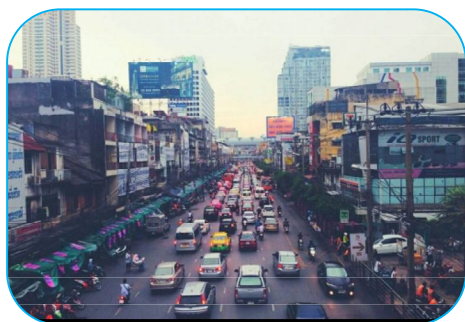




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ROAD TRANSPORT IN INDIA AND MAHARASHTRA STATE

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ABSTRACT:

This paper deals with the road transport scenario in India and in Maharashtra State. It discusses the Plan of Capacity Building of Road Development Authorities in India and human resources development in the road transport sector.

KEYWORDS: road transport scenario , human resources development.

1. INTRODUCTION:

The discussion of the development of National Highways, State Highways, District Roads and Village Roads is made by the researcher. An overview of Road Development in Maharashtra State and in Kolhapur district is presented.

2.OBJECTIVES:

The paper has following Objectives: (1) To understand the importance and present scenario of Road Transport in India (2) to know the Plan of Capacity Building of Road Development Authorities and the Development of Human Resources in the Road Transport Sector in India (3) to have an overview of the development of road transport

in Maharashtra State (4) to bring out the road development scenario in Kolhapur district.

3. DATA COLLECTION:

The paper uses the secondary data from various sources likenewspapers, government reports, reports of international organizations etc.

4.THE PRESENT SCENARIO OF ROAD TRANSPORT IN INDIA:

The Eleventh Five Year Plan (2007-2012) laid much emphasis on the development and modernization of the Indian road transport. More than Rs.315200 crs was the investment of which the shares of Centre, State and the Private were 34, 32 and 34 percent respectively for the completion of National Highway Development Programme (NHDP) programmes. The National Highway Authority of

India (NHAI) came into existence in Feb, 1995 under the provisions of National Highway Authority of India Act, 1988. The NHAI was entrusted to complete the externally aided National Highways' improvement projects and Build-Operate-Transfer (BOT) projects. A **Task Force** headed by the Deputy Chairman Planning Commission was constituted to monitor the programme. The NHAI took up two important projects viz.: The Golden Quadrilateral and the Port Connectivity Projects. **The Golden Quadrilateral Project** Delhi-Mumbai-Chennai-Kolkatta-Delhi was to cover more than 5800 kms. Under the **Port Connectivity Project**, roads connecting 12 major ports covering more than 380 kms and other projects covering 962 kms. Despite of severe problems like delay in land acquisition and removal of structures, shifting of

utilities, law and order problems in some states and unsatisfactory performance some contractors, the NHDP was successful.

The Special Accelerated Road Development (SARD) was started to upgrade the road connectivity to state capitals, district headquarters and remote places in the North East Region of the country. It covered more than 3800 kms of National Highways and more than 4900kms of State roads. It connected 85 district headquarters to National Highways and State Roads.

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was started in 2000 to improve the rural road connectivity in India. Its main aim was to provide connectivity by all-weather roads to all the unconnected rural habitations with the populations of more than 1000 and above during 2000-2003. The all unconnected habitations with more than 500 populations were covered by the end of the Tenth Plan Period (2007). The programme connected habitations with persons 250 and above in hill states and desert areas (North-East, Sikkim, Himachal Pradesh, Jammu and Kashmir and Uttaranchal). The PMGSY was a 100 percent centrally sponsored scheme.

Apart from this, the Central Government replaced the **Carriers Act of 1865** by the **Carriage by Road Act, 2007**. It aimed at modernizing and making the Indian Transport System transparent and for this purpose a Working Group was appointed.

The Motor Vehicle Act of 1988 was amended thrice and was made more flexible considering the technological changes in the transport sector. The government also initiated the **Public Private Partnership (PPP)** in Indian Road Sector. All these years since independence, it was only the public sector which made investments in the construction and maintenance of public roads. It required huge resources with long gestation period and uncertain returns. The government declared the road sector as an industry and provided 40% subsidy of the project cost. The government also declared 100% tax exemption for the initial 10 years. The government came forward with steps like to pay all expenses relating to land and other pre construction activities, allowing 100% FDI, relaxation in rules for external commercial borrowings, right to collect and retain toll etc, in order to encourage the PPP. The Central Government created a **Central Road Fund (CRF)** from the collection of cess on Petrol and High Speed Diesel (HSD) Oil. It is being used for the development and maintenance of National Highways, State Roads, Rural Roads and also for road over bridges, under bridges, and safety measures unmanned railway crossings.

A **Working Group on Road Sector** for the **12th Plan** (2012-2017) was constituted in April 2011. Further, the Working Group constituted four sub groups each on National Highways, State Roads, Research and Development and Highway Safety; and Public Private Partnership (PPP) with Toll matters. The target of 85000 kms of NH network was considered for the plan. The ongoing phases of NHDP-I, II, III, and V involving up-gradation to 4 or more lanes of about 32750 km including overlapping length of about 5850 km was the target for 12th plan for which the total resource allocated were Rs.323774 crs. The SARDP-NE, Special Programme for the Development for Leftwing Extremism Affected Areas, Development of Expressways was taken up in the plan. Due consideration was to be given to the preservation of ecology and environment, development of 'urban links', development of in-house capabilities were other considerations under the plan.

5. PLAN OF CAPACITY BUILDING OF ROAD DEVELOPMENT AUTHORITIES AND THE DEVELOPMENT OF HUMAN RESOURCES IN THE ROAD TRANSPORT SECTOR IN INDIA:

It is essential to understand the institutional development of all stake holders and the developments in the State Road Sector.

5.1 Institutional Development of All Stake Holders:

The following institutions are involved in the capacity building and in the development of human resources in the Road Transport Sector in India: The Ministry of Road Transport & Highways, National Highways Authority of India, Border Road Organization, State Public Works Departments, The Indian Academy of Highway Engineers and all Engineering and Technical Institutions in the country.

The Working Group on Central Road Sector during the 12th Plan suggests that the Ministry of Road Transport & Highways (MRT & H) should act as an apex institution in technical excellence and improvise design standards and specification. And it should also encourage research works for roads and bridges. The Regional Offices of the MoRT&H should be strengthened to streamline the PPP projects with efficient legal cells. It also suggests to the networking of different project sites, regional offices, State PWDs with the Headquarters.

The Working Group suggested for restructuring the NHAI to provide expertise for the raising of resources and implementation and management of National Highways. It suggested for the deputation of engineers and other officers to NHAI from MoRT&H and State PWDs so that the NHAI would prepare plan for development, maintenance and operation of National Highways. The Working Group called for modifying the procedures of working of Border Roads Organization (BRO) in order to outsource the workers, if needed.

The Working Group advised for synchronizing the workings of the procedures and systems at the Central and State levels. Nearly 40,000 kms of National Highways are with the State PWDs. The Working Group suggested that the National Academy of Construction (NAC) and even the firms like L&T to take lead to identify two or three institutions in every state to impart the training for both skilled and unskilled labour in the sector.

5.2 State Road Sector:

The State Highways (SHs) and Major District Roads (MDRs) constitute the second road transport in the country. The length of SHs and that of MDRs is about 15400kms and 30000kms respectively. And it carries about 40% of the road traffic. It is estimated that the MDRs require Rs.25000crs per year where as the available funds are only Rs. 8000crs. Hence, this shortage of funds is the main reason for the present state of these roads. The State roads faced the difficulties like lack of policy and planning, lack of control on pre-construction activities, capacity constraints and weak consultancy and contracting industry. This sector also faces the problem of inadequate data base. Hence, the **Working Group** suggested a **CORENET WORK** of important routes with a **Corridor** concept. It was to aim at having an average speed of 60-70 km per hour so that commercial vehicles which are the carriers of economy should cover 500-600 kms per day with 4-laning. And the roads under the "Core Network" will have to be given priority for future up-gradation as National Highways. The Working Group also suggested that the "Core Network" to have a long term vision of 2031, to undertake the programme with a concept of "Green Highways" with the possible involvement of private sector participation and financing. For this purpose, the Central Government created a window for 'viability gap funding' where 20% of the additional cost could be provided by the State Government to the private entrepreneur with financial aid from World Bank and ADB. The Planning Commission formulated a 'Model Concession Agreement', for capacity augmentation of NHs and SHs on BOT basis. It would provide address the concerns of various stake holders with sound legal procedures. The **13th Finance Commission** decided to provide a Central grant of Rs.19930 crs. Over the period 2011-15 with an annual grant of Rs. 5000 crs. It could enable a healthy system of road maintenance. It was felt a necessity of establishing a **Road Asset Management** in the States. It was also suggested that each State should appoint a **Standing Committee** to inspect the roads and suggest road improvement measures. For augmenting additional financial resources it was suggested to tap from beneficiaries like Special Economic Zones (SEZs), satellite towns, ports, power plants, steel plants and other industries. No doubt, roads are valuable assets and justify preservation and regular maintenance and sufficient funds have to be ensured for this purpose.

5.3 An Overview of Road Development in Maharashtra State:

The agencies responsible for the development of roads in the State of Maharashtra are the Public Works Department (PWD-State Government), Zilla Parishads (ZP), Municipal Corporations/ Nagar Panchayats/ Municipal Councils, Cantonment Boards, Maharashtra State Road Development Corporation (MSRDC), Forest Department, Maharashtra Industrial Development Corporation (MIDC) and

City Industrial Development Corporation(CIDCO).The MSRDC undertakes the development of roads and allied infrastructure mainly with private participation. All the road construction works of MSRDC are based on 'Build, Operate and Transfer' (BOT) principle. The Maharashtra State is implementing 'The Prime Minister Gram SadakYojana' (PMGSY) since 2000, with 100% central sponsorship. The main objective is to provide all-weather road connectivity to the unconnected habitations in the rural areas, with a population of 1000 persons and above (500 and above for tribal areas).

5.3.1 Region-wise distribution of road length in Maharashtra State:

Table1: Road Length maintained by PWD and ZP (in km)

Development Board	As on 31 st March	Type of Roads						Total
		National Highways	Major State Highways	State Highways	Major District Roads	Other District Roads	Village Roads	
Vidarbha	2015	1,599	1,639	9,604	11,899	14,642	26,281	65,664
	2016	2,134	1,232	9,526	12,391	14,642	26,282	66,207
Marathwada	2015	816	1,757	7,778	11,527	12,251	31,368	65,497
	2016	1,407	1,479	7,656	11,525	12,251	31,368	65,686
Rest of Maharashtra	2015	2,351	2,767	16,478	27,159	31,222	88,230	1,68,207
	2016	3,897	2,469	16,148	26,928	31,223	88,231	1,68,896
Total	2015	4,766	6,163	33,860	50,585	58,115	1,45,879	2,99,368
	2016	7,438	5,180	33,330	50,844	58,116	1,45,889	3,00,789

Source: Public Works Department, Government of Maharashtra

Table 1 shows the region-wise distribution of road length in Maharashtra State in the years 2015 and 2016. In the year 2016, nearly half i.e. 48.50% of the road length was that of village roads,19.32% other district roads,16.92% major district roads, State Highways 11.08%,major state highways 1.72% and 2.47% were the National Highways.TheVidarbharegion has 22.01%, the Marathwada region 21.54% and the Rest of Maharashtra 56.15% road length.

5.3.2The utilization of the Central Road Fund:

Table 2: Progress of Central Road Fund in the State

Year	Works sanctioned (no.)	Sanctioned length (km)	Amount sanctioned (Rs.Crore)	Works (no.)		Physical length completed (km)	Expenditure (Rs.Crore)
				In Progress	Completed		
Upto 2012-13*	707	7,044.68	2,469.66	10	695	7,044.68	2,572.85
2013-14	6	48.35	84.00	2	4	48.35	79.11
2014-15	33	257.29	390.89	21	12	243.62	280.03
2015-16	86	977.87	1,796.68	85	0	316.30	352.40
2016-17**	170	1,233.63	3,106.39	158	0	6.50	237.06
Total	1,002	9,561.82	7,847.62	276	711	7,659.45	3,521.45

Source: Public Works Department, Government of Maharashtra

* From 2001-02

** Up to January

Table 2 shows the utilization of the Central Road Fund in the state during the period 2012-13 to 2016-17. As many as 1002 works were sanctioned. The total road length sanctioned was 9561.82 kms whereas the road length completed was 7659.45 kms.

The Central Road Fund sanctioned was Rs.7847.62 crs whereas the expenditure incurred was Rs.3521.45 crs. It is to be observed that the state was able to utilize only less than half of the fund sanctioned.

5.3.3 The cumulative physical achievement of the road length and habitations:

Table 3: Cumulative road length constructed and number of habitations connected under PMGSY since inception

Development Board	Physical Target		Cumulative Physical Achievement	
	Road Length (km)	Habitations (No.)	Road Length (km)	Habitations (No.)
Vidarbha	7,782	2,291	7,351 (94)	2,858 (98)
Marathwada	5,026	1,863	4,919 (98)	1,848 (99)
Rest of Maharashtra	11,631	3,531	10,928 (94)	3,512 (99)
Total	24,439	8,315	23,198 (95)	8,218 (99)

Source: Rural Development Department, Government of Maharashtra

Note: Figures in brackets indicate Percentage to Target

Table 3 shows the cumulative physical achievement of the road length and the habitations connected under the Prime Minister Gram Sadak Yojana in the state since the inception of the programme. The total road length constructed under the programme is 23198 kms and the habitations connected with this road length are 8218. This is a high level of achievement as the road length is 95% of the target and the number of habitations connected 99% of the target.

5.3.4 Progress Prime Minister's Gram Sadak Yojana (PMGSY)

Table 4: Progress of PMGSY

Year	Habitations connected (No.)	Road Length Created (km)	Expenditure incurred (Rs. Crore)
2014-15	155	367	410.00
2015-16	220	318	258.26
2016-17*	19	67	63.29
Total	394	752	731.55

Source: Rural Development Department, Government of Maharashtra

* Up to November

Table 4 explains the progress made in the State under Prime Minister's Gram Sadak Yojana (PMGSY) in the years 2014-15, 2015-16 and 2016-17.

The total road length created was 752 kms and the habitations connected were 394. The expenditure incurred to create this road length was Rs.731.55 crs.

5.3.5 The decade-wise road length by the type of roads maintained by PWD and ZP

Table 5: Decade-wise Road Length by Type of Roads in Maharashtra State (Maintained by PWD and ZP) 1970-71 to 2010-11 in Kilometers

Year	National Highways	State Highways	Major District Highways	Other District Highways	Village Roads	All Roads
1970-71	2,445	14,203	17,684	11,012	20,020	65,364
1980-81	2,945	18,949	25,233	25,404	68,600	1,41,131
1990-91	2,959	30,975	38,936	38,573	61,522	1,72,965
2000-01	3,688	33,212	46,751	43,696	89,599	2,16,946
2010-11	4,376	34,103	49,936	46,897	1,06,400	2,41,712
Total	16,413	1,31,442	1,78,540	1,65,582	3,46,141	8,38,118
% to all Roads	1.96	15.68	21.30	19.75	41.30	--

Source: Public Works Department, Government of Maharashtra

- Note: The classification of road length up to 1987 was according to "Road Development Plan (RDP), 1961-81" and 1987-88 onwards it is according to "RDP 1981-2001".
- State Highways include Major State Highways for 1965-66 to 2011-12.

Table 5 shows the decade-wise road length by the type of roads maintained by PWD and ZP during the period 1970-71 to 2010-11. Of the total 838118 kms of road length in the state Village Roads constitute 41.30%, Major District Highways along with other District Highways 41.05%, State Highways 1.68% and National Highways 1.96%. During these five decades there has been tremendous progress in the road length of all types in the state.

The World Bank Report (2008) has identified substantial gap in human resources as a critical issue as revealed by the studies on investment climate, operation and implementation

The Village Roads increased by 326121 kms, District Highways 315526 kms, State Highways 17239 kms and National Highways by 13968 kms.

5.3.6 The year-wise road length of all types of roads in the State:

Table 6: Year-wise Road Length by Type of Roads in Maharashtra State (Maintained by PWD and ZP) 2010-11 to 2015-16 in Kilometers

Year	National Highways	Major State Highways	State Highways	Major District Highways	Other District Highways	Village Roads	All Roads
2010-11	4,376	--	34,103	49,936	46,897	1,06,400	2,41,712
2011-12	4,376	--	34,157	50,256	47,529	1,06,601	2,42,919
2012-13	4,376	6,694	27,528	50,226	47,573	1,06,745	2,43,172
2013-14	5,858	6,337	33,963	50,232	52,761	1,14,557	2,63,708
2014-15	4,766	6,163	33,860	50,585	58,115	1,45,879	2,99,368
2015-16	7,438	5,180	33,330	50,844	58,116	1,45,881	3,00,789
Total	31,190	24,374	1,96,941	3,02,079	3,11,991	7,26,063	14,91,668
% to all Roads	2.1	1.63	13.20	20.25	20.91	48.67	--

Source: Public Works Department, Government of Maharashtra

- Note: State Highways include Major State Highways for 1965-66 to 2011-12.
- The classification of road length from 2012-13 is according to "RDP 2001-21".

Table 6 shows the year-wise road length of all types of roads in the State from 2010-11 to 2015-16 i.e. in the immediate past five years of the present study. The Total Road Length (all types) is 14,91,668kms. constitute 48.67%, 41.16%, the State Highways 14.3% and the National Highways 2.1%. The Village road length created was 7,26,063kms. The National Highways road length was 31,190 kms. The State Highways road length constructed was 2,21,315kms whereas the District Highways road length constructed was 6,14,070 kms. The major share related to road construction in the State belongs to the village roads.

5.3.7 The region-wise road length in the state

Table 7: Region-wise Classification of Road Length according to Breadth (Maintained by PWD and ZP) for 2015-16 in Kilometers

Region	Achievement in Length (kms) as per Breadth (meters)				
	7.0	5.5	3.75	Other	Total
Konkan	2,346	2,572	21,306	6,597	32,821 (10.91)
Western Maharashtra	4,602	5,052	47,292	12,933	69,879 (23.23)
North Maharashtra	3,306	5,062	37,237	20,590	66,195 (22.00)
Marathwada	3,006	4,926	44,619	13,314	65,685 (21.83)
Amravati	2,399	3,736	11,320	11,098	28,553 (9.49)
Nagpur	1,925	3,095	15,750	16,886	37,656 (12.52)
Total	17,584	24,443	1,77,524	81,838	3,00,789

Source: Public Works Department, Government of Maharashtra

Note: Figures in brackets indicate the Percentage of all Roads of Region to the State Total

The following Table 7 explains the region-wise road length in the state in the year 2015-16. It is the Western Maharashtra region which has highest share i.e. 23.23% of the road length, North Maharashtra 22%, Marathwada 21.83%, Nagpur 12.52%, Konkan 10.91% and Amravati 9.49%.

The Western Maharashtra region is having the highest road concentration in the state. The district of Kolhapur is in the Western Maharashtra Region.

5.3.8 The district-wise road length in the Western Maharashtra region

Table 8: District-wise Classification of Road Length according to Breadth in Western Maharashtra (Maintained by PWD and ZP) for 2015-16 in Kilometers

District	Achievement in Length (kms) as per breadth (meters)				
	7.0	5.5	3.75	Other	Total
Pune	1,278	1,246	16,454	120	19,098 (27.33)
Satara	451	963	8,889	2,158	12,461 (17.83)
Sangli	573	1,055	6,335	4,247	12,230 (17.50)
Kolhapur	590	861	3,743	3,500	8,694 (12.44)
Solapur	1,710	927	11,851	2,908	17,396 (24.90)
Western Maharashtra	4,602	5,052	47,292	12,933	69,879

Source: Public Works Department, Government of Maharashtra

Note: Figures in brackets indicate the Percentage of all Roads of District to the Region Total

Table 8 shows the district-wise road length in the Western Maharashtra region in the year 2015-16. The Pune district has highest road length of 19098 kms (27.33%), Solapur district 17396 kms (24.90%), Satara district 12461 kms (17.83%) and Sangli district 12230 kms (17.50%). The Kolhapur district which is the study area for the present study has the least the road length of 17396kms (12.44%).

6. ROAD DEVELOPMENT SCENARIO IN KOLHAPUR DISTRICT:

The Kolhapur district has the total geographical area of 7685 sq.kms. According to 2011 census, the district has total population 3515413 with the density of population 457. There are six administrative sub divisions viz.: Panhala, Ichalkaranji, Karvir, Radhanagari, Bhudargad and Gadahinglaj. The Gadahinglaj sub division is southernmost part of the district and has three tehsils/talukas viz.: Gadahinglaj, Ajra and Chandgad. There is Poona-Bangalore National Highway, 2 State Highways, 13 Major District Roads and 29 Other District Roads. The State Highways connect to National Highway. The State Highways connect the neighboring States, district headquarters and major cities within the state. The Major District Roads link important marketing centers with state highways, national highways and railways. Other District Roads are mostly un-metalled and provide link to market places.

8. CONCLUSION:

The National Highway Authority of India was established in 2011 to monitor the road sector development in India. The Golden Quadrilateral Project, Port Connecting Project, the Special Accelerated Road Development Programme, and Prime Minister Grameen Sadak Yojana are some of the main projects started to enhance the road connectivity in India. The Carriers Act of 1865 was replaced by The Carriage by road Act 2007. The Motor Vehicle Act of 1988 has been amended thrice. A Working Group on Road Sector was appointed in 2011. During the 12th Plan a sum of Rs. 323774 crs were allocated for the development of the road sector. Various Central Government and State Government organizations have undertaken the capacity building and the development of human resources in the Indian road sector. All Universities and Engineering and Technical Institutions are geared up for this purpose under the leadership of The Ministry of Road Transport & Highways to bring in technical excellence. The 13th Finance Commission has suggested a Central Grant of Rs. 19930 crs for the development of State Road Sector.

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