8. TRANSPORT AND COMMUNICATION

Tamil Nadu with its strong transport infrastructure along with the state of the art communication network is steadily moving in the direction of achieving an all inclusive growth path plan in this sector. Public and private investments have augured for its steadfast growth. A review of the Transport and Communication Sector of our state reveals many strategic moves which are in tune with the objectives laid down by the Indian Roads Congress (IRC), in its `Road Development Plan VISION: 2021' covering for a period of 20 years (2001-2021).

Road Net Work:

The road network is a basic mode of connectivity for linking agriculture, industries, railways, seaports and airports. The main indicators that reveal the efficiency of road system are total length of roads, proportion of surfaced roads, density of road etc. In respect of road infrastructure, the state is well placed. The total length of road is on the raise, which increased from 197933 kms in 2007-08 to 198642 kms in 2008-09. Among the various types of roads, `Panchayat Union and Village Panchayat roads' is the major constituent, which occupies one half of the total length of roads. Though National Highways accounts for a small proportion of total length of roads, it carries out about 40 percent of the total traffic in the State.

Table-1: Length of Roads – Tamil Nadu

(Kilo metres)

Type of Road	2007-08	2008-09	% share to total
National Highways	4500 (In NH-1240 kms. & NHAI-3260 kms.)	4873 (In NH-1613 kms. & NHAI-3260 kms.)	2.45
State Highways	9264	9384	4.72
Major District Roads	9451	11288	5.68
Other District Roads	36510	34293	17.26
Sugarcane Roads	1207	1803	0.91
Panchayat Union and Village Panchayat Roads	99610 (P)	99610 (P)	50.15
Others	37391(P)	37391(P)	18.82
Total	**197933**	**198642**	**100.00**

Source: 1. Department of Highways, Chennai-5
2. Dept of Rural Dept. Chennai

Surface-wise Length of Roads:

The proportion of surfaced road availability in the State is on the increase. During 1950-51, it was 64.5 percent, where as in 2007-08, it had reached 80.80 percent showing the State's improved road connectivity.

Table – 2 : Surface-wise Length of Roads in Tamil Nadu

(in kilometres)

Year	Surfaced Roads		Unsurfaced Roads		Total Length of Roads
	Length	% to total	Length	% to total	
1950-51	28291	64.50	15569	35.50	43860
1970-71	45345	66.25	23101	33.75	68446
1990-91	134135	78.53	36666	21.47	170801
2000-01	131882	75.05	43848	24.95	175740
2007-08	155330	80.77	36989	19.23	192319

Source: Statistical Hand Book, 2010, Department of Economics and Statistics, Chennai – 6.

Lane-wise Length of Road Matrix:

The share of lane-wise length gauges the speed and efficiency of road networks. Out of 61641 kilometers of roads available in the State during 2008-09, a major portion of the roads was single lane, which accounted for a higher proportion of 61.60 per cent, intermediate lane accounted for 11.36 per cent, and double lane 23.12 per cent. The proportion of multilane road is at 3.92 per cent only.

Further analysis based on the category of roads based on the authorities maintaining the roads shows that in National Highways, double lane accounted for 64.78 per cent and availability of multilane was for 33.68 per cent. The share of double lane in State Highways was 75.36 per cent, single lane 2.87 per cent and intermediate lane 15.05 per cent. As far as Major District Roads are concerned, the single lane accounted for a highest proportion of 41.84 per cent followed by intermediate lane (30.69%) and coming down to the Other District Roads, single lane road accounted for a major portion of 91.29 per cent and multilane was at negligible level of 0.09 per cent. The Sugarcane roads are mostly single lane (91.01 %), which caters to the needs of sugarcane industries.

Table – 3 : Lane-wise Length of Roads as on 31st March 2009 – Tamil Nadu

(in Kilometers)

Type of Road	Single Lane	Intermediate Lane	Double Lane	Multi Lane	Total
National Highways (under NH wing)	33.10	42.00	3156.72	1641.18	4873.00
State Highways	269.67	1412.80	7071.89	629.84	9384.20
Major District Roads	4722.81	3464.04	2989.37	111.74	11287.96
Other District Roads	31305.30	1986.16	970.39	31.17	34293.02
Sugarcane Roads	1640.61	96.71	65.3	-	1802.62
Total	37971.49	7001.71	14253.67	2413.93	61640.80
Percentage of Lane Width to Total Length of Roads	61.60	11.36	23.12	3.92	100.00

Source:. Department of Highways, Chennai-5.

Investment in Major Road Sector in Tamil Nadu:

Investment is a measure of growth and the outstanding investment in the road projects in the State, stood at Rs.26510 crore at the end of March 2009 as compared to Rs.21231, crore in March 2008. There are 20 projects in the State in various stages of progress with a project cost of Rs.17899 crore. Among which, the Arni - Tuticorin Road Project spanning a length of 724 kms at a cost of Rs.2119 crore is the major one, which is in the announcement stage. The other two high value projects viz. (i) Salem – Ulundurpet Upgrading Project to the tune of Rs.941 crore stretching over 136 kms and (ii) Salem – Coimbatore Project worth Rs.935 crore stretching over 100 kms are being implemented. Build-Operate-Transfer (BOT) system is being followed for four laning of a length of 125.7 kms of Madurai - Tuticorin at a cost of Rs.920 crore.

Table -4: Status of Investment in Road Project

Status	As of March 2008		As of March 2009	
	Number	Project Cost (Rs. Crore)	Number	Project Cost (Rs. Crore)
Under Implementation	16	10768	10	6803
Announced	4	4719	10	11096
Total	20	15487	20	17899
Outstanding Investment		21231		26510

Source: Monthly Review of Tamil Nadu Economy, March 2008& March 2009 CMIE.

Review of National Highways Road:

The review of the National Highways Road works in progress in the State reveals that, the up gradation of 342 kms road to four lanes under Phase - I Golden Quadrilateral Program at a cost of Rs.1193 crore has been completed. Phase – II of North South Corridor Program is progressing at a cost of Rs.4280 crores spanning a length of 756 kms in which 97 km has been completed. As far as the Port Connectivity Schemes are concerned converting the existing road into four lanes to a length of 47 kms. in NH 7A (Palayamkottai – Thoothukudi road) at a cost of Rs.231 Crore , 22 per cent of the works have been completed. In the case of Chennai – Ennore Port Connectivity Scheme (EMRIP) earmarked at a cost of Rs 600 Crore. Improvement of link road connecting Tambaram - Tiruneermalai road from Burma Colony which is in the North West side of MEPZ (Madras Economic Processing Zone) to Chennai bypass at Pulikaradu at a cost of Rs.2.30 Crore, and the construction of new four lane road from Ennore port, Tiruvotriyur, Ponneri,Paanchetti – Thaatchur for a length of 25.50 Km at a cost of Rs.383 Crore , for all the aforesaid programs, tenders are being called. An Elevated Expressway connecting Chennai Port and Maduravayal is proposed under BOT (Built, Operate and Transfer) scheme which is to be executed at a cost of Rs.1655 crore for a length of 19 Km with 17.5 Km as elevated level and the balance 1.50 Km runs at the road grade. The said expressway project will go a long way in decongesting the city roads and speed up exports in the Chennai port since the expressway will be dedicated to the export cargo and the export cargo will get a thoroughfare to the port for 24 hours a day inside the city

In the case of other projects like four laning of 204 kms length of road between Tindivanam and Tiruchirappalli at a cost of Rs. 1260 crore, out of this 186 Kms, length of road works has been completed at a cost of Rs.1100 crore and the balance 18 Km length of road works is nearing completion. The four laning of 125 kms length of roads at a cost of Rs.420 Crore between Tiruchirappalli and Madurai has shown a progress of 87 Km length incurring an expenditure of Rs.375 crore so far. In NH-67, 114 Kms length of road from Karur to Coimbatore has been taken up for improvement to two lanes with paved shoulders at a cost of Rs.178 crore. Out of this, 60 Kms length of road works have been completed at a cost of Rs.94 crore. Under NHDP-Phase-III involving four laning of 1460 kms on Build, Operate and Transfer (BOT) basis, 524 kms could be taken up for execution and the balance work is under Detailed Project Report (DPR) stage.

Box-1
Financing of NHDP

The main source of finance of National Highway Authority in India(NHAI) for the implementation of various phases of NHDP is the fuel cess. The present rate of cess is Rs.3.00 per litre for both petrol and diesel-or part of which is allocated to NHAI for the implementation of NHDP. During 2008-09, an amount of Rs.9329.85 crore has been provided for National Highways for the state roads (All States). Out of which, Rs.6972.47 crore for NHs and Rs.2171.64 crore for State roads (including Rs.500 crore from unspent balance of the previous years). An additional amount of Rs.185.74 crore has also been allocated for development of State roads. The additional funds allocated for the development work is leveraged by NHAI to borrow additional funds from the domestic market and external agencies.

Financial Structure of NHAI

(Rs. in Crore)

Year	CRDP Funds	External Assistance		Borrowing	Budgetary Support
		Grants	Loans		
2005-06	3247.74	2400.00	500.00	1289.11	700.00
2006-07	6407.45	1582.50	395.50	1500.10	110.00
2007-08	6541.45	1788.80	447.20	305.18	265.00
2008-09	6972.47	1515.00	379.08	1096.26	157.00

Source: Dept. of Road Transport & Highway (GOI)

Meeting the Standards of Indian Roads Congress (IRC) :

The State is constantly striving to meet the norms set for road improvement by the Indian Roads Congress (IRC). Accordingly, 75 percent of the State Highways, 65 per cent of the Major District Roads and 50 per cent of the Other District Roads should be improved, strengthened, upgraded and maintained for smooth traffic. It is observed that except State Highways road, the Other District Roads in the State do not satisfy the norms set out by the Indian Roads Congress. At the end of 2009, in the State, the availability of State Highways road as per IRC standard is 7021 kms which is marginally higher than the target of 6948 kms accounting for 75.79 per cent of the State Highways. In the category of Major District Roads, 5288 kms. of roads is available as against the target norms of 6100 kms which accounts for 55.95 per cent of the total Major District Roads. In the

case of Other District Roads, the standard specified by the Indian Roads Congress is that 50 per cent of the roads should be improved and strengthened. In contrast to this norm, 93.64 per cent of the roads termed as single lane which are to be improved and strengthened where there is frequent movement of heavy vehicles and where quarries are located.

Table –6: Stock of Road Length and Standard Specified by Indian Roads Congress

Type of Road	Stock of Road Length During 2008-09 (Kms.)	Standard Specified by Indian Roads Congress	Availability of Road as per IRC Standard (Kms.)	Balance length to be treated as per IRC Std. (Kms.)
State Highways	9385	75 % should be Double Lane = 7039 kms.	7072 (100.45%)	More than the prescribed norms
Major District Roads	11288	65% should be Double Lane / Intermediate Lane (i.e.) = 7337kms.	6453 (87.95 %)	884 (12.05%)
Other District Roads	34293	50% of the total Road should be strengthened and to be improved = 17147 kms	2959 (17.25%)	14188 (82.74%)

Source: Computed by DEAR using the data provided by the Highways Department, Chennai – 5.

Progress of Road Works under the Purview of State Government:

Comprehensive Road Infrastructure Development Programme (CRIDP):

Under the Comprehensive Road Infrastructure Development Programme, action plans for widening and strengthening the State Highways, Major District Roads and Other District Roads had been made on a massive scale.

The past three years have seen a phenomenal investment under this programme and out of Rs.6165 crore spent under plan works for Roads, a lion share of Rs.3036 crore has been expended for CRIDP. In the last three years, road widening under CRIDP has benefited 8,324 kms length of roads were completed costing the exchequer Rs.2082 crores followed by road improvement of 6923 kms by spending Rs.954 crores.

CRIDP in the year of review 2008-09, has benefited the State Highways, Major District Roads and Other District Roads by raising the standard of their roads through widening, strengthening, construction of culverts/ minor bridges and improvement of accident prone bends and curves which are commonly termed as black spots. The connectivity to Adi-Dravida habitations were also taken care by the programme. The details are here under.

Progress of Road work under CRIDP

Category of Roads	As of 2008-09	Present Status
State Highways (SHs):	First phase and second phase, works like widening and strengthening of State Highways, Construction of Culverts /Minor Bridges, Improving Black Spots and Improving of roads leading to Tourist spots were targeted.	1467 Kms length of road works and 60 bridges/ culverts has been completed at a cost of R.579.49 crore during the review year.
Major District Roads (MDRs):	Improvement of roads, culverts/bridges as well as improving black spots was aimed.	1476 Kms length of road works and 41 bridges/culverts have been completed at an expenditure of Rs.380.24 crore.
Other District Roads (ODRs):	Improvement of roads, culverts/Bridges constructional well as improving black spots were targeted	1668 Kms length of road works and 68 bridges/culverts have been completed at an expenditure of Rs.210.21 crore.
Connectivity to Adi Dravida Habitations	As a part of Scheduled Caste Sub-Plan, the Government is implementing the scheme for improving the Other District Roads, connecting Adi-Dravida habitations, from 2006-07 onwards.	Out of newly sanctioned and spill over works, 853 Kms lengths of road works and 23 bridge/culvert works have been completed at an expenditure of Rs.120.04 crore.

Special Industrial Corridors:

IT Expressway and its Extension:

The IT Expressway Limited, a subsidiary of Tamil Nadu Road Development Corporation (TNRDC) had extended the IT Expressway further from Siruseri to Mamallapuram for a length of 25.3 kms. (Phase II), the Government had sanctioned an initial amount of Rs.70 Crore for land acquisition and improvement. The land acquisition has been taken up and Detailed Project Report for this work has been prepared for Rs.400 crore.

Road Infrastructure Development in Oragadam Industrial Park:

Industrial Parks, Special Economic Zones and IT Parks need connectivity to the Ports and Airports for speedy transportation to the ports of exit. Oragadam Industrial Park is being given the state of the art connectivity to the ports at a cost of Rs.300 crore by widening and improving the road length of 58 kms.In the first phase, 11 kms length of road has been completed and out of 171 minor bridge works, 26 works have been completed at an expenditure of Rs.41.13 crore. In the second phase, land acquisition for six-lane formation of Orgadam-Sriperumpudur road is in progress in a fast pace.

NABARD Assisted Schemes:

State resources are supplemented with financial assistances received from NABARD to develop and maintain the roads in the State and the work executed in the year of review 2008-09 are given below.

Table - 7: NABARD Assisted Schemes - Tamil Nadu

Scheme	Objective	Progress
1. Improvement to MDRs and ODRs	Improving and strengthening of MDRs and ODRs.	During 2008-09, spill over works of 4 bridges were taken up at a cost of Rs.7.80 Crore. Of which, one bridge work has been completed at an expenditure of Rs.2.30 Crore.
2.Construction of Bridges in Government Roads	Bridgeworks	During 2008-09, under the construction of bridges in Government roads, spill over works for construction of 140 bridges have been taken up for execution at an outlay of Rs.91.43 Crore. Of which, 92 bridges have been completed during 2008-09 at an expenditure of Rs.34.47 Crore.Out of anticipated loan assistance of Rs.148 Crore, 100 bridges have been sanctioned for construction in State Highways, Major District Roads and Other District Roads. Out of which 5 bridge works have been completed in 2008-09 at a cost of Rs.14.78 Crore.
3. Rural Road Scheme	Panchayat Union Roads connecting villages having population between 500 and 1000	During 2008-09, spill over works of 673 kms length of roads and 39 bridges were taken up at a cost of Rs.129.20 Crore. Of these, 619 kms length of road works and 19 bridge works have been completed with an expenditure of Rs.104.90 Crore. About 510 villages have benefited with B T road connectivity by this scheme.
4. Scheduled Caste Sub-Plan	Providing road connectivity to hamlets where 50 per cent of population belong to Adi-dravidar community.	During 2008-09, spill over works of 174 km length of roads and 11 bridges were taken at a cost of Rs.36.18 Crore. By doing this, 180 villages have been benefited with BT road connectivity.
5. Bus Route Improvement Scheme	Conversion of Panchayat Union BT roads as per ODRs standard where buses are plying for more than three years.	During 2008-09 , spill over works of 179 km length of roads and 13 bridges were taken up at an outlay of Rs.39.99 Crore. Of which, 160 km length of road works and 4 bridge works have been completed incurring an expenditure of Rs.25.64 Crore.
6. Bus Plying Panchayat and Panchayat Union Roads	Improvement to Panchayat Roads	In 2008-09, the spill over works of 13.60 km length and one bridge were taken up during 2008-09 at a cost of Rs.1.63 Crore.

Source: Policy Note on Roads, Bridges and Shipping 2009-10, Highways Department, GoTN, Chennai-5.

Maintenance of Roads:

Maintenance is a part of any developmental endeavor as the life of the road stock needs to be extended through regular maintenance of the roads. The State has also realized the same and an allocation of Rs.826 crore in 2007-08 and Rs.874 crore in 2008-09 had been made. Out of which, Rs.103.60 crore was reallocated for the maintenance of Panchayat and Panchayat Union Roads by Rural Development Department. By making use of this amount, road maintenance works were carried out to a length of 7115 kms. of roads in 2007-08 and 6632 kms. in 2008-09 including a length of 4225 kms. of Panchayat and Panchyat Union Roads. In addition to this, Other District Roads (ODR) got a share in the cake for an amount of Rs.216.54 for renewing a road length of 2975 kms during the year 2007-08 and 2008-09 which helped in reducing the burden of General Wing.

Sugarcane Road Development Scheme:

Sugar mills are the backbone of the agrarian economy by providing a direct outlet for the sugarcane growers and the roads leading to this mills existing in far flung areas which are necessary.Under this scheme, sugar mills in the State are funding this scheme from cess fund for forming and maintaining the roads in sugarcane areas to sugar mills. During 2008-09, 65 road works at a cost of Rs.7.57 crore were completed.

Tamil Nadu Road Sector Project:

The Tamil Nadu Road Sector Project is implemented in the State with a project cost of Rs.2160 crore from 2003-04 with World Bank loan assistance of Rs.1670 crore and Rs.490 crore from the State Government. This has been revised to Rs.2442 crore with increasing the World Bank loan component to Rs.1912 crore and hiking the States contribution to Rs.530 crore. The targeted project completion date has been extended by one year up to March 2010 from the earlier target of March 2009. The following three major components of the Project are to be completed by March 2010

a. Strengthening and Upgradation of 742 kms. of core network of roads linking 11 Districts are being upgraded to international standards.Works are being in fast progress.

b.Under this component a total length of 1012 km of roads have been taken up for Enhanced Periodical Maintenance works at a total cost of Rs.420 crore. Of the above, 848 km of Road works have already been completed with an amount of Rs.302.28 crore.

c. Under Road Safety, out of 307 Black spots (accident prone) were identified in the State and 50 Black spots have been taken up in the first phase. Out of which 17 Black spots have been taken up under TNRSP and 15 works completed. Further in 2008-09 improvement to 50 Black Spots have been taken up under CRIDP Scheme in which 33 works have been completed.

Prathan Mantri Gram Sadak Yojana (PMGSY):

Prathan Mantri Gram Sadak Yojana (PMGSY) aimed at projects for construction and upgradation of 5040 kms of roads with an estimated cost of Rs.724.18 crore covering 3726 habitations has been approved by Government of India. A sum of Rs.491.87 crore has been so far released to Tamil Nadu against a cumulative allocation of Rs.485 crore. So far construction/up gradation of 3112 km of roads completed which has provided connectivity to 1817 habitations.

Box-2
World Bank Report Praises The Role of All-Weather Roads in India

As per the report released by the World Bank on November 29, 2009, all weather roads in the villages of India have played a crucial role in the overall development of rural areas of the country. The Rural Roads Project was started in India in the year 2004.Till the year 2000, 40 percent of India's 8, 25,000 villages lacked all weather roads. The launch of the project in 2004 led to large scale access to roads. According to the World Bank, as a result of this, the incomes or rural households have soared considerably. Household incomes have subsequently risen by 50 percent to 100 percent on an average.

These roads have doubled the income of rural households, raised literacy rates by 10 percent, and appreciated land prices by up to 80 percent. The year-round connectivity has narrowed the gender gap with access to education for girls and raised opportunities. In this context, the IDA said that every Rs.10 lakh spent on rural roads has helped to lift 163 people out of poverty on an average. Access to jobs has also improved. Besides, as a result of better access to roads, new businesses have started up in large numbers, leading to a diversification of the rural economy.

Over the years, World Bank's concessionary lending arm, the International Development Association (IDA), has supported many rural connectivity programmes such as Pradhan Mantri Gram Sadak Yojana (PMGSY) as well as aided projects in States like Himachal Pradesh, Rajasthan, Jharkhand and UttarPadesh.

So*urce: Extracted from` Competition Success review' January 2010 issue*

Infrastructure Development and Public Private Partnership:

About one third of Planning Comminssion's estimate, Rs.20,01,776 crore required for infrastructure development during the Eleventh Five Year Plan is estimated through private investment and public-private investment (PPP). Besides supplementing limited Public sector resources, PPP bring in private sector expertise, cost reducing technologies and efficiencies in operational maintenance. About 9 percent of the total projects, attracts 7 percent of the total contract value operating in the State.

Table: 8 : Public-Private Partnership Projects in Tamil Nadu
(Projects based on value of Contracts)

State	Total PPPs	Up to Rs.250 Crore	Above Rs.250 Crore	Value of Contracts in Crore
Tamil Nadu	28	9	19	10058
All India	300	165	135	135876

Source: Economic Survey, 2008-09, GOI

Bharat Nirman:

The road for development of Rural India is basically the rural roads and Bharat Nirman scheme implemented by Government of India since 2005 has given necessary impetus to the growth of trade for the farmers and artisans who are the backbones of Rural India. Accordingly, the Government have accorded approval for upgradation of 1285.71 Km length of 294 Other District Roads at a cost of Rs.253.96 crore under Bharat Nirman Phase I. Out of these works, 14 works were completed and 209 works are in progress. Regarding the balance of 71 works, 5 works have been deleted and 66 works are in the stage of calling tender.

Growth of Vehicle Population:

The Vehicle Population in the State is showing an increasing trend. The average number of vehicles registered per day had increased from1510 in 2003-04 to 2645 in 2007-08 and to 2900 in 2008-09. The number of registered vehicle population in the State had increased from 100.69 lakhs in 2007-08 to 110.40 lakhs in 2008-09 registering a growth of 9.64 per cent. Out of 110.40 lakh vehicles in the State in 2008-09, transport and non-transport vehicles were 7.84 lakhs and 101.56 lakhs respectively. Further, it was noted that in the non-transport vehicle system, two wheelers alone constituting 90.35 percent. With the present strength of 110.40 lakh number of vehicles, the State ranks second in vehicle population next to Maharashtra and however tops first in two wheelers.

Table-9: Trend in Registered Vehicle Population in Tamil Nadu

(Lakh Nos.)

Year	Trans-port vehicles	Non-transport vehicles		Total vehicles	Growth Rate (%)	Vehicle Density per Sq.Km.
		Two wheelers	Others			
2003-04	4.72	55.48	7.32	67.52	8.75	51.83
2004-05	4.94	61.06	8.04	74.04	9.66	56.83
2005-06	5.81	67.50	8.91	82.22	11.05	63.11
2006-07	6.08	75.03	9.93	91.04	10.73	69.89
2007-08	7.06	82.60	11.03	100.69	10.60	77.29
2008-09	7.84	90.35	11.21	110.40	9.64	84.74
				AAGR	**10.07**	

Source: Transport Department, Chennai – 5.

Vehicle Population and Road Infrastructure:

The development of road density is far behind the ever increasing vehicle population, implying that road density has to be increased to accommodate the ever increasing vehicular population though there is a constraint for funds for road

infrastructure. However, the fund crunch may be bridged by imposing road user charges (road tolls) at reasonable rate.

Table – 10: Vehicle Population and Road Infrastructure – Tamil Nadu

Year	No. of Registered Motor Vehicles per Lakh population	Road Density per 1000 Sq.km (in kms.)	Number of Motor Vehicles per Sq.km.
1950-51	62	339	0.14
1960-61	132	338	0.34
1970-71	333	526	1
1980-81	663	935	2
1990-91	2755	1312	12
2000-01	8301	1353	40
2005-06	12662	1490	63
2006-07	13917	1491	70
2007-08	15275	1498	77
2008-09	16748	1642	84

Source: Computed by DEAR.

Vehicle population and Road Accidents in Tamil Nadu:

Road Safety has been assigned top priority in the State. As per formulation of the Road Safety Policy in April 2007, the medium term objective is to achieve 20 percent reduction in the number of injured and killed persons by 2013, keeping 2006 as the base year. The document released by the Transport Commissioner deals with of reversing the increasing trend in number of accidents, number of deaths and number of injuries through comprehensive measures covering engineering, enforcement, education and emergency care.

Table -11: Vehicle population and road accidents in Tamil Nadu

Year	Vehicle Population	Growth Rate (%)	Total Accidents	Persons Killed	Increase in fatalities (%)
2005	79,66,200	10.55	53,878	9,760	2.66
2006	88,51,672	11.11	55,145	11,009	12.80
2007	98,07,155	10.79	59,140	12,036	9.33
2008	1,07,89,970	10.02	60,409	12,784	6.21
2009	1,18,20,613	9.65	60,794	13,746	7.52

Note : The figures of vehicle population pertained to the position as on December 31 of the given years

Source : Office of Transport Commissioner

But, analyzing the above data, the number of persons getting killed in accidents in 2009 went up around 25 percent compared to the base year 2006. Drunk driving and over-speeding are the main reasons attributed to loss of life by accidents and pedestrians are the major casualties especially in urban areas.

Public Road Transport:

Transporting the people is a major task of the government to ensure an all inclusive growth in the Society as the commoner may not be in a position to bear the cost of private transport. The ever increasing fuel bills to the country has also made the

Transport economist to innovate on the public transportation system through steps like integration of various modes of transportation like road, rail by providing connectivity to the rail bays through buses as well as to follow an integrated ticketing system for the users thereby avoiding waiting time.

Fleet Strength:

The State on its part operates 7 State Transport Corporations with a total fleet strength of all STUs stood at 20104 as on March 2009 in addition to the replacement of 6880 over aged buses. STU's could meet its growing need of fleet strength with **Jawaharlal Nehru National Urban Renewal Mission (JNNURM**), a Central Government Scheme, aiming at improving the Urban Infrastructure services, which includes mass transportation. Under the said scheme, funds for purchase of buses for public transport are provided to the State Government, in which 35 % of the cost is borne in the scheme and balance 65% is spent by the State Government. Tamil Nadu would be spending roughly Rs 400 crore for the package and the center's share is Rs 170 crore. Apart from 1,600 new buses received under JNNURM, the state government is in the process of adding another 1,400 new buses to its fleet of 20,104 buses by March 2010. While the Transport Development Finance Corporation would chip in with Rs 99 crore, the rest would be mobilized through state's additional share capital.

Table-11: Fleet Strength of State Transport Corporation

Service Category	As on Feb 2008	As on March 2009	Growth (%)
Chennai Metro – City Service	2775	3000	8.11
Town Services (Districts)	6072	6257	3.05
Mofussil Services	7298	7487	2.59
Express & Ghat Services	1394	1402	0.57
Spare Buses	1849	1958	5.90
Total Fleet strength	19388	20104	8.72

Source: Policy Note on Transport Department 2008-09, GoTN.

Operational Efficiency of State Transport Undertakings:

Fleet efficiency, occupancy ratio, fuel efficiency etc are the parameters to be kept in tab to ensure operational efficiency of the STUs. The total distance operated by the STUs increased from 75.77 lakh kms per day in 2007-08 to 82.09 lakh kms. per day in 2008-09. For the corresponding period, total number of passengers handled also increased from 184.62 lakhs per day to 196.62 lakhs. The fleet efficiency marginally increased from 103.63 per cent to 104.2 per cent. The overall occupancy ratio of STUs declined to 84.16 per cent from 84.40 per cent. The operating average kilometre per litre of diesel improved marginally from 5.02 kms. in 2007-08 to 5.13 kms. in 2008-09.

Railways:

Railways shares the load of transport of men and material along with the road transport. The total route length of railway line in Tamil Nadu as on 2008-09 is 3926.99 kms comprising 2774.55 kms of broad gauge (70.65%) and 1152.44 kms. of metre gauge (29.35%) and 1146.25 kms out of 3926.99 kms. route length are electrified accounting for 29.19 per cent. The conversions of metre gauge to broad gauge as well as

electrification of lines are in progress in the State to meet the burgeoning needs of transportation of men and material.

Railway Projects in the State:

The major pending projects in Tamil Nadu are, laying of new lines between Karur and Salem, Tindivanam and Tiruvannamalai, Erode and Palani, and Attipattu and Puttur; gauge conversion from Tirunelveli to Tenkasi, Manamadurai to Virudhunagar, Dindigul to Podanur via Pollachi, Madurai to Bodinayakanur, and Punalur to Senkottai; Ennore-Attipattu, Chennai Beach – Attipattu (4th line), Tiruvallur-Arakkonam (4th line), and Chengalpattu –Villupuram (doubling).

Southern Railway has sought Rs.1600 crore for the current year for early completion of various ongoing projects in the State. In the interim budget presented in Parliament in February'2009, the Ministry had sanctioned Rs.700 crore. In the financial year, 2008-09, the State spent about Rs.1200 crore on various projects. The South zone had demanded another Rs.900 crore to achieve sufficient progress in the current year.

Chennai Metro Rail Limited:

Chennai Metropolis has been growing rapidly and the traffic volumes on the roads have also been increasing enormously. Hence the need for a new rail based rapid transport system has been felt and towards this objective the Government of Tamil Nadu have decided to implement the Chennai Metro Rail Project. Hence, Chennai Metro Rail Limited, was formed which was initially a Special Purpose Vehicle (SPV), then transformed into a Joint Venture of Government of India and Government of Tamil Nadu with equal equity holding. The Project envisages the creation of 2 initial corridors under the proposed Phase-1, running from Washermenpet to Airport (23.1 kms) and Chennai Central to St.Thomas Mount (45.1 kms) with a completion target of 2014-2015. The estimated base cost of this project is about Rs.14000 crores. Of this, the Central and State Governments together are expected to contribute about 41%. The balance is met by a loan granted by the Japan International Cooperation Agency (JICA). Chennai Metro Rail Limited has appointed a five-member consortium led by Egis Rail S.A., France as General Consultants and Delhi Metro Rail Corporation (DMRC) as the Prime Consultant (PC) for the project. The contracts have been awarded and the work is in progress.

Sea Port:

Chennai, Tuticorin and Ennore ports are the three major ports in TamilNadu. Totally, all the three major ports in the State had increased their cargo handling from 901.97 lakh tonnes in 2007-08 to 910 lakh tonnes in 2008-09 and registered a meager growth rate of 0.89 per cent.

The total cargo routed through Chennai port increased from 571.54 lakh tonnes in 2007-08 to 574.91 lakh tonnes in 2008-09 and recorded a meager growth of 1 per cent. In Tuticorin port, it increased from 214.80 lakh tonnes in 2007-08 to 220.11 lakh tonnes in 2008-09 registering a growth of 2.47 per cent. Ennore, the first Corporatised Port in the country, has a marginal decline in its cargo handling by 0.63 lakh tonnes from 115.63 lakh tonnes in 2007-08 to 115.00 lakh tonnes in 2008-09 and exhibited a negative growth

rate of 0.54 per cent. The cargo handling is in the proportion of 63:24:13 in Chennai, Tuticorin and Ennore ports respectively during 2007-08 as well as 2008-09.

Table-12 : Commodity-wise Traffic in the Major Ports 2008-09

(000 tonnes)

Name of commodity	Chennai Port		Tuticorin Port		Ennore Port		Total	
	Quan-tity	Growth %	Quan-tity	Growth %	Quan-tity	Growth %	Quan-tity	Growth %
POL	13112	2.49	503	9.35	366	14.73	13981	3.00
Fertiliser – Finished	500	(-)18.83	1147	4.46	-	-	1647	(-)3.90
Fertiliser – Raw	261	(-)1.88	677	7.12	-	-	938	4.45
Foodgrains	25	(-)69.51	195	- (-) 34.56	-	-	220	(-)42.10
Iron ore	8247	(-)23.74	-	-	1111	(-)49.26	9358	(-)28.04
Coal	4099	15.66	5880	(-) 3.79	9708	7.26	19687	5.24
Other Goods	31247	1.07	13609	5.66	315	10400	45171	7.75
Total	**57491**	**1.00**	**22011**	**2.47**	**11500**	**(-)0.54**	**91002**	**0.89**

Source: Infrastructure, June 2008, CMIE.

Out of 910.02 lakh tonnes of total cargo handled at the major ports of Tamil Nadu during 2008-09, other cargo is 419.20 lakh tonnes sharing 49.64 per cent of the total cargo followed by coal, POL, iron ores etc.An analysis of commodity-wise cargo handling at the Chennai Port during 2008-09, revealed that the three major items included under `other cargo' viz. coal and petroleum, oil and liquid and iron ore together accounted for 98.63 per cent of the total cargo. However, Fertiliser-Finished routed through Chennai port registered a negative growth of 18.83 per cent, Fertiliser-Raw by 1.88 per cent,Foodgrains by 69.51 and Iron ore by 23.74 during the review year 2008-09. Coal got a boost of 15.66 per cent followed by POL with 2.49 percent. At the Tuticorin Port, handling of coal had a share of 26.71 per cent of the total cargo, however, it fell short of by 3.79 per cent and Food grains by 34.56 per cent during 2008-09. In the Ennore Port, coal continued to share a higher proportion of 84.41 per cent and it raised by 7.26 per cent. Iron ore traffic encountered a fall of 49.26 per cent but POL traffic improved by 14.73 per cent over the previous year.

The thorough put all over the three ports namely Chennai, Tuticorin and Ennore showed a dip in 2008-09 as compared to 2007-08 except POL and Coal. This phenomenon can be attributed to the reduced Exports and Imports by the companies and Exim trading community anticipating reduced demands due to economic down turn in the world economy. The POL and Coal showed a mixed trend exhibiting the growing power and fuel needs of our expanding economy.

Major Investment in Port Projects:

There are 20 major port projects with an outstanding investment of Rs.23171 crore in the State at the end of March 2009 as compared to Rs.16003 crore in April'2007 with the same number of projects. In terms of value, Tuticorin Outer Harbour Development Project with a project cost of Rs.4350 crore is being implemented followed by Ultra Large Container Project with a capacity of 50,00,000 TEUs . Ship Building Yard Projects in Tuticorin and Cuddalore, both at a cost of Rs.2000 Crore each were announced during the review year 2007-08. Multipurpose Berth-Cum-Container Terminal Project, Ennore at a cost of Rs.400 crore was announced during March 2009.

Table-13 : Status of Major Port Projects

Status	As at the end of January 2008		As at the end of March 2009	
	No. of Projects	Project cost (Rs. Crore)	No. of Projects	Project cost (Rs. Crore)
Under implementation	4	3294	8	16423
Announced	16	12709	12	6748
Total	20	16003	20	23171

Source: Monthly Economic Review of Tamil Nadu , January 2008 & March 2009 CMIE.

Airports:

The Airports Authority of India (AAI) currently manages 125 airports throughout the country including 11 international airports, 77 domestic airports, 9 airports for customs officials and 28 civilian enclaves inside military airfields. Mumbai and New Delhi are, however, the most important airports, accounting for 49 percent of all passengers and almost 65 percent of international passengers. The two airports also bring in 33 percent of AAI revenue. The government has estimated that it needs $150 billion over the next 10 years to revamp the country's outdated, rundown and overstretched infrastructure. The airports are a case in point. As part of India's growing integration into the global economy, demand for air passenger and cargo services has risen substantially. Passenger traffic is likely to grow by 12 percent each year between now and 2009

There is a major policy shift in the Government of India in the management of airports with the advent of public-private participation concept. There is a stiff resistance from the employees of AAI in the move for privatization. Now coming to the State scenario, the air traffic not fared well in the state during the review year. The total passenger traffic declined from 124.82 lakh in 2007-08 to 116.73 lakh in 2008-09 registering a negative growth of 6.48 per cent

.

The domestic airports of Chennai, Coimbatore, Madurai and Tiruchirappalli showed a dip in the inflow of passenger traffic due to the economy measures implemented by the private as well as public sector companies on air travel so that the financial crunch experienced due to economic slowdown is coped up. International passengers travelled through the State increased from 37.66 lakhs in 2007-08 to 41.31 lakhs in 2008-09 registering a growth of 9.69 per cent. The decline in the domestic passenger movement in the State in 2008-09 compared to 2007-08 is due to the general economic slowdown in the World and the recessionary phase undergone by the economies.

Table-15: Air Passengers and Cargo Traffic Performance in Tamil Nadu

Category	Passenger Traffic (000 Numbers)				Cargo Traffic (Tonnes)			
	2007-08		2008-09		2007-08		2008-09	
	Pass-enger	Growth %	Pass-enger	Growth %	Quan-tity	Growth %	Quan-tity	Growth %
Domestic	8716	20.22	7542	(-)13.47)	46534	(-) 1.70	58014	24.67
Inter-national	3766	22.63	4131	9.69	230033	16.37	221383	(-)3.76
Total	12482	20.94	11673	(-)6.48	276567	12.88	279397	1.02

Source: Infrastructure, December 2009, CMIE.

The air cargo traffic in the State has meagerly increased from 2.77 lakh tonnes in 2007-08 to 2.79 lakh tonnes in 2008-09 registering a growth of 1.02 per cent.

Investment in Major Aviation Project:

Six outstanding aviation projects are in the State with an investment of Rs.2411 crore by March'2009. Of which, the major one under implementation is Chennai Airport Upgradation Project at an investment of Rs.1808 crore and the Coimbatore Airport Terminal Expansion Project at a cost of Rs.78 crore has been announced.

Table-16 : Status of Major Aviation Projects

Sl. No.	Name of the Project	Project cost (Rs. Crore)	Status
1.	Chennai Airport Up gradation Project	1808	Under implementation
2.	Madurai Airport Building Project – Phase II	130	Under implementation
3.	Coimbatore Airport Terminal Expansion Project	78	Announced
4.	Coimbatore Airport Parallel Taxi Track Project	30	Under implementation
5.	Coimbatore Airport Up gradation Project	365	Under implementation

Source: Monthly Economic Review of Tamil Nadu, March , 2009 CMIE.

Tele-communication:

The net work of Indian Tele-communications has shown a major shift in its profile after the formation of Bharat Sanchar Nigam Limited (BSNL) and Maha Nagar Telecom Limited (MTNL) by disconnecting it from the umbilical chord of its mother the Department of Telecom. Afterwards the game of competition entered in the telecommunication arena with private sector chipping in its expertise and competitive fervor. But, still the obligation of public service stick with the Government Telecom companies, hence their profit base are fast eroding and the private players with limited social obligation are striving ahead even with their limited subscriber base as shown in the table below.

Table-17: Tele Communication Network in Tamil Nadu
(as on March 2009)

Sl. No.	Particulars	Chennai Circle	Tamil Nadu circle
1.	Number of Telephone Exchanges	327	2030
2.	Number of Direct Exchange Lines	1404	2260
3.	a. Number of Land Lines (Lakh) b. Cellular Subscribers (Lakh) C. Total	14.04 92.29 106.33	22.54 277.78 300.32
4.	Tele Density	N.A.	
5.	Private Sector Basic Services: a. Number of Fixed Lines (Lakh) b. Cellular Lines c. Total	 3.92 18.28 22.10	 20.81 4.11 24.92
6.	Number of PCOs (Lakh)	1.88	5.69
7.	Village Public Telephones a. Number of Villages Covered by VPTs b. Percentage of Villages covered by VPTs	 1498 Nil	 13794 70.07

Source: Infrastructure, Dec 2009, CMIE.

Increasing Cellular Subscriber Base:

The nation showed an increase in the cellular subscribers base from 1926.96 lakhs in 2007-08 to 2846.06 lakh in 2008-09 and recorded a growth of 47.70 per cent. The total cellular subscribers in the State increased from 201.60 lakhs in 2007-08 to 299.47 lakhs in 2008-09 registering a growth rate of 48.55 per cent which is higher than the national growth rate of cellular subscribers.

Table-18 : Cellular Subscribers (000 Nos.)

Year	Tamil Nadu		All India	
	Number	Growth (%)	Number	Growth (%)
2005-06	6948 (10.04)	57.23	69193	68.66
2006-07	11696 (9.63)	68.34	121431	75.50
2007-08	20160 (10.46)	72.37	192696	58.68
2008-09	29947(10.52)	48.55	284606	47.70

Source: Infrastructure, Dec 2009, CMIE.
Note: Figures in bracket indicate the percentage share to all India.

Tele-density-major States (March 2009):

Communication plays a vital role for connecting the people and it has reached the commoner on the advent of Village Public Telephones(VPT) and cellular services. The total wireless subscribers (GSM, CDMA & WLL (F)) base stood at 429.73 million at the end of March, 2009. Tele-density is the availability of number of phones per 100 persons. With this the total number of telephone connections in the country touched 429.73 million at the end of March 2009 and the overall tele-density has reached 41.77 per cent. The proportion of availability of phones is 67.65 per cent for Punjab followed by 62.74 per cent for Kerala and 61.21 per cent for Himachal Pradesh. Tamil Nadu with 48.12 per cent was is in the eighth place.

Table – 19 : Statewise Tele-Density -2009

Sl.No.	Major States	Tele density (per 100 people)	Rank
1	Punjab	67.65	1
2	Kerala	62.74	2
3	Himachal Pradesh	61.21	3
4	Gujarat	51.75	4
5	Harayana	50.88	5
6	Karnataka	49.81	6
7	Bihar	48.80	7
8	TamilNadu	48.12	8
9	Andhra Pradesh	43.23	9
10	Rajasthan	43.22	10
11	Maharashtra	35.73	11
12	Madhya Pradesh	34.89	12
13	Orissa	25.36	13
14	Assam	23.12	14
15	West Bengal	20.72	15
16	Uttar Pradesh	13.70	16
	All India	**41.77**	

Source: Infrastructure-Dec 2009 , CMIE.

Internet /Broad Band:

Recognizing the importance of increasing broadband connectivity for the growth of knowledge based society, many steps have been taken to promote broadband. As a result, the broadband subscribers grew from a meager 0.18 million as on March'2005 to about 5.64 million by February 2009 at National level.

As per the agreement between BSNL and GOI in January'2009, it was decided to provide wire line broad band connectivity to rural and remote areas by leveraging the existing 27789 rural exchange network and by facilitating the service providers in granting broadband infrastructure. The rural broadband connectivity will help the Government, Institutional users, gram panchayats, higher secondary schools, public health users and individual users.

Postal Communication:

Postal communication has been redefined at the National level on a business objective with a vision statement as a socially committed organization connecting individuals and businesses. Four goals have been fixed which are as follows;

- Post within easy reach of all by year 2013-14;
- To be a focal point for delivery of all social security schemes of the State by the year 2011-12;
- To be a self-sustaining organization by the year 2013-14 ;
- To increase financial inclusion of the unbanked population by at least 10% by the year 2013-14.

To bring the aforesaid goals to fruition, as of 2008-09, there were 12021 post offices in the State involved in postal business alone, 3504 post offices involved in post and telegraph business. Under Telegraph offices, there are 14 Central Telegraph Offices (CTO), 4 District Telegraph Offices and 140 Combined Offices. Along with all, 140 Customer Service Centers (CSC) are functioning in the State and presently the aforesaid CTO and DTO were also reoriented as CSCs.