



**HIGHWAYS AND MINOR PORTS DEPARTMENT**

**DEMAND NO - 21**

**ROADS, BRIDGES, MINOR PORTS AND SHIPPING**

**POLICY NOTE**

**2012 - 2013**

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**GOVERNMENT OF TAMIL NADU**

**2012**

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## **HIGHWAYS AND MINOR PORTS DEPARTMENT**

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**POLICY NOTE ON**

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**2012 – 2013**

### **INTRODUCTION**

In the globalised economy, an efficient road network is essential to improve competitiveness and increase productivity and efficiency. Good physical connectivity in both urban and rural areas boosts economic growth. The Highways and Minor Ports Department of the Government of Tamil Nadu has been given the mandate of creating, augmenting and maintaining the Road and Port infrastructure of the State. Better connectivity, broader roads, Ring roads, bridges, ROBs / RUBs and development of minor ports are all aimed at

achieving balanced socio-economic development of the State.

## **1.1 INCEPTION AND GROWTH OF THE DEPARTMENT**

Government of Tamil Nadu has the unique distinction of creating a separate Highways Department as early as in 1946 exclusively to attend to roads and bridges in the State. It was a part of Public Works Department earlier but is now a separate and distinct department. A new post of Secretary to Government, Highways Department came into being in 1996.

The objectives of the department are to maintain and improve the roads under the control of the Government, and to provide all weather road connectivity to rural habitations. Tamil Nadu was the forerunner in bringing out standard specifications for the roads and bridges in the year 1954. The department is also in-charge of improvement and maintenance of National Highways in the State. Minor Ports were also later brought under the purview of this department. Subsequently, this department was renamed as '**HIGHWAYS & MINOR PORTS Department**'.

## **1.2 HIGHWAYS DEPARTMENT**

Highways Department of Tamil Nadu aims to develop and maintain the Highway network in



the State, ensure road safety and hassle free traffic.

Tamil Nadu is the eleventh largest state in the country with a total area of 1,30,058 Sq. km. The density of the population in the State is 555 persons / Sqkm. The vehicle population which was 27,325 in 1951 increased to 1,36,60,717 in 2011 registering an increase of 500 times. The density of road network in Tamil Nadu as on 2011 is 280 km per Lakh population and 156 km per 100 Sq.km area and it is well above the all India average of 103 km.

The road network increased by about 6.26 times (i.e.) from 32,307 km to 2,02,296 km since 1951 to 2011(\*\*\*). Out of this, **62,017 km** of roads are maintained by Central and State Highways Department. Categories of roads and their length as on 01.04.2012 is as follows:-

<b>Category of road</b>	<b>Length (km)</b>
National Highways (NH)	4,974
State Highways (SH)	10,764
Major District Roads (MDR)	11,247
Other District Roads (ODR)	35,032
<b>Total</b>	<b>62,017</b>

In addition to this, roads are also maintained by local bodies and other departments.

\*\*\* source – website of Department of Statistics

Types of Bridges and their numbers (as on 01.04.2012)

<b>Types of Bridges</b>	<b>Nos.</b>
Major Bridges	1357
Minor Bridges	7936
Culverts	108915
Road Over Bridges at Railway level crossing (ROB)	197
Road Under Bridges at Railway level crossing (RUB)	59
<b>Total</b>	<b>1,18,464</b>

### **1.3 MINOR PORTS WING**

The activities of Tamil Nadu Maritime Board and Poompuhar Shipping Corporation are overseen by the Minor Ports Department.

There are 3 major ports at Chennai, Ennore and Tuticorin and 23 minor ports along the 1076 km coastline of Tamil Nadu. The minor ports developed based on Indian Ports Act of 1908 are functioning under the control of State Government. The major ports developed under the Major Port Trust Act of 1963, are functioning under the control of Government of India.

**Tamil Nadu Maritime Board** performs the following functions: -

- Management of Minor Ports.

- Creation of Minor Ports through Private participation.
- Conducting ship related training for youth to provide employment opportunities.

**Poompuhar Shipping Corporation Limited** transports the coal to the Thermal Power Plants of TANGEDCO by sea. The Corporation also operates tourist ferry service from Kanyakumari to Vivekananda Rock Memorial and Tiruvalluvar Statue.

In the chapters that follow the policies of the Government for the effective functioning of these Departments are outlined.

# **HIGHWAYS DEPARTMENT**

## 2. POLICY OUTLINE

The vision of the Highways Department is to increase the **capacity, connectivity, efficiency and safety** of the Highways System so as to enable balanced socio-economic development of all sections of the people and all regions of the state.

The department aims to provide maximum benefit to road users utilising State and Central funds and funding from other agencies. The projects and schemes implemented by the department help economic growth and expeditious transport of passengers and goods within the State. The department's performance thus impinges on and impacts the citizens as well as the industries and will be one of the crucial factors enabling the state to achieve its vision of becoming the 'numero uno' State in the country.

### 2.1 CATEGORIES OF ROADS

#### 2.1.1 NATIONAL HIGHWAYS

The National Highways are roads connecting different State capitals, Major Ports, large industrial areas and tourist centers. These roads have heavy traffic intensity.

The total length of National Highways in Tamil Nadu is 4974 km of which 1500 km are maintained by National Highways wing of the

State Government and 3474 km are maintained by the National Highways Authority of India (NHAI). National Highways are being widened to two lane with paved shoulder/ four lane / six lane and strengthened using Central Funds or under PPP mode.

### **2.1.2 STATE HIGHWAYS**

The State Highways provide connectivity to District head quarters with National Highways and neighbouring states. These stretches have heavy traffic intensity next only to National Highways. The total length of State Highways in Tamil Nadu is 10764 km.

Roads classified as State Highways are required to follow standards such as

- Minimum carriageway width of 7m (double lane)
- Right of Way minimum of 30m
- All the culverts and bridges to have a minimum width of 12m etc.,

### **2.1.3 MAJOR DISTRICT ROADS**

The Major District Roads connect towns and municipal areas with District head quarters. These roads link to production and marketing centers and these centers in turn are connected with the National Highways and State Highways. In Tamil Nadu, the length of Major District Roads is 11,247 km.

Roads classified as Major District Roads are required to follow standards such as

- Minimum Carriageway width of 5.50m (intermediate lane)
- Right of way minimum of 30m
- All the culverts and bridges to have a minimum width of 12m etc.,

#### **2.1.4 OTHER DISTRICT ROADS**

The Other District Roads connect villages and marketing centres with Taluk headquarters and other important roads nearby. These roads are important as they provide mobility for transport of agricultural produce from villages to nearby marketing centers. These roads are the backbone of the rural economy. The Other District Roads are maintained as Single Lane or Intermediate Lane based on the traffic intensity of the roads.

Apart from this the Other District Roads connecting the sugarcane production centers with Sugar mills and in turn with nearby marketing centers are being improved and maintained under the category of ODR - Sugarcane roads. There are 35,032 km Other District Roads including Sugarcane roads.

Roads classified as Other District Roads are required to follow standards such as

- Minimum carriageway width of 3.75m (single lane)

- Right of Way minimum of 12m

The lane wise details of roads under the maintenance of this Department are given in **Table 2.1.**

## **2.2 ROAD CAPACITY**

Roads require to cater to the rising demands of the traffic. In view of the exponential growth of the traffic due to industrialization and urbanization, the existing capacity of roads is planned to be increased as given below:-

- **Widening of roads**

National Highways roads are widened and strengthened to the capacity of two lane with paved shoulders, four lane and six lane with the funds provided by the Government of India.

To augment the traffic capacity of state roads, Widening of all Intermediate lane State Highways to Double lane(7.0m width) and Widening of all Single lane Major District Roads (MDR) to Intermediate lane (5.50m width) have been proposed to be completed over the next two years.

- **Providing additional connectivity and upgrading roads**

Roads are being formed along new routes to connect important towns. Also, existing



roads are upgraded based on traffic and need.

- **Formation of Bypasses**

To avoid traffic congestion in major cities and towns, bypasses are being formed.

- **Construction of ROB's / RUBs**

ROBs / RUBs are being constructed at level crossings to avoid the traffic congestion and accidents and also to allow free flow of traffic.

- **Construction of Bridges**

Construction of bridges across un-bridged crossings and reconstruction of dilapidated and narrow bridges are undertaken to ensure uninterrupted traffic flow.

## **2.3 ROAD QUALITY AND EFFICIENCY**

Efficiency and quality of the Highways system are of paramount importance. The department will ensure provision of efficient pavement catering to the demands of the traffic, smoother riding surface for greater riding comfort, requiring less maintenance and better durability.

Good riding conditions result in reduced journey time between the origin and destination. Less wear and tear of the automobile parts, less vehicular maintenance etc., due to the better road conditions ultimately result in greater

economical benefits to the nation. The following steps are being taken to achieve the above.

### **2.3.1 ROAD USER SATISFACTION**

The benefits of better road construction are ultimately passed on to the Road User. The quality and efficiency of the road systems impinge on road user satisfaction. Feedback from the road users regarding the quality of the road and an effective system to incorporate such feedback would help optimal allocation of budgetary resources for road projects and evaluation of utility of such projects.

Maintenance and improvements are taken up as and when feed back is obtained from the public representatives and road users. A web site is being maintained to share information about various projects under execution, their current status etc., with the road users.

### **2.3.2 METHODOLOGY ADOPTED IN SELECTION OF WORKS**

Selection of new works is, usually guided by some of the parameters discussed below. However, the department has proposed to move from fund based approach to a need based approach. The fund based approach is usually an aggregation of the proposals submitted from the field level upwards and is limited to the declared or budgeted availability of funds.

It is possible, therefore, that many long term projects may not be taken up immediately simply because they did not figure in the priority list. This needs to change because we cannot endlessly wait for infrastructure. So, it is essential to shift to a need based approach. However for this, enormous amount of funding is required and therefore a paradigm shift in the manner in which works are taken up is required as explained below:-

#### **2.3.2.1 POLICY GUIDELINES**

As per policy guidelines of Government, the department is aiming to widen all the State Highways to a minimum of double lane and Major District Roads to a minimum of intermediate lane width. Considering the resource constraint, works are prioritised based on traffic intensity and importance of road.

#### **2.3.2.2 REPRESENTATION FROM THE PUBLIC REPRESENTATIVES**

Based on the representations received from various public representatives works are grouped into various categories and are prioritized based on the classification of road, necessity, population to be served etc.,

### **2.3.2.3 RENEWAL CYCLE**

The wearing surface of the roads is designed to serve for a period of 5 years. Once in 5 years the top wearing surface of the roads requires to be renewed. Considering the renewal cycle roads are taken up for strengthening and improvements based on the roughness of the road (Road Condition Report) which is obtained from Road Management System. The roads are prioritised based on International Roughness Index (IRI) and the roads falling in the very poor (IRI >9) and poor (IRI between 7 and 9) category are taken up for improvement.

### **2.3.2.4 PRIORITISATION BASED ON THE COMPREHENSIVE TRAFFIC STUDY**

Comprehensive traffic study is being conducted at District level to identify potential candidate roads for selection under widening, strengthening and improvement / upgradation categories. Identified black spots and junctions are taken up for study and remedial measures suggested by consultants will be taken up in a phased manner based on priority.

### **2.3.2.5 UPGRADATION OF ROADS TO MEET THE NORMS**

The Government have approved a set of norms based on which roads will be categorised as SH, MDR and ODR. These include connectivity, traffic to be catered

to, etc., Works are identified to maintain the roads in the minimum specified standard and taken up in a phased manner based on the priority.

#### **2.3.2.6 WORKS SELECTION BASED ON ECONOMIC CRITERIA**

- a. Vision of the Government is to provide road infrastructure for equitable socio-economic development throughout the state.
- b. To ensure equity and balance, new road works are identified considering the density of road network per unit area and unit population and taken up in phased manner.
- c. New Special Economic Zones and industrial corridors are established by the Government in the economically backward areas. To provide connectivity considering the heavily loaded vehicles plying in those industrial areas, specially designed roads are required to be provided.

#### **2.3.2.7 STRATEGIC OPTION STUDY (SOS)**

In order to identify and prioritize the roads for improvements, the department has under taken a STRATEGIC OPTION STUDY under the aegis of TNRSP.

Based on this, a shelf of projects has been prepared and a list of roads has been identified for future implementation. On priority basis, in the first phase, a total length of 2477 km of State Highways and Major District Roads has been selected based on STRATEGIC OPTION STUDY. Techno Economic Feasibility study has been conducted by Indian Institute of Technology (IIT), Chennai.

Based on the feasibility report submitted by the consultant, the committee has recommended that the Government of Tamil Nadu would take up viable roads which have good Economic Internal Rate of Return (EIRR) under Public Private Partnership (PPP) for Rs.1500 Crore without Viability Gap Funding.

Apart from this, roads were shortlisted (excluding those roads found viable under PPP) based on the EIRR in descending order to around Rs.6500 Crore. The Government of Tamil Nadu will bear 20 % of cost of these roads and request for funding of remaining 80 % through external agency. The proposal has been sent to Government of India for tying up with external funding / lending agencies.

### **2.3.3 METHODOLOGY FOR SELECTION OF WORKS UNDER VARIOUS CATEGORIES**

The works under various categories like widening, strengthening, formation of bypasses, construction of bridges etc., are selected for

implementation considering the above parameters. The selection of works under each category is detailed below:

#### **2.3.3.1 WIDENING OF ROADS**

As regards State Highways and Major District Roads, selection of works under this category is primarily guided by the Policy of the Government as explained in section 2.3.2.1. However, roads requiring lane additions based on capacity / volume ratio are also considered for inclusion considering their importance. In respect of Other District Roads, roads are taken up for widening based on the capacity / volume ratio.

#### **2.3.3.2 STRENGTHENING OF ROADS**

As regards strengthening / improvement / upgradation of roads, the selection is primarily guided by the renewal cycle as explained in chapter 2.3.2.3 taking into account the factors such as representations from public representatives, Traffic Study report and norms specified for maintenance.

#### **2.3.3.3 FORMATION OF BYPASSES/ RING ROADS/ NEW LINKS**

- a. To avoid congestion in the towns and to reduce the travelling time of through traffic new bypasses and ring roads are formed.

Missing links in the existing road networks are considered based on the population.

- b. Considering the traffic, vehicle population and importance of the town, these categories of works are taken up.

#### **2.3.3.4 CONSTRUCTION / RECONSTRUCTION OF BRIDGES AND CULVERTS**

- a. Construction of bridges and culverts in unbridged crossings is taken up every year based on the connectivity and usage. Due consideration is given to the areas which get isolated during the rainy season because of unbridged road crossings.
- b. Narrow and weak bridges constructed long back are taken up for widening/ rehabilitation / reconstruction every year on priority basis.
- c. Age, condition of the bridge, importance of location, classification of road and traffic intensity are the major factors based on which the works are prioritised.

#### **2.3.3.5 CONSTRUCTION OF ROAD OVER BRIDGES / UNDER BRIDGES AT THE INTERSECTION OF RAILWAY LEVEL CROSSINGS**

- a. ROB / RUBs are taken up to eliminate waiting at manned level crossings for hindrance free traffic movement and to



reduce occurrence of accidents taking place at level crossings.

- b. The construction of Road Over / Under Bridges in lieu of existing level crossings on Government roads are undertaken on priority basis when Train Vehicle Units (TVU) exceeds One Lakh per day.
- c. Works under Railway Works Programme are selected by Railways applying the said criteria and proposals sent to State Government for sponsoring by State Government. The State Government and Ministry of Railways share the cost equally for construction of Road Over / Under Bridges including approaches and service roads.

#### **2.3.3.6 URBAN AREA INFRASTRUCTURE DEVELOPMENT PROJECTS**

Construction of grade separators at major road intersections, Improvement of junctions and intersections, providing foot over bridges/ subways for pedestrian use, etc are taken up in the urban, sub-urban and peri-urban areas based on the traffic volume and demand.

### **2.3.3.7 DEVELOPMENT PROJECTS IN CHENNAI METRO AREA**

- a. Development Works in Chennai City are selected from the recommended proposals in Chennai City Comprehensive Traffic and Transportation Study (CTTS) reports prepared by the Chennai Metropolitan Development Authority (CMDA).
- b. In the CTTS report, there were number of Projects identified for implementation over 3 phases: 2010-2015, 2016-2022 & 2023-2026. The broad cost and the line departments responsible for the implementations have also been mentioned.
- c. The over all Highways Components given in the report are as follows.  
Phase I: 2010-15 - 205 works at Rs.8739 Crore  
Phase II: 2016-22 - 77 works at Rs.3138 Crore  
Phase III: 2023 -26 - 58 works at Rs.2193 Crore
- d. Works are being selected from the above proposals on priority basis considering availability of funds.
- e. To bring the arterial roads within Chennai Metropolitan Area to international standards, for decongestion and to reduce travel time projects such as BRTS (Anna Salai in study), Monorail, and Metro Rail etc are being planned. This department is

coordinating with other project execution authorities to achieve these goals. The 'Chennai Unified Metropolitan Transport Authority' (CUMTA) has been constituted for integrating and overseeing different modes of traffic for this purpose.

#### **2.3.3.8 INDUSTRIAL / PORT CONNECTIVITY PROJECTS**

Industrial connectivity works are taken up on request from Industries Department / Industries as deposit works or Plan works utilising State funds.

#### **2.3.3.9 SPECIAL PROJECTS WITH EXTERNAL FUNDING**

The works prioritised as said above are packaged into groups and taken up for execution depending on the funds obtained/proposed to be obtained through external funding agencies.

#### **2.3.3.10 ROAD SAFETY WORKS:**

- a. Road safety projects are selected based on the Road Accident Data Management System (RADMS) data, reports based on the studies conducted to identify black spots, non-standard and sub-optimally designed intersections and recommendations of the road safety committees at District level
- b. The accident data available in RADMS is analysed and taken as key parameter

while selecting works for widening / strengthening of roads, construction of bridges etc.,

#### **2.3.4 COMPUTERISATION**

To strengthen the present administrative set-up and to increase efficiency, action has been taken for computerization of all the wings / offices of the department. Around 1,814 computers have been provided to 751 offices right from Chief Engineer's office to section office of all wings of the department.

Highways Department is in the process of standardizing and computerizing all the processes like traffic surveys, designing, estimation and preparation of BOQs, bidding, preparation of tender documents and agreements, measurement, billing, accounts, audit, etc.,

The entire department is being computerized and necessary hardware and software for this purpose have been installed. The software has been web enabled. On trial basis e-tendering is being implemented.

##### **2.3.4.1 ROAD MANAGEMENT SYSTEM (RMS)**

RMS is a computerized system developed by Highways Department to scientifically manage the maintenance of roads. It helps in

prioritising the roads to be improved from the core network of the roads in Tamil Nadu.

This application is a web enabled and hosted system.

The collection of field data of roads and bridges are completed for 21000 km in SH and MDR. Also data collected in 10217 km of ODR. Further, collection of data for the remaining reaches is in progress. Survey will be carried out periodically to assess the condition of the roads.

Data available in RMS are analysed with HDM4 software and the economic feasibility of any road project is obtained for prioritization.

To enhance the capacity of the existing system, two new Advanced Data Collection Equipment have been purchased. Additional field information collected utilizing these equipment will be fed in RMS and made use of in the planning process.

Road condition report generated using RMS reveals that out of 9580 km, 6% of State Highways are in damaged condition.

#### **2.3.4.2 ADVANCED DATA COLLECTION EQUIPMENT**

Supply and installation of two Advanced Data collection equipment has been completed at a cost of Rs.3 Crore and it was launched by Hon'ble Chief Minister on 27.01.2012.

The collection of data using advanced data collection equipment is in progress. It is programmed to complete the collection of data for the entire road network within three years.

Advance Data Collection Equipment, a sophisticated Laser Borne Equipment which are fitted in a vehicle, collects both Qualitative and Quantitative Data on the road surface condition. This data which is an unbiased, reasonable information is helpful in prioritizing the road structures for improvement in a scientific manner.

#### **2.3.4.3 INTEGRATED PROJECT, HUMAN RESOURCE & FINANCE MANAGEMENT SYSTEM (P&FMS)**

To automate the existing manual procedures in Highways Department through computers, 'Integrated Project, Human Resource & Finance Management System (P&FMS)' has been developed. All the data related to important projects are digitized and made available in the system in electronic format. Also establishment related particulars will be stored in the data base. This will ensure efficient and transparent functioning of the department.

#### **2.3.4.4 GEOGRAPHIC INFORMATION SYSTEMS (GIS)**

The Tamil Nadu Road Sector Project (TNRSP) has deployed consultancy services to customize, integrate and implement GIS Software for the Department. The envisioned system includes improvement of technical skill and management capabilities of the

Department. The GIS based information system has been developed based on the latest map of Survey of India. The GIS has been integrated with other applications such as RMS and P&FMS.

### **2.3.5 QUALITY CONTROL**

For improvement and maintenance of roads and bridges huge amount being spent through this Department. In order to ensure quality of these works, a 3 tier quality control system is in vogue under Quality Assurance wing.

**Quality of the roads has been improved over the years. The road condition report based on the Roughness Index taken from RMS reveals that the percentage of State Highways in damaged condition has decreased from 8% in the year 2010 to 6% in the year 2011.**

### **2.3.6 IMPROVING DELIVERY SYSTEMS**

#### **2.3.6.1 COMPREHENSIVE ROAD AND TRAFFIC PLANNING**

Highway development needs to take into account the needs of the future like Mass Rapid Transport as well as of different road users like pedestrians and two-wheelers. For this integrated and comprehensive planning is a prerequisite. This is especially true of urban and peri-urban areas which are fast developing and where seamless blending of various transport

options is required. It is planned to focus on this aspect in all future programmes especially in Chennai and other major cities.

### **2.3.6.2 PUBLIC PRIVATE PARTNERSHIP**

The Highways Department has usually restricted its activities to the available budget. Demands are many but only a few can be fulfilled every year. So infrastructure deficit continues and infrastructure development becomes a slow process. A paradigm shift is needed from this to an approach where needs of different users are considered and plans evolved in an integrated and holistic manner and then funding is tied up. This will ensure that infrastructure delivery is faster.

It is obvious that for this paradigm shift resources need to be available and PPP is one method through which resource mobilisation is possible as mentioned in the budget speech. The available resources can be leveraged through PPPs so that infrastructure development is faster.

### **2.3.6.3 PERFORMANCE BASED MAINTENANCE CONTRACT (PBMC)**

As announced in the budget speech PBMC is one method of ensuring accountability in the maintenance of roads. This has already been tried in some stretches on a pilot basis. Based on this new schemes will be taken up.



#### **2.3.6.4 LAND POOLING**

It has become increasingly difficult to compulsorily acquire land for widening roads as well as forming bypasses. Land owners are reluctant to part with their lands, which is leading to delays in project execution. To ensure that they are co-opted as partners in the development process, it is proposed to try out the land pooling system as announced in the budget speech. Through this scheme, land is pooled and road grids can be neatly formed. This has proved very successful in some parts of the world and other states in India. The Highways Act is proposed to be modified giving effect to Land Pooling.

Land Pooling technique will be utilized for development of infrastructure as well as economic development. This in turn enables for redistribution of the remaining plots back to the land owners to develop or to sell. This technique will avoid huge land acquisition cost and also beneficial to land owners though the land owner lose some land (undeveloped or under developed), gets back 70% - 80 % of developed land. To achieve the above, facilitation through TN Highways Act is being proposed.

### **2.3.7 INTERNATIONAL STANDARD ORGANIZATION 9001:2008 CERTIFICATION (ISO 9001:2008)**

As a part of re-organization of administrative set-up, 5 offices have obtained I.S.O (International Standard Organization) 9001-2008 Certification. Proposal for obtaining I.S.O Certification for the Office of the Chief Engineer (H), Quality Assurance & Research, Chennai and Regional Labs at Thanjavur, Tirunelveli, Madurai, Coimbatore and Offices of the Superintending Engineer (H), Construction and Maintenance, Chennai, Madurai, Salem and Tirunelveli has been taken up. Consultant has been appointed.

### **2.3.8 CODING SYSTEM**

As part of computersation, web based computer systems viz Road Management System (RMS), Project, Human Resources and Finance Management System (P&FMS) and Geographical Information System (GIS) have been introduced by the department to effectively manage the road infrastructure projects.

A **coding system** has been evolved for integration and efficient co-ordination among various systems.

The details of various coding systems are listed below:-

1. Road Code
2. Job Code
3. Contractors Code

#### **2.3.8.1 UNIQUE NUMBERS FOR THE ROADS**

To interlink all the systems established for maintenance of the core road network, unique identity code for State Highways, State Highways Urban (Abandoned National Highways) and Major District Roads are assigned. This code will enable users to track the works carried out on a particular road.

#### **2.3.8.2 JOB CODE**

The **“Job Code”** used as a common and unique identity code for works sanctioned every year under various schemes to be executed by various wings. This will help in effective coordination and inter-linking of data among P&FMS and GIS.

#### **2.3.8.3 UNIQUE CONTRACTORS' CODE**

Every year projects to the tune of Rs.3000 Crore being implemented by various wings of the Department through contractors registered with the department. In order to verify the credentials of the contractors and eliminate the duplication of facts, contract coding system has been established. This helps in e-tendering process and inter-linking of

computerized data base systems such as P&FMS and GIS.

## **2.4 ROAD SAFETY**

In view of the increasing road traffic and congestion, safety of road users, especially pedestrians, cyclists and those travelling in smaller vehicles etc is paramount. Number of vehicles during 2002 – 2003 was 56,58,097 and it has increased to 1,48,61,695 in Dec. 2011. Number of fatalities per 10,000 vehicles during 2002 – 2003 was 17.56 and through Road Safety measures it has been reduced to 10.38 at present.\*\*

The department has identified several critical junctions as black spots. Geometrical improvements have been made to reduce the accidents and to provide safe and comfortable driving for the users.

In addition to the above, the department has proposed construction of bypasses and flyovers at the intersection of NH and SH which are identified as critical junctions.

As envisaged in the Road Safety Policy, the reduction in fatalities per 10,000 Vehicles has been achieved. The World Bank Mission has appreciated the reduction in accidents as an impact of implementation of Road Safety Programme.

*\*\* (Source – Transport Department and State Transport Planning Cell (STPC) websites)*

However, statistics reveal 98% of the accidents are caused by human error. So, the Department will take special efforts to spread awareness among road users.

#### **2.4.1 ROAD ACCIDENT DATA MANAGEMENT SYSTEM (RADMS)**

Road Accident Data Management System (RADMS) is a web enabled GIS based software developed for Tamil Nadu. With the assistance of the World Bank, this system is being implemented through Tamil Nadu Road Sector Project wing of the Highways Department in coordination with Police and Transport Departments.

The objective of the system is to collect accident data, analyze the cause of accidents and to improve road safety measures.

Accident Data is being collected by the three departments and uploaded in the system. This data is analyzed and interventions are implemented by the department concerned to improve Road Safety.

#### **2.4.2 ROAD SAFETY AWARENESS**

Road safety awareness programme is being implemented through the Institute of Road Transport. This includes formulation of detailed action plan, creating awareness among the drivers of three/four wheeler, school students

and general public about the road safety measures, find ways and means to avert collision with vehicles parked on the road side.

## **2.5 ENVIRONMENT FRIENDLY MEASURES**

Road infrastructure is planned in consonance with the environmental conditions of the local area. It is proposed to use sustainable technology utilizing alternate materials for road infrastructure, thereby conserving the Ecology. The following eco-friendly measures are being adopted:

### **2.5.1 PLANTATION**

During the widening of roads cutting of trees located along the roads is inevitable. To compensate, for every tree cut several new saplings are planted. In addition to the above, a lot of avenue plantation is proposed in the land available within the office premises of the department. Taking an eco-friendly view and to reduce global warming, the department is implementing the plantation program along the boundary of the roads.

During 2011-12, 67200 saplings have been planted and a target of 1 Lakh saplings has been set for 2012-13

## **2.5.2 RAIN WATER HARVESTING**

To replenish the ground water, rain water harvesting is being implemented in all bridges, roads and Government buildings with either open or closed drainage facilities based on the site conditions. It is important to note that proper drainage of storm water away from the road helps to maintain the durability of the roads. Provision for construction of earthen drains is included in all the road works.

## **2.6 COMMITTEES FOR EFFECTIVE FUNCTIONING**

For effective functioning of the department the following committees have been set up.

### **2.6.1 BOARD OF ENGINEERS (BOE)**

Board of Engineers is the Highest Technical Authority established in Highways Department comprising all the Chief Engineers of the Department and is headed by Director General.

Policy decisions on technical matters are taken at BOE level. BOE also suggests new engineering techniques, to be followed during execution of works. Further, BOE recommends administrative reforms if any required to the Government.

In addition, BOE has powers to accept the tenders when value put to tender is upto Rs.50 Lakhs and quoted tender premium exceeds 6%.

## **2.6.2 TECHNICAL AUDIT COMMITTEE**

To ensure that the prescribed technical guidelines are properly followed in all the estimates of road and bridge works and to execute the works economically, a "Technical Audit Committee" comprising all the Chief Engineers of the Highways department has been constituted at the State Head Quarters level. It provides technical guidance for works costing more than Rs.5 Crore and based on this guidance, estimates are technically sanctioned by Chief Engineers concerned.

## **2.6.3 COMMITTEE ON REVISED ADMINISTRATIVE SANCTION**

Two Revised Administrative Sanction (RAS) committees have been constituted for quick processing and early approval of RAS proposals for works involving change in design, price variation or additional items.

The first is the Technical committee on Revised Administrative Sanction comprising 3 retired Chief Engineers of the department scrutinises the deviations involved in the works requiring RAS and recommends the cases to the second committee which is the Revised



Administrative Sanction (RAS) Committee. This committee comprises representatives of Government in Finance and Highways Department in addition to 3 Chief Engineers from Highways Department.

#### **2.6.4 PURCHASE COMMITTEE**

For purchase of equipment and software needed for Quality Assurance and Research wing and Planning, Design and Investigation wing a committee comprising 6 members has been constituted in this department.

#### **2.6.5 ALIGNMENT COMMITTEE**

In order to prevent law and order issues and delays due to public opposition to alignment of new roads, bypasses and consequent land acquisition, a District level alignment committee will be formed comprising officials from District Administration, Highways, Police, Local bodies, DTCP, etc., The District Collector will be the Chairman of the Committee.

### **2.7 REMOVAL OF ENCROACHMENTS**

The major task of the Department is to manage the road assets. In order to demarcate the Highways boundaries, boundary stones are planted at the edge of the Right of Way. The right of way varies from 12m to 45m for various categories of roads (viz) State Highways, Major District Roads and Other District Roads.

The encroachments cause hindrance to free flow of traffic and nuisance as well as threat to safety of road users. Further, encroachments pose potential obstruction to future widening works. Whenever the highway is encroached upon by road side vendors or by any other persons, the encroachments are identified in the initial stage itself and prevented.

This Department also takes measures including periodical drives to remove the encroachments and safeguard the highways right of way.

## **2.8 TRANSFER OF DEVELOPMENTAL RIGHTS**

Implementation of urban infrastructure projects particularly road projects is getting affected due to non availability of urban land. Procuring land either by compulsory acquisition or by private negotiation is time consuming and plagued by litigation and resistance from land owners.

To avoid this, concept of Transfer of Developmental Rights is being used as an effective means to procure land. Main objective of this scheme is assembling land required for critical urban infrastructure without having to monetarily compensate the land owners parting with their land through TDR realised in time.

A small cell to handle this has been set up in CMDA. Under this scheme in 10 major roads (MTH road, Velachery main road, GNT road....etc) an extent 19672 sq.m of land has been taken possession by CMDA. The land so possessed is to be handed over to Highways Department for road widening.

Details of lands procured through TDR are given below:-

<b>Division</b>	<b>Cases</b>	<b>Extent (Sq.m.)</b>	<b>Possession given to Highways Department</b>	<b>Possession extent (Sq.m.)</b>
Tiruvallur	22	11563	4	1015
City Roads	25	7536	8	1095
Chengalpat	6	573	Nil	Nil
<b>Total</b>	<b>53</b>	<b>19672</b>	<b>12</b>	<b>2110</b>

**TABLE 2.1**  
**LANE WISE DETAILS**

Sl. No.	Category of Road	Single lane	Intermediate lane	Double Lane	Multi lane	Total
1	National Highways (NH)					
	a) National Highways wing	13	54	1394	39	1500
	b) National Highways Authority of India	-	-	1371	2103	3474
	<b>Sub Total</b>	<b>13</b>	<b>54</b>	<b>2765</b>	<b>2142</b>	<b>4974</b>
2	State Highways (SH)	32	693	9028	1011	10764
3	Major District Roads (MDR)	2791	5289	3033	134	11247
4	Other District Roads (ODR)	31732	2429	823	48	35032
	<b>Total</b>	<b>34568</b>	<b>8465</b>	<b>15649</b>	<b>3335</b>	<b>62017</b>

## **3. WINGS AND THEIR ACTIVITIES**

### **3.1 WINGS OF THE DEPARTMENT**

Highways Department functions under the overall coordination of the Director General. There is a wing for Planning, Design & Investigation, another for Quality Assurance and Research and there are six wings for execution of works as follows:

1. Construction & Maintenance wing – State fund works
2. National Highways wing – Central fund works
3. NABARD & Rural Roads wing – NABARD loan assistance works
4. Projects wing - Railways Works Programme (fund sharing)
5. Metro wing - Chennai Metro Development Programme works
6. Tamil Nadu Road Sector Project – World Bank loan assistance works

In addition, two companies are executing Special Projects.

1. Tamil Nadu Road Development Company
2. Tamil Nadu Road Infrastructure Development Corporation.

The functions of all the wings are detailed as follows:

### **3.2 OFFICE OF THE DIRECTOR GENERAL**

The post of Director General has been created for smooth and efficient functioning of the department and to coordinate the work of all the eight wings. The Director General is also the head of all the Technical Committees.

#### **FUNCTIONS OF THE DIRECTOR GENERAL:**

- Overall Planning and Budgeting of Highways Department
- Establishment and Personnel Administration matters in Highways Department
- Monitoring Quality of works executed by the Highways Department
- Coordination of Road Accident Data Management System (RADMS)
- Monitoring the Road Management System
- Any other work entrusted by the Government
- Functioning with 3 Joint Directors and 7 Assistant Directors

### **3.3 CONSTRUCTION & MAINTENANCE WING**

- Maintenance of State Highways, Major District Roads, Other District Roads and bridges.
- Execution of Part – II scheme works.

- Restoration of roads and bridges affected by natural calamities like monsoons, floods and Tsunami.
- Execution of road and bridge works under Comprehensive Road Infrastructure Development Programme.
- Formation of bypasses.
- Implementation of road infrastructure schemes under Public Private Partnership.
- Maintenance of ODR - Sugarcane Roads.
- Construction of ROBs / RUBs.
- Works are carried out by 8 Circles and 37 Divisions.

### **3.4 NABARD & RURAL ROADS WING**

- Execution of bridges and roads with loan assistance from NABARD.
- Construction of Road Over Bridges / Road under Bridges under Railway Works Programme.
- Works are carried out by 4 Circles and 14 Divisions.

### **3.5 PROJECTS WING**

- Road Over and Under Bridges at Railway level crossings under Railway Works Programme.
- Major Bridge works with State funds and NABARD assistance.
- Formation of Ring Roads and Radial Roads.

- Formation of Sugarcane Roads with Sugar Cess fund.
- Works are carried out by 4 Circles and 12 Divisions.

### **3.6 METRO WING**

- Execution of Chennai Metropolitan Development Plan (CMDP) works.
- Road works, major bridge works and bridge works in road junctions under TNUDP – III.
- Construction of ROBs / RUBs in Metro areas.
- Works are carried out by 1 Circle and 4 Divisions.

### **3.7 NATIONAL HIGHWAYS WING**

- National Highways Development comprises plan works and maintenance of roads and bridges on National Highways with the funds of the Government of India.
- Revamped Central Road Fund scheme works.
- Inter State Connectivity Scheme works.
- Economic Importance scheme works.
- Western Ghats Development Programme works
- Hill Area Development Programme works
- Works are carried out by 4 Circles and 8 Divisions.



### **3.8 TAMIL NADU ROAD SECTOR PROJECT WING**

- Road upgradation works with the World Bank assistance.
- Enhanced road maintenance works.
- Undertaking studies for projects to be implemented through Public Private Partnership.
- Strengthening the organisational set-up of Highways Department.
- Establishment of Project & Financial Management system (P&FMS).
- Collection of data pertaining to network of roads in the State utilising Geographical Information System (GIS).

### **3.9 QUALITY ASSURANCE AND RESEARCH WING**

- Research activities relating to roads and bridges.
- 3 tier quality assurance for all works implemented by this department.
- Road safety and traffic improvement works.
- A quality assurance and research works along with testing are being carried out by 4 Deputy Chief Engineers and 8 Divisional Engineers (Quality Control).

### **3.10 PLANNING, DESIGN AND INVESTIGATION WING**

- Carrying out investigation for new road and bridge works.
- Preparation of structural designs, drawings and estimates for bridge works costing Rs.2 Crore and above.
- This wing comprises 1 Joint Chief Engineer, 4 Divisional Engineers and 8 Investigation Divisions.

### **3.11 TAMIL NADU ROAD DEVELOPMENT COMPANY (TNRDC)**

- Implementing major PPP projects
- Management of Chennai Outer Ring Road works.
- Undertaking Rajiv Gandhi IT Expressway works and maintaining as toll road
- Improving and maintaining the East Coast Road (Chennai to Puduchery) as toll road

### **3.12 TAMIL NADU ROAD INFRASTRUCTURE DEVELOPMENT CORPORATION**

- Development of road and bridge infrastructure required in industrial areas

## **4. HUMAN RESOURCES DEVELOPMENT**

Considering that 62,017 km of Government Road Network (NH, SH, MDR and ODR) are to be maintained and more than Rs.9700 Crore worth of projects are handled by the various wings of this Department, the need for re-organisation was acutely felt. Accordingly, it was decided to take up Institutional Development Study under the World Bank assisted TNRSP.

Based on the Institutional Development Study the work load among various wings has been redistributed for effective functioning and the existing organizational structure has been modified and modernized. Highlights of the reorganization are as follows:

- Creation of the office of Director General for effective coordination
- Exclusive Quality control setup to monitor the quality of works executed

Revised staff strength as per reorganisation and their roles and responsibilities are detailed in this chapter.

## 4.1 STAFF STRENGTH

The Highways Department currently functions with a total cadre strength of 1619 Engineers, 776 Technical Staff and 4540 Administrative and Ministerial staff. Details of Posts are given below:

### **Engineering Staff:**

Chief Engineer	-	9
Superintending Engineer	-	28
Divisional Engineer	-	133
Assistant Divisional Engineer	-	477
Assistant Engineer / Junior Engineer	-	972

**1619**

### **Technical Staff:**

Technical Staff	-	776
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(Includes HDO, SDO, DO, JDO etc.,)

### **Administrative and Ministerial Staff:**

Administrative Staff	-	4540
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(Includes CPO, AO, Superintendent, Assistant, HRS staff.,etc)

### **Work charged establishment:**

Road Inspectors	-	<b>1801</b>
Gang Mazdoors	-	<b>14872</b>

The above cadre strength is fixed based on the work load of the department.

## 4.2 PROJECT EXECUTION WINGS

Details of execution wings and field offices are detailed below. Each wing is headed by the Chief Engineer.

SI No	Wing	Field Offices			
		Circle	Division	Sub-Division	Section
<b>(I)</b>	<b>IMPLEMENTATION WINGS</b>				
1	C&M	8	37	188	266
2	NABARD & RR	4	14	54	131
3	PROJECTS	4	12	45	94
4	NH	4	8	34	142
5	METRO	1	4	10	20
6	TNRSP		2	5	4
<b>(II)</b>	<b>FORMULATION AND MONITORING WINGS</b>				
7	PD & I		8	14	32
8	QA & R		8	41	98

## 4.3 DUTIES AND RESPONSIBILITIES

Engineers along with Technical staff are responsible for formulation and implementation of all scheme works. Besides, their duties include maintenance of roads and ensuring connectivity to public in all seasons. Quality control wing has been set up exclusively to monitor the quality of works.

The administrative wing along with accounts branch oversees the routine administration and monitors expenditure and ensures budgetary control.

#### **4.4 RECRUITMENT**

During the year 2011-12, 131 posts of Assistant Engineer were filled up through TNPSC. Recruitment to fill up the posts of 146 Junior Drafting Officers is under process.

Total sanctioned strength of the Road Inspectors is 1801. (Grade-I 600 Posts and Grade-II 1201 Posts). Action is being taken to fill up 317 vacancies in the Road Inspector Grade-II category by transfer of service (81 Posts) and by direct recruitment (236 Posts).

*Promotion:* As and when vacancies arise at various levels due to retirement and other exigencies, posts are filled up after following due process.

#### **4.5 TRAINING**

Training is essential to improve knowledge, skills and attitudes of the personnel in the department.

There is a need to develop and sustain the core competency of the department on a continuous basis. The areas which require

attention include project planning and surveys, design and investigation, project implementation, quality control, traffic management and transportation planning and road safety aspects.

Apart from this training is also required in the areas of emerging technologies alternate materials, construction methodologies, monitoring methods including IT enabled tools.

The department has therefore embarked on a mission to impart training on a continuous and comprehensive basis to Departmental Engineers and supporting staff using the latest state of the art facilities. The training will cover both new recruits (induction training) and those already in service (in-service training).

The periodicity of such training will be need based.

#### **4.5.1 INDUCTION TRAINING FOR FRESH ENGINEERS**

During 2011-12, for the first time the newly recruited Engineers were given training both in technical aspects and administrative matters.

The technical training include fundamental concepts related to Highway and Bridge Engineering, design, project management and monitoring, construction practices and methodologies, quality control procedures,

traffic and transportation, road safety etc., For better understanding of the functioning of the Department, newly recruited Engineers were given training on various aspects including administrative procedures, accounting and financial procedures apart from the technical and management part.

It is proposed to make the induction training more purposeful and focused so that the newly recruited Engineers become more productive and sense of Camaraderie is inculcated amongst them right from the beginning.

#### **4.5.2 IN-SERVICE TRAINING (REFRESHER COURSE)**

Periodic training on quality control aspects is being given to the Engineers of the Department by Quality Assurance and Research Wing. It is proposed to totally revamp and restructure the in-service training for Engineers. The following aspects will be the highlights:-

All Engineers will have to undergo periodic training to update and familiarise themselves with the latest trends in Highway Engineering. The training will be of three kinds

1. Regular in-house training to be conducted by Quality Assurance and Research Wing.
2. Advanced training in certain focus areas on a need basis for selected group of Engineers interested in specialization.



3. Refresher courses conducted by external institutions like IIT, Central Road Research Institute (CRRRI), Indian Academy of Highway Engineers (formerly NITHE).
4. Apart from this, Senior Engineers of this Department are sponsored to attend IRC Seminars.

To achieve the training objectives it is necessary that there exists a group of trainers and experts within the department. This will be done through 'Training of Trainers (TOT) programmes'.

It is also proposed to make some of the training modules compulsory and participation and successful completion of the training will become one of the inputs for performance appraisal and further promotion.

#### **4.5.3 TRAINING FOR ADMINISTRATIVE STAFF**

30 days training on office administration to all the ministerial staff at Bhavanisagar Training Center, Erode District is given on a regular basis.

## **4.6 INFRASTRUCTURE AND EQUIPMENT FOR OFFICES**

### **a) OFFICE BUILDINGS**

There are 426 offices functioning in the department. Of these, 223 are housed in own buildings and the remaining 203 function out of rented buildings.

Every year, Department is taking up construction of office buildings for various offices functioning in rented and dilapidated buildings

New integrated office complex is proposed to accommodate the offices of all the Chief Engineers.

During 2011-12, 14 buildings for Division and Sub-Division offices have been sanctioned at a cost of Rs.324.75 Lakhs. The works are in progress.

### **b) TRAVELLERS BUNGALOWS**

To facilitate frequent inspection of projects implemented, Travellers Bungalows have been built at various places. Out of 167 Travellers Bungalows spread over the state, 61 buildings are very old and are identified as Heritage Buildings. Works have been taken up to rehabilitate/ reconstruct the old buildings and to conserve the heritage structures.

Apart from this new Travellers Bungalows are also being constructed wherever they are found necessary. 17 Travellers Bungalows at various locations at a cost of Rs.538.61 Lakhs which have been sanctioned during 2011-12 are in progress.

During 2012-13, 26 Office buildings at a cost of Rs.604 Lakhs and 7 Traveller's bungalows at a cost of Rs.225 Lakhs have been proposed. As announced last year, the process of identification of Heritage buildings has been completed. Archaeological Department has been requested to suggest measures to preserve the Heritage buildings. A sum of Rs.10 Lakhs has been proposed towards preservation of heritage buildings.

### **C) OFFICE EQUIPMENT**

To facilitate efficient functioning, office equipment such as Computers, printers, Photo copying machines and Fax Machines etc have been procured for Rs.74.70 Lakhs in the year 2011-12 under part-II scheme.

## 5. PROJECTS AND SCHEMES

The department implements different projects under various schemes every year utilizing both state and central funds and funds provided by external agencies including through PPPs. The details of various categories of works and schemes implemented are detailed below:-

### 5.1 WORKS TAKEN UP BY THE DEPARTMENT

The department has taken up various works to the tune of **Rs.9771 Crore** for implementation during 2011-12 and the abstract of works under various categories is listed in **Table 5.1**

#### 5.1.1 ROAD WIDENING

In view of the rising vehicular traffic, widening of the roads becomes essential. Widening of roads is taken up based on traffic intensity and capacity of the road.

Widening of 1354 km roads at a cost of Rs.944 Crore is in progress.

#### 5.1.2 STRENGTHENING AND IMPROVEMENTS

The road stretches serving industrial areas are prone to heavy traffic and strengthening of the road pavement is necessary. In order to assess the extent of damage suffered by the pavement, BBD (Benkelman Beam Deflection)

test is conducted. Using the traffic and deflection parameters, the total thickness of new layers required is determined and the strengthening of the pavement is carried out accordingly.

Strengthening and improvement works of 1628 km roads at a cost of Rs.2305 Crore are in progress.

### **5.1.3 PERIODICAL RENEWAL AND SPECIAL REPAIRS**

The roads in which wearing surface has deteriorated warrant periodical renewal. Periodical renewal of pavement is done in a cyclic manner as per IRC norms. Special Repairs are undertaken to rectify the damaged pavement. These works are being carried out using Non - Plan maintenance grant.

### **5.1.4 MAINTENANCE WORKS**

The road surface develops patches and potholes due to continuous flow of traffic. Rectifying the damaged road surface to maintain smooth flow of traffic is essential. The repair is taken up immediately. Packing of BT edges, patch repairs, painting of kilometer, hectameter stones, clearing of bushes, sectioning of berms are undertaken. Renewal and maintenance of roads & bridges are being carried out as per IRC norms.

### **5.1.5 BYPASSES**

Bypasses form part of the transport system that helps in diversion of traffic from entering into congested cities and towns. Bypasses reduce the travelling time of through-traffic. Construction of bypasses assumes top priority in managing the traffic growth in cities.

The Department takes up formation of bypasses in two phases (viz) land acquisition in the first phase and formation of road works in the second phase.

Out of the 163 bypasses 74 have been completed. The various stages of bypasses are given in **Table-5.2**

### **5.1.6 ROAD OVER BRIDGES (ROB) / ROAD UNDER BRIDGES (RUB)**

Construction of ROB / RUBs is undertaken to replace the level crossings under Railway Works Programme on cost sharing mode on priority basis.

184 ROB / RUBs have been taken up at a cost of Rs.4108.73 Crore (**Table 5.3**). Out of these, 48 works have been completed and 45 works are in progress.

### **5.1.7 GRADE SEPARATORS**

Grade Separators are constructed at the junction of major intersections to ease the traffic at grade level. 10 grade separators at a cost of Rs.410 Crore are in progress.

### **5.1.8 RIVER BRIDGES**

River bridges are constructed to connect the habitations which are separated by rivers or canals. Out of 455 river bridges taken up at a cost of Rs.946.08 Crore, 191 bridges have been completed. The abstract of Bridge works is given in **Table 5.4**.

### **5.1.9 LAND ACQUISITION**

Land required for infrastructure projects of Highways Department are acquired under Tamil Nadu Highways Act, 2001. There are 243 road infrastructure projects comprising 78 Road works, 29 River Bridges, 112 Road Over Bridges/ Road Under Bridges, 6 Grade Separators and 18 Bypasses involving land acquisition. For these works an extent of 725 Hectares of private land and 458 Hectares of Government land are required to be acquired or alienated from 514 villages.

Out of 725 Hectares of private land, 103 Hectares have been taken possession of and acquisition of the balance lands is at various stages.

## **5.2 SCHEMES BEING IMPLEMENTED**

### **5.2.1 COMPREHENSIVE ROAD INFRASTRUCTURE DEVELOPMENT PROGRAMME (CRIDP)**

The Comprehensive Road Infrastructure Development Programme (CRIDP) is being implemented as a part of Comprehensive Road Improvement Policy from the year 2005 - 06. Under this programme, infrastructure development like widening and improvement of roads, construction of bridges, culverts, protective works like center medians, drains, formation of bypasses in a comprehensive manner are undertaken.

Under this scheme, 971 road works and 238 bridge/ culvert works at a cost of Rs.1054 Crore were taken up as spill over works during 2011-12.

During 2011-12, new works of 2434 road works and 245 bridge/ culvert works at a cost of Rs.1916 Crore have been sanctioned. This includes widening of 383 km IL to DL in SH at cost of Rs.154.92 Crore and widening of 938 km SL to IL & 24 km SL to DL in MDR at cost of Rs.390.77 Crore. These works are in progress.



### **5.2.1.1 IMPROVEMENT TO OTHER DISTRICT ROADS CONNECTING ADI DRAVIDAR HABITATIONS - SPECIAL COMPONENT PLAN**

Under this scheme, improvement of Other District Roads connecting villages with more than 40% of Adi Dravidar population is taken up.

During 2011-12, under this scheme 139 roads and 22 bridges /culverts at a cost of Rs.138.09 Crore are taken up as spill over works. New works of 666 road works and 54 bridges/ culverts have been sanctioned at cost of Rs.275.09 Crore. These works are in progress.

### **5.2.2 NON - PLAN WORKS**

Proper maintenance of road infrastructure is essential for easy movement of traffic. Timely and proper maintenance of roads reduces construction cost. Proper maintenance of bridges constructed at huge cost enhances the life span of these structures.

In addition, maintenance of cross drainage works will facilitate easy draining of flood water during monsoon period and reduces the damage to the riding surface.

Renewal and maintenance of roads and bridges are carried out as per IRC norms under non-plan maintenance fund.

Under this scheme, during 2011-12, maintenance in 6035 km roads have been

completed at an expenditure of Rs.985.87 Crore which includes Thirteenth Finance Commission grant also.

### **5.2.3 MAINTENANCE WORKS UNDER 13TH FINANCE COMMISSION GRANT-IN-AID**

For the current year, Rs.285 Crore have been allotted for maintenance of roads based on the 13th Finance Commission's recommendations. A total length of 2735 km has been taken up for maintenance and completed.

### **5.2.4 RAILWAY WORKS PROGRAMME**

Works under Railway Works Programme are selected by Railways with concurrence of State Government, the projects are taken up for implementation on cost sharing basis. The Highways portion of works are executed by Highways.

Out of 184 works sanctioned under this scheme costing Rs.4108.73 Crore, 48 works have been completed at a cost of Rs.744.49 Crore and 45 works are in progress at a cost of Rs.1050.63 Crore.

### **5.2.5 NABARD LOAN ASSISTANCE SCHEME**

Through NABARD loan assistance, Government is implementing various schemes to improve, strengthen and widen the Other District Roads, Major District Roads and to construct bridges.

During 2011 – 12, spillover works of 153 bridges with a cost of Rs 302.39 Crore and newly sanctioned works of 65 Bridges at a cost of Rs.151 Crore with a total number of 218 Bridges at a cost of Rs.453.39 Crore have been taken up for execution. Out of which 73 bridges were completed incurring an expenditure of Rs.165 Crore.

Further, spillover works of 56 Roads at a cost of Rs.96.86 Crore have been taken up and out of this 45 works were completed with an expenditure of Rs 75 Crore.

#### **5.2.6 PART II SCHEME**

The State Government allocates a sum of Rs.10 Crore every year to this department for construction of bridges, buildings, traveller's bungalows, purchase of office equipment, laboratory equipment and software, conducting research etc., Infrastructure facilities are improved by utilizing this fund.

Under this scheme, 18 works (9 bridges and 9 buildings) at a cost of Rs.16.90 Crore as spill over works and 31 buildings at a cost of Rs.8.63 Crore as new work are taken up. Out of this one Bridge work and 7 buildings have been completed. Balance works are in progress.

#### **5.2.7 TSUNAMI REHABILITATION PROGRAMME**

The main aim of this programme is to rehabilitate the roads and structures in Tsunami affected areas. Under this scheme, improvement

of roads and construction of bridges in coastal areas serving as escape route during any emergency are being taken up.

Under this scheme 18 bridges at a cost of Rs.160.56 Crore are in progress

### **5.2.8 CENTRALLY SPONSORED SCHEMES**

Government of India has formed the Central Road Fund with the accruals from cess levied on the consumption of High Speed Diesel (50%) and Petrol (100%) and allocates fund for the development of State roads under Revamped Central Road Fund Scheme / Economic Importance Scheme / Inter State Connectivity Scheme.

During 2011-12, 264.08 km length of 20 road works and 5 bridge works were completed incurring an expenditure of Rs.164.36 Crore under the above schemes

### **5.2.9 ROAD SAFETY WORKS**

In order to prevent accidents, improvement to accident prone areas or black spots has been taken up. Road safety works like widening of narrow culverts, improvement to accident prone areas such as widening / reconstruction of narrow bridges, Junction improvements and construction of centre median are being taken up using the funds provided by the Home Department.

During 2011-12, 36 spill over works at cost of Rs.19.37 Crore have been taken up and all these works have been completed.

Further during 2011-12, 53 new works for Rs.25 Crore have been sanctioned. Out of which 4 works costing Rs.2.25 Crore have been completed. Balance works are in progress.

#### **5.2.10 RAJIV GANDHI SALAI (IT EXPRESSWAY)**

Under Phase-I, Rajiv Gandhi Salai (IT Corridor) was developed as a six lane road of International standards from Madhya Kailash to Siruseri for a length of 20.10 km.

In the second phase, the Government have proposed to construct a six lane road for a length of 25 km from Siruseri to East Coast Road near Mamallapuram, under a viable financial arrangement through Public Private Partnership. The rough cost estimate for the project is Rs.550 Crore.

#### **5.2.11 CHENNAI OUTER RING ROAD**

In order to reduce the vehicular congestion in Chennai City and to facilitate free flow of traffic around Chennai, Government have decided to construct an Outer Ring Road of six lane width for a length of 60.15 km from Vandalur on NH-45 to Minjur on Thiruvotriyur - Ponneri - Pancheti (TPP) Road. The project is being implemented in two phases.

### **5.2.12 EAST COAST ROAD IMPROVEMENT**

Taking into account the traffic and environmental feasibility widening and improvements to 765 km of East Coast Road from Chennai to Kanyakumari is being implemented by various wings of the department to ensure quick and comfortable journey.

Widening to two lane and improvement of 113 km road from Thoothukudi to Anjugramam on NH-7 in Kanyakumari District via, Tiruchendur and Koodankulam sanctioned during 2011-12 at a cost of Rs.257 Crore and is in progress.

### **5.2.13 ORAGADAM INDUSTRIAL PARK INFRASTRUCTURE DEVELOPMENT SCHEME**

Road infrastructure facilities in Oragadam Industrial Park has been taken up for Rs.300 Crore to facilitate the development of industries in and around Sriperumpudur in Kancheepuram District. This project is being executed in two phases.

Phase-I involve four laning of Singaperumalkoil - Sriperumpudur road (SH-57) (24.60 km) and Vandalur – Walajabad road (SH-48) (33.4 km).

Under phase-II, Six laning of the stretch from Oragadam to Sriperumbudur of SH-57 has been taken up.

### **5.3 OVERALL EXPENDITURE (2011-12) AND ALLOTMENT FOR 2012-13**

Of the planworks worth Rs.9771 Crore taken up for implementation during 2011-12, 5488 km Road improvement works, 4 Bypasses, 7 Road Over Bridges at LC and 371 Bridges / Culverts/ Buildings / Protective works have been completed and an expenditure of Rs.3016 Crore was incurred. Remaining works are in various stages of implementation. In respect of non-plan works Rs.985.87 Crore was the expenditure incurred for maintenance including renewal of 6035 km roads.

For the year 2012-13, Rs.3623 Crore has been allotted to Highways Department for implementation of plan works and Rs.1029.60 Crore for non-plan works.

**TABLE 5.1**  
**DETAILS OF PLAN WORKS TAKEN UP FOR**  
**EXECUTION DURING 2011-12**

Sl. No	Type of work	Details		
		Nos.	Length (km)	Amount (Rs. in Crore)
(a)	Roads			
	Widening	1182	3080	1675.61
	Strengthening & Improvements	2355	5436	3627.57
(b)	Bridges			
	River Bridges	455		946.08
	ROB / RUBs*	139		2776.64
	Grade Separators	10		463.51
(c)	Bypasses	26	68.76	174.78
	Other Works	356		107.14
	<b>TOTAL</b>	<b>4523</b>	<b>8584.76</b>	<b>9771.33</b>

\* including 1 work by Chennai Corporation and 4 works by NH/NHAI



**TABLE 5.1(a)**  
**ROADS**

Sl. No.	WING	WIDENING (1)			STRENGTHENING/ IMPROVEMENTS (2)		
		Nos.	Length (km)	Amount (Rs. in Crore)	Nos.	Length (km)	Amount (Rs. in Crore)
1	C&M	1087	2443	1019.77	2308	5181	1508.68
2	NABARD & RR	29	141	66.92	27	127	29.94
3	PROJECTS				1		11.00
4	METRO	41	110	232.92			
5	NH	22	328	162.16	8	68	28.79
6	TNRSP				9		97.76
7	TNRDC				2	60	1951.40
8	TNRIDC	3	58.00	193.84			
	TOTAL	1182	3080	1675.61	2355	5436	3627.57

**TABLE 5.1(b)****BRIDGES**

Sl. No.	WING	RIVER BRIDGES (3)		ROB/RUBS (4)		GRADE SEPARATORS (5)	
		Nos.	Amount (Rs. in Crore)	Nos.	Amount (Rs. in Crore)	Nos	Amount (Rs. in Crore)
1	C&M	213	318.56	4	45.93	3	193.40
2	NABARD & RR	218	453.39	28	528.73		
3	PROJECTS	14	85.41	96	1913.48		
4	METRO	4	68.83	11	288.50	5	243.36
5	NH	5	6.51			1	12.75
6	TNRSP	1	13.38				
7	TNRDC						
8	TNRIDC					1	14.00
	TOTAL	455	946.08	139	2776.64	10	463.51

**TABLE 5.1(c)**  
**BYPASSES AND OTHER WORKS**

Sl. No.	WING	BYPASSES (6)			OTHER WORKS (7)	
		Nos.	Length (km)	Amount (Rs. in Crore)	Nos.	Amount (Rs. in Crore)
1	C&M	22	35.01	113.48	350	77.90
2	NABARD & RR					
3	PROJECTS	1	7.45	12.16		
4	METRO				1	28.00
5	NH	3	26.30	49.14	5	1.24
6	TNRSP					
7	TNRDC					
8	TNRIDC					
	TOTAL	26	68.76	174.78	356	107.14

**TABLE 5.2**  
**BYPASSES (ABSTRACT)**

<b>SL. No</b>	<b>Description</b>	<b>Nos</b>
<b>1</b>	<b>Completed</b>	<b>74</b>
	Highways Department	16
	NHAI	58
<b>2</b>	<b>Work in Progress</b>	<b>51</b>
	Highways Department	13
	NHAI	38
<b>3</b>	<b>LA in progress</b>	<b>17</b>
<b>4</b>	<b>DPR under consideration</b>	<b>21</b>
	<b>Total</b>	<b>163</b>

**TABLE 5.2 (a)**  
**BYPASSES IN PROGRESS**

<b>SL No</b>	<b>Towns</b>	<b>Length in km</b>	<b>LA cost Rs. in Crore</b>	<b>Road Cost Rs. in Crore</b>
<b>CONSTRUCTION AND MAINTENANCE WING</b>				
1	Vandawasi	2.20		3.50
2	Thiruthuraiipoondi	2.46	0.21	7.50
3	Pattukottai (phase I-4.80 km )	7.40	2.78	10.00
4	Perambalur (phase I-5.25km )	9.06	5.36	11.50
5	Dharapuram (phase I)	2.60	0.63	12.00
6	Dharapuram (Phase II)	2.20		4.00
7	Rasipuram (phase I-6.00 km )	13.68	4.18	18.00
8	Hosur (Phase II)	4.00	3.50	9.49
<b>PROJECTS WING</b>				
9	Erode Outer Ring Road	14.62	22.00	23.16
<b>NATIONAL HIGHWAYS WING</b>				
10	Kancheepuram	8.50	2.87	34.18
11	Puducherry	1.90	1.53	11.76
<b>TAMIL NADU ROAD SECTOR PROJECT</b>				
12	Ramanathapuram	10.40		35.29
13	Kumbakonam	4.10		24.56

**TABLE 5.2 (b)**  
**LAND ACQUISITION FOR BYPASSES IN**  
**PROGRESS**

<b>Sl. No</b>	<b>Towns</b>	<b>Length</b>	<b>Cost in Crore</b>
1	Tiruvarur	9.98	10.10
2	Thanjavur Phase -2	14.27	14.41
3	Edapady	8.60	6.00
4	Sivagangai	10.60	1.00
5	Ambasamudram	7.00	19.84
6	Arcot	2.80	1.46
7	Bhavani	11.00	5.20
8	Cuddalore	19.50	27.72
9	Mudukulathur	4.00	5.16
10	Mayiladuthurai	20.00	2.07
11	Namakkal	22.66	7.80
12	Sankarankovil	6.89	17.51
13	Thenkasi	6.00	9.70
14	Tiruchengode.	13.60	4.27
15	Tirupattur	11.00	6.19
16	Tiruvannamalai	8.20	6.23
17	Oddanchatram	10.00	16.77
	<b>Total</b>	<b>186.10</b>	<b>161.43</b>

**TABLE 5.2 (c)**  
**BYEPASSES - DETAILED PROJECT REPORT**  
**UNDER PREPARATION / PROPOSAL UNDER**  
**CONSIDERATION**

<b>Sl. No</b>	<b>Wing</b>	<b>Nos.</b>	<b>Location</b>
1	Construction & Maintenance	7	Coimbatore Western Bypass, Thirunelveli Outer Ring Road, Manachanallur, Mannargudi, Vellore Phase I, Thiruthani and Thiruvallur
2	National Highways	7	Chokkampatti, Seithur, Rajapalayam & Srivilliputhur, Madurai, Usilampatti, Andipatti and Bodi
3	National Highways Authority of India	7	Annur, Chatrapatti , Pollachi, Puliampatti, Sathyamangalam, Udumalpet, Villupuram.

**TABLE 5.3**  
**ROBs / RUBs SANCTIONED**

<b>Sl. No.</b>	<b>District</b>	<b>No. of ROBs /RUBs</b>	<b>Cost (Rs. in Crore)</b>
1	Tiruvallur	23	527.76
2	Chennai	2	166.21
3	Kancheepuram	27	727.81
4	Vellore	21	360.53
5	Krishnagiri	2	35.02
6	Dharmapuri	2	20.10
7	Villupuram	8	168.09
8	Salem	7	208.55
9	Erode	1	9.18
10	Coimbatore	27	480.75
11	Tirupur	10	164.72
12	Dindigul	6	149.17
13	Karur	1	15.50
14	Trichy	13	327.91
15	Ariyalur	2	57.40
16	Thanjavur	4	94.85
17	Cuddalore	7	143.01
18	Nagapattinam	1	12.00
19	Thiruvarur	1	23.19
20	Madurai	6	143.52
21	Virudunagar	2	23.78
22	Tuticorin	5	79.30
23	Tirunelveli	4	111.83
24	Ramanathapuram	1	37.15
25	Kanyakumari	1	21.40
	<b>Total</b>	<b>184</b>	<b>4108.73</b>



**TABLE 5.3 (a)**  
**ROBs / RUBs (ABSTRACT)**

<b>Sl. No.</b>	<b>Description</b>	<b>Nos</b>
1	Completed	48
2	Progress	45
3	Tender Stage	12
4	Estimate Stage	13
5	GAD & DPR Stage	49
6	Other Stages	17
	<b>Total</b>	<b>184</b>

**TABLE 5.4**  
**RIVER BRIDGES (ABSTRACT)**

<b>Sl. No.</b>	<b>Description</b>	<b>Nos</b>
1	Taken up	455
2	Completed	191
3	Progress	197
4	Tender Stage	41
5	Estimate Stage	17
6	Other Stages	9

**DETAILS OF WORKS AND  
SCHEMES TAKEN UP BY  
VARIOUS WINGS**

## **6. CONSTRUCTION AND MAINTENANCE WING**

A total length of 57,043 km of Government Roads are categorised as State Highways, Major District Roads and Other District Roads. Improvements and renewal of these roads, including construction of bridges / ROBs, formation of bypasses etc., are being implemented by this wing.

For executing these works, 8 circles and 37 divisions are functioning under the control of one Chief Engineer.

The schemes undertaken by this wing are as follows:

### **6.1 COMPREHENSIVE ROAD INFRASTRUCTURE DEVELOPMENT PROGRAMME (CRIDP)**

During 2011-12 widening and improvements, construction of bypasses, construction of bridges were taken up under this scheme for which Rs.1916 Crore was sanctioned and the highlights are as follows.

- Widening of 383 km of IL State Highways to DL and 963 km SL Major District Roads to IL/DL

- Improvements to Thoothukudi-Tiruchendur - Kanyakumari road 113 km
- Land acquisition for Edappady and Sivagangai towns.
- Widening and improvements of Trichy - Kuzhumani - Jeeyarpuram road - from Intermediate Lane to Double Lane for 1.4 km at a cost of Rs.1.88 Crore and from Single Lane to Intermediate Lane for 4.6 km at cost of Rs.1.40 Crore and construction of two minor bridges at a cost of Rs.50 Lakhs in Kottapatti - Maravanur road.

### **6.1.1 CRIDP - STATE HIGHWAYS**

During 2011-12, Spill over works of widening / improvements to 673 km roads and construction of 105 bridges / culverts were taken up at a cost of Rs.631 Crore.

New works of widening/improvements to 1279 km roads and construction of 87 bridges / culverts have been sanctioned at a cost of Rs.847.91 Crore.

During 2011-12, widening / improvements in 1221 km roads and 122 bridges / culverts have been completed incurring an expenditure of Rs.717 Crore.

Major ongoing projects under this scheme are shown in **Table 6.1**

A budget provision of Rs.796.85 Crore has been provided for 2012-13.

### **6.1.2 CRIDP - MAJOR DISTRICT ROADS**

During 2011-12, Spill over works of widening / improvements to 544 km and construction of 57 bridges/culverts were taken up at a cost of Rs.166.23 Crore.

New works of widening / improvements to 1607 km roads and construction of 46 bridges / culverts have been sanctioned at a cost of Rs.652.16 Crore.

During 2011-12, widening / improvements in 1207 km roads and 70 bridges/ culverts have been completed incurring an expenditure of Rs.493 Crore.

Major ongoing projects under this scheme are given in **Table 6.2**

A budget provision of Rs.593.75 Crore has been provided for 2012-13.

### **6.1.3 CRIDP - OTHER DISTRICT ROADS**

During 2011-12, Spill over works of widening / improvements to 613 km roads and construction of 54 bridges / culverts were taken up at a cost of Rs.118.31 Crore.

New works of widening / improvements to 682 km roads and construction of 57 bridges /

culverts have been sanctioned at a cost of Rs.124.82 Crore.

During 2011-12, widening / improvements in 974 km roads and 59 bridges / culverts have been completed incurring an expenditure of Rs.210 Crore.

Major ongoing works under this scheme are given in **Table 6.3**

A budget provision of Rs 199.40 Crore has been made for 2012-13.

#### **6.1.4 CRIDP - OTHER DISTRICT ROADS – SPECIAL COMPONENT PLAN**

During 2011-12, Spill over works of improvements to 422 km and construction of 22 bridges/ culverts were taken up at a cost of Rs.138.09 Crore.

New works of widening / improvements to 1775 km roads and construction of 54 bridges / culverts have been sanctioned at a cost of Rs.275.09 Crore.

During 2011-12, widening / improvements in 1551 km roads and 23 bridges / culverts have been completed at an expenditure of Rs.310 Crore.

Major ongoing works are given in **Table 6.4**

A budget provision of Rs.315 Crore has been made for 2012-13.

## **6.2 PART II SCHEME**

During 2011-12, spill over works to a value of Rs.16.91 Crore were taken up for construction. This includes 9 bridges and 9 buildings. New works have been sanctioned for constructing office buildings for 3 divisions, 11 sub divisions and 17 traveller's bungalows at a cost of Rs.8.63 Crore. These works are in progress.

During 2011-12, 1 bridge and 7 buildings have been completed at an expenditure of Rs.17.45 Crore.

A budgetary provision of Rs.58.41 Crore has been made for this scheme for 2012-13.

## **6.3 TSUNAMI REHABILITATION PROGRAMME**

During 2011-12, spill over of 2 roads and 15 bridges to a value of Rs.116.34 Crore were taken up and 2 roads have been completed. Balance works are in under implementation.

During 2011-12, an expenditure of Rs.23.2 Crore has been incurred in this scheme.

## **6.4 FORMATION OF BYPASSES**

During the 2011-12, under CRIDP scheme, formation of bypasses to Pattukottai,



Dharapuram, Perambalur, Rasipuram and Erode town in the first phase is in progress.

Land acquisition for formation of Thanjavur bypass (Phase II) is in progress and will be completed soon.

Sanction has also been accorded for land acquisition for formation of Tiruvarur bypass and the LA process has been initiated.

During 2011-12, Land Acquisition for Sivagangai and Edapady bypasses has been sanctioned and is in process. Bypasses to Thuraiyur, Ettukudy and Ilayankudi have been completed.

The details of 24 bypasses taken up are given in **Table 6.5**

## **6.5 ROAD SAFETY WORKS**

Under this scheme during 2011 - 12, works to a value of Rs.19.37 Crore comprising improvements to 36 accident prone areas such as widening / reconstruction of narrow bridges, junction improvements and construction of centre medians have been taken up. These works have been completed.

Further, during 2011-12, 53 new works for Rs.25 Crore have been sanctioned. Out of which, 4 works costing Rs.2.25 Crore have been

completed. Balance works are in progress and will be completed in 2012-13.

## **6.6 ROAD OVER BRIDGE AT RAILWAY LEVEL CROSSING**

Construction of Road Over Bridge in lieu of L.C No. 13, Athipattu in Thiruvallur District at a cost of Rs.16.40 Crore is in progress under Railway works programme.

Further, the following two works have been sanctioned under CRIDP 2010-11.

Construction of approaches to Railway Over Bridge (Echanari - LC number 150) at km 151/4 of NH209 at cost of Rs.13 Crore - Tender has been fixed for this work.

Construction of approaches to Railway Over Bridge (Sirkazhi-LC no 216) at km 128/8 of abandoned NH45A at cost of Rs.12 Crore including culverts and retaining wall - work is in progress.

## **6.7 NON - PLAN MAINTENANCE WORKS**

During 2011-12, an allocation of Rs.977 Crore has been made for maintenance of roads and bridges which includes Rs.285 Crore provided out of the Grant-In-Aid recommended by the 13th Finance Commission. The above allocation also includes provision for

salary component of the Work Charged Establishment.

Apart from this an amount of Rs.143 Crore has been provided for maintenance of Panchayat Union roads taken up by Rural Development and Panchayat Raj department out of the Grant-In-Aid recommended by the 13th Finance Commission.

During 2011-12, renewal of 6035 km roads have been completed including 2735 km taken up under Thirteenth Finance Commission Grant. An expenditure of Rs.985.87 Crore has been incurred in this scheme.

A budget provision of Rs.1029.60 Crore has been made for 2012-13.

## **6.8 FLOOD RESTORATION WORKS**

Tamil Nadu receives major rainfall during North East monsoon and precautionary measures are undertaken in pre monsoon period to maintain uninterrupted traffic flow during flood times. Maintenance works like removing vegetation, silt are carried out to facilitate easy draining of excess flow that will be generated during flood time. These measures help mitigate the damages that may occur in heavy flood seasons.

During flood times, traffic interruptions occur due to falling of trees, land slides, erosion

of embankments, overflow in culvert / bridge locations etc.,

Following the North East Monsoon 2011-12, a sum of Rs.72 Crore was allotted for restoration of 3323 km roads and all works have been completed.

Further, due to 'Thane' cyclonic storm, severe damages occurred in the coastal Districts. Road blocks occurred at 1458 locations due to trees falling on Highway roads in Cuddalore, Villupuram, Kancheepuram & Nagapattinam Districts on 30.12.2011

All the fallen trees were removed and road blocks were cleared and traffic was restored within 24 hours.

An amount of Rs.80 Crore has been sanctioned for undertaking restoration works for a length of 717 km roads and most works have been completed.

## **6.9 PERFORMANCE BASED MAINTENANCE CONTRACT**

During the Budget Demand 2011-12, it was announced that "Performance based road management contracts through Public Private Partnership for development and maintenance of State Highways and Major District Roads will be put in place".

All SHs and MDRs in Namakkal, Karur and Pollachi divisions have been proposed for maintenance under PBMC and the same is under the consideration of the Government.

## **6.10 OVERALL EXPENDITURE (2011-12) AND ALLOCATION FOR 2012-13**

During 2011-12, an expenditure of Rs.1800.27 Crore was incurred by this wing for all schemes. A total of 4953 km road works, 3 Bypasses and 275 bridges / culverts / protective works and 7 buildings have been completed.

For 2012-13, a total budgetary allocation of Rs.2023.39 Crore has been made.

**TABLE 6.1**  
**MAJOR ONGOING WORKS UNDER**  
**CRIDP - STATE HIGHWAYS**

Sl. No.	District / Name of work	Cost (Rs. in Crore)
	<b>Kanchipuram</b>	
1	Strengthening Pallavaram-Thoraipakkam road km 0/6-10/6 (SH.109)	14.02
2	Strengthening Tambaram-Mudichur-Sriperumbudur km 2/4-7/5 and 7/5-23/5 (excluding 19/0-21/5) (SH 110 )	24.78
	<b>Thanjavur</b>	
3	Widening Indermetiate lane to Double lane & Improvements to Mannargudi - Sethubavachatram km 10/6-20/4 including reconstruction of culverts. (SH 146)	6.86
	<b>Coimbatore</b>	
4	Widening from Double lane to Four Lane and Improvements in km.2/0 - 5/0 of North Coimbatore - Maruthamalai Road. (SH 167)	4.90

**TABLE 6.2**  
**MAJOR ONGOING WORKS UNDER CRIDP -**  
**MAJOR DISTRICT ROADS**

<b>S. No</b>	<b>District / Name of work</b>	<b>Cost (Rs. in Crore)</b>
	<b>Thiruvallur</b>	
1	Widening from SL to IL and Strengthening Of Vengal-Seethancheri-Kannigaipair Road in km 5/0-10/0. (MD 740)	2.00
	<b>Trichy</b>	
2	Widening DL to ML at km 0/0-2/0 including construction of Retainingwall at Cauvery Left bank Road. (MD 822)	3.00
	<b>Salem</b>	
3	Widening and Improvements from SL to IL at km.6/4-7/4, 12/0-13/2, 14/0-15/6, 16/0 - 19/0 , 26/6 - 28/0 and 28/4-30/0 and Widening from SL to IL in km. 15/6 - 16/0 and 28/0-28/4 including CD works and Protective works of Yercaud loop road. (MD 563)	5.92
4	Widening from single lane to intermediate lane and improvements from km 13/0-17/0, 22/220-27/0 and including Widening of culvert of Gajalnaicken patty - Panamarathpatty - Sechansavadi Road. (MD 594)	3.65

<b>S. No</b>	<b>District / Name of work</b>	<b>Cost (Rs. in Crore)</b>
	<b>Madurai</b>	
5	Widening from Single lane to Double lane and Strengthening in km 4/4-9/4 of Thumbaipatti-Jeyankondan Nilai road including Reconstruction of culvert. (MD 959)	4.00
	<b>Tirunelveli</b>	
6	Widening from SL - IL and Improvements in km 23/6 - 31/6 and 37/0 - 39/0 of Reddiarpatti - Vijayanarayanam Road including CD Works. (MD 403)	5.00



**TABLE 6.3**  
**MAJOR ONGOING WORKS UNDER**  
**CRIDP - OTHER DISTRICT ROADS**

<b>Sl. No</b>	<b>District / Name of work</b>	<b>Cost (Rs. in Crore)</b>
	<b>Ariyalur</b>	
1	Widening SL to IL & improvements in km 6/2 - 10/0 of Poiyur - Sundakudi road	2.00
	<b>Namakkal</b>	
2	Widening SL to IL and Improvements from km 9/6-18/0 of Sendamangalam - Alanganatham road (Including widening culvert at km 15/4,16/4 16/6, 17/10)	5.60

**TABLE 6.4**  
**MAJOR ONGOING WORKS UNDER**  
**CRIDP - OTHER DISTRICT ROADS - SPECIAL**  
**COMPONENT PLAN**

Sl. No.	District / Name of work	Cost (Rs. in Crore)
	<b>Ariyalur</b>	
1	Construction of Bridge @ km 6/2 of Agaram - Seegur - Thamaraiipoondi road (via) Anganur, Sannasinallur road	4.60
	<b>Thanjavur</b>	
2	Construction of Bridge and approach road at km 3/6 of Valanthantheru Thelungankudikadu road(via)No 2 Kovilur road.	2.57
	<b>Tiruvarur</b>	
3	Construction of High level bridge at km.0/4 of Pamani village road across Pamani river.	2.50
	<b>Coimbatore</b>	
4	Construction of High Level Bridge at km 12/10 of Mettupalayam - Kitchakathur road (via) Moolathurai.	4.30
	<b>Dindigul</b>	
5	Construction of Bridge at km 2/6 of Seelapadi village road.	1.95

**TABLE 6.5**  
**DETAILS OF BYPASSES**  
**UNDER VARIOUS STAGES**

<b>Sl. No.</b>	<b>Status</b>	<b>Nos.</b>	<b>Locations</b>
1	Completed bypasses	5	Cheyyar, Hosur(Phase I) Ilayankudi, Ettukudi, Thuraiyur
2	Bypasses in progress	8	Vandawasi, Thiruthuraipoondi, Pattukottai (Phase I), Perambalur (Phase I) Dharapuram(Phase I), Dharapuram (Phase II), Rasipuram (Phase I), Hosur(Phase II)
3	LA in progress	4	Thiruvarur, Thanjavur Phase II Edappady Sivagangai
4	LA Proposal/ DPR in progress	7	Coimbatore Western Bypass, Thirunelveli Outer Ring Road, Manachanallur, Mannargudi, Vellore Phase I, Thiruthani, Thiruvallur

## 7. PROJECTS WING

The main activity of the wing is the construction of Road Over Bridge (ROB) / Road Under Bridge (RUB) in lieu of existing level crossings in coordination with Railways under Railway Works Programme on cost sharing basis. It functions with 4 Circles and 12 Divisions under a Chief Engineer.

Major river bridges are also constructed under NABARD and HUDCO loan assistance. Formation of Erode Outer Ring Road and Junction improvements at Erode Government Hospital junction under CRIDP are carried out.

Formation and Improvement of roads leading to sugar mills through sugar cane fields are taken up utilising the cess fund collected from Sugar Mills by the Agriculture department.

### 7.1 ROAD OVER BRIDGES / UNDER BRIDGES AT RAILWAY LEVEL CROSSINGS

Under Railway Works Programme, 136 ROBs / RUBs at a cost of Rs.3048.87 Crore (**Table 7.1**) have been taken up. Of these, 47 works at a cost of Rs.739.89 Crore have been completed and 38 works at a cost of Rs.875.05 Crore are in progress. (**Table 7.2**)

During 2011-12, an expenditure of Rs.333.32 Crore was incurred under this scheme.

A provision of Rs.556.42 Crore has been made for this scheme in 2012-13.

## **7.2 CONSTRUCTION OF BRIDGES WITH NABARD AND HUDCO LOAN ASSISTANCE**

### **7.2.1 NABARD SCHEME**

To provide necessary road access to the farmers and rural people in Cauvery delta and other areas, construction of 59 river bridges and improvements to 417 km of Sugar Cane roads at a cost of Rs.204.73 Crore have been taken up. Of these, 52 river bridges and 412 km road works have been completed.

Remaining 4 bridge works at a cost of Rs.96.93 Crore are in progress (**Table 7.3**). These works will be completed during 2012-13.

During 2011-12, an expenditure of Rs.45.69 Crore was incurred under this scheme.

A provision of Rs 17.11 Crore has been made for this scheme in 2012-13.

## **7.2.2 HUDCO LOAN ASSISTANCE**

Construction of 61 bridges at a cost of Rs.60 Crore was sanctioned with HUDCO financial assistance. Of these, 56 bridges at a cost of Rs.51.07 Crore have been completed and 3 bridge works at a cost of Rs.11.04 Crore are in progress (**Table 7.4**). These works will be completed during 2012-13.

This scheme was implemented with HUDCO funds till 2004 - 05 and thereafter works are being carried out from State Government funds.

During 2011-12, an expenditure of Rs.4.31 Crore was incurred under this scheme.

A provision of Rs.3.80 Crore has been made for this scheme in 2012-13.

## **7.3 COMPREHENSIVE ROAD INFRASTRUCTURE DEVELOPMENT PROGRAMME (CRIDP)**

### **7.3.1 ERODE OUTER RING ROAD**

Rs.22 Crore was sanctioned towards land acquisition for formation of Outer Ring Road from Kokkarayanpettai to Thindal in order to ease traffic congestion in Erode town.

As phase-I, construction of High Level Bridge across Cauvery river from Kokkarayanpettai to Lakkapuram km 0/0 – 2/2 (including approaches) has been taken up at a cost of Rs.14 Crore and the work is in progress.

As phase II, km 2/2 to 7/6 has been taken up at a cost of Rs.12 Crore and the land acquisition for the work is nearing completion. The work is in progress.

In phase III from km 7/6 – 14/8, Land Acquisition is in progress. The work will be taken up after completion of Land Acquisition.

### **7.3.2 ERODE GOVERNMENT HOSPITAL JUNCTION IMPROVEMENT**

Improvement works to the junction near Erode Government hospital has been administratively sanctioned for Rs.11 Crore. The work will be taken up for execution on completion of land acquisition.

## **7.4 SUGAR CANE ROAD DEVELOPMENT SCHEME**

To form and improve the roads from sugar cane growing areas to sugar mills, the cess fund collected by the Agricultural Department from sugar mills is utilised.

51 road works for a length of 89.70 km at a cost of Rs.21.78 Crore have been sanctioned. Out of these, 40 works have been completed.

During 2011-12, an expenditure of Rs.4.11 Crore was incurred under this scheme.

A provision of Rs.9.92 Crore has been made in 2012-13.

## **7.5 OVERALL EXPENDITURE (2011-12) AND ALLOCATION FOR 2012-13**

During 2011-12, an expenditure of Rs.479.77 Crore was incurred by the Projects Wing for all schemes. A total of 12 works including 5 River bridges and 7 ROBs were completed.

For 2012-13, a total budgetary allocation of Rs.666.08 Crore has been made for Projects Wing



**TABLE 7.1**  
**ROBs / RUBs SANCTIONED**

<b>Sl. No.</b>	<b>District</b>	<b>No. of ROBs / RUBs</b>	<b>Cost (Rs. in Crore)</b>
1	Tiruvallur	12	257.74
2	Chennai	1	80.68
3	Kancheepuram	22	627.51
4	Vellore	21	360.53
5	Krishnagiri	2	35.02
6	Dharmapuri	2	20.10
7	Villupuram	6	129.99
8	Salem	7	208.55
9	Coimbatore	16	296.27
10	Dindigul	4	105.52
11	Karur	1	15.50
12	Trichy	13	327.91
13	Thanjavur	3	53.85
14	Cuddalore	6	121.76
15	Madurai	4	88.99
16	Tuticorin	4	66.35
17	Tirunelveli	3	82.71
18	Kanyakumari	1	21.40
19	Triuppur	7	111.34
20	Ramanathapuram	1	37.15
	<b>Total</b>	<b>136</b>	<b>3048.87</b>

**TABLE 7.2**  
**ONGOING ROBs / RUBs**

<b>Sl. No</b>	<b>District</b>	<b>LC No. &amp; Location</b>	<b>Cost (Rs. in Crore)</b>
<b>PROJECTS WING</b>			
1	Thiruvallur	37, Elavur – Gummidipoondi	17.00
2	Thiruvallur	33, Gummidipoondi	39.00
3	Chennai	Vyasarpadi ROB	80.68
4	Kancheepuram	24, Jameen Pallavaram	14.00
5	Kancheepuram	69, Madhuranthagam	22.50
6	Kancheepuram	1, Chengelpet	34.58
7	Kancheepuram	37, Urappakkam	23.00
8	Kancheepuram	54, Chengelpet	27.90
9	Kancheepuram	40, Guduvanchery	31.94
10	Kancheepuram	36, Urappakkam	34.50
11	Kancheepuram	47, Singaperumal Koil	52.89
12	Vellore	50, Tiruvalam-Sevur	12.26
13	Vellore	88, Thamalerimuthur	12.00
14	Vellore	69, Uli	12.00
15	Vellore	63, Pasumathur	19.34
16	Villupuram	156, Ulundurpet	25.00
17	Coimbatore	139, Somanur	11.25
18	Coimbatore	143, Muthugounden -pudur	12.25
19	Coimbatore	21, Nanjudapuram	11.80
20	Coimbatore	118, Pollachi	11.45
21	Coimbatore	144, Irugur	21.10
22	Dindigul	5, Dindigul	16.54
23	Trichy	228, Lalkudi	20.50
24	Trichy	248, Trichy	26.00
25	Trichy	279, Manapparai	20.60

<b>Sl. No</b>	<b>District</b>	<b>LC No. &amp; Location</b>	<b>Cost (Rs. in Crore)</b>
26	Trichy	325, Crawford, Trichy	28.58
27	Thanjavur	303, Thanjavur	13.00
28	Thanjavur	309, Budalur	16.30
29	Cuddalore	181, Eraiyyur (Pennadam)	23.00
30	Cuddalore	170, Virudhachalam Town	19.00
31	Cuddalore	168, Virudachalam (Vayalur)	24.00
32	Cuddalore	166A, Cuddalore Pachayakuppam	24.00
33	Madurai	370, Tiruparankundram	19.75
34	Tirunelveli	502, Tenkasi	24.50
35	Kanyakumari	32B, Eraniel & Nagercoil	21.40
36	Tiruppur	130, Coolipalayam	17.00
37	Tiruppur	134, Vanchipalayam	17.00
38	Tiruppur	95, Udumalaipet	17.44
		<b>TOTAL</b>	<b>875.05</b>

**TABLE 7.2 (a)**  
**COMPLETED ROB<sub>s</sub> DURING 2011-12**

<b>Sl. No</b>	<b>District</b>	<b>LC No. &amp; Location</b>	<b>Cost (Rs. in Crore)</b>
<b>PROJECTS WING</b>			
1	Kancheepuram	30, Thambaram	78.84
2	Vellore	40, Banavaram	11.00
3	Kancheepuram	34, Vandalur	23.67
4	Villupuram	92, Govindasamy Arts College	16.90
5	Vellore	45 A & 45B, Walajah	15.50
6	Coimbatore	151, Sundarapuram	20.00
7	Dharmapuri	105, Bommidi	10.60
		Total	176.51

**TABLE 7.3**  
**ONGOING RIVER BRIDGES UNDER**  
**NABARD SCHEME**

Sl. No	District / Name of Work	Cost (Rs. in Crore)
	<b>Karur, Namakkal</b>	
1	Construction of High Level Bridge across Cauvery river Connecting Mohanur (Namakkal Dist.) and Vangal (Karur Dist)	43.50
	<b>Cuddalore, Nagapattinam</b>	
2	Construction of High level bridge across Coleroon river in between Muttam village of Cuddalore District and Manalmedu village of Nagapattinam District.	48.85
	<b>Thiruvarur</b>	
3	Bridges across Vettar at km 29/4-6 of Kumbakonam – Kodavasal- Koradacheri- Mavoor road.	3.08
4	Bridges across Vellayaru at km 14/8 of Mannarkudi – Tiruvarur road.	1.50
	<b>TOTAL</b>	<b>96.93</b>

**TABLE 7.4**  
**ONGOING RIVER BRIDGES UNDER**  
**HUDCO SCHEME**

Sl. No	District / Name of Work	Cost (Rs. in Crore)
	<b>Thanjavur</b>	
1	Bridge across Kudamurutti river in Manathidal - Valappakudi road (Panchayat road).	4.41
	<b>Thiruvarur</b>	
2	Bridge across Arasalar at km 20/6 of SH 23 (Mayiladuthurai - Thiruthuraipoondi road)	4.30
	<b>Thiruvarur</b>	
3	Bridge across Mudikondan river at km 26/10 of SH 23 (Mayiladuthurai - Thiruthuraipoondi road).	2.33
	<b>TOTAL</b>	<b>11.04</b>

## **8. NATIONAL HIGHWAYS WING**

National Highways wing is functioning under a Chief Engineer with 4 Circles and 8 Divisions.

The following schemes are being executed by this wing.

### **8.1 NATIONAL HIGHWAYS WORKS**

#### **8.1.1 PLAN WORKS**

In the year 2011-12, 24 road works for a length of 278.28 km and 3 bridge works were taken up as spillover at a cost of Rs.248.87 Crore. Further, the Ministry of Road Transport & Highways (MORT&H), Government of India have sanctioned 27 road works to a length of 332.72 km and 2 bridge works and one repair work to the existing bridge for a total amount of Rs.277.47 Crore under Annual Plan 2011-12.

Out of this, 231.08 km length of 12 road works were completed with an expenditure of Rs.160.08 Crore during 2011-12.

Under this scheme, the MORT&H has tentatively made an allocation of Rs.135.36 Crore for the financial year 2012-13.

#### **8.1.2 NON – PLAN WORKS**

During 2011-12, under Special Repairs (SR) / Periodical Renewal (PR), 4 road works for

a length of 72.82 km costing Rs.24.37 Crore were taken up as spillover works. Further, MORT&H have sanctioned 7 new road works for a length of 73.15 km for an amount of Rs.36.07 Crore.

Out of this, 72.82 km length of 4 road works were completed during 2011-12 with an expenditure of Rs.26.67 Crore.

For the year 2012-13, MORT&H have made an allocation of Rs.39.50 Crore under SR / PR.

## **8.2 CENTRALLY SPONSORED SCHEMES**

### **8.2.1 REVAMPED CENTRAL ROAD FUND SCHEME**

During the year 2011-12, 29 road works for a length of 369.15 km & 7 bridge works at a cost of Rs.232.45 Crore were taken up as spillover works. Out of this, 18 road works for a length of 244.08 km and 5 bridge works were completed incurring an expenditure of Rs.147.44 Crore.

Further, the work of "Construction of High level bridge at km 69/2 of Salem - Thirupathur - Vaniyambadi road at Anumantheertham" amounting to Rs.5.50 Crore was completed and opened to traffic on 27.01.2012 by the Hon'ble Chief Minister.

A budget provision of Rs.137.34 Crore has been made under this scheme for 2012 - 13.



## **8.2.2 INTER STATE CONNECTIVITY SCHEME WORKS (100% CENTRAL ASSISTANCE)**

During the year 2011-12, 2 road works for a length of 20 km were taken up at a cost of Rs.9.16 Crore as spill over works and these works were completed incurring an expenditure of Rs.8.68 Crore.

A budget provision of Rs.10 Crore has been made under this scheme for 2012 - 13.

## **8.2.3 ECONOMIC IMPORTANCE SCHEME (50% CENTRAL ASSISTANCE AND 50% STATE FUND)**

During the year 2011-12, 30.40 km road work was taken up at a cost of Rs.17.63 Crore as spill over work and is in progress. An amount of Rs.8.24 Crore was spent under this scheme.

A budget provision of Rs.10 Crore has been made for 2012- 13.

## **8.2.4 WESTERN GHATS DEVELOPMENT PROGRAMME**

During the year 2011-12, 2.6 km road work and 4 retaining wall works were taken up at a cost of Rs.135.35 Lakhs in Coimbatore, Tirunelveli and Virudhunagar Districts. All works were completed with an expenditure of Rs.127.65 Lakhs.

A budget provision of Rs.100 Lakhs has been made under this scheme for 2012- 13.

## **8.2.5 HILL AREA DEVELOPMENT PROGRAMME**

In Nilgiris District, 10.20 km road works and 9 culvert works were taken up at a cost of Rs.4.68 Crore during 2011-12. Out of this 3 km road works and 4 culvert works were completed with an expenditure of Rs.1.52 Crore during 2011-12.

## **8.3 OVERALL EXPENDITURE (2011-12) AND ALLOCATION FOR 2012-13**

During 2011-12, an expenditure of Rs.353.91 Crore was incurred by this wing for all schemes. A total of 53 works including 573.58 km roads, 5 bridges and 8 protective works / culverts were completed.

For 2012-13, a total budgetary allocation of Rs.336.36 Crore has been made.

## **8.4 PROJECTS EXECUTED BY NATIONAL HIGHWAYS AUTHORITY OF INDIA (NHAI)**

The National Highways Authority of India was constituted by an Act of Parliament (The National Highways Authority of India Act 1988) for the development, maintenance and management of National Highways entrusted to it and was operationalised in February 1995. The NHAI is implementing the National Highways Development Programme (NHDP) approved by

Government of India in seven phases. Apart from this, roads, flyovers, underpasses are being constructed and improved under Port Connectivity Project and Other Special Projects.

National Highways 4, 5, 7, 7A, 45, 45A, 45B, 45C, 46, 47, 47B, 49, 66, 67, 68, 205, 209, 210, 220, 226 & 227 in Tamil Nadu are being improved by Government of India under NHDP through NHAI in association with State Government.

State Government extends its cooperation and assistance to NHAI in the matters of preconstruction activities such as land acquisition, shifting of utilities etc.,

#### **8.4.1 WORKS COMPLETED BY NHAI**

A length of 1905 km of roads at a cost of Rs.11826 Crore have been upgraded to four lane / six lane.

#### **8.4.2 WORKS UNDER IMPLEMENTATION BY NHAI**

A length of 1108 km of roads at a cost of Rs.8626 Crore are under execution and 1961 km roads is to be awarded.

#### **8.4.3 PORT CONNECTIVITY SCHEME**

Cabinet Committee on Economic Affairs (CCEA) approved the port connectivity scheme

in the year 2000 with the objective of connecting the 12 important ports in India through NHAI by establishing a Special Purpose Vehicle (SPV). Two Special Purpose Vehicles (SPV) have been established in Tamil Nadu to improve the roads connecting 3 major ports Chennai, Ennore and Tuticorin.

#### **8.4.3.1 CHENNAI - ENNORE - MANALI ROAD IMPROVEMENT PROJECT (EMRIP)**

In order to implement this project, NHAI established a SPV namely Chennai Ennore Port Road Company Limited with Government of Tamil Nadu, Chennai Port Trust and Ennore Port Limited as partners.

The State Highways stretches taken up for improvements under this Port Connectivity Scheme are given in **Table – 8.1.**

The estimated cost of the project is Rs.600 Crore. The details of contributions by the share holders of the company are given in **Table – 8.2.**

In order to protect Ennore Expressway from sea erosion, 10 groynes and seawall for a length of 500m along the sea coast at a cost of Rs.24.58 Crore were constructed.

Agreement for four laning and improvement of all the above four roads along with the construction of 3 additional Groynes was executed and the work was commenced in

June 2011 and is scheduled to be completed in June 2013.

#### **8.4.3.2 THOOTHUKUDI PORT CONNECTIVITY SCHEME**

Under this scheme, NHA established an SPV namely Tuticorin Port Road Company Limited with Tuticorin Port Trust to improve 47.20 km road in NH-7A from Tirunelveli to Tuticorin at a cost of Rs.290 Crore. The work was commenced in April 2010 and is scheduled to be completed by April 2012.

#### **8.4.4 BYPASSES TAKEN UP AND EXECUTED BY NHA**

96 bypasses have been taken up by NHA for execution. Out of this, 38 bypasses are under progress (**Table – 8.3**). 58 bypasses have been completed (**Table – 8.4**).

#### **8.4.5 LAND ACQUISITION**

Tamil Nadu Government plays a vital role in acquiring land for the completion of projects by National Highways Authority of India. For these projects, out of 7874 Ha. land required, 3202 Ha. land has been acquired and the balance 4672 Ha. is to be acquired.

**TABLE – 8.1**  
**CHENNAI - ENNORE - MANALI ROAD**  
**IMPROVEMENT PROJECT (EMRIP)**

<b>Sl. No</b>	<b>Name of work</b>	<b>Length in km</b>
1	Widening to four lane with service road and Improvements to Tiruvotriyur – Ponneri - Pancheti Road	9.00
2	Strengthening and improvements of existing four lane Manali oil refinery road.	5.40
3	Strengthening and improvements of existing 4 lane Northern segment of Inner Ring Road by providing paved shoulder	8.10
4	Widening to four lane with service road and improvements to Ennore expressway	7.50
	<b>Total</b>	<b>30.00</b>

**TABLE – 8.2**  
**COST SHARING DETAILS OF CHENNAI - ENNORE - MANALI ROAD IMPROVEMENT PROJECT (EMRIP)**

Sl. No	Contributed by	Contribution Amount	Loan	Total	Contribution made so far
1	National Highways Authority of India	139.80	117.50	257.30	114.45
2	Chennai Port Trust	139.80	110.68	250.48	67.00
3	Govt. of Tamil Nadu	58.20	--	58.20	30 Crore worth (IRR & MORR) and 17 Crore on LA = 47
4	Ennore port	34.02	--	34.02	17.50
	<b>Total</b>	<b>371.82</b>	<b>228.18</b>	<b>600.00</b>	<b>245.95</b>

**TABLE – 8.3**  
**LIST OF BYPASSES UNDER**  
**CONSTRUCTION BY NHAI**

<b>Sl. No.</b>	<b>Name of the Bypasses</b>	<b>NH No.</b>	<b>Length in km.</b>
1	Trichy	67	17.305
2	Kulithalai		10.000
3	Karur		14.800
4	Udaiyapatti	68	6.400
5	Vazhapadi		4.620
6	Gudalur	220	4.190
7	Cumbum		7.620
8	Uthamapalayam		4.430
9	Chinnamannur		3.480
10	Seelayampatti		2.100
11	Trichy	210	25.910
12	Kiranur		4.100
13	Pudukottai		10.400
14	Tirumayam		2.500
15	Karaikudi		19.670
16	Avinasi	47	7.850
17	Perumanallur		4.740
18	K.G.Chavadi		3.220



<b>Sl. No.</b>	<b>Name of the Bypasses</b>	<b>NH No.</b>	<b>Length in km.</b>
19	Vathalakundu	45 Extn.	6.100
20	Devadanapatti		3.370
21	Periyakulam		11.040
22	Theni		12.550
23	Veerapandi		2.340
24	Tindivanam	66	4.670
25	Gingee		4.780
26	Kilpennathur		4.260
27	Tiruvannamalai		9.700
28	Chengam		5.750
29	Singarapettai		3.430
30	Uttangarai		4.430
31	Mathur		3.210
32	Laxmipuram	205	1.200
33	Arcotkuppam		1.700
34	Kanakammachatram		1.800
35	Tiruvallur		6.200
36	Thanneer Kulam		0.800
37	Thozur & Sevapet (combined)		3.300
38	Vepampattu		3.600

**TABLE – 8.4****LIST OF BYPASSES COMPLETED BY NHA1**

<b>Sl. No.</b>	<b>Name of the Bypass</b>	<b>NH No.</b>	<b>Length in km.</b>
1	Bargoor	46	5.200
2	Natrampalli		2.700
3	Vaniyambadi		2.300
4	Walajapet	4	0.600
5	Baluchettichathram		1.600
6	Sunguvarchathram		2.400
7	Kaveripattinam	7	5.150
8	Periyampatti		1.750
9	Matlampatti		1.180
10	Dharmapuri- Adhiyamankottai Nallampally (combined)	-	15.550
11	Omalur	7	2.400
12	Salem		8.400
13	Mallur		2.150
14	Puthuchathiram		1.500
15	Chellampampatti		1.830
16	Namakkal		8.400
17	Velur	7	3.780
18	Karur		9.600

<b>Sl. No.</b>	<b>Name of the Bypass</b>	<b>NH No.</b>	<b>Length in km.</b>
19	Vedasandhur	7	5.700
20	Kodai Road		3.550
21	Vadipatti		6.100
22	Madurai		14.350
23	Thirumangalam		6.250
24	Chinnodaipatti		1.800
25	Kayathar		3.680
26	Tirunelveli		19.660
27	Valliyur		6.560
28	Nanguneri		26.600
29	Kavalkinaru		1.700
30	Palavoor		1.340
31	Karunkulam		1.700
32	Anjukaramam – Kanniyakumari (Combined)		11.690
33	Kondalampatti	47	3.480
34	Sankagiri		10.150
35	Pallakkapalayam		1.410
36	Chithode		4.650
37	Nasiyanur		2.280
38	Perunthurai		7.600
39	Vijayamangalam		2.270

<b>Sl. No.</b>	<b>Name of the Bypass</b>	<b>NH No.</b>	<b>Length in km.</b>
40	Pallagoundapalayam	47	1.480
41	Chengapalli		1.200
42	Viralimalai	45B	3.950
43	Thuvarankurichi		3.860
44	Kottampatti		3.770
45	Melur		7.280
46	Othakadai		5.800
47	Kariyappatti	45B	4.700
48	Kallakurichi		3.200
49	Panthalkudi		6.200
50	Thiruchitrabalam	66	6.230
51	Kiliyanur		5.580
52	Vallam	67	3.900
53	Chinnasalem	68	4.60
54	Thiyagathurugam		3.900
55	Elavarasanurkottai		4.000
56	Ulundurpet		2.570
57	Narasingapuram - Athur		7.200
58	Kallakurichi		5.100

## **9. NABARD AND RURAL ROADS WING**

Under NABARD and Rural Roads wing 4 Circles and 14 Divisions are functioning.

Under this wing, Construction of Bridges and improvements to roads with loan assistance from NABARD, construction of Road Over Bridges / Road Under Bridges under Railway Works Programme and land acquisition for Bypasses are being taken up. Besides that, construction of Bridges & improvements to the roads in Tsunami affected Nagapattinam District under Government of India assisted Tsunami Rehabilitation Programme are also being executed.

### **9.1 NABARD LOAN ASSISTANCE SCHEMES**

#### **9.1.1 CONSTRUCTION OF RIVER BRIDGES IN GOVERNMENT AND PANCHAYAT UNION ROADS**

Under this scheme spill over works of 134 bridges and new works of 65 Bridges sanctioned during 2011-12 were taken up for execution.

During 2011-12, totally 67 bridges have been completed incurring an expenditure of Rs.142.77 Crore benefiting about 19,35,000 people residing in 490 villages.

For the year 2012-13, an allotment of Rs 185.93 Crore has been made.

Details of completed major bridges are shown in **Table 9.1**

The Major bridges sanctioned during 2011-12 and taken up for execution are shown in **Table 9.2**.

### **9.1.2 IMPROVEMENTS TO OTHER DISTRICT ROADS AND MAJOR DISTRICT ROADS**

Under this scheme, spill over works of 56 roads to a length of 268.10 km were taken up for execution.

During 2011-12, 219.10 km (104.20 km widening and 114.90 km strengthening) road has been widened and strengthened incurring an expenditure of Rs.74.73 Crore.

For the year 2012-13, an allotment of Rs 8.30 Crore has been made.

### **9.1.3 CONSTRUCTION OF RIVER BRIDGES IN GOVERNMENT ROADS**

In this scheme, spill over works of 13 bridges were taken up for execution during 2011-12.

During 2011-12, 2 bridges were completed incurring an expenditure of Rs.12.85 Crore benefiting about 1,89,500 people residing in 24 villages.

Details of completed Bridges are shown in **Table 9.3**

For the year 2012-13, an allotment of Rs 9.27 Crore has been made.

#### **9.1.4 IMPROVEMENTS TO RURAL ROADS**

Under this scheme, spill over works of 5 bridges in Panchayat Union Roads were taken up for execution.

During 2011 -12, 3 major bridges have been completed incurring an expenditure of Rs.3.56 Crore benefiting about 25,000 people in 23 villages.

On completion of the 3 bridges, the travelling distance has been substantially reduced to around 12 km.

Details of completed bridges are shown in **Table 9.4**

For the year 2012-13, an allotment of Rs 3.50 Crore has been made.

#### **9.1.5 IMPROVEMENTS TO BUS ROUTE**

Under this scheme, one spill over bridge work is completed incurring an expenditure of Rs.59 Lakhs.

For the year 2012-13, an allotment of Rs.18 Lakhs has been made.

## **9.2 TSUNAMI REHABILITATION PROGRAMME**

Under this scheme, spill over works of 3 bridge works and 3 road works to a length of 6.20 km have been taken up for execution. 2 bridge works are nearing completion and one bridge work is completed incurring an expenditure of Rs.15.58 Crore.

On completion of this scheme, the main objective of Tsunami Rehabilitation Programme, i.e., connecting Pazhaiyar to Tharangambadi to act as an escape route during emergencies will be fulfilled.

## **9.3 CONSTRUCTION OF ROB / RUBs**

20 Road Over Bridges and 5 Road Under Bridges at a cost of Rs.468.75 Crore in lieu of existing Level Crossings have been taken up for execution under Railway works programme. Out of this, 4 Road Over Bridge works are in progress and the balance works are in various stages.

## **9.4 OVERALL EXPENDITURE (2011-12) AND ALLOCATION FOR 2012-13**

During 2011-12, an expenditure of Rs.240 Crore was incurred by this wing for all schemes. A total of 118 works including 219.10 km of roads and 73 bridges were completed.

For 2012-13, a total budgetary allocation of Rs.307.17 Crore has been made.



**TABLE 9.1**  
**COMPLETED MAJOR BRIDGES**  
**(GOVERNMENT AND PANCHAYAT UNION ROADS SCHEME)**

<b>Sl. No.</b>	<b>District / Constituency</b>	<b>Name of work</b>	<b>Cost Rs in Crore</b>
1	Tiruvannamalai Chengam	Reconstruction of bridge at km 22/8 of Tiruvannamalai - Thanipadi Road	6.65
2	Dindigul Nilakottai	Constn of a bridge at km 8/6 of Vathalagundu - Usilampatty road	5.51
3	Tiruvannamalai Cheyyar	Construction of High Level Bridge at km of 2/8 of Kazhiyur - Athi road	10.70
4	Tuticorin Vilathiklulam	Construciton of bridge across Vaippar river at km. 73/4-8 of Paruvakudi - Kovilpatti - Ettayapuram - Vilathikulam - Vembar road	12.23
5	Ariyalur Ariyalur	Reconstruction of bridge at K.M.8/8-10 of Ariyalur - Subbarayapuram road	5.37

**TABLE 9.2**  
**MAJOR RIVER BRIDGES SANCTIONED**  
**DURING 2011-12 AND TAKEN UP FOR**  
**EXECUTION**

<b>Sl. No</b>	<b>District Constituency</b>	<b>Name of Work</b>	<b>Cost Rs in Crore</b>
1	Thoothukudi Srivaikundam	Construction of a Bridge at km 15/4 - 15/8 of Nazerth - Eral road	14.90
2	Thanjavur Thiruvaiyaru	Construction of bridge at km 0/2-4 of Thirukkattupalli - Sengipatti - Pattukottai road across Cauvery river	20.00
3	Namakkal Kumara palayam	Construction of High Level Bridge at km 94/2 - 94/660 of Mallikarai - Rasipuram - Thiruchengode - Erode road near Pallipalayam across Cauvery river	14.66
4	Krishnagiri Uthangarai	Construction of High Level Bridge at km 5/8 of Kambainallur - Anandur road across Thenpennai river	6.00

<b>Sl. No</b>	<b>District Constituency</b>	<b>Name of Work</b>	<b>Cost Rs in Crore</b>
5	Cuddalore Kurinchipadi	Construction of High Level Bridge across Gadilam in km 0/4-0/6 of road branching from km 8/6 of CTS road to Santhankuppam road via Thirumanikuzhi	9.20
6	Villupuram Mailam	Construction of bridge across Sankaraparani river in km 1/0 Kongarampattu - Marur (via) Melsuvur.	6.25

**TABLE 9.3**  
**COMPLETED BRIDGES**  
**UNDER GOVERNMENT ROADS SCHEME**

<b>Sl. No.</b>	<b>District / Constituency</b>	<b>Name of work</b>	<b>Cost Rs in Crore</b>
1	Virudhunagar/ Rajapalayam	Reconstruction of bridge at km. 8/4 of Rajapalayam - Sankarankovil-Tirunelveli road	2.37
2	Tirunelveli Ambasamudiram	Reconstruction of bridge across Thambiraparani River at km. 3/0 - 3/4 of Chermadevi River Road	8.81

**TABLE 9.4**  
**COMPLETED BRIDGES UNDER**  
**IMPROVEMENTS TO RURAL ROADS SCHEME**

<b>Sl. No.</b>	<b>District / Constituency</b>	<b>Name of work</b>	<b>Cost Rs in Crore</b>
1	Trichy Manachanallur	Construction of a High Level bridge at K.M.2/0 including improvements to Neyveli - Veeramanipatti road K.M.0/0-3/8	3.31
2	Trichy Manachanallur	Construction of Bridge at km.0/8 of Gunaseelam - Kallur road.[LWW 50 M]	2.75
3	Tiruppur Tharapuram	Construction of a Causeway between Aathukalputhur and Nallakumaragoundenpu dur across Amaravathhi river.	2.24

## **10. METRO WING**

Improvements of road and bridge infrastructure facilities, construction of centre medians / foot paths, ROBs / RUBs etc., are being taken up by Metro wing in Chennai Metropolitan Area with state budgetary allocation and World Bank loan assistance

This wing is headed by a Chief Engineer with one Circle and four Divisions.

### **10.1 CHENNAI METROPOLITAN DEVELOPMENT PLAN (CMDP)**

To improve the road and bridge infrastructure facilities in Chennai Metropolitan Area, Chennai Metropolitan Development Plan is being implemented since 2003-04 under State budgetary allocation. The CTTS for CMA (Comprehensive Traffic & Transportation Study for Chennai Metropolitan Area) and the Second Master Plan of CMDA have recommended the projects that are required to be implemented in a span of 15 years (2010- 2025). In the above report, about 340 works are identified by the CMDA at an approximate cost of Rs.14070 Crore.

So far, The Government have given approval for 239 improvement works at a cost of Rs.975.51 Crore for the period 2003-2005 which includes 473 km of road works, 7 Bridges,

5 Grade Separators, 1 ROB, improvements to pedestrian subways and centre median etc.,

Further, a Grade separator on Periyar EVR Salai at the junction of Nelson Manickam road and Anna Nagar III Avenue junction has been approved by the Government at a cost of Rs.117 Crore and the work is in progress.

Till 2011-12, 472 km length of road works, centre medians / foot paths, Improvements to pedestrian subways, one Grade Separator, one River bridge etc have been completed at a cost of Rs.619 Crore and the balance 1 km road work will be completed during 2012-13.

During 2011-12, one River Bridge and 3.3 km roads under CMDP, 53.3 km under CRIDP and 15 km under TNUDP-III have been completed.

Major works under implementation are detailed below:-

### **10.1.1 GRADE SEPARATORS**

In Chennai Metropolitan Area, 5 Grade Separators at a cost of Rs.330.93 Crore are in progress of which 2 grade separators are expected to be completed during 2012-13. The details of the works are given in **Table 10.1**.

### **10.1.2 RIVER BRIDGES**

In Chennai Metropolitan Area, 3 River Bridges at a cost of Rs.81.78 Crore are in progress and all the 3 works are expected to be completed during 2012-13. The details of works are given in **Table 10.2.**

### **10.1.3 ROAD OVER BRIDGES/ UNDER BRIDGES AT RAILWAY LEVEL CROSSING**

Government have accorded Administrative Sanction for 9 ROBs / RUBs located in Chennai Metropolitan Area at a cost of Rs.289.72 Crore of which 2 ROB works (LC5 & LC14) are in progress and the balance 7 works are at different stages of pre-construction. During 2012-13, 2 ROB works are expected to be completed. The details of these works are given in **Table 10.3.**

## **10.2 TAMIL NADU URBAN DEVELOPMENT PROJECT –III (TNUDP-III)**

TNUDP –III Scheme was conceived during the year 2005 and is being implemented with the World Bank assistance. Various components such as urban water supply sewerage works and traffic component are implemented under this scheme.



### **10.2.1 Road Works**

Under traffic component, 5 road projects for a length of 36 km at a cost of Rs.145 Crore have been taken up by the Highways Department of which 3 road works have been completed and the following 2 road works will be completed during the year 2012-13

1. Widening from intermediate lane to two lane and strengthening of Minjur-Kattur Thirupalaivanam Road, (MKT Road) km 0/0-17/4 at a cost of Rs.49.73 Crore in Thiruvallur District.
2. Widening and strengthening of Taramani link road km 0/0-3/650 from two lane to six lane at a cost of Rs.38.94 Crore in Chennai District.

### **10.2.2 Foot Over Bridges**

Government have accorded sanction at a cost of Rs.28 Crore for the construction of Foot Over Bridges in the following seven locations where the volume of pedestrian traffic is high.

1. G.S.T Road, near Chrompet Government Hospital.
2. G.S.T Road, near MEPZ, Tambaram.
3. Inner Ring Road, near SBOA School road junction, Thirumangalam.
4. Taramani Link Road, near TCS.
5. Taramani Link road, near Perungudi junction.

6. EVR Salai near MOP Vaishnava College.
7. Velachery Bypass, near Metro water filling station.

Among these, the first 5 works will be commenced and completed during 2012-13.

### **10.2.3 Improving the Arterial Roads to World Class Standards**

To improve the traffic infrastructure facilities and ease the traffic flow in Chennai Urban Area, the following roads have been identified for improvement to world class standards:-

1. GST road km 0/0 - 27/4
2. GWT road km 0/0 - 14/2
3. Inner Ring Road km 0/0 - 17/5 and
4. Southern Sector of Inner Ring Road including Taramani Link Road km 0/0-9/2

Consultant has been appointed to prepare DPR. Stake holders meeting was held on 19.03.2012 and preparation of DPR is in progress.

DPR will be finalized during 2012-13. Based on the DPR the works will be taken up for implementation.

### **10.3 WORKS UNDER DPR STAGE**

**a.** To improve infrastructure facilities the Government have accorded Administrative Sanction for the preparation of DPR for the 4 works under CMDP Scheme on priority basis

based on the studies and recommendations of CTTS. The details are given in **Table 10.3.a.**

GAD & alignment for 3 of the listed works have been finalized and the DPR is prepared based on the finalized GAD. Based on this, these 3 works will be taken up for implementation during the year 2012-13. For the 4<sup>th</sup> work feasibility studies are in progress.

**b.** The Government have accorded administrative approval for the preparation of DPR for the following 12 works under CMDP Scheme based on the studies and recommendations of CTTS. The details of the works are given in **Table 10.3.b.**

DPR for these works are under preparation. Based on the DPR, the works will be taken up for implementation in the ensuing years.

**c.** Based on the studies and recommendations of the CTTS, 15 works are prioritized for implementation under CMDP Scheme for which orders for Administrative Sanction for the preparation of DPR is under consideration of the Government. The allocation of funds for these works have been obtained from State Infrastructure and Amenities Promotion Fund. The details are given in **Table 10.3.c.** All these works are expected to be commenced during 2012-13.

## **10.4 OVERALL EXPENDITURE (2011-12) AND ALLOCATION FOR 2012-13**

During 2011-12, an expenditure of Rs.50 Crore was incurred by this wing.

A total of 17 works consists 71.60 km of roads and 1 bridge works were completed during 2011-12.

For the year 2012-13, a total budgetary allocation of Rs.126.81 Crore has been provided.

**TABLE 10.1**  
**ON GOING GRADE SEPARATORS**

Sl. No	District/ Name of Work	Cost (Rs. in Crore)
	<b>Thiruvallur</b>	
1	Grade Separator at the intersection of Mount Poonamallee road with Kodambakkam - Sriperumpudur road at Porur	34.72
2	Grade Separator at the intersection of Madhavaram High road with G.N.T Road at Moolakkadai	49.55
	<b>Chennai</b>	
3	Grade Separator at the intersection of Anna Nagar IIInd Avenue and Mogappair road with Inner Ring road at Tirumangalam	60.23
4	Grade Separator at the intersection of N.S.K Salai (Arcot Road) with Inner Ring road at Vadapalani	69.43
5	Grade Separator on EVR Salai at the intersection of Nelson Manickam road and Anna Nagar 3rd Avenue road.	117.00
	<b>Total</b>	<b>330.93</b>

**TABLE 10.2**  
**ON GOING RIVER BRIDGES**

Sl. No	District/ Name of Work	Cost (Rs. in Crore)
	<b>Chennai</b>	
1	Additional 3 lane Highlevel Bridge across Adyar river, adjacent to the existing Thiru.vi.ka Bridge	13.08
	<b>Thiruvallur</b>	
2	HighlevelBridge across Coovam river at the road connecting GWT road at km11/2 and Mogappair near Nerkundram	16.04
3	Highlevel Bridge acrossEnnore Creek on the road connecting EnnoreExpressway with North Chennai Thermal Power station.	52.66
	<b>Total</b>	<b>81.78</b>

**TABLE 10.3****ROAD OVER BRIDGES/ ROAD UNDER BRIDGES AT RAILWAY LEVEL CROSSINGS**

<b>Sl. No</b>	<b>District / Name of Work</b>	<b>cost (Rs. in Crore)</b>
	<b>Thiruvallur</b>	
1	LC No.3 –Construction of Road Over Bridge near TiruvotriyurMattusandhai	47.00
2	LC No.4 –Construction of Road Under Bridge near TiruvotriyurRailway station.	28.00
3	LC No.6 – Construction of Road Under Bridge near TiruvotriyurWimco Nagar Railway station.	25.50
4	LC No.5 – Construction of Road Over Bridge nearPattaravakkam	35.00
5	LC No.14 – Construction of Road Over Bridge near Veppampattu Railway station	29.50
6.	LC No.4 –Construction of Road Under Bridge near Korattur Railway station	19.97
	<b>Kancheepuram</b>	
6.	LC No.32&33 – Construction of Road Over Bridge nearPerungalathur Railway station.	76.00

<b>Sl. No</b>	<b>District / Name of Work</b>	<b>cost (Rs. in Crore)</b>
8	LC No.22 -Construction of Road Under Bridge near Thirusulam.	14.00
9	LC No.27 -Construction of Limited Use Subway near Chrompet Radha Nagar.	14.75
	<b>Total</b>	<b>289.72</b>



**TABLE 10.3.a**  
**DETAILS OF WORKS FOR WHICH DPR IS**  
**UNDER PREPARATION.**

<b>Sl. No</b>	<b>Name of work</b>	<b>Rough cost Rs. in Crore</b>
1.	Construction of Grade Separator at junction of Kundrathur road and Santhai road at Pallavaram in GST road	85.70
2.	Construction of Grade Separator at junction of Taramani road, Tambaram – Velachery road and Velachery bypass in Velachery Vijayanagaram junction	99.58
3.	Construction of Grade Separator at junction of Perambur – Redhills road near Kolathur Rettai Eri in Inner Ring Road	52.79
4.	Grade Separator connecting the junctions from Raja Muthaiah Salai junction to Pulla Avenue Salai junction in EVR Salai.	300.00
<b>Total</b>		<b>538.07</b>

**TABLE 10.3.b**  
**DETAILS OF WORKS FOR WHICH DPR IS**  
**UNDER PREPARATION.**

<b>Sl. No</b>	<b>Name of work</b>	<b>Rough cost Rs. in Crore</b>
1	Widening of ROB at km 20/8 of Mount – Poonamallee-Avadi road	15.00
2	Widening of ROB to dual four lane at km 12/2 -13/2 of Inner Ring Road	20.00
3	New link road connecting Rajiv Gandhi Salai (OMR) with East Coast Road at Palavakkam (2.0 km)	50.00
4	New link road connecting Rajiv Gandhi Salai (OMR) with East Coast Road at Neelankarai (2.0 km)	50.00
5	Grade Separator at the junctions connecting Mount – Poonamallee-Avadi road, Chennai – Chittor-Bengaluru road, Kundrathur road near Poonamallee Kattupakkam	60.00
6	Grade Separator at the junction connecting Medavakkam road and Pallavaram Thuraipakkam road near Keelkattalai	60.00

<b>Sl. No</b>	<b>Name of work</b>	<b>Rough cost Rs. in Crore</b>
7.	Grade Separators at Medavakkam – Sholinganallur road junction, Medavakkam – Mambakkam road junction and Mount – Medavakkam junction in Maramalai Adigal Bridge – Irumbuliyur(MBI) road.	90.00
8.	RUB at the junction of Mount – Medavakkam road and Southern Sector of Inner Ring Road	25.00
9.	Grade Separator at the junction of ECR – Thiruvanmiyur road	160.00
10.	High level bridge across Coovam river in NH 4 at Nolambur road junction	12.00
11.	High level bridge across Coovam river in M.P road-Paruthipattu road at km 0/6	8.00
12.	Widening of high level bridge across river Adyar in Mount – Poonamallee Road near Ramapuram	8.00
<b>Total</b>		<b>558.00</b>

**TABLE 10.3.c****DETAILS OF WORKS PRIORITIZED FOR IMPLEMENTATION.**

<b>Sl. No</b>	<b>Name of work</b>	<b>Rough cost Rs. in Crore</b>
<b>I. Pedestrian Subway/ sky walk</b>		
1.	Near A.G Church in Anna Salai.	3.50
2.	Near M.K.N road junction at Guindy in GST road.	3.50
3.	At km 1/6 of Jawaharlal Nehru Salai (IRR) near Malladi company at Ekkattuthangal.	3.50
4.	At km 2/7 Nehru Salai (IRR) near Kasi theatre.	3.50
5.	At km 7/7 of Jawaharlal Nehru Salai (IRR) near CMBT.	5.00
6.	<b>Sky walk</b> A sky walk connecting Central station, Park station and GH in EVR Salai.	20.00
	<b>Total (6 works)</b>	<b>39.00</b>
<b>II. Bridge works</b>		
7.	Construction of additional 3 lane bridge across river Coovam near Aminjakarai in EVR Salai	8.00
8.	Widening of Bridge at km 3/4 in Mount – Poonamallee Avadi road (SH-55)	1.00

<b>Sl. No</b>	<b>Name of work</b>	<b>Rough cost Rs. in Crore</b>
9.	Construction of additional two lane bridge at km 15/8 of Mount - Poonamallee Avadi road (SH-55)	5.00
10.	Construction of additional two lane bridge at km 62/2 of SingaperumalKoil - Sriperumpudur -Thiruvallur - Senkundram road (SH-57)	2.00
11.	Construction of high level bridge at km 14/4-14/8 of Karanodai-Minjur road	9.00
12.	Construction of bridge at km16/6 of Tambaram - Mudichur road (SH110)	2.00
13.	Construction of bridge at km13/8 of Chennai - Kodambakkam - Sriperumpudur Road (SH113)	2.00
14.	Construction of bridge at km27/6 of Chennai-Kodambakkam-Sriperumpudur Road	1.00
	<b>Total (8 works)</b>	<b>30.00</b>
<b>III. Grade Separators</b>		
15.	Construction of Grade separator connecting the junctions of Mofussil bus entrance of CMBT and Kalamman Koil road junction in Jawaharlal Nehru Salai (IRR)	40.00
	<b>Total (1 work)</b>	<b>40.00</b>
	<b>Grand Total (15 works)</b>	<b>109.00</b>

## **11. QUALITY ASSURANCE & RESEARCH WING**

The Highways Research station at Chennai was established in 1957. Now it has been renamed as "Quality Assurance and Research" wing. It is undertaking research and testing in order to provide technical advice for works undertaken by the Highways Department. This wing is functioning with one Joint Chief Engineer, 4 Deputy Chief Engineers (Research) and 8 Divisional Engineers (Quality control) under the control of the Chief Engineer. The objectives are listed below:

- To assess the suitability of a material, composite materials before construction in various layers of road construction and various items of work during the construction of road and bridge work.
- To monitor, check, and assure the quality of all the works at various stages under all the schemes executed.
- Conducting research in all areas of Highway Engineering to improve, optimize and economise road construction and maintenance.

### **11.1 QUALITY CONTROL MECHANISM**

A three-tier quality control system has been put in place to check the quality of works

at all stages, by conducting relevant tests. Quality control laboratories at Circle and Division levels have been formed to achieve the above purpose. The quality checks conducted at the preliminary stage of a work, avoid considerable wastage of time, energy and financial resources, as it is possible to take corrective measure at this stage itself.

## **11.2 LABORATORIES**

Four laboratories at Chennai and four regional labs one each at Thanjavur, Coimbatore, Madurai and Tirunelveli, function under the control of Chief Engineer, Quality Assurance and Research Wing.

The broad functions of the above labs are;

- Suitability and quality assessment of basic material used in the construction of roads and bridges
- Conducting lab based and field based tests to ascertain the quality standard for a material / composite material used in the construction.
- Conducting field tests, to assess the level of performance, state of behavior and or quality assurance of a particular item / level of work in roads and bridge construction.
- To identify problem areas in highway construction and maintenance and to

assist the field engineer in solving the problem with an optimal solution.

- To identify areas which are accident prone and to suggest suitable remedial measures to reduce accidents.

This apart, designing flexible & rigid pavements, conducting pile load tests, subsurface soil exploratory works, mix design for concrete structures, non-destructive tests on concrete members, mix design for all types of bituminous mixes like SDBC, BC, and mastic asphalt, surface roughness using bump integrator equipment, axle load survey for the design of pavement, designing road junctions, coordination with governmental agencies such as traffic police department on transportation and traffic related issues, offering expert advice on technical specifications for road safety related components etc., are also the functions of the various labs of the QA&R wing.

### **11.3 RESEARCH ACTIVITIES**

Alternative materials, alternate technologies, improvement of the existing road conditions, material specifications, and accident free roads are the focus areas of research.

For the year 2012-13, the following Research studies are proposed to be conducted:-

- Study on effect of use of retarder in concrete mix and its effect on concrete strength



- Feasibility study of transition from Marshal mix design to SUPER PAVE DESIGN
- Study on the performance of flexible pavement
- Journey time and speed studies on selected stretches on urban, semi urban and rural roads within the State

## **11.4 ADVANCED DATA COLLECTION EQUIPMENT**

The data regarding condition of State road network is being collected through sophisticated equipment and analysed using advanced tailor-made software, to propose and prioritise road stretches for improvements under various schemes of the department.

The ROMDAS (Road Measurement Data Acquisition System) equipment along with vehicle-mounted bump integrator, video cameras, ROMDAS interface unit etc., are being used to collect road surface condition data.

The department recently procured two high-end vehicle mounted Advanced Data Collection Equipment (ADCE) fitted with advanced GPS, video camera etc., which are being deployed in collecting accurate, road surface condition data on the core state road network covering State Highways and Major District Roads within a year.

## **12. PLANNING, DESIGNS AND INVESTIGATION WING**

The Planning, Designs and Investigation wing comprises one Chief Engineer, one Joint Chief Engineer, 4 Designs Divisions at Head Quarters and 8 Investigation Divisions.

This wing undertakes field investigation works at bridge sites, preparation of detailed design, preparation of detailed drawings and quantity estimates and giving technical guidance for the bridge projects and detailed project reports for road projects proposed and implemented by various wings of the Highways Department.

Design divisions functioning at Head Quarters carry out the design works and field works are being carried out by the Investigation Divisions.

### **12.1 INVESTIGATION DIVISIONS AND THEIR ACTIVITIES**

The eight investigation divisions with their Head Quarters at Chennai, Villupuram, Trichy, Madurai, Tirunelveli, Salem, Coimbatore and Tiruppur undertake the following field works:-

### **12.1.1 FIELD INVESTIGATION**

- Detailed investigation at bridge site and collection of field data.
- Obtaining required particulars from Public Works Department for River Bridges and from Railways for ROBs and RUBs.

### **12.1.2 SUB-SOIL INVESTIGATION FOR FOUNDATION DESIGN.**

Sub-soil investigation through exploratory bores to arrive at the bearing capacity of the sub-soil to design the foundation of the bridges.

### **12.1.3 PREPARATION OF REPORTS AND DRAWINGS**

- Recommending suitable proposals based on field and sub-soil investigations.
- Preparation of cross sectional and longitudinal sectional drawings along the stream & alignment and arriving at hydraulic particulars.
- Preparation of alignment drawings and specification report for the proposals and obtaining approval for the feasible proposals.

- Preparation of site plans and details for the works of formation of new bypasses and link roads.

## **12.2 DESIGNS DIVISIONS AND THEIR ACTIVITIES**

The activities of designs divisions are as follows:

- Preparation of designs, drawings, quantity estimates and technical guidance for river bridges, ROB, RUBs and grade separators and other highway structures.
- Scrutinizing the alternative designs furnished by the contractors and according approval.
- Checking the Detailed Project Reports prepared by the consultants who are engaged by the various wings of the department.
- Re-designing the bridges if there is any change in alignment and in Railway proposals etc.,
- Re-designing the foundation of bridges and other bridge components, if warranted as per the subsoil condition during execution.
- Scrutinizing and giving recommendations to facilitate issue of permit for non-standard heavy motor vehicles to ply on roads based on the rules prescribed.

- Scrutinizing and according approval for the structural design of bridges to be constructed by other departments.

### **12.3 WORKS COMPLETED IN 2011-2012**

During 2011-12, Preparation / Proof Checking of design and drawings for 10 ROBs and 4 RUBs, 22 River Bridges, 2 Grade Separators and 12 design modifications totaling 50 Bridge works have been completed by the Design Divisions. The total cost of these works is Rs.477 Crore.

### **12.4 WORKS TO BE TAKEN UP IN 2012-2013**

During 2012-2013, it is proposed to collect field particulars and prepare design for 35 ROBs, 7 RUBs, 2 River Bridges, 4 Grade Separators and 1 Foot over bridge totalling 49 works costing Rs.1606.10 Crore which are already sanctioned by the Government. The detailed project reports to be prepared by the consultants will also be taken up for proof checking.

## **13. TAMIL NADU ROAD SECTOR PROJECT**

Tamil Nadu Road Sector Project was formed to implement the schemes funded by the World Bank. Under this, 3 major schemes are implemented namely

1. Upgradation of Government Roads.
2. Enhanced Periodical Maintenance
3. Institutional Strengthening

The wing functions under the control of a Project Director. The Project Director was assisted by 1 Chief Engineer, 2 Superintending Engineers and 5 Divisional Engineers now down sized to 1 Superintending Engineer and 4 Divisional Engineers.

This project was launched at an estimated cost of Rs.2160 Crore with the assistance of World Bank. The current revised estimate of the project is Rs.2,442 Crore, in which the World Bank loan component is Rs.1,906 Crore and the share of Government of Tamil Nadu is Rs.536 Crore. The project implementation period came to closure on 31.03.2012.

### **13.1 UPGRADATION COMPONENT**

Under this component, some of the stretches in National Highways and selected

stretches of State Highways and Major District Roads along the Arcot - Tiruvarur - Nagapattinam - Tuticorin corridor in 4 packages, Ramanathapuram bypass (10.40 km) and Kumbakonam bypass (4.10 km) to a total length of 724 km were taken up for upgradation in 6 packages at a cost of Rs.1339.15 Crore. All the works have been completed except 3 minor bridge works and its approaches in Kumbakonam bypass, which will be completed during September 2012. Two ROBs in Ramanathapuram bypass and Kumbakkonam bypass are being executed by Railways as deposit work.

The reconstruction of Tsunami affected bridge between Keezhamanakudi and Melamanakudi villages at a contract price of Rs.21.29 Crore has been taken up and will be completed during September 2012.

### **13.2 ENHANCED PERIODICAL ROAD MAINTENANCE WORKS**

Enhanced road maintenance works to the length of 1,033 km in SH and MDR were taken up and for execution in four phases at a cost of Rs.430 Crore and all works have been completed.

### **13.2.1 PERFORMANCE BASED MAINTENANCE CONTRACT (PBMC)**

It has been proposed to substitute the existing procedure of maintaining roads by a long term maintenance contract for maintenance of particular stretches of roads for a term of 5 years continuously.

Under PBMC Phase II, the roads upgraded by Tamil Nadu Road Sector Project are considered for maintenance through PBMC with State assistance.

### **13.3 PUBLIC PRIVATE PARTNERSHIP (PPP) SCHEME.**

The Public Private Partnership (PPP) study was taken up by TNRSP through a consultant and 5 roads were identified.

Of these, the Review Committee has approved the following 3 roads with some improvements and recommended to take-up under Public Private Partnership scheme.

<b>Sl. No.</b>	<b>Name of Roads</b>	<b>Length in km</b>	<b>Proposed cost Rs. in Crore</b>
1.	Mettur - Pazhanganathu - Oddanchatriram - Dharapuram - Kangeyam - Tirupur Road -(SH 37).	126.00	1110.00



2.	Erode Outer Ring Road Phase II.	9.60	31.00
3.	Chennai Outer Ring Road Phase II.	32.30	592.00
<b>Total</b>		<b>167.90</b>	<b>1733.00</b>

Out of the 3 corridors, Chennai Outer Ring Road Phase-II had been taken up already and the balance will be taken up later.

### **13.4 PHASE II OF TNRSP**

Tamil Nadu Road Sector Project has awarded the Consultancy Services to Indian Institute of Technology Madras for carrying out Techno Economic Feasibility and to prepare a Shelf of Projects for various financing options including institutional borrowing for improvements to core network in Tamil Nadu. The purpose of the study is for improving roads under Phase II of Tamil Nadu Road Sector Project based on the report of Strategic Option Study (SOS II) and posing it for external aided funding.

The study has been taken up & completed for a length of 2477 km of the core road network. Further study for a length of 239 km is in progress. In total, study is being carried out for a length of 2716 km. Total size of the project is likely to be Rs.8000 Crore. Based on the feasibility report submitted by the consultant,

the committee has recommended that Government of Tamil Nadu would take up viable roads under Public Private Partnership (PPP) for Rs.1500 Crore for roads which have good Economic Internal Rate of Return (EIRR). For the remaining Rs.6500 Crore, the Government of Tamil Nadu will bear 20% of cost of roads and will request for funding of the balance 80 % through the external agency. The proposal has been sent to Government of India for tying up with external funding / lending agencies.

## **14. TAMIL NADU ROAD DEVELOPMENT COMPANY**

Tamil Nadu Road Development Company Limited (TNRDC) incorporated in May 1998, is a 50:50 Joint Initiative of Tamil Nadu Industrial Development Corporation Ltd (TIDCO) and a private sector partner. TNRDC was set up with the mandate of developing road sector projects by catalyzing private sector resources and investments under Public Private Partnership (PPP) framework. At present TIDCO and TIDEL Park Limited (TIDEL) are holding 50% each in share capital of TNRDC.

TNRDC has improved the East Coast Road and is maintaining a length of 113 km starting from Akkarai to Pondicherry State border. IT Expressway Limited (ITEL) is the subsidiary of TNRDC. It has improved Phase I of Rajiv Gandhi Salai (IT Corridor) and is maintaining it for a length of 20.10 km. At present TNRDC is the Managing Associate for Phase I and Phase II of Chennai Outer Ring Road Projects.

The following projects are being implemented by this company:-

### **14.1 RAJIV GANDHI SALAI (IT EXPRESSWAY)**

Under Phase-I, the Rajiv Gandhi Salai (IT Corridor) was developed as a six lane road of international standards from Madhya Kailash to Siruseri for a length of 20.10 km. The link

road connecting Sholinganallur and East Coast Road for a length of 2.15 km was widened to four lane. This road is being maintained as a toll road by M/s IT Expressway Ltd., the Special Purpose Vehicle (SPV) of Tamil Nadu Road Development Company.

In the second phase, the Government have proposed to construct a six lane road for a length of 25 km from Siruseri to East Coast Road near Mamallapuram, under a viable financial arrangement through Public Private Partnership. The rough cost estimate for the project is Rs.550 Crore. The Government have sanctioned Rs.70 Crore for land acquisition and the land acquisition works are in progress. The process of updating the DPR as per current rates and modified specifications is on.

## **14.2 DEVELOPMENT OF EAST COAST ROAD**

The East Coast Road connects Chennai and Kanyakumari with a length of 765 km. The 166 km road from Chennai to Cuddalore was widened to two lane at the cost of Rs.102 Crore with the financial assistance of Asian Development Bank and put into use. In this, the road from Chennai to Akkarai in Kanchipuram District is being maintained through Highways Department. A stretch of 113 km starting from Akkarai to Pondicherry State border is being maintained as a toll road.

Taking into account the heavy traffic from Chennai to Pondicherry State in the East Coast

Road and also the Environmental and Social Impacts and to avoid accidents, the Government of Tamil Nadu ordered Tamil Nadu Road Development Company Ltd. (TNRDC) to undertake investigation on the feasibility of four laning of the East Coast Road from Akkarai to Pondicherry border.

The Feasibility Report was prepared by TNRDC through consultants and based on the traffic volume, the consultants suggested to improve Phase I from Akkarai (km 22/300) to Mamallapuram (km 55/800) to four lane standards with centre median. Improvement of Phase II from Mamallapuram (km 55/800) to Tamil Nadu state border (km 135/500) will be taken up later.

Based on the Feasibility Report, Government have sanctioned Rs.1.43 Crore for the preparation of Detailed Project Report for Phase I and Rs.10 Crore towards the cost of land acquisition and the land acquisition works are in progress. The Detailed Project Report has been submitted by the consultant

Also, The Government of Tamil Nadu have sanctioned a sum of Rs.134 Crore to construct an additional two lane bridge besides reconstructing the existing bridge in East Coast Road at Palar River (km 75/300). Based on the above, tender is under process for preparation of DPR”

## **14.3 CHENNAI OUTER RING ROAD**

### **14.3.1 PHASE I**

In view of the vehicular congestion in the major roads in Chennai City, Government of Tamil Nadu has decided to provide a major connectivity corridor on the western side to ease the congestion for free and quick flow of traffic. Orders have been issued for implementing Chennai Outer Ring Road project Phase-I as a six lane road for a length of 29.65 km from Vandalur in NH-45 to Nemillichery in NH-205 via Nazarathpet in NH-4 at a cost of Rs.1,081.40 Crore. The project has been taken up under Public Private Partnership on Design, Build, Finance, Operate and Transfer (DBFOT) Annuity basis with the concession period of 20 years. Tamil Nadu Road Development Company Limited has been appointed as "Managing Associate" for this project.

The Government of Tamil Nadu has sanctioned a sum of Rs.300 Crore as Project Support Fund to be released during the construction period of 2 ½ years, depending on the progress of the project. Further during the operation period of 17 ½ years, the concessionaire will be paid Semi Annual Annuity. The work is in progress and is programmed to be completed by November 2012.

A provision of Rs.140 Crore is made for the year 2012-13.

### **14.3.2 PHASE – II**

Phase-II is in continuation of the Chennai Outer Ring Road Project Phase I and this connects Nemilichery in NH-205 to Minjur in Thiruvotriyur-Ponneri-Pancheti Road (TPP Road) via. Padiyanallur in NH-5 for a length of 30.50 km at an approximate cost of Rs.1000 Crore. This will supplement the benefits of Chennai Outer Ring Road Phase-I and provide a complete ring connectivity around the city on the Western side.

Orders have been issued for the implementation of Chennai Outer Ring Road Phase-II under Public Private Partnership on Design, Build, Finance, Operate and Transfer (DBFOT) annuity basis. The land acquisition for Phase-II is nearing completion. The tendering process for the selection of the concessionaire is in progress.

Once this new road is formed, the heavy vehicles and containers entering from different directions can reach Ennore and Chennai Ports and also other places easily without any loss of time.

A provision of Rs.100 Crore has been made for this Phase-II project in 2012-13.

## **15. TAMIL NADU ROAD INFRASTRUCTURE DEVELOPMENT CORPORATION**

TNRIDC was incorporated under Sec. 25 of the Companies Act, 1956 as a non-profit organization on 4.3.2005 to formulate, undertake, implement, improve, upgrade and maintain the road infrastructure.

Considering the speedy development of industries in and around Sriperumpudur in Kancheepuram District, it was decided to improve the road infrastructure facilities in Oragadam Industrial Park at an estimated cost of Rs.300 Crore and the scheme is under implementation.

### **15.1 ORAGADAM INDUSTRIAL PARK INFRASTRUCTURE DEVELOPMENT SCHEME - PHASE I**

The following works were taken up for implementation in the first phase:

#### **A. SINGAPERUMALKOIL - SRIPERUMPUDUR ROAD (SH-57) (24.60 KM)**

Widening the road from single lane to four lane with centre median



This work is split up into two packages as follows:

<b>From Singaperumalkoil to Oragadam</b>	12.60 km
<b>From Oragadam to Sriperumpudur</b> (including formation of bypass to Ponthur village for a length of 2.39 km)	12.00 km
<b>Total Length</b>	<b>24.60 km</b>

**B. VANDALUR – WALAJABAD ROAD (SH-48)  
(33.4 km)**

Widening the road from two lane to four lane with Centre median.

This work is split up into two packages as follows:

<b>From Vandalur to Oragadam</b>	16.60 km
<b>From Oragadam to Walajabad</b>	16.80 km
<b>Total Length</b>	<b>33.40 km</b>

The road works in the first phase have been completed for a length of 41 km. Totally 166 cross drainage works have been completed. Also construction of a Grade Separator at Oragadam junction at a cost of Rs.23 Crore is in progress.

The total expenditure incurred for this project is Rs.318 Crore which includes the expenditure of Rs.134 Crore for land acquisition.

RAS for Rs.462.42 Crore has been accorded and work is expected to be completed by August 2012 except for the forest portion.

A budgetary provision of Rs.60 Crore has been made for the year 2012-13.

## **15.2 ORAGADAM INDUSTRIAL PARK INFRASTRUCTURE DEVELOPMENT SCHEME - PHASE II**

The Government have accorded administrative sanction for Rs.86.65 Crore for the work of "Widening four lane to six lane for the stretch from Oragadam to Sriperumbudur, km 12/6 - 24/6 in Singaperumalkoil - Sriperumpudur road" and entrusted the work to TNRIDC for implementation.

Tenders for the above work will be called for shortly.

# **MINOR PORTS WING**

## **16. TAMIL NADU MARITIME BOARD**

Along the 1076 km coastline of Tamilnadu, there are 3 major ports viz., Ennore, Chennai and Thoothukudi notified under the Major Port Trust 1963 and 23 minor ports notified under the Indian Port Act 1908. The major ports come under the control of Government of India and the minor ports under the control of the State Government.

The Tamil Nadu Port Department, which was administering, controlling, regulating and managing the minor ports in Tamil Nadu, was converted as Tamil Nadu Maritime Board under the Tamil Nadu Maritime Board Act, 1995 (Tamil Nadu Act 4/96) with effect from 18.03.1997 with the following objectives :

- To facilitate / encourage establishment of Port based industries such as Thermal Power Plants, Refineries, Fertilizer plants etc., by providing exclusive port facilities to handle the cargo required for such industries.
- To provide port connectivity to the industries in the Central / Western Districts in the State of Tamil Nadu
- To decongest the Major ports in the State of Tamil Nadu

- To decongest Highways and Railways by providing facilities for coastal shipping and
- To promote the maritime training activities to the level of international standards.

## **16.1 MINOR PORT DEVELOPMENT POLICY**

Tamil Nadu Maritime Board is fully aware of the importance of the industrialization for the economic development of the State. It encourages setting up of Captive Ports, Jetties and Moorings for the port based Oil Industries, Thermal Power Projects and also multiuser ports on "BOOT" basis.

The Government of Tamil Nadu has formulated and is implementing a port policy to provide for investment opportunities for the development of Minor Ports in Tamil Nadu.

## **16.2 THE MAIN HIGHLIGHTS OF THE PORT POLICY**

The vision of this Board is to promote cordial relationship between the Ports and Industries to ensure development of Ports and industrial growth. It also aims to accelerate the pace of economic growth of the state by developing a number of captive ports through Public Private Participation.

### **16.2.1 OBJECTIVES**

- To facilitate establishment of Port based Thermal Power Plants by providing exclusive port facilities to Import Coal, Naphtha, Oil and Natural Gas.
- To provide port facilities to promote export oriented industries and port based industries along the coastal Districts of Tamil Nadu.
- To decongest Highways and Railways by providing facilities for coastal traffic along the East Coast.
- To promote Tourism, Cruises and Coastal trade.
- To provide facilities to encourage ship repairing and construction of floating crafts.

## **16.3 POLICY GUIDELINES**

### **16.3.1 PRIVATE PARTICIPATION**

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

### **16.3.2 CAPTIVE JETTIES**

In order to satisfy 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 to construct jetties. Private companies making substantial investment in coastal areas requiring port based facilities will be allotted sites for construction of jetties both captive and commercial.

### **16.3.3 APPROACH**

The private participation in construction / development of ports / jetties will be encouraged through a well set out transparent procedure and each proposal will be considered on its own merits. The trust of the policy bundle will be encourage effective private participation and to that extent the approach in finalizing the proposals could be flexible on a case to case basis.

### **16.3.4 OPERATIONAL STRATEGY**

- To maintain transparency and to invite competitive bids through Global Tenders.
- To promote the project on the principle of Build, Own, Operate and Transfer (BOOT)
- The period of BOOT will initially be for 30 years and may be extended up to 50 years.

- Will recover a reasonable amount on the cargo handled.

## **16.4 ACTIVITIES OF MINOR PORTS**

In the Government ports, ships call at Nagapattinam port for the export of Diesel and Naphtha and import of Edible Oil, Crude Oil and General cargo. Small ships are occasionally piloted through Pamban Channel. Kanniyakumari and Rameswaram ports are used for passenger ferry service. There is no activity in other ports.

The Captive Ports are operated by private companies for their own use. The development of entire infrastructure facilities in these captive ports is the responsibility of the companies concerned. At Ennore Minor Port and Thirukkadaiyur Minor Port liquid ammonia and naphtha are being transferred directly from the vessel at Buoy Mooring System to the storage tank on shore through sub-marine pipelines.

Of the Sixteen Captive Ports, five ports, viz., Ennore Minor Port (Thiruvallur), Thiruchopuram (Cuddalore), PY-03 Oil Field (Cuddalore), Thirukkadaiyur (Nagapattinam), Koodankulam (Tirunelveli) are presently operational. The remaining eleven captive ports have not commenced operation.



## COMMODITIES HANDLED IN MINOR PORTS

### GOVERNMENT PORTS

<b><i>Sl. No.</i></b>	<b><i>Port</i></b>	<b><i>Loaded</i></b>	<b><i>Unloaded</i></b>
1.	Cuddalore	--	Vinyl Chloride Monomer
2.	Nagapattinam	Diesel and Naphtha	Edible Oil, Crude oil and General cargo

### CAPTIVE PORTS

<b><i>Sl. No.</i></b>	<b><i>Port</i></b>	<b><i>Loaded</i></b>	<b><i>Unloaded</i></b>
1.	Ennore Minor Port	-	Liquid Ammonia
2	PY 03 Oil field	Crude oil	-
3	Thirukkadaiyur	-	Naphtha

## 16.5 MINOR PORTS IN TAMIL NADU

The following are the minor ports either active or under various stages of development in Tamilnadu:

<b><u>Government ports</u></b>	<b><u>Captive ports</u></b>	<b><u>Ports under process yet to be notified</u></b>
1) Cuddalore 2) Nagapattinam 3) Pamban 4) Rameswaram 5) Valinokkam 6) Kanyakumari 7) Colachel	1) Kattupalli 2) Ennore 3) Mugaiyur 4) Thiruchopuram 5) Silambimangalam Shipyard 6) PY-03 Oil Field 7) Parangipettai 8) Kaveri 9) Vanagiri 10) Thirukkadaiyur 11) Thirukkuvalai 12) Punnakkayal 13) Udangudi 14) Manappad 15) Koodankulam 16) Chettinad Tharangampadi	1) Cheyyur (Panaiyur) 2) Marakkanam 3) Combined port facility at Sirkazhi Taluk

All the minor ports in Tamil Nadu are anchorage ports without berthing facilities and hence cargoes are transshipped from the vessels

at mid-stream to the shore and vice-versa through barges.

## **16.6 PORT DEVELOPMENT WORKS**

### **16.6.1 GOVERNMENT PORTS**

#### **(I) CUDDALORE:**

M/s. Chemplast Sanmar Limited, has developed Marine Terminal Facility (MTF), within Cuddalore port limits, and for handling Vinyl Chloride Monomer (VCM) required for the Poly Vinyl Chloride (PVC) factory, established at SIPCOT Complex.

M/s. Cuddalore Powergen Corporation Limited has proposed to set up a jetty at an approximate cost of Rs.325 Crore for which the port limits of Cuddalore Port have been extended. Land acquisition from private / public is under progress by the company.

It was decided to develop this port on Develop, Operate, Maintain, Share and Transfer (DOMST) basis on a PPP mode through bidding process. The bids received are under consideration.

#### **(II) A GREEN FIELD PORT AT NAGAPATTINAM**

Government have issued orders to develop an all weather, deep water, direct berthing, Green Field Port at Nagapattinam on a PPP mode through competitive bidding process.

Tamil Nadu Maritime Board is in the process of appointing a Consultant for providing consultancy services for the selection of the prospective developer.

### **(III) COLACHEL**

A Techno Economic Feasibility Report has been prepared for the development of this port as per which establishing a Liquefied Natural Gas (LNG) Terminal here is under consideration.

## **16.6.2 CAPTIVE PORTS**

### **(I) KATTUPALLI**

M/s L&T Shipbuilding Limited, a joint venture company of Tamil Nadu Industrial Development Corporation (TIDCO) and M/s. L&T Mumbai is setting up an Integrated Shipyard cum Minor Port complex at Kattupalli in Thiruvallur District. The construction of the Port is nearly complete. The Port is expected to commence its commercial operations soon.

### **(II) MUGAIYUR**

Based on the request of M/s. Marg Swarnabhoomi Port Private Limited to develop a captive ship repair facility at an approximate cost of Rs.500 Crore, this port was declared as a minor port. The company has been allotted coastal land within the port limits of this port on lease basis.

### **(III) THIRUCHOPURAM**

M/s. Nagarjuna Oil Corporation Limited is setting up a captive port at Thiruchopuram in Cuddalore District for handling crude oil and finished petroleum products required for their refinery. The development of a multi purpose – multi user port in this region will provide the much desired port connectivity to the industries situated in the Central and Western Districts of Tamil Nadu.

### **(IV) SILAMBIMANGALAM SHIPYARD**

The port limits of Silambimangalam Shipyard port have been notified by the Government for M/s. Goodearth Shipbuilding Private Limited to establish a captive shipbuilding yard. The Government of India has also notified this port under Sea Customs Act.

### **(V) PARANGIPETTAI**

M/s. IL & FS Tamil Nadu Power Company Ltd is setting up a captive port at Parangipettai in Cuddalore District for handling coal required for their power plant. Consent to establish the port and power plant has been granted by Tamil Nadu Pollution Control Board and field works for the Power Plant have commenced.

### **(VI) KAVERI**

M/s. PEL Power Limited have proposed to develop a jetty for handling coal required for

their 1320 MW Power Plant for which this port has been notified. Proposal to declare this port under Sea Customs Act is under consideration of Government of India.

**(VII) VANAGIRI**

M/s. NSL Power Limited have proposed to develop a jetty for handling coal required for their 1500 MW Power Plant for which this port has been notified. Proposal for Customs Notification of this port is under consideration of the Government of India.

**(VIII) THIRUKKUALAI**

The limits of Thirukkuvalai port in Nagapattinam District have been declared for M/s. Tridem Port and Power Company Private Limited, to establish a port to handle coal required for their proposed 2000 MW Merchant Power Plant. The company is in the process of obtaining clearance from Ministry of Environment and Forests, New Delhi for the port project.

**(IX) UDANGUDI**

This port has been notified as a minor port for M/s. Udangudi Power Corporation Limited, Chennai for establishing an open sea jetty to receive coal for their 1600 MW Thermal Power Project. The company is in the process of

obtaining environmental clearance from Ministry of Environment and Forests, New Delhi.

**(X) MANAPPAD**

The Government have declared Manappad in Thoothukudi District as a Minor Port for the captive use of M/s. Indian Gas Limited, for handling LNG required for the proposed 2000 MW Gas Turbine Power Project to be set up by M/s. Indian Power projects Ltd. Coastal land within the port limits of this port has been allotted on lease basis for construction of marine facilities.

**(XI) CHETTINAD THARANGAMBADI PORT**

The Government have declared Chettinad Tharangambadi port based on the request of M/s. Chettinad Power Corporation Limited for handling coal required for their 1200 MW Thermal Power Project at Tharangambadi Taluk in Nagapattinam District. Action has been initiated to allot coastal land to this company.

**16.6.3 PORTS UNDER PROCESS TO BE DECLARED**

**(I) PORT AT PANAIYUR, KANCHIPURAM DISTRICT**

M/s. Coastal Tamil Nadu Power Limited has been granted an in-principle approval for developing a captive port at Panaiyur in Kancheepuram District for handling coal required for their proposed 4000 MW Ultra Mega Power

Project. The company has applied for the clearance from the Ministry of Environment and Forests, New Delhi.

**(II) MARAKKANAM PORT, VILLUPURAM DISTRICT**

In-principle approval has been granted to M/s. NTPC Limited for setting up a captive port for handling coal required for their 4000 MW Super Thermal Power Project at Marakkanam in Villupuram District. The company is in the process of preparing the Technical Feasibility Report.

**(III) A COMBINED PORT FACILITY AT SIRKAZHI TALUK IN NAGAPATTINAM DISTRICT**

M/s. Empee Power and Infrastructure Private Limited and M/s. Sindya Power Generating Company Private Ltd have proposed to set up separate thermal power plants in Sirkazhi Taluk in Nagapattinam District. Since their power plants are closely located, they were requested to establish a combined port. Accordingly, they have formed an SPV company namely M/s. Sirkazhi Port Private Limited to develop the combined captive port near Sirkazhi Taluk in Nagapattinam District. M/s. Sindya Power Generating Company Private Ltd has submitted a Technical Feasibility Report and requested for declaration of port limits, which is under consideration of Tamil Nadu Maritime Board.



## **16.7 TAMIL NADU MARITIME COLLEGE AT THOOTHUKUDI**

In order to provide quality Maritime Training to the students of Tamil Nadu, the Government have ordered establishing a Maritime College at cost of approximately Rs.1901 Lakhs at Thoothukudi on Public Private Participation mode.

M/s. ITCOT Consultancy and Services Ltd has been appointed as a consultant for the preparation of Techno Economic Feasibility Report and the bid process.

## **17. POOMPUHAR SHIPPING CORPORATION LIMITED**

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 Generation and Distribution Corporation (TANGEDCO).

### **17.1 SHIPS IN OPERATION**

Poompuhar Shipping Corporation is operating three of its own specially designed shallow draft geared bulk carriers viz. M.V Tamil Anna, M.V Tamil Periyar and M.V Tamil Kamaraj acquired between August 1985 and January 1987. With these own vessels, the coal is being transported to the Thermal Power Stations of TANGEDCO. Apart from this, based on the requirement, vessels are being chartered on contract basis from the private shipping companies. During the year 2011-12, PSC has chartered eight ships from private Companies.

### **17.2 PORTS HANDLING COAL**

The coal required by Tamil Nadu Generation and Distribution Corporation (TANGEDCO) is transported through own and chartered ships from the load Ports at Haldia,

Paradip and Visakhapatnam and discharged at VOC Port, Tuticorin and Ennore ports.

### **17.3 COAL MOVEMENT FOR TANGEDCO**

During 2011 - 12, this corporation has transported about 126.60 Lakhs M.T coal to the Thermal Power Stations against 126.02 Lakhs MT Coal received at the load ports. During 2012-13, it is expected to move about 152.40 Lakhs M.T of coal to TANGEDCO for their existing Thermal Power Stations and the new units to be commissioned during 2012-13.

### **17.4 COAL MOVEMENT FOR NTECL**

PSC has signed Memorandum of Understanding (MOU) on 12.03.2012 with NTPC Tamil Nadu Energy Co.Ltd. (NTECL), a joint venture company of TANGEDCO and NTPC Ltd for transporting coal for the upcoming power projects (3x500 MW). The new units are expected to be commissioned during the financial year 2012-13. The expected coal allotment by M/s.Coal India, during 2012-13 is around 17.40 Lakhs MT.

### **17.5 PHYSICAL AND FINANCIAL PERFORMANCE**

The details of the quantity of coal moved, turnover and profit of the Corporation for the last three years are given below:

<b>Year</b>	<b>Quantity of coal received at load ports (in Lakhs MT)</b>	<b>Quantity moved (in Lakhs MT)</b>	<b>Turnover (Rs in Crore)</b>	<b>Net Profit (Rs in Crore)</b>
2009-2010	129.50	127.88	461.52	3.00
2010-2011	125.74	124.49	517.02	2.04
2011-2012	126.02	126.60	532.25*	2.87*

\* Estimated

## **17.6 KANYAKUMARI FERRY SERVICE**

Besides transporting coal to TANGEDCO, this Corporation is also operating passenger ferry services from the shore at Kanyakumari to the Vivekananda Rock Memorial and Thiruvalluvar Statue. Presently, PSC is operating three ferries viz. M.L. Bhagirathi, M.L.Guhan and M.L.Pothigai for transporting tourists at Kanyakumari. As a replacement of M.L.Baghirathi, which is more than 35 years old, PSC has issued work order for design, construction and delivery of one ferry at a cost of Rs.1.08 Crore with seating capacity of 150 passengers with same design as M.L. Guhan and M.L.Pothigai. This ferry will be inducted into operation by the end of April 2012.

Physical and financial Performance of the Ferry service for the last three years are given below:

<b>Year</b>	<b>No. of ferries</b>	<b>No. of passengers (In Lakhs)</b>	<b>Fare collection (Rs.in Lakhs)</b>	<b>Profit / loss (Rs. in Lakhs)</b>
2009-2010	3	19.23	377.83	35.75
2010-2011	3	19.15	373.35	(-)52.43
2011-2012	3	20.26*	394.89	(-)16.00*

\*Estimated

**Edappadi K. Palaniswami**  
**Minister for Highways and Minor Ports**

## ABBREVIATIONS

ADCE	:	Advanced Data Collection Equipment
BBD	:	Benkelman Beam Deflection
BOQ	:	Bill Of Quantity
C&M	:	Construction and Maintenance
CBR	:	California Bearing Ratio
CCEA	:	Cabinet Committee on Economic Affairs
CMA	:	Chennai Metropolitan Area
CMDA	:	Chennai Metropolitan Development Authority
CORR	:	Chennai Outer Ring Road
CRIDP	:	Comprehensive Road Infrastructure Development Programme
CRRRI	:	Central Road Research Institute
CTTS	:	Chennai Traffic & Transportation Study
CUMTA	:	Chennai Unified Metropolitan Transport Authority
DBFOT	:	Design, Build, Fund, Operate and Transfer
DPR	:	Detailed Project Report
EI	:	Economic Importance
EIRR	:	Economic Internal Rate of Return
EMRIP	:	Ennore – Manali Road Improvement Programme
GIS	:	Geographical Information System
GST Road	:	Grand Southern Trunk Road
GWT Road	:	Grand Western Trunk Road

HADP	:	Hill Area Development Programme
HRS	:	Highways Research Station
HUDCO	:	Housing & Urban Development Corporation
IAHE	:	Indian Academy of Highway Engineers
IIT	:	Indian Institute of Technology
IRC	:	Indian Roads Congress
IRI	:	International Roughness Index
ISC	:	Inter State Connectivity
ISO	:	Indian Standard Organisation
ITEL	:	Information Technology Expressway Limited
LA	:	Land Acquisition
LC	:	Level Crossing
MDR	:	Major District Roads
MORT&H	:	Ministry of Road Transport & Highways
NABARD	:	National Bank for Agriculture & Rural Development
NHDP	:	National Highways Development Programme
NHAI	:	National Highways Authority of India
NTPC	:	National Thermal Power Corporation
ODR	:	Other District Roads
P&FMS	:	Project, Human Resources and Finance Management System
PBMC	:	Performance Based Maintenance Contract
PD&I	:	Planning, Design & Investigation
PPP	:	Public Private Partnership

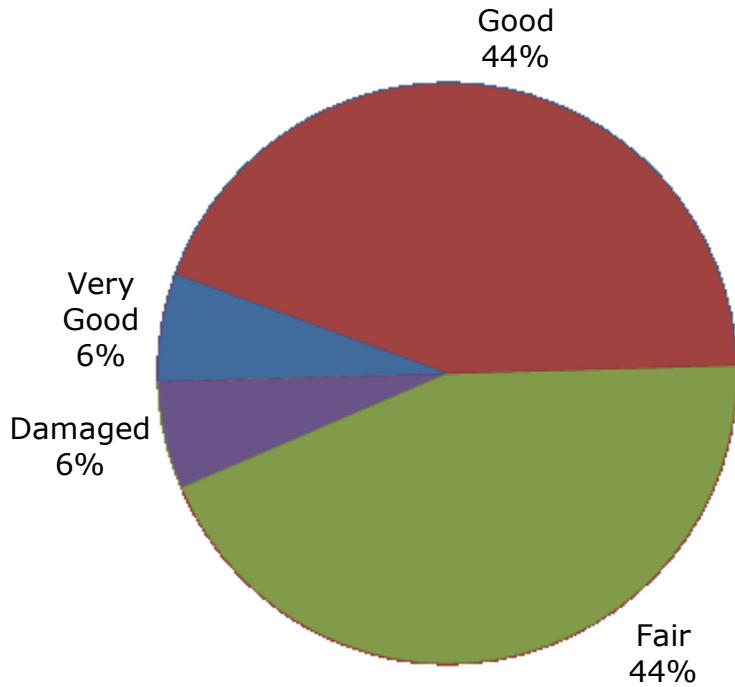
PSC	:	Poombuhar Shipping Corporation
QA&R	:	Quality Assurance & Research
RADMS	:	Road Accident Data Management System
RCRF	:	Revamped Central Road Fund
RMS	:	Road Management System
ROB	:	Road Over Bridge
ROMDAS	:	Road Measurement Data Acquisition System
RUB	:	Road Under Bridge
SCP	:	Special Component Plan
SH	:	State Highways
SOS	:	Strategic Option Study
SPV	:	Special Purpose Vehicle
TANGEDCO	:	Tamilnadu Generation and Distribution Corporation Ltd.
TDR	:	Transfer of Development Rights
TEAP	:	Tsunami Emergency Assistance Programme
TIDCO	:	Tamilnadu Industrial Development Corporation
TIDEL	:	Joint venture of TIDCO and ELCOT
TNMB	:	Tamilnadu Maritime Board
TNRDC	:	Tamilnadu Road Development Company
TNRIDC	:	Tamilnadu Road Infrastructure Development Corporation
TNRSP	:	Tamilnadu Road Sector Project
TNUDP	:	Tamilnadu Urban Development Project
TVU	:	Train Vehicle Unit
WGDP	:	Western Ghat Development Programme



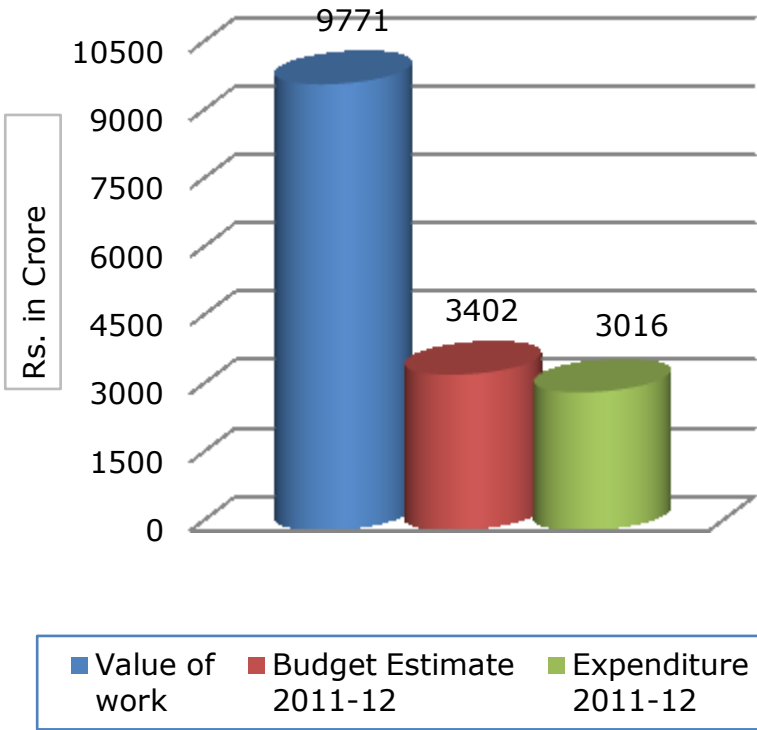


Advanced Data Collection Equipments  
launched on 27.01.2012 by the Hon'ble Chief Minister

**ROAD CONDITION REPORT  
FOR STATE HIGHWAYS  
NETWORK AS ON 31.03.2012  
(length considered for analysis - 9580 km)**

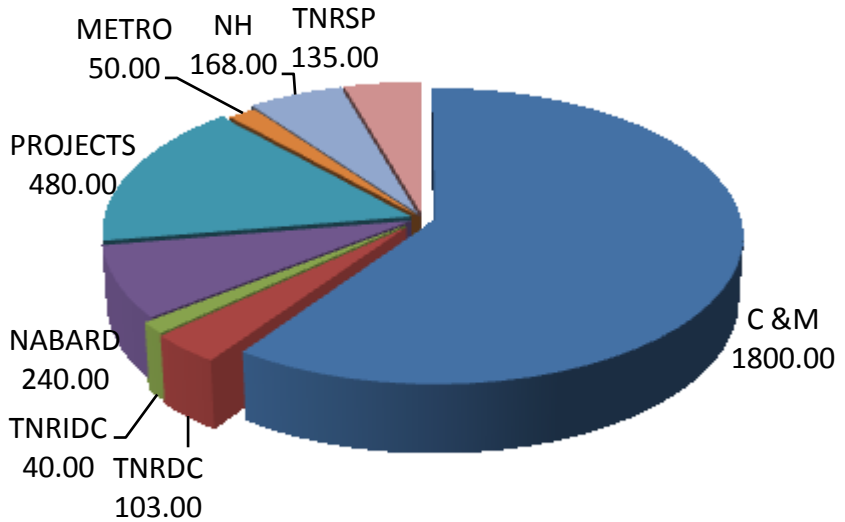


## PLAN WORKS FINANCIAL ACHIEVEMENT



**PLAN WORKS:  
WING WISE EXPENDITURE DURING 2011-12**

Amount in Rs. in Crore



**Total Expenditure : Rs.3016 Crore**



Heritage Building – Travellers Bungalow in Gingee  
(Constructed in the year 1916)



Vandalur Railway Over Bridge  
opened on 27.01.2012 by the Hon'ble Chief Minister



Tindivanam Govindasamy Arts College Railway Over Bridge  
opened on 27.01.12 by the Hon'ble Chief Minister



Hanumantheertham Bridge across Thenpennai River  
opened on 27.01.12 by the Hon'ble Chief Minister



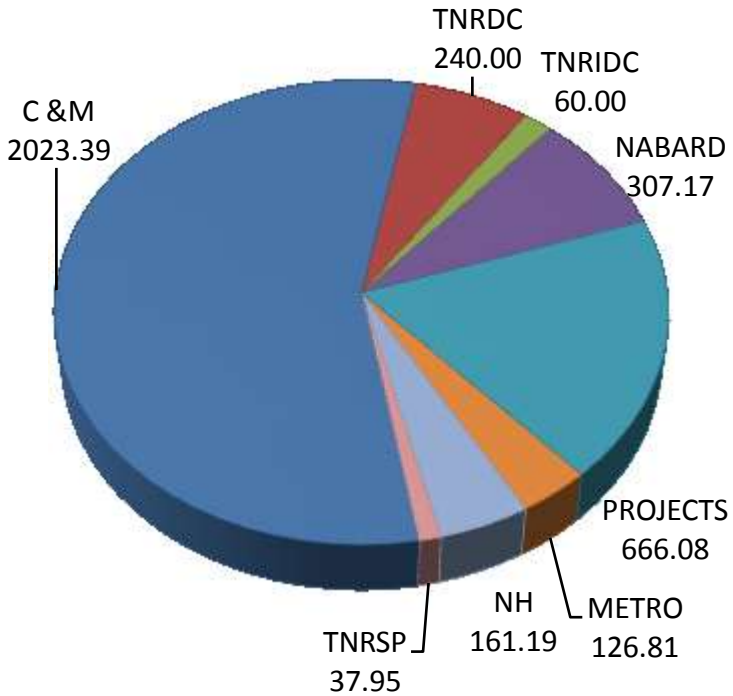


River Bridge on Kazhiyur-Athi Road across Cheyyar River  
opened on 27.01.12 by the Hon'ble Chief Minister



View of the proposed Chennai Outer Ring Road

## PLAN WORKS – BUDGET 2012-13



**Total Allocation - Rs.3622.59 Crore**



# MINOR PORTS IN TAMIL NADU



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### GOVERNMENT PORTS

1. CUDDALORE
2. NAGAPPATTINAM
3. PAMBAN
4. RAMESWARAM
5. VALINOKKAM
6. KANYAKUMARI
7. COLACHEL

### CAPTIVE PORTS (C.P.)

1. KATTUALLI
2. ENORE MINOR PORT
3. MUDAYUR
4. THIRUCHOPURAM
5. SILAMBANSALAM SHIPYARD
6. PARANGIPETTAI
7. P.P. GO ORFIELD
8. KAVELI
9. VERAVAL
10. THIRUKADAYUR
11. THIRUKOVILAI
12. PUNNAKAVAI
13. UDANGUDI
14. NANAPPAD
15. KODANKULAM
16. CHETTSAD THIRANGAMBADI

### PORT UNDER PROCESS

- (Yet to be declared)
1. CHEYYUR (Kanchipuram District)
  2. MARIKANAM (Viluppuram District)
  3. COMBINED PORT FACILITY NEAR BIRKAZHI TALUK



**TOURIST FERRY and CARGO SHIP OF POOMPUHAR CORPORATIONS**