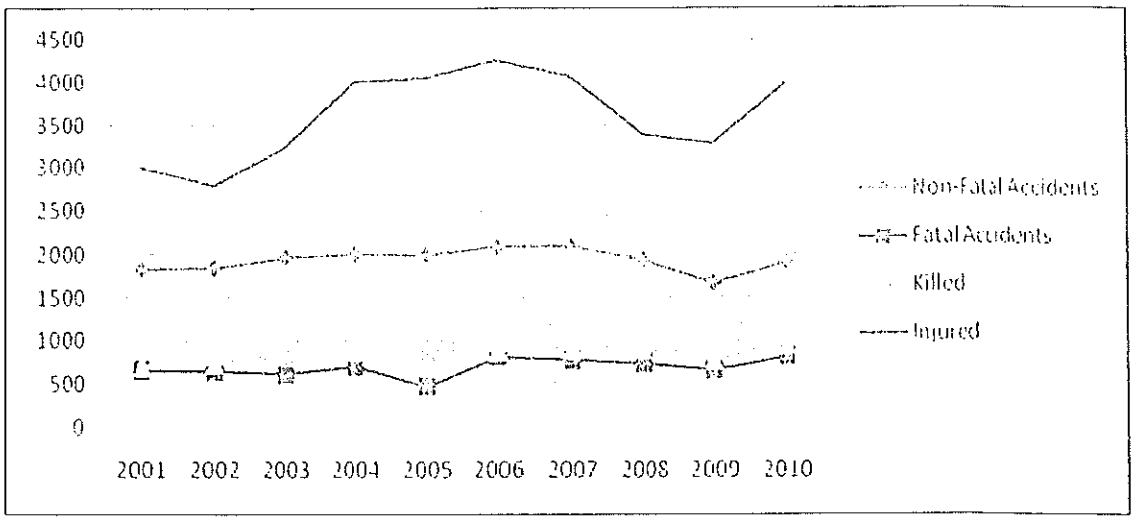


Fig-07 Accidents Statistics in Sindh (2001-10)

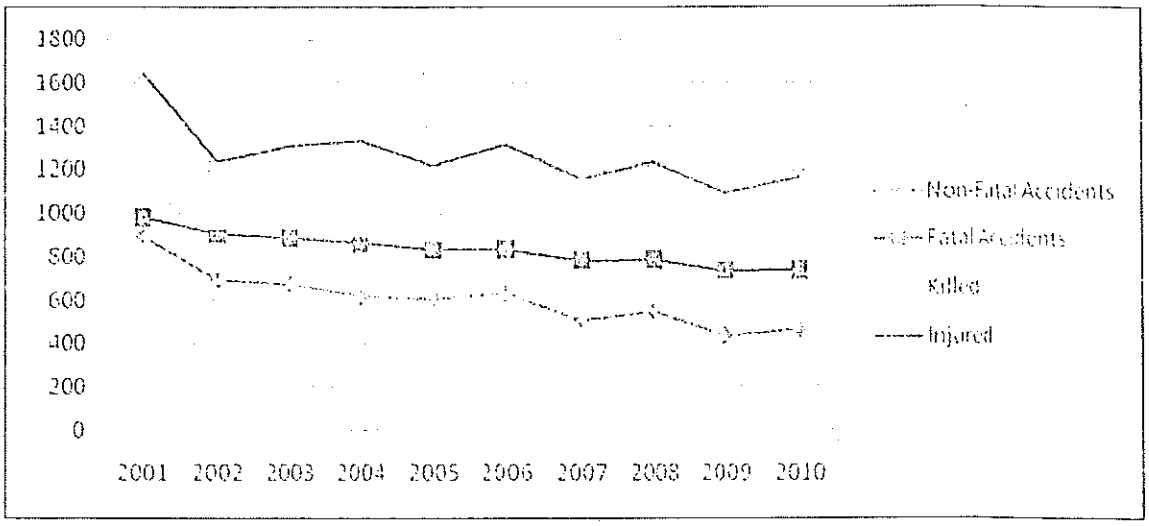
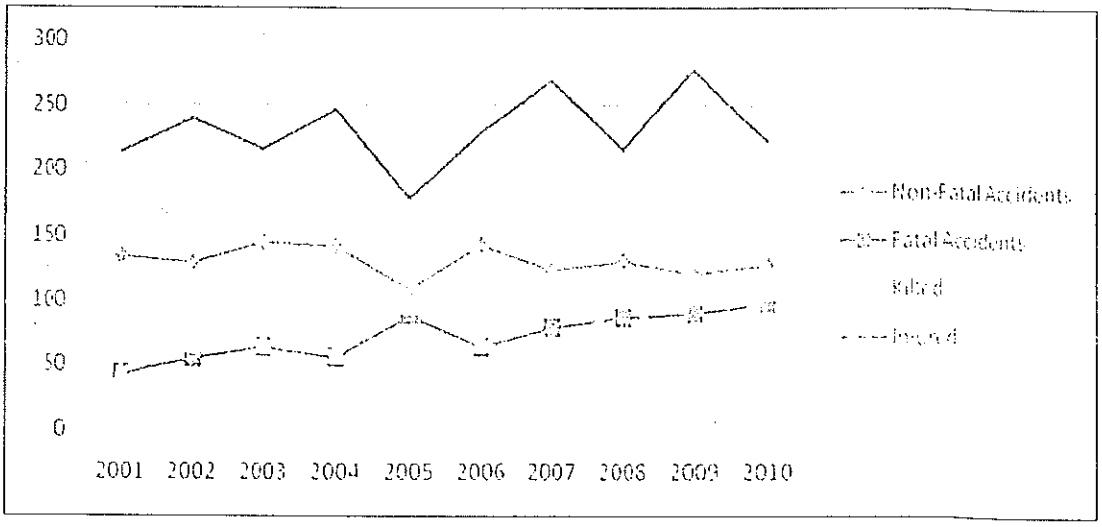


Fig.06 reveals the same type of statistics in Khyber Pakhtunkhwa. Again no significant rise or fall is observed in fatal and non-fatal accidents during the period from 2001 to 2010 with a range from 500 to 900 and 1700 to 2100 per year. On average, 690 fatal and 1940 non-fatal accidents took place in Khyber Pakhtunkhwa during the past ten years with an yearly average of 853 and 3611 killed and injured casualties.

However, a decline in the curves of the Sind Province (Figure-07) presents a different picture from other provinces. A constant fall in the number of accidents and casualities indicate a better road-managaement and enforcement. Number of accidents and casualties show a better proportion than that in Punjab and Khyber Pakhtunkhwa. On average, 835 fatal and 608 non-fatal accidents took place in Sindh during the past 10 years with an average of 930 and 1271 killed and injured casualties per year.

Fig-08 Accidents Statistics in Balochistan (2001-10)



Keeping in view comparative shorter road-network and small number of vehicles in Balochistan, an irregular pattern of the curves in figure-08 is astonishing where accidents are in the range of 50-140 per year. The highest number of fatal accidents was recorded in 2010 whereas the number of non-fatal accidents reached the peak in 2003 and 2006.

Fig-09 Comparison of Accidents Statistics by province (2001-10)

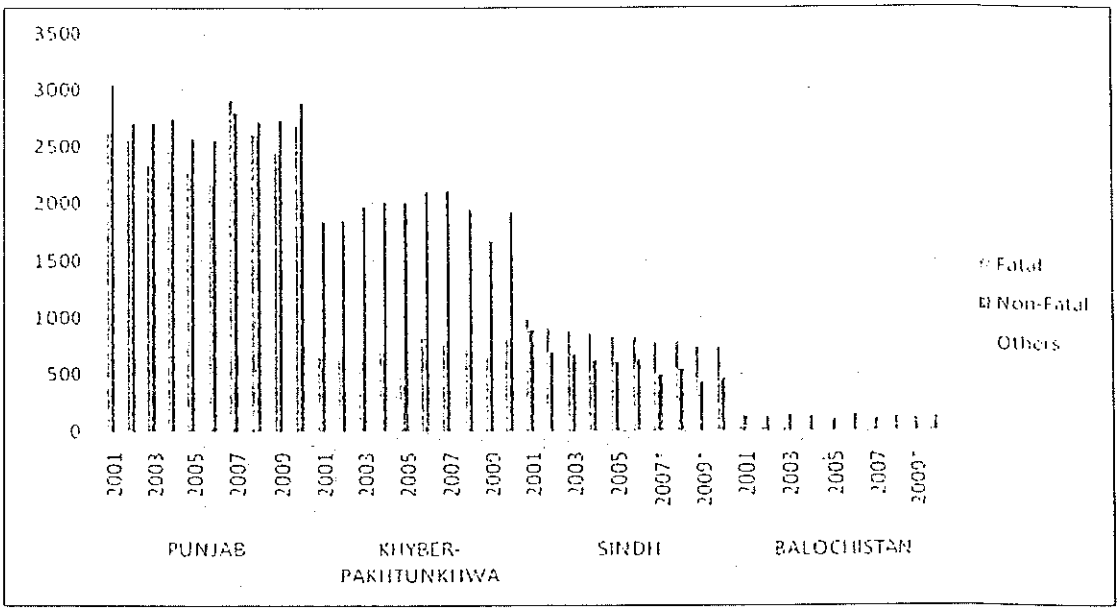
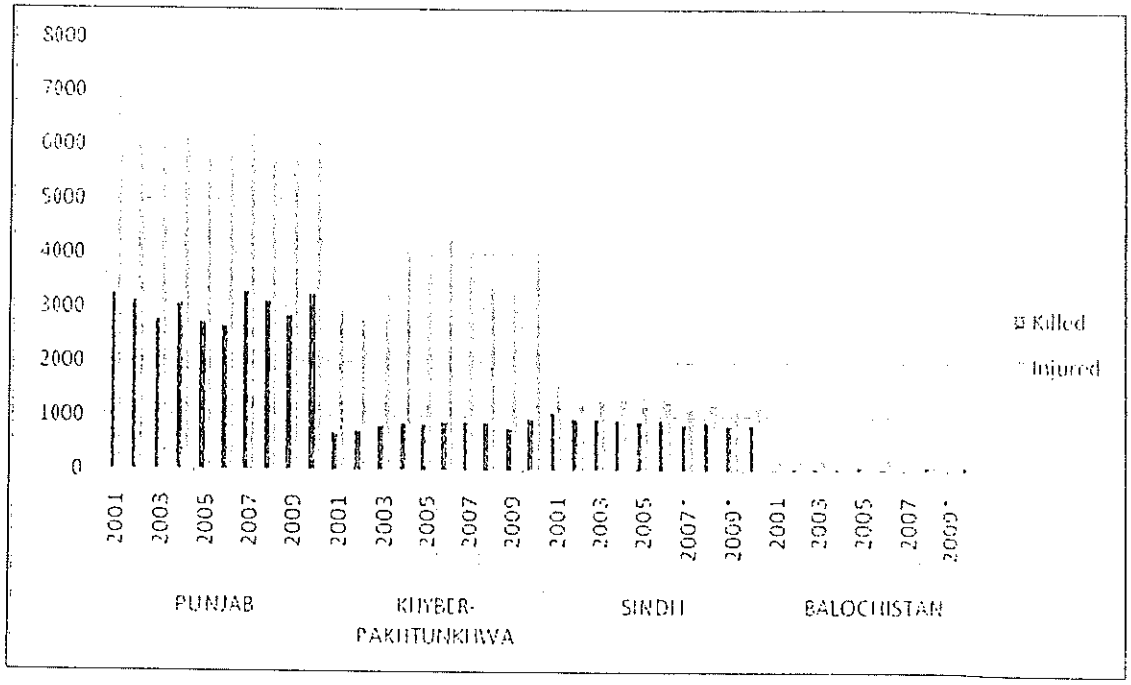


Fig.09 shows a province-wise comparison of accident statistics. The diagram verifies indirectly that number of accidents are inversely proportional to road-management measures, better enforcement, good driver's training attitude of road-users and an adequate network. Highest number of fatal and non-fatal accidents are recorded in Punjab followed by Khyber Pakhtunkhwa, Sind and Balochistan. The same trend is noted in case of casualties.

Fig-10 Comparison of Accidents Statistics by number of Killed and Injured Persons (2001-10)



From the depicted Fig. 10, No. of killed and injured persons during the period 2001 to 2010 in road traffic accidents in Punjab, Khyber Pakhtunkhwa, Sindh and Balochistan can be seen. Punjab and Khyber Pakhtunkhwa both have highest number of injured and killed persons followed by Sindh and Balochistan respectively. A high rate of traffic accidents and resulted casualties especially in Punjab and Sind should draw the attention of Highway Safety experts.

Table 15

Rate of Road Traffic Fatalities per 100,000 Populations

Years	*Fatalities	Population (in Million)	Population	Fatalities/100000 Population
2001	5104	142.86	142860000	3.57
2002	4913	146.75	146750000	3.35
2003	4681	149.65	149650000	3.13
2004	4981	152.53	152530000	3.27
2005	4616	153.96	153960000	3.00
2006	4578	156.77	156770000	2.92
2007	5147	162.91	162910000	3.16
2008	5059	166.41	166410000	3.04
2009	4528	169.94	169940000	2.66
2010	5192	173.51	173510000	2.99

Note: *Fatalities were estimated on the basis of previous accidents record obtained from provincial police offices. Population data were used from Economic survey of Pakistan 2010-11 (Table 12.2).