Highways Department

Demand No:20

Policy Note on Roads, Bridges and Shipping

2003-2004

I. INTRODUCTION

The road infrastructure is main catalyst for the development of important key sectors of economy like Agriculture, Industry, Mining, Energy, Forestry and Dairy Development. These sectors are mainly depending on the development and maintenance of the road network and efficient transportation system. Generally, Tamil Nadu has made appreciable investment in development of wide road network in the State and achieved so far to its credit a road length of 60,901 km in various categories viz., National Highways, State Highways, Major District Roads, Other District Roads and Sugar cane roads.

Besides improving the roads, for maintaining and preserving the existing road network the Honourable Chief Minister had announced a special maintenance programme on Government roads.

As the agricultural produce and the finished products of small-scale industries in rural areas are to be moved from the producing centres to the marketing centres, the road connectivity is essential for rural population. Hence, the Government of Tamil Nadu is very keen on the upliftment of the rural population for which the Highways Department is giving attention to the extent possible in providing interior roads in villages. Further, effective steps are also undertaken to provide connectivity with all weather roads to movement of passengers and goods traffic with safety, economy and in the quickest possible time.

The growth in traffic to and from the ports has been of a very high order. The Tamil Nadu Maritime Board was formed, with a view to develop minor ports in Tamil Nadu. The Tamil Nadu Maritime Board gives high priority to the industrialisation of the State by encouraging setting up captive ports, jetties, moorings by the port based industries and multi user ports on BOOT basis. With a view to attract private sector participation, a Port Policy has been framed. The Port Policy also promotes ship breaking/ repairing industry, leisure and water sports activities in Tamil Nadu.

ROADS & BRIDGES

II. POLICY-OUTLINE

Highways Department undertakes construction, improvements, renewal and maintenance of road network under its control. This road network includes bridges, causeways, culverts, Road Over Bridges and Road Under Bridges . Following are the classification of road network:-

i. National Highways
ii. State Highways
iii. Major District Roads
iv. Other District Roads
v. Bridges, Causeways, Culverts, Road over Bridges and Road Under Bridges.

NORMS FOR RECLASSIFICATION OF GOVERNMENT ROADS

According to traffic intensity, the roads are being classified as National Highways, State Highways, Major District Roads and Other District Roads. When the traffic intensity is more than 30,000 PCUs, such roads are classified as National Highways. Where the traffic intensity is more than 10,000 PCUs but less than 30,000 PCUs, such roads are classified as State Highways. Likewise, if the traffic intensity is less than 10,000 PCUs but more than 5,000 PCUs, such roads are categorised as Major District Roads. All the other roads, where the traffic intensity is less than 5,000 PCUs, are classified as Other District Roads. Whenever the traffic intensity increases more than the specified norms in a particular category. necessary steps are taken to upgrade such categories of Roads to the respective higher categories. With this backdrop, each classification is detailed hereunder:

(i) NATIONAL HIGHWAYS

These are main highways running through the length and breadth of the country connecting major ports, state capitals, large industrial and tourist Centres etc.

While the traffic on National Highways has been growing due to acceleration of industrialisation in the Country, the Government of India are taking matching action utilising latest technologies and improved management techniques to provide hindrance-free traffic movement by way of widening roads, grade separators, construction of bypasses, bridges, rail-road crossings etc. The Government of Tamil Nadu is providing support to Government of India towards this objective and assist in pre-construction activities for four laning or six laning or cement concreting of National Highways wherever possible depending upon the site conditions. The endeavour of Government of Tamil Nadu is to accelerate the growth trend of the National Highways network in Tamil Nadu. The length of the National Highways in Tamil Nadu as on date is 3850 Km.

(ii) STATE HIGHWAYS

These are arterial routes of a state linking district headquarters and important cities within the state and connecting them with National Highways or Highways of the neighbouring states. Of the total length of 7163 Km of State Highways, 2050 km is single lane, 936 Km is intermediate lane, 3980 km is double lane, and 197 Km is multilane. The Government of Tamil Nadu have, therefore, decided to widen and strengthen the entire length of single lane and intermediate lane to double lane and strengthen double lane and multilane with improvement to geometrics etc.,

(iii) MAJOR DISTRICT ROADS

These are important roads within a district serving areas of production and markets and connecting these with each other or with the Main Highways. It also connects Taluk headquarters and District headquarters. Of the total length of 7362 Km of Major District Roads, 4797 Km is single lane, 757 km is intermediate lane, 1761 Km is double lane and 47 Km is multilane. As Major District Roads catalyse the inflow of resources into development within districts, the Government of Tamil Nadu have shown keen interest to widen the entire length of single lane and intermediate lane to double lane and strengthen double lane and multilane with improvement to geometrics in different stages depending upon the site conditions and financial resources.

(iv) OTHER DISTRICT ROADS

These are roads serving rural areas of production and providing them with outlet to market centres, Taluk headquarters, Block Development headquarters or other main roads. Of the total length of 40963 Km of Other District Roads as on date, merely 898 km is intermediate lane, 680 Km is double lane and 37 Km is multilane. As these roads are intended to generate sound economy in rural areas, the Government of Tamil Nadu have immense interest to improve the existing damaged 27892 km of single lane section, 679 km of intermediate lane section, 26 km of multilane section and renewal of 483 km of double lane section with improvement to geometrics etc., utilising loan assistance from Financial Institutions and providing State share to the extent required.

(v) BRIDGES, CAUSEWAYS, CULVERTS, ROAD OVER BRIDGES & ROAD UNDER BRIDGES

To cross water-bodies and Railway Level Crossings across the road alignments, Highways Department undertakes construction of Major Bridges, Minor Bridges, Causeways, Culverts, Road Over Bridges and Road Under Bridges depending upon the site conditions.

An assessment made indicates that there are large number of bridges on Government Roads, which were constructed decades back are now in a distressed condition and require to be reconstructed. The Government is, therefore, taking action to reconstruct these bridges in a phased manner. On this basis, it has been announced to reconstruct 204 bridges on Government roads in Delta districts. Of which, 94 bridges on Other District Roads have been taken up with loan assistance from NABARD. 27 bridges on State Highways have been proposed to be taken up under Central Road Fund scheme. 48 bridges on Major District Roads have been proposed to be taken up with loan assistance from NABARD. In addition, a need has arisen to construct quite a large number of bridges based on the request of Public representatives.

Construction of Over/Under Bridges in lieu of the existing level crossings on Government roads is undertaken where train vehicle units exceed one Lakhs. These works are recommended for inclusion in the Railway Works Programme on priority basis, depending upon the availability of funds and importance of these works. The State Government and the Railways share the cost of construction of Railway Over/Under Bridges including approaches on 50:50 basis. 26 works are now recommended by the Government to Railways for inclusion in Railway Works Programme 2002-2003.

III. On Going Schemes

In order to achieve the objectives listed in " POLICY OUTLINE", the following schemes shall be undertaken during 2003 – 2004.

1. NATIONAL HIGHWAYS – ORIGINAL WORKS AND MAINTENANCE

The length of National Highways in Tamil Nadu is 3850 Km. With the funds allocated by Government of India, the National Highways roads are improved, maintained and renewed. In the draft Annual Plan 2003-2004, proposals for Rs.196.04 crores has been sent to Ministry of Road Transport and Highways, Government of India and is likely to be approved shortly. In the meantime, detailed estimates are being prepared for the works included in the draft Annual Plan 2003-2004.

Besides, in Tamil Nadu the National Highways Authority of India(NHAI) have proposed to upgrade the following NHs to four-lane/ six-lane under the Golden Quadrilateral and North-South corridor projects.

Golden Quadrilateral connecting the Four Metropolis:
Projects under implementation:

1. NH4 (Poonamallee-Kanchipuram-Wallajah section) 93.00 km
2. NH 5 (Chennai-Kolkata road) 42.00 km
3. NH 7 (Athipalli-Hosur-Krishnagiri section) 45.40 km
4. NH 46 (Krishnagiri-Vaniyambadi-Pallikonda--Wallajah section) 143.00km

TOTAL	323.40km

North-South Corridor connecting Kashmir and Kanyakumari:
Projects under implementation:

1. NH7 (Bangalore-Salem-Madurai section)	347 Km
2. NH7 (Madurai-Kanyakumari section)	232 Km
3. NH47 (Salem-Cochin section)	182 Km
TOTAL	761 Km

Apart from the above, the National Highways Authority of India have also taken up improvements to the following National Highways Road which is in progress:

Four laning and strengthening of NH 45 from Km 67/0-122/0 (55 Km) and strengthening of existing road from Km 27/8-67/0 (39.20Km) under BOT Annuity scheme.

Thus, in Tamil Nadu, out of 3850 Km of National Highways, 1179 Km is proposed to be upgraded to four lane / six lane out of which works are in progress in about 400 Km of National Highways

2. STATE HIGHWAYS

The total length of State Highways roads as on date is 7163 km. The Government have now embarked upon a massive programme of envisaging to widen and strengthen entire length of single lane and intermediate lane to double lane and strengthen the double lane and multilane with improvement to geometrics etc., at a cost of Rs.2500 crores in a phased manner during 2002-2006 under the Hon'ble Chief Minister's Highways Development Programme.

Under Part II Scheme for the year 2003-2004, 14 bridges at an ultimate cost of Rs.503.00 lakhs have been proposed to be reconstructed.

The Budget Estimate for 2003-2004 is Rs. 4.72 crores.

3. MAJOR DISTRICT ROADS

The total length of Major District Roads as on date is 7362 Km. The Government have now embarked upon a massive programme of envisaging to widen and strengthen the entire length of single lane and intermediate lane to double lane and strengthen the double lane and multilane with improvement to geometrics at a cost of Rs.1850 crores in a phased manner during 2002-2006 under the Hon'ble Chief Minister's Highways Development Programme.

The Budget Estimate for 2003-2004 is Rs.6.22 crores.

4. OTHER DISTRICT ROADS

The total length of Other District Roads as on date is 40963 km. The Government have now embarked upon a massive programme of envisaging to improve the existing damaged 27892 km of single lane section, 679 km of intermediate lane section, 26 km of multilane section and renewal of 483 km of double lane section with improvement to geometrics etc., at a cost of Rs.2300 crores in phased manner during 2002-2006 under the Hon'ble Chief Minister's Highways Development Programme.

The Budget Estimate for 2003-2004 is Rs. 1.34 crores.

5. BRIDGES

i) REHABILITATION OF DISTRESSED BRIDGES ON GOVERNMENT ROADS

The spill over works taken up in the past years under Plan Schemes are nearing completion.

Under Part II Scheme for the year 2003-2004, 12 bridges at an ultimate cost of Rs.397.00 lakhs on Major District Roads have been proposed to be reconstructed.

The Budget Estimate for 2003-2004 is Rs. 3.30 crores.

ii) CONSTRUCTION OF ROAD OVER / UNDER BRIDGES IN LIEU OF EXISTING RAILWAY LEVEL CROSSINGS.

The Road Over Bridge at Uttamarkovil (LC No.246) and Srirangam (LC No.241) have been completed. Two ROBs in lieu of existing L.C.No.84 on Thennur Road and L.C.No. 85 on Hebar Road are proposed to be completed during the year 2003-2004. The above Road Over/ Under Bridges are being executed with loan assistance from HUDCO. HUDCO has sanctioned a loan of Rs.62.04 crores to carry out these works and so far released a sum of Rs.40.46 crores.

The ROB work at MIT Gate near Chrompet Railway Station could be completed in 2003-2004.

The Budget for the year 2003-04 is Rs.13.11 crores

iii) HUDCO ASSISTED ROAD OVER/ UNDER BRIDGES

Administrative Sanction has been accorded to take up construction of 36 Nos. of ROBs/RUBs in lieu of existing L.Cs. at a cost of Rs.513.92 crores in different parts of Tamil Nadu. These works include construction of ROBs/RUBs in 6 places between Chennai Beach and Tambaram Railway Stations under Gauge Conversion Project. The Government have accorded permission to obtain a loan of Rs.200 crores from HUDCO to execute these projects.

Out of the above 10 works are in progress and the remaining works are under various stages of implementation.

The Budget Estimate for 2003-2004 is Rs.45.46 crores.

6. IMPROVEMENTS TO ROADS AND CONSTRUCTION OR RECONSTRUCTION OF BRIDGES IN MAJOR DISTRICT ROADS AND OTHER DISTRICT ROADS WITH LOAN ASSISTANCE FROM NABARD

Improvements to Major District Roads and Other District Roads, construction/ reconstruction of bridges on Major District Roads and Other District Roads have been taken up with loan assistance from NABARD under Rural Infrastructure Development Fund (RIDF) II to VII in the past years. So far, 4346.53 Km of Roads were taken up for improvements at a cost of Rs.299.17 crores and 384 bridges were taken up for construction/ reconstruction at a cost of Rs.255.98 crores. Of the above, 4163.45 km of road works and 234 bridges have been completed during 2002-2003. Balance road and bridge works are in progress at various stages.

During 2002-2003, under RIDF VIII, another project for improvements to 162 roads covering 945.22 km at a cost of Rs.101.17 crores has been sanctioned. Of which, 9 works covering 55.30 km have been completed and the remaining works are in various stages of implementation.

During 2002-2003, a new proposal for construction of 111 bridges and improvements to 31 roads at a cost of Rs.50.01 crores has been posed to NABARD and is in advance stage of processing. Another proposal for improvements to 243 roads and construction of 7 bridges at a cost of Rs.64.96 crores has also been forwarded to NABARD for sanction.

In addition to the above, a separate proposal for the construction of the High level bridge at km 0/10-1/2 of Vaigai Causeway road (bridge at Nathipalam) in Ramanathapuram district at a cost of Rs.4 crores has also been forwarded to NABARD for sanction and the same is under the consideration of NABARD.

The Budget Estimate for 2003-2004 is Rs.120.00 crores.

7. ROADS IN SPECIAL AREAS

(i) IMPROVEMENTS TO THE STRETCH FROM MADHYA KAILASH TEMPLE TO VSI ESTATE (CENTRAL POLYTECNIC ROAD) TO JOIN AT KM 13/3 OF OLD MAHABALIPURAM ROAD (IT HIGHWAY)

It has been the long standing request of the IT industry to develop the highway between Madhya Kailash on the Sardar Patel Road to East Coast Road as an expressway. It is proposed to constitute a Special Purpose Vehicle(SPV) called IT Expressway Limited (ITEL) to undertake the implementation of this six lane expressway project to international standards at a cost of Rs.70 crores. This project will be taken up in the coming year by the Tamil Nadu Road Development Corporation(TNRDC) on a public-private partnership model. This major initiative will ensure the rapid development of this IT corridor.

(ii) BYE-PASSES AND RADIAL ROADS

In order to avoid traffic congestion in cities and towns, it is essential to have bye-passes and radial roads. Keeping this in view, it is proposed to have feasibility study for the formation of bye-passes in the head quarters of Ramnad, Theni and Tiruvallore. Improvements to radial roads leading to Madurai have been taken up at a cost of Rs.112 crores by availing of HUDCO loan. This project consists of 12 road works, 1 High level bridge and 1 ROB. Out of which, 12 road works are in good progress and are programmed to be completed during 2003-2004. The 2 bridge works are in initial stage of implementation viz., tender and design. HUDCO has sanctioned Rs.100 crores.

The Budget Estimate for 2003-2004 is Rs.67.55 crores

It is also proposed to study the feasibility of formation of Radial Roads in Salem, Coimbatore, Trichy, Tirunelveli and Nagercoil.

(III) INTER STATE CONNECTIVITY SCHEME:

A project proposal under Inter- State importance of roads and bridges for improving 1 road work and 2 bridge works was agreed to be sanctioned by the Government of India for Rs.2.34 crores. All the three works have now been sanctioned by Government of India and tenders called for.

The Budget Estimate for 2003-2004 is Rs.2.24 crores

8. SPECIAL ROADS PROJECT

(i) TAMIL NADU ROAD SECTOR PROJECT

In 1995, Government of Tamil Nadu invited World Bank to assist the Tamil Nadu Road Sector Project in development of Government roads to two lane facility. The World Bank came forward to render loan assistance for project preparation and implementation. Feasibility study has been completed for 732 km of Roads including 13 Bye-passes. Environment clearance for all phases have been obtained from Ministry of Environment and Forest, Government of India. Independent environment review has also been completed by consultant. Integration of Environment Management Plan (EMP) with Resettlement Action Plan (RAP) has been initiated.

Special revenue staff are in position to take up land acquisition, resettlement and rehabilitation. Similarly, special Forest staff are available to deal with flora and fauna and outsourced Environmental specialist and Financial Manager have been inducted into the Project Implementation Unit. Appraisal of the Project by World Bank has been completed in March 2003. Loan negotiations and sanction are expected in April 2003. Thereafter the road construction activities will be taken up. The total cost of the project will be around Rs.2118 crores.

The Budget Estimate for 2003-2004 is Rs.271.72 crores.

(ii) INNER RING ROAD - CHENNAI

All the works except Northern Sector and Southern Sector of Inner Ring Road have been completed in all respects. In the Northern Sector of Inner Ring Road work a small bit of road work is in progress. In the Southern Sector of Inner Ring Road, RUB work and 4.4 km of road work have been completed. For the remaining road work of 5 km LA is in advanced stage. The HUDCO have sanctioned a loan of Rs.65 crores for carrying out the balance works and a sum of Rs.27.85 crores has been drawn from HUDCO.

The Budget Estimate for 2003-2004 is Rs. 22.73 Crores.

(iii) RURAL ROADS PROGRAMME WITH LOAN ASSISTANCE FROM NABARD

Villages are the life line of our nation. Rural Roads are the life stream of these villages. Agriculture is the main profession in most of the villages in Tamil Nadu. It is therefore very much necessary and essential to improve village roads to all weather roads (Upto B.T. Standards), so as to enable the village people to transport their agricultural produce speedily to the nearby towns. The roads are improved up to B.T. level under the following schemes.

a) Rural Roads Scheme.
b) Special Component Plan Scheme.
c) Bus Route improvement scheme

(a) RURAL ROADS SCHEME

The criteria followed for taking up works under this scheme are:

- The Village population should be more than 500 (1999 census).
- The prescribed road length shall be more than 1.60 Km.
- The village should not have been connected by any other B.T.Road.

The road connectivity to villages having population between 500-1000 has been taken up since 1.4.1999. It has been assessed that there are 4986 villages with population between 500-1000 without having any connectivity at all. So far 764 villages have been covered upto 2002-2003. During 2003-2004, it has been programmed to cover 120 villages covering a length of 500 km of roads and 10 bridges. The remaining villages will be covered in a phased manner.

The Budget Estimate for 2003–2004 is Rs.80 crores.

(b) PROVIDING CONNECTIVITY TO ADI-DRAVIDAR HABITATIONS UNDER SPECIAL COMPONENT PLAN

This scheme provides road connectivity to villages having more than 50% of Adi-Dravidar Population. Till the end of 2002-2003, connectivity to 238 villages having population between 500-1000 have been covered. During 2003-2004, 50 villages are proposed to be covered.

The Budget Estimate for 2003–2004 is Rs.25.00 crores.

(c)BUS ROUTE IMPROVEMENT SCHEME

Under this scheme, the Panchayat Union roads on which buses are plying for more than three years are taken up for improvement as B.T. roads to Other District Roads standards.

During 2003-2004, improvement works for 150 Km of roads and 5 bridges have been proposed to be taken up.

The Budget Estimate for 2003–2004 is Rs.20.00 crores.

9. CENTRALLY SPONSORED / ASSISTED SCHEMES

(i) CENTRAL ROAD FUND SCHEME

The Government of India, through an Act of Parliament have set up a Central Road Fund with the accruals from the Special Cess levied on Petrol and Diesel. From this fund, around 15% is distributed to states. During the previous years, a sum of Rs.62.34 crores was drawn from Government of India, and during 2002-2003, a sum of Rs.62.30 crores was drawn and utilised.

The Budget Estimate for 2003-2004 is Rs.75 crores**.**

(ii) WESTERN GHATS DEVELOPMENT PROGRAMME

The scheme shall be implemented in 8 districts, viz., Erode, Coimbatore, Dindigul, Madurai,Theni, Virudhunagar, Tirunelveli and Kanyakumari. During 2002-2003, 3 road works at a cost of Rs.53.00 Lakhs were sanctioned.

The Budget Estimate for 2003-2004 is Rs.64.26 lakhs.

10. AVENUE TREES

At present there are several lakhs of fruit bearing, shade giving avenue trees along the road margin in the State. The right of usufructs are given to local bodies. It is programmed during this year to involve Forest Department with the responsibility of planting and maintaining the trees up to a certain period and subsequently hand over to Highways Department.

11. TOOLS AND PLANT

The maintenance and upkeep of the various plant and machinery in the department is looked after by the Mechanical wing. There are three workshops located at Chennai, Pudukottai and Coimbatore, which cater to the major repairs to plant. There is also a Transport and Machinery Division, which procures and supplies plant, equipments, scientific instruments, steel, as well as spare parts including tyre, tubes and batteries required for their maintenance. The plant and vehicles that have outlived their stipulated life period are condemned and are periodically replaced. During the year 2002-2003, 192 plants have been condemned.

The Chief Engineer, Mechanical, exercises budgetary control over the funds for the procurement and maintenance of tools and plant in the department.

Under Part II Scheme for the year 2003-2004, it is proposed to purchase FAX machines, Computers and Intercom facilities to the Offices of the Chief Engineer (General) and Other wings at an ultimate cost of Rs.4.80 lakhs.

The Budget provision for 2003–2004 is Rs.4.82 lakhs.

12. HIGHWAYS RESEARCH STATION

(i) RESEARCH ACTIVITIES

The Highway Research Station, Chennai established in the year 1957, is engaged in the applied research, in construction and maintenance of roads and bridges and traffic pattern in Tamil Nadu. Highway Research Station has well-equipped laboratories in the following disciplines:

a) Soil and Foundation Engineering

b) Concrete and Structures

c) Bitumen and Aggregate

d) Traffic and Transportation

In order to expand the Research and Development activities at Highway Research Station, several consultancy works sponsored by different organizations are proposed to be taken up. It is also proposed to evaluate the benefits accrued out of Research & Development Works in economic terms and to develop the Institution. It is also decided to allocate funds for Research & Development works and create the state of art testing facilities by way of apportioning 0.5% of the 1% quality control provision made in the estimates of the different works of the Department.

Apart from the ongoing research schemes in Highway Research Station, two important studies, which are currently considered as relevant topics worldwide, are proposed to be taken up by Highway Research Station during 2003-04. Based on the publication of I.R.C. SP 53, Government of India have introduced the use of rubber modified bitumen on National Highway Projects. Similarly the Government of Tamil Nadu have also extended the use of modified bitumen in State Highway with heavy traffic. However standards do not prescribe the method to arrive at the binder content / modifier content of modified bituminous mixes . This along with the other special properties of rubber modified bitumen are to be taken up in Highway Research Station as an in depth study during 2003-04. Moreover, the use of plastic waste garbage has been tried in Tamil Nadu in a few locations for road laying works. However, no standards or appropriate specifications are available for the same at present. To make use of this plastic waste garbage more effectively, standardization is to be done after carrying out important engineering studies. This will be taken up as a research scheme in Highway Research Station during 2003-04 as an intensive study both in laboratory and in the field. Optimum percentage of plastic waste that could be used in bitumen for better performance will be satisfied in laboratory after several trials. Performance of road surface with reference to increased traffic load and service life laid using plastic waste will be studied in the laboratory model test track. The consistency will be derived with in another four months.

The Budget Estimate for 2003-04 is Rs.2.49 Lakhs.

(ii) QUALITY CONTROL

To create more Centres for testing and assisting quality control measures during construction, Regional Laboratories were set-up in Thanjavur, Madurai, Tirunelveli and Coimbatore. The Director, Highway Research Station has been designated as Quality Conrol Officer to ensure Quality in all works executed by the Department. The quality control wing is proposed to be strengthened during 2003-04 for exercising full quality control measures without additional financial commitment to Government. Funds could be made available for this purpose by apportioning the balance 0.5 % of 1% quality control provisions available in the estimates of the Department In the meanwhile, the field officers themselves are conducting all the required Quality Control tests. Random Check and Surprise check are being conducted by the available Quality Control and Highways Research Station staff.

(iii) DATA BANK

With a view to have on-hand information about Roads and bridges, a " DATA BANK' has been created for all technical details and vital statistics. The Bridge details for 728 major bridges and 2718 minor bridges and traffic census at 3925 locations have already been collected and stored. During 2003-04, Traffic census is proposed to be takenup using Automatic Traffic Counters dispensing with the present usage of enumerators. Details of road surface, riding quality, and soil particulars for all State Highways and Major District Roads are also made available. The particulars for all Other District Roads will be collected during 2003-04.

(iv) TRAINING PROGRAMME

Training is essential to clear various doubts arising in the minds of working engineers and to help them in understanding basic problems. They will also have to be told the correct procedure to be adopted in cases where the books are silent. Highways Research Station plays a very vital role in updating the knowledge of field Engineers in planning, design, construction and maintenance.

At present quality control training is being offered at Highway 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 during the third week of every month. This is a continuous programme. Funds could be made available for this purpose by apportioning the balance 0.5 % of 1% quality control provisions available in the estimates of the Department Apart from this, the Engineers of the Department will be deputed for specialized training and seminars at National and International levels for updating the technical knowledge. A training calendar for the year 2003-04 is evolved to conduct training programmes in various specialised areas of Roads, Bridges and Traffic.

Funds allotted to Research and Development works from the Quality Control provision can be utilized for this purpose.

(v) ESTABLISHMENT OF AN INSTITUTE FOR HIGHWAY RESEARCH AND MANAGEMENT

In the changing scenario of Highway Planning and Management techniques, it is considered imperative to have an Autonomous Institute to look into all aspects of Highway Management in a holistic manner. It was, therefore, decided to establish an Institute called, 'Institute of Highway Research and Management' with the co- operation of other similar Research and Academic Institutions, which would emerge as a centre of excellence in the field of Highway Engineering by adopting newer technologies and cost-effective solutions in the State of Tamil Nadu. Accordingly, Government have sanctioned for the establishment of the institute in G.O. Ms. No.100 Highway (HR2) Department, dated 10-6-02 and the same has started functioning from 21-2-2003. An allotment of Rs.5.00 Lakhs was made for this institution to meet out initial non-recurring expenditure during 2002-03. The concentration will be mainly on adopting newer technologies, cost effective solutions, and consultancy services etc. facilitating faster economic growth in the state of Tamil Nadu.

The Budget Estimate for 2003-04 is Rs.0.01 Lakh.

13. ROAD SAFETY PROGRAMME

Road safety is an integral part of the New Road Policy. The road statistics reveal high occurrence of accidents with casuality, which is mostly attributed to lack of concern for road safety. Keeping this in view, the Government of Tamil Nadu has formulated a **Road Safety Policy (2001).** The policy outlines the 4-Es of Road Safety, namely Engineering, Enforcement, Emergency Medical Relief and Education. An Action Plan has also been drawn up to reduce occurrence of accidents, significantly. As a pilot measure, the Transport Commissioner, together with the support from the Highways, Police and Medical Department have identified 13 TRAUMA Care Centres on NH-4, NH-7, NH-45 and NH-46, to be set up at a distance of 50-60 km from each other and with ambulance facilities, police patrol, communication and wreck removal facilities. Out of the above, 8 centres have been set up so far.

The Government of Tamil Nadu has the unique feature of having Road Safety Fund to deal with

a) Road safety network
b) Educating the Road users through Departments and voluntary agencies
c) Emergency medical response on accident trauma cases.

Sufficient allocation of funds will be provided to take up Road Safety measures.

Highways Department has embarked on improvements to accident-prone spots on an annual basis. The improvements include provision of medians, retro-reflective markings, roads signage, signalling, junction improvements, covering road side wells, and lights using catch-eye reflectors. As far as National Highways, a provision of Rs.7.00 crores has been earmarked in the draft Annual Plan 2003-2004. Likewise a proposal for Rs. 53 Crores for improvements to accident-prone areas in State Roads (State Highways, Major District Roads and Other District Roads) has been identified for implementation in stages. Sufficient allocation will be made to take up Road Safety measures from the fines on compounding fees collected for Road Traffic violation under Road Safety Fund.

14. PRIVATE- PUBLIC PARTICIPATION:

The road sector has been progressively under-funded in successive five year plans. This has resulted in serious difficulties in maintaining even the existing assets, let alone upgradation, periodical maintenance and strengthening etc.,. It should be noted that construction of new bypasses, bridges, high quality roads etc., must simultaneously be developed so as to see a revival in the sector. In the present condition, this is possible, only with private sector participation in the development of certain important roads.

In the above analogy, Tamilnadu Road Development Company (TNRDC), a joint venture company with equal participation of TIDCO and IL & FS have been formed to identify the road projects on commercial format, plan, design and implement it as managers of the projects. The improvement and maintenance of East Coast Road from km 22/3- 135/5 on concessional basis has been entrusted to Tamilnadu Road Development Company, as a step towards private participation in management of roads. The work has been completed.

The project for improvement, maintenance and operation of Salem-Ulundurpet road (NH 68) and (ii) Dindigul-Coimbatore road (NH 209) has been entrusted to the Tamil Nadu Road Development Company(TNRDC) under private participation. The Memorandum of Understanding has been signed for the above project on 10.4.2002.

The TNRDC has proposed to take up the above project in two phases for NH 68 and NH 209 as below:

NH 209 Phase I Pollachi to Coimbatore
Phase II Dindigul to Pollachi
NH 68 Phase I Salem to Royappanur
Phase II Royappanur to Ulundurpet

The pre-qualification from the contractors for taking up improvement works has been completed by TNRDC. The concession agreement in respect of the above work is to be signed by the firm with the Ministry, after signing of State support agreement.

15. HIGHWAYS ACT

Highways Bill 2001, which has received the assent of President of India, has been notified as the Highways Act 2001. This Highway Act provides adequate powers to the Highways Authorities to stop ribbon development, enter into agreement for development and maintenance of Highways, eviction of unauthorised encroachment in Highways boundary and ensure the regulated growth of road side activities through zoning, building lines etc., Encroachment of Highways must be cleared in order to ensure smooth flow of traffic, reduce accidents and project interest of the Department.

16. ROAD POLICY

A New Road Policy is under formulation which include not only engineering and economic aspects but also environmental and social issues of highway construction and management. Its objectives among others are:

- To maximize socio-economic benefits.
- To leverage market resources through public-private participation
- To upgrade road construction, design, planning and execution through state of art-technology and professional management of highways assets and resources.
- To ensure professional management of highway assets and resources

17. INFORMATION TECHNOLOGY AND COMPUTERISATION

Introduction of IT has contributed considerably to the capacity building exercises being implemented in the department. The department has also made use of facilities like INTERNET AND E-MAIL as

means of communication with updated technology. Besides, in an effort to increase the quality of output in the functional efficiency of the Highways department, modernisation and capacity building efforts are being undertaken as part of the Tamil Nadu Road Sector Project. It is proposed to equip Highways Department from Headquarters level upto Division level with computers at a value of Rs.15 crores. Government have accorded in principle approval for procurement and installation of computers.

18. WEBSITE

A website has been created with the address **www.tnhighways.org** and all key activities of the department, letters of invitation to the consultants, policy and programmes are made available in the website and the data have been updated periodically.

19. INSTITUTIONAL DEVELOPMENT

The Institutional Development Study to improve the Institutional and Financial capacity of the Highways Department was conducted by the Booz Allen & Hamilton, U.S.A. at a value of Rs.2.80 crores and made recommendations for reforms on Organisation and Management, Core Process, Information System, Financial Mechanism and Regulatory Context. In-principle approval of Government to the strategy has been accorded.

20. B.O.T. PROJECTS

The feasibility of entrusting Road and bridge works with private participation on B.O.T. basis is encouraged. M/s. Construction Industry Development Board (CIDB), Malaysia, has evinced interest in execution of certain bridge works on BOT concept. Accordingly, a delegation of Malaysian officials visited the sites and agreed to consider taking up the following works on BOT concept. Necessary details are being collected by the Malaysian officials.

(i) Bridge across Kollidam river at Anaikarai on Vikravandi-Kumbakonam-Thanjavur Road.
(ii) High Level Bridge across Cauvery river to connect Mohanur in Namakkal district and Vangal in Karur district.
(iii) High Level Bridge across Cauvery river to connect Kokkarayanpettai with Lakkapuram.

21. DESIGN AND INVESTIGATION

The Design and Investigation wing of Highways Department is under the control of a separate Chief Engineer which is engaged in investigation of projects i.e., surveying, collection of data for the projects and designing and estimation of the projects.

Investigation involves collection field particulars such as sub-soil particulars, hydraulic particulars and other special data relevant to each project site and formulation of a rough proposal and forwarding the same for detailed design. The details such as preparation of design, estimate and drawing for bridge works under various schemes, scrutiny of preliminary alternate design for the purpose of tender approval, modification of design due to change in foundation and preparation of standard data for roads and bridges are carried out in this wing.

During 2003-2004, it is proposed to investigate and prepare estimates for 191 bridges costing Rs.222.00 crores and 205 roads costing Rs.102.00 crores.

IV. ROADS AND BRIDGES - PART II SCHEME
2003-2004
RS. IN LAKHS

S.NO.	NAME OF WORK	ULTIMATE COST	BUDGET ESTIMATE 2003-2004
	1.STATE HIGHWAYS-BRIDGES		
1	Reconstruction of minor bridge at km 11/8 of kallakurichi-Tiruvannamalai road	20.00	8.00
2	Construction of bridge at km 114/2 of Perambalur-Thuraiyur road	25.00	10.00
3	Reconstruction of narrow culvert at km 26/10 of Omalur-Sankagiri-Thiruchengode-Paramathy road	25.00	10.00
4	Construction of bridge at km 5/10 of Hogenakal-Pennagaram-Dharmapuri-Thirupathur road	30.00	12.00
5	Reconstruction of bridge at km 58/10 of Udhagai-Kothagiri-Mettupalayam-Sathy-Gobi-Erode road	25.00	10.00
6	Reconstruction of culverts at km 28/10, 29/2, 29/8, 29/10, 32/4, 40/8, 42/8, 43/8, 43/10 & 46/4 of Pollachi-Valparai road	38.00	15.20
7	Reconstruction of weak and narrow bridge at km 62/2 of Thoppur-Mettur-Bhavani-Erode road	25.00	10.00
8	Reconstruction of culvert at km 398/2 of Nagapattinam-Gudalur-Mysore road with retaining wall	70.00	28.00
9	Construction of bridge at km 18/10 of Uthamapalayam- Surilipatty road	60.00	24.00
10	Reconstruction of minor bridge at km 9/2 of Dindigul-Natham-Singam puneri-Thirupathur- Karaikudi road	35.00	14.00
11	Reconstruction of high level bridge at km 30/4 of Ramnad-Nainarkoil-Andakudi-Illyankudi-Sivaganga-Melur road	45.00	18.00
12	Reconstruction of culvert at km 35/2 of Palayam kottai kurukku salai Kulathur Vilathikulam Nagalapuram-Pandalkudi- Aruppukottai road	15.00	6.00
13	Reconstruction of minor bridge at km 25/6 of Srivilliputhur-Sivakasi-Virudhunagar-Aruppukottai-Thiruchuli-Narikudi-Parthibanur road	45.00	18.00
14	Reconstruction of weak and narrow bridge at km 27/10 of Aralvoimozhi-Nagercoil-Rajakka mangalam-Colachal road	45.00	18.00
	TOTAL	**503.00**	**201.20**

S.NO.	NAME OF WORK	ULTIMATE COST	BUDGET ESTIMATE 2003-2004
	2. REHABILITATION OF DISTRESSED BRIDGES		
	MAJOR DISTRICT ROADS		
1	Reconstruction of high level bridge at km 16/10 of Perambalur-Athur road	25.00	10.00
2	Reconstruction of weak and narrow bridge at km 14/2 of Namakkal-Thuraiyur road	25.00	10.00
3	Reconstruction of minor bridge at km 49/2 of Morappur-Marandahalli road	30.00	12.00
4	Construction of minor bridge at km 12/8 of Coimbatore-Thadagam road	25.00	10.00
5	Improvements to the dip at km 3/10, 4/2, 4/6, 4/8 /2,5/10,6/6,6/10,7/2,9/6,10/0,12/2,12/8,13/0,13/8 and 17/2 Erode-Muthur road	115.00	46.00

6	Construction of high level bridge at km 12/4 of Bhavani-Kavundapady road	50.00	20.00
7	Reconstruction of culvert at km 446/2 of Trichy-Madurai road	10.00	4.00
8	Reconstruction of culvert at km 446/4 of Trichy-Madurai road	30.00	12.00
9	Widening of culvert at km 447/2 of Trichy-Madurai road	12.00	4.80
10	Reconstruction of culvert at km 2/2 of Koilpatty junction to Pudukottai frontier road	25.00	10.00
11	Construction of bridge at km 21/4 of Meganapuram-Munanjipatty road	30.00	12.00
12	Reconstruction of bridge at km 15/2 of Sathur-Sivakasi-Srivilliputhur road	20.00	8.00
	TOTAL	**397.00**	**158.80**
	3. TOOLS AND PLANT		
1	Towards the purchase of fax machines(3 nos.) To the offices of a.C.E.(H), General, chennai-5 b.C.E.(H), NABARD, Chennai-108 c.C.E.(H), Project-II, Chennai-15	1.50	1.50
2	Towards the purchse of U.P.S to computers-2 nos. To the office of the Chief Engineer(H), General	0.30	0.30

S.NO.	NAME OF WORK	ULTIMATE COST	BUDGET ESTIMATE 2003-2004
3	Towards the purchase of computer with printer for the offices of a.Accounts Officer, Highways,Chennai b. Accounts Officer, NH,Chennai c. Accounts Officer, NH45,Chennai	1.80	1.80
4	Towards providing intercom facilities to the offices of Chief Engineer, NABARD,Highways, Chennai, Accounts Officer, Highways,Chennai, Accounts Officer, NH, Chennai	1.20	1.20
	TOTAL	**4.80**	**4.80**

V.DEVELOPMENT OF PORTS AND SHIPPING

VI. TAMIL NADU MARITIME BOARD

Tamil Nadu with its vast Coast-line of about 992 K.Ms. has 3 major ports at Chennai, Ennore and Toothukudi and 14 minor ports at Kattupalli, Ennore (Minor Port), Cuddalore, Tiruchopuram, PY-3 Oil Field, Tirukkadaiyur, Nagapattinam, Pamban, Rameswaram, Valinokkam, Punnakkayal, Manappad, Kanyakumari and Colachel.

Tamil Nadu Maritime Board was constituted under Tamilnadu Maritime Board Act, 1995 (Tamilnadu Act 4/96) with effect from 18.03.1997. The Board is administering, controlling, regulating and managing the minor ports in Tamilnadu under the Chairmanship of Hon'ble Minister for Transport, Government of Tamilnadu.

The Tamil Nadu Maritime Board gives top priority to the industrialisation in the State and it encourages setting up of captive ports/ jetties /Moorings by the port based Oil Industries /Thermal power projects and also multi user ports on 'BOOT' basis.

Of the 14 minor ports, 8 ports viz., Kattupalli, Ennore (Minor Port), Thiruchopuram, PY3 Oil Field, Thirukkadaiyur, Punnakayal and Manappad have been declared as captive ports under private entrepreneurship where the development of entire infrastructure facilities is the responsibility of the companies concerned. Out of these 7 captive ports, 3 viz., Ennore Minor Port, PY-3 Oil Field and Thirukkadaiyur are operational at present. The remaining 4 captive ports are in various stages of development.

The main commodities handled at the minor ports are as follows:-

EXPORT	IMPORT
Crude Oil	Edible Oil
General cargo	Liquid Ammonia
	Naphtha
	Propylene gas
	Crude Oil
	General Cargo

APPROACH:

The private participation in construction/development of Ports/Jetties will be encouraged through a well set out transparent procedure and each proposal would be considered on its own merits.

PROJECT MANAGEMENT FOR PORT EXPANSION:

The existing Minor Ports will be offered for private participation for further expansion.

To maintain transparency, competitive bids will be invited through Global Notice/Tenders.

The project will be on the principle of Build, Own, Operate and Transfer (BOOT).

The period of BOOT will initially be for 30 years and may be extendable up to 50 years.

The Government shall recover a reasonable amount per Tonne on the cargo handled. A minimum quantum to handle is fixed in a phased manner.

The existing southern port limit of Cuddalore port was extended to accommodate the construction of marine structures by M/s. Chemplast Sanmar Ltd., to handle Vinyl Chloride Monomer (VCM) for their PVC plant at Cuddalore. The Environmental Clearance for the construction of marine structures is awaited.

Thiruchopuram port was declared for the captive use of M/s. Nagarjuna Oil Corporation Ltd., for import and export of Crude Oil and their products in respect of their proposed oil refinery at

Tiruchopuram. This port has been notified as Customs port by the Ministry of Finance, Department of Revenue, Government of India. The Ministry of Environment and Forests, Government of India have accorded Environmental Clearance on 01.03.2000 for setting up the marine terminal facilities. The company is yet to obtain financial closure for this project.

Thirukkadadaiyur Port was declared for the captive use of M/s. PPN Power Generating Company for handling their Fuel - Naphtha required for their 330 MW Gas Combined Cycle Power Project at Pillaiperumalnallur.

The first Naphtha vessel called at this port on 14.01.2001 and discharged 15,020 M.Ts. of Naphtha. Now vessels are regularly calling at this port and discharging Naphtha.

M/s Foods, Fats and Fertilizers Ltd., constructed Edible Oil Storage Terminal at Nagapattinam Port in 1999. Edible oil vessels are regularly calling at this port. To further promote the port activity, two plots of land were allotted to private entrepreneurs for construction of Marine Facilities for handling Edible Oil.

M/s. Chennai Petroleum Corporation Ltd., has constructed a RCC jetty within Nagapattinam port limits with an approach trestle so as to handle 4 Lakhs M.Ts. of Crude Oil per annum for their refinery at Panangudi. Various statutory clearances required for the above project have since been obtained and the first vessel called at this port on 15.2.2003 and discharged 12,520 Mts. of Crude Oil through the RCC Jetty.

For the development of Nagapattinam Port, it was found that the strengthening and extension of break waters, deepening the channel, providing river training and dredging was felt essential. Tamil Nadu Maritime Board has requested Government's permission to avail a loan of Rs.50.00 lakhs from HUDCO for the above development in a phased manner. This is under consideration of the Government.

The Government declared Manappad in Thoothukudi district as a Minor Port for the captive use of M/s. Indian Gas Limited, for handling 2.5 Million M.Ts. of LNG per annum required for their proposed 2000 MW. Gas Turbine Power Project to be set up by M/s. Indian Power Projects Ltd., at Vembar. The company is yet to obtain financial closure for their project.

The Government of Malaysia showed keen interest to develop Colachel Port in Kanyakumari District as a Container Hub Port. The Detailed Feasibility Report prepared by the independent consultant of Government of Malaysia was received in June 2001. According to this report, the capital cost for construction of Hub port for the first stage will be around Rs.2772 crores. The Government of Malaysia requested Rs.855 crores as grant and Rs.40 crores as equity towards contribution by Government of Tamil Nadu. The Government of Tamil Nadu informed that an investment of Rs.103 crores towards grant and equity (Rs.58 crores towards grant for land and rail/road connectivity and Rs.45 crores towards 11% equity in the Apex Company) could be considered. Reply from the Government of Malaysia on the financial tie-up for the project is awaited.

The thrust of the port sector is to promote cordial atmosphere for industries to realise the linkage between port development and industrial growth. It also aims to accelerate the pace of economic growth of the State through private participation by developing a number of captive ports. The port policy also promotes ship breaking/repairing industry, leisure and water sports activities in Tamil Nadu.

VII SETHUSAMUDRAM SHIP CANAL PROJECT:

Sethusamudram Ship Canal Project envisages excavation of an artificial ship canal across 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 time.

The initial alignment of this Canal was through the Eastern part of Rameswaram Island. The Government of India has nominated NEERI (M/s National Environmental Engineering Research Institute), Nagpur to conduct an Environment Impact Assessment and suggest the best alignment with least environment impact. The new alignment is expected to be through the Adams

bridge catering to a canal width of 200 mtrs and a depth of 9 mtrs. The report of NEERI is awaited.

IX. POOMPUHAR SHIPPING CORPORATION LTD.

M/s. Poompuhar Shipping Corporation Limited (PSC) was formed on 11.04.1974 under the Companies Act, 1956 with the objective of transporting the entire requirements of coal for the Thermal Power Stations of Tamil Nadu Electricity Board (TNEB). The coal required by TNEB is transported from the load Ports at Haldia, Paradip and Vizag and discharged at Ennore and Tuticorin Ports. PSC has acquired 3 specially designed shallow draft geared bulk carriers of 40000 DWT between August 1985 and January 1987 which are exclusively utilised for this purpose. In addition to its own three ships, PSC also charters ships from Indian and Foreign ship owners to maintain a fleet of about 11 – 13 ships to meet the coal requirement of TNEB for the various Thermal Power Stations in Tamil Nadu.

The details of the quantity of coal moved by PSC Ltd., and the turnover for the past five years are furnished below:-

Year	Quantity moved (in Lakh MT)	Turnover (Rs in Lakhs)	Net Profit/Net Loss (Rs in Lakhs)
1998-1999	131.78	28397.47	(-)786.89
1999-2000	117.56	27582.10	(-)798.63
2000-2001	151.44	42728.50	(-)445.35
2001-2002	146.21	34029.76	(-)192.71 *
2002-2003	Est. 143.13	Est. 27636.22	(-)205.00

* 2001-2002 Net loss for the year Rs.192.71 lakhs plus previous year Income Tax provision Rs. 1099.43 lakhs. The total net loss Rs.1292.14 lakhs.

PSC is incurring net loss mainly due to low Freight Income based on Freight Rate Agreements approved by TNEB in 1998 for own vessels. As per the agreement TNEB has agreed to reimburse all operating expenses incurred by PSC. The depreciation on original cost of the vessels are reimbursed by TNEB instead of depreciation as per Annual Accounts and interest charges on long term loan is also not borne by TNEB. To sort out this a meeting chaired by Chief Secretary was held on 6.3.2003.

COAL MOVEMENT IN 2003-2004

For 2003-2004 it is expected to move about 152.00 lakhs tonnes of coal to TNEB by engaging vessels from Indian Shipowners as well as from Foreign Shipowners in addition to the three Tamil Ships owned and operated by PSC Limited and one self unloader vessel and two nos. Panamax Gearless vesels.

FINANCIAL PERFORMANCE FOR 2003-2004

For the Year 2003-2004 PSC is expected to earn cash profit of Rs.448.00 lakhs and incur marginal net loss of Rs.37.50 lakhs approximately. PSC is incurring net loss mainly due to non-admission of interest on term loan and due to restriction of depreciation on own vessels to historical cost in the Freight rate reimbursed by TNEB.

ENNORE PORT

On 1st February 2001, the Ennore Port was dedicated to the Nation by the Hon'ble Prime Minister of India. This project has been implemented mainly for the transportation of coal for Ennore-Paradip Sector. As per recommendation of RITES and Pallavan Transport Corporation Consultancy, PSC has already implemented operation of Gearless and Craned Hopper self-unloader Panamax vessels for the movement of Thermal coal in the Paradip - Ennore Sector.

SELF UNLOADER VESSEL

The first Panamax vessel chartered by Poompuhar Shipping Corporation Limited for the Paradip-Ennore sector is the CHSU vessel (mv.Gem of Ennore DWT 75066 built in 2000) owned by M/s.West Asia Maritime Limited, Chennai which was inducted into the service on 19.02.2002 in TEN YEARS TIME CHARTER. This type of vessel is operated first time in India. This is a very sophisticated and specially built modern vessel. The vessel has its own discharging gear consisting of cranes and grab and also has conveyor system with a discharge boom. The coal from the vessel is discharged to the shore based hopper directly. This vessel is achieving a discharge rate of 2600 MT per hour, thereby giving fast delivery of cargo to TNEB.

GEARLESS VESSELS

PSC chartered two nos. Panamax Gearless vessels viz. MV. Rani Padmini and APJ Sri Devi owned by M/s Shipping Corporation of India and M/s Surendra Overseas Ltd with carrying capacity each of about 68,000 M.T of coal for Paradip - Ennore Sector. Loading at Paradip is done through Mechanical Loading crane and discharge at Ennore Port is made through cranes installed by M/s SICAL under BOT agreement.

HANDYMAX GEARLESS VESSEL

For Haldia, Paradip-Tuticorin Sector and Vizag-Tuticorin Sector, the operation of Handymax Geared vessels will continue to be operated by PSC.

KANNIYAKUMARI FERRY SERVICE

Besides transporting coal to Thermal Power Stations, PSC is also operating a ferry service between Kanniyakumari – Ayyan Thiruvalluvar Statue – Vivekananda Rock Memorial. Presently, three passenger Ferry launches viz., ML . Thamaraparani, ML.Bhagirathi and ML.Vivekananda are operated and nearly 14 lakhs passengers are using the ferry service to visit to Vivekananda Rock Memorial and to visit Ayyan Thiruvalluvar Statue every year.

TAMIL NADU MARITIME ACADEMY:

The Tamil Nadu Maritime Academy was set up at Thoothukudi and the training institute was inaugurated on 16.09.1998. The Academy was conducting Seaman & Engine Rating Training courses, now Academy will be conducting same quantum of candidates as general purpose crew and Five STCW-95 courses namely " Personal Survival Techniques" , " Elementary First Aid" , " Personal Safety and Social Responsibility", " Oil Tanker Familiarisation" and " Fire Prevention and Fire Fighting" .

PROPOSAL TO START NEW COURSES:

The Academy is awaiting approval of the Director General of Shipping for starting new courses such as
Trainee Marine Engineer Courses
Engine Room Watch Keeping Certificate
Navigation Watch Keeping Certificate

PROPOSAL OF G.P. (GENERAL PURPOSE) CREW:-

The Directorate General of Shipping, Mumbai instructed to abolish the existing Deck/Engine ratings courses to all Indian Marine Academies with effect from 1.4.2003 and to conduct revised conversion course named as General Purpose (G.P.) rating so that recruitment on ship Board can be easier as per International practice.

Thiru O.PANNEERSELVAM
Minister for Public Works, Prohibition
and Excise and Revenue
Government of Tamil Nadu

ANNEXURE I

QUALITY CONTROL TESTS

Sl. No	Type of Construction	Tests
1	Granular Sub Base	i) Gradation ii) Atterberg Limits iii) Density iv) CBR
2	Water Bound Macadam	i) Aggregate Impact Value ii) Grading iii) Flakiness Index and Elongation Index iv) Atterberg limits for binding metrical
3	Open graded Premix carpet / Bituminous Macadam	i) Quality of binder ii) Stripping Value iii) Temperature of binder at application iv) Binder content v) Aggregate Impact Value vi) Grading vii) Flakiness Index and Elongation Index
4	Dense Bituminous Macadam / SDBC / Bituminous Concrete	i) Quality of binder ii) Stripping Value iii) Temperature of binder at application iv) Binder content v) Aggregate Impact Value vi) Grading vii) Flakiness Index and Elongation Index viii) Rate of spread of mixed material ix) Density of the compacted layer

ANNEXURE II

TRAINING CALANDER FOR 2003 -04

Sl. No	Month / Year	Programme
1	May 2003	Reinforced, Prestressed and Composite Concrete
2	June 03	Two days Workshop on New Materials and New Technologies in Highway construction
3	July 03	Two days Workshop on Modern Bituminous construction
4.	Aug 03	Bridge Maintenance and Rehabilitation
5.	Sep 03	Use of Geo-synthetics in Road Construction
6.	Oct 03	Flyovers and Elevated Structures.
7.	Nov 03	Quality control Management in Road and Bridge constructions
8	Dec 03	One day seminar on Disaster Managements in Highways
9	Jan 04	One day Seminar on Bridge bearings joints and appurtenances
10	Feb 04	A course on Traffic and Junction improvements studies in arterial roads