

Highways Department

Demand No: 21

Policy Note on

Roads, Bridges, Minor Ports and Shipping

2008-2009

Contents

I	<u>Introduction</u>
II	<u>Policy Outline</u>
III	<u>Organisation structure and institutional development</u>
IV	<u>Schemes Implemented</u>
V	<u>New Schemes For 2008-09</u>
VI	<u>Road Safety Action Plan</u>
VII	<u>Highways Research Station</u>
VIII	<u>Designs and Investigation</u>
IX	<u>Tamil Nadu Maritime Board</u>
X	<u>Poompuhar Shipping Corporation</u>

INTRODUCTION

Tamil Nadu has an area of 1,30,058 Sq km. Tamil Nadu is the eleventh largest State in India. Moreover it is also one of the most urbanised states. Good road network is essential for the economic and social development of a State.

Tamil Nadu has a better road network than many other States in India. The total length of roads in Tamil Nadu is **1,93,918** Km, of which **61,471** Km length of roads are maintained by Highways Department and the balance length of roads are maintained by local bodies and other Departments. The total length of roads maintained by Highways Department comprises of different categories such as 4500 Km of National Highways, 9264 Km of State Highways, 9451 Km of Major District Roads, 36,510 Km of Other District Roads and 1746 Km of Sugarcane Roads.

Tamil Nadu is in the forefront in the development of road infrastructure. The density of road network in Tamil Nadu is 286 Km per lakh of population, which is higher than the national average of 258.20 Km.

Moreover, the road network in the State is 146 Km per 100 Sq. Km area, which is higher than the national average of 74.90 Km. This is an indicator of very good road infrastructure facilities in Tamil Nadu.

1. Classification of Government Roads

1.1. National Highways

National Highways connect State capitals, major Ports, large industrial areas, tourist centres etc., Out of a total length of 4500 Km of National Highways in Tamil Nadu, widening and improvement works in 3260 Km length of roads has been taken up by National Highway Authority of India (NHAI). The balance of 1240 Km of National Highways are improved, maintained and renewed by this Department making use of the funds allotted by Government of India.

1.2. State Highways

These roads link district headquarters, important towns, National Highways in the State and neighbouring States. It is proposed to improve a minimum of 75 % of the State Highways to IRC standards. To achieve this goal, details of stretches, which have to be brought to IRC standards, are being gathered. Based on the information to be collected, improvement works will be taken up in the State Highways in a phased manner.

The total length of State Highways in Tamil Nadu is 9264 Km, of which 7483 Km length of roads are of double/multi lane, 954 Km length of roads are intermediate lane and 827 Km length of roads are single lane. Action will be taken up to widen these stretches atleast to intermediate initially and to two lane subsequently.

1.3. Major District Roads

Major District Roads connect production and marketing centres in the District and these centres in turn with the National Highways and State Highways. It has been proposed to improve a minimum of 65% of these roads to IRC standards. To achieve this objective, details of stretches, which are yet to be improved to IRC standards, are being gathered. Based on the information so collected, the improvement works will be taken up in Major District Roads in a phased manner.

Out of the total length of 9451 Km of Major District Roads, 2621 Km is of double / multi lane, 6830 Km are of single/intermediate-lane. Widening of single lane stretches to minimum of intermediate lane is being undertaken in a phased manner.

1.4. Other District Roads

The Other District Roads connect rural production centres and marketing centres with Taluk headquarters and other main roads nearby.

Most of the 36510 Km length of Other District Roads and 1746 Km of Sugarcane roads are of single lane. It is proposed to improve and strengthen the stretches where there is large scale movement of heavy vehicles and where quarries are located.

1.5. Bridges, Minor Bridges, Culverts and Railway Over Bridges

There are 1309 Major Bridges, 7912 Minor Bridges, 1,03,917 Culverts and 225 Railway over/Under Bridges in the existing road network in the State. Action is being taken to maintain these structures properly and also to reconstruct those, which are in distressed condition.

II POLICY OUTLINE

The Government is fully aware of the need for further improvement and strengthening of the existing road network in order to cater to the increasing vehicular traffic and the demands of the road users. Hence, top priority is being given for development of road Infrastructure. For effective and speedy implementation of road improvement schemes, the Government has evolved the following policies.

- (1) To widen all State Highway in the State to minimum of two lane in a phased manner.
- (2) To identify Major District Roads which have heavy traffic and widen those stretches on priority basis to a minimum of intermediate lane.
- (3) To improve the existing Other District Roads which connect Villages with urban areas and stretches, which connect Adi Dravidar and Tribal habitations on priority.
- (4) To relieve traffic congestion in urban areas by providing radial roads, ring roads, bypasses, Railway over bridges/under bridges.
- (5) To evolve road safety action plan to reduce causality due to accidents and to improve accident prone spots.
- (6) To identify and improve black spots in road network which are accident prone thereby reduce accidents.
- (7) To develop important and traffic intensity road stretches under Public Private Partnership.
- (8) To improve the road stretches leading to industries and those where new industries are coming up.
- (9) To initiate land acquisition works before taking up road schemes to avoid delay in the implementation of schemes.
- (10) To construct drainages in roads depending upon the need to avoid stagnation of rain water and to enable smooth flow of traffic.
- (11) To maintain the roads properly and to plant saplings along road margins.
- (12) To create a post of Director General to coordinate and monitor the functions of the various wings of the Department and to reorganise the Department in order to improve the efficiency.
- (13) To delegate and enhance the powers of subordinate officers with regard to technical sanction, tender acceptance etc.,
- (14) To make use of the newly created post of Chief Engineer, Metro to expedite the works sanctioned under CMDP and TNUDP III.

- (15) To conduct new Strategic Option Study to identify new road corridors and take up new projects for development based on the study.

III ORGANISATION STRUCTURE AND INSTITUTIONAL DEVELOPMENT

3.1. Distribution of works

As a part of reorganisation of the overall administration and to increase the efficiency of the Department, the Government has reallocated works properly to the eight wings of the Department as shown below.

a) General Wing:

- Overall Planning and Budgeting of all wings of Highways Department
- Establishment matters of all staff in Highways Department.
- Maintenance of State Highways, Major District roads and Other district roads and bridges thereon.
- Implementation of Part –II schemes
- Execution of Calamity Relief Works like flood and Tsunami.
- Road improvement and construction of bridges under Comprehensive Road Infrastructure Development Programme
- Implementation of road Infrastructure schemes under Public Private Partnership and
- Any other subject which Government may entrust from time to time.

b) National Highways Wing:

- Execution of Plan works and maintenance of roads and bridges on National Highways
- Projects under Revamped Central Road Fund
- Road improvement works under scheme of Economic and Interstate Importance.
- Road improvement under Bharat Nirman scheme
- Western Ghat Development Programme
- Hill Areas Development Programme
- Tribal Area Development Programme
- Other centrally sponsored schemes relating to road development.

c) NABARD and Rural Roads Wing:

- Roads and minor bridge works with NABARD assistance
- Improvement and maintenance of Panchayat and Panchayat Union roads with NABARD assistance
- Tsunami Relief works sanctioned under Asian Development Bank assistance.

- Any other scheme, which Government may entrust.

d) Projects Wing:

- Major Bridge works taken up under State fund or NABARD assistance
- Sugarcane Road Development Programme
- Railway Over and Under Bridge works under the Railway Works Programme
- Radial Roads and Ring Roads
- Any other scheme, which Government may entrust

e) Investigation and Designs Wing

- Carrying out investigation for new bridges
- Preparation of designs for bridge works.
- Preparation of structural designs, drawings and estimates for bridge works costing Rs. 2 crores and above
- Any other scheme, which Government may entrust.

f) Highways Research Station:

- Research activities relating to roads and bridges
- Road safety and traffic improvement works
- Quality Control activities through laboratories at head office and regions
- Any other work which Government may entrust

g) Tamil Nadu Road Sector Project Wing:

- Road upgradation works under World Bank assisted Tamil Nadu Road Sector Project
- Enhanced maintenance works under Tamil Nadu Road Sector Project
- Undertaking studies for projects to be implemented through Public-Private-Partnership
- Strengthening the organisational set-up and implementation of Action Plans.

h) Metro Projects Wing:

- Execution of works under CMDP
- Implementation of TNUDP III works.
- Any other work which Government may entrust

3.2. Institutional Development

a) I.S.O. Certification

Institutional Strengthening Action Plan (ISAP) is being implemented under Tamil Nadu Road Sector Project with the assistance of World Bank. As part of this Plan, for the first time in the country, action is being taken to get ISO - 9001–2000 certification for two circle offices viz.

Coimbatore and Trichy and three division offices viz. Erode (H), Pudukottai (H) and Coimbatore (NABARD and RR).

b) Computerisation

It is proposed to strengthen the present administrative set up duly providing necessary Computer hardware and software required for all the Wings/Offices of Highways Department. 1779 computers at a cost of Rs. 14.77 crores have been given to 751 offices of various wings of this Department. Further, under this scheme, training will be given to 2700 staffs and Engineers. Also annual maintenance of computers for the period of 6 years has been entrusted to the supplier.

e-tendering system has been introduced for calling for tenders and is being implemented in this Department from 01.07.2007, for the works costing more than Rs.10 lakhs. e-submission of tenders will also be implemented in the current financial year.

c) Price adjustment

While executing road and bridge projects, the works get delayed due to escalation in cost of building materials. Realising this, the Government, has decided to implement price adjustment system for the first time in order to expedite the works and to allow price adjustment in accordance with the price variations, and issued orders accordingly in G.O. Ms. No. 60/Public Works (G2) Department Dated:14.03.2008.

According to the above orders, the system of allowing price adjustment for the works with agreement period of above 18 months has been extended to the works with agreement period of above 12 months.

Further, the order allows price adjustment also to the works costing more than 25 lakhs and with agreement period of above 6 months on a trial basis for a period of one year. Due to this, payment will be made to the contractors based on the cost variations of the construction materials.

IV SCHEMES IMPLEMENTED BY THE DEPARTMENT

4.1. Comprehensive Road Infrastructure Development Programme (CRIDP)

Under the Comprehensive Road Infrastructure Development Programme, the State Highways, Major District Roads and Other District Roads are taken up for widening and strengthening as per IRC standards in a phased manner. The details are as follows:

4.1.1. State Highways

Under this scheme, 1045 Km length of road improvement works were completed in 2006-07 at a cost of Rs.240 crores.

In 2007-08, the Government sanctioned widening of 780 Km and strengthening of 140 Km of State Highways and construction/ reconstruction of 4 minor bridges at a total cost of Rs. 310.13 crores. Of the above new works and spill over works, 1421 Km of road works and 16 bridge/culvert works have been completed at a cost of Rs.415.44 crores.

The balance of single lane State Highways, will be widened to Intermediate lane and subsequently to double lane in the coming years. It has been proposed to take up about 900 Km of roads for widening and improvement with provision for Bus lay byes and drains wherever necessary during 2008-2009.

A provision of Rs.441.44 crores has been made in 2008-2009, for the on going as well as new works.

4.1.2. Major District Roads

Under this scheme, 1141 Km length of road improvement works were completed in 2006-07 at a cost of Rs.241 crores.

In 2007-08, Government accorded sanction for widening of 817 Km, strengthening of 108 Km of Major District Roads and construction/reconstruction of 6 culverts at a total cost of Rs. 225 crores. In 2007-08, road works for a length of 1869 Km and 17 bridge/culvert works have been completed at a cost of Rs.379.89 crores including spill over works.

The balance of 3961 Km of single lane Major District Roads, will be widened to at least Intermediate lane in the coming years. It is proposed to take up widening and improvement works in about 750 Km of roads during 2008-09.

A provision of Rs.283.92 crores has been made in 2008-2009, for the ongoing as well as new works.

4.1.3. Other District Roads

Under this scheme, 1739 Km length of road works were completed in 2006-07 at a cost of Rs.166 crores.

In 2007-08, Government sanctioned widening of 361 Km and strengthening 547 km of Other District Roads and construction/reconstruction of 26 culverts at total cost of Rs.132 crores. Accordingly, 1405 Km length of road works and 40 culverts have been completed at a cost of Rs.161.94 crores including spill over works.

It is proposed to take up improvement works in about 1500 Km of roads during 2008-09. A provision of Rs.162.63 crores has been made in 2008-2009, for the on going as well new works.

4.1.4. Improvements to Other District Roads connecting Adi Dravida habitations

This Government introduced the scheme for improving the Other District Roads, connecting Adi-Dravida habitations, under the Scheduled Caste Sub Plan, as part of CRIDP from 2006-07. Under this scheme, 244 Km length of roads at a cost of Rs.32 crores were completed in 2006-07.

During last year, Government sanctioned Rs. 62.15 crores for widening and improving 456.43 Km of roads and for construction / reconstruction of 6 bridges and culverts. During the year 2007-08, 919 Km length of roads and 20 bridge/culvert works have been completed at a cost of Rs. 105.13 crores, including spill over works.

It has also been proposed to take up about 870 Km length of roads for improvements during 2008-09.

A provision of Rs.95.04 crores has been made in 2008-2009, for the on going works as well as new works to be sanctioned.

4.2. Part II Scheme

Under this scheme, 30 Km length of road works and 19 bridge works were completed at a cost of Rs.24.65 crores during 2006-07.

In 2007-08, the Government sanctioned works to the tune of Rs. 9.45 crores for taking up 2 bridge works and 21 Km length of road works. Out of these new works and spill over works, 11 bridge/culvert works and 107.41 km length of road works have been completed in 2007-08 at a cost of Rs.29.39 crores. The balance works will be completed in 2008-2009.

For the year 2008-2009, it has been proposed to take up the following new works at a cost of Rs.10.34 crores.

(Rs. in crores)

S. No	Scheme	Bridge Works		Other Works		Total	
		No	Cost	No	Cost	No	Cost
1	State Highways	2	6.00			2	6.00
2	Rehabilitation of distressed bridges	8	3.20			8	3.20
3	Construction of bridges in Unbridged crossings	2	0.62			2	0.62
4	Tools and Plant			4	0.22	4	0.22

5	Research & Development			3	0.30	3	0.30
	Total	12	9.82	7	0.52	19	10.34

A provision of Rs.39.23 crores has been made in 2008-2009, for the on going as well as new works.

4.3. Tsunami Rehabilitation Programme

4.3.1. Tsunami Emergency Assistance Project (TEAP) with Asian Development Bank assistance

The Government sanctioned for the construction of 5 High-level bridges and 1 roadwork in Tsunami affected Thiruvallur, Cuddalore and Nagapattinam districts at a cost of Rs.54.70 crores with loan assistance from Asian Development Bank. Out of the five bridges, four bridge works located at Vettaikkaraniuruppu and Kodiampalayam in Nagapattinam district and at Killai and Sothikkuppam in Cuddalore district, clearances have been obtained from Coastal Regulation Zone Management Authority and Environmental and Forest Department. The pile works are in progress in all the bridge works.

As the bridge work at Pulicat lake in Thiruvallur district falls in the Pulicat Bird sanctuary area, clearance has been obtained based on the recommendations of the committee constituted by the Supreme Court of India. The pile works are in progress.

An expenditure of Rs.13 crores was incurred under this scheme during last year.

A budget provision of Rs.42.50 crores has been made for this scheme during 2008-09.

4.3.2. Improvement of roads and construction of bridges under centrally assisted Tsunami Rehabilitation Programme

To strengthen the road infrastructure in Tsunami affected areas, the Government sanctioned Rs.224.38 crores to take up improvements in 423.22 Km of roads and construction of 54 bridges in Government roads under Tsunami Rehabilitation programme through General Wing. These works are in progress and will be completed in 2008-09.

The Government have also sanctioned Rs.53.40 crores for improvement to 47 km of rural roads in coastal areas and construction of 6 High-level bridges in Tsunami affected Nagapattinam District. These road works are in progress.

A total expenditure of Rs. 55.30 Crores was incurred in 2007-08 under this scheme.

A provision of Rs.164.10 Crores has been made for these works during 2008-2009.

4.3.3. World Bank assisted Emergency Tsunami Rehabilitation Programme

The Government has sanctioned with World Bank assistance, reconstruction of bridge connecting Keelmanakudi and Melmanakudi villages in Kanyakumari District which was damaged heavily during tsunami.

Detailed Project Report has been prepared for this bridge. On approval of the report by World Bank, the work will be taken up for execution after calling for tenders.

4.4. Chennai Metropolitan Development Plan (CMDP)

Under this Scheme implemented from State Funds, the Government has given approval for taking up improvement of roads for a length of 590 km including construction of Grade Separators, bridges, centre median and foot path at a cost of Rs.825 Crores in Chennai Metropolitan Area.

Of these, 200 km length of road works, 35 bridges/culverts and centre median works have been completed in 2007-08 at a cost of Rs.135 crores. The balance 220 km length of road works at a cost of Rs.280 crores and 16 bridge/culvert works and centre median works at a cost of Rs.225 crores would be carried out during 2008-09.

Further, the State Government has sanctioned 11 works comprising of 6 Grade Separators, one ROB and 4 river bridges at a cost of Rs.219 Crores for execution through Projects Wing. Of these, Grade Separator at the junction of Marmalong bridge-Irumbuliyur road and Pallavaram – Thuraipakkam road near Pallikaranai is under execution.

The widening of the bridge across Buckingham canal at Madhyakailash in Sardar Patel Road has been dropped since the work has been transferred to the Corporation of Chennai. For the balance works, Detailed Project Reports are under preparation through consultants. Tenders will be called for and works will be commenced in 2008-09.

Based on the Detailed Feasibility Reports (DFRs) given by the Consultants for 2 Grade Separators at Porur and Moolakadai, revised administrative sanction has to be issued after which Detailed Project Reports will be prepared.

Since the alignments of 3 grade separators fall in Chennai Metro Rail Route, the government is considering entrustment of these works to Chennai Metro Rail Corporation for execution along with their Project after getting approval from the Highways Department for design etc.

As per the Detailed Feasibility Report submitted by consultant, preparation of Detailed Project Report for the ROB at Vysarpadi is in progress. A proposal is under consideration of Railways to include this ROB work under Railway Works Programme 2008-09 on 50:50 cost sharing basis. On receipt of approval from Railways, the work will be taken up for execution after calling for tender.

Some of the CMDP works have been delayed due to land acquisition and shifting of EB poles. Action has been taken to expedite the works, after completing the land acquisition and shifting of EB poles.

A budget provision of Rs.250 Crores has been made for these works during 2008-09.

4.5. Road Infrastructure Development in Oragadam Industrial Park Area

To improve the road infrastructure facilities in the fast developing Oragadam Industrial park area, near Sriperumpudur (Kancheepuram District), the Government have sanctioned Rs. 300 crores for taking up the following works:

- (i). Widening of Singaperumalkoil – Sriperumpudur road (SH-57) (24.60 Km) to six lane with central median (Four laning in phase-I)

- (ii). Widening of Vandalur – Wallajabad road (SH-48) (33.60 Km) to four lane with central median
- (iii). Forming a Bye pass for Ponthur Village in Singaperumalkoil – Sriperumbudur Road
- (iv). Forming Service road for 3 km on each side of the junction at Oragadam
- (v). Construction of a Grade Separator (over bridge) at Oragadam junction.

Detailed estimates were prepared for the road widening works and tenders were invited by splitting the works into 4 packages for early completion. After issue of work orders the contractors did not come forward to execute the agreement and the work orders were cancelled and retenders have been called for. The retenders will be finalised and works will commence soon. Action is being taken to acquire additional lands required to widen some of the stretches to 4 lane and others to 6 lane.

A provision of Rs.119 crores has been made in the year 2008-2009 for these works.

4.6. Rajiv Gandhi Salai (IT Expressway) (Extension)

Phase-I of Rajiv Gandhi Salai (IT Expressway) widening to 6 lane from Madhya Kailash to Siruseri is nearing completion. The Government has decided to widen this Express Highway to six lane from Siruseri to Mamallapuram in Phase-II. The Government has sanctioned Rs. 70 crores for acquiring lands required for widening this IT express way for a further length of 25.3 Km. Land acquisition works have been taken up. After completion of this work, action will be taken to implement road works.

4.7. Bypasses for important towns

To ease the traffic congestion in Erode Town, the Government sanctioned Rs.22 Crores on 11.09.2007 towards land acquisition for the first phase of formation of ring road from Kokkarayanpettai to Thindal to a length of 14 km and Rs.35 Lakhs for the preparation of Detailed Project Report by the consultants. Action will be taken to commence the road works during this year after completion of land acquisition. A Detailed Project Report for the construction of a bridge near Kokkarayanpettai is also under preparation.

In order to form a new bypass to Ettukudi town in Nagapattinam District, and to acquire lands for the same the Government has sanctioned Rs.155 lakhs. On completion of land acquisition works, road works will be taken up.

Apart from the above, proposals for formation of new bypasses for Perambalur, Dharapuram, Rasipuram, Kancheepuram, Thiruthuraiipoondi, Thanjavur, Hosur and Pattukottai are under active consideration of the Government. Action will be taken to initiate land acquisition proceedings shortly.

4.8. Tamil Nadu Urban Development Project III (TNUDP III)

Under the scheme implemented with World Bank assistance, construction of 6 ROBs / RUBs costing Rs.110.95 crores, 3 pedestrian subways costing Rs.6.30 crores, 3 grade separators costing Rs.235 crores and 13 road works for a length of 97 km at a cost of Rs.253 crores in Chennai Metropolitan Area (CMA) have been sanctioned at a total cost of Rs.605 crores.

Out of 13 road works, administrative sanction has been accorded for five road works for an amount of Rs 120.24 crores. These works would be taken up for implementation during the current year.

Detailed Project Reports are under preparation for the balance of 8 Road works, 5 ROBs, 1 RUB and 3 pedestrian subways. Action will be taken to expedite the Detailed Project Reports, accord administrative sanction and implement the works early.

As per the guidelines of World Bank, works could be taken up only after completion of resettlement and rehabilitation of affected persons. Hence action is being taken to expedite the resettlement and rehabilitation and to commence the works early.

4.9. NABARD assisted Projects

4.9.1. Improvements to Major District Roads and Other District Roads

During 2007-08, spillover works of 196 Km of roads and 8 bridges were taken up for execution at a cost of Rs.23.53 crores. Of these works, 187 Km length of road works and 4 bridge works have been completed up to March 2008 at a cost of Rs.18 crores. The remaining 4 bridge works are in progress and will be completed during the current financial year.

For 2008-09, a provision of Rs.2.23 crores has been made for these works.

4.9.2. Rural Roads Improvement Scheme

Under this scheme, Panchayat and Panchayat Union Roads connecting villages with a population of 500-1000 are taken up for improvements to ODR standards. The rural roads providing connectivity to hospitals, Government offices, schools and important marketing centers through the nearby main roads are taken up for improvement as black topped roads on priority basis.

During 2007-08, spillover works of 585 Km of roads and 18 bridges were taken up for execution at a cost of Rs.105.00 crores. Further, the Government sanctioned new project for upgradation of 640 km of roads and construction of 32 bridges at a cost of Rs.145 crores. Out of the above spillover works and new works taken up during last year, 471 Km of roads and 9 bridges have been completed at a cost of Rs.95 crores. These works have helped to provide connectivity to 280 villages. The balance works are in progress. Further, proposals for new works will be sent to NABARD for sanction.

A provision of Rs.134 crores has been made under this scheme for 2008-09.

4.9.3. Bus Route Improvement Scheme

(a) Under the bus route Improvement scheme, Panchayat and Panchayat Union roads in which buses are plying for more than three years are taken up for improvements to the standards of Other District Roads.

During 2007-08, spillover works of 320 Km of roads and 7 bridges were taken at a cost of Rs.53.43 crores. Further, the Government sanctioned new project for improvements of 152 km of roads and construction of 11 bridges at a cost of Rs.41.53 crores. Of the spillover and new works taken up during last year, a total length of 250 Km of roads and 5 bridges have been completed at a cost of Rs.48.50 crores. The remaining works are in progress. Further, proposals for new works will be sent to NABARD for sanction.

In the current year, an allotment of Rs.46 crores has been made for these works.

(b) Further, under another scheme with NABARD assistance, spillover works of 497 Km of bus plying Panchayat and Panchayat union roads and 4 bridges were taken up during 2007-08 for execution at a cost of Rs.26 crores. Of which, 476 Km length of road works and 3 bridge works have been completed at a cost of Rs.24 crores. The balance works will be completed in the current year.

4.9.4. Providing B.T Road Connectivity to Adi-Dravidar Habitations

Under the Scheduled Caste Sub Plan, roads connecting habitations where Adi-Dravidar population is more than 50% of the total population are improved as black topped roads.

During 2007-08, spillover works of 101 Km of roads and 6 bridges were taken up for execution at a cost of Rs.23.67 crores. Further, the Government sanctioned a new project for upgradation of 160 Km of roads and construction of 6 bridges at a cost of Rs.36.24 crores. Of the spillover and new works taken up during last year, a total length of 80 Km of roads and one bridge have been completed at a cost of Rs.20.50 crores. With these works, 105 Adi-Dravidar habitations have been given BT roads. The balance works are in progress. Further, proposals for new works will be sent to NABARD for sanction.

In the current year, a provision of Rs. 37 crores has been made for this scheme.

4.9.5. Construction of Bridges in Government and Rural Roads

- (a) During 2007-08, spillover works of reconstruction of 254 bridges in Government roads at a cost of Rs.108.97 crores were taken up for execution. Of these works, 111 bridge works have been completed up to March 2008, at a cost of Rs.33.50 crores. The remaining 143 bridge works which are in progress will be completed during the current year.

A provision of Rs.55.25 crores has been made for this scheme in 2008-09.

- (b) Further, the Government have decided to reconstruct the weak and narrow bridges in important roads in the State. Accordingly, a new project proposal has been sent to NABARD for the construction/reconstruction of 102 bridges in 22 districts in Government and Rural roads at a cost of Rs.125.45 crores and the proposal is under appraisal by NABARD. On receipt of sanction from NABARD, this project will be taken up for implementation during this year.

A separate provision of Rs.34.02 crores has been made for this scheme during 2008-09.

4.9.6. Reconstruction of Bridges in Cauvery Delta Areas with NABARD assistance

Under this scheme, Government had sanctioned until the year 2006, construction of 48 Bridges in Delta Districts namely Thanjavur, Nagapattinam and Thiruvarur and 7 bridges in other regions and widening and strengthening of 139 sugarcane roads for a length of 417 Km at a total cost of Rs.83.23 crores. Of these, 43 bridge works have been completed and 2 bridges have been deleted. The balance 10 bridge works will be completed during this year.

Of the 139 road works taken up, 137 works have been completed and 2 works have been deleted.

4.9.7. Construction of Major Bridges across important Rivers

It is proposed to construct four major bridges across important rivers at a cost of Rs. 121.50 crores with NABARD loan assistance. In order to expedite these projects, the Government has accorded approval for the following bridges in anticipation of approval from NABARD.

- (i) Construction of a high level bridge between Vangal of Karur district and Mohanur of Namakkal district across river Cauvery at a cost of Rs.43.50 crores.
- (ii) Construction of a high level bridge between Neelathanallur of Thanjavur district and Madhanathur of Ariyalur district across river Coleroon at a cost of Rs.35.00 crores
- (iii) Construction of a high level bridge between Muttam of Cuddalore district and Manalmedu of Nagapattinam district across river Coleroon at a cost of Rs.32.40 crores.
- (iv) Construction of a high level bridge between Paramakudi and Emaneswaram of Ramanathapuram district across river Vaigai at a cost of Rs.10.60 crores.

Detailed Project Reports are under preparation and work will be taken up after calling for tenders during the current year.

For these works, a budget provision of Rs.51.92 crores has been made during this year.

4.10. Inner Ring Road in Chennai City

To ease the traffic congestion in Southern part of Chennai city, Government sanctioned formation of Southern Sector of Inner Ring Road for a length of 9.40 Km of which 4.40 Km was completed in the first phase.

After completion of the land acquisition for 5km in phase II, the embankment formation is in progress. Estimate is also under preparation for bridge work across Adambakkam Lake and the same will be commenced during this year. Action will be taken to complete the road work during the current year.

A budget provision of Rs.11.92 Crores has been made during 2008-09 for these works.

4.11. Madurai Radial Roads

To improve the roads connecting the villages around Madurai with the city, Government sanctioned improvement of 12 Radial road works for a length of 123.20 Km, one River Bridge and one ROB in phase I with HUDCO loan assistance. All these works except the ROB at Ellis Nagar have been completed. The ROB work will be completed during this year.

The Government also sanctioned Madurai Radial Roads (Phase-II) under CRIDP scheme for 14 road works of 122.30 Km length at a cost of Rs.70.60 Crores. All the works are in progress and will be completed during this year. An expenditure of Rs.22 crores was incurred during last year.

A budget provision of Rs.29.02 crores has been made during 2008-09 for these works.

4.12. Tiruppur Ring Road

There is heavy traffic congestion in Tiruppur town due to industrial development. To ease the traffic congestion in Tiruppur town and surrounding areas, the Government sanctioned improvement of road infrastructure by formation of ring road involving a total length of 98.60 Km, 2 Railway Over Bridges and 6 River Bridges at a cost of Rs.70 crores. Of these works, 84 Km length of road works were taken-up by General wing and other works were entrusted to Projects Wing. The General Wing has completed 70 Km of roads. Out of 2 ROB, 6 river bridges and 5 road works of 14.20 Km entrusted to Projects Wing, 2 River bridges are in progress and 2 works are in tender stage. Estimates are being prepared for the balance 2 bridge works. Action will be taken for speedy completion of all the 6 river bridge works and road works.

The ROB works will be taken up after finalizing DPR and settling tenders. Funds for these works have been provided under CRIDP scheme.

4.13. Construction of ROB/RUBs under Railway Works Programme

The construction of Railway Over/Under Bridges in lieu of existing level crossings on Government roads are undertaken on priority when Train Vehicle Units (TVU) exceeds one Lakh per day. The State Government and Ministry of Railways share the cost of construction of Railway Over/Under Bridges including approach and service roads equally. During the six years from 1999 to 2005, 47 ROB/RUB works were sanctioned under RWP, of which 17 ROB/RUB works have been completed. Balance works are in progress and 15 works are expected to be completed during this year.

Further, during 2006-07, with the concurrence from Ministry of Railways, the State Government issued administrative sanction for construction of 25 ROB/RUBs under RWP. Preparation of the Detailed Project Reports by consultants for these works are in progress and on receipt of these reports, tenders will be called for and works would be commenced soon.

During 2007-2008, the State Government sanctioned 42 ROB/RUBs at a cost of Rs. 876.70 Crores under Railway Works Programme on cost sharing basis. Action has been taken to prepare DPRs for these works by engaging consultants.

Further, Railways have included construction of 23 ROB/RUBs on cost sharing basis under RWP during 2008-09. Administrative sanction will be issued by the Government shortly.

It has also been decided that the officials of Railways and Highways would jointly inspect the sites periodically for speedy approval of GADs and avoid delay in the execution.

A provision of Rs.293 crores has been made during 2008-09 for these works.

4.14. Fly Over at Tirunelveli

The Government has sanctioned a fly over along Tirunelveli Bye-pass near Chellapandian statue at a cost of Rs.16.40 crores on 04.12.2007. The preparation of designs and estimate is in progress. After finalization of the same, tenders will be called for and the work will be commenced during this year.

4.15. HUDCO Loan Assistance Scheme for Bridges

Under this scheme, the Government sanctioned construction of 61 bridges at a cost of Rs.60 crores. Out of these bridges, 52 bridges have been completed and 2 works were deleted. Balance of 7 bridge works are expected to be completed during this year.

A budget provision of Rs.9.49 crores has been made during 2008-09 for these works.

4.16. Sugarcane Road Development Scheme

The cess fund collected from sugar mills are utilized for formation and maintenance of roads from sugarcane growing areas to sugar mills. During 2007-08, 3 bridge works and 49 road works of 91 Km length have been completed at a cost of Rs.15 crores. 9 works of 12.10 Km length have been deleted and balance 21 works of 54.75 Km are in various stages of progress. 2 works of 5.4 Km length are in tender stage. These works will be completed during this year.

A budget provision of Rs.9.84 crores has been made during 2008-09 for these works.

4.17. National Highways Projects

The National Highway Authority of India (NHAI) is taking up widening and improvement works in 3260 Km length of National Highways out of the total length of 4500 Km of National Highways in Tamil Nadu. In the balance of 1240 Km length of roads, improvement, maintenance and renewal works are taken up by the State Government from the funds allotted by the Government of India.

4.17.1 Projects executed by National Highways Authority of India (NHAI)

4.17.1.1 National Highways Development Project (NHDP)

Under the National Highways Development Programmes namely Golden Quadrilateral Programme, North – South Corridor Programme, Port Connectivity and Other Projects, schemes for four laning have been taken up by NHAI.

a) Phase-I: Golden Quadrilateral Programme

Under this scheme, upgradation of 342 Km roads to four lane in NH 4 (Chennai-Bangaluru), NH 5 (Chennai-Nellore), NH 7 (Bangaluru - Salem – Kanyakumari) and NH 46 (Krishnagiri - Ranipet) have been completed at a cost of Rs.1193 crores.

b) Phase-II: North-South Corridor Programme

Under this scheme, widening of NH-7 & NH-47 (Salem-Cochin) to four lane for a length of 756 Km has been taken up at a cost of Rs. 4141 crores. The progress was affected due to delay in land acquisition. The land acquisition process has been expedited and 34 Km length of roads have been completed so far under this scheme. The balance works are expected to be completed during this year.

c) Port Connectivity Project

As part of Port Connectivity, improvement of 30 Km length of road at a total cost of Rs. 309 crores has been taken up under Chennai to Ennore Port Connectivity Scheme (EMRIP) and another project for improvement of 47 Km length of road in NH-7A from Tirunelveli to Thoothukudi has also been taken up at a cost of Rs.231 crores by NHAI. Though, progress of works is affected due to problems with the contractors, NHAI is taking action to resolve the issues smoothly and speed up the progress.

d) Other Projects

The road between Tambaram and Tindivanam, in NH-45 for a length of 93 Km was widened to four-lane during 2004-05. In continuation of the same, Four laning of the stretch between Tindivanam and Trichy for a length of 204 Km has been taken up at an estimated cost of Rs.1260 crores and the works are in progress. These works are expected to be completed during this year.

Further, 125 Km of road from Trichy to Madurai in NH-45B has also been taken up for four laning at a cost of Rs.420 crores and the works are in progress. This project is also expected to be completed in the current year.

Also 114 Km length of road from Karur to Coimbatore, in NH-67 has been taken up for improvement to two lane with paved shoulders and four lane in certain locations at a total cost of Rs.178 crores. These works are also under progress and are expected to be completed during the current year.

e) Elevated Expressway

The Government decided in principle to construct an elevated express way to reduce the traffic congestion and to cater the traffic volume caused by the heavy vehicles which carry goods to Chennai Port Trust. As such, it is proposed to construct an Elevated Expressway from Maduravoyal in Poonamallee high road to Chennai Port Trust at a cost of about Rs.1468 crores as jointly by the Government of India, Government of Tamil Nadu and the Chennai Port Trust. The Elevated Expressway will be formed by erecting pillars at the centre of Poonamallee Highway from Maduravoyal to Koyambedu and from Koyambedu to Chennai Port Trust, the expressway will run along the left bank of river Coovum.

Further, the Government has agreed to give the Government land required for this project at free of cost and has also permitted use of Coovum river bank. It has been estimated that Rs.345 crores would be required to acquire private lands and to resettle and rehabilitate the affected families. This would be shared equally by the State Government and Chennai Port Trust. This Government has issued orders on the above. This project would be implemented by NHAI.

4.17.1.2. National Highways Development Project - Phase – III

Under this scheme, four laning of 1460 Km length of National Highways has been proposed to be taken up by the NHAI under Build, Operate and Transfer (BOT) basis.

Further, maintenance works in NH-67 Extn from Coimbatore to Mettupalayam has been taken up by NHAI. Permanent restoration works for NH-67 Extn from Mettupalayam to Kakanalla (Tamil Nadu/Karnataka border) have also been taken up by the NHAI.

Moreover, preparation of DPR for improvement of “left out” stretch of 12 Km in NH-67 with in Coimbatore city limit, is in final stage. Based on the report, improvement works will be taken by the NHAI in this stretch.

4.17.1.3. Chennai Bypass

Under phase-I, Chennai Bypass road was constructed from Tambaram to Maduravoyal for a length of 19 Km during 2002 with two-lane carriageway. The widening of Chennai bypass (phase-I) into four lane including service roads and formation of new bypass from Maduravoyal (NH-4) to Puzhal (NH-5) has been taken up under phase-II for a length of 13 Km by NHAI at a total cost of Rs. 405 crores. NHAI is taking action to complete these works during the current year.

4.17.1.4. Grade Separators and Flyovers In Chennai City

The construction of grade separators and Road over Bridges to ease traffic congestion at 4 locations in Chennai city namely Kathipara junction, Koyambedu junction, Padi junction and in front of the Airport and widening of road between Koyambedu and Maduravoyal has been taken up at a total cost of Rs.196 crores by NHAI. A part of the flyover at Kathipara junction has been completed and opened to traffic. Further, works on the grade separators in front of Chennai Airport and other junctions in Koyambedu and Padi are in progress. NHAI has been requested to expedite the completion of these works.

4.17.1.5 National Highways Development Projects (Phase – VII)

Under the new project announced by the Government of India, a tentative list of cities/towns for which construction of ring roads/bypasses are proposed to be taken up has been communicated to State Government. The cities to be covered are Tirunelveli, Madurai, Coimbatore, Salem, Trichy and Chennai. Preparation of feasibility report will be taken up by NHAI after suggestions are forwarded from State Government.

4.17.2. National Highways Projects Implemented by the State Government

The State wing of National Highways is maintaining a length of 1240 Km National Highways from the funds provided by Government of India. During 2007-08, Government of India had allotted Rs. 91.25 crores for plan works under which 268 Km length of road works, 2 Major Bridges at Thiruvalem and Kuzhithurai and 2 Minor Bridges were completed at a total cost of Rs. 91.25 crores.

The construction of high-level bridge at Sanaveli (Ramanathapuram District) sanctioned at a cost of Rs.12.41 crores is under progress. This work will be completed during this year. Further, under Annual Plan 2007-08, the Government of India has sanctioned estimates for 59 new works at a cost of Rs.133.36 crores. These works are in progress and will be completed during this year.

Further, as part of maintenance, periodic renewal has been taken up for 36 Km length of roads at a cost of Rs.12.86 crores.

4.17.3. New proposals for 2008-09

The Government of India has approved a list of various works at an outlay of Rs. 258.20 crores under Annual Plan 2008-09. These works include 211 Km length of road improvement works, 3 ROBs, One Major bridge, 15 Minor bridges, 76 Culverts and land acquisition for bypasses.

a) Road works

211 Km of road works including development works such as widening, strengthening, improvements to riding quality, paved shoulders, reconstruction / widening of culverts has been approved by the Ministry at an outlay of Rs.134.28 crores in National Highways: 4, 45A, 45 Extn, 47B, 49, 49 Extn, 208, 209, 210, 220. These works will be taken up for execution after obtaining approval for detailed estimates from Government of India.

b) Railway over bridges and other bridge works

The construction of 3 ROBs at Mullupadi, Eachanari and Ganapathy (NH 209) has been included in the approved list of works under Annual Plan 2008-09 at a cost of Rs.35 crores, of which 2 ROBs at Mullupadi and Eachanari have also been included in the Railway

Works Programme 2008-09. The Southern Railway has also commenced construction of additional two lane bridge at Ganapathy (Coimbatore city).

Estimate for land acquisition for high level bridge across Kounda River in NH 208 has been sanctioned at a cost of Rs.5.38 lakhs. Further, construction of this bridge work is included in the approved list of works for Annual Plan 2008-09. The work will be taken up for execution after obtaining the approval for detailed estimate from Government of India.

c) Bypasses

The bye pass alignments for Usilampatti, Andipatti, and Bodi towns in NH 49 Extn have been approved by Government of India. Estimates for Feasibility Studies and detailed engineering for the bye passes to Madurai connecting NH 7 & NH 45B, Sethur and Chokkampatti in NH 208 and for bye pass at Pollachi in NH 209 have also been approved by the Government of India. Estimate for Feasibility Study for Udumalaipettai Bypass in NH 209 has been sent to Government of India for approval.

Land acquisition for all the above bypasses have been included in the list of works approved by the Government of India at a total cost of Rs.22.50 crores under Annual Plan for 2008-09. Further, land acquisition for bye pass at Puducherry has also been issued by State Government. Necessary action is being taken up to acquire lands for the bye pass and after the completion of land acquisition, construction of bye pass will be taken up.

An allocation of Rs.100 crores is expected from Government of India for plan schemes during 2008-09.

4.18. Central Road Fund Scheme (CRF)

The Government of India set up the Central Road Fund from the year 2000 with accruals from special cess levied on petrol and diesel consumed in the State. The Government had issued administrative sanction for 552 works at a cost of Rs. 448.55 crores for the period from 2001-2005 under this fund. All the works have been completed except the six works which were deleted.

Further, 104 works were sanctioned at a cost of Rs.219.51 crores by Government of India for the period from 2005 to 2008. Out of these works, 32 works have been completed and 2 works were deleted. The balance of 70 works are in progress and will be completed during the current year. New works will also be taken up after getting approval from Government of India.

The Government has allotted Rs.75 crores for the current year under this scheme.

4.19. Economic Importance and Interstate Connectivity Scheme (E & I Scheme)

Under the Economic Importance Scheme, Government of India have approved the proposal for "Construction of a grade separator in front of Christian Medical College and Cuddalore-Chithoor road junction" in Vellore town at a cost of Rs.39 crores with the State Government share of 50% of the cost of work.

Under the Inter State Connectivity scheme, "Construction of new bridge connecting Vellore and Katpadi, across river Palar was sanctioned by Government of India at a cost of Rs. 16 crores. The above work is in progress.

Further, during 2007-08, the Government of India gave 'in principle' approval for improvement of 2 road works, at a cost of Rs.8.85 crores under Interstate Connectivity Scheme and 7 road works, costing Rs.12.97 crores under Economic Importance Scheme. The estimates for the above works have been sent to Government of India for approval. The works will be taken up for execution after receipt of approval from Government of India.

4.20. Bharat Nirman Programme

Under Phase I of this scheme, 1296 Km length of 297 Other Districts Roads are proposed to be taken up for improvements. Detailed Project Reports (DPRs) for the above works have been prepared at a cost of Rs.232.99 crores and after scrutiny by the State Technical Agency (STA), they have been sent to Government of India for sanction. The works will be taken up after receipt of administrative approval from Government of India.

Under Phase-II of this scheme, list of Other Districts Roads for a length of 167 Km has been prepared for improvement. The DPRs for the above works will be prepared after getting approval from the State level Standing Committee (SLSC) in the current year and will be submitted to Government of India for sanction.

4.21. Western Ghat Development Programme (WGDP)

Under this scheme, 9 works including roads and culverts have been completed in Erode, Coimbatore, Dindigul, Virudhunagar, Tirunelveli and Kanyakumari Districts during 2007-08 at a cost of Rs. 88.67 lakhs.

During this year new works will be taken up under this scheme for which an outlay of Rs. 100 lakhs is provided by the Government.

4.22. Hill Area Development Programme (HADP)

Under this scheme, 16 nos. of works including roads and culverts have been completed in Nilgiris District during 2007-08 at a cost of Rs. 298.10 lakhs.

During this year, new works will be taken up under this scheme.

4.23. Tamil Nadu Road Sector Project (TNRSP)

Under the World Bank assisted Tamil Nadu Road Sector Project upgradation of roads to conform to international standards has been taken up at an estimated cost of Rs. 2160 crores. The World Bank loan component for the project is Rs.1670 crores and Tamil Nadu Government's share is Rs.490 crores. The following are the important features of this project:

- (a) Upgradation of 742 Km of roads connecting 11 districts.
- (b) Enhanced periodical maintenance of 1030 Km of State Highways & Major District Roads and implementation of Road Safety Works including improvements of accident prone zones.
- (c) Implementation of Institutional Strengthening Action Plan for Highways Department.

4.23.1 Progress of road works

a. Road upgradation works

- ❖ Upgradation works on Arcot to Tiruvarur road for a length of 393 Km starting from Arcot in Vellore district and passing through Tiruvannamalai, Villupuram, Cuddalore, Perambalur (at present Ariyalur), Thanjavur and ending at Tiruvarur. The estimated cost of this work is Rs.768.50 crores.
- ❖ Upgradation works on Nagapattinam to Thoothukudi stretch for a length of 349 Km beginning at Nagapattinam town and passing through Tiruvarur, Thanjavur Pudukottai, Ramanathapuram districts and ending at Thoothukudi. The estimated cost of this work is Rs.513.07 crores.
- ❖ Of the 742 Km taken up for upgradation and improvement of quality of roads, works have been completed for 379 Km Other road and bridge works are in progress. Action is being taken to complete these works during this year itself.

b. Land acquisition and Rehabilitation works

Total of 395.42 hectares of land has to be acquired for this project. Out of which, 382 hectares has been acquired and the road works are in progress. The remaining land acquisition will be expedited and completed soon.

As per the loan agreement with the World Bank, cash assistance has been given to 13068 Project Affected Persons.

Further, out of 527 Project Affected Households (PAHs), 457 houses have been constructed and handed over. Construction is in progress in respect of the remaining 70 houses and will be completed in the current year. For the 40 Project Affected Shop Owners, 39 shops had already been constructed and handed over and construction is in progress for the remaining one shop. This work will also be completed soon.

c. Road maintenance works

Under this scheme, 597 Km of road works have been taken up during the year 2004-05 and completed at a cost of Rs.167 crores.

Under second year maintenance, out of 250 Km road works taken up, 94 Km of roads works had been completed and works are in progress for 156 Km. These works will be completed during current year. Estimates are under preparation for the 183.50 Km of roads selected for enhanced periodical maintenance for the 3rd and 4th year. These works will be implemented during the current year.

4.23.2. Bridge works

The project involves construction of 44 major bridges, 84 minor bridges and 10 ROBs. (1 ROB each at Polur, Vridhachalam, Ariyalur, Sirkazhi, Nagapattinam, Tiruthuraipoondi, Muthupet, Ramanathapuram and 2 ROBs at Tiruvannamalai).

Taking into account the need for early completion of ROBs, action is being taken to entrust the construction of 9 ROBs to M/s. IRCON International Ltd., after obtaining approval from World Bank and one ROB at Ramanathapuram will be entrusted to railways directly.

4.23.3. World Bank Aide Memoire/ Inspection Report

World Bank Mission Team reviewed the progress of various works under Tamil Nadu Road Sector Project in the beginning of 2008. After the review, the mission team in their report have expressed satisfaction over the performance and progress of works pertaining to various components of Tamil Nadu Road Sector Project.

Action is being taken to expedite the completion of the project.

4.23.4. Road Management System

The Road Management System (RMS) envisages an effective inventory of all the bridges, State Highways and Major District Roads with high traffic density. It will create a database on the condition of the roads, the traffic density, the historical data pertaining to maintenance and upgradation work taken up so far. The database will facilitate timely planning and effective execution of road upgradation and maintenance works based on priority and the need.

4.24. Maintenance of Roads

4.24.1. Additional allocation of funds for periodic renewal of roads

For proper maintenance of road infrastructure developed at huge cost, under the various schemes their timely upkeep and maintenance is quite necessary. Realising the need for proper maintenance of roads, the Government is giving top priority for road maintenance.

For the first time highest allocation of Rs.801.37 crores was made during 2006-07 and Rs. 826 crores during 2007-08. Of this, Rs.103.60 crores was sub-allocated for the maintenance of Panchayat and Panchayat Union Roads by the Rural Development Department.

Making use of the above allocation, renewal works were carried out in 7889 Km length of roads, in 2006-07 and 7115 Km length of roads in 2007-08. This includes 2114 Km length of Panchayat and Panchayat Union Roads, which were earlier improved with NABARD assistance during 1996-2002 but left without maintenance.

Thus, during the last two years higher allocations have been made for maintenance works and renewal works were taken up accordingly. By this, it has become possible for the first time, to follow the five year cycle of renewal of road as per IRC specifications.

4.24.2. New Initiatives

The Government has issued orders to take up periodical maintenance on priority basis in consultation with the District administration. Instructions have also been issued to give due attention to the proper maintenance of bridges as well.

In order to supervise and ensure the proper maintenance of roads, action is being taken by this Government to appoint Road Inspectors and to fill up the existing vacancies in this category.

For taking up maintenance works in an extensive manner, it is proposed to adopt a system of maintenance of works under Performance Based Maintenance Contract under the renewal and maintenance works out of Government funds.

In 2008-09, a provision of Rs.849.39 crores has been made for maintenance of Government roads as well as Panchayat and Panchayat Union roads.

4.24.3. Quality control in road works

A large sum of money is spent through Highways Department for development and maintenance of road infrastructure. In order to ensure quality of these works and to adopt proper quality control measures, the Highways Research Station undertakes required quality control tests.

Till 2006-07, Quality control tests in road and bridge works were undertaken through 13 sub-divisions (including the regional laboratories in Thanjavur, Madurai, Tirunelveli, Coimbatore) throughout Tamil Nadu. These are functioning under the control of Highways Research Station.

From 2007-08, a team consisting of 38 Assistant Divisional Engineers and 114 Assistant Engineers has been formed under Highways Research Station to undertake extensive quality control tests and thereby improve the quality. This team will take action to carry out tests to ensure quality of various works in each Division. This will help to carryout quality control tests at the execution stage itself.

Moreover, it has been proposed to form a separate quality control wing by redeploying engineers from various wings of the Department. Further, 114 fully sophisticated quality control laboratories are proposed to be setup.

Action has also been taken to employ Independent Quality Monitors from the current year to monitor the quality of works independently.

V NEW SCHEMES FOR 2008-09

5.1. Chennai Outer Ring Road

The Government has proposed to take up construction of Outer Ring Road around Chennai city to reduce the traffic congestion in the existing roads. The project would be taken up in two phases. It starts from Vandalur in NH-45 and goes upto Minjur through Thiruvotriyur - Ponneri - Panchetty road for a length of 62 Km. This stretch will have a right of way of 122 m for 6 lane road, railway and commercial land use. Land acquisition has been completed for a length of 34 Km and Government lands have to be transferred for a length of 16 Km for this project. The project would be taken up under Public Private Partnership mode in Phase I from Vandalur (NH-45) to Nemilicheri (NH-208).

5.2. Improvement of East Coast Road

East Coast Road runs for 765 Km from Chennai to Kanyakumari. In Phase-I, a stretch of 166 Km from Chennai to Cuddalore was widened to two lane and strengthened at a cost of Rs. 102 crores with loan assistance from Asian Development Bank. The stretch from Chennai to Puducherry is now being maintained as a toll road by Tamil Nadu Road Development Company under BOT. The stretch of ECR from Puducherry to Nagapattinam has been declared as National Highways. The balance length from Nagapattinam to Thoothukudi has been taken up for widening and improvement under World Bank assisted Tamil Nadu Road Sector Project.

In view of heavy traffic in East Coast Road from Chennai to Puducherry and in order to prevent accidents, the Government has decided to undertake feasibility study for widening it to 4 lane after assessing the environmental impact etc. through TNRDC. After receipt of feasibility report, the Government would take further action to improve the road.

5.3. Road upgradation through Public Private Partnership

National Highways Authority of India (NHAI) has taken up widening and improvement of various National Highways under BOT/PPP mode. On the same basis, it is proposed to take up improvement of following State Highway roads in Phase-I for a length of 140 Km.

(a) Coimbatore Western bypass	27 Km
(b) Hogenakkal – Pennagaram – Dharmapuri Road	46 Km
(c) Vridhachalam – Tholudur Road	45 Km
(d) Vridhachalam – Ulundurpet Road	22 Km
Total	140 Km

Consultants have been appointed to take up the feasibility study to examine the scope for improving the above roads under Public Private Partnership. On completion of the studies, improvement works will be taken up on the basis of feasibility report.

VI ROAD SAFETY ACTION PLAN

The Government is considering formulation and implementation of a road safety action plan, to reduce road accidents involving pedestrians, cyclists and buses. Loss of lives can be averted by reducing the accident rate. Hence, the Highways Department is taking steps to reduce accidents due to deficiencies in the road infrastructure. In this connection, to take up proper study and to share the details of accident data and to analyse the same then and there, following steps are proposed to be taken.

- ❖ To undertake scientific research, sharing of data related to accident among user Departments, collect and analyse accident data.
- ❖ To introduce a system of road safety measures; identify accident prone areas and take remedial action, implement design and structural improvements.
- ❖ To strengthen the Traffic Engineering Cell with adequate technical staff and modern equipment.
- ❖ To avert accidents due to speed breakers, providing new and uniform speed breakers at road junctions wherever necessary.

6.1. Improvement of Blackspots

Under Phase-I, 50 locations have been identified as accident prone spots in Tamil Nadu. Improvement works for 20 accident prone locations (Blackspots) have been taken up under Tamil Nadu Road Sector Project. Of these, 2 works were completed and 13 works are in progress. Tenders have been received and are under finalisation in respect of 2 works. The remaining 3 works will be taken up under 3rd year maintenance works.

Of the remaining 30 works, one work was completed by the General wing of Highways Department and court case relating to land acquisition is holding up another work. The remaining 28 works will be executed under Comprehensive Road Infrastructure Development Programme (CRIDP) by the General wing of Highways Department from current year.

6.2. Providing standard Speed Breakers

As the existence of non-standard speed breakers is one of the causes for road accidents, this Government decided to provide uniform and standard speed breakers throughout the State. 1622 non-standard speed breakers have so far been identified and improved.

6.3. Road User Satisfaction Survey

Road User Satisfaction Surveys were conducted in the State. First survey was conducted during 2004-05 and second survey was conducted during 2007-08. The important findings of these surveys are as follows.

- Good progress has been witnessed in the performance of Highways Department and road works are being carried out in many places.
- As in the case of National Highways, information signs, caution boards, milestones shall be provided in State Highways, Major District Roads, Other District Roads and Village Roads.

- Display boards and milestones shall be properly maintained so that they will be clearly visible during day and night.
- Road Safety, surface smoothness, transport facilities, air & noise pollution, aesthetics and parking facility are found to be satisfactory.
- Bad driving is the main reason for most of the road accidents.
- Parking place needs to be increased and users expressed willingness even to pay for parking.
- Action has to be taken to prevent sticking of posters and advertisements on the information boards.
- Road safety awareness shall be created among the vehicle drivers.

Suggestions made by the public during these surveys have been communicated to the officers for taking them into account while implementing various projects.

6.4. State and District Level Stakeholder Advisory Council

State and District Level Stakeholders' Advisory Council has been constituted by Government. Stakeholders workshop was also conducted twice and suggestions have been obtained. The suggestions of the Council and the stakeholders will be borne in mind while taking up upgradation works in future.

6.5. Road signages

To guide the road users properly, necessary action is being taken to provide traffic signs, marking them in uniform colour and size as per IRC standards in all the Government roads.

6.6. Planting of trees

On the occasion of the birthday of Hon'ble Chief Minister of Tamil Nadu, the programme for planting of saplings on the road margins of State Highways and Major District Roads and Other District Roads was launched. As per this programme, 3,93,000 saplings were planted last year exceeding the target of 3,00,000. This programme will be continued during the current year also.

6.7. Fixing of boundaries of Government Roads

The Department has taken action to fix the road boundaries and install boundary stones in all the State Highways in Phase-I. This will be extended to other roads in a phased manner. By this, the road boundaries can be identified and action taken to remove encroachments and to widen the roads

VII HIGHWAYS RESEARCH STATION

7.1. Research activities

The Highways Research Station at Chennai was established in 1957, and has been under taking research and testing and providing technical advice for road and bridge works for the past 50 years. Its main functions are:

- Field oriented Research for Roads and Bridges
- Imparting Technical Training.
- Conducting Quality Control Inspection.

To achieve the above, four laboratories at Chennai and four Zonal sub-laboratories at Coimbatore, Madurai, Thanjavur and Tirunelveli are functioning under Highways Research Station.

7.2. Laboratories at Chennai and their functions

a) Soil and Foundation engineering laboratory.

- Suggest flexible and rigid pavement design.
- Carry out all type of soil tests and give technical advice for designing suitable sub-base and base course.
- Undertake Pile load test to find the capacity of pile.
- Consultation on use of new materials in road formation and bridge constructions.

b) Concrete and Structures laboratory

- Suggest concrete mix design for use in various bridge construction.
- Carry out tests on cement and coarse aggregate to asses their suitability.
- Take up non-destructive test on bridge concrete members

c) Bitumen and Aggregate laboratory

- Suggest mix design for all types of bituminous mixes like SDBC, DBM, BC and Mastic asphalt
- Under take tests on bitumen and aggregate

d) Traffic and Transportation laboratory

- Determining surface unevenness using bump integrator.
- Traffic volume survey and axle load survey to design pavement thickness.

7.3. Functions of Zonal sub-laboratories.

- Design flexible pavement by conducting Benkleman Beam Deflection test (BBD test).

- Design pavement by conducting CBR tests on sub-grade soils and render technical advice.
- Conducting Quality Control tests on materials used on road works on progress.
- Render assistance to the tests and research activities carried out at Highways Research Station, Chennai.

7.4. Performance and achievements

a) Investigation and research activities

Highways Research Station undertakes studies to offer suggestions to rectify surface deterioration, even in properly maintained roads. It also furnishes details about stability, load carrying capacity, serviceability of the existing bridges, based on particulars compiled for all the bridges and carries out routine field inspection. For safe, convenient and accident free travel, accident surveys and studies have been conducted at (i) NH 45 Km 0/0 - 56/0 and (ii) East coast road and detailed analysis is being carried out.

b) Field-oriented research

The following schemes were taken up under Part II for 2006-07

- Study on Performance of cold mix filling for potholes
- Study on pavement condition with respect to time using penetration grade bitumen and CRMB bitumen

These works have been completed and the periodical observations on performance are being carried out. The report of findings will be completed during 2008-09.

During 2007-08 new equipments were purchased at a cost of Rs. 20 lakhs.

c) Tests undertaken

Highways Research Station collected samples and carried out various tests relating to works implemented by Highways Department as detailed below during 2007-08.

- No. of tests conducted related to the design of pavements for roads, Pile load tests, Bump Integrator Tests and other tests conducted - 9185
- No. of Bituminous mix design prepared for roads - 185
- No. of GSB mix design prepared for roads - 955
- No. of concrete mix design prepared for bridges - 201

d) Quality Control tests

The quality control tests conducted during 2007-08 are as follows.

Sl. No.	No of works inspected	No of samples taken	No of tests conducted	Found satisfied	Found to be improved
1	2550	25178	25178	24523	655

During 2008-09 28000 tests are proposed to be taken up.

7.5. Road Stretches prone to damage

The Government has decided to identify and improve the roads which fail frequently due to poor sub soils conditions and large scale movement of heavy vehicles in various categories of roads. Such bad stretches will be identified through field officers and inspections and soil testing on these roads will be undertaken by Highways Research Station. Efforts will be taken to identify the causes and recommend methods to improve these roads to avoid further failure.

7.6. Data Bank

With a view to compile readily available information about roads and bridges, a DATA BANK has been created for storing all technical details and vital statistics. The details of 614 major bridges and 3408 minor bridges and traffic census taken up in State Highways, Major District Roads and Other District Roads have already been collected and stored. Bridges have to be assigned unique numbers so as to prepare an effective programme for the proper maintenance using the available funds.

The data collected from 6900 locations in the State Highways, Major District Roads and Other District Roads have been stored in the computer. Using this data, the details of any bridge can be readily accessed and utilized for works. The weak structures may be identified and analysed for strengthening. The traffic census taken by the regular wing of the Highways Department during the year 2005 is also being received and data stored.

7.7. Training Programme

Periodic training is essential to clear various doubts arising in the minds of field engineers and to help them understanding basic problems. They are trained on field level technical problems. Highways Research Station plays a vital role in updating the knowledge of field engineers in planning, designing, construction and maintenance of roads and bridges.

At present, quality control training is being imparted at Highways Research Station to all Assistant Divisional Engineers, Assistant Engineers and Junior Engineers of the Department in the field of soils, bitumen, concrete, traffic and computer for 5 days every month. This is a continuous programme and totally 100 training programmes have been conducted upto March 2008.

Training will be imparted to the newly appointed 211 Assistant Engineers. The engineers of the Highways Research Station also undergo training from CRRRI and NITHE, New Delhi and other Institutions. 33 engineers were imparted training in the above institution during 2007-08. In 2008-09 also such training will be imparted to the engineers.

7.8. New Schemes proposed for 2008-09

Highways Research Station has the facility for testing all works related to roads and bridges. All mix designs for bitumen and concrete are done only at Highways Research Station for all major works of the Department. Highways Research Station also has sophisticated equipment for testing and assessing quality. It has been proposed to purchase required equipment at a cost of Rs.20.60 lakhs under Part II Schemes and to take up research works at a cost of Rs. 9.20 lakhs.

It has also been proposed to utilise the quality control charges of 1% in various work estimates for purchase of new equipment.

VIII DESIGNS AND INVESTIGATION

8.1. Functions

The tasks of gathering field particulars, preparation of structural designs, drawings and estimates for bridge works implemented by various wings of Highways Department are being carried out by Investigation and Designs Wing.

There are 7 Investigation Divisions and 4 Designs Divisions under the control of the Chief Engineer (H), Investigation and Designs.

8.2. Investigation Divisions and their activities

The Investigation Divisions are situated at Chennai, Villupuram, Ariyalur, Madurai, Tirunelveli, Coimbatore and Salem. The activities of Investigation Divisions are as follows:

- Carry out field surveys at the sites proposed for bridge works.
- Prepare hydraulic data adopting the topographic features of rivers and streams, such as, cross - sections at various locations on the upstream, downstream and at site of the proposed bridge, Longitudinal Section along the river bed, Maximum Flood Level, velocity of water current, etc.
- Gather hydraulic data from the PWD officials.
- Carrying out subsoil exploration at the sites by means of exploratory bores.
- Preparation of alignment plans for Bridge works and obtaining approval from the concerned Superintending Engineers.
- Preparation of Investigation Report by compiling the abovesaid field particulars and submitting the same to the Chief Engineer (H), Investigation and Designs.

8.3. Designs Divisions and their activities

There are 4 Designs Divisions functioning under the control of the Chief Engineer (H), Investigation and Designs, Chennai. The activities of Designs Divisions are as follows:

- Preparation of structural Designs, Drawings, Estimate and Specification Report for bridges costing more than Rs. 2 Crores, adopting the field particulars received from the Investigation Divisions.
- Scrutinizing and according approval for the alternative designs furnished by the contractors along with their bids as well as during execution of bridges.
- Re-designing the foundation of bridges if any change in the subsoil stratum is encountered at the foundation level and re-designing the other structural components of the bridges if it is found necessary as per the subsoil test report during execution.
- Preparation of Feasibility Report so as to facilitate the Home Department, Government of Tamil Nadu to issue permit for over-dimensional heavy vehicles to ply on Government roads in accordance with Motor Vehicles Act, 1988 (Central Act No. 59 of 1988), Central Motor Vehicles Rules, 1989 and Tamil Nadu Motor Vehicles Rules, 1989.
- Scrutinizing and according approval for the structural designs of bridges constructed by the other departments and local bodies.
- Offering technical opinion on the designs of certain specific infrastructural projects as per the recommendation of the Government of Tamil Nadu.

8.4. Usage of computers in preparation of designs

Structural designs, drawings and estimates of structural components of bridges, such as, various types of foundations, piers, abutments, superstructure, etc., are being prepared with international quality and standard, using computers.

8.5. Reorganisation of Investigation and Designs Wing

The Government is considering setting up separate Planning section along with the Investigation and Designs Wing to assist in the preparation of integrated Highway Projects. The following tasks will be entrusted to the proposed Planning section.

- Preparation of Highway Master Plan
- Preparation of District Road Projects
- Preparation of Special Projects
- Preparation of Road Management Programmes
- Preparation of Projects in general

8.6. Works completed in 2007-08 and New Projects

Structural Designs, Drawings and Estimates for 45 bridge and road infrastructural projects for a total value of about Rs.619 crores were prepared during 2007-08. The details of the works completed are as follows:

Sl. No.	Infrastructure	No. of works		Total No. of Estimates / Proposals / Designs
		No. of works costing upto Rs.200 Lakhs.	No. of works costing more than Rs. 200 Lakhs.	
1.	Road Over Bridges (ROB) /Limited Use Subways across Railway Level Crossings.	-	18	18
2.	River Bridges	2	23	25
3.	Road Projects	--	2	2
Gross Total		2	43	45

During the year 2008-09, structural designs, drawings and estimates are proposed to be prepared by this wing after carrying out field investigation, for all works costing above Rs.2 crores among the works to be taken up in the year. The total value of such bridge infrastructure projects would be about Rs. 650 crores.

IX TAMIL NADU MARITIME BOARD

Tamil Nadu has a coastline of about 1076 Kms along with, three major ports viz., Chennai, Ennore and Thoothukudi, set up under the Major Port Trust Act 1963 under the control of Government of India are located. In addition to them, the State has sixteen minor ports declared under the Indian Ports Act 1908, which come under the control of the State Government.

The administration, control, regulation and management of the minor ports in Tamil Nadu was transferred from Tamil Nadu Port Department to Maritime Board under the Tamil Nadu Maritime Board Act, 1995 (Tamil Nadu Act 4/96) with effect from 18.03.1997.

9.1. Minor Ports

There are two types of Minor Ports in Tamil Nadu. They are Government Ports and Captive Ports. The Captive Ports are allotted for extensive use of private industries. But the Government Ports cater to handling various cargoes of users. They are as follows:

Government Ports	Captive Ports
1. Cuddalore	1. Kattupalli
2. Nagapattinam	2. Ennore Minor Port
3. Pamban	3. Thiruchopuram
4. Rameswaram	4. PY 03 Oil Field
5. Valinokkam	5. Thirukkadaiyur
6. Kanyakumari	6. Punnakkayal
7. Colachel	7. Manappad
	8. Koodankulam
	9. Silambimangalam Shipyard Port (Thirukkuvalai-to be declared as a minor port)

All the minor ports in Tamil Nadu are anchorage ports without berthing facilities and hence cargoes are transhipped from the vessels at mid-stream to the shore and vice-versa through barges.

9.2. Cargoes handled in Minor Ports

a) Government Ports

Sl. No	Port	Export	Import
1.	Cuddalore	--	Urea and Coal
2.	Nagapattinam	Naphtha and Diesel	Edible Oil, Copra cake and Crude oil

b) Captive Ports

Sl. No.	Port	Export	Import
1.	Ennore Minor Port	-	Liquid Ammonia
2	PY 03 Oil field	Crude oil	-
3	Thirukkadaiyur	-	Naphtha
4	Koodankulam	-	Machineries

9.3. Activities of Minor Ports

Among the Government ports, ships call at Cuddalore for import of Urea and coal and at Nagapattinam for the export of Naphtha and Diesel and import of Edible Oil, Copra cake and Crude Oil. Small ships are occasionally piloted through Pamban channel. Kanyakumari port is used for Passenger Ferry Service. At present, there are no activities in other ports.

The captive ports are operated by private industries for their own use and the responsibility for the entire infrastructure facilities in these ports rest with the companies concerned. At Ennore Minor Port and Thirukkadaiyur Minor Port, Liquid Ammonia and Naphtha are being transferred directly from the vessel from Buoy Mooring System to the storage tanks on shore through sub-marine pipelines.

Of the nine captive ports, four ports, viz., Ennore Minor Port (Thiruvallur), PY-03 Oil Field (Cuddalore), Thirukkadaiyur (Nagapattinam) and Koodankulam (Tirunelveli) are presently operational and the remaining five are not operational.

The details of activities of the minor ports during the last four years are as follows:

Sl. No	Year	Total cargo handled (in metric tonnes)	Total revenue (Rs. in lakhs)
1.	Before Tsunami 2004-05	8,53,869	457.88
2.	After Tsunami 2005-06	7,10,414	452.32
3.	2006-07	8,04,832	589.27
4.	2007-08	8,87,384	655.75 (pre audit revenue)

As a result of damages caused by tsunami, the cargo handling during 2005-06 was severely affected and got reduced to 7.10 lakh-tonnes. After undertaking rehabilitation works, the quantum of cargo handled has increased to 8.04 lakh-tonnes during 2006-2007 and for the

8.87 lakh-tonnes in 2007-08. Owing to the increase in cargo handling and economy measures undertaken, the revenues of the Board have started increasing.

9.4. Development of Minor Ports

Tamil Nadu Maritime Board and the Government of Tamil Nadu have realised that in order to improve the Industrial and socio-economic activity, it is essential to take measures to ease heavy congestion in major Ports. The congestions in ports result in demurrages and huge loss of foreign exchange. Therefore, the Government is keen to expand and develop the existing minor ports. Action is being taken by the Board to develop new sea ports, improve facilities for cargo handling, establish container terminals and other required port infrastructure.

9.5. New Minor Ports Development Policy

9.5.1. Policies

The Government of Tamil Nadu, realising the need to improve / develop the port facilities to serve the increasing needs of industry, trade and commerce, revised the existing port policy and came out with the new 'Minor Ports Development Policy' as per G.O. Ms. No. 209 Highways (HN2) Department Dated:14.08.2007. The main highlights of the Minor Ports Development Policy are:

- (i) To increase the share of Tamil Nadu in the Export and Import sector, in national and International Trade and Commerce, in post-liberalisation and globalization era;
- (ii) To decongest the major ports at Ennore, Chennai and Thoothukudi and improve the productivity and efficiency of minor ports
- (iii) To cater to the needs of increasing traffic of Southern States by providing efficient facilities and services and to support the country's domestic and international trade;
- (iv) To create sufficient infrastructure facilities to handle 25% of India's total cargo in Tamil Nadu Maritime limit;
- (v) To provide port facilities to promote export-oriented industries and port based industries along the coastal districts of Tamil Nadu;
- (vi) To promote port based thermal power plants by providing exclusive port facilities to import different kinds of fuels.
- (vii) To decongest highways by providing facilities for coastal shipping of passengers and cargo traffic along the East Coast of nearly 1000 Kms;
- (viii) To promote tourism by providing facilities for leisure and water sports activities along the coast line;
- (ix) To provide facilities to encourage ship building, repairing, breaking and manufacture of cranes and floating crafts; and
- (x) To facilitate optimum utilization of the port infrastructure developed in the State.

9.5.2. Policy guidelines

With a view to create multi user facilities capable of handling all types of cargoes like bulk, break bulk, containers, liquid bulk, petroleum products, chemicals etc., the Government of Tamil Nadu have decided to develop all the minor and intermediate ports in the State through Public Private Participation.

Private participation in the construction/ development of ports/ jetties and improvement of the existing minor ports or the facilities of the existing minor ports will be encouraged. The thrust of the policy will be to encourage effective private participation and speedy implementation of the projects.

9.6. Captive jetties

In order to meet the requirements of industries for allocation of sites for construction of captive jetties for port-based industries and create facilities, Government of Tamil Nadu have decided to allow private initiative for constructing jetties. Private companies making substantial investment in coastal areas requiring port based facilities will be allotted sites for construction of ports / jetties, both captive and commercial.

To take care of the increasing cargo traffic, Government of Tamil Nadu have decided to make use of the existing captive ports already constructed or under construction, for which the permission has been already given for multi user-specific and multi-commercial cargoes, with the prior approval of the Tamil Nadu Maritime Board.

The construction / development of ports/ jetties will be through a transparent procedure and will pave way for private participation.

9.7. Development works in Government Ports

The ports established and developed by the Government / Tamil Nadu Maritime Board are known as Government Ports.

(i) Cuddalore Port

The existing Cuddalore Port in Cuddalore district is a riverine anchorage port located on the estuary of Paravandar and Uppanar Rivers.

“Tsunami”, severely damaged the port infrastructural facilities including breakwaters and approach road. Further, the depth in Uppanar River got reduced due to sand accumulation. The Government of Tamil Nadu have sanctioned an amount of Rs.14.41 Crores from Asian Development Bank funds for the rehabilitation of the tsunami damaged infrastructure facilities. Works to the tune of Rs.8.67 crores have been completed and the balance works are in progress.

Since the facilities have been improved, the Government of India have come forward to use this port for the import of fertilizer. After a gap of 10 years, 47,814 Metric tonnes of urea has been imported during January 2008. Further, an official from the Ministry of Chemicals and Fertilizers, New Delhi visited this port and expressed his satisfaction about the facilities created at this port for handling urea in future.

During the last week of March 2008, as a trial run, 5000 Metric tonnes of steaming coal was also imported through this port.

(ii) Nagapattinam Port

This riverine anchorage port too is located on the estuary of Kaduvaiyar River. Edible Oil, copra cake, crude oil, naphtha and diesel are handled at this port. Severe damage was caused to the port infrastructural facilities including cargo sheds, breakwaters, wharves, weigh bridge and illumination facilities during tsunami. The Government has sanctioned an amount of

Rs. 42.521 crores from Asian Development Bank funds for the rehabilitation of the tsunami damaged infrastructure. Works to the tune of Rs.23.95 crores have been completed and the balance works are in progress.

M/s. Sethusamudhram Corporation Ltd., are in the process of appointing a consultant for the preparation of Detailed Feasibility Report for the development of this port as part of the Sethusamudhram Ship Canal project.

9.8. Developments in Captive Ports

The Jetties / Ports established and developed by the private entrepreneur for their captive use are respectively known as captive jetties / captive ports.

(a) Captive Jetties

(i) Cuddalore

7.56 Acres of port land has been allotted to Chemplast Sanmar Limited, Chennai to establish their Marine Terminal Facilities (MTF) to handle Vinyl Chloride Monomer (VCM) for their PVC manufacturing unit, being set up at Cuddalore SIPCOT complex. For the construction of MTF, a temporary jetty for a length of 250 metres has been constructed with the approval of the Board and construction of MTF is in progress.

M/s. Cuddalore Power Company has proposed to set up a 1320 MW Thermal Power Plant at a cost of Rs.6000 Crores at Thiyagavalli village in Cuddalore district. This Company has proposed to construct a coal jetty for importing 3.5 MMTPA coal required for their power plant at a cost of Rs.325 Crores for which in-principle approval has been granted by the board. The Company is carrying out preliminary works.

Further, it is also proposed to develop a common User Green field port at Cuddalore through private sector Participation to serve the needs of the industries in and around this region.

(ii) Nagapattinam

Chennai Petroleum Corporation Ltd., Chennai has constructed a RCC jetty at Nagore, within Nagapattinam Port limits for the use of their refinery at Panangudi, and the company is regularly receiving crude oil through this facility. The Company has also constructed pipelines for exporting petroleum products through this jetty. Naphtha and Diesel are now being exported through this jetty.

(b) Captive Ports

(i) Thiruchopuram Port

M/s. Nagarjuna Oil Corporation Limited, has been permitted to establish a captive port at Thiruchopuram. The Company has informed that they have achieved financial closure. Further, permission for establishing a temporary jetty for handling project cargo has been granted by the Board subject to certain conditions.

(ii) Ship building yard in Silambimangalam

The Government declared and notified the limits of this captive port, on the application of M/s. Goodearth Shipbuilding Pvt. Ltd, Chennai for establishing an International size shipbuilding yard. Coastal land to an extent of 159 acres has been allotted to the company with

effect from 13.12.2007. The company is in the process of preparing Detailed Project Report for ship-building yard.

(iii) Manappad Port

Manappad in Thoothukudi district has been declared as a Minor Port for the captive use of M/s. Indian Gas Limited for handling LNG and general cargo. The company is expected to finalise the financial closure soon. 100.41 acres of port land was allotted on 31.08.2005 for construction of marine facilities. The company is creating the basic facilities like approach road and site office.

(iv) Punnakkayal Port

M/s. Dharangadhara Chemical Works Limited have been permitted to establish a captive port for handling chemical cargo at Punnakayal in Thoothukudi district. An area of 8.41 acres of coastal land has been allotted to the company from 25.02.2008 for establishing marine facilities.

(v) Shipyard cum Minor Port complex at Kattupalli

In G.O.Ms.No.9, Industries (MIE-1) Department. Dated 23.01.2008, the Government of Tamil Nadu have approved the proposal of TIDCO to form a joint venture (Special Purpose Vehicle) with Larson & Toubro Ltd., Mumbai to implement a shipyard-cum-minor port complex at Kattupalli near Chennai. The SPV Company is carrying out the preliminary works for the project.

(vi) Thirukkuvalai Port

M/s. Tridem Port and Power Company Private Limited have come forward to establish a captive port at Thirukkuvalai in Nagapattinam district in the place of M/s. McNamara International Private Limited (MNIPL). The in-principle approval has been accorded to this company. The company is carrying out the preliminary works for the project. Port limits are to be fixed shortly.

(vii) Marakkanam Port

In their letter dated 10.12.2007, the Government in Energy Department, have given letter of facilitation to M/s. Apollo Infrastructure Projects Finance Company Private Limited for establishing 2000 MW Merchant Power Plant at Marakkanam in Villupuram District. For handling coal required for the power plant, the company has proposed to establish a captive port at Marakkanam for which Tamil Nadu Maritime Board has accorded in-principle approval, subject to certain conditions.

9.9. Other Schemes

(i) Colachel Port

The Port is located very close to the International Shipping route and has more than 15 meters of depth at less than one Km. distance from the shore. Taking into account the above factors, M/s. RITES Ltd., in their "Port Vision 2020" report, had identified Colachel as a suitable port, for developing into container transshipment Hub Port. The Government of Tamil Nadu have requested the Government of India to assist in preparing the Detailed Feasibility / Project Report and the Corporation is in the process of appointing consultants for preparation of Detailed Feasibility Report / Detailed Project Report for developing this port. Since this project

required huge investment, it has been proposed to offer this port to Government of India for developing it through the Ministry of Shipping as a major International Container Transshipment Hub Port.

(ii) Sethusamudhram Ship Canal Project

The Government of India have set up Sethusamudhram Corporation Limited., for implementing Sethusamudhram Ship Canal Project which envisages excavation of a ship canal close to Rameswaram to connect the Palk Bay and Gulf of Mannar. This project is expected to reduce the sea distance between the East Coast and the West Coast of India by more than 400 nautical miles and 36 hours of ship sailing time. Since the project will bring in prosperity to whole of India, particularly for Tamil Nadu, this Government have requested the Government of India to implement the project early. The State Government has given the land required for this project and extended other assistance.

X POOMPUHAR SHIPPING CORPORATION

Poompuhar Shipping Corporation Limited (PSC) was formed on 11.04.1974 under the Companies Act, 1956 with the objective of transporting the entire allotment of Indian coal required for the Thermal Power Stations of Tamil Nadu Electricity Board (TNEB) from Indian Ports.

10.1. Owned and chartered ships

Poompuhar Shipping Corporation is operating three owned vessels M.V Tamil Anna, M.V Tamil Periyar and M.V Tamil Kamaraj. Ships from the shipping companies registered in India and abroad are chartered on long term and short term contract basis.

10.2. Coal movement and Financial performance

During 2007–2008, this corporation transported about 135.25 lakhs M.T coal for TNEB. For the current year out of 149 lakhs M.T of coal required by TNEB, this Corporation is expected to move about 135 lakhs M.T of coal to be allotted from Indian coal fields.

The details of the quantity of coal moved, turnover and financial performance of the Corporation for the last five years are given below:

Year	Quantity moved (in Lakh MT)	Turnover (Rs in Crores)	Net Profit/Net Loss (Rs in Crores)
2003-2004	142.11	391.99	(+) 8.57
2004-2005	141.40	453.39	(-) 1.28
2005-2006	127.58	470.79	(+) 0.39
2006-2007	131.74	391.51	(+) 0.08
2007-2008	135.25	536.26 (provisional)	(+) 2.06 (provisional)

10.3. Ports handling coal

With own vessels and chartered vessels, coal is transported from Haldia, Paradip and Vishakapatnam and unloaded at Thoothukudi and Ennore ports through conveyor belts and is transported directly to thermal power station.

In Thoothukudi and Ennore ports, two berths have been exclusively allotted to Tamil Nadu Electricity Board for their use.

10.4. Kanyakumari Ferry Service

Besides transporting coal to the Thermal Power Stations, the Corporation also operates ferry services from the main land at Kanyakumari to the Ayyan Thiruvalluvar Statue and the Vivekananda Rock Memorial. Presently, two passenger ferry launches viz. M.L. Thamiraparani and M.L.Bhagirathi are in operation.

As announced during 2006-07 for replacing existing two ferries viz. M.L. Tamiraparani and M.L. Bhagirathi which are over 30 years old, order was placed with M/s Kerala

Shipping & Inland Navigation Corporation Ltd. Kochi, for design, construction and supply of two numbers self-propelled twin screw passenger ferries with seating capacity of 150 passengers at a cost of Rs. 2.10 crores. These two new ferries are named as M.L.Guhan and M.L.Pothigai by the Government. These ferries will be put into operation for use of the tourists by June, 2008. Action has been taken to avail 25% as grant from the Ministry of Tourism, Government of India and the balance cost of ferries will be met from the funds of the Corporation itself.

10.5. Tamil Nadu Maritime Academy

Tamil Nadu Maritime Academy was setup at Thoothukudi and the training institute was inaugurated on 16.09.1998. The Academy has so far completed 17 batches of pre-sea rating courses. The Academy initially conducted Seaman and Engine Rating Training courses. Now the Academy is conducting General Purpose Crew course instead of Deck and Engine Rating Crew with 30 numbers of trainees in each batch. The Academy is also conducting five STCW-95 courses viz. "Personal Survival Techniques", "Elementary First Aid", "Personal Safety and Social Responsibility", "Oil Tanker Familiarization" and "Fire Prevention and Fire Fighting".

The Government is considering transfer of this Academy to the control of the Tamil Nadu Maritime Board and orders in this regard will be issued soon.

**Vellakovil M.P.Saminathan,
Minister for Highways**