

## Road transportation in Konkan Region

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### Key Words

Transportation, Road Pattern, Road Transport Service.

### Abstract

*Infrastructure is an engine for economic development. It may be broadly defined as a system of linkages that facilitate and enable the flow of goods and services. Road Transport is a very important segment of physical infrastructure. Transport network in transport geography play a pivotal role in reducing the disparities and bringing about a balance and integrated development. A good road network provides connectivity and accessibility to remote areas. Konkan region is a land deeply furrowed by fast-flowing streams from the Sahyadris and criss-crossed with highly ragged trace ranges. Therefore Road transport being the back bone of the transport system faces heavy pressure of transport created in this region. It is only the source which provides the services throughout the year in this region. In the present study focuses on Raigad district which is part of North Konkan.*

*This paper attempt to study the pattern of road structure in this district. It also focuses on development trend of roads transportation in the Raigad district with selected parameters such as road length, passenger and goods traffic, density of motor vehicles per Kms. and comparison of road connectivity with neighboring districts of Raigad district. The study is stretched over a period of six years i.e. from 2005-2006 to 2010-2011.*

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### Introduction

Good quality infrastructure is the most critical physical requirement for attaining faster growth in a competitive world and also ensuring investment in backward regions. Road Transport is a very important segment of physical infrastructure and it has been witnessing exponential growth in the State as evidenced by increasing number of vehicles. A good road network provides connectivity and accessibility to remote areas, markets, schools, and hospitals. Roads are easily accessible, have more traffic potentialities and can be used by variety of vehicles. Konkan region is a land deeply furrowed by fast-flowing streams from the Sahyadris and criss-crossed with highly ragged trace ranges. On the basis of nature of coastline, it is divided into North Konkan and South Konkan. In the present study we used the word Konkan to indicate only Raigad district which is part of North Konkan.

Raigad district is glorious with natural beauty because of its scenic coastline on the West and the rich Sahyadri Mountain range on its East. It has witnessed a slow pace of transport development have hampered its progress and remained relatively isolated permitting stagnation of for a longer time. Water transport was the most important mode of transport for Raigad district. But 'A coastal passenger service has been stopped by the government on 2<sup>nd</sup> May, 1988. A long-standing dream of the people of Konkan Railway in this region came true in 1997-1998 but this facility covers only a few villages. Therefore the road transport is the only single mode which plays a major role in this hilly region. As a result, the pressure of passengers and goods traffic on road transport has increased. Till the later half of the 19<sup>th</sup> century there was no wheeled carriage. Goods were carried on head, pack bullocks and ponies. Bullock cart was the only means of

transport for the district. But situation changed with development of first long period road development 'Nagpur Plan'. This district has obtained highest cake of package scheme of incentives. But hilly terrain as well as transportation is the foremost deficiency experienced by entrepreneurs in these districts. Even the topography of district is rugged with uneven slope thus public gives first priority to road transport. Therefore transport facilities are needed urgently for a quicker pace of socio-economic development of this district.

### Objectives of the Study

The specific objectives of the study are as follows:

1. To study the present status of Roads in the Raigad district.
2. To examine development trend of Roads transportation in the Raigad district with the help of following indicators such as -
  - Road Length
  - Passenger and Goods Traffic.
  - Density of Motor Vehicles per Km.
  - Road connectivity compared with neighbouring Districts.

### Review of Literature

The author P.C. Tripathi, published his book entitled '**Rural Transport and Economic Development**', (1972). This is one case study on rural areas of Rajasthan State. He states that, the absence of transport and communication facilities force life in rural areas to move at a very slow pace. He concluded by chalking out the characteristics to make road transport an obviously more suitable for handling rural traffic than the railways.

Dr. Arun Khan has written a paper entitled "**Road Transport Network Development in India**." He has systematically dealt with Nagpur Road Plan, Bombay Road Plan, and Lucknow Road Plan in India. He concluded that an expressway is a must for fast development and the other district roads, village roads and roads under Panchayati Raj provide connectivity to the villages.

S.C. Sharma, D. N. Tripathi, and O. P. Mishra published their paper entitled '**Geographical study of transport network in Amethitaluka of Uttar Pradesh**.' This paper tried to analyse the accessibility of road and traffic density of transport in Amethitaluka of Uttar Pradesh. He concluded that the density of roads and connectivity are higher in this region. But the connectivity in the existing transport network is weak due to inadequate feeder roads in the rural areas.

### Research Methodology

#### a) Area selected:

The present study is confined to the Raigad district which is a part of North Konkan. It has considered a period of last six years from 2005-2006 to 2010 - 2011.

#### b) Data Sources:

The present study is based on secondary sources only. The secondary data were gathered from different sources such as Internet, books, journals, newspapers related articles, research papers, published report of the government like Quarterly, Annual reports of Public Works Department, Infrastructure statistics Report, unpublished statistics were collected by personally visiting Zilla Parishad Office (Alibaug) of Raigad district, District socio-Economic Reviews of Raigad, Thane, Ratnagiri, Pune, Satara.

#### c) Analysis of Data:

The collected data is compiled and analyzed for the purpose of the study. To facilitate interpretation statistical tools, percentages and trend are used.

## Road Transport in Raigad District

### Present Scenario of Roads in Raigad District

Road transport has close linkages with the economic development and social integration of the country. It is the prime motorized mode of transport linking the remote and hilly areas with rest of the economy. Road transport is, being the back bone of the transport system faces heavy pressure of transport created in this region. It is only source which provide the services throughout the year in this region. During the monsoon season the roadways are the only transport available for the transportation of goods. In the beginning phase of the motorable road in Raigad District, the popular mode of local transport was bullock-cart and horse-carts. It has been the most important and convenient vehicle for the farmers to carry their goods and implements. These vehicles had natural death when more number of motorized vehicles were put on road. The road infrastructure in the Raged district is managed by State bodies like, Public Works Development and ZillaParished and Municipal Corporation coped with local level. The following table no. (1) Shows the road length managed under State sector and Local sector in Raigad district.

Table No. (1) : Category-wise road lengths under state sector and local sector in Raigad district  
(Roads Length in kms. as on 31<sup>st</sup> March, 2011)

Category-wise Road Classification	P.W.D. Roads	Z.P. Roads	Municipal Roads	Grand Total
National Highways	154.30	-	-	154.30
Major State Highways	150.26	1.50	-	151.76
State Highways	1101.33	-	-	1101.33
Major District Roads	587.00	82.05	2.50	671.55
Other District Roads	-	754.33	8.00	762.33
Village Roads	-	2422.50	-	2422.50
Other Roads	-	-	329.22	329.22
Total	1992.89	3260.38	339.72	5592.99

**Source:** District Statistics Review of Raigad district 2011. Table (7.7), pp. 112.

The table no.(1) shows that, as on 31<sup>st</sup> March 2011, in Raigad district total 1992.89 Kms. road lengths i.e. 35.63 per cent of total road lengths maintained by Public works Department. It includes, National Highway 154.30 Kms., Major State Highways 150.26 Kms., State Highways 1101.33 Kms. and Major District Roads 587.00 Kms. whereas, 58.29 per cent i.e. 3260.38 Kms. length of the road is maintained by ZillaParishads under State level bodies. It consists of 1.50 Kms. of Major State Highways, 82.05 Kms. of Major District Roads, 754.33 Kms. of Other District Roads and 2422.50 Kms. of Village Roads. Municipal bodies under local level maintained only 6 per cent Municipal road lengths i.e. 339.72 Kms. this includes 2.50 Kms. of Major State Highways, 8.00 Kms. of Other District Roads and 329.22 Kms. of Other Roads in this district. It was clearly said that the more attention should be paid by the Government on connectivity of village roads in this district.

### Development Trend of Road Transport in Raigad district

#### Road Length:

Table no. (2) - Growth of categories - wise Road lengths in Raigad district  
(Road Lengths in kms.)

Year	Category-wise Roads classification						Total Road Length
	National Highway	State Highway	Major District Road	Other District	Village Road	Others	

				Road			
2005-06	154	1,187	486	702	2124	421	5074(100.00)
2006-07	154	1,242	589	702	2124	421	5232 (103.11)
2007-08	154	1246	643	705	2156	528	5432 (107.06)
2008-09	182	1,248	667	762	2443	361	5663 (111.61)
2009-10	154	1,248	672	762	2423	344	5603 (110.43)
2010-11	154	1,253	618	762	2423	329	5539(109.16)

**Source:**

*District Statistics Review of Raigad district, 2005-2011.*

*Sub - division Public Works Department, Government of Maharashtra, Mumbai.*

*Public Works Department, Raigad (Alibaug).*

Above table no. (2) depicts that the total length of roads is 5074kms.in the year 2005-2006. It includes National Highway of 154Kms., 1,187Kms. of State Highway, 486Kms. of Major District Road, 720Kms. of Other District Road, 2124Kms. of Village Road, 421Kms. of Other Roads (Other roads means unclassified roads).

After 2010-2011, the total road length has increased by 109.16 per cent as per based year 2005-2006. The state highway, major district road and other village roads length have been improved except the length of national highway as there was no change.

**Passenger and Goods Traffic**

When the motor vehicles were put on road for transportation, they were used both for carrying the passengers and the goods. Table No. (3) shows that number of Passenger and Goods Vehicles handle by road transport in the Raigad district.

Table No. (3)Growth of Road passenger and Goods Vehicles

Year	Total No. of Passenger Vehicles	Total No. of Goods Vehicles	Motor Vehicles
2005-2006	2,29,774	32,789	2,62,563
2006-2007	2,63,546	39,100	3,02,646
2007-2008	2,99,533	45,440	3,44,973
2008-2009	3,32,894	50,965	3,83,859
2009-2010	3,60,056	54,341	4,14,397
2010-2011	3,87,926	57,748	4,45,674

**Source:**

*Mumbai Metropolitan Region Development Authority, Basic Transport & Communication Statistics Report for Mumbai Metropolitan Region (January - 2011), Table No-3.2 pg.73.*

*Basic Transport & Communication Statistics for Mumbai Metropolitan Region (January - 2011) pg. 82-90.*

The table no. (3) Shows that, in the Raigad district the total number of motor vehicles were 2, 62,563 in the year 2005-2006. It includes 2, 29,774passenger increase vehicles and 32789 goods vehicles. The growth of motor vehicles was continuously increased. In the census year 2010-2011, the passenger vehicles have increased by 1.7 times and goods vehicles by 1.8 times as compared with base year 2005 - 2006. The numbers of vehicles have increased with increasing demand of people. Raigad district is proximate to metropolitan city i.e. Mumbai. The people do

up and down for the purpose of job therefore the vehicular population is expected to grow as a result middle class population has demanded their own vehicles. It indicates that the growth in the number of passenger vehicles has increased constantly in this district. On the other side number of industries have been increased in the district owing to the demand of goods vehicles which are increased to send goods to the right place at right time in order to satisfy customers' demands.

### Density of Motor Vehicles per Km

The length of road is one of the reliable indicators of transport development in any area. It is basically to know the intensity of motor vehicles on road. The table no. (4) shows the density of motor vehicles per 100Kms. Road.

Table No. (4) - Density of Motor Vehicles per 100 Km.

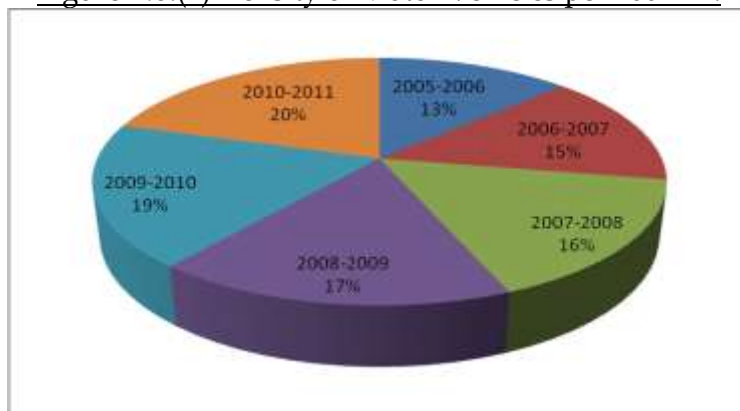
Year	Total Roads length (Kms.)	Motor Vehicles	Density of Motor Vehicles per 100 kms. roadlength
2005-2006	5074	2,62,563	5175
2006-2007	5232	3,02,646	5785
2007-2008	5432	3,44,973	6350
2008-2009	5663	3,83,859	6778
2009-2010	5603	4,14,397	7396
2010-2011	5539	4,45,674	8046

#### Source:

*Infrastructure statistics of Maharashtra State (First Issue), 2009-2010 & 2010-2011. Table No. 1.15, pg-21 to 28.*

*District socio-Economic Reviews of Raigad 2005-2006 to 2010-2011.*

Figure No.(1) Density of Motor Vehicles per 100 Km.



#### Source:

*Infrastructure statistics of Maharashtra State (First Issue), 2009-2010 & 2010-2011.*

*District socio-Economic Reviews of Raigad 2005-2006 to 2010-2011.*

The table no. (4) And figure no. (1) Shows that, number of motor vehicles per 100 Kms. road lengths was 5175. as compared with based year 2005-2006 It has continuously increased in the year 2006-2007, 2007-2008, 2008-2009, 2009-2010 and 2010-2011 by 112 per cent, 123 per cent, 131 per cent, 143 per cent and 155 per cent per 100 Kms. road length respectively. It indicates that increasing demand of vehicles also depend on increase in the length of roads.



## Road Connectivity

The road connectivity has a positive impact on the life of a common man. It is a common experience that as the distance of a village from road increases, the level of its development goes down. Mumbai (Metropolitan area), Thane (Konkan region), Ratnagiri (Konkan region) and Pune, these are neighboring districts of Raigad district. Some of them are either fully or partially hilly. Following table no. (5) Shows the roads connectivity of neighboring districts of Raigad district.

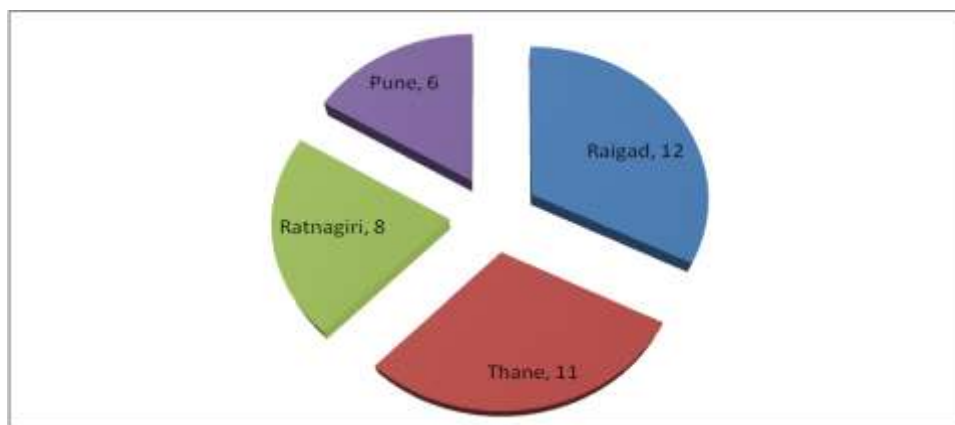
Table no. (5) Road connectivity of neighboring districts of Raigad district  
(As on 31<sup>st</sup> March, 2011)

District	Total No. of Villages as (per Census of 1991)	No. of Villages connected by All Weather Road	No. of Villages connected by Fair Weather Road	No. of Villages Not yet connected by Roads
Raigad	1851	1806 (97.57)	33 (1.78)	12 (0.65)
Thane	1679	1655 (98.57)	13 (0.77)	11 (0.66)
Ratnagiri	1519	1488 (97.96)	23 (1.51)	08 (0.53)
Pune	1840	1770 (96.20)	64 (3.48)	06 (0.33)

### Source :

1. *Hand Book of P.W.D. Statistics Maharashtra State, March 2011, Table R-5-A, pp.32 to 34.*
2. *District socio-Economic Reviews of Raigad, Thane, Ratnagiri, Pune- 2010-2011.*

Figure No. (2) No. of villages of neighbouring districts of Raigad district not yet connected by roads



### Source:

1. *Hand Book of P.W.D. Statistics Maharashtra State, March 2011, Table R-5-A, pp.32 to 34.*
2. *District socio-Economic Reviews of Raigad, Thane, Ratnagiri, Pune- 2010-2011.*

Table no. (5) and figure no. (2) represents, data about the number of villages in each district connected by roads and their percentage to total as on 31<sup>st</sup> March, 2013, as per census of 1991, in a Konkan region out of total villages 1851 in Raigad district, 1809 villages (i.e. 97.57 per cent) are connected by all weather roads. 33 villages are connected by fair weather road and 12 villages are not connected by any roads. In Thane district out of 1679 inhabited villages 98.57 per cent i.e. 1655 villages are connected by all weather road. 13 villages are connected by fair

weather roads and 11 villages are not yet connected by any roads. In Ratnagiri district 97.96 per cent roads are connected by all weather roads, and only 8 villages are not connected by any roads. In Pune district out of 1840 inhabited villages 1770 villages are connected by all weather road. And 64 villages are connected by fair weather roads which is highest compare to other neighboring districts.

The proportion of linked road facilitates connectivity. District wise it appears that the district of Pune tops in the road connection, while Raigad district lies at bottom, because 12 villages are yet not connected by any roads.

## Conclusion

The major challenges faced by transport system of this region is; the roads are congested and are of poor quality. The condition of village road, district road and state highway is not satisfactory. National Highway passing through district is of two lane and the area is slopping so at the time of rainy season the condition of road becomes worst and its take time to reconstruct. This situation will create more problems in future when the number of vehicles will be more and the carrying capacity will be less. As well as it will create the problem of traffic, pollution, and accidents in this district.

Therefore in future to control such a problem, special attention on Government level is required, not only to boost length of the roads but also to create accessibility to all villages of this district by adequately developing all-weather roads in the region. There are a number of important district roads which are metalled only on paper. Their surface condition is disgraceful such roads need repairing and widening keeping in mind their importance in view of the passenger and goods traffic. Many of them may be used as by pass for important roads of the district. It will help to achieve national objectives like social integration, generation of employment, removal of poverty and rural development in general and removal of regional imbalances in particular.

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[www.zp.raigad.gov.in](http://www.zp.raigad.gov.in)