

REVENUE FROM ROAD TRANSPORT IN INDIA

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ABSTRACT

Transport industry plays a vital role in the development of economic of a nation. In fact, the progress of a nation and progress of its transport industry is complementary to each other. The Road Transport industry has a lion's share in India's economic development. Due to easy accessibility, flexibility of operations, door to door service and reliability, Road Transport in India showed an increase in share of both passenger and freight traffic vis-à-vis other modes of transport. Transport sector accounts for 6.4% share in India's Gross Domestic Product (GDP). However, Road Transport has emerged as a dominant segment in India's transportation sector with a share of 4.8% in India's GDP comparison to rail-ways that has a meager 1% share of GDP in 2011-12. With the help of this research paper the author has tried to examine the revenue structure of Road Transport sector in India. Besides this the author has also focused on some suggestion for improvement of revenue in Road Transport sector of India.

Keywords: Transport, Road Transport, Economy, Taxation, Revenue, Gross Domestic Product (GDP), Sustain

INTRODUCTION

With the economic development of infrastructure in India, the country has progressed at a rapid pace and today there is an availability of wide variety of modes of transport by land, water and air. But, overall Road Transport is the primary and preferred mode of transport for most of the population and India's Road Transport system is among the most heavily utilized system in the world. It plays a pivotal role in the economic development of a nation by increasing the productivity and competitiveness. The Indian Central Government and the State Governments after realizing the importance of the road networks in economic development have taken numerous initiatives to improve the national road network, both in terms of upgrading the quality and augmenting the magnitude to keep pace with the demands dictated by the economic liberalization. The benefits and importance of Road Transportation infrastructure to economic growth have been recognized for a long time. A well-oiled transportation infrastructure expands the productive capacity of a nation, both by increasing the mobilization of available resources and by enhancing the productivity of those resources. The support for this statement is straightforward and there are many ways through which we can justify it. Firstly, Road Transportation infrastructure can enter the production process as direct input and in many cases as an unpaid factor of production. Secondly, it may make other existing, inputs more productive. For instance,

a well-designed road allows the transportation of goods to market in less time and hence, reducing the transportation cost in the production process. Thirdly, Road Transportation increases regional economic growth by attracting resources from other regions. In this vein one would recall that through-out the growth of civilization, most centers of economic activities flourished along riverbanks and coast lines where water ways the convenient prime carrier of raw materials goods and labour.

With the initiation of the economic reforms in 1993 the transport sector of the nation has shown good performance. Transport is basically a derived demand depending upon the size and structure of the economy and the demographic profile of the economy. Over the last ten years (2002-03 to 2011- 12) Road Transport sector GDP grew at an annual average rate close to 10% compared to an overall annual GDP growth of 6%. Today Road Transport serving occupies an irresistible dominance within the transport sector with a share of 4.8% in GDP compared to a too little 1.0% share GDP in case of rail-ways. Also annual average growth in freight transport at 6.5% for road was much higher in comparison to rail-ways which clocked a modest annual average increase of 3.6% during the past reforms phase (1992-93 to 2011-12).

RESEARCH OBJECTIVES

The main objective of the present study is to examine the revenue generated from Road Transport sector in India. To attain this main objective, the following incidental objectives are sought to be achieved:

- a) To examine about percentage share of Transport sector's GDP in total GDP of the country.
- b) To examine about percentage share of Road Transport's GDP in total Transport's GDP of the country.
- c) To examine about the structure of Road Transport taxation system in India.
- d) To examine about the revenue generation of States and Centre from Road Transport sectors.
- e) To provide suggestions for increment in revenue generation from Road Transport sector in India.

RESEARCH METHODOLOGY

The study has been carried out for a span of the period 1950-51 to 2012-13. For this purpose, secondary data has been used which is collected from various annual transport year book published by Shipping, Road Transport and Highways Ministry, Government of India. The reason behind selecting this study period is the availability of data. Due to unavailability of data in the

share of different modes of transport in GDP, the author has taken a time span of 2001-02 to 2011-12. After the collection of requisite data, these have been suitably re-arranged, classified and tabulated as per requirements of the study. For the explanation of given data the author has used only simple statistics as average and percent-age.

SHARE OF DIFFERENT MODES OF TRANSPORT IN GDP

Transportation is the backbone of economic development in India and Road Transport is the primary mode of transport which plays an important role in delivery of goods and passenger and linking the centers of production, consumption and distribution. Moreover it plays a significant role in influencing the pattern of distribution of economic activity and improving productivity. It is also a key factor for promoting socio-economic development in terms of social, regional and national integration.

Sustained economic growth has brought about a remarkable development expansion in infrastructure of the transport sector. From Table-1, the share of transport sector in GDP of India has increased from 6.0% in 2001-02 to 6.5% in 2011-12. This table clearly shows that the contribution of Road Transport sector in GDP is much higher than other modes of transport. It has increased from 3.9% in 2001-02 to 4.8% in 2011-12. While during this period the contribution of railways in GDP has shown a decrease from 1.2% in 2001-02 to 1.0% in 2011-12. The share of various sub-sector of the transport sector in GDP since 2001-02 is given in table-1.

Table -1
Share Of Different Modes Of Transport In GDP

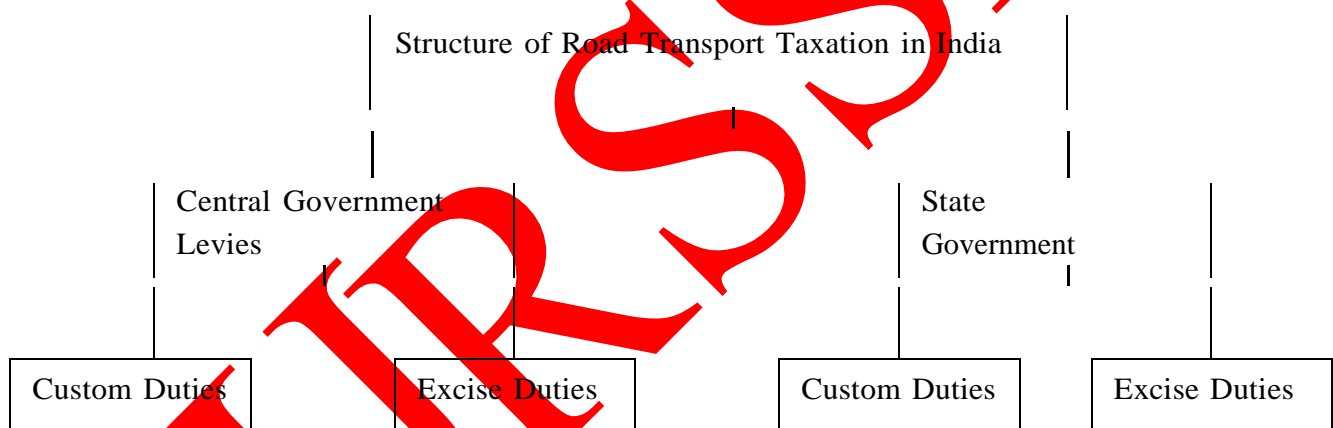
Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
As Percentage of GDP (at factor cost and constant prices)											
Transport of	6.0	6.2	6.4	6.7	6.7	6.7	6.7	6.6	6.5	6.4	6.5
Railways	1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Road	3.9	4.1	4.6	4.8	4.8	4.8	4.7	4.8	4.6	4.6	4.8
Water	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Air Transport	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Services*	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4

Source: www.morth.nic.in; (Transport Year Book 2011-12)

REVENUE FROM ROAD TRANSPORT TAXATION IN INDIA

The efficiency and economy of motorized Road Transportations to a great extent are affected by the road net-work system. Almost all consumers and industrial goods are transported by road. Road Transport is, therefore a basic mode of transport for people to travel and supply goods. Under the federal set up in India, the centre, states and local authorities have well defined powers of taxation and management of Road Transport, as assigned in the seventh schedule of the constitution. The Union Government of India levies import duties on the import of diesel, motor-sprit, tyres and tubes and vehicle and spare parts accessories produced or manufactured in In-dia. Also State Governments levy different types of taxes on Road Transport. These taxes include sales tax/VAT on motor-sprit and lubricants and specific taxes like motor vehicles, fees, tax on passenger and goods. Motor vehicle taxes (MVT) is levied in all States and Union Territories except UT of Lakshadweep. The existing tax system of motor vehicles in India is characterized by variations in tax structures, incidence, tax rates and bases of levies. The structure of Road Transport taxation in India is given below.

Structure Of Road Transport Taxation In India



Revenue From Road Transport Of States: According to the seventh schedule of the constitution of India, State Road Transport has the right of levying taxes on goods and passengers. To levy passengers and goods tax, states has exclusive powers, although their powers to tax motor vehicles are subjected to Central Government levies. At present, the tax rate across the States/UTs on motor vehicles varies from 2% to 18%. Given below is an account of the existing structure of tax on motor vehicles with respect to two-wheelers, cars, passenger vehicles and goods.

1. Leaving aside a few states like Goa, Odisha, the north eastern states (Manipur, Mizoram, Sikkim & Tripura) and Union Territories of Andaman & Nicobar, Dadar & Nagar Haweli, Daman & Diu and Puducherry most other states have switched over to life time tax (LTT) with

respect to two-wheelers. In some states tax slabs are based on engine capacity and some states (Himanchal Pradesh, Jammu Kashmir, Rajasthan and West Bengal). It is based on unladen weight. Other States/UTs follow life time tax purely based on the value/cost of the vehicle.

2. In case of cars, some of the States/UTs which follow engine capacities are J&K, Sikkim, West Bengal, Puducherry and Daman & Diu follow unladen weight as the basis. In Himanchal Pradesh the basis of MVT is engine capacity in conjunction with the percentage cost of vehicles. However, most of the States/UTs now follow life time tax based on the value/cost of the vehicles.
3. In case of vehicles like stage or contract carriages, their seating capacity forms the basis for levying taxes. On the other hand motor vehicle taxation of passenger buses is based on an upper seating capacity limit (per seat per quarter/annum) and is treated differently from motor cars and jeeps. Differentiation in tax treatment of passenger buses in many states is accorded on the basis of type of service (ordinary, luxury and express etc.). Some states like Andhra Pradesh, Chhattisgarh, Madhya Pradesh and Odisha also include the distance that the vehicle is permitted to ply as an additional element for determining the quantum of tax. Transport routes in some states are divided in different categories in terms of region with a different tax rate for each e.g. Maharashtra based on municipal versus other areas. Taxation of commercial passenger vehicles is based on stage carriages with fixed stopping points on specified routes while on contract carriages taxation includes taxis hired on time or distance basis.
4. Vehicles supplying goods are mostly taxed on the basis of registered laden weight (RLW) OR gross vehicle weight (GVW) or unladen weight (ULW). For goods vehicles in most of the states, the basis for taxation is registered laden weight (RLW)/gross vehicle weight (GVW). As far as tax on goods vehicle is concerned, the de facto tax rate for goods vehicles is a specific rate calculated on the basis of ULW, GVW, RLW or payload.

The motor vehicle taxes and fees, sales tax on motor spirit and lubricants and tax on passengers and goods collected by State Governments from Road Transport sector during the period 1950-51 to 2012-13 are shown in table-2. This table depicts the increase in revenue of the State Governments from vehicle taxes and fees, sales tax on motor spirit and lubricants and passenger and goods tax from Rs.

0.0 crore, 12.5 crores and 0.1 crore in 1950-51 to Rs 34,173.7 crores, 15528.8 crores and 14725.0 crores in 2012-13 respectively. It is also found during research that revenue from taxation of motor vehicles is higher as compared to other sources of revenue for the states. During the study period it varies from 45% to 64% of total revenue, the average percentage share of sales tax on motor spirit & lubricants and sales tax on passengers and goods traffic in total revenue of states are 22 and 24 respectively during the study period. Hence, it is proved that the share of motor vehicles taxation and fees is approximately 50% of total revenue

Table – 2 Revenue Released From Road Transport (States)

Year	Category						Total
	Motor-Vehicle Tax and Fees		Sales Tax on Motor Spirit and Lubricants		Sales Tax on Passenger and Goods Traffic		
	Amount	% to Total	Amount	% to total	Amount	% to Total	
1950-51	N.A.	0.0	12.5	99.2	0.1	0.8	12.6
1960-61	29.9	54.2	16.9	30.6	8.4	15.2	55.2
1970-71	107.7	46.5	63.2	27.3	60.5	26.2	231.4
1980-81	356.3	47.5	154.5	20.6	239.6	31.9	750.4
1990-91	1566.3	48.1	631.5	19.4	1061.8	32.5	3259.6
2000-01	7644.0	45.1	5645.0	33.3	3671.4	21.6	16960.4
2005-06	11964.0	56.0	2951.0	13.8	6450.0	30.2	21365.0
2006-07	13630.0	62.6	1332.0	6.1	6808.0	31.7	21770.0
2007-08	15595.0	64.6	1623.0	6.8	6808.0	28.3	24026.0
2008-09	17340.0	50.6	8438.0	24.6	8463.0	24.8	34241.0
2009-10	19638.0	49.6	1008.0	25.3	9857.0	25.1	39573.0
2010-11	23498.0	51.1	11198.0	24.3	11296.0	24.6	45992.0
2011-12	28897.0	53.9	13017.0	24.3	11663.0	21.8	53577.0
2012-13	34173.7	53.0	15528.8	24.1	14725.0	22.9	64427.5

Source: www.morth.nic.in ;(Transport Year Book 2006-07 to 2011-12)

REVENUE RELEASED FROM ROAD TRANSPORT (CENTRAL):

Both Central and State Governments impose taxes on vehicles. These are levied at the time of purchases or for having ownership and when the vehicle is used. The import duties and excise duties on motor vehicle & accessories, tyres & tubes, high speed diesel oils & motor spirit collected by central government from Road Transport sector. It is shown by Table-3. Table-3 clearly shows that the revenue collected by Central Government from motor vehicles & accessories, tyres & tubes and high speed diesel oil & motor spirit increased from Rs. 9.4 crores, 4.1 crores, 21.3 crores and 0.0 crore in 1950-51 to Rs. 21402.2 crores, Rs. 1871.1 crores, Rs. 15673.3 crores and 27,465.0 crores in 2012-

13 respectively. There is no certain trend in collection of taxes on different resources of Road Transport for Central Government. There was an increase in collection of tax revenue from motor vehicles & accessories and tyres & tubes after 2008-09. The collection of revenue from motor vehicles & accessories is much higher in 1990-91 during the study period. Its lonely share in total revenue of Road Transport of Central Government was 40.3% in 1990-91. From the witnessed of Table-3, the sharp fall in collection of revenue of high speeds diesel oil. It was Rs. 21,824.0 crores in 2008-09 and become Rs. 7715.7 crores in 2009-10. The collection of revenue from high speed diesel is too much in zigzag position during the 1950-51 to 2012-13. However, there was a continuous increase in collection of tax revenue from motor spirit from 1980-81 to 2012-13 except some years. It is increased by 8.0 crores to 27,465.0 crores from 1980-81 to 2012-13. The revenue collected by Central Government from motor spirit was the highest (39%) followed by motor vehicles & accessories (31%),

high speed diesel oil (23%) and tax on tyres & tubes (7%) during 2012-13 respectively.

Table – 3 Revenue Released From Road Transport (Central)

(Rs. in Crores)

Year	Category								Total
	Motor-Vehicles and Accessories		Tyres and Tubes		Tax on High Speed Diesel Oil		Motor Sprit		
	Amount	% to	Amount	%	Amount	% to	Amount	% to	
1950-51	9.4	27.0	4.1	11.8	21.3	61.2	---	---	34.8
1960-61	25.3	22.6	14.3	12.8	72.1	64.6	---	---	111.7
1970-71	42.3	9.4	55.9	12.8	353.6	77.8	---	---	451.8
1980-81	303.1	32.6	289.9	31.1	329.9	35.5	8.0	0.8	930.9
1990-91	1862.7	40.3	803.4	17.5	727.6	15.8	1202.3	26.2	4596.0
2000-01	7034.2	29.5	1382.1	5.8	9863.7	41.3	5581.0	23.4	23861.0
2005-06	9053.0	18.1	1106.0	2.2	22278.0	44.6	17554.0	35.1	49991.0
2006-07	9971.0	18.3	1246.0	2.3	25060.0	49.9	18303.0	33.5	54580.0
2007-08	11080.0	19.5	1421.8	2.5	24153.9	46.6	20102.1	35.4	56758.2
2008-09	9268.3	17.5	930.3	1.8	21824.8	41.1	21074.7	39.6	53098.0
2009-10	10415.9	21.5	2067.7	4.3	7715.5	15.9	28187.7	58.3	48386.9
2010-11	15176.3	20.1	3392.3	4.5	21278.1	28.2	35606.5	47.2	75453.2
2011-12	17457.9	23.1	4076.6	5.6	20003.1	26.5	34035.0	44.8	75572.6
2012-13	21402.2	30.8	4871.1	7.0	15673.2	22.6	27465.0	39.6	69411.5

Source: www.morth.nic.in ;(Transport Year Book 2006-07 to 2011-12)

TOTAL REVENUE FROM ROAD TRANSPORT IN INDIA

With the initiation of economic reforms in 1990-91 the transport sector has shown good performance in collection of revenue for the country. Transport is basically a derived demand depending upon the size and structure of the economy and the demographic profile of the country. Total collected revenue from Road Transport taxation in India is shown by Table-4. The contribution of Central Government and States in total revenue from Road Transport in India was 73.4% and 26.6% respectively in 1950-51. But, there is a great change between share of revenue of Central and States in 2012-13 in total revenue of Road Transport. It's become 51.9% and 48.9% respectively. In other word, the share of central and states are approximately half and half in 2012-13 in total revenue from Road Transport. With the help of Table-4, it is clearly proved, that the share of Central Government in total revenue form Road Transport is in decreasing order during the study period. It is decreased by 51.9% to 73.4% in 1950-51 to 2012-13. Other side the share of States in total revenue from Road Transport sector is gradually in increasing order. It became 48.1% in 2012-13 from 26.6% in 1950-51.

Table – 4 Total Revenue From Road Transport

(Rs. in Crore)

Year	Central		State		Total
	Amount	% to Total	Amount	% to Total	
1950-51	34.8	73.4	12.6	26.6	47.4
1960-61	111.7	66.9	55.2	33.1	166.9
1970-71	451.8	66.1	231.4	33.2	683.2
1980-81	930.9	55.4	750.4	44.6	1681.3
1990-91	4596.0	58.5	3259.6	41.5	7855.6
2000-01	23861.0	64.9	12901.7	35.1	36762.7
2005-06	49991.0	70.1	21365.0	29.9	71356.0
2006-07	54580.0	71.5	21770.0	28.5	76350.0
2007-08	56758.2	70.3	24026.0	29.3	80784.2
2008-09	53098.0	60.8	34241.0	29.2	87339.0
2009-10	48386.9	55.0	39573.0	45.0	87959.9
2010-11	75453.2	62.1	45992.0	37.9	121445.2
2011-12	75572.6	58.5	53577.0	41.5	129149.6
2012-13	69411.5	51.9	64427.5	48.1	133839.0

Source: www.morth.nic.in ; (Transport Year Book 2006-07 to 2011-12)

TRENDS IN RAIL-ROAD MODES IN FREIGHT AND PASSENGER TRAFFIC

Both freight and passenger movements by roads are rapidly increased during the study period. With the help of Table-5, the author has tried to make a relation between revenue and traffic movement (goods and passengers) of Rail and Road Transport. Table-5 clearly reflects the trend in Rail: Road Transport modes in freight and passenger traffic. Road Transport sector has seen higher growth vis-à-vis Railways during 1950-51 to 2011-12. During this period, the volume of freight (billion tonne kms.) carried by road grew at an annual average rate of 6.5% compared with a growth of 3.6% in rail freight. Over the years the modal split in freight movement between rail and road has skewed in favour of road. The share of Road Transport in freight movement which was around 14% in 1950-51 has increased to around 65% while that of railway has fallen from more than four-fifth to less than two-fifth over the same period. Other side the share of Road Transport in passenger movement which was around 15% in 1950-51 has increased to around 86% while that of railways has fallen from around 85% to barely 14% over the same period. Overall the data supports the findings of Table-1. The revenue generation through rail: road modes in freight and passenger traffic is directly responsible for their contribution in transport GDP of the nation. Therefore, the share of transport GDP via Road Transport is higher than other modes of transport.

Table -5 Trends In Rail – Road Modes In Freight And Passenger Traffic

Year	Goods (Billion Tonne Kilometers)				Passenger (Billion Passenger)			
	Road		Railway		Road		Railway	
	Volume	Percentage	Volume	Percentage	Volume	Percentage	Volume	Percentage
1950-51	6.0	13.8	37.6	86.2	23.0	15.4	66.5	84.1
1960-61	14.0	16.2	72.3	83.8	80.9	51.0	77.7	49.1
1970-71	47.7	30.1	110.7	69.9	210.0	64.0	118.1	36.1
1980-81	90.9	38.1	147.7	61.9	541.8	72.2	208.6	27.1
1990-91	145.1	38.1	235.8	61.9	767.7	72.2	295.6	27.1
1999-00	467.0	60.5	305.2	39.5	1831.6	81.0	430.7	19.1
2005-06	658.9	59.9	441.8	40.1	4251.7	87.4	615.6	12.1
2006-07	766.2	61.4	481.0	38.6	4545.8	86.7	694.8	13.1
2007-08	851.7	62.0	521.3	38.0	4680.3	86.3	770.0	13.1
2008-09	920.2	62.5	551.4	37.5	5196.5	86.1	838.0	13.1
2009-10	1015.1	62.8	600.5	37.2	5555.9	86.0	903.4	14.1
2010-11	1128.4	64.3	625.7	35.7	5940.3	85.9	978.5	14.1
2011-12	1272.4	64.5	667.6	35.5	6351.2	85.9	1046.5	14.1
2012-13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Source: www.morth.nic.in ;(Transport Year Book 2006-07 to 2011-12)

SUGGESTIONS RELATING TO IMPROVEMENT OF REVENUE OF ROAD TRANSPORT:

These are following:

1. Advalorem taxation for motor vehicles is desirable. It is in the interest of smooth administrative functioning, revenue buoyancy and in incidence. Although there are chances that it may result in higher burden on multi-axles vehicles (MAV) that ought to tax lightly vis-à-vis two axle trucks. The impact could be cushioned by according a concessional excise duty structure for MAV and articulated vehicles.
2. With a focus on the road damage factor there is a need to move vehicle taxation of goods vehicles in particular from gross vehicle weight to axle loads. The latter bears a close relation with road damage and will also encourage use of MAV.
3. Simple motor vehicle taxation structure should be adopted for stage carriage as per the seating capacity.
4. To facilitate free movement across states of personalized vehicles which are on 'Life Time Tax', those which have paid taxes in one state could be treated as tax exempt by others.
5. Vehicles used for charitable purpose should be allowed tax benefits.
6. Road Transport related taxes/levies as (road tax, goods tax, passenger tax) etc. must be replaced by a single composite tax. It will reduce collection cost and compliance cost of

vehicle owners/operators.

7. Under VAT, tax credit should be provided for the inter-state movement of goods.
8. Phase out Central Sales Tax.

CONCLUSION

Tax imposition on vehicles in India is the subject matter of both Central and State Governments. Taxation on vehicles begins with the purchase and continues during the use and shifting ownership of it. Major taxes levied on vehicles include custom duty; central VAT and central sales tax are imposed by Central Government. Other taxes including motor vehicle tax, passenger & goods tax, State VAT and toll taxes are levied by the State Governments.

The existing structure of road user taxes is characterized by its multiplicity. It shows wide variations in tax rates. First there are differing schemes for classification of vehicles. Second, there is no uniformity in the bases of various levies. Third, the tax is at the time specific while in some cases it is ad-valorem levy payable every year in fact. It is difficult to make comparison of rates levied on different types of vehicles in different states.

The main findings are listed here:

1. The share of transport sector in Gross Domestic Product (GDP) of total has increased from 6.0% in 2001-02 to 6.5% in 2011-12. However, the contribution of Road Transport sector in GDP has increased from 3.9% in 2001-02 to 2011-12.
2. The share of states revenue in total revenue of Road Transport has risen from 26.6% in 1950-51 to 48.1% in 2012-13.
3. The share of motor vehicle tax (MVT) in total tax revenue of the states has risen from 45.1% in 2000-01 to 53.0% in 2012-13.
4. During the decade (2000-01 to 2012-13) MVT has grown at a faster compound annual growth rate of 14.7% compared to 13.4% and 11.0% growth in sales tax and passenger and goods tax respectively.
5. The share of Central revenue in total revenue of Road Transport has decreased from 73.4% in 1950-51 to 51.9% in 2012-13.
6. Percentage share of motor sprit (39.6) is followed by motor vehicles and accessories, tyres & tubes and tax on HSD as 30.8%, 7.0% and 22.6% in 2012-13 respectively.

REFERENCES

- [1] Ministry of Shipping, Road Transport and Highways (MORTH), National Road Transport Policy, Department of Road Transport and Highways, Government of India, 2010.

- [2] Ministry of Shipping, Road Transport and Highways (MORTH), Transport Year Book (2006-07 to 2011-12). Department of Road Transport and Highways, MORTH, Government of India.
- [3] Ministry of Finance, Economic Survey 2013, Ministry of Finance, Government of India, 2013.
- [4] A.C.Roy: Transport infrastructure in the SAARC countries, survey, Vol. 35, pp 1-13, 1995.
- [5] D.K.Halder and G. Gupta : “Public Transport and Urban land use in a developing economy; special reference to Calcutta”, International conference on urban and regional change in developing countries, IIT, Kharagpur, December, 1981.
- [6] J.S. Mathur : “Road accidents in India”, Transport and economic development (edited), Chug Publications Allahabad, pp.127-129, December 1992.
- [7] A.H. Munnell: “Infrastructure investment and economic growth”, Journal of economic perspective pp.189-198, December 1992.
- [8] G. Raghuram and D. Kheskani: “Governments role in road toll collection the Coimbatore bypass experience, India”. Available from http://202.41.76.252/publications/data/2002-09-7_G_Raghuram.pdf.
- [9] The annuity road, “The Hindu business line”, pp.10, January 02.
- [10] H.S.Estaham and M.T.Ramirez: “Infrastructure, infrastructure and economic growth”, Journal of Development Economics, pp. 443-447, March 2003.
- [11] J.K.Jain: “Transport economics”, Chaitanya Publishing House, Allahabad, pp.239-241.