



# **Highways and Minor Ports Department**

**Policy Note  
2018-19**

**Demand No. 21**

**Edappadi K. Palaniswami**  
Chief Minister

©  
Government of Tamil Nadu  
2018



## **TABLE OF CONTENTS**

Chapter	Title	Page No
1	Introduction	1
2	Policy Outline	11
3	Structure and Activities of the Department	33
4	Office of the Director General	47
5	Construction and Maintenance	61
6	National Highways	91
7	Nabard and Rural Roads	135
8	Projects	159
9	Metro	197
10	Tamil Nadu Road Sector Project	219
11	Chennai Kanyakumari Industrial Corridor	249
12	Highways Research Station	257
13	Planning, Designs and Investigation	271
14	Tamil Nadu Road Development Company Ltd	281
15	Tamil Nadu Road Infrastructure Development Corporation	297
16	Tamil Nadu Maritime Board	307
17	Poompuhar Shipping Corporation Limited	317
18	Conclusion	325



# **HIGHWAYS AND MINOR PORTS DEPARTMENT**

## **POLICY NOTE - 2018-19**

### **1. INTRODUCTION**

A well-knit and coordinated system of transport plays an important role in the sustained economic growth of a country. An efficient road network, increases the productivity and competitiveness, maximizes the economic and social benefits and is an integral part of the transport system. The roads enhance mobility, taking people out of isolation, poverty and promoting economic development.

In a liberalized set-up, an efficient transport network is the trigger for the growth in the world market. With good infrastructure in-place in India, there is a rapid progress of economic growth and living standards.

Tamil Nadu has a diversified manufacturing sector and features among the leading States in several industries like automobiles, engineering,

textiles, leather products, chemicals & plastics, etc.

The logistic infrastructure of the State is supported by 2,53,510 Km road network which includes 63,650 Km of National Highways, State Highways, Major District Roads and Other District roads, three Major Ports, 19 Minor ports, four International and three Domestic Airports. Besides, there is an extensive Rail network further augmented by Sub-urban and Metro Train facilities for the commuters.

However, keeping in view of the large volume of traffic moved, 65 % freight traffic and 85% of passenger traffic takes place only through road transport. Adding to this, the economic growth and rising incomes over the last few decades have resulted in rapidly growing vehicle ownership, which is a key factor underlying the rapid traffic growth. Passenger traffic is forecasted to grow annually at 12–15% for the next five years and for freight traffic at 15–18%. This has created an increased demand for more and better road infrastructure.

Innovative methodologies are adopted in consultation with various agencies to meet the demands of road infrastructure in Tamil Nadu. Also different contractual methods like Engineering Procurement and Construction (EPC), Build Operate and Transfer (BOT), Performance Based Maintenance Contract (PBMC), Design Build Operate and Transfer (DBOT), Design Build Finance Operate and Transfer (DBFOT), Design Build Finance Operate Maintain and Transfer (DBFOMT), Output and Performance Based Road Contract (OPRC), etc., are being implemented in major projects to deliver good roads to the end users. Public Private Partnerships (PPP) are also being invited to deliver a good transport system to the State.

With a good blend of newer materials, innovative technology and latest methods of contracts, it is aimed at achieving efficient output with the available resources.

## **1.1 HIGHWAYS AND MINOR PORTS DEPARTMENT IN TAMIL NADU**

Highways Department was established by the Government of Tamil Nadu in 1946. Tamil Nadu is the pioneer State in the Country which has formed an exclusive department for Highways. It maintains 63650 Km of road network spread across the entire length and breadth of the State **“The vision of this 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 Highways and Minor Ports Department comprises of

1. Highways Department
2. The Tamil Nadu Road Development Company (TNRDC) and IT Expressway Limited (Special Purpose Vehicle: subsidiary company owned by TNRDC)
3. The Tamil Nadu Road Infrastructure Development Corporation (TNRIDC)

4. The Tamil Nadu Maritime Board (TNMB)
5. The Poompuhar Shipping Corporation Limited (PSC)

## **1.2 HIGHWAYS DEPARTMENT**

### **1.2.1 CATEGORIES OF ROADS**

#### **1.2.1.1. *National Highways (NH)***

National Highways cover 2% of the total road network in India and carry 40% of the total traffic, which form the economic backbone for the growth of the nation. The Ministry of Road Transport and Highways (MoRTH) declares highways connecting important places in the country as National Highways under Section:2 of National Highways Act, 1956 and is responsible for the development and maintenance of such highways, which are carried out through National Highways Authority of India (NHAI), State Governments and Border Roads Organisation (BRO).

Tamil Nadu State has 5324 Km length of National Highway network. The State Government undertakes maintenance of 2039 Km and the remaining 3285 Km is

maintained by NHAI. Improvements and maintenance of National Highways are undertaken with the funds from the Ministry of Road Transport & Highways (MoRT&H). Few Projects are taken up under Engineering, Procurement and Construction (EPC) and Public Private Partnership (PPP) modes.

#### **1.2.1.2. State Highways (SH)**

The State Highways connects District headquarters with National Highways and neighbouring States. These stretches get maximum importance owing to heavy traffic intensity. The total length of State Highways in Tamil Nadu is 11830 Km.

#### **1.2.1.3. Major District Roads (MDR)**

The Major District Roads connects towns and municipal areas with District headquarters. These roads connect the production and marketing centers with National Highways and State Highways. In Tamil Nadu, the total length of Major District Roads is 11638 Km.

#### **1.2.1.4. *Other District Roads (ODR)***

The Other District Roads (ODR) connect villages with marketing, educational, health care centers and Taluk headquarters. Based on the traffic intensity, the Other District Roads are maintained as Single or Intermediate Lane. Sugarcane Roads are also classified under the ODR category, which are connecting the sugarcane cultivating areas with Sugar mills and also with nearby marketing centres. There are 34858 Km length of Other District Roads including 1676 Km of Sugarcane roads in the State of Tamil Nadu.

It has been announced during budget speech 2018-2019, that, the bus route roads of Panchayat and Panchayat Union road network would be upgraded as Other District roads and improved to standards. Initially it has been decided to select 7964 Km of roads considering its connectivity with NH, SH, MDR, ODR, importance in terms of industrial connectivity, tourism etc., besides its traffic intensity. Out of 7964 Km, 1436 Km had been upgraded as ODR in which improvements had been taken up in

2017-18. It is planned to upgrade further 2000 Km this year.

The details of road network maintained by the Highways Department are given in **Table 1.1**

**Table 1.1: Details of Road Network**

<b>Sl. No.</b>	<b>Classification of Road</b>	<b>Length (Km)</b>	<b>Maintained by</b>
1	National Highways (NH)	2039	NH wing
		3285	NHAI
	NH Total	5324	
2	State Highways (SH)	11830	C & M Wing
3	Major District Roads (MDR)	11638	
4	Other District Roads (ODR)	34858	
	<b>Grand Total</b>	<b>63650</b>	

The details of the length of different lane configuration are furnished in **Table 1.2.**

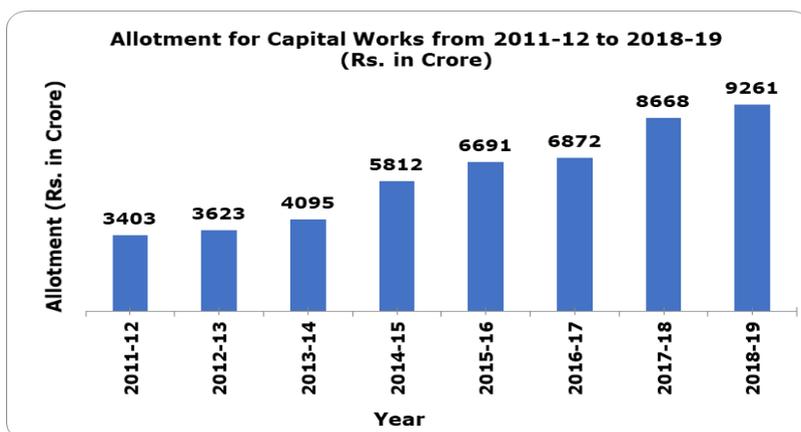
**Table 1.2: Lane-wise Length Details**

(Length in Km)

Sl. No	Category	Single Lane	Intermediate Lane	Double Lane	Multi Lane	Total
1	NH	12	26	3061	2225	5324
2	SH	39	291	9416	2084	11830
3	MDR	375	7496	3556	211	11638
4	ODR	29537	4256	994	71	34858
Total		29963	12069	17027	4591	63650

The **Figure 1.1** given below shows the increased allotment for Capital works on road sector of the State.

**Figure 1.1: Capital Allotment Details**





## **2. POLICY OUTLINE**

The principal objective of providing road network is to have improved access to different locations for individuals and business movements. The level of investment on transport operations can have wider impact on the economy.

The need of the end user in all aspects are being identified in building the road network and lots of schemes are being implemented to deliver the same. The various schemes being implemented are detailed below:

### **2.1 SCHEMES/ MAJOR PROJECTS BEING IMPLEMENTED**

#### **2.1.1 Comprehensive Road Infrastructure Development Programme (CRIDP)**

Highways department maintains 58326 Km length of roads in the category of State Highways, Major District Road and Other District Roads. Comprehensive Road Infrastructure Development Programme is a flagship scheme of

the Government and is being implemented from the year 2005-2006. This is a major scheme in which augmentation of the road capacity by widening and strengthening of roads are taken up. Improvements to road surface, benefits the road users by reducing the wear and tear of vehicles, vehicle operating costs & reducing the travel time. Development works like widening of roads is considered to cater the rising traffic volume and to reduce congestion levels. Strengthening/ improving of the existing road network extends life period of the road.

Out of the 58326 Km length of roads maintained by the Highways Department, improvements/ widening/ maintenance works in 32928 Km length of roads has been taken up during the past five years period.

This apart, to facilitate safer traffic movement and to prevent loss of valuable human lives due to Road crashes, proportional number of works are being taken up under Road Safety component.

### **2.1.2 Bypasses**

Formation of bypasses results in reduction of travel time and vehicle operating cost (VOC). In order to facilitate the road users, 32 bypasses have been completed and opened for vehicular traffic. The construction of bypasses are in progress at 10 locations. Lands are being acquired for constructing bypasses in 38 locations. Detailed Project Reports (DPR) are under preparation for 15 bypasses. In addition, proposal for one bypass work is under scrutiny of the Government.

### **2.1.3 Chennai Peripheral Ring Road (CPRR)**

The Government of Tamil Nadu desired to form Chennai Peripheral Ring Road (CPRR), to have a peripheral layer of road infrastructure which would provide access to Ennore & Kattupalli Ports. The Chennai Peripheral Ring Road starts from Ennore Port and joins the East Coast Road (ECR) at chainage of Km 56/800 at Poonjeri junction near Mamallapuram. It consists of five sections. It is proposed to be extended with a sixth section from Poonjeri to Siruseri

and a seventh section from Siruseri to MadhyaKailash, covering a total length of 181.85 Km.

The Project encompasses amongst salient aspects, provisions for Intelligent Transport System (ITS) for the entire corridor. A maiden attempt of the application of ITS in road sector, it is intended to benefit the service efficiency and safety of the corridor. The Detailed Project Report for the first five sections would be finalized shortly. The project also includes formation of Bypass for Minjur town. The total cost of the project is estimated at Rs.12301 crore which also includes cost of Land Acquisition (Cost of Construction -Rs.7446 crore + Cost towards LA - Rs.4855 crore). This project proposal has been included in the Rolling Plan of JICA and their study team has initiated the preliminary process for the project approval.

Notwithstanding the above, Land Acquisition process for section I is in progress. Land Acquisition works in 558.53 Hectares in the section II, III & V at a cost of Rs.2603.32 crore is to be taken up, shortly.

It is planned to enter into the loan agreement with JICA during September 2018 for section 1 of CPRR.

#### **2.1.4 Railway Works Programme**

The construction of Road Over Bridges (ROBs) / Road under Bridges (RUBs) in lieu of Level crossings are undertaken under Railway Works Programme on 50:50 cost-sharing basis with Railways. These are provided at the locations of road-rail level crossings where the passage of road vehicles is hampered due to increased frequency of train movements.

Out of the 353 manned level crossings located on State roads, there are 128 level crossings having more than one lakh Train Vehicle Units (TVUs) which are to be converted into ROBs /RUBs. Of these, 97 level crossings are under various stages of implementation. The remaining 31 level crossings will be taken-up on priority basis in a phased manner.

### **2.1.5 NABARD Loan Assistance Scheme**

Under NABARD loan-assisted scheme, construction/ Reconstruction of bridges and Improvement/ Rebuilding of Major District Roads/ Other District Roads are taken up. Upgradation of Panchayat Union Roads/ Panchayat Roads to ODR standards are also being undertaken with the State Funds.

Bridges at 258 locations and 492 roads to a length of 1523.15 Km have been taken up for execution in the financial year 2017-18. Out of these, 64 bridges and 30 roads to a length of 81.39 Km have been completed.

### **2.1.6 Chennai Metropolitan Development Plan (CMDP)**

Chennai Metropolitan Development Plan (CMDP) is being implemented since 2003-04 with State Budgetary allocation. As per Second Master Plan of Chennai Metropolitan Development Authority (CMDA), the projects in and around Chennai Metropolitan Area (CMA) recommended in the Chennai Comprehensive

Traffic and Transportation Study (CTTS) are prioritized and taken up under this scheme.

During 2017-18, seven Grade Separators, nine ROB/RUBs, six River Bridges, six Road Works were taken up as spill over works. Out of which, a Grade Separator, a ROB, a River Bridge and a Road work have been completed and an expenditure of Rs. 269.58 crore incurred during 2017-18.

### **2.1.7 Chennai Outer Ring Road (CORR)**

The Highways Department is executing a major project of Chennai Outer Ring Road (CORR) in two phases under Design, Build, Finance, Operate and Transfer (DBFOT) Public Private Partnership (PPP) mode with an investment of Rs.2160 crore. Phase-I covers 29.65 Km starting from NH 45 at Vandalur and ending at NH-205 at Nemilichery. Phase-II links Nemilichery with Minjur at TPP Road for a length of 30.50 Km.

This is a Green Field project road with dual 3-laned carriage-way with service roads on both sides of the center median portion proposed for

a total width of 22m of Public Transportation Corridor (PTC) plus 50m corridor for future development. This road is intended to serve the traffic meant for ports and industries. The first Phase of this project has been completed and put to public use. In Phase-II, 97% of the project road had been completed and the works in the remaining stretches are in progress which are expected to be completed shortly except in the stretch where litigation is to be finalized.

### **2.1.8 Tamil Nadu Road Sector Project II (TNRSP II)**

The Government has formed Tamil Nadu Road Sector Project-II for upgrading high intensity corridors for a length of 1171 Km in the State. The loan and project Agreement for US\$300 Million have been signed with the World Bank. The project covers upgradation and maintenance of corridors, Institutional Capacity Enhancement and Road Safety measures.

Under Engineering Procurement Construction Contract (EPC), strengthening of 427 Km stretches of road of two-lane width with paved

shoulders, in 10 packages for an amount of Rs.1705 crore have been taken up and the works are in progress. Out of the 10 packages, two packages namely EPC-05 & 07 have been completed. The remaining packages are scheduled to be completed within the current financial year.

Already upgraded TNRSP Phase I roads (Arcot to Tiruvarur road having a length of 265 Km and Nagapattinam to Tuticorin having a length of 332 Km) are taken up in two packages under Output and Performance Based Road Contract (OPRC 01 and OPRC 02) and the works are in progress.

Under Public Private Partnership (PPP) mode, online tenders for PPP-02 and PPP-03, for a total length of 115.84 Km of roads had already been invited and agreement executed. The process of tendering for PPP-01 package has been initiated and is at an advanced stage.

### **2.1.9 Chennai Kanyakumari Industrial Corridor (CKIC)**

Highways Department is executing, various road infrastructure projects for the economic and industrial development of the State. The projects include State funded, centrally sponsored and external aided schemes. East Coast Economic Corridor (ECEC) is one among the 5 Industrial Corridors announced by the Department of Industrial Policy and Promotion (DIPP), Government of India, considering the overall development of Country and States. Government of India has proposed to develop ECEC with loan assistance from Asian Development Bank.

Chennai Kanyakumari Industrial Corridor (CKIC) has been planned to cover 23 Districts (13 Coastal Districts, 10 Interior Districts) and connects NH-7, NH-45 and SH-49 which links the north and southern parts of the State.

Asian Development Bank has prepared a comprehensive development plan for CKIC encompassing the sectoral developments. Under

the road sector, 8047 Km long road stretches have been identified for development in six phases. Of the length of 8047 Km, 4318 Km falls under NH and 3729 Km under SH.

Currently, 15 roads for which the DPRs are ready have been taken up for development with ADB loan assistance on fast track mode.

The project cost is Rs.6448 crore which includes cost of Land Acquisition to the tune of Rs.1574 crore, which would be borne by the State Government. Asian Development Bank will fund Rs.3288.15 crore of the Civil works component and the remaining would be borne by the State Government.

#### **2.1.10 Performance Based Maintenance Contract (PBMC)**

Performance Based Maintenance Contracts for roads are designed to increase the efficiency and effectiveness of road asset management and regular maintenance. Desirable road surface conditions and service levels of operations are defined through output and performance

indicators for which the contractor is made responsible, through the contractual agreement.

Under this contract, initial rectification, periodical renewal, minor improvements, ordinary maintenance and emergency works are taken up. Maintenance of good surface condition of the road for smooth and comfortable travel by the road user at all weather conditions is the primary objective of this method.

During 2013-14, maintenance of State Highways and Major District Roads in Pollachi division was taken up under this scheme for 5 years. The scheme has been extended to Krishnagiri, Ramanathapuram and Thiruvallur divisions during the year 2015-16 and to Virudhunagar division in 2017-18. Total length of 1564 Km of State Highways and 1382 Km length of Major District Roads are being maintained under PBMC schemes in Pollachi, Krishnagiri, Thiruvallur, Ramanathapuram and Virudhunagar divisions.

In addition to the above, the extension of the scheme to Palani division is under preparation.

### **2.1.11 Maintenance Works**

Maintenance activity is vital to the desired performance of the road throughout its design life period. The maintenance works are carried out based on prescribed Indian Roads Congress norms.

Utilizing maintenance funds, special repairs, periodical renewal, other maintenance works and routine maintenance of vulnerable locations during monsoon facilitates are being carried out. This will reduce the damage to the riding surface.

### **2.1.12 Tamil Nadu Innovation Initiative Fund (TANII)**

The Tamil Nadu Innovation Initiatives have been established by the Government of Tamilnadu in the State Planning Commission (SPC), to promote culture of innovation in the State. Necessary financial support has also been provided by the Government. The applied research schemes proposed by Highways Research Station, have been approved by the SPC and HRS is carrying out the scheme.

## **2.2 INSTITUTIONAL CAPACITY ENHANCEMENT**

Highways Department implements infrastructure projects to the tune of Rs.6000 crore on an average per annum. Currently, Rs.12000 crore worth of infrastructure projects are being handled by this Department.

The Tamil Nadu Vision 2023 further envisages improvement of 2000 Km of 6/8 lane highways, 5000 Km of four lane highways, two laning of all other highways with paved shoulder and construction of bypasses and ring roads at an outlay of Rs.134600 crore. Of which, major projects such as 134 Km long CPRR for Rs.12300 crore, 654 Km length of Road improvement in CKIC at a cost of Rs.6448 crore have already been taken up with JICA and ADB loan assistance respectively.

There are several initiatives being taken for enhancing the capacity of department to handle large-sized projects, newer contracting models, innovative technologies/ international best practices, optimal resource management.

Institutional Capacity Enhancement (ICE) initiatives under the World Bank funded Tamil Nadu Road Sector Project II includes the following:

- Mobilization of alternate sources to meet the gaps
- Optimal utilization of allotted resources with Decision Support System (DSS)
- Overall Enhancement of capacity to meet the challenges including Human Resource Development
- Expanding the scope of E-governance
- Process re-engineering to update the existing business rules, procedures and amendment of Acts.

### **2.3 ROAD SAFETY**

Road Safety has become a critical issue. Road accidents kill 1.25 million people every year across the world, of which 90% death occur in low and middle income countries. In India, more than 150000 people have lost their lives in 2016 due to road accidents. It is estimated that

Tamil Nadu loses nearly Rs.61 crore every day due to road fatalities alone. If grievous injuries are added to the above figure, the loss increases to around Rs.131 crore per day which is around 3.5% of the State's GDP. As the vulnerable age group is potential working group, road accident trauma pushes many families into poverty.

The Government of Tamil Nadu, understanding the severity of the issue had taken several significant measures. The department had invested Rs.1360.09 crore from 2014-15 to 2017-18 towards improvement of around 5400 vulnerable sections under Comprehensive Road Infrastructure Development Programme (CRIDP) and special road safety programmes. 169 black spots in 2016-17 and another 64 black spots in 2017-18 based on the fatalities have been identified and taken up for improvement.

Due to persistent efforts of Government of Tamil Nadu, the road crash fatalities have declined from 17218 in 2016 to 16157 in 2017.

The MoRT&H had earmarked 10 % of funds allocated to State roads under Central Road Fund for road safety works.

An expert committee had been constituted as per the guidelines of the MoRT&H for recommending Road Safety proposals in the State roads under Central Road Fund. Three academic experts in Road Safety from IIT, NIT and Anna University would function as members in the expert committee.

Besides Engineering interventions, Highways Department also aims for solutions integrating the efforts of multiple stake-holders including public participation under the World Bank funded, Road Safety component under TNRSP II. The Department had formed the Institutional set-up with the Road Safety Executive Leadership Group (RSELG) and the Road Safety Management Cell (RSMC), to assist in the efforts of the Road Safety initiatives. It is planned to exhibit the efforts, in the Demonstration Projects in two Districts (Kancheepuram and Tiruvannamalai) and a Corridor.

In addition, Government of TN had signed a MoU with VicRoads, the State Road Authority of Victoria, Australia in the presence of Hon'ble Chief Minister of Tamil Nadu on 13.03.2018. It intends to develop and promote mutually advantageous arrangements in management of road networks, road safety, traffic and transport management and to adopt international best practices including Intelligent Transportation Enabled Systems (ITES).

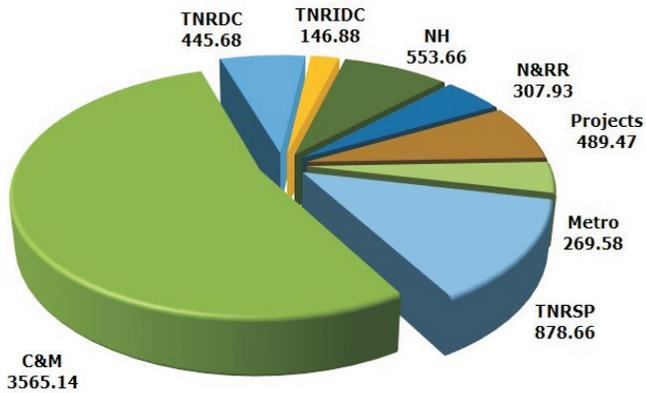
## **2.4 TRAINING**

In order to keep abreast and update the knowledge on par with the latest developments, happening in the field of Highway Engineering globally and nationally, training is essential. Training imparted is a soft investment laying strong foundation on the human resources of the department for the effective delivery of services. All investments, activities and measures are being taken, keeping in view of the need of the personnel.

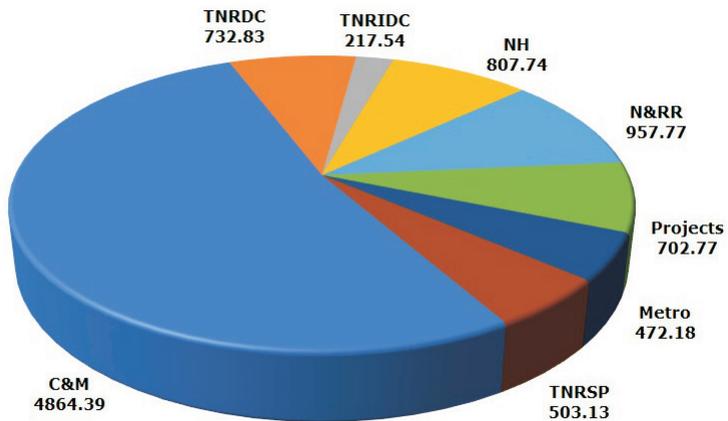
## **2.5 OVERALL EXPENDITURE (2017-18) AND ALLOTMENT FOR 2018-19**

During 2017-18, Rs.8420 crore has been allotted for plan works. Out of which Rs.6659 crore has been incurred. Budget allotment of Rs.9261 crore has been made for implementation of various schemes for the financial year 2018-19.





**Plan Expenditure during 2017-18 (Rs. in Crore)**



**Allotment for the year 2018-19 (Rs. in Crore)**



### **3. STRUCTURE AND ACTIVITIES OF THE DEPARTMENT**

#### **3.1 ORGANISATIONAL STRUCTURE OF THE DEPARTMENT**

The Highways Department delivers quality road network to the end users through its various wings. The Office of the Director General undertakes Administrative tasks apart from technical activities. While, the applied research is exclusively carried out by the Highways Research Station, the design of major structures are undertaken by the Planning, Designs and Investigation wing. The following seven wings execute projects of the department.

1. Construction & Maintenance wing - Works funded by State Government
2. National Highways wing - Works funded by Government of India
3. NABARD & Rural Roads wing - NABARD loan-assisted works
4. Projects wing-Railway Works Programme (on cost sharing basis)

5. Metro wing-Chennai Metropolitan Development Plan (CMDP) works
6. Tamil Nadu Road Sector Project – World Bank loan-assisted project
7. Chennai Kanyakumari Industrial Corridor Project – Asian Development Bank (ADB) loan-assisted project

In addition, the following two companies are execute Special Projects.

1. Tamil Nadu Road Development Company and ITEL Subsidiary of the 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 Director General co-ordinates with all wings of the department for better and efficient functioning. The functions of the wing are as follows;

- Overall Planning for the department.

- Establishment, Personnel related issues, General Administration etc.,
- Information Technology (IT) Applications which includes
- Co-ordination of Road Accident Data Management System (RADMS)
- Managing the Electronic-Project, Administration, Traffic, Highway, Asset, Information Management System (e-pathai) related IT solutions.
- A centralised special land acquisition unit to co-ordinate with the field LA units for expediting acquisition of land.
- An exclusive legal cell to effectively co-ordinate with the Government Pleaders in the Court of Law, on important cases related to technical and personnel issues, on a day-to-day basis.
- Any other work entrusted by the Government.

The wing functions with the following officials.

- Three Joint Directors in the cadre of Superintending Engineer and a Chief Officer (IT) in the cadre of Divisional Engineer.

- In house Special LA unit headed by a serving District Revenue Officer (DRO)
- Legal Unit headed by a Law Officer through out-sourcing.

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

Vested with the responsibility of constructing and Maintaining the road network of SH, MDR & ODR categories in the entire State apart from constructing and Maintaining major bridges and bypasses, the salient functions of the wing are;

- Maintenance of State Highways, Major District Roads, Other District Roads, Sugarcane roads and bridges.
- Execution of spill-over works under Part – II scheme sanctioned earlier.
- Restoration of roads and bridges affected by natural calamities like monsoons, floods and Tsunami.
- Execution of road and bridge works under CRIDP including formation of bypasses.
- Forming Chennai Peripheral Ring Road from Ennore to Mamallapuram

- Implementation of road infrastructure schemes under Public Private Partnership.
- Implementation of Puduvayal Pulicat Road Phase II under TNIPP-II scheme.
- The wing functions under a Chief Engineer supported by 8 Circles and 41 Divisions.

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

Mainly carrying out road and bridge works under external loan assistance from the NABARD bank, the wing has now taken-up upgrading of Panchayat roads from Rural Development Department of the Government. The functions are;

- Execution of bridges and roads under loan-assistance from NABARD.
- Upgradation of Panchayat Union Roads / Panchayat Roads to ODR standards.
- Construction of Road Over Bridges / Road Under Bridges under Railway Works Programme.
- Headed by a Chief Engineer the wing has four Circles and 14 Divisions

### **3.5 PROJECTS WING**

A specialized wing in the construction of High level bridges, especially in Co-ordination with the Railways Department, Government of India, its functions are:

- Construction of Road Over Bridges / Road Under Bridges in lieu of Railway Level Crossings under Railway Works Programme.
- Formation of Bypasses, Ring Roads and Radial Roads.
- Construction of High Level Bridges under State funds.
- Construction of Elevated Corridors, Grade Separators at major urban locations.
- Construction of FOBs with escalators.
- Formation of Sugarcane Roads.
- The above works are carried out under the Chief Engineer (H), Projects, supported by four Circles and 10 Divisions.

### **3.6 METRO WING**

An exclusive wing for executing major infrastructure projects and to decongest urban traffic stream, the functions of the wing are:

1. Execution of Plan works in Chennai Metropolitan Area (CMA).
2. Formation of roads, Construction of High Level Bridges, Construction of Grade separators and Flyovers across road junctions, Foot Over Bridges (FOBs), Skywalks and pedestrian subways under CMDP.
3. Construction of ROB's / RUB's in Chennai Metro area.
4. This wing is headed by a Chief Engineer with a Circle and five Divisions within CMA.

### **3.7 NATIONAL HIGHWAYS WING**

A wing under the State Government to execute Projects/ Works of National Highways category, the NH wing co-ordinates with the Ministry, GOI, NHAI, for its sanctions & execution of works. Its functions are:

- Development and maintenance of National Highways undertaken with the funds from the Ministry of Road Transport and Highways of the Central Government.
- Development of State roads (that of economic importance with inter-state connectivity) taken up under Central Road Fund (CRF), a non-lapsable fund created under CRF Act, 2000 by the Central Government.
- Other district roads (ODR) and Panchayat roads included in the core network developed under Pradhan Mantri Gram Sadak Yojana (PMGSY) Program, with the funds provided by the Ministry of Rural Development (MoRD) of the Union Government.
- The wing functions under a Chief Engineer comprising four Circles and eight Divisions for implementing the works.

### **3.8 TAMIL NADU ROAD SECTOR PROJECT WING (TNRSP)**

A wing with expertise in execution of projects under the external aid namely the World Bank,

and harbinger of innovations to the Department, has the following components:

- Upgradation of road works with the World Bank assistance.
- Undertaking feasibility studies for projects to be implemented through Public-Private Partnership (PPP) mode.
- Strengthening the organisational set-up of the Department.
- Road safety related works.
- The wing functions under the Project Director with a Chief Engineer, two Superintending Engineers and seven Divisional Engineers and also with an exclusive ICERS cell with one Superintending Engineer and one Divisional Engineer.

### **3.9 HIGHWAYS RESEARCH STATION**

A premiere Research Organisation under the State Highways Department, HRS has the following functions:

- Research activities relating to roads and bridges.

- Recommendations for road safety and traffic improvement works.
- Road Surface Conditional Data Collection through Advanced Data Collection Equipments.
- Training imparted to all the Engineers of the department, other Government departments and students of reputed technical institutions
- Under the control of the Director in the cadre of Chief Engineer, a Joint Director in the cadre of Superintending Engineer, Four Deputy Directors in the cadre of Divisional Engineers, Eight Divisional Engineers (Quality Control) with eight Regional Labs, the HRS wing carry out the above tasks.
- Co-ordination with Apex Technical institutions such as IRC, MoRTH, Training & Research Organisation such as CRR, IAHE, IITs, NITs, etc.,
- Three tier quality assurance for all works is implemented by the department.

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

- Carrying out field investigation and collecting required data from other departments for all major bridge works.
- Preparation of structural design, drawings and quantity estimates for High Level Bridges, Road Over Bridges, Road Under Bridges, Grade Separators and Flyovers.
- Proof checking of design and drawings prepared by consultants and alternate designs furnished by bidders.
- This wing functions under the Chief Engineer, a Joint Chief Engineer, four Divisional Engineers and five Investigation Divisional Engineers

### **3.11 CHENNAI-KANYAKUMARI INDUSTRIAL CORRIDOR PROJECT**

- Implementing road improvement works in Chennai-Kanyakumari Industrial Corridor (CKIC) with ADB loan assistance.
- Special Land Acquisition units expedite LA process for the Projects.

- Project headed by the Project Director with field implementation units to carry-out and monitor civil works.

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

The State-Owned company, a Special Purpose Vehicle (SPV) for executing and managing projects of the department, TNRDC functions are follows:

- Implementing major PPP (Public Private Partnership) projects.
- Management of Chennai Outer Ring Road works
- Concessionaire for Rajiv Gandhi IT Expressway works and maintaining as toll road.
- Concessionaire for East Coast Road (Chennai to Puduchery) works and maintaining as toll road.
- Supervision Consultancy for EMRIP
- Managing Associate for construction of Northern Port Access Road (Chennai Peripheral Ring Road Section-I) project.

- Rajiv Gandhi Salai Phase-II sub-project of Kelambakkam – Tiruporur Bypasses.
- Implementation of Port Connectivity Improvements works as deposit work for M/s. Kamarajar Port Limited

### **3.13 TAMIL NADU ROAD INFRASTRUCTURE DEVELOPMENT CORPORATION (TNRIDC)**

A unit under the State department, with exclusivity of projects finalization for Industrial Corridors, TNRIDC has the functional tasks of:

- Developing of road and bridge infrastructure required in industrial areas.
- Madurai ring road improvement work.



## **4. OFFICE OF THE DIRECTOR GENERAL**

The Overall administration, Planning, Quality Control, Information Technology Cell are being carried out by the Office of the Director General, for effective and efficient output of service delivery. Special Land Acquisition and Legal Cell have been constituted and are functioning under this wing.

### **4.1 ADMINISTRATION**

The office of the Director General is responsible for the overall establishment and administration of all the staff of Highways Department.

### **4.2 HUMAN RESOURCES DEVELOPMENT**

#### **4.2.1 Staff Strength**

The total strength of this department is 7032. Of which, 1652 are Engineers, 815 are Technical Staff and 4565 are Administrative and Ministerial staff.

### **4.2.2 Appointments**

The posts of Officials in each cadre are fixed as per the sanctions of Government. However, due to retirement, promotions to higher cadres, etc., the posts fall vacant. Based on such a shortage of personnel, vacancy list are being arrived at and filled-up through necessary Government recruiting agencies such as TNPSC etc.,

During 2017, 92 posts of Junior Assistants, 12 posts of Typists, five posts of Steno Typists Grade-III vacancies were filled by direct recruitment through Tamil Nadu Public Service Commission, with the concurrence from Staff Committee. Further, nine Assistant Draughtsmen, five Junior Assistants, 28 posts of office Assistants had been filled through appointment on compassionate grounds.

### **4.2.3 Training**

Training is an integral part of the development of any organization, as the personnel are updated on the latest development in concept, technology, and

practices in the field. Through training, latest developments are shared to a wider audience. Not only updating, training also refreshes the knowledge within.

Training is approached in two ways:

- Training imparted to the Officials
- Training to the trainers

The trainers, the Engineers and staff of the department are also sponsored to undergo training at reputed training organization within the country by the department.

The department continually deposes its personnel on rotational basis, for training, to the following reputed organizations:

- Indian Academy of Highway Engineers (IAHE), Noida.
- Annual Sessions and conferences of Indian Road Congress (IRC).
- International Road Federation (IRF), New Delhi.
- Central Road Research Insititute (CRRRI), New Delhi.

- Institution of Road Traffic Education (IRTE), Faridabad, Haryana.
- Anna Institute of Management, Chennai.
- Anna University, Chennai.
- Department of Industries and Commerce, Chennai.
- Department of Economics and Statistics, Chennai.
- Highways Research Station, Chennai
- Bhavanisagar training centre, Erode District.

#### **4.2.3.1. *Technical***

Training is imparted in various technical fields viz. Highway Engineering, Road safety and Road safety Audit, Project Management, Contract Management, e-tendering process, Dispute settlement, Urban planning etc.,

#### **4.2.3.2. *Non – Technical***

Non technical training includes Administrative procedures, Personality development, Stress Management, Pre-retirement counselling, Ethics in Governance, GST regulations, etc., For the above training programmes 869 officials had

been trained during the current year, of which 286 were women. About 635 Engineers were trained.

### **4.3 INFORMATION TECHNOLOGY CELL**

An exclusive cell for Information Technology has been formed, for the sustenance of IT initiatives within the department. The IT Cell functions by developing and upgrading various software systems, operationalizing the same, procuring and maintaining hardware for the Department.

The website of Highways Department (URL- <https://www.tnhighways.gov.in>) was revamped with additional features in a dynamic mode for sharing information. This website was launched by the Hon'ble Chief Minister of Tamil Nadu on 08.11.2017.

With an enhanced look and feel, the website attracts visitors to have a glimpse of the content. It also allows users to navigate the content easily and access information quickly. The website is differently-abled friendly,

encouraging usage by the physically challenged users. It is in compliance with Guidelines for Indian Government Websites (GIGW) incorporating the World Wide Web Consortium (W3C) standards.

#### **4.3.1 Road Maintenance Management System (RMMS)**

The Highways Department has implemented a computerised “Road Maintenance and Management System” (RMMS) to manage the entire road network of Tamil Nadu more judiciously and efficiently.

RMMS is a web-enabled bi-lingual system developed for economic analysis and prioritization of roads for effective planning.

Various field survey data like California Bearing Ratio (CBR), Benkelman Beam Deflection (BBD), traffic census, axle load, condition data along with work history and inventory data of roads, bridges and culverts are being periodically updated in RMMS.

### **4.3.2 Geographical Information System (GIS)**

GIS software has been developed for Highways Department with an aim to view the attributes data of the existing roads that are being maintained through RMMS spatially. This application operating on GIS platform can effectively help in prioritising the roads for maintenance and enables policy makers of the Department to utilize the resources optimally.

### **4.3.3 Integrated Project, Human Resource & Finance Management System (P&FMS)**

The Integrated Project, Human Resource & Finance Management System (P&FMS) aims at State-wide computerization to automate the existing manual procedures and processes followed for Project Management, Financial Management and Employee Record System.

Currently, the application has plan work estimates of Construction and Maintenance wing from 2014. Various progressive stages of the work from Administrative sanctioning upto billing

of the completed works have been captured and processed in this system in respect of four Circles of C&M wing namely Chennai, Villupuram, Tiruppur and Coimbatore. The system is proposed to be revamped to suit the requirements of the Department.

It has been proposed to upgrade the software systems matching the current trends of technology prevailing in the field of Road Management with the assistance of World Bank fund through Institutional Capacity Enhancement and Road Safety (ICERS) Cell.

#### **4.4 TECHNICAL COMMITTEES**

The following committees have been formed for the effective functioning of the Department:

1. **Board of Engineers (BoE)** is the apex technical authority comprising of all the Chief Engineers of the department, the Director, HRS and is headed by the Director General for taking policy decision on technical matters, concerned with the Department.

2. **Commissionerate of Tenders (CoT)** was established with Director General, the Secretary, Finance/ Representative, the Chief Engineer, Construction and Maintenance, the Chief Engineer, NABARD and Rural Roads and the Chief Engineer concerned to streamline the tender acceptance procedure.
3. **Revised Administrative Sanction Committee (RASC)** comprises of the representatives of Government in the Finance and Highways Departments, the Director General, the Chief Engineers concerned, Chief Engineer, Planning, Designs and investigation, Deputy Secretary to Government, Highways and Minor Ports Department and Deputy Secretary to Government, Finance Department for processing and early approval of RAS proposals.
4. **Technical Audit Committee (TAC)** is a committee consisting of the Director General, Director, HRS and the Chief Engineers of all the wings as its members. Project proposals involving critical technical issues are placed before the committee. The committee offers suggestions and expert opinion on such

issues, which are adopted, based on suitability.

#### **4.5 SPECIAL LAND-ACQUISITION UNIT**

In accordance with the announcement made by the Hon'ble Minister for Highways and Minor Ports, a Special Unit for Land-Acquisition has been formed under this wing. The Special Unit is headed by a serving District Revenue Officer (DRO) assisted by Head Surveyor and supporting Staff.

Special Unit with a Tahsildar and supporting team at Regional levels, in Eight Circles viz., Chennai, Villupuram, Trichy, Madurai, Salem, Tiruppur, Coimbatore and Tirunelveli, have been formed. Retired Revenue Officials have been re-employed to these posts through out-sourcing mode, on the model of TNRSP and NHAI.

The special LA Unit is to liase with the District Revenue Department, in speeding-up the Land acquisition works/ proposals of this department. This would reduce the time and cost-over run of the projects.

The DRO at the DG's Office co-ordinates with the HOD's of the Department, and liase with Commissioner for Land Administration (CLA) and the Government in early disposal of LA proposals.

The Highways Department has currently taken-up Rs.12,000 crore worth of projects and the projects are in various stages of implementation. Besides, Government is also taking-up major projects utilising the funds from external funding agencies like the World Bank funded TNRSP II, ADB funded CKIC and JICA funded CPRR etc,. Implementation of these projects depend on project readiness in terms of availability of required work front. The Right-of-Way needs to be made available, free from all encumbrances before the commencement of work or during the progress as per committed timeline. Any delay in providing work front causes time and cost overrun.

The lands for Highways Projects are being acquired as per TN Highways Act, 2001. Process of LA requires closer coordination with Revenue Department at various levels. Under State

funded projects, around 200 projects involve land acquisition to the tune of 1760 Ha. spread over 568 villages in 29 Districts. LA proposals for 120 projects are pending for more than five years, 41 projects are pending for more than 3 years. The additional procedure to meet the requirements of RFCTLARR Act, 2013 creates further complexity to acquisition of lands.

The newly created Special LA units will ensure timely completion of LA proposals.

Besides these initiatives, Government has taken several steps to expedite the progress of LA works. District Collectors have been requested during the District Collectors' conference held on March 5-7, 2018 and during the Chief Secretary Review on March 14-16, 2018 to expedite the progress of land acquisition.

Hon'ble Chief Minister during the review held on 18.04.2018 had directed to closely monitor the issues and expedite the work.

## **4.6 SPECIAL UNIT FOR LEGAL ASSISTANCE**

The Department encounters various legal issues while handling projects/ works as well as personnel related service issues. Litigation often hampers the smooth progress of projects/ works. In case of contempts of Court procedures/ rendering of orders/ strictures against the Governing establishment, if the cases are not followed-up closely, it would result in ex-parte directions, for which, a special legal cell in place is inevitable. To alleviate the above critical situation, the Hon'ble Minister for Highways and Minor Ports, had announced at the floor of Assembly, to constitute a special unit for legal assistance.

In accordance, a Legal Officer is in place, under the Director General's Wing, to liaise with the Legal luminaries of the Hon'ble Courts with regard to the cases of the Department. Such a cell, would hasten the litigation procedures, considerably assisting in timely filing of affidavits, enabling early disposal of the cases.

Overall, 862 court cases are being handled by the department relating to personnel administration, settlement of compensation in land acquisition, arbitration, motor vehicle accidents, etc.,

## **5. CONSTRUCTION AND MAINTENANCE**

Government Roads categorized as State Highways, Major District Roads and Other District Roads are being maintained by the Construction and Maintenance wing of Highways Department. This wing maintains a total length of 58,326 Km of roads under the control of a Chief Engineer with 8 circles and 41 divisions.

This wing implements works like widening, strengthening and improvements of roads including construction of Bridges, Culverts, formation of Bypasses and Road safety works under various schemes and also undertakes few major infrastructure projects like construction of flyovers and grade separators are also under taken.

The details of various schemes and programmes undertaken are given below:

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

To provide and maintain the infrastructure of road network, the works such as widening, strengthening of roads, formation of new bypasses, construction of bridges, flyovers and grade separators are being implemented in a comprehensive and holistic manner. Taking full cognizance of the road traffic accidents that happen in the State, the wing has consciously included road safety as an essential component in the scheme.

### **5.1.1 CRIDP - State Highways**

New works of widening and improvements to 883.21 Km length of roads, construction of 20 bridges/ culverts and 187 protective works were also sanctioned at a cost of Rs.821.84 crore and are under progress.

In addition, during 2017-18, widening/ improvements to 1098.78 Km length of roads and construction of 199 bridges/ culverts/

protective works were also taken up as spillover works at a cost of Rs.1721.09 crore.

During 2017-18, widening/ improvements in 1254.47 Km length of roads and 62 bridges/ culverts/ protective works have been completed at a cost of Rs.1315.97 crore.

Budget allotment of Rs.1249.48 crore has been provided for the year 2018-19.

### **5.1.2 CRIDP - Major District Roads**

During 2017-18, widening/ improvements to 873.57 Km length of roads, construction of 17 bridges/ culverts and 168 protective works were sanctioned at a cost of Rs.563.85 crore and are being implemented.

Adding to the above, Spillover works of widening/ improvements to 742.65 Km length of roads and construction of 170 bridges/ culverts/ protective works were also taken up at a cost of Rs.525.03 crore.

Widening/ improvements in 836.91 Km length of roads and 53 bridges/ culverts/

protective works have been completed at a cost of Rs.608.04 crore in the year 2017-18.

Budgetary outlay of Rs.617.87 crore has been provided for the year 2018-19.

### **5.1.3 CRIDP - Other District Roads**

New works of widening/ improvements to 2707.57 Km length of roads, construction of 59 bridges/ culverts and 273 protective works have been sanctioned at a cost of Rs.1154.95 crore in the year 2017-18 and are under progress.

During 2017-18, spill-over works costing to the tune of Rs.1471.08 crore comprising of widening/ improvements to 2384.78 Km length of roads and construction of 226 bridges/ culverts were taken up.

Widening/ improvements in 2413.02 Km length of roads and 56 bridges/ culverts/ protective works have been completed in the financial year 2017-18 at a cost of Rs.957.06 crore.

Budgetary allocation of Rs.994.84 crore has been made for the year 2018-19.

#### **5.1.4 CRIDP - Other District Roads - Special Component Plan**

New works of widening and improvements to 596.50 Km length of roads, construction of 13 bridges/ culverts and protective works were sanctioned at a cost of Rs.231.86 crore and are being implemented.

Spillover works of widening/ improvements to 604.11 Km length of roads and construction of four bridges/ culverts were taken up in the year 2017-18 at a cost of Rs.202.80 crore.

Road works to a length of 590.42 Km were completed during 2017-18 at a cost of Rs.211.14 crore.

Budgetary provision of Rs.261.96 crore has been allotted for the year 2018-19.

## **5.2 WORKS IN THE EXTENDED GREATER CHENNAI CORPORATION AREA**

In the Extended area of Greater Chennai Corporation in Thiruvallur and Kanchipuram districts, developmental works are being carried-out in a phased manner for 251 Km length of roads, by the Department, based on the announcement made by the Hon'ble Chief Minister during the year 2014-15.

36 works have been sanctioned to a tune of Rs.400 crore, during 2014-15 and 2015-16. During 2017-18, 24 works were taken up at a cost of Rs.141.59 crore were spilled over and 13 works at a cost of Rs.38.14 crore have been completed.

Budget provision of Rs.80.81 crore has been allotted for the year 2018-19.

## **5.3 FORMATION OF BYPASSES**

To improve the smooth, comfortable journey, ensuring hassle free through traffic, bypasses are being formed to major towns. Traffic

congestion is relieved in the urban areas, reducing the vehicle operating cost (VOC).

So far, 15 bypasses have been completed. Six bypasses namely Pattukottai bypass Phase II, Edapady, Pollachi Eastern Bypass, Thiruthani, Tharamangalam and Rasipuram bypass Phase I, Part-II are in progress.

The list of 21 bypasses for which Land Acquisition under progress is shown in **Table 5.1.**

**Table 5.1: List of works where Land acquisition in progress**

Length in Km, Cost Rs. in crore

<b>S. No</b>	<b>Bypass</b>	<b>Length</b>	<b>Cost</b>
1	Tiruvarur	9.98	10.10
2	Thiruthuraipoondi	2.46	0.53
3	Periyapalayam	1.70	2.17
4	Sivagangai	10.60	1.00
5	Manachanallur (Trichy District)	2.62	14.40
6	Mannargudi Ring Road	21.40	10.06
7	Pudukottai Ring Road	21.25	13.60

<b>S. No</b>	<b>Bypass</b>	<b>Length</b>	<b>Cost</b>
8	Parthibanur Ring Road (Ramanathapuram district)	3.60	0.88
9	Sivakasi Ring Road	22.00	33.50
10	Karur Ring Road	32.10	77.00
11	Uthiramerur	4.09	7.00
12	Illupur (Pudukottai district)	5.40	4.00
13	Walajabad	6.01	66.33
14	Kamuthi	6.40	1.50
15	Kumbakonam	9.42	28.00
16	Valangaiman	5.40	3.14
17	Mettupalayam	7.25	99.35
18	Coimbatore Western Ring Road	32.42	320.00
19	Vellore Ring road	13.29	38.82
20	Hosur Outer Ring Road	18.40	124.96
21	Thirukattupalli	3.20	4.18
	<b>Total</b>	<b>238.99</b>	<b>860.52</b>

Preparation of Detailed Project Report for bypasses to Dindigul is completed and the proposal for LA is under preparation. DPR preparation for Attur Bypass is in progress.

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

Performance-based Management and Maintenance of Roads (PMMR) is an emerging trend in contract method across the globe for effective preservation of road assets. The existing method of maintenance has been replaced by the new method-Performance based contracting. Many countries have succeeded in minimizing road infrastructure maintenance costs using performance-based maintenance contracts.

PBMC scheme includes Initial Rectification, Periodical Renewal, Minor Improvements, Ordinary Maintenance and Emergency works.

This scheme was introduced in the State during 2012-13 in the Pollachi division, wherein 377.38 Km length of roads comprising 191.40 Km of State Highways (SH) roads and 185.98 Km of Major District Roads, had been taken up under PBMC for a period of five years at a cost of Rs.233.93 crore. Now, the fifth year maintenance works are in progress.

The scheme has been extended to Krishnagiri, Ramanathapuram and Thiruvallur Divisions during the year 2015-16 and to Virudhunagar Division in 2017-18. Total length of 1564 Km of State Highways and 1382 Km of Major District Roads are being maintained under PBMC schemes in Pollachi, Krishnagiri, Thiruvallur, Ramanathapuram and Virudhunagar Divisions.

**Table no:5.2 Details of PBMCs**

(Length in Km and Cost Rs. in crore)

Division	SH (length)	Cost	MDR (length)	Cost	Total Cost
Pollachi	191.4	121.62	185.98	112.31	233.93
Krishnagiri	307.3	271.76	273.6	178.24	450.00
Thiruvallur	497.9	457.33	277.7	173.05	630.38
Ramanatha puram	228.8	258.15	340.2	202.14	460.29
Virudhunagar	338.0	380.96	304.5	231.02	611.98
<b>Total</b>	<b>1563.4</b>	<b>1489.82</b>	<b>1381.98</b>	<b>896.76</b>	<b>2386.58</b>

In addition to the above, proposal for implementing PBMC scheme in Palani Division is on the anvil, during 2018-19.

## **5.5 CHENNAI PERIPHERAL RING ROAD**

The Peripheral Ring Road will provide better connectivity around the city catering to future traffic requirements besides helping in achieving efficient logistic of commodities transport and port connectivity.

The Detailed Project Report for five sections has been prepared by incorporating Intelligent Transport System component which is the first of its kind, along with formation of Minjur Bypass.

Total Cost of the Project is Rs.12301 crore which includes Construction cost of Rs.7446 crore and LA cost of Rs.4855 crore. This project proposal has been included in the Rolling Plan of JICA and their study team has commenced their approval process.

Land Acquisition for section I i.e Northern Port Access Road from Ennore Port to Thatchur on NH5 for Rs.951 crore is in progress. Upgradation works in Section IV i.e., Sriperumbudur on NH-4 to Singaperumalkoil on

NH-45 has already been taken up by Tamil Nadu Road Infrastructure Development Corporation and the same is in progress.

Land Acquisition works in 558.53 Hectares in the section II, III & V for the above Project at a cost of Rs.2603.32 crore would be taken up. It is planned to enter into the loan agreement for section 1 with JICA during September 2018.

This Chennai Peripheral Ring road is to be extended connecting Poonjeri – Siruseri section as 6<sup>th</sup> segment and Siruseri to Madhyakailash section as 7<sup>th</sup> Segment.

## **5.6 FORMATION OF ROAD GRIDS ALONG CHENNAI OUTER RING ROAD**

When a new road is formed, only the areas on the fringes develop. The influenced area of the corridor lacks attention and ends up being under developed. To alleviate this short-coming, development of road grids was taken up. Accordingly, Macro grid links along Outer Ring Road had been identified in consonance with the stipulations in Second Master Plan of CMDA. The

preparation of detailed project report for 15 grids had been completed. Now, the preparation of Land plan schedule (LPS) is in progress. DPR for two Road Grids are in progress. Totally Rs.5.22 crore have been sanctioned for the above projects.

## **5.7 TAMIL NADU INVESTMENT PROMOTION PROGRAM- PHASE II (TNIPP-II)**

The TNIPP program is to improve the investment climate through strengthening the policy framework and enhancing the quality of urban and industry related infrastructure. This initiative attracts FDI to Tamil Nadu, thereby making the State a much sought-after destination for investors.

The work of intermediate lane to four lane of Puduvoyal – Pulicat Road from Km 2/0-6/2 has been taken up under Tamil Nadu Investment Promotion program- Phase II (TNIPP) scheme at a cost of Rs.45 crore and Land acquisitions works are in progress. The Puduvoyal – Pulicat Road at Km 0/0 – 6/2 is one of the important

Major District Road in Thiruvallur Division. This road branches at Km 35/0 of NH-16 (Formerly NH-5) in Peruvoyal village and ends at Km 8/2 of Chennai – Pulicat Road (SH 104) and passes through the villages Peruvoyal, Kummanencherry, Eliambedu, Periakavanam and Chinnakavanam. The stretch from Km 0/0 - 2/0 of the above was taken up under CRIDP scheme 2017-18 and work is in progress.

## **5.8 ROAD SAFETY WORKS**

The identification, analysis and treatment of road accident black spots are widely regarded as one of the most effective approaches to mitigate road accidents. It is well established that considerable safety benefits accrue from the application of appropriate road engineering or traffic management measures at hazardous road locations. Results from such applications at “black spots” demonstrate high returns in terms of saving from relatively low cost measures.

In spite of the precautionary measures undertaken, some accidents occur. In order to mitigate the road accident levels and improve

safety measures, Government announced a special project to attend the black spots in highly accident prone areas including urban roads.

A comprehensive proposal to improve the black spots in the Government roads has been prepared at an estimated cost of Rs.1130 crore.

Considering the above shelf of projects, the Government have sanctioned Rs.500 crore for road safety works under road safety fund. From 2014-15 onwards road safety works have been taken up under Comprehensive road Infrastructure Development Programme. Thus, road safety works to a tune of Rs.1360.09 crore were taken up under road safety funds and CRIDP so far as detailed in **Table. 5.3.**

**Table.5.3 Road Safety Work**

Sl No	Year	Details of Fund allocation (Rs in crore)		
		CRIDP	Road Safety Fund under Highways Head	Total
1	2014-15	250.00	200	450.00
2	2015-16	206.87	100	306.87
3	2016-17	203.07	100	303.07
4	2017-18	200.15	100	300.15
			<b>Total</b>	<b>1360.09</b>

In the year 2014-15 and 2015-16, 134 Nos. of Road safety works were taken up and out of that 126 works are completed. In the year 2016-17, total of 912 works were taken up at a cost of Rs.100 crore and works are in progress. In addition to the above, during 2017-18, 700 Road Safety works for an amount of Rs.100 crore has been sanctioned by the Government.

## **5.9 MAJOR WORKS ANNOUNCED BY THE HON'BLE CHIEF MINISTER OF TAMIL NADU**

Status of the announced major works are detailed below.

The work of construction of Flyover in Thiruvagoundanur Junction for Rs.26.77 crore in Salem city had been completed. Upon inauguration, the same was opened for traffic. The works listed in **Table 5.4.** are being implemented.

**Table No.5.4: Details of works in progress**

Amount Rs. in crore

Sl. No.	District	Announcement	Amount
1	Theni	Rebuilding and widening from single lane to Intermediate lane of Chinnamanur – Iravangalar road via Megamalai (Km.0/0 – 35/0)	80.67
2	Tiruvanna malai	Development of 14 Km of Girivalam Pathai roads in Tiruvannamalai by widening the footpath, providing lighting and rest room facilities	65.00

Sl. No.	District	Announcement	Amount
3	Coimbatore	Forming Eastern Bypass to Pollachi Town starting from Thippampatty at Km.111/4 of NH-209 and ending Achipatty at Km.124/8 of NH-209 (via) Alampalayam, Rasakkapalayam, Kullakkapalayam to a length of 15.40 Km	20.63
4	Salem	Bypass road to Tharamangalam town in Omalur - Sankari - Tiruchengode - Paramathy road (SH86)	20.00
5	Namakkal	Phase I part II Bypass to Rasipuram town starting from Anaipalayam village to join at Ponkuruchi Village in Malliakarai -Rasipuram - Tiruchengode - Erode Road (SH79)	20.00

Sl. No.	District	Announcement	Amount
6	Salem	Construction of two-tier flyover at Five Road Junction including construction of flyover upto Ramakrishna road junction and four road junction in Salem city	320.00
7	Salem	Construction of combined flyover at Kuranguchavadi and AVR roundana junction in Salem city.	111.40
8	Kancheepuram	Construction of Flyover at the Junction of Km.32/4 of GST road and Vandalur-Mambakkam-Kelambakkam road	60.00

Sl. No.	District	Announcement	Amount
9	Theni and Dindigul	Improvements and rebuilding to Periyakulam-Kodaikanal (via) Adukkam road (Km.0/0-35/9) in Dindigul and Theni districts.	69.50

Land acquisitions for the following five works are in progress.

**Table No.5.5: Details of works involving Land acquisitions**

Amount Rs. in crore

Sl. No.	District	Announcement	Amount
1	Coimbatore	Flyover along Athupalam and Ukkadam Junction upto Oppanakara Street in Coimbatore City	88.61
2	Madurai	Flyover at Goripalayam junction in Madurai city	164.28

Sl. No.	District	Announcement	Amount
3	Madurai	Elevated Corridor from Periyar Bus stand to Sethupathi High School, Meenakshi Mission Hospital junction in Madurai City	38.00
4	Coimbatore	Widening and ground level improvement of Dindigul-Bangalore Road (NH-209), Pollachi-Palaghat Road (State Highways-78A), Municipal Bus Route Road (Other District Roads) and New Scheme Road (Pollachi Municipal Road) in Pollachi Town	33.57
5	Coimbatore	Western Ring Road to Coimbatore City	320.00

During the District Collectors' conference held on March 2018, the works listed in **Table No.5.6** were announced:

**Table No.5.6: Details of announcement  
made during District Collectors' conference  
2018**

Amount Rs. in crore

<b>Sl. No.</b>	<b>District</b>	<b>Announcement</b>	<b>Amount</b>
1	Villupuram	Widening and Improvement works to 4 roads for a length of 26km connecting Arulmigu Angala Parameshwari Koil under CRIDP scheme 2018-19 and 2019-20	18.64
2	Thoothukudi	Widening and Improvement works to Kadambur-Kayatharu road and Pasuvandhanai-Eppodhum Vendran Road connecting NH7 and NH 45 will be taken up under CRIDP scheme 2018-19 and 2019-20	31.00

<b>Sl. No.</b>	<b>District</b>	<b>Announcement</b>	<b>Amount</b>
3	Coimbatore	Preparation of detailed project report for Construction of Bridge near Lawly Road for easy access to Marudhamalai road	
4	Madurai	Construction of High Level Bridge connecting Mannadimangalam and Irunbadi across Vaigai river	18.00
5	Thanjavur and Ariyalur	Preparation of detailed project report for Construction of High Level Bridge across river Coleroon connecting Kapisthalam - and Mela Ramanallur	

<b>Sl. No.</b>	<b>District</b>	<b>Announcement</b>	<b>Amount</b>
6	Theni	Preparation of detailed project report for formation of new road for a length of 19 km at Sakkalathu Mettu	
7	Theni	Preparation of detailed project report for providing II phase of road infrastructure for a length of 13 km at Megamalai and High Wayvis region	

## **5.10 MAINTENANCE WORKS**

Renewal for 4339.86 Km length of roads has been completed at an expenditure of Rs.1215.36 crore.

Budget provision of Rs.955.28 crore has been made for 2018-19.

Considering the 58326 Km length of roads maintained by highways Department, at least 11000 Km of roads should be taken up for

maintenance in each year as per renewal cycle of Five years, but in the past three years, the Department had taken up approximately 7500 Km of roads only for improvement/renewal under both Plan and Maintenance head in each year. Due to this backlog, proper upkeep of the roads in regular renewal cycle could not be taken up, leading to deterioration of the roads. In view of above, the Government has allotted Rs.400 crore in this year under the head of CRIDP - IRQP apart from routine allocation for improving the riding quality of Roads.

### **5.11 OVERALL EXPENDITURE (2017-18) AND ALLOCATION FOR 2018-19**

During 2017-18, a total of 5094.82 Km length of road works, 177 bridges / culverts works have been completed incurring an expenditure of Rs.4157.70 crore.

For 2018-19, a total budgetary allocation of Rs. 5814.76 crore has been earmarked.





**Thiruvagoundanur Flyover in Salem  
(inaugurated by Hon'ble Chief Minister on 02.12.2017)**



**Combined Flyover connecting Kuranguchavadi and AVR  
Roundana in Salem (inaugurated by Hon'ble Chief Minister  
on 13.05.2018)**





**Gandhipuram Flyover in Coimbatore  
(inaugurated by Hon'ble Chief Minister on 01.11.2017)**



**Hon'ble Chief Minister inaugurated Thanjavur Bypass, a  
Railway Over Bridge and a River Bridge on 27.10.2017**



## 6. NATIONAL HIGHWAYS

National Highways are the primary highways running through the length and breadth of the country connecting capitals of States, major ports, large industrial and tourist centers including strategically important locations for the defence of the nation. National Highways cover 2% of the total road network in India but carry 40% of the total traffic, which form the economic backbone for the growth of the country.

Tamil Nadu State has 5324 Km length of National Highway network. The State Government undertakes maintenance of 2039 Km and the remaining 3285 Km is maintained by NHAI. National Highways are developed and maintained with the funds obtained from the Ministry of Road Transport and Highways (MoRT&H) of the Central Government.

The lane-wise distribution of National Highways in the state are tabulated:(**Table 6.1**)

**Table 6.1: Lane-wise length of NH**

Length in km

<b>S. No</b>	<b>Agency</b>	<b>SL</b>	<b>IL</b>	<b>DL</b>	<b>ML</b>	<b>Total</b>
1.	State NH Wing	12	26	1879	122	2039
2.	NHAI	-	-	1182	2103	3285
	<b>Total</b>	<b>12</b>	<b>26</b>	<b>3061</b>	<b>2225</b>	<b>5324</b>

## **6.1 CORE ACTIVITIES**

State National Highways Wing functions under a Chief Engineer. The wing has four Circles headed by Superintending Engineers and eight Divisions headed by Divisional Engineers. The wing has a dedicated Quality Control set up under the Superintending Engineers. All works of improvements, strengthening, upgradation, rehabilitation/ construction/ reconstruction of bridges and maintenance nature of works are carried out by this wing.

The following schemes are generally implemented by this wing;

- National Highways Works
  - Plan Works

- Non-Plan Works like Periodic Renewal (PR) /Improvement of Riding Quality Program (IRQP)/Special Repairs (SR)
- Flood Damage Works (FDR)
- Centrally Sponsored Works
  - Revamped Central Road Fund Scheme (RCRF).
  - Inter State Connectivity (ISC)/Economic Importance (EI) Scheme.
  - Pradhan Mantri Gram Sadak Yojana (PMGSY).

## **6.2 PROJECTS IMPLEMENTED BY NATIONAL HIGHWAYS WING**

### **6.2.1 Plan Works**

Under Annual Plan 2017-18, MoRT&H has accorded sanction for 64 works for a total length of 510.07 Km at a cost of Rs.1060 crore. In addition to this, spill-over works of 36 road works for a length of 322.30 Km and 13 bridge works, at a total cost of Rs.1418.66 crore, have also been taken up for execution. Of which, 19 road works for a length of 250.83 Km and six

bridge works have been completed during 2017-18 at a cost of Rs.664.48 crore.

Following few major Plan works has been completed/under implementation:

#### **6.2.1.1. Completed Projects**

1. Rehabilitation & Upgradation of NH 226 Extn Perambalur –Thanjavur road from Km 0/1 - 66/2 to two lane with Paved Shoulders on EPC mode at a cost of Rs.162.13 crore.
2. Providing Paved shoulders including strengthening of existing carriageway from Km 0/0-51/0 of Cuddalore – Vridhachalam – Salem road and four laning from Km 34/0 to 39/0 in Neyveli town limits on NH 532 at a cost of Rs.158.35 crore.
3. Strengthening in Km 163/0 to 170/0 and 183/0 – 201/0 of NH 208 - Tenkasi - Rajapalayam - Srivilliputhur - Thirumangalam Road, at a cost of Rs.25.88 crore.
4. Providing Road Safety measures in Km 81/0-172/4 of NH 209 at a cost of Rs.24.84 crore.

5. Construction of Paved shoulders with strengthening the existing carriageway from Km.51/0-57/8 of Cuddalore - Vridhachalam - Salem road of NH-532 to a length of 6.20km at a cost of Rs.17.31 crore.

### **6.2.1.2. *Projects Under Implementation***

1. Construction of flyover at Marthandam and Parvathipuram in NH 47 (Kerala /Tamilnadu Border – Kanyakumari road), at a cost of Rs.307.70 crore.
2. Construction of Paved Shoulders in Km.81/0-202/6 of NH 234 (Mangalore - Villupuram road) to a length of 116.60 Km at a cost of Rs.268.92 crore.
3. Widening to four lane with paved shoulders in Km 0/0-31/8 of NH 381 (Avinashi - Tirupur - Avinashipalayam road) for a length of 31.8 Km at a cost of Rs.162.72 crore.
4. Widening with paved shoulders from Km 380/0-390/0, reconstruction of minor bridge at Km 460/8, construction of protective wall in selected stretches from Km 405/4-425/4 of NH-67 (Nagapattinam - Thanjavur - Trichy -

Karur – Coimbatore – Gudalur - Mysuru Road) at a cost of Rs.36.52 crore.

5. Junction improvement in NH 67E at Km 428/6 – 429/8 and providing raised foot-path cum drain from 432/0 – 434/4 at Ooty town, at a cost of Rs.31.60 crore.

### **6.2.2 Improvements to missing links in Madurai – Dhanushkodi Section**

The stretch from Mugundharayarchatiram to Arichalmunai for a length of 9.50 Km in Madurai – Dhanushkodi Section of NH-49 was completely destroyed in the cyclone during 1964. The improvements of this 9.50 Km stretch has been completed at a cost of Rs.71.13 crore and inaugurated by the Hon'ble Prime Minister of India on 27<sup>th</sup> July 2017.

### **6.2.3 Periodical Renewal (PR)/ Improvement of Riding Quality Program (IRQP)**

Under this scheme, 13 road works for a length of 109.84 Km, amounting to Rs.70.20 crore have been taken up for implementation and completed during 2017-18.

## **6.2.4 Centrally Sponsored Schemes**

The Central Government created Central Road Fund (CRF) as a non-lapsable fund under Central Road Fund Act, 2000, which is procured out of the cess/tax imposed on the consumption of petrol and diesel. Funds are distributed to the State for developments of Roads. The accrual of funds are distributed to the states annually, on the basis of 30% weightage to fuel consumption and 70% weightage to the geographical area of the State. Apart from above, the Central Government provides fund for improving Rural Roads under PMGSY Scheme.

### **6.2.4.1. *Revamped Central Road Fund Scheme (RCRF)***

During 2017-18, 47 road works to a length of 372.97 Km and three bridge works, at a total cost of Rs.355.92 crore were taken up for execution under this scheme. The works are in active progress.

In addition to above, a bypass work for Sucheendram town in Kanyakumari District, three high level bridge works and 147 road

works for a total length of 762.67 Km, at a value of Rs.652.71 crore have been taken up as spill-over works.

Out of above, 124 works for a length of 733.22 Km have been completed, at an expenditure of Rs.550.81 crore and the balance works are in progress.

Further, 102 road works to a length of 748.84 Km at an estimated cost of Rs.750 crore has been sanctioned in March, 2018 by MoRT&H as additional sanction during 2017-18, which will be taken up for implementation shortly.

#### **6.2.4.2. *Inter State Connectivity Scheme (ISC)***

MoRT&H has accorded sanction for the work of "Widening the existing single lane to double lane of Chellampalayam - Burgur - Kollegal Road from Km 10/0 - 51/2" at a cost of Rs.72.91 crore, during 2017-18 under ISC Scheme.

In addition, six road works for a length of 133.55 Km were taken up as spill-over works at

a value of Rs.170.20 crore. Out of this, one work for length of 71.55km has been completed at an expenditure of Rs.63.97 crore and the remaining works are in progress.

#### **6.2.4.3. Pradhan Mantri Gram Sadak Yojana (PMGSY)**

PMGSY has been launched by the GoI for providing connectivity to unconnected habitations as part of poverty reduction strategy. The requisite funds for the scheme is derived from the accruals under CRF Cess. The GoI endeavors to set-forth high and uniform technical standards and facilitate policy development at State level to ensure continuous maintenance of the rural road network. The works have been taken-up in a phased manner under this scheme and Phase-I projects have been completed.

#### **6.2.4.4. Pradhan Mantri Gram Sadak Yojana –II**

In continuation to PMGSY-I (Phase-X), the GoI has sanctioned 40 ODR works to a length of 142.39 Km, amounting to Rs.58.93 crore during 2017-18 under PMGSY–II and the works are under progress.

#### **6.2.4.5. Road Safety Works**

Upon understanding the impact of loss of economy through road accidents, MoRT&H had taken a decision to sanction road safety works on State Highways, Major District Roads and Other District Roads with an allocation under Central Road Fund. As a measure of supplementing the efforts of States for minimizing the accident potential at the identified locations/stretchers through engineering improvements to roads, MoRT&H has formulated a dedicated Road Safety Engineering Cell, envisaging rectification of black spots.

#### **6.2.4.6. *Rectification of Black Spots***

Based on the fatality reports obtained from Home Department, GoI, 100 black spots locations have been identified by MoRT&H in Tamil Nadu. Out of the 100, rectification works in 20 spots in the State NH jurisdiction have been taken-up at a cost of Rs.96.80 crore. Of the above, 16 black-spots have been rectified and the remaining are in progress. The rectification of 80 black-spots on NHAI roads are in various stages of implementation.

#### **6.2.4.7. *Road Safety Works under Central Road Fund (CRF)***

MoRT&H has evolved a policy decision to sanction road safety works on State roads with an earmarked allocation of 10% under CRF.

In this context, an Expert Committee has been constituted by the State Government as per the guidelines of MoRT&H for analyzing and suggesting suitable engineering remedial measures in State roads under CRF. Three academic experts, from IIT-M, Chennai, NIT,

Tiruchirappalli and Anna University, Chennai have been co-opted as members of the Committee.

### **6.3 OVERALL EXPENDITURE (2017-18) AND ALLOTMENT FOR 2018-19**

An expenditure of Rs.725.21 crore has been incurred during 2017-18 under Plan & Non-Plan Schemes of MoRT&H for widening/improvements of existing National Highway roads and construction of bridges entrusted to the State. Further, an expenditure of Rs.63.97 crore has also been incurred for the development of State roads under ISC/EI Schemes.

Pertaining to centrally sponsored schemes under CRF and Bharat Nirman (maintenance fund), an expenditure of Rs.553.33 crore has been incurred during 2017-18.

Moreover, an allocation of Rs.807.44 crore has been made for implementation under centrally sponsored schemes during 2018-19.

## **6.4 OTHER ACTIVITIES**

### **6.4.1 Setu Bharatam - Construction of ROB/RUBs in lieu of Level Crossings on NHs**

Setu Bharatam Scheme has been launched on 4<sup>th</sup> March 2016 by MoRT&H, with an aim to make all National Highway roads free from railway crossings, by 2019. This scheme envisages construction of railway over and under bridges (ROBs/RUBs) at all railway level crossings in National Highways.

MoRT&H has engaged consultants for the preparation of Detailed Project Reports (DPR) for the construction of eight numbers of ROB/RUBs in lieu of existing level crossings on National Highways (**Table 6.2**). After approval of DPRs by MoRT&H, the works will be taken up.

**Table No.6.2: List of ROBs/RUBs proposed under Setu Bharatam Scheme**

Sl. No	NH No.	LC No.	Chainage and Location	Major Railway Section
1.	49 Ext	17	Km 22/2 (Near Checkkanurani)	Madurai - Bodinayakanoor
2.	49 Ext	44	Km 50/3 (Near Usilampatti)	
3.	49 Ext	68	Km 72/6-7 (Near Theni)	
4.	49 Ext	85	Km 93/4 (Near Bodi)	
5.	49	518	Km 134/8 (Near Uchipuli)	Manamadurai-Rameshwaram
6.	208	503	Km 99/4 (Near Tenkasi Elanchi)	Tenkasi - Quilon
7.	234	86	103/4 (Polur - Madimangalam)	Villupuram - Katpadi
8.	234	109	Km 81/6 of (Kannamangalam -Kaniyambadi)	

#### **6.4.2 Declaration of New National Highways**

MoRT&H has declared seven State Highway roads for a total length of 841 Km as new National Highways (**Table 6.3**). In the newly declared Dindigul- Karaikudi Section of NH-383,

the stretch between Dindigul and Natham for 38 Km has been sanctioned for upgradation under Annual Plan 2017-18, at an estimated value of Rs.240.38 crore.

**Table No.6.3: List of State Highways declared as new National Highways**

S. No.	Name of State Road	Length (in Km)
1	Dindigul – Karaikudi road (NH383)	109.00
2	Perambalur - Athoor road (NH136)	55.00
3	Salem - Uttankarai – Thirupathur Vaniyambadi road (NH179-A)	135.00
4	Thoppur - Mettur - Bhavani - Erode road (NH544-H)	135.00
5	Malur - Hosur - Rayakottai - Dharmapuri -Adhiyamankottai (NH-844)	120.00
6	Oragadam - Cheyyar - Thiruvannamalai- Harur (NH179-B)	230.00
7	Kumbakonam - Sirkazhi (NH136-B)	57.00
<b>Total Length</b>		<b>841.00</b>

Further, MoRT&H has accorded 'in-principle' approval for the upgradation of 12 State Highway roads as new National Highways, for a

total length of 746.37 Km (**Table 6.4**) and sanctioned Rs.26.58 crore under Annual Plan 2017-18 for the preparation of DPRs.

**Table No.6.4: State Highways declared “in-principle” as new National Highways**

S. No.	Name of State Highway	Length (in Km)
1	Karaikudi - Pattukottai - Thanjavur road	70.00
2	Thiruvannamalai - Kallakuruchi road	65.00
3	Srivilliputhoor - Sivakasi - Virudhunagar - Aruppukottai - Thiruchuli - Parthibanoor road	105.00
4	Vallioor - Thiruchendur road	70.00
5	Kollegal - Hanur - MM hills - Palar road - Tamil Nadu border extended upto Mettur in Tamil Nadu	30.00
6	Mettupalayam - Bhavani road	98.00
7	Avinashi - Mettupalayam road	38.00
8	Bhavani - Karur road	77.00
9	Palani - Dharapuram Road	31.00
10	Arcot - Tindivanam road	91.00
11	Nelvoy - Pallikonda road	19.60

S. No.	Name of State Highway	Length (in Km)
12	Dindigul - Natham - Kottampatty road	51.77
<b>Total Length</b>		<b>746.37</b>

In addition to above, 21 state roads to a total length of 1497.40 Km have been proposed for "in-Principle" declaration as new National Highways (**Table 6.5**).

**Table.No.6.5: Roads proposed for up gradation as new National Highway**

S. No.	Nomenclature of Road	Length (Km)
1.	Ooty - Kothagiri - Mettupalayam (SH-15)	42.40
2.	Abdullapuram - Thirupathur (SH-122)	79.50
3.	Vellore - Ussoor (SH-207)	8.00
4.	Thanjavur - Mannargudi - Thiruthuraipoondi -Vedaranyam - Kodiyakarai (SH-63)	113.00
5.	Erode - Dharapuram (SH-83A)	78.00
6.	Erode - Perundurai - Kangeyam (SH-96)	51.00
7.	Sathi- Chithode- Erode (SH-15)	62.00

<b>S. No.</b>	<b>Nomenclature of Road</b>	<b>Length (Km)</b>
8.	Palladam - Dharapuram (SH-174A)	37.00
9.	Vatlagundu - Usilampatti - Peraiyur - Kallupatti -Kalligudi - Kariyapatti - Thiruchuli - Kamuthi -Sayalkudi (SH-154)	161.00
10.	Thanjavur - Sivagangai - Sayalkudi (SH-29)	257.00
11.	Aralvoymozhi - Nedumangadu (SH-45)	49.00
12.	Sattur - Sivakasi - Kalugumalai (SH-187)	38.00
13.	Ramanathapuram - Nainarkoil - Ilayangudi -Sivagangai - Melur (SH-34)	98.00
14.	Aruppukottai - Valinokkam (SH-38)	80.00
15.	Paruvakudi - Kovilpatti - Ettayapuram - Vilathikulam - Vembar (SH-44)	92.00
16.	Bhavani - Kalingarayam palayam - Periapuliyur - Kavanthampadi	27.00
17.	Gobichettipalayam - Kunnathur - Perumanallur	33.00
18.	Namakkal - Thuraiyur	48.00

<b>S. No.</b>	<b>Nomenclature of Road</b>	<b>Length (Km)</b>
19	Musiri - Thuraiyur – Athur	93.00
20.	Chennai ORR - SIPCOT - Sriperumpudur road (Part of SH113 and SH110)	17.50
21.	Thiruchengode - Mallasamudram - Ariyanoor (SH86-A)	33.00
	<b>Total</b>	<b>1497.40</b>

### **6.4.3 Bharatmala Pariyojana**

MoRT&H has launched a new umbrella program for the highways sector, which focuses on optimizing efficiency of road traffic movement by bridging critical infrastructure gaps across the country, through effective interventions like

- Development of Economic Corridors
- Inter Corridors and Feeder Routes
- National Corridor Efficiency Improvements
- Border and International Connectivity Roads
- Coastal and Port Connectivity Roads
- Green Field Expressways

Main highlights of the program include efficiency improvement of existing corridors through development of multi-modal logistic parks and removal of choke points, leveraging technology for project preparation & asset monitoring and delegation of powers to expedite project delivery.

Under this scheme, various roads including Madurai-Natham road is to be commenced shortly. DPR is being prepared for Vellakovil-Erode road.

#### **6.4.4 Bus Ports**

Construction of Bus Ports consisting all improved and modern amenities in order to increase livelihood of passengers and functional interaction with various modes of transport, have been proposed at Salem, Coimbatore, Madurai and Nagercoil as a sub-component under National Corridors Efficiency Program Component of Bharatmala Pariyojana. The requisite lands have been identified for Salem and Coimbatore and preparation of DPR is

initiated. Lands are being identified at Madurai and Nagercoil.

#### **6.4.5 Green Field Corridors**

MoRT&H has taken up nine Green Field Corridor projects in Tamil Nadu under Bharatmala Pariyojana program. Of which, the proposal to form a direct expressway on green corridor basis from Chennai to Salem will ease the traffic, reduce the travel time and boost the socio-economic status of the State. The tentative length of the alignment will be 274.30km, which will pass through Kancheepuram, Thiruvannamalai, Krishnagiri, Dharmapuri and Salem Districts. The Land Acquisition (LA) process has been taken up on a fast track basis.

#### **6.4.6 Automation of Land Acquisition Process**

MoRT&H, in its attempt to move towards total e- governance and avoid delay, developed a dedicated portal (BOOMIRASHI) for LA process. The portal functions as an e- platform for processing of LA related notifications and

payment of compensation to the affected parties thereto, for all National Highway projects. In this regard, MoRT&H has issued Standard Operating Procedure (SOP) for depositing payment through Project Finance Management System (PFMS). Under this, all Competent Authorities for Land Acquisition (CALAs) are registered with PFMS and mapped under respective Regional Office of MoRT&H. The LA process through above portal has come into effect from 01.04.2018. Accordingly the State NH Wing has commenced the e-process for National Highway projects in Tamil Nadu.

#### **6.4.7 Project Monitoring Information System (PMIS)**

MoRT&H has developed a Project Monitoring Information System (PMIS), a state-of-the-art, real time project tracking and monitoring system for the effective monitoring of all ongoing projects, key issues and interventions required at all levels. The system has customized user-friendly dashboards for Senior Officers to review the progress. The system is currently being used

to conduct daily monitoring of active projects across different stages of execution, viz.,

- To be awarded
- Under implementation
- Detailed Project Report stage

The State NH Wing is regularly updating the dynamic data of all on-going projects. Senior Officers of MoRT&H are conducting monthly/quarterly reviews through video-conferencing, fetching the data from the dashboard of this information system for taking requisite action.

#### **6.4.8 e-procurement through BIMS portal**

MoRT&H has developed the Bidder Information Management System (BIMS) to streamline the e-procurement process for Engineering Procurement and Construction (EPC)/ Hybrid Annuity Mode (HAM)/ Built Operate Transfer (BOT) modes of contracts with enhanced transparency and objectivity. BIMS will work as data base comprising bidder-wise information covering basic details, experience in

executing civil works, cash accruals and net worth, annual turnover etc. for quick assessment of pre-qualification of bidders. All National Highway contracts are procured through BIMS since 01.04.2018.

## **6.4.9 Works Assigned by NHA I**

### **6.4.9.1. *Widening of NH-45 between Irumbuliyur and Guduvancheri***

In order to address the huge traffic congestion in Chennai Suburban areas, as an immediate remedial measure, a proposal for widening between Irumbuliyur to Vandalur (2.30 Km) to eight-lane standards, at a cost of Rs.20.77 crore has been mooted by the State Government and got approved from NHA I. Further proposal for widening from Vandalur to Guduvanchery (5.30 Km) at a cost of Rs.48.85 crore has also been sent to NHA I.

### **6.4.9.2. *Development of new National Highways***

NHA I has assigned development of three National Highway stretches (**Table: 6.6**) under NH (O) category to State NH Wing and approved

to undertake updation of DPRs, already prepared by Tamil Nadu Road Sector Project (TNRSP) for these roads. Accordingly, State NH Wing is in the process of updating DPRs.

**Table.No. 6.6: Roads Assigned by NHAI**

S. No.	Name of Road	NH No.	Length (in Km)
1.	Perambalur - Athoor Road	136	55
2.	Salem - Uthangarai - Thirupathur - Vaniyambadi Road	179-A	135
3.	Thoppur - Mettur - Bhavani - Erode Road	544-H	135

## **6.5 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. NHAI is implementing National Highways Development Programme (NHDP)/ Bharatmala, Port

Connectivity Scheme, and Other Special Projects Scheme approved by Government of India.

State Government extends its co-operation and assistance to NHAI in the matters of pre-construction activities such as land acquisition, shifting of utilities etc.

National Highways project works are also taken-up under Bharatmala Pariyojana. This apart, roads, flyovers, underpasses are being constructed and improved under Port Connectivity Scheme, and Other Special Projects Scheme.

The improvement works on following National Highways are proposed in the State of TamilNadu are implemented through National Highways Authority of India by Government of India.

Chennai – Tamil Nadu / Andhra Pradesh Border NH-16(5), Thanjavur – Pudukottai – Sivagangai- Manamadurai NH-36(226), Trichy – Madurai – Tuticorin NH-38(45B), Chennai – Tamil Nadu /Andhra Pradesh Border NH-40(4),

Tamil Nadu – Karnataka Border – Madurai 44(7), Krishnagiri –Vaniyambadi - Ranipet NH-48(46), Pondicherry /Tamil Nadu Border –Tindivanam – Krishnagiri NH-77(66), Salem – Ulundurpet NH-79(68), Nagapattinam – Coimbatore NH-83(67), Madurai - Dhanushkodi NH-85(49), Chennai – Trichy – Dindigul NH- 132(45), Thanjavur – Athoor -Perambalur NH -136, Palayamkottai – Tuticorin NH 138(7A), Salem – Uthangarai – Thirupathur -Vaniyambadi NH 179A, Dindigul – Theni NH-183(220), Trichy – Ramanathapuram NH-536(210), Salem – Coimbatore – Cochin NH-544(47), Thoppur – Mettur – Bhavani NH-544H, Chennai – Tiruttani – Renikunda NH- 716(205) and the newly declared National Highways during the year 2017-18, viz. Chennai –Nagapattinam –Tuticorin NH-32, Kumbakonam – Sirkali NH- 136B, Harur – Tambaram NH-179B, Semmampadi – Chetpet NH189D, Puducherry – Mamalapuram NH-332A, Melur – Thirupathur NH-338, Thachur – Chittoor NH -716B, Hosur – Adhiyamankottai NH-844, Natham-Thuvarankurchi NH- 785(Extn).

## **6.5.1 Works Completed by NHAI**

### **6.5.1.1. Road widening/ Improvement works**

Since inception of NHAI, 3170 Km length of National Highways have been upgraded to six/ four/ two-lane with paved shoulders in Tamil Nadu at a cost of Rs.21251 crore.

### **6.5.1.2. Bypasses**

As part of National Highway Development Programme 124 bypasses have been taken up by NHAI for execution. Out of this, 84 bypasses have been completed and 40 bypasses are in various stages of implementation.

## **6.5.2 Works Under Implementation by NHAI in the Year 2017-18**

During the year 2017-18, 14 projects of two laning with paved shoulder/ four-laning/ six-laning for a total length of 1222 Km at a cost of Rs. 10,006 crore, are in progress. The details of the projects are as under:

- Five Projects of two laning with paved shoulder for a total length of 582 Km at a cost of Rs.2487 crore.
- Eight Projects of four laning for a total length of 492 Km at a cost of Rs.6149 crore.
- One Project of six laning for a total length of 148 Km at a cost of Rs.1370 crore.

### **6.5.3 Works on the Anvil during 2018-19**

During the year 2018-19, 13 projects for a total length of 524 Km at a cost of Rs.14,854 crore are proposed to be implemented. The details of the projects are as under.

Five projects 4/6 laning to a length of 201 Km has been awarded for an amount of Rs. 4585 crore and works are to be commenced.

Eight projects involving four-laning/ six-laning/ Elevated road for a total length of 323 Km for Rs.10,269 crore are at an advance stage of Tendering.

#### **6.5.4 Projects under Detailed Project Report Preparation for 2018-19 and 2019-2020**

For implementation in the year 2018-19 and 2019-20, 12 projects for a total length of 928 Km for which Preparation of Detailed Feasibility/ Project Report are in progress under various Phases of NHDP/ Bharatmala. These projects are proposed for award after completion of the Land Acquisition process and other pre-construction activities.

#### **6.5.5 Port Connectivity Scheme**

In order to connect the 12 important ports in India through NHAI, Cabinet Committee on Economic Affairs (CCEA) have approved the Port Connectivity Scheme in the year 2000 by establishing Special Purpose Vehicles (SPVs). SPVs have been established in Tamil Nadu to improve the roads connecting three major ports at Chennai, Ennore and Tuticorin.

### **6.5.6 Ennore - Manali Road Improvement Project (EMRIP)**

NHAI established a Special Purpose Vehicle (SPV), Chennai Ennore Port Road Company Limited (CEPRCL) with quadruplet agreement between the partners being the Government of Tamil Nadu, Chennai Port Trust, Ennore Port Limited and NHAI.

The Proposals in the State Highway stretches taken up for improvements, at an estimated cost of Rs. 600 crore, as below:

**Table No.6.7: Proposed work details**

<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

<b>Sl. No</b>	<b>Name of work</b>	<b>Length in Km</b>
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>

The contribution by each share holders of the company are given as under.

**Table – 6.8 Contribution of each shareholder**

(Rs. in crore)

Sl. No	Share holder	Contri- bution Amount	Loan	Total	Contri- bution made so far
1	National Highways Authority of India	139.80	117.50	257.30	290.07*
2	Chennai Port Trust	139.80	110.68	250.48	139.80

Sl. No	Share holder	Contri- bution Amount	Loan	Total	Contri- bution made so far
3	Government of Tamil Nadu	58.20	--	58.20	58.20
4	Ennore Port Ltd.	34.02	--	34.02	34.00
	<b>Total</b>	<b>371.82</b>	<b>228.18</b>	<b>600.00</b>	<b>522.07</b>

*\*NHAI has released further amount of Rs.150.27 crore above its share for implementation of the project.*

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. Further, houses have been built for 1824 numbers of the project affected families in Ennore Expressway, and out of these, 1791 families have occupied their houses. 98% of works on EMRIP have been completed upto February 2018. The remaining works are in progress.

### **6.5.7 Bharatmala Pariyojana**

Bharatmala Pariyojana is proposed to improve the efficiency of goods transport on

National Highways. Under this scheme six major components like improvement of economic corridor, improving the efficiency of National Highways, improvements to border roads and international connecting corridors, improvement to feeder roads and construction of expressways are contemplated. The projects taken up under this scheme in the state of Tamilnadu are listed below in Table 6.9, for which the DPRs are in progress. Subject to completion of the Land Acquisition process and other pre-construction activities, these projects are proposed to be taken up during 2018-19 and 2019-20, in phases.

**Table No.6.9: Details of the Schemes under Bharatmala Pariyojana**

Length in km

Sl. No.	Name of Project	Tentative Length
1	Chennai - Salem through Greenfield alignment.	274.300
2	Chittoor – Nagari – Thachur road (falling in both Andhra Pradesh and Tamil Nadu)	124.000

Sl. No.	Name of Project	Tentative Length
3	Mamallapuram - Puducherry road (ECR)	99.000
4	Hosur - Dharmapuri road (Green field corridor)	80.225
5	Half Ring road for Salem city (Omalur - KR Thoppur-Kakapalayam-Athanur)	41.530
6	Sirkali - Mayiladuthurai - Kumbakonam road	60.000
7	Coastal Road from Nagapattinam to Tuticorin via Ramanathpuram	331.750
8	Development of Economic Corridors, Inter Corridors, Feeder Routes to improve the efficiency of freight movement - Lot-4 Tamil Nadu Package-8.	316.000
9	Widening of Madurai - Natham section or NH-785	36.430
10	Madurai Ring Road	82.000
11	Usilampatti to Andipatti & Theni to Bodi	44.000
12	Rajapalayam to Sengottai	62.000
13	Vellakoil to Sankagiri	71.160

Sl. No.	Name of Project	Tentative Length
14	Musiri to Namakkal	43.650
	<b>GRAND TOTAL</b>	<b>1666.045</b>

### **6.5.8 Land Acquisition**

Land acquisition is being carried out under the provisions of the National Highways Act 1956, for the implementation of Projects under NHAI. For acquisition of land for NHAI projects, exclusive Competent Authority for Land Acquisition (CALA) in the cadre of District Revenue Officer (DRO) along with supporting Special Land Acquisition units (SLAUs) are appointed and the cost of which is borne by NHAI.

The Government of Tamil Nadu have recently issued instructions to District Collectors for the appointment of DRO concerned as CALA to carryout land acquisition for the completion of Bharatmala Pariyojana projects on fast track mode. As of now total 27 CALAs establishments are functioning in the State of Tamilnadu for acquisition of land for NHAI projects, out of

which 16 CALAs are Special DROs, 9 are regular DROs and 2 are Revenue Divisional Officers (RDOs).

During 2017-18, an extent of 3957 Ha of land has been taken possession for the ongoing projects and projects to be awarded. Further, 4374 Ha of lands needs to be acquired.

#### **6.5.9 Reduction in Supervision Charges for Utility Shifting**

Government of Tamil Nadu issued an order on 25.02.2018 to levy supervision charges at a reduced rate of 2.5% of the estimated cost of all utility shifting, for the project under taken by MoRT&H & NHAI in Tamil Nadu as suggested by the Ministry and contemplated in the guide lines and standard operating procedure of the Bharathmala Pariyojana.

#### **6.5.10 Highway Operation Unit (HOU)**

NHAI is in the process of establishing Highway Operation Units to focus on Highway Operation and proactive monitoring mechanism

using modern IT - enabled Highway Operation System.

The key activities of HOU's comprises of

- Managing toll plaza
- Developing World class way-side amenities viz., Highway Village, Highway Nest & Highway Nest (Mini) for road users
- Incident Management
- Highway Traffic management system & Mobile Apps
- Highway Asset Management
- Highway Maintenance
- Conducting Public awareness.

Moreover, to ensure congestion less traffic flow especially at Toll plazas, implementation of Hybrid Electronic Toll Collection (ETC) system for toll fee collection at all the lanes of Toll plazas is in progress.



**Bridge across Bhavani River at Kodiveri in Erode District**



**Road Safety improvement works in National Highway 67 at Mathampalayam**



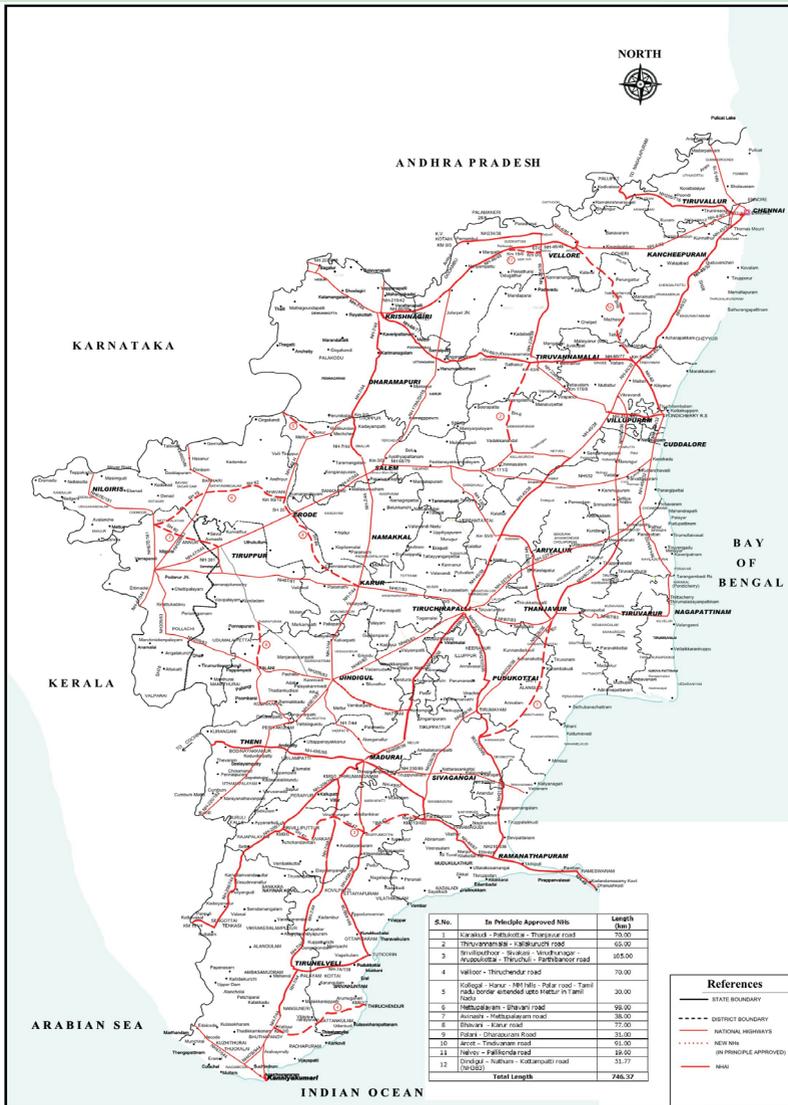


**Bridge across Thenpennai River in Thiruvannamalai -  
Thiyagadurgam Road in Villupuram District  
(inaugurated by Hon'ble Chief Minister on 26.03.2018)**



**Coordination meeting with Hon'ble Union Minister for Road  
Transport, Highways, Shipping, Water Resources, River  
Restoration and Ganga Rejuvenation on 23.11.2017**





## National Highways in the State



## **7. NABARD AND RURAL ROADS**

NABARD and Rural Roads wing is established for making good road networks in rural areas by improvement of roads and construction of bridges across rivers. These facilities vitally support the people's socio-economic improvements in rural areas by marketing their Agricultural products and commodities.

Four Superintending Engineers at Circle level and fourteen Divisional Engineers at Division level are headed by the Chief Engineer in NABARD and Rural Roads wing. Construction of river bridges and improvements of roads with loan assistance from National Bank for Agriculture and Rural Development (NABARD) as well as construction of road over bridges, road under bridges under Railway works Programme and land acquisition for 11 bypasses with State funds are carried out by this wing.

As a special scheme, the Panchayat Union Roads/ Panchayat roads which were under the control of Rural Development & Panchayat Raj Department have been proposed by the

Government to be upgraded to ODR standards. As a part of this programme, the Government has ordered the handing over of the Panchayat Union Roads/ Panchayat roads to the State Highways Department. These roads have been upgraded to Other District Roads (ODR) standards by NABARD & Rural Roads during the financial Year 2017-18.

## **7.1 SCHEMES ASSISTED BY NABARD LOAN:**

### **7.1.1 Construction of River Bridges in Government, Panchayat and Panchayat Union Roads**

Under this scheme, spillover works of 106 bridges at a cost of Rs.272.50 crore and 24 bridges at a cost of Rs.56.76 crore, 56 bridges at a cost of Rs.115.31 crore and 70 Bridges at a cost of Rs.200.15 crore currently sanctioned during 2017-18, totaling to 256 bridges at a cost of Rs.644.72 crore have been taken up for execution.

Out of 256 bridge works, 64 bridges were completed incurring an expenditure of

Rs.162.30 crore, 58 bridges are in progress and among the balance works, 55 are in Tender stage and 77 works are in Estimate stage. The details of major bridges completed and opened to traffic are as follows:

**Table No:7.1 Details of Major Bridges completed**

Amount Rs. in crore

SI No	District	Bridge location	Amount
1	Vellore	Construction of High Level Bridge across Uthirakaveri river at Kollakottai village. <b>(Kollakottai)</b>	3.90
2	Salem	Construction of High level Bridge at Km 0/2 of Appammasamudiram-Narasingapuram Road <b>(Appammasamudiram)</b>	5.15

Sl No	District	Bridge location	Amount
3	Namakkal	Construction of Bridge at Km 45/10 of Komarapalayam- Pallipalayam - Jedarpalayam - Pandamangalam - Velur Road in lieu of existing Piped causeway ( <b>Jedarpalayam</b> )	2.75
4	Namakkal	Construction of High Level Bridge at Km 94/2 - 94/660 of Mallikarai - Rasipuram - Thiruchengode - Erode road near Pallipalayam across Cauvery river ( <b>Pallipalayam</b> )	30.03
5	Karur	Construction of High level Bridge across Noyyal river from Thukkachi in Karur District and Vadivullamangalam in Erode District ( <b>Thukkachi</b> )	4.34

Sl No	District	Bridge location	Amount
6	Karur	Construction of High level Bridge across Amaravathi river at Km 2/8 of Nanjai-Kalakurichi to Nagampalli Chellandiammankoil ( <b>Nanjaikalakurichi</b> )	6.63
7	Karur	Construction of High level Bridge connecting Km 5/4 of Kasipalayam - Koombur Road (ODR) to Km 38/8 of Karur - Esanatham -Koombur - Vedsandur Road (MD 606) Across Kudaganaru River ( <b>Koombur</b> )	5.94
8	Coimbatore	Reconstruction of high level bridge at Km 1/4 of Karamadai - Kariyampalayam road. ( <b>Kannarpalayam</b> )	2.95
9	Coimbatore	Construction of high level bridge at Km 3/6 of Devanapuram - Velliyangadu road (via) kandyur. ( <b>Salaivembu</b> )	2.50

Sl No	District	Bridge location	Amount
10	Nilgiris	Construction of Bridge at Km 7/6 of Ketty Palada-Selas road. (Katteri Anai)	1.52
11	Virudhu nagar	Construction of Minor Bridge at Km 34/10 of Sattur-Sivakasi-Kalugumalai road ( <b>Thulukkankurichi</b> )	2.88
12	Thanjavur	Reconstruction of Bridge at Km.67/2 of Thanjavur - Pattukottai - Aranthangi - Karaikudi - Kallal - Kalaiyarkoil - Maravanmangalam - Elaiyankudi - Paramakudi - Mudhukulathur - Sayalkudi road ( <b>Aavanam</b> )	1.48
13	Ramanatha puram	Construction of bridge at Km. 106/2-4 of Srivilliputhur - Sivakasi - Virudhunagar - Aruppukottai - Tiruchuli - Narikudi - Parthibanur Road. ( <b>Pidaricheri</b> )	6.30

Sl No	District	Bridge location	Amount
14	Madurai	Construction of High level Bridge at Km 0/4-8 of Sakkimangalam-Silaiman road across Vaigai river including forming approaches in Km 0/0 - 0/8 ( <b>Sakkimangalam</b> )	18.17
15	Dindigul	Construction of Bridge at Km. 23/6 of Vadamadurai- Oddanchatram Road (Ottanagampatty)	1.99
16	Tirunelveli	Construction of Bridge across Manimuthar river between Vairavikulam and Aladiyoor villages. ( <b>Vairavikulam</b> )	4.55
17	Thanjavur	Reconstruction of Bridge at Km.4/10 of Thiruppanandal - Aduthurai Road ( <b>Edayanallur</b> )	3.02
18	Vellore	Construction of High Level Bridge at Km 0/2 of Thakkolam - Anandapuram road across Kosasthalai river. ( <b>Thakkolam</b> )	6.27

Sl No	District	Bridge location	Amount
19	Namakkal	Construction of high level bridge in the lieu of existing Piped Causeway at Km 14/2 of Tiruchengode - Komarpalayam Road. ( <b>Elanthakuttai</b> )	2.01
20	Salem	Reconstruction of Bridge at Km 4/4 of Valapady-Thimmanaickenpatty road ( <b>Singapuram</b> )	2.85
21	Dharmapuri	Construction of High Level Bridge at Km 0/4 of Kallagaram road across Chinnar. ( <b>Kallagaram</b> )	5.61
22	Thanjavur	Reconstruction of minor Bridge at Km.61/10 of Thanjavur - Pattukottai - Aranthangi - Karaikudi - Kallal - Kalaiyarkoil - Maravanmangalam - Elaiyankudi - Paramakudi - Mudhukulthur - Sayalkudi road. ( <b>Seruvaviduthi</b> )	1.44

SI No	District	Bridge location	Amount
23	Madurai	Reconstruction of minor bridge at Km 1/4 of Meikkilarpatti road branching from Km 23/10 of Vathalagundu-Peraiyur-Kariyapatti road (via) Vadakatupatti. ( <b>Meikkilarpatti</b> )	0.87
24	Theni	Re-Construction of Slab culvert at Km 0/2 and 1/4 of Thamaraikulam Road. ( <b>Thamaraikulam</b> )	0.71
25	Thoothukudi	Reconstruction of High Level bridge at Km 21/2-21/6 of Alwarthirunagari - Nazareth - Sathankulam - Ittamozhi - Valliyoor road. ( <b>Sathankulam</b> )	7.53
26	Salem	Construction of High level bridge at Km 0/6 of Govindampalyam - Koogaiyur Road across Vasista River. ( <b>Govindampalyam</b> )	6.21

SI No	District	Bridge location	Amount
27	Salem	Construction of High level bridge at Km 3/6 of Thammampattishandy Road to Periyathumedu Road across Periyaru River. (Periyathumedu )	2.00
28	Dharmapuri	Construction of Bridge at Km 9/8 of Kaduchettipatti - Panchapalli Road. (Palaiyam)	1.52
29	Coimbatore	Construction of high level bridge at Km 9/10 of Thudiyalur - Kovilpalayam road.(Athipalayam)	3.15
30	Coimbatore	Construction of a High Level Bridge at Km 17 /4 of Udumalpet - Senjeri Hills road ( <b>Sinthilippu</b> )	2.35
31	Karur	Construction of bridge at Km 6/6 of Irrumboothipatty - Vayaloor Road across the stream ( <b>Vayaloor</b> )	2.59

SI No	District	Bridge location	Amount
32	Karur	Construction of bridge at Km 0/6 of Kulathur – Villukaranpatty (via) Ramanathapuram road. (Kupannampatty )	1.38
33	Karur	Construction of bridge at Km 5/10 of Panikkampatty – Nallur road.(Kalingampatty)	0.94
34	Tiruppur	Construction of RUB at Km.0/2 TiruppurKongu main road in lieu of existing LC.No.133 at (Railway Km.441/27-29) in between Uthukuli – Tiruppur Railway stations ( <b>Tiruppur Kongunagar</b> )	27.68
35	Virudhunagar	Construction of Limited Use Subway (LUS) at Virudhunagar - Aruppukottai road as deposit work in lieu of temporary level crossing (Allampatti)	10.53

Bridges opened during Dr.MGR's Birth Centenary Celebrations:

Sl No	District	Details of Schemes/ Works	Amount (Rs. in crore)
1	Nagapattinam	Reconstruction of bridge at Km 0/2 of Vadakal - Thirukarukkavoor Road.	1.35
2	Nagapattinam	Reconstruction of bridge at Km 0/10 of <b>Kiliyanur</b> Road.	1.33
3	Thoothukudi	Construction of High Level Bridge across Thamiraparani river connecting Km 37/6 of Tiruchendur - Palayamkottai - Ambasamudram - Tenkasi - Courtalam - Shenkottai road (SH 40) and Km 5/4 of <b>Kongaraya kurichi</b> - Manakarai Road	17.95

For the year 2018-19, Rs.250 crore has been allotted as Budget Estimate.

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

In the financial year 2017-18, under this scheme spill over works of 32 roads to a length of 87.19 Km at a cost of Rs.33.05 crore have been taken up for execution.

30 roads to a length of 81.39 Km were completed. An expenditure of Rs.28.92 crore has been incurred.

For the year 2018-19, Rs.1.98 crore has been allotted as Budget Estimate.

### **7.1.3 CONSTRUCTION OF RIVER BRIDGES ON GOVERNMENT ROADS**

Under this scheme, spill over work of one bridge namely "Re-Construction of bridge at Km 0/8 of Sadras – Chengalpattu – Kancheepuram - Arakonam-Thiruthani road" at a cost of Rs.3 crore was taken up for execution during 2017-18. An expenditure of Rs.2.07 crore has been incurred.

#### **7.1.4 IMPROVEMENTS TO RURAL ROADS**

Under this scheme, spill over work of one bridge namely "Construction of bridge across Adyar between Tharapakkam and Anakaputhur" at a cost of Rs.1.17 crore in Panchayat Union Road has been taken up for execution and is held up for want of Indian Air Force (IAF) land. The approval of alienation of IAF lands to Highways Department awaited from Ministry of Defence. After completion of land alienation process, the work will be resumed and completed.

For the year 2018-19, Rs.0.27 crore has been allotted as Budget Estimate.

#### **7.2 CONSTRUCTION OF ROAD OVER BRIDGES / ROAD UNDER BRIDGES**

Spillover works of 19 road over bridges and five road under bridges at a cost of Rs.188.56 crore in lieu of the existing level crossings have been taken up for execution under the Railway Works Programme. Of these, one RUB at Kongu Nagar, one LUS at Virudhunagar and one ROB at Peelamedu were

completed and 13 works are in progress, balance eight works are in various stages. The details are as indicated below:

**Table 7.2: Completed 3 ROB/ RUBs**

Cost Rs. in crore

Sl.No.	District / Constituency	LC No./ Location	Cost
1	Coimbatore / Singanallur	LC 7, Irugur	30.50
2	Tiruppur/Tiruppur North	LC 133, Tiruppur	27.68
3	Virudhunagar/ Virudhunagar	LC 406, Virudhunagar	10.53

**Ongoing 13 ROB/ RUB works**

Cost Rs. in crore

Sl. No.	District / Constituency	LC No./ Location	Cost
1	Villupuram / Villupuram	LC 2, Venkatesapuram	34.75
2	Coimbatore / Singanallur	LC 4, Irugur	21.16
3	Tirunelveli / Tirunelveli	LC 18, Tirunelveli Yard	29.12
4	Erode / Erode West	LC 124, Sastrinagar	10.09

Sl. No.	District / Constituency	LC No./ Location	Cost
5	Tiruppur/Tiruppur North	LC 132, Tiruppur SRC Mill Gate	48.26
6	Thanjavur / Thanjavur	LC 304, Thanjavur Oriental tower	52.12
7	Dindigul / Dindigul	LC 309, Dindigul	26.40
8	Madurai / Madurai west	LC 366, Palanganatham	33.00
9	Madurai / Thiruparangundram	LC 371, Thiruparangundram	24.53
10	Tuticorin / Kovilpatti	LC 439, Kovilpatti	12.95
11	Virudhunagar / Virudhunagar	LC 403, Virudhunagar	20.53
12	Tiruvarur / Mannargudi	LC 22, Needamangalam	23.19
13	Tiruvallur / Avadi	LC 7, Annanur	52.98

**Works in pre-construction stage: 8 Nos.**

Cost Rs. in crore

Sl. No.	District / Constituency	LC No. /Location	Cost
1	Tiruvallur / Avadi	LC 2, Pattabiram West	52.11
2	Coimbatore / Singanallur	LC 5, Neelikonam palayam	58.52
3	Coimbatore / Coimbatore South	LC 6, Thanneerpandal	12.65

Sl. No.	District / Constituency	LC No. /Location	Cost
4	Coimbatore/ Goundampalayam	LC 9, Avarampalayam	22.55
5	Tiruvallur / Avadi	LC 9, Hindu college	8.55
6	Coimbatore / Coimbatore North	LC 10, Peelamedu	11.90
7	Tiruvallur / Poonamallee	LC 16, Putlur	33.09
8	Tiruppur/ Tiruppur North	LC 131, Tiruppur	18.19

### **7.3 BYPASSES**

To avoid traffic congestion and traffic disturbances, the Government has announced for forming bypasses for the following major towns. The details are listed below:

Sl. No.	Name of the Town	Sl. No.	Name of the Town
1	Tenkasi	7	Thiruchengodu
2	Sankarankovil	8	Arcot
3	Ambasamuthiram	9	Thirupathur
4	Muthukulathur	10	Thiruvannamalai
5	Bhavani	11	Mayiladuthurai
6	Namakkal		

In this regard, the Government has administratively sanctioned an amount of Rs.116.73 crore for land acquisition for forming bypasses for the above 11 towns. The land acquisition works are in progress for all bypasses.

An allotment of Rs.30.52 crore has been made in the Budget Estimate for the year 2018-19.

#### **7.4 UPGRADATION OF PANCHAYAT ROADS AND PANCHAYAT UNION ROADS**

Due to heavy vehicular traffic, rapid development of interior parts of villages and more deteriorated condition of the existing Panchayat Union roads/ Panchayat roads, the State Planning Commission recommended that the important bus plying local body roads to be upgraded and reclassified as Other District Roads (ODR).

Considering the recommendation of State Planning Commission, the Hon'ble Minister for Finance and Public Works Department

announced that “Important bus plying local body roads will be upgraded and reclassified as Other District Roads (ODR) and handed over to the Highways Department for maintenance” during the Budget speech 2014-15.

Based on the above parameter, the Principal Secretary/ Commissioner of Rural Development and Panchayat Raj Department have identified 2596 of Panchayat Union roads/ Panchayat Roads for a length of 7964 Km and handed over to Highways Department for upgradation. The Government have sanctioned for upgradation of 460 nos. of important Panchayat roads/ Panchayat Union roads at a cost of Rs.608 crore to a total length of 1435.96 Km for the year 2017-18 and the works are in progress.

For the year 2018-19, Rs.675 crore has been allotted as Budget Estimate.

## **7.5 OVERALL EXPENDITURE (2017-18) AND ALLOCATION FOR 2018-19**

In the financial year 2017-18, an expenditure of Rs.307.94 crore was incurred for all plan schemes including expenditure towards land

acquisition for bypasses. A total of 97 works including 64 bridges with an expenditure of Rs.279.02 crore and 30 roads to a length of 81.39 Km with an expenditure of Rs.28.92 crore have been completed. Under Railway works programme one LUS at Virudhunagar, one RUB at Kongu Nagar & one ROB at Peelamedu have been completed.

For the year 2018-19, Rs.957.78 crore has been allotted as Budget Estimate.



**Bridge across Gadilam River at Thirumanikuzhi  
in Cuddalore District  
(inaugurated by Hon'ble Chief Minister on 02.02.2018)**



**Railway Under Bridge at Kongu Nagar in Tiruppur District  
(inaugurated by Hon'ble Chief Minister on 04.01.2018)**





**Hon'ble Chief Minister inaugurated 12 River Bridges and one Railway Over Bridge on 04.07.2017**



**Bridge across Cauvery River at Pallipalayam  
in Namakkal District  
(inaugurated by Hon'ble Chief Minister on 08.10.2017)**



## **8. PROJECTS**

The Projects wing of Highways Department is implementing various works to facilitate the public movement through vehicles in an easiest way by the construction of Road Over Bridges (ROBs)/ Road Under Bridges (RUBs) across Railway lines, High level bridges across major River crossings, by decongestion of towns/ cities by forming Bypasses/ Ring roads. In addition, this wing is implementing the new road formations by considering the Sugar-cane development activities in the unconnected zone.

- Road Over Bridges (ROBs)/ Road Under Bridges (RUBs)

Where the movement of traffic along the road network is interrupted due to frequent closure of the railway gates. To avoid such occurrences due to the intense movement of trains along rail corridor, the ROBs/ RUBs are constructed at this locations.

- There are 1795 railway level crossings in Tamil Nadu, of which 1341 are

manned and 454 are un-manned. Out of the 1341 manned crossings, 44 are located in NH, 944 manned crossings are located in Corporation roads, Municipal roads & Village roads and the remaining 353 manned crossings are located in State Roads.

- The Level Crossings which qualify for conversion into ROB/RUB are listed throughout the State both Railways & Highways Departments and proposed for inclusion in the Railway Works Programme(RWP) annually.
- The Railways in turn prioritize the proposals based on Train Vehicle Unit (TVU) and include the works in RWP under 50:50 cost sharing basis which includes Railway Bridge portion and its approaches on either sides other than the cost of Land Acquisition.
- The works are executed in a phased manner. 313 ROBs/ RUBs had been constructed so far.

- Construction of Bridges across un-bridged Rivers.
- Reconstruction of narrow and old Bridges to ensure Road safety, formation of Bypasses, Ring roads for major cities and towns to avoid traffic congestion, formation of Elevated Corridors, Grade separators across intersections in urban environment and construction of foot over bridges with escalators for the pedestrians to cross the road.
- Construction of new sugar-cane roads for the unconnected zones.

This wing is headed by a Chief Engineer with four Circles and ten Divisions.

Prior to the construction of Major Bridge works, Preliminary works are to be undertaken.

## **8.1 FINALIZING THE ALIGNMENT AND GENERAL ARRANGEMENT DRAWING (GAD)**

On finalization of alignment for ROB/ RUB works, the concurred General Arrangement Drawing (GAD) of Railways sent to the Highways. This is the basis for the ROB/ RUB works.

## **8.2 HURDLES/ BOTTLENECKS ENCOUNTERED IN THE PROJECT EXECUTION**

- Litigation due to land acquisition and Court cases.
- Shifting of service utilities such as EB lines, Telephone lines, Underground sewage and water lines.
- Getting Railway GAD approval from Railways for ROB/ RUB works.
- NOC for Historical Monuments, Religious sites, NHAI land, Defence land, Railway land etc., which necessitates revision of the alignment.

### **8.3 EFFORTS TAKEN TO REDUCE THE COMPLETION PERIOD**

Presently, the Administrative Sanction is accorded for all type of Major bridge works, where work fronts are available for immediate commencement of work for construction after awarding the contract. For the other works where work fronts are not available, initially the Government accords Administrative Sanction to take up preliminary works such as Land acquisition & Shifting of Utilities, etc., so that the requirement of funds for cost escalation can be avoided. As a policy decision, since 2012, Preliminary Sanction is accorded by the Government to proceed with DPR, LA and Shifting of utilities. Only on finalization of LA process, the Administrative Sanction for Works are given. Hence, it is possible to avoid cost escalation and time overrun.

For ROB/ RUB works, the construction period for bridges has been reduced by taking efforts to reduce the girder depth for Railway spans from 3m to 1.36m for reduction of LA. Hence the extent and time taken for the process of Land

acquisition is reduced considerably. Also, taking efforts by conducting Co-ordination meetings with Railways and State Level meetings for Land Acquisition with District Level officers to eradicate the difficult issues related to the construction of ROBs/ RUBs and thereby expediting the projects.

During the period from 2006-11, the average completion period was 94 months. At present this has been reduced to 44 months including the Land acquisition activities. It is planned to complete the works in 36 months.

#### **8.4 ROAD OVER BRIDGES AND ROAD UNDER BRIDGES AT RAILWAY LEVEL CROSSINGS:**

103 ROB/ RUB works are being included under the Railway Works Programme upto year 2017-18. Out of which 55 works are sanctioned to carry out the works and the remaining 48 works were sanctioned to carry out the Detailed Project Report (DPR)/ Preliminary works.

### **8.4.1 Railway Works Programme - Sanctioned works**

Under this Programme, 47 spillover works are being implemented and 8 new works (Table 8.1) were taken up by this wing during 2017-18 at a total cost of Rs.1624.28 crore for construction.

Out of the 55 works, 7 ROB works (Table 8.2) have been completed at a cost of Rs.220.94 crore and 23 works are in progress for a value of Rs.702.94 crore. (Table 8.3) The remaining 25 works are in various stages of pre-construction at a cost of Rs.700.40 crore (Table 8.4) and in which it is proposed to complete 25 ROB/ RUB works before March 2019.

**Table No. 8.1: Spill over and new works**

<b>Sl. No.</b>	<b>District</b>	<b>Total No. of ROB/RUB</b>	<b>Cost (Rs in Cr)</b>
1	Tiruvallur	4	91.49
2	Chennai	1	80.68
3	Kancheepuram	5	176.12
4	Vellore	10	249.52

<b>Sl. No.</b>	<b>District</b>	<b>Total No. of ROB/RUB</b>	<b>Cost (Rs in Cr)</b>
5	Thiruvannamalai	2	66.61
6	Villupuram	5	110.72
7	Salem	3	146.36
8	Coimbatore	4	94.00
9	Dindigul	3	96.33
10	Trichy	3	143.60
11	Cuddalore	1	21.25
12	Tuticorin	1	27.50
13	Tirunelveli	4	96.64
14	Virudhunagar	1	41.90
15	Ariyalur	2	57.40
16	Ramanathapuram	1	23.39
17	Dharmapuri	3	54.99
18	Tiruvarur	1	27.60
19	Madurai	1	18.18
	<b>Total</b>	<b>55</b>	<b>1624.28</b>

**Table No.8.2: Completed works**

<b>Sl. No.</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
1	Chennai	Vyasarpadi ROB	80.68
2	Villupuram	102, Mailam	22.43
3	Villupuram	111, Vikaravandi	20.20
4	Tirunelveli	118A, Muneerpallam	32.70
5	Cuddalore	135A, Panruti	21.25
6	Thiruvallur	38, Elavur	23.37
7	Dharmapuri	46, Muthugovundan kottai	20.31
		<b>Total</b>	<b>220.94</b>

**Table No. 8.3: Ongoing works**

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
	<b>Spill over works</b>		
1	Thiruvallur	21, Kadambathur	14.90
2	Thiruvallur	15, Sevvapet	24.50
3	Kancheepuram	36, Urappakkam	34.50
4	Vellore	86, Jolarpet	21.57
5	Vellore	78, Kannadikuppam	25.30
6	Vellore	126 & 127, Vellore Town	36.38
7	Vellore	80, Valayampattu	25.55

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
8	Vellore	123, Vellore Cantonement	21.96
9	Villupuram	93, Tindivanam	24.50
10	Salem	187, Leizh Bazaar	42.14
11	Coimbatore	10, Karamadai	30.70
12	Coimbatore	162, Podhanur	22.60
13	Trichy	228, Lalgudi	26.60
14	Trichy	1136, Trichy	74.00
15	Trichy	380A, Srirangam	43.00
16	Dindigul	2, 27 & 308, Dindigul	59.80
17	Dharmapuri	43, Kumarasampatti	22.60
18	Dindigul	8, Dindigul	20.35
19	Madurai	346, Sholavandan	18.18
20	Tirunelveli	6, Palayamkottai	23.91
21	Kancheepuram	29, Ponnerikarai	49.42
22	Ariyalur	201, Ariyalur	28.40
23	Dharmapuri	38, Devarasampatti	12.08
		<b>Total</b>	<b>702.94</b>

**Table No. 8.4: Pre-construction stages**

Sl. No	District	Level Crossing No. & Location	Cost (Rs in Cr)
<b>Spill over works</b>			
1	Ariyalur	206, Kallagam	29.00
2	Coimbatore	13, Kannapan Nagar	14.00
3	Coimbatore	3, Irugur	26.70
4	Kancheepuram	59, Ottivakkam	30.40
5	Kancheepuram	75, Acharapakkam	32.30
6	Kancheepuram	64, Karunguzhi	29.50
7	Tirunelveli	4, Kulavanigarapuram	25.51
8	Thiruvallur	13, Perumalpattu	28.72
9	Tuticorin	486 & 487, Tuticorin	27.50
10	Salem	184, Mulluvadi Gate	58.59
11	Salem	183, Anaimedu	45.63
12	Vellore	81, Vaniyambadi	13.00
13	Vellore	128, Katpadi	53.35
14	Vellore	70, Valathur	14.10
15	Vellore	37, Anvarthiganpet	16.04
16	Villupuram	88, Olakkur	20.96

Sl. No	District	Level Crossing No. & Location	Cost (Rs in Cr)
17	Thiruvarur	34, Singalancherry	27.60
	<b>New Works</b>		
18	Villupuram	144, Madapattu	22.63
19	Vellore	59, Virnjipuram	22.27
20	Thiruvannamalai	80, Polur	27.87
21	Thiruvannamalai	55, Thiruvannamalai	38.74
22	Dindigul	6, Gujjiliamparai	16.18
23	Tirunelveli	82B, Valliyoor	14.52
24	Virudhunagar	449, Rajapalayam	41.90
25	Ramanathapuram	501, Ramanathapuram	23.39
		<b>Total</b>	<b>700.40</b>

#### **8.4.2 RAILWAY WORKS PROGRAMME- PRELIMINARY/ DPR WORKS**

Under Railway Works Programme, 48 ROB/ RUB works (Table 8.5) are taken up for preliminary/ DPR preparation for the cost of Rs.213.47 crore. Out of the 48 works, for eight works the DPR/ Preliminary work are prepared (Table 8.6), the cost for work is Rs.248.44 crore. For the 11, preliminary works

(Table 8.7) and for 29, DPR works (Table 8.8) are in process at a cost of Rs.190.80 crore.

**Table 8.5: Preliminary/ DPR works**

<b>Sl. No.</b>	<b>District</b>	<b>Numbers</b>	<b>Cost (Rs in Cr)</b>
1	Coimbatore	9	6.68
2	Cuddalore	2	2.31
3	Dharmapuri	1	11.90
4	Dindigul	1	0.25
5	Kanyakumari	1	0.40
6	Krishnagiri	1	0.26
7	Madurai	1	0.39
8	Nagapattinam	1	23.74
9	Tiruvallur	4	18.89
10	Salem	9	52.59
11	Thiruvarur	2	27.10
12	Tirunelveli	1	0.20
13	Trichy	3	65.61
14	Vellore	9	2.13
15	Virudhunagar	3	1.02
	<b>Total</b>	<b>48</b>	<b>213.47</b>

**Table 8.6: DPR/ Preliminary work completed**

<b>Sl. No.</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost of work (Rs in Cr)</b>
1	Coimbatore	142A, Rasipalayam	33.11
2	Coimbatore	11, Karamadai	34.75
3	Coimbatore	5, NGGO Colony	27.95
4	Coimbatore	122, Pollachi	43.95
5	Thiruvarur	16, Peralam	46.13
6	Salem	7, Peramachur	18.00
7	Salem	15, Tholasampatty	19.68
8	Salem	18, Mecheri	24.87
		<b>Total</b>	<b>248.44</b>

**Table 8.7: Preliminary process - Land Acquisition**

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
1	Dharmapuri	41, Teachers Colony	11.90
2	Cuddalore	138, Panruti	2.10
3	Trichy	249, Trichy Town	17.05

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
4	Thiruvallur	14,Nandhiyampakkam	11.05
5	Salem	185, Mulluvadi Gate (Breets road)	43.60
6	Thiruvallur	26, Chinnakavanam	7.11
7	Nagapattinam	48, Akkaraipettai	23.74
8	Thiruvarur	20, Needamangalam	10.68
9	Trichy	226, Kattur	20.33
10	Trichy	323,Keelkalkandarkottai	28.23
11	Salem	159, Vazhapadi	6.99
		<b>Total</b>	<b>182.78</b>

**Table 8.8: DPR process**

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
1	Salem	21, Kunjandiyur	0.35
2	Salem	10, Omalur	0.41
3	Kanyakumari	15B, Viricode	0.40
4	Madurai	377, Thirumangalam	0.39
5	Cuddalore	157, Kammiyampettai	0.21
6	Virudhunagar	424, Thiruthangal	0.38
7	Virudhunagar	427, Sivakasi	0.24
8	Vellore	67, Goodanagaram	0.26

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
9	Vellore	72, Lakshmiammalpuram	0.22
10	Vellore	95, Patchur	0.25
11	Vellore	92, Damalerimuthur	0.23
12	Vellore	91, Kudiyankuppam	0.25
13	Coimbatore	141, Karavazhi Madhappur	0.26
14	Coimbatore	4, Thudiyalur	0.28
15	Coimbatore	135, Semandapalayam	0.23
16	Coimbatore	137, Sedapalayam	0.27
17	Vellore	28, Mosur	0.27
18	Salem	131, Attur Town	0.31
19	Salem	169, Ayothiyapattinam	0.23
20	Krishnagiri	104, Munneswarar Nagar, Hosur	0.26
21	Tiruvallur	25, Thiruvalangadu	0.34
22	Tiruvallur	26, Harichandrapuram	0.39
23	Vellore	51, Sevir	0.21
24	Vellore	55, Jaffarpet	0.22
25	Vellore	57, Latteri	0.22

<b>Sl. No</b>	<b>District</b>	<b>Level Crossing No. &amp; Location</b>	<b>Cost (Rs in Cr)</b>
26	Coimbatore	12, Thillai Nagar	0.09
27	Dindigul	63, Palani Town	0.25
28	Virudhunagar	424, Sattur	0.40
29	Tirunelveli	74B, Kavalkinaru	0.20
		<b>Total</b>	<b>8.02</b>

An expenditure of Rs.410.34 crore was incurred under the RWP scheme during 2017-18. A budget provision of Rs.565.11 crore has been made for the year 2018-19.

## **8.5 WORKS TAKEN UP WITH STATE FUNDS**

79 works are being taken up under State Funds. Out of which, 27 works were sanctioned to carry out the works and the remaining 52 works were sanctioned to carry out DPR and Preliminary works.

### **8.5.1 STATE FUNDED - SANCTIONED WORKS**

Under the State Funded scheme, out of the 27 sanctioned works, 13 spillover works are

being implemented and 14 new works (Table 8.9) were taken up during 2017-18 at a total cost of Rs.556.90 crore for the construction.

Out of this, three works (Table 8.10) have been completed at a cost of Rs.64.04 crore in the year 2017-18. 11 works are in progress for a value of Rs.287.35 crore (Table 8.11) and 13 works are in various stages of pre-construction at a cost of Rs.205.51 crore (Table 8.12).

**Table 8.9: Spill over and new works**

Sl. No.	District	Numbers	Cost (Rs in Cr)
A)	High Level Bridges		
1	Tiruppur	1	3.85
2	Madurai	1	16.13
3	Cuddalore	4	72.40
4	Dharmapuri	1	7.25
5	Pudukkottai	1	18.82
6	Thanjavur	1	61.02
7	Ariyalur	1	11.51
8	Villupuram	3	27.31
9	Tirunelveli	1	16.50

Sl. No.	District	Numbers	Cost (Rs in Cr)
10	Tiruvannamalai	1	17.04
11	Krishnagiri	1	2.85
12	Sivagangai	1	9.00
B)	ROB/ RUB/ LUS		
1	Tiruppur	1	6.50
2	Namakkal	2	60.31
3	Madurai	1	13.82
C)	Road Work		
1	Erode	1	69.30
2	Madurai	1	14.85
D)	FOB		
1	Coimbatore	2	18.81
E)	Grade Separator		
1	Erode	1	58.54
2	Madurai	1	51.09
	<b>Total</b>	<b>27</b>	<b>556.90</b>

**Table 8.10: Completed works**

Sl. No.	District	Location	Cost (Rs in Cr)
<b>A)</b>	<b>High Level Bridges</b>		
1	Cuddalore	T.S. Pettai	10.06

Sl. No.	District	Location	Cost (Rs in Cr)
<b>B) ROBs</b>			
2	Namakkal	Pallipalayam	40.16
3	Madurai	ELCOT	13.82
		<b>Total</b>	<b>64.04</b>

**Table 8.11: Ongoing works**

Sl. No.	District	Location	Cost (Rs in Cr)
<b>Spill over works</b>			
<b>A) High Level Bridges</b>			
1	Tiruppur	Tiruppur, Noyyal river	3.85
2	Cuddalore	Bhuvanagiri, Vellar river	22.57
3	Dharmapuri	Pappireddipatti, Vaniyar river	7.25
4	Pudukottai	Chithirambur, Pambar river	18.82
5	Thanjavur	Kallanai, Coleroon river	61.02
<b>B) ROB</b>			
6	Tiruppur	Tiruppur, Chikkanna College	6.50

Sl. No.	District	Location	Cost (Rs in Cr)
<b>C) Road work</b>			
7	Erode	Erode Outer Ring Road, Phase - III	69.30
<b>D) Grade Separator</b>			
8	Erode	Near Govt. Hospital, Erode	58.54
New works			
<b>A) High Level Bridges</b>			
9	Krishnagiri	Pathakotta, Thenpennai river	2.85
10	Tirunelveli	Thamirabarani river	16.50
<b>B) LUS</b>			
11	Namakkal	S.P.B Mills, Pallipalayam	20.15
<b>Total</b>			<b>287.35</b>

**Table 8.12: Pre-construction in various stages**

Sl. No.	District	Location	Cost (Rs in Cr)
<b>Spill over works</b>			
<b>A) Foot Over Bridges</b>			
1	Coimbatore	Coimbatore Railway Station	8.09
2	Coimbatore	Nanjundapuram junction	10.72
<b>New works</b>			
<b>A) High Level Bridges</b>			
3	Sivagangai	Kannankudi-Kookudi, Virusuli river	9.00
4	Tiruvannamalai	Thandarai-Eraiur, Cheyyar river	17.04
5	Cuddalore	Thittakudi-Sirupakkam, Wellington reservoir	11.85
6	Cuddalore	Mettupalayam-Melkumaramangalam, Pennaiyar river	27.92
7	Villupuram	Rettanai-Marur, Sankaraparani river	8.61

<b>Sl. No.</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
8	Villupuram	Alagramam Thenputhur, Thondiyar river	8.65
9	Villupuram	Arunkurukkai, Gedilam river	10.05
10	Madurai	Paravai-Thuvariman, Vaigai River	16.13
11	Ariyalur/ Cuddalore	Kottaikadu-Pennadam, Vellar River	11.51
<b>B) Grade Separator</b>			
12	Madurai	Madurai – Thondi	51.09
<b>C) Road work</b>			
13	Madurai	Kuruvikaran Salai	14.85
		<b>Total</b>	<b>205.51</b>

### **8.5.2 STATE FUNDED - PRELIMINARY/ DPR WORKS**

Under State funds, 52 works (Table 8.13) are taken up for preliminary/ DPR preparation for the cost of Rs.186.37 crore. Out of the 52 works, for one River bridge work across Maruthayur river near Kalpadi at Perambalur district, the DPR work is completed, the cost for

work is Rs.5.99 crore. The preliminary seven works (Table 8.14) and DPR 44 works (Table 8.15) are in process for the amount of Rs.184.54 crore.

**Table 8.13: Preliminary/ DPR works**

<b>Sl. No.</b>	<b>District</b>	<b>Numbers</b>	<b>Cost (Rs in Cr)</b>
<b>A)</b>	<b>ROB/ RUB</b>		
1	Vellore	1	6.97
2	Tuticorin	1	0.27
3	Madurai	1	0.23
4	Chennai	1	0.51
5	Coimbatore	1	0.22
6	Madurai	1	0.25
7	Pudukottai	2	0.76
<b>B)</b>	<b>High Level Bridge</b>		
1	Perambalur	2	0.19
2	Tiruvallur	2	0.31
3	Kanchipuram	4	0.82
4	Thanjavur	7	0.82
5	Erode	1	0.15
6	Cuddalore	3	0.27
7	Tiruvarur	1	0.08

<b>Sl. No.</b>	<b>District</b>	<b>Numbers</b>	<b>Cost (Rs in Cr)</b>
8	Namakkal	1	0.33
9	Madurai	2	0.14
10	Villupuram	2	2.00
11	Karur & Trichy	1	2.37
12	Vellore	2	0.15
13	Salem	1	0.06
14	Ariyalur	1	0.05
<b>C)</b>	<b>Bypasses/ Road Work</b>		
1	Coimbatore	4	4.94
2	Erode	2	0.28
3	Madurai	1	0.30
4	Tirunelveli	1	79.83
5	Virudhunagar	1	35.40
6	Karur	1	23.45
7	Trichy	1	20.00
<b>D)</b>	<b>Elevated Corridor</b>		
1	Coimbatore	1	3.41
2	Erode	1	1.50
<b>E)</b>	<b>Grade Separator</b>		
1	Karur	1	0.30
	<b>Total</b>	<b>52</b>	<b>186.37</b>

**Table 8.14: Preliminary process - Land Acquisition**

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
<b>A) ROB</b>			
1	Vellore	Ambur	6.97
<b>B) HLB</b>			
2	Karur & Trichy	Unniyur- Nerur, Cauvery river	2.37
<b>C) Bypasses/ Road work</b>			
3	Coimbatore	Alternate route from Pollachi to Coimbatore via Chettipalayam	4.10
4	Tirunelveli	Western Bypass to Tirunelveli	79.83
5	Virudhu nagar	Western Bypass to Aruppukottai town	35.40
6	Karur	Forming and improving the road connecting NH 7 (Sukkaliyur) and NH 67 (Thaneerpandal)	23.45
7	Trichy	Thuraiyur Bypass (Phase-II)	20.00
		<b>Total</b>	<b>172.12</b>

**Table 8.15: DPR Works**

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
<b>A) ROB/ RUB</b>			
1	Tuticorin	Additional ROB at Km 5/4 of Thoothukudi - Quilon road	0.27
2	Madurai	LC No. 5, Silaiman	0.23
3	Chennai	Thillai Ganga Nagar	0.51
4	Coimbatore	Reconstruction of RUB at Km. 170/4 of Salem - Cochin road (SHU 52).	0.22
5	Madurai	Reconstruction of ROB No 4-A at Km 399/8 of Varanasi- Kanyakumari road (Abandoned NH7) SHU 100 near Palanganatham	0.25
6	Pudukottai	LC No. 376, Pudukottai	0.36
7	Pudukottai	LC No. 372, Vellanore	0.40
<b>B) High Level Bridge</b>			
8	Perambalur	Thiruvallandurai, Vellar river	0.16
9	Tiruvallur	Tiruttani- Nagalapuram, Kosathalaiyar river	0.17

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
10	Tiruvallur	Korattur-Thinnanur-Periyapalayam, Coovam river	0.14
11	Kanchipuram	Nerumbur-Pudupattinam, Palar river	0.30
12	Kanchipuram	Uthiramerur-Kanchipuram, Cheyyar river	0.20
13	Kanchipuram	Walajabad-Sungavarchathiram, Thenneri Lake	0.09
14	Kanchipuram	Kodambakkam-Sriperumputhur	0.23
15	Thanjavur	Ayyampettai-Ganapathyagraharam, Kudamuruti river	0.14
16	Thanjavur	Thirukattupalli, Vennar river	0.17
17	Thanjavur	Ayyampettai-Ganapathyagraharam, Cauvery river	0.14
18	Thanjavur	Musiri-Kulithalai, Poonaikuthi river	0.07

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
19	Thanjavur	Pattukottai - Peravurani, Poonaikuthi river	0.08
20	Thanjavur	Ambuliyur river	0.08
21	Thanjavur	Kannanar river	0.14
22	Erode	Karattadipalayam, Bhavani river	0.15
23	Cuddalore	Kallipadi-Kavanur, Vellar river	0.14
24	Cuddalore	Narimedu-Palapattu, Gedilam	0.08
25	Cuddalore	Varagha Nadhi	0.05
26	Tiruvarur	Melapalayam - Ivar Samathi, Bamini river	0.08
27	Namakkal	Pilikalpalayam, Cauvery river	0.33
28	Madurai	Goundar river	0.07
29	Madurai	Gundar river	0.07
30	Villupuram	Mani river	0.03
31	Villupuram	Malatar river	0.17
32	Vellore	Viruthagasiraga river	0.10
33	Vellore	Kallar river	0.05

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
34	Salem	Vasista river	0.06
35	Ariyalur	Kattu Odai	0.05
<b>C) Bypasses/ Road works</b>			
36	Coimbatore	Formation of bypass to Annur town	0.51
37	Coimbatore	Formation of bypass to Karamadai on the Eastern side by Widening and Improving the 7.20 Km Intermediate Lane Road from Chinnamatham palayam to Bellathy and Widening and Improving the Two Lane Karamadai - Sirumugai Road (Km 3/8-9/6) to Multi Lane Road.	0.20

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
38	Coimbatore	Formation of Western Bypass to Pollachi Town starting from Zameen Uthukuli at Km 81/0 of SH-19 to Achipatti at Km 26/6 of NH-83 (via) Nallur, Thalakkurai and R. Ponnapuram.	0.13
39	Erode	Formation of Bypass to Gobichettipalayam Town at Km 0/0-8/6.	0.19
40	Erode	Widening and Improving the road to Multilane branching from Thindal junction at Km 7/2 of Erode - Perundurai - Kangeyam road (SH 96) to Km 158/4 of Ooty - Kothagiri - Mettupalayam - Sathy - Gobi - Erode road (SH 15) near Kaniravutharkulam via Vilarasampatty (Km 0/0 - 8/4) (Upgrading Link Road to Erode)	0.09

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
41	Madurai	Widening and Improvements to the existing roads to multilane by connecting NH-45B near Arumbanur to NH-7 at Nagari by connecting the existing Government roads (via) Arumbanur, Kulamangalam and Kumaram. (Formation of link road connecting NH 45B and NH 7)	0.30
<b>D) Elevated Corridor</b>			
42	Coimbatore	Construction of Elevated Highway along Avinashi Road in Coimbatore City from Upplipalayam to Chinniyampalayam-Kalapatti Airport.	3.41

<b>Sl. No</b>	<b>District</b>	<b>Location</b>	<b>Cost (Rs in Cr)</b>
43	Erode	Construction of Elevated Bridge for a length of 5.40km from Kalingarayan Illam to Thindalmedu (Km 2/0 to Km 7/4 of Erode - Perundurai - Kangeyam road)	1.50
<b>E) Grade Separator</b>			
44	Karur	Construction of Grade Separator at Km 217/400 of Nagapattinam-Gudalur-Mysore road (SHU 115) at Karur Bus Stand junction	0.30
		<b>Total</b>	<b>12.42</b>

In the year 2017-18, an expenditure of Rs.79.13 crore has been incurred for the works taken up under state government fund (other than CRIDP) and a provision of Rs.137.66 crore has been allotted for the year 2018-19.

## **8.6 OVERALL EXPENDITURE (2017-18) AND ALLOCATION FOR 2018-19**

During 2017-18, an expenditure of Rs.489.47 crore was incurred and budgetary allocation of Rs.702.77 crore has been made for 2018-19.



**Railway Over Bridge at ELCOT, Vadapazhanji  
in Madurai District  
(inaugurated by Hon'ble Chief Minister on 04.01.2018)**



**Railway Over Bridge at Munneerpallam in Thirunelveli District  
(inaugurated by Hon'ble Chief Minister on 24.08.2017)**





**Bridge across Uppanar River at TS Pettai  
in Cuddalore District**



**Railway Over Bridge at Muthugoundan Kottai  
in Dharmapuri District**



## **9. METRO**

With an objective to identify core issues concerned with the traffic and transportation sector within Chennai Metropolitan Area (CMA), the Chennai Metropolitan Development Authority (CMDA) initiated the third comprehensive study viz., Chennai Comprehensive Traffic and Transportation Study (CTTS) in the year 2007. The study was designed to provide the broad parameters for the long term development of transport infrastructure objectives, within the year 2026. The vision spelt out in the Second Master Plan by the Chennai Metropolitan Development Authority is "to make Chennai a prime metropolis which will be more livable, economically vibrant and environmentally sustainable and with better assets for the future generations".

Metro wing was formed to implement the projects in and around Chennai City under the head of Chief Engineer with a Circle headed by Superintending Engineer and five Divisions headed by Divisional Engineers.

With an aim to reduce the traffic congestion at major intersections and reduce road accidents within the CMA, the major works such as Grade separators, high level bridges, ROB/ RUBs, Foot Over Bridges, Skywalks, Pedestrian subways, Widening of roads/ bridges and forming link roads are taken up by this wing.

The projects implemented are detailed below:

## **9.1 GRADE SEPARATORS**

At-grade intersections serve the traffic need to an extent within the urban area. If the capacity of the intersections increases beyond certain level, then interventions such as Space and Time separation techniques needs to be applied, such as Roundabouts, Signalized flow etc., However, with ever increasing traffic flow, the above interventions do not serve the intended purpose and the junctions are choked. At this juncture, providing flyovers/ grade separators would be the best option for the better management of traffic.

During 2017-18, out of seven spillover works costing Rs.584.65 crore, one Grade Separator had been completed. Remaining six works are in progress. The details are given in **Table 9.1**.

**Table No. 9.1: Grade Separators**

Sl. No	Nomenclature	Cost Rs in crore
WORK COMPLETED		
1	Grade Separator at the intersection of Mount - Poonamallee road with Kodambakkam - Sriperumpudur road at <b>Porur</b> .	58.05
IN PROGRESS		
2	Construction of a Grade Separator at the junction of Kundrathur road and Santhai road at <b>Pallavaram</b> in GST road	82.66
3	Construction of a Grade Separator at the junction of Taramani road, Tambaram - Velachery road and Velachery bypass in <b>Velachery Vijayanagaram</b> junction.	108.00

Sl. No	Nomenclature	Cost Rs in crore
4	Construction of a Grade Separator connecting the junctions of Mofussil bus entrance of CMBT and <b>Kaliamman Koil road</b> junction in Jawaharlal Nehru Salai (IRR)	93.50
5	Grade Separator at <b>Medavakkam</b> – Sholinganallur road junction, Medavakkam – Mambakkam road junction and Mount – Medavakkam junction in MaraimalaiAdigal Bridge – Irumbuliyur (MBI) road.	146.41
6	Construction of Grade Separator at the intersection of Mount Medavakkam road and Pallavaram-Thuraipakkam road near <b>Kilkattalai</b>	64.00
7	Construction of a Grade Separator at the junction of Perambur – Redhills road near <b>Kolathur Retteri</b> (RHS) in Inner Ring Road	32.03
	<b>Total</b>	<b>584.65</b>

Funds for acquiring lands for “Forming Grade Separator at the junction of ECR–Thiruvanmiyur road” at a cost of Rs.58 crore has been sanctioned by the Government and the same is in progress.

The DPR is being prepared for five Grade Separator works, at the following locations,

- At the junction of **ECR** and Lattice bridge road at **Thiruvanmiyur**.
- At intersection of Southern Sector of Inner Ring Road with Mount-Medavakkam road at **Madipakkam**.
- In EVR salai at the inter section of **Nelson Manickam road** and Anna Nagar 3rd Avenue road (Section -IV) second level.
- At the intersection of Mount - Poonamallee -Avadi road and Poonamallee - Kundrathur road with Chennai - Chittur - Bangalore road at Poonamallee - **Kattupakkam**
- In EVR salai at the intersection from Raja Muthiah Salai to **Pulla Avenue**.

## **9.2 RAILWAY OVER BRIDGES/ UNDER BRIDGES (ROBS/ RUBS) IN CMA**

During 2017-18, nine ROB/RUB works spilled-over, at a cost of Rs.294.09 crore have been taken up. Out of these, one work was completed and one work is in progress.

Remaining seven works are in various stages of implementation. The details are given in Table 9.2.

**Table No. 9.2: ROBs/ RUBs**

Sl. No	Nomenclature	Cost Rs. in crore
Work Completed		
1	LC No.3 –Construction of ROB near <b>Tiruvottiyur – Mattumandhai</b>	58.05
In progress		
2	LC No.4 –Construction of RUB near <b>Korattur</b> Railway station	19.97
Works in various stages of implementation		
3	LC No.14 – Construction of ROB near <b>Veppampattu</b> Railway station – LA stage	29.50
4	LC No.4 –Construction of RUB near <b>Tiruvottiyur –Ennore</b> Railway stations – DPR & LA stage	28.00
5	LC No.6 – Construction of RUB near Tiruvottiyur - <b>Wimco Nagar</b> Railway stations – DPR stage	25.50

Sl. No	Nomenclature	Cost Rs. in crore
6	LC No.16 –Construction of ROB near <b>Nandhiyambakkam – Minjur</b> Railway stations – DPR & LA stage	28.32
7	LC No.32 & 33 – Construction of ROB near <b>Perungalathur</b> Railway station – DPR stage	76.00
8	LC No.22 –Construction of RUB near <b>Thirusulam</b> – DPR stage	14.00
9	LC No.27 –Construction of Limited Use Subway near <b>Chromepet Radha Nagar</b> – LA stage	14.75
	<b>Total</b>	<b>294.09</b>

### 9.2.1 Widening of ROBs in CMA:

The width of the existing ROBs in the following locations is in-sufficient to cater to the need of the existing traffic, it is essential to widen the same. The salient proposals are as follows:

- “Widening of ROB at Km 20/8 of Mount - Poonamallee - Avadi road” at a cost of Rs.11.05 crore is under consideration by the Government for approval.

- DPR for “Widening of ROB to dual four lane at Km 12/2 - 13/2 of Inner Ring Road” is being prepared. After completion of DPR, the entire works will be taken-up by the Highways Department.

### **9.2.2 River Bridges**

During 2017-18, six river bridges at a cost of Rs.125.84 crore have been taken up as spillover works in Chennai Metropolitan Area.

Out of which, one bridge work was completed and two works are in progress. Preparation of DPR is in progress for one River bridge. Regarding the balance two river bridges, the Government has accorded sanction for Land Acquisition only and the same is in progress.

The various stages of works are as listed in **Table 9.3**

**Table No.9.3: Details of River bridges**

Sl. No	Nomenclature	Cost Rs.in crore
<b>Work Completed</b>		
1	Construction of additional 3 lane bridge across the river Coovum near Aminjikarai in EVR Salai	11.10
<b>Works in progress</b>		
2	Widening of High Level Bridge (HLB) at Km 2/6 across the river Adyar in Mount - Poonamallee Road near Ramapuram	17.00
3	Construction of HLB across Buckingham Canal at Km 0/6 of Thiruvottiyur - Ponneri-Panchetty Road.	58.64
<b>DPR Stage</b>		
4	Construction of HLB across Coovam River at <b>Padikuppam</b> connecting Mogappair East with Koyambedu CMRL Station.	--
<b>Land Acquisition</b>		
5	Construction of HLB across Coovum river at Km 14/4 of Mount -Poonamallee Avadi road at <b>Paruthipattu</b> - Thiruverkadu Municipal Road.	3.10

Sl. No	Nomenclature	Cost Rs.in crore
6	Construction of HLB across Coovum river at <b>Nolambur</b> road junction in NH 4.	36.00
	<b>TOTAL</b>	<b>125.84</b>

### **9.2.3 Formation of new link / widening of road works :**

In order to increase the road way capacity, it is essential to widen some of the major roads in Chennai city. Further, the existing road network has a few missing segments causing the traffic to go around. This results in increased travel time, trip length and additional costs. To overcome these difficulties some of the new link roads are to be formed for providing connectivity in the network.

During 2017-18, widening of two road works and formation of two link road works were taken up as spillover. Out of these, one work has been completed and three works are in progress. The details are given in **Table 9.4**

**Table No. 9.4 ROAD WORKS**

Sl. No	Nomenclature	Cost Rs. in crore
<b>Work completed</b>		
1	Widening and strengthening of Taramani Link road at Km 0/0-3/650	33.12
<b>Land Acquisition in Progress</b>		
2	Formation of <b>Tambaram Eastern By-pass</b> Road Km0/0 – 8/4 (LA only)	75.50
3	Forming link road and construction of Bridge across Buckingham canal connecting Rajiv Gandhi Salai and East Coast Road at <b>Neelankarai</b>	204.20
4	Six laning of ECR from <b>Thiruvanmiyur to Akkarai</b> Km 11/8 – 23/2 (LA only)	354.66

### **9.2.4 NEW WORKS**

The work of "Formation of Tambaram Eastern bypass Km 5/450 – 8/080" is proposed to be taken up during 2018-19 at a cost of Rs.33.35 crore.

### **9.2.5 PEDESTRIAN INFRASTRUCTURE FACILITIES**

In order to ensure safety of pedestrians and to reduce pedestrians fatalities in Chennai Metro

area, spill-over works of five Pedestrian subways at the following locations amounting to Rs.19 crore were proposed.

- Near A.G Church in Anna Salai
- Near M.K.N road junction at Guindy in GST road.
- At Km 1/6 of Jawaharlal Nehru Salai (IRR) near Malladi company at Ekkattuthangal.
- At Km 2/7 of Nehru Salai (IRR) near Kasi theatre.
- At Km 7/7 of Jawaharlal Nehru Salai (IRR) near CMBT.

However, there is no feasibility of taking up the above works due to difficulties in shifting of pipe lines and fouling of alignment of the said works along the Metro rail alignment. So, alternate proposals have been studied and it has been decided to provide foot over bridge with escalator at the following two locations:

- Near A.G Church in Anna Salai
- Near M.K.N road junction at Guindy in GST road.

The proposals for the remaining works are under study

### **9.2.6 Skywalk**

Tambaram is an important area which is a gateway to Chennai city for the south-bound traffic. Railway station, Mofussil bus terminal and Metropolitan Transport Corporation (MTC) bus stand in Tambaram are located on both sides of the GST road. Pedestrian cross the road in huge volume to access the multi-modal transit systems. Due to the staggered arrangement of bus depot, pedestrian crossing the road at-grade, is more frequent, resulting in unsafe situations. Considering the above difficulties, the FOB and Skywalk with escalator connecting Tambaram railway station and Bus Stand have been sanctioned for Rs.19.75 crore and is in progress.

### **9.2.7 WORKS SANCTIONED FOR DPR DURING 2017-18**

The Government have sanctioned Rs.10 crore for preparation of Detailed Project Report for seven works to enable free flow of

traffic in Chennai city and to provide better infrastructure facilities. Presently, the preparation of DPR is in progress for five works listed below:

- Forming six lane of ECR from Km 11/8-23/2. Thiruvanmiyur to Akkarai including Grade Separator
- Providing Skywalk, Escalator and other accessories connecting East Tambaram to West Tambaram with Multi-modal Integration connectivity to existing Bus stand, Tambaram Railway station including improvements to existing Bus stand.
- Providing Four lane Grade Separator at Km 76/8 of NH-205 (Chennai Thiruthani Renigunda Road) & junction of Km 6/4 of Vanagaram- Ambattur Road.
- Construction of Grade Separator at Km 68/4 of NH-205 (Chennai Thiruthani Renigunda Road) and SH-55 (Mount-Poonamalle Avadi Road) at Km 20/8
- Construction of Grade Separator at the Junction of Km 4/2 of Madhavaram Redhills road and Km 19/100 of Inner Ring Road.

In addition, the Government have sanctioned Rs.3.48 crore towards preparation of DPR for construction of six Grade Separators and the studies have commenced.

- Construction of Multi-level Grade Separator on Mount – Poonamallee – Avadi road from MIOT Hospital to Mugalivakkam via Ramapuram, L&T and DLF
- Construction of Grade Separator at Km 17/2 of Marmalong Bridge – Irumbuliyur Road at the intersection of MBI Road and Madambakkam road.
- Construction of Grade Separator at Km 80/7 in Chennai – Thirutani – Renigunda Road (NH205) at Korattur
- Construction of Grade Seperator at the intersection of Pallavaram - Kundrathur Road and CKS Road at Kundrathur.
- Extension of Vadapalani Grade Separator up to Ashok Pillar Junction
- Construction of Grade Separator at Km 6/5 of Marmalong Bridge - Irumbuliyur road near Kaiveli, Madipakkam.

### **9.3 TAMIL NADU URBAN DEVELOPMENT PROJECT-III (TNUDP-III):**

The TNUDP – III Scheme was formulated in 2005 and was implemented with World Bank loan assistance till March 2014. Under this, five road works at a cost of Rs.84.82 crore and five FOBs at a cost of Rs.30.80 crore were sanctioned. All the above works have been completed.

### **9.4 CONSTRAINTS FACED BY METRO WING:**

The following are the major constraints faced by the Metro wing:

- Night works are inevitable in urban scenario and hence productive day hours could not be best utilised
- Land acquisition, eviction of encroachments and subsequent litigation adds to the delay
- Difficulty in mapping service utilities pose a huge threat in fixing alignment causing considerable delay. Rerouting of

service mains to suit the proposals, involve higher cost, non-availability of land resulting in much delay and higher expenditure. Inter-departmental coordination in timely action of shifting utilities is a stiff challenge, often ending in time and cost over-run.

- Traffic diversion within urban area is a huge challenge
- Clearance from other transport infrastructure players viz., CMRL, Mono Rail, NHAI, Southern Railways, IWAI etc., is a time-consuming process.
- Higher land cost imposes constraints on finalizing alignment

Despite the above constraints, concerted efforts are being taken to complete the works early.

## **9.5 OVERALL EXPENDITURE FOR THE YEAR 2017-18 AND ALLOCATION FOR 2018-19**

For implementation of various works under the above-mentioned schemes, an expenditure of Rs.269.58 crore has been incurred during 2017-18.

For the year 2018-19, a total budgetary allocation of Rs.472.18 crore has been made under CMDP scheme.



**Flyover at Porur in Chennai  
(inaugurated by Hon'ble Chief Minister on 25.06.2017)**



**Ongoing Flyover work at Medavakkam Junction, Chennai**





**Ongoing Flyover work at Velachery Vijayanagar Junction, Chennai**



**Bridge across Adyar River at Ramapuram in Chennai**



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

Tamil Nadu Road Sector Project-II was formed to upgrade heavy traffic intensity roads selected based on the DPR prepared through TNIDB funding. The road upgradation is being done through World Bank (WB) funding and the Project Agreement was signed for US \$300 million (Rs.1800 crore) covering road up-gradation, maintenance, Institutional Capacity Enhancement and Road Safety, with International Bank for Reconstruction and Development (World Bank) for a length of 1171 Km. The contribution of State towards the above project is Rs.3371 crore.

The upgradation was done using the new mode of contract EPC (Engineering, Procurement and Construction) and Public Private Partnership (PPP) with Modified Annuity model of DBFOMT. Apart from this, Output and Performance based Road Contract (OPRC) is also under implementation.

These type of contracts were introduced in the Government of Tamil Nadu project through World Bank standard documents. In EPC mode, major risks related to design, time and cost overrun are transferred to the contractors and payments are linked to outcomes, thereby providing stronger incentives for provision of better services to road users, pursuit of investment, operational efficiency and optimization of costs over the contract life cycle.

Another new contract, OPRC was also introduced in this project, which is long term maintenance for five years. The payment is linked to the various performance standards apart from the regular Quality and Quantity material. The risk and responsibility is transferred to the contractor for more effective and immediate response to rectification of the road. The public service will be achieved more quickly when compared to the ordinary type of contract.

In TNRSP, all the works procurement have been done through e-procurement system using

NIC-platform. The bidders are being invited through International Competitive Bidding mode.

The procurements are being done without any personal interface with the Project Implementation Unit (PIU) in the way of submission of documents or deposits. Software has also been developed and implemented for continuous monitoring of Land Acquisition & Resettlement and Rehabilitation activities to the Project Affected Persons.

The provisions of the New Land Acquisition Act, is being applied in this project and acquisition is being successfully completed as scheduled. In addition, utmost importance has been given to address environment and social impacts arising owing to project implementation.

Following are the major components approved under TNRSP-II.

## 10.1 PROJECT COMPONENTS

Sl. No	COMPONENTS		Estimate Cost (Rs in Cr)
1.	Road upgradation under EPC contracts (10 packages)- 427.66 Km	:	2414.28
2.	Road upgradation under PPP contracts (3 packages)- 146.44 Km	:	1499.06
3.	OPRC (2 packages)- 597 Km	:	239.00
4.	Consulting Services	:	132.71
5.	Institutional Capacity Enhancement	:	66.00
6.	Road Safety	:	120.00
7.	LA and R&R	:	693.00
8.	Miscellaneous services	:	6.95
	<b>Total</b>		<b>5171.00</b>

## 10.2 ROAD NETWORK IMPROVEMENT

This component envisages upgradation and long term maintenance of selected roads within the State's high density core road network, through three separate contracting methods as explained below.

### 10.2.1 Upgradation and Maintenance through EPC Contracts

Construction of civil works for widening and upgrading of 427.66 Km of roads of Core Road Network (CRN) to two-lane with paved shoulders including five years maintenance have been awarded and works are under progress. **Table -10.1** shows the details of works under EPC packages.

**Table No.10.1: Details of works under EPC Packages**

Length in Km, Value in Rs. in Cr

Package No.	Name of Work	Length	Agreement amount
EPC01	Upgrading Kanchipuram - Vandavasi Road (SH116) Km 14/300 to Km 36/700	22.34	184.98

Package No.	Name of Work	Length	Agreement amount
	Upgrading Sadras - Chengalpattu - Kancheepuram - Arakkonam - Thiruthani Road (SH58) Km 0/000 to Km 26/811	26.14	
EPC02	Upgrading Arcot - Villupuram Road (SH4) Km 29/800 to Km 110/165 and Km 113/325 to Km 114/600	83.08	320.02
EPC03	Upgrading Cuddalore - Chittoor Road (SH9) Km 41/700 to Km 44/000 and Km 45/000 to Km 66/190 and construction of a new link road between SH9 and SH137 (Km 66/190 to Km 71/147)	28.45	95.22

Package No.	Name of Work	Length	Agreement amount
EPC04	Upgrading Vridhachalam - Parangipettai Road (SH70) Km 0/000 to Km 35/800	35.80	162.41
EPC05	Upgrading Omalur - Sankari - Thiruchengode - Paramathy road (SH86) Km 54/800 to Km 81/000	26.20	103.81
EPC06	Upgrading Malliyakarai - Rasipuram - Trichengode - Erode Road (SH79) Km 0/000 to Km 30/600 and Km 51/400 to Km 71/300	50.50	224.06

Package No.	Name of Work	Length	Agreement amount
EPC07	Upgrading Mohanur - Namakkal - Senthamangalam - Rasipuram Road (SH95) Km 0/000 to Km 13/100	13.10	63.95
EPC08	Upgrading Nanguneri - Bharatavaram - Ovari Road (SH89) upto ECR junction Km 0/000 to Km 35/200	35.20	110.99
EPC09	Upgrading Paruvakudi - Kovilpatti - Ettayapuram - Vilathikulam - Vembar Road (SH44) Km 22/500 to Km 38/750 and Km 41/300 to Km 56/700	31.65	152.97

Package No.	Name of Work	Length	Agreement amount
EPC10	Upgrading Rajapalayam - Sankarankoil - Tirunelveli Road (SH41) Km 1/800 to Km 28/000 and Km 33/800 to Km 82/800	75.20	286.50
	<b>TOTAL</b>	<b>427.66</b>	<b>1704.91</b>

### **10.2.2 Upgradation and Maintenance through PPP under Modified Annuity Mode**

Widening of 146.44 Km length of roads listed in Core Road Network to four lane standards are being taken up through PPP (Modified Annuity) Mode. Out of this, tenders for 115.84 Km length of roads (PPP-02 & 03) have been invited and agreement have been executed and works are in progress.

The Hon'ble High Court stay has been vacated for the balance stretch of 30.60 Km (PPP-01) length of road and the process of land

acquisition is going on in full swing. The tender will be invited shortly.

**Table 10.2: PPP works**

Package No.	Name of Work	Length in Km	Project Cost Rs in Cr
PPP-01	Gobi - Erode Road (SH15) Km 123/000 to Km 153/600	30.60	259.01
PPP-02	Oddanchatram - Dharapuram-Tiruppur Road (SH37) Km 37/400 to Km 108/400	70.20	713.45
PPP-03	Tirunelveli - Tenkasi Road (SH-39) Km 5/000 to Km 50/600	45.64	412.89
<b>Total</b>		<b>146.44</b>	<b>1385.35</b>

### **10.2.3 Road Maintenance Works under OPRC**

In order to increase the efficiency and effectiveness of road asset management and maintenance, Output and Performance based Road Contracts for roads has been introduced as an innovative approach. Minimum road conditions and Service Levels are defined based

on output and performance measures for which the contractor is responsible.

Roads improved under TNRSP I viz., Arcot – Tiruvarur and Nagapattinam – Tuticorin) for a length of about 597.00 Km have been entrusted at a cost of Rs.220 crore in two packages for five years maintenance period adopting OPRC approach and the works are in progress.

### **10.3 CONSULTANCY SERVICES**

Three consultancy services have been engaged to supervise the 10 EPC contract packages and one consultant has been engaged to monitor the two OPRC Contracts. An amount of Rs.132.71 crore has been provided for procurement of consultancy / advisory services, third party audit consultancy, Front End Fee and Project Contingencies. Process of procuring the consultancy services to supervise the 3 PPP projects are underway.

## **10.4 INSTITUTIONAL CAPACITY ENHANCEMENT (ICE) AND ROAD SAFETY (RS)**

### **10.4.1 INSTITUTIONAL CAPACITY ENHANCEMENT (ICE)**

An amount of Rs.66 crore has been allotted for the ICE component and an amount of Rs.120 crore has been allotted for Road Safety (RS) component under the World Bank loan.

There is a growing demand in road infrastructure sector continuously. The increased outlay in the State's budget in the successive years bears the testimony. The technological developments within the department and the value additions over the years have been happening to cope up with the needs. However, to match the ever-rising pressure on the delivery of quality network and the challenges in handling mega projects, there has to be continual development in the capacity of the resources of the organization.

Consciously taking cognizance of such a demand, the department has devised plan to

enhance the capacity of the institution. With this background, provisions have been made under World Bank funded Tamil Nadu Road Sector Project II to address the above strategy.

Institutional Capacity Enhancement & Road Safety Cell carryout the procurement, inter & intra department coordination for the effective implementation of ICE & RS components approved under TNRSP-II.

After many consultations key tasks have been identified for implementation aiming at capacity enhancement. The key tasks and their objectives are enlisted below:

- **Road-User Satisfaction Survey (RUSS):** Feed-back from road users to assess project performance
- **Amendment of TN Highways Act, 2001:** Accommodate the Compensation and R&R provisions of RFCTLARR Act, 2013
- **Process Re-engineering:** Up-dation of Manuals, Optimisation of Resources through Re-engineering, Standardisation of Documents.

- **Training Need Analysis:** Preparation of Training Calendar, Augmenting Training Resources, E-Library creation, Institutionalising Training activities
- **Review and Upgradation of e-Pathai System:** Updation of RMMS, GIS, P&FMS to meet the latest technological trends and speedy data transfers and handling, Dynamic query etc.,
- **Upgrading the existing Hardware,** Data Collection Equipment, setting-up of Disaster Data Recovery Centre, Procuring Automatic Traffic Counters etc.,
- Formulating e-Governance policy for the Department.
- **Minor Organisational Restructuring** to meet the objectives listed above.

In the above said key tasks, RUSS, Amendment to Tamil Nadu Highways Act-2001, Exploring best principles in Human Resource Management utilizing the services of Anna Institute of Management, Process Re-Engineering and Training need assessment & Management for effective resource utilization in Highways Department contract have already

been awarded to the consultant and for remaining one task, i.e., IT-ICT related procurements and e-pathai enhancement in Highways Department, consultancy service will be engaged shortly.

The above proposals of radical changes to the organisational working pattern, aimed through the engagement of consultancy services, were brain-stormed through a two-day conference, held at Chennai, amongst selected Senior-level Officers of the department, during December, 2017. The session was moderated by the World Bank Officials.

The entire theme of Capacity Enhancement was addressed through three major perspectives, viz., POLICY, PROCESS AND PEOPLE. It was decided to strategise the recommendations of Workshop and monitor the progress through Expert Review Committee.

In continuation of the Road Safety Training Programme, underwent at Australia by a High-level team of Officials, a Memorandum of Understanding (MoU) had been signed between

Highways Department and VicRoads (Road and Transport Agency of Victoria Government), Australia, in the august presence of Hon'ble Chief Minister and Hon'ble Ministers of Australian Government, at Chennai, on March 13<sup>th</sup>, 2018.

This agreement envisages co-operation and co-ordinated activities in Knowledge sharing, Road Safety, Training, Traffic and Transport Management, Network Planning including Asset Management System, Collaborative Research between the organizations.

#### **10.4.2 ROAD SAFETY (RS)**

Recognizing the socio-economic consequences of the road traffic accidents, the Government through multiple-sectoral approach, is taking various measures to improve the road safety. The Highways Department has approved a comprehensive proposal for the improvement of Road safety under the World Bank assisted TNRSP-II. This component will support achievement of improved road safety, at two levels.

First, at the state level, GoTN's capacity to achieve better road safety will be enhanced through a combination of strategic and operational interventions.

**At the strategic level**, the focus will be on development of a comprehensive road safety strategy, delineating the roles, responsibilities, investments and other initiatives of various stakeholder departments involved in the road safety agenda, viz., Transport, Police, Highways, Health, Education and local bodies.

**At the operational level**, the project will support implementation of the road safety strategy including assistance in planning, investments, monitoring and evaluation.

Second, at the field level i.e. in two districts and a corridor, the project will support designing and implementation of road safety improvement initiatives, to demonstrate how multiple stakeholder departments could achieve better outcomes through coordinated efforts and investments.

#### **10.4.2.1. Road Safety Executive Leadership Group (RSELG)**

Road Safety Executive Leadership Group (RSELG) has been established during July, 2015 by the Government. This is Chaired by the Additional Chief Secretary to Government, Highways and Minor Ports Department with Additional Chief Secretary to Government, Home, Prohibition and Excise department, Secretary to Government, Health and Family Welfare, Principal Secretary to Government, School Education Department, Transport Commissioner, DGP/ ADGP (State Traffic Planning Cell) and Chief General Manager, NHAI as Members.

- RSELG is acting as a High level Institutional arrangement to provide strategic guidance to the Government in implementation of Road Safety initiatives in Tamil Nadu to control the road accidents in the State. RSELG is actively functioning and has conducted regular meetings at frequent intervals to review the road safety scenario.

- RSELG has sensitised all the stakeholder departments Highways, Transport, Police, Health and Education in their roles and responsibilities to control road accidents.
- Senior Level Officers of RSELG underwent Professional Development Program at Australia in Road Safety Management.
- RSELG has effectively co-ordinated with all stake holder departments to utilise the resources available in an efficient manner to tackle road safety issues.
- RSELG has identified various short term interventions for various stakeholders like "Installation of Intelligent Transport System in East Coast Road, Trauma care facilities at Kancheepuram General Hospital, Study of dynamic allocation of 108 ambulance services thereby reducing response time, training to doctors and nurses, conducting awareness programme in Schools", for immediate implementation.
- Road Safety Management Consultant, has been engaged by the Highways Department and will work closely under the guidance of RSELG and other

stakeholders to develop State level Strategic Investment Plan for the period upto 2025, District level improvement plan and Corridor improvement Plan for all stakeholder departments.

#### **10.4.2.2. Road Safety Management Cell (RSMC)**

Road Safety Management Cell (RSMC) has been established during January 2016 under the Chairmanship of Transport Commissioner with Additional Director General of Police (Road Safety), State Traffic Planning Cell, Superintending Engineer (H), ICERS Cell, Highways Department, Joint Transport Commissioner, Joint Project Director, Health System Project and Joint Director, School Education as Members.

- RSMC will assist the Transport Commissioner (Lead Agency) in implementing road safety measures in well co-ordinated manner. RSMC has conducted regular meetings at frequent intervals and effectively assisted Transport Commissioner

- RSMC will work closely with RSELG directives and monitor & evaluate the road safety works undertaken by various departments.
- RSMC will study and identify legislative improvements required, resources available and monitoring & evaluation of road safety results at micro level and direct the various stake holders for effective implementation.

#### **10.4.2.3. Road Safety Implementation Units (RSIU)**

Road Safety Implementation Units (RSIUs) has been established during January, 2016 and is chaired by District Collector with members from Highways, Police, Health, Education, Transport and representative from local body.

- RSIUs plays vital role in implementation of road safety measures at field level.
- RSIUs will identify proposal and projects, co-ordinate the implementation and monitor & evaluate the road safety results.

- RSIUs will take up the review of road safety on monthly basis and report to Transport Commissioner.
- RSIUs will support training & capacity building, speed management program and awareness campaign.

The Road Safety Executive Leadership group on Road Safety of the State has taken decision to implement short-term road safety initiatives and capacity enhancement through training programmes and conferences on Road Safety abroad.

Road Safety Management Consultant has been engaged to render assistance to lead agencies viz., Road Safety Executive Leadership Group (RSELG) at Government Level and Road Safety Management Cell (RSMC). This management consultant would develop plan and support in implementing road safety demonstration projects in two districts and a corridor under TNRSP-II. Based on the experience from the district and corridor demo projects, further initiative at the State Level would be devised.

#### **10.4.2.4. *Short term initiatives***

The Short-term Road Safety initiatives identified for Kancheepuram District amounting Rs.20 crore has been approved in-principle. These initiatives include Speed monitoring and enforcement in East Coast Road (ECR), Center of Excellence in Trauma care in Kancheepuram District, Training of Health care personnel in Emergency Management Skills, Data-driven performance evaluation, Dynamic deployment of 108 Ambulances with reduced response time and creating Road Safety awareness at School level in Kancheepuram district.

The procurement activities of the above short-term interventions are in an advanced stage.

#### **10.4.2.5. *Training on Road Safety***

Under the sub-component of Knowledge Support and Capacity Building in the Road

Safety component, the interagency professional development program is programmed.

Such training activities would ensure that the road safety leaders in the State would possess requisite knowledge and skills to lead and direct a transformation in road safety performance in Tamil Nadu.

With this background, a team of Officials headed by the Additional Chief Secretary to Government, Highways and Minor Ports Department and three Departmental Officers, were deputed to participate the Australasian Road Safety Conference (ARSC-2017) held at Perth, Australia, during October, 2017. The team also consulted with Government agencies involved in Road Transportation and Management at Adelaide, Melbourne, Australia.

Apart, from this senior officials of the State from Stake-holder Departments viz., Highways, Transport, Police, Health and Education, were deputed to undergo the Road Safety Leadership Management Training Programme for a week, during November, 2017, at the Monash

University Accident Research Centre, Melbourne, Australia.

## **10.5 LAND ACQUISITION, RESETTLEMENT AND REHABILITATION (R&R) ACTIVITIES.**

Government has given approval for the Resettlement Policy Framework (RPF) for the project in line with the new 'Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act 2013' and WB Operational guidelines for compensating land acquisition and project affected people. Also the RPF covers the principles of resettlement, process for conducting census survey of PAP, socio-economic surveys and preparation of Resettlement Action Plan (RAP). Based on the above, final awards are being passed by the TNRSP.

## **10.6 OVERALL EXPENDITURE (2017-18) AND ALLOCATION FOR 2018-19**

During 2017-18, an expenditure of Rs.878.66 crore have been incurred for implementation of various works under the above schemes.

For this financial year of 2018-19, a total budgetary allocation of Rs.503.13 crore has been made under this project.



**Roads taken up for improvement under Tamil Nadu Road Sector Project**





**Omalur - Sangagiri - Thiruchengode - Paramathi Road Improved under EPC contract**



**Omalur - Sangagiri - Thiruchengode - Paramathi Road Improved under EPC contract**



## **11. CHENNAI KANYAKUMARI INDUSTRIAL CORRIDOR PROJECT**

Highways Department is executing, various road infrastructure projects for the economic and industrial development of the State. The projects include State funded, centrally sponsored and externally aided schemes. East Coast Economic Corridor (ECEC) is one among the five Industrial Corridors announced by the Department of Industrial Policy and Promotion, Government of India based on the overall development of Country and States. The Government of India have proposed to develop ECEC with loan assistance from Asian Development Bank.

CKIC has been planned to cover 13 Coastal Districts and 10 Interior Districts, connecting NH-7, NH-45, linking the north and southern parts of the State.

Asian Development Bank has prepared a comprehensive development plan for CKIC addressing the development plan for various sectors. Under the road sector, 8047 Km road

stretches have been identified in the CKIC influence zone for development in six phases. Out of 8047 Km road network, 4318 Km are NHs and 3729 Km are SHs.

### **11.1 ROADS TO BE IMPROVED**

In this regard, several discussions have taken place at various levels and have been decided to take up the following 15 roads under first phase for development with ADB loan assistance on fast track mode as the DPR for all these roads have already been prepared and kept ready through TNRSP-II.

Length in km, Cost Rs. in crore

<b>S. No</b>	<b>Section</b>	<b>Total Length</b>	<b>Project Cost</b>	<b>LA cost</b>
1	Tiruchendur to Ambasamudram via Palayamkottai (SH 40)	74.90	407.64	31.09
2	Thanjavur to Mannargudi (SH 63)	27.59	143.63	10.95
3	Kumbakonam to Mannargudy (SH 66)	34.26	177.90	13.56

<b>S. No</b>	<b>Section</b>	<b>Total Length</b>	<b>Project Cost</b>	<b>LA cost</b>
4	Kumbakonam to Sirkazhi(SH 64)	38.07	307.49	145.22
5	Mayiladuthurai to Thiruvarur (SH 23)	31.28	199.04	137.16
6	Mohanur – Namakkal – Senthamangalam-Rasipuram Road (SH 95)	46.44	249.32	162.42
7	Chengalpattu – Kanchipuram Road (SH 58) (60/037-107/350)	47.31	389.95	67.00
8	Cuddalore to Madapattu Junction (SH 9)	40.60	379.16	284.16
9	Cheyyur (ECR) to Polur(SH115) including ECR link	110.00	529.96	64.70
10	Omalur to Tiruchengode via Sangagiri including Tiruchengode Bypass (SH 86)	54.80	539.17	411.52
11	Tiruchengode to Erode(SH 79)	10.27	205.59	115.12

<b>S. No</b>	<b>Section</b>	<b>Total Length</b>	<b>Project Cost</b>	<b>LA cost</b>
12	Melur to Karakikudi via Tirupattur, Kundrakudi (SH 191 & SH 191A)	46.90	213.71	16.34
13	Thuraiyur to Perambalur (SH 142)	31.49	107.41	25.00
14	Virudhachalam to Ulundurpettai (SH 69)	20.88	114.92	21.00
15	Chengelpet to Kancheepuram (SH 58) (30/0 - 60/037)	39.75	419.95	68.85
	<b>TOTAL</b>	<b>654.54</b>	<b>4384.84</b>	<b>1574.09</b>

The project cost is Rs.6448 crore which includes cost of Land Acquisition to the tune of Rs.1574 crore. The cost of land acquisition has to be borne by State Government. Of the total Construction cost, Rs.3288.15 crore will be supported by Asian Development Bank loan assistance and remaining would be borne by the State Government.

The Government has accorded administrative sanction for the project and the loan agreement with ADB is planned to be executed in the first quarter of 2019.

## **11.2 PROJECT PREPARATORY WORKS**

To carry out the above project, a Project Implementation Unit (PIU), headed by the Project Director, has been created. To expedite the execution of the project, proposals to form an exclusive Wing consisting of 293 Staff, including a Chief Engineer and Special Land Acquisition unit with 295 Staff is under consideration.

It is also proposed to provide due Compensation, Rehabilitation and Resettlement to the Project Affected Persons (PAP), as per the social safe-guards norms of the ADB. Private negotiation for Land Acquisition is also contemplated, to quicken the process.



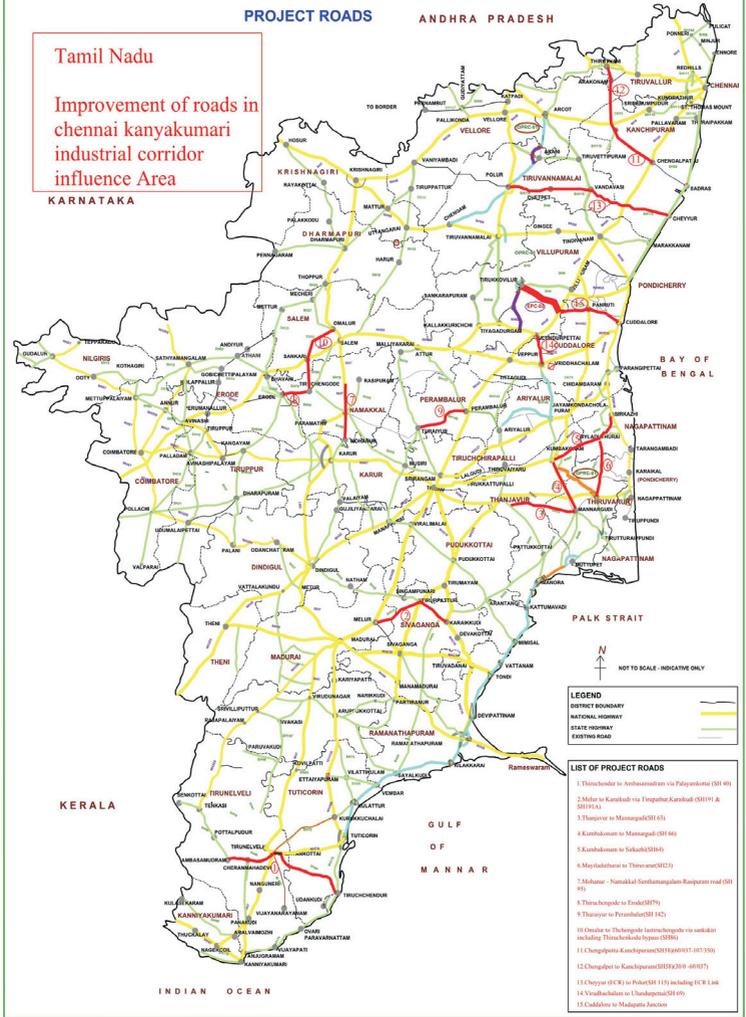
# CHENNAI KANYAKUMARI INDUSTRIAL CORRIDOR PROJECT

PROJECT ROADS ANDHRA PRADESH

Tamil Nadu

Improvement of roads in chennai kanyakumari industrial corridor influence Area

KARNATAKA



**LEGEND**

- DISTRICT BOUNDARY
- NATIONAL HIGHWAY
- STATE HIGHWAY
- EXISTING ROAD

- LIST OF PROJECT ROADS**
1. Tiruchendur to Arakkonam via Palayandur (SH 49)
  2. Indur to Kambhli via Tenpuzh Kambhli (SH191 & SH191A)
  3. Thanjavur to Manangudi (SH 63)
  4. Kumbakonam to Manangudi (SH 66)
  5. Kumbakonam to Sirkudikottai (SH 64)
  6. Mayiladuthurai to Thiruvai (SH 62)
  7. Madurai - Narakkal Sertamangalam Rangapuram road (SH 69)
  8. Thiruvai to Erode (SH 79)
  9. Thiruvai to Perambalur (SH 142)
  10. Oduar to Thiruvai busstand via vandiar including Thiruvai busstand (SH 64)
  11. Chengalpattu - Kanchipuram (SH 89/00107-107/350)
  12. Chengalpattu to Kanchipuram (SH 89/200-48/07)
  13. Cheyzer (ECR) to Polur (SH 115) including ECR Link
  14. Virudhachalam to Chidambaram (SH 69)
  15. Cuddalore to Madhavai Junction

Roads taken up for improvement under Chennai - Kanyakumari Industrial Corridor Project



## **12. HIGHWAYS RESEARCH STATION**

The Highways Department has been continually adding road network to the state's asset. Its performance over the life period, distresses and remedies, utilization of depleting natural resources, technologies deployed in constructing roads and bridges are all matter of constant study and research are implemented by Highways Research Station.

The need of technical support and expert guidance at site required for challenging situations, which are provided through analysis of data and conditions, form the basis of applied research including quality assurance. With the prime objective of improving roads to enable traffic of all kinds to move safely, expeditiously, economically, and comfortably, the Highways Research Station was established in 1957. This station is to carry out research activities in the construction methodology of roads and bridges. Since then, HRS is one of the pioneer government research station in the country,

functioning as a separate wing under this department.

This station is functioning under the Director, HRS (in the cadre of CE). The research and quality control works are carried out by a Joint Director (in the cadre of SE), four Deputy Directors (in the cadre of DE) and eight Divisional Engineers (Quality Control). The objectives and functions of Highways Research Station are as follows;

- Continuous research in all fields of highway engineering with a view to utilize the resources optimally for achieving the best quality road network in the state
- Offering suggestions to field engineers for arriving at a solution in distresses in roads and bridges
- Studying accident-prone areas, suggesting suitable remedial measures to minimize the accidents and improvements to junctions
- Assurance of quality standards for all the materials and construction at all stages.

- Imparting training to the engineers in various fields related to highways works

## **12.1 QUALITY CONTROL MECHANISM**

A three-tier quality control system is in place to check the quality of works at all stages, by conducting required tests as per specifications. Quality control laboratories at circle and division levels have been established 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 and enable to take corrective measures at initial stage itself.

## **12.2 LABORATORIES**

Four laboratories viz., soil, concrete, bitumen and traffic at Highways Research Station and eight Regional Laboratories at Villupuram, Trichy, Thanjavur, Madurai, Tirunelveli, Salem, Tiruppur and Coimbatore are functioning to achieve the above objectives.

HRS is involved in designing the pavements based on traffic and assessing the Vehicle

Damage Factor (VDF) by axle load tests, structural evaluation by carrying out Benkelman Beam Deflection (BBD) test, evaluation of surface characteristics of roads by conducting surface roughness tests, conducting pile load tests for bridges, non-destructive tests on concrete members, tests on steel, concrete and bituminous mix designs for all elements and layers of roads and bridges.

The traffic flow characteristics at road junctions in Tamil Nadu are closely studied. Based on the data collected and detailed analysis, road junctions are redesigned and improved for reducing road accidents.

The laboratories of HRS had conducted 24213 tests on materials during the year 2017-18. Revenue to the tune of Rs.16.41 crore has been earned. Apart from the revenue earned to the government exchequer, the above tests conducted have ensured economy, as quality, has been ensured at very preliminary stage itself.

### **12.3 RESEARCH ACTIVITIES**

During 2017-18, the following three research schemes were sanctioned under Tamil Nadu Innovation Initiatives Fund (TANII), which are in progress.

- Bridge instrumentation for structural health monitoring system
- Study on the technology of long lasting pavement with aid of circular test track
- Study on improving the subgrade soil by adding quarry dust

In addition, research scheme namely “Study on effect of nano clay in bituminous mixes” is under consideration for first round of TANII scheme 2018-19.

### **12.4 TRAINING**

Training has been an important tool paving way for improvement through knowledge updation of human resources. It brings out the latest technologies practiced world wide. Continuous training programmes are conducted to ensure updation of the technical knowledge.

The weekly technical lecture programme is being conducted on every Tuesday in the field of highway engineering, management, administration, health and social awareness by elucidation from the eminent professors of technical institutions, professionals from the specified fields and department engineers since April 2013. So far, 245 weekly technical lectures have been delivered.

The students of reputed engineering universities and colleges, such as IITs, NITs, Anna University etc., are trained in exposure visits, in-plant training at laboratories of HRS and given guidance for their project works. A sum of Rs.2,07,500 have been collected towards the fee for expert service during the year 2017-18.

Following training programmes were conducted during the year 2017-18:

- One day workshop on "Road Shoulders, Marginal Materials & Material Characterization" was conducted during 30.05.2017 and 80 engineers participated.

- Training on “Quality Control and Material Testing Procedures” was conducted for 23 engineers from RD&PR Department during October 2017.

## **12.5 NEWS LETTER**

News letter instituted as a communication platform amongst the departmental engineers, is brought out as quarterly issue by HRS.

## **12.6 CO-ORDINATION WITH IRC**

The IRC, New Delhi has accorded permanent council membership to the Director, Highways Research Station taking into account the contributions made by HRS.

“The IRC publication sales extension counter” is functioning in HRS since 2013 to help Engineers to update the current practices. About 3000 IRC books have been sold since its inception. The Engineers of HRS have been continuously participating annual session of IRC and presenting technical papers. In the recent 78<sup>th</sup> Annual session held at Bengaluru, two

technical papers were presented by Engineers of HRS.

## **12.7 MoUs WITH CRR I & IIT-M**

Highways Research Station has signed projects under MoUs with both Central Road Research Institute and Indian Institute of Technology, Madras.

<b>Sl.No</b>	<b>Name of the project</b>
1.	Road Safety Audit and Training Programme
2.	Collaborative Training Programme on Highways Development Module (HDM-IV)
3.	Joint in-house Research Project For Accident Data Analysis Using TNRADMS
4.	Joint Test Track performance studies for new or Marginal Materials for Road Construction
5.	Health Monitoring System for Bridges in Tamil Nadu is taken up based on the MoU with CRR I

Highways Research Station has been carrying out the joint in-house research project on "Accident Data Analysis using TNRADMS" with Central Road Research Institute, New Delhi.

MoU has been signed with IIT-Madras and is planning to carry out projects in the fields of soil stabilization, road construction difficulties, high performance concrete, bridge health monitoring, traffic forecasting, material characterization, urban road safety, intelligent transport system, travel time period model, road asset management and pavement assessment model.





**Signing of MoU with VicRoads, Australia in the presence of Hon'ble Chief Minister on 13.03.2018**



**Signing of MoU with IIT, Madras on 27.04.2018**





**Pile load test to assess the strength of Bridge Pile**



**Hon'ble Chief Minister reviewed the progress of works with Heads of Department on 27.12.2017**



### **13. PLANNING, DESIGNS AND INVESTIGATION**

The Government of Tamil Nadu has an exclusive technical wing in Highways Department for Planning, Designs and Investigation, which is a pioneer in the field of bridge engineering.

In the year 1971, a separate circle for design of bridges started functioning under a Superintending Engineer with two divisions. Keeping in pace with the infrastructure development, the circle was upgraded as Design and Investigation wing under a Chief Engineer in the year 1995.

This wing is administered by a Chief Engineer assisted by a Joint Chief Engineer having four design divisions headed by Divisional Engineers at Chennai. Also, five investigation divisions headed by Divisional Engineers functions at Chennai, Madurai, Tirunelveli, Salem and Coimbatore.

Tamil Nadu is the fore-runner in adopting Limit State Methodology for the design of bridges. The revisions and amendments to the relevant codes are being updated in the design procedures as and when they are brought out by IRC.

### **13.1 INVESTIGATION DIVISIONS AND THEIR ACTIVITIES**

The various field activities of the Investigation divisions are:

#### **13.1.1 Field Investigation and Sub-Soil Exploration**

- Collecting field data by conducting detailed investigation at the proposed bridge site.
- Collecting required particulars from Public Works Department for River Bridges and from Railways for Road Over Bridge / Road Under Bridge works.
- Conducting sub-soil investigation through exploratory bores.

### **13.1.2 Preparation of Detailed Reports and Drawings**

- Preparation of site plan, alignment drawings and General Arrangement Drawings.
- Preparation of cross sectional and longitudinal sectional drawings along the stream and alignment
- Computation of hydraulic particulars.
- Recommendation of suitable proposal based on the field investigation and sub-soil exploration.

## **13.2 DESIGNS DIVISIONS AND THEIR ACTIVITIES**

The structures are to be designed based on sound engineering principles satisfying the strength, stability and serviceability requirements and adhering to codal stipulations. This wing designs variety of structures from minor bridges to grade-separators involving complex geometry and with latest techniques such as precast segmental construction. The computer centre is equipped with analytical tools viz., STAAD Pro, MIDAS and other computer

applications for analysis and design. The structural drawings are prepared using AutoCAD software.

Following are the activities of the design divisions:

- Designs, drawings and quantity estimates are prepared for River bridges, Road Over/ Under Bridges, Grade separators and Pedestrian Utilities.
- Structural design and drawings prepared by the Consultants and alternative designs furnished by the bidders are proof checked.
- Giving recommendations for the transportation of Over Dimensional Cargo (ODC) in Roads and Bridges.
- Preparation of booklets/ guidelines/ standard drawings for field Engineers

### **Important Projects**

Some of the projects which require special mention:

- Two tier Flyover at five roads junction Salem, a mile-stone project in bridge

construction with precast segmental construction. Presently, this wing is coordinating with the execution wing for revision of various components, due to site constraints.

- Twin fly-over with a loop arm at EVR Salai (Anna Arch) with major complications and site constraints in the heart of Chennai city.
- Two level fly-over at Velachery in Chennai with curved geometry, is now under construction.
- Two level fly-over at Gandhipuram in Coimbatore with the first level executed and opened to traffic. The second level is under construction.
- Pedestrian Over Bridges in Chennai, Coimbatore and Karur with facilities such as staircase, ramp, lift and escalator.
- Grade Separator at Coimbatore Athupalam-Ukkadam-, with a loop-arm towards Oppanakara street.
- Four lane flyovers at Junctions of Kuranguchavadi, Thiruvagoundanur & Steel plant in Salem, Kalavasal in Madurai.

- Six lane flyover at Vandalur-Kelambakkam Junction in Chennai.
- High Level River Bridge at Kallanai across Coleroon.
- High Level Bridge at Unniyur-Nerur across Cauvery.
- ROB in-lieu of LC 1136, MSP Camp, Thiruchirappalli.
- The design of ROB in lieu of LC 32 with elliptical rotary and an adjacent LUS in lieu of LC 33 in Perungalathur is under preparation.

### **13.3 WORKS COMPLETED DURING 2017-18**

Totally 60 works have been completed. This includes Road Over Bridges / Road Under Bridges / River Bridges / Grade Separators / revision / modification.

### **13.4 PROGRAMME OF WORK AND EXPECTED WORKS IN 2018-19**

During the current year 70 works are taken up. This includes preparation of design, drawings and estimate for 29 Road Over Bridges / Road

Under Bridges, 21 River bridges, 3 grade-separator and 1 Pedestrian Over Bridge. Proof-checking of DPR works prepared by consultants for 4 Grade Separator, 4 Road Over Bridges/Road Under Bridges and 8 River bridges are also in progress.

In addition to the above, works to be received during the year 2018-19 are also to be taken up.





**Girder launch in Flyover at Five Roads Junction  
in Salem**



**Girder launch in 2nd tier of Flyover at Gandhipuram Junction  
in Coimbatore**



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

Tamil Nadu Road Development Company (TNRDC) Ltd, was constituted in 1998 for identifying and implementing major infrastructure projects in road sector in the State of Tamil Nadu under Public Private Partnership format by attracting and mobilizing private sector investments.

TNRDC is a joint venture of TIDCO and TIDEL with the equity share capital in the proportion of 50:50 both of which are undertakings of Government of Tamil Nadu. The Chairman of the Board is the Additional Chief Secretary, Highways and Minor Ports Department and has representation from various stakeholders as well as Independent Directors in accordance with the Companies Act.

## **14.1 PROJECTS IMPLEMENTED BY TNRDC**

### **14.1.1 East Coast Road Project (ECR) Chennai Akkarai to Puducherry (Km 22/300 – Km.135/500)**

The stretch of ECR from Kudimiyandithoppu near Akkarai on the outskirts of Chennai to Koonimedu on the outskirts of Puducherry for a length of 113.20 Km had been taken up for improvement, operation and maintenance under PPP format by the State-owned TNRDC. The above task has been enabled through a long-term Concession Agreement entered into with the Government of Tamil Nadu, by TNRDC on 22.12.2000.

TNRDC had commenced commercial operations from 21<sup>st</sup> March 2002 onwards and is maintaining the road.

The East Coast Road, from Akkarai (near Chennai) to Koonimedu on outskirts of Puducherry State limit was initially improved to two lane carriageway with hard shoulders. The growing traffic intensity and lack of delineation

of traffic lane-wise were the causes of increased accidents. To augment the carriageway capacity, widening to four lane with lane divider was carried-out. The stretch from Akkarai to Mamallapuram has been taken under Phase I. The geometric improvements to curves and improvements to junctions at locations between Mamallapuram and Puducherry have been completed under the above project and put to public use.

## **14.2 PROJECTS UNDER IMPLEMENTATION BY TNRDC AS MANAGING ASSOCIATE**

### **14.2.1 Chennai Outer Ring Road – phase I**

In view of the Vehicular Congestion in the Major roads in Chennai City, to ease the congestion and for free and quick flow of traffic, Government of Tamil Nadu accorded sanction to provide a Major Connectivity Corridor. This is a green field project under DBFOT model with a configuration of dual three lanes with service roads, from Vandalur on NH-45 to Nemilichery

on NH-205 via Nazarathpet on NH-4 for a length of 29.65 Km costing Rs.1081.40 crore.

In the above project the completed length of 27 Km of road from Mannivakkam to Nemilichery had been put to public use. Remaining stretch of the project road will be completed on finalization of litigation.

#### **14.2.2 Chennai Outer Ring Road - phase II**

The six lane road from Nemilicheri (NH – 205) to Minjur in Thiruvottiyur - Ponneri - Panchetti (TPP) Road via Padiyanallur (NH-5), the Chennai Outer Ring Road Phase-II, had been sanctioned for Rs.1075 crore.

The road stretch for a length of 30.50 Km had been taken up under Design, Build, Finance, Operate and Transfer (DBFOT) mode with Semi Annual Annuity payment mode.

97% of the project road had been completed and the works in the remaining stretches are in progress except in the stretch where litigation is to be finalized and work to be completed.

### **14.2.3 Ennore Manali Road Improvement Project (EMRIP)**

The Project envisages the improvement of about 30 Km of road network in North Chennai with the objective of establishing seamless and effective road connectivity from Chennai Port and Ennore Port to NH network. The roads that are being improved include the Ennore Expressway, Manali Oil Refinery Road, Northern port of Inner Ring Road and Thiruvottiyur – Ponneri - Panchetti Road.

NHAI, the project lead sponsor, has engaged TNRDC initially as its Managing Associate and subsequently as Supervision Consultant.

This work has been substantially completed except for a small stretch at N.T.O. Kuppam and Kasimedu fish drying yard. In these balance stretches, for which a supplemental agreement has been executed on 12.01.2018 and the work is to be completed shortly.

#### **14.2.4 Northern Port Access Road (Chennai Peripheral Ring Road phase-I)**

The proposed Northern Port Access Road forms Section I of Chennai Peripheral Ring Road and the road connects NH-5 at Thatchur with Ennore Port with an additional spur road linking Thiruvottiyur – Ponneri - Panchetti (TPP) Road.

This will also cater to the needs of the recently developed Kattupalli Port by L&T.

The length of this road connecting Ennore Port to Thatchur is about 21.15 Km and the TPP link Road is 4.35 Km. The work is proposed for execution under JICA loan assistance.

The Government accorded administrative sanction for Land Acquisition for Northern Port access road for a sum of Rs.951 crore. Land acquisition is in process in 15 villages of Ponneri Taluk in Thiruvallur District. Land is being acquired under Highways Act 2001 and notification under clause 15(2) for eight villages published and 15(1) proposal for five villages submitted to Government and under

consideration. Land Acquisition process is in progress for the remaining villages.

#### **14.2.5 Construction of a Four Lane High Level Bridge at Ilayanarkuppam in ECR**

The work of Construction of a four lane high level bridge at Km 69/300 in ECR road at Ilayanarkuppam at a cost of Rs. 24 crore has announced by the Hon'ble Chief Minister during the budget speech 2017-18.

Based on the announcements, administrative sanction have been accorded for executing the above work at a cost of Rs.23.78 crore. The Tender for the project is under scrutiny. The Work will be commenced soon.

#### **14.2.6 Widening and providing Rigid Pavement in North Chennai Thermal Power Station Road and Kamarajar Port Road**

To provide the logistic support through Port Connectivity for better and efficient freight movement, road infrastructure needs to be augmented to cater to the traffic needs. The

TNRDC has taken-up the widening to four lane, the North Chennai Thermal Power Station Road and the road leading to Kamarajar Port Main Gate on deposit terms. The Rigid pavement for a length of 7.2 Km at an estimated cost of Rs.195 crore is to be commenced during this year.

#### **14.2.7 Improving the connecting road from NH4 to Sojitz Motherson Industrial Park at Singadivakkam in Kancheepuram District**

The road leading to Sojitz Motherson Industrial Park at Singadivakkam, Kancheepuram District is to be widened to four lane configuration. The 2.8 Km long Rigid pavement is taken up under Tamil Nadu Investment Promotion Programme (TNIPP) at a cost of Rs.24 crore during this year. The work is commenced and planned to be completed in 18 months time.

#### **14.3 IT EXPRESSWAY LTD., (ITEL)**

M/s IT Expressway Ltd., (ITEL) was incorporated by TNRDC during February 2004 as

its wholly owned subsidiary for domiciling the IT Corridor Project, with a shareholding pattern of 77% by TNRDC and balance 23% by TIDCO.

### **14.3.1 PROJECT SO FAR COMPLETED BY ITEL**

#### **14.3.1.1. *Rajiv Gandhi Salai (IT Expressway) Phase-I***

The Old Mahabalipuram Road from Chennai Madhya Kailash to Siruseri with a length of 20.10 Km was improved to world class six lane road (IT Expressway, Phase-I) including the link road of length 2.15 Km connecting OMR and ECR was also widened to four lane and is being maintained as toll road.

### **14.3.2 PROJECT IN PIPELINE WITH ITEL**

#### **14.3.2.1. *Rajiv Gandhi Salai (IT Expressway) Phase-II***

IT Expressway (Rajiv Gandhi Salai) Phase – II extension from Siruseri to Mamallapuram for a length of 25 Km with six lane road including two bypasses at Kelambakkam and Tiruporur under

PPP mode have been approved by the Government of Tamil Nadu.

The Government have sanctioned Rs.465.13 crore for acquisition of land to an extent of 88.62 hectares in 13 villages for a width of 60m Right of way to suit six lane proposals. Presently, acquisition have been completed in nine villages and the land acquisition is in progress in the remaining villages.

The DPR for a length of 25 Km from Siruseri to Mamallapuram including two bypasses was prepared. The total cost of the project was estimated at Rs.573.99 crore. Administrative Sanction had been accorded for Rs.243.70 crore for forming two bypasses at Kelambakkam (4.675 Km) & Tiruporur (7.45 Km) under TNIPP-II. The procurement process completed and work will commence soon.

#### **14.3.2.2. *Multi Level Car Parking (MLCP) at Siruseri***

The urban planning includes apart from traffic and transportation infrastructure, parking

facilities, which are an integral part in the transportation network. In this background, underlining the importance of such an infrastructure, the Honourable Chief Minister of Tamil Nadu announced the Multi Level Car Parking (MLCP) at Siruseri, under PPP mode.

Designed with nine floors, housing 632 cars, it also includes a commercial complex. To be executed under DBFOT, the project would cost Rs. 200 crore.

The concession period is fixed as 25 years including 36 months construction period.

The project is under Scrutiny of TNIDB.

#### **14.3.2.3. *Elevated Corridor***

The Hon'ble Chief Minister of Tamil Nadu under Rule 110 made an announcement in the assembly for the construction of an Elevated Corridor from Taramani to Siruseri under Phase-I and from Siruseri to Mamallapuram under Phase-II, for a total length of 45 Km. Administrative sanction of Rs. 5 crore has been

accorded for the preparation of DPR for the above work.

The DPR has been finalized for the construction of Elevated corridor from Taramani to Siruseri. As the Metro Rail is also planned on this corridor, the integration work of both the projects completed. Now, it is planned to take up the construction of the elevated corridor under JICA assistance.



**Vehicular Under Pass at SIDCO entrance in Chennai Outer Ring Road (Phase-II)**



**Lighting arrangement in Chennai Outer Ring Road (Phase II)**





**View of Improved East Coast Road near Vada Nemmeli**



**View of Improved East Coast Road near Nemmeli**



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

**Tamil Nadu Road Infrastructure Development Corporation (TNRIDC)** was established in the year 2005-06, as a non-profitable organization to implement Government's special schemes to upgrade and maintain the infrastructure of road network in Tamil Nadu.

The Chairman cum Managing Director of Tamil Nadu Road Infrastructure Development Corporation is the Additional Chief Secretary, Highways and Minor Ports Department and the Board of Directors are the representatives from various Departments of Government of Tamil Nadu.

## **15.1 PROJECTS BEING IMPLEMENTED BY TNRIDC**

### **15.1.1 ORAGADAM INDUSTRIAL CORRIDOR PROJECT**

Industries in and around Oragadam and Sriperumpudur area of Kancheepuram district are one of the largest and Developed industrial Zones of Tamil Nadu. There are 4 SIPCOT units having several prominent Indian and well known Multinational companies, Six Global car manufacturing industries. Lot of supporting small scale industries and National Automotive Testing and R&D Infrastructure Project (NATRIP) are also functioning in and around Oragadam.

Rapid growth of Industries in the above area led to exponential increase of traffic intensity. The raw materials and finished products are being transported through Multi axle trucks and Goods carriers of over dimensional Heavy Vehicles to their respective destinations. In order to cope up with the present-day traffic needs it is decided to improve the road infrastructure facilities in and around Oragadam

Industrial Area under Oragadam Industrial Corridor Project.

It is being implemented in a phased manner as detailed below.

### **Phase - I**

The work of Widening and Improvements to Singaperumalkoil – Sriperumpudur road (24 Km part of SH- 57) and Vandalur – Wallajabad road (33.40 Km part of SH-48) were taken up at a cost of Rs.300 crore for a total length of 57.40 Km including one Grade Separator at the Junction of the above two roads. This scheme is under implementation at a revised estimate cost of Rs. 612.82 crore.

Out of 57.40 Km, 55.80 Km of road work and one Grade Separator at Oragadam junction have been completed and opened to Traffic. The balance work held up due to Land Acquisition and CourtCases will be completed in this financial year.

## **Phase - II**

The work of Improvements from four laning to six laning of Singaperumalkoil – Sriperumpudur road from Km 12/6 to 24/6 was taken up during 2011-12 at a cost of Rs.86.65 crore. This scheme is under implementation at a revised cost of Rs.108.66 crore. Out of 12 Km, 11.20 Km has been completed and balance 0.80 Km (Sriperumpudur and Mathur) held up due to Land Acquisition and Court Cases will be completed in this financial year.

## **Phase - III**

The work of Improvements from four laning to six laning of Singaperumalkoil – Sriperumpudur road Km 0/6 – 12/6 (SH-57) was taken up for implementation during 2014-15 at a cost of Rs.115.00 crore.

Out of 12.00 Km, 11.70 Km have been completed. The balance work held up due to Land Acquisition and Court Cases will be completed in this financial year.

## **Phase - IV**

The work of Improvements from four laning to six laning of Vandalur to Wallajabad road Km 30/4 – 47/0 including Land Acquisition for formation of Padappai Bypass Road was taken up for implementation during 2015-16 at a cost of Rs. 189.81 crore and 90% of work have been completed. The balance work will be completed in this financial year.

## **Phase – V**

The work of Improvements from Four laning to Six laning of Vandalur – Wallajabad Road Km 47/0 – 63/8 (16.80 Km) has been taken up for implementation during 2017 -18 at a cost of Rs.180.09 crore. The work has been commenced.

### **15.1.2 FOUR LANING OF MADURAI RING ROAD**

Madurai Ring Road connects the abandoned NH-45B (near Meenakshi Mission Hospital and Dr. M.G.R. integrated bus stand) with NH-7 (near Kappalur Industrial Estate) for a total

length of 27.20 Km. This road provides connectivity to Madurai – Sivagangai road (SH-33), Madurai- Rameswaram Road (NH-49), Madurai – Thondi road (NH-230), Tuticorin Port and Madurai Airport ultimately connecting Madurai to other southern parts of Tamil Nadu. Since the existing traffic exceeded the capacity of two lane, the work of “Widening the Madurai Ring Road from double lane to four lane from Km 0/0 – 27/2” has been taken up for implementation during 2015-16 under BOT (Toll basis) at a cost of Rs.213.69 crore whereas grant from TamilNadu Government is Rs.80 crore. In this project, the existing two lane is being developed into four lane carriage way. In respect of Bridges, two ROBs (near Veeraganur and Kappalur) and one High Level bridge across Vaigai River have also been taken up to cater the additional two lane traffic.

Agreement for this work has been entered on 29.02.2016 and appointed date is 17.04.2017 with Concession period of 20 years (Including Construction Period of 2 Years). Now 40% of work has been completed.

## **15.2 OVERALL EXPENDITURE (2017-18) AND ALLOCATION FOR 2018-19.**

During 2017-18 an expenditure of Rs.146.88 crore have been incurred for implementation of the aforesaid schemes.

For 2018-19, Budgetary allocation of Rs. 217.54 crore has been made.





**Improved Singaperumalkoil - Sriperumbudur Road in Oragadam Industrial Corridor**



**Improvement of Madurai Ring Road**



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

Tamil Nadu Maritime Board was established under the Tamil Nadu Maritime Board Act 1995 (Act 4 of 1996) on 18.03.1997 for the purpose of Administration, Management and Control of Minor Ports in the State of Tamil Nadu. The objectives and functions of TNMB are detailed below:-

- 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 ensure port connectivity to the industries located in the Central / Western Districts of Tamil Nadu state.
- To decongest the major ports in the State of Tamil Nadu.
- To decongest goods movement on Highways and Railways by providing facilities for coastal shipping
- To promote maritime training activities on par with international standards.

## 16.1 COASTLINE AND PORTS

The State of Tamil Nadu has a coast line of about 1076 Kms. Three Major Ports, namely, Ennore, Chennai and Tuticorin notified under the Major Port Trust Act, 1963 and 19 Non-Major (Minor) Ports notified under the Indian Ports Act 1908, are located on its coastline. The major ports are under the control of Government of India and the non-major ports are under the control of the Government of Tamil Nadu.

## 16.2 MINOR PORTS IN TAMIL NADU

The following are the declared minor ports in Tamil Nadu:-

Government Ports	Captive ports	
1) Cuddalore	1) Kattupalli	8) Vanagiri
2) Nagapattinam	2) Ennore Minor Port	9) Thirukkadaiyur
3) Pamban	3) Panaiyur	10) Chettinad Tharangampadi
4) Rameswaram	4) Thiruchopuram	11) Thirukkuvalai
5) Kanyakumari	5) Silambimangalam	12) Udangudi
6) Colachel	6) Parangipettai	13) Koodankulam
	7) PY-03 Oil Field	

Cuddalore, Nagapattinam, Pamban, Kanyakumari, Kattupalli, Ennore Minor Port and

Thirukkadaiyur are the operational minor ports. The other declared minor ports are under various stages of obtaining statutory clearances, development, etc.,

### **16.3 ACTIVITIES OF MINOR PORTS**

#### **16.3.1 Government Ports**

M/s. Chemplast Sanmar Ltd., import Vinyl Chloride Monomer (VCM) for their P.V.C. factory established at Cuddalore SIPCOT Complex through their Captive Marine Terminal Facility (MTF) located within the port limits of Cuddalore Minor port.

M/s Chennai Petroleum Corporation Ltd., (CPCL) export Petroleum Products from their Narimanam (Nagapattinam District) refinery through their captive open sea jetty located within the port limits of Nagapattinam port. Edible oil import takes place at Nagapattinam port regularly.

Small ships are piloted through Pamban Channel. Kanyakumari and Rameswaram ports are used for short trip passenger ferry service.

### **16.3.2 Captive Ports**

The Captive Ports are operated by private companies for their own use. The development of entire infrastructure facilities in these captive ports are the responsibility of the companies concerned.

Kattupalli Port, Ennore Minor Port and Thirukkadaiyur Port operate either for import / export of cargo. Kattupalli Port handles commercial cargo also.

## **16.4 COMMODITIES HANDLED IN MINOR PORTS**

### **16.4.1 Government Ports**

**Table 15.1: Cargo Handled in Government Ports**

Sl.No	Port	Shipped	Landed
1.	Cuddalore	----	Vinyl Chloride Monomer
2.	Nagapattinam	Diesel and Naphtha	Edible Oil and General cargo

## 16.4.2 Captive Ports

**Table 15.2: Cargo Handled in Captive Ports**

Sl.No	Port	Shipped	Landed
1.	Kattupalli Port	Containers	Ship building and ship repair activities take place, General cargo
2.	Ennore Minor Port	----	Liquid Ammonia
3.	Thirukkadaiyur	----	Naphtha and Natural Gas.

## 16.5 MINOR PORT DEVELOPMENT POLICY

Tamil Nadu Maritime Board encourages in setting up of new captive Ports, Jetties and Moorings in order to stimulate the economic development along with the fast industrialization of the State. The policy envisages development of ports, for port based Oil Industries, Thermal Power Projects and also multi-user ports on Build Own Operate and Transfer (BOOT) basis.

The Port policy formulated by the Government of Tamil Nadu is intended for

attracting new investments for the development of infrastructure facilities in sea ports.

## **16.6 INITIATIVES OF THE BOARD IN DEVELOPMENT OF PORTS**

### **16.6.1 Development of Cuddalore port**

Development of Cuddalore Port infrastructures such as extension of North and South breakwaters, capital dredging of the channel, construction of Coastal berths have been taken up by Tamil Nadu Maritime Board at a cost of Rs.135 crore under Sagarmala / Coastal Berth Scheme with 50% financial assistance (Grant) by Ministry of Shipping, Government of India.

Indian Institute of Technology (Madras) has been appointed as a consultant.

Coastal Regulation Zone (CRZ) and Environment Clearances are in progress. Development of infrastructure works will commence after obtaining statutory clearances.

### **16.6.2 Public Private Participation**

Tamil Nadu Maritime Board will invite proposals for development of non-major Ports having potential of export/import opportunities through private investment or Public Private Participation (PPP) mode on need basis.

### **16.7 REVENUE OF BOARD FOR 2017-18**

In the year 2017-2018 about 11,03,409 MT of cargo, 3,41,847 Nos of containers and 4454 Motor Vehicles have been handled through the Minor Ports and the Board earned a revenue of about Rs.50.56 crore.

### **16.8 TAMIL NADU MARITIME ACADEMY**

The Tamil Nadu Maritime Academy functioning at Thoothukudi is under the control of Tamil Nadu Maritime Board. The Academy is conducting pre-sea General Purpose rating course of 6 months duration with 40 trainees per batch and conducted 29 batches so far. The 30<sup>th</sup> batch of GP rating course has commenced from January 2018. The Academy also trains candidates on STCW-2010 courses namely,

'Personal Survival Techniques', 'Elementary First Aid', 'Personal Safety and Social Responsibility', 'Oil Tanker Familiarization' and 'Augmentation of Fire Prevention and Fire Fighting'.



# MINOR PORTS IN TAMIL NADU



Cartographed by  
Vishnu Maps Publications. Mobile: 98412 98861

### GOVERNMENT PORTS

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

### CAPTIVE PORTS (C,P)

1. KATTUPALLI
2. ENNORE MINOR PORT
3. PANAIYUR
4. THIRUCHOPURAM
5. SILAMBINGALAM
6. PARANGIPETTAI
7. PY-03 OILFIELD
8. VANAGIRI
9. TIRUKKADAIYUR
10. CHETTINAD THARANGAMBADI
11. THIRUKKUALAI
12. UDANGUDI
13. KOODANKULAM

## Minor Ports in Tamil Nadu



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

### **17.1 INTRODUCTION**

The Poompuhar Shipping Corporation Limited (PSC) was created on 11.04.1974 under the Companies Act, 1956 to transport the entire coal required for Tamil Nadu Generation and Distribution Corporation Ltd., (TANGEDCO) the erstwhile Tamil Nadu Electricity Board for the generation of electricity. This is the only State Government owned Shipping Corporation in our country with the above objective.

### **17.2 ADMINISTRATION**

The Corporation is headed by the Chairman and Managing Director. The affairs of the Corporation are managed by the Board of Directors consisting of officers nominated by the Government of Tamil Nadu. The day to day activities are executed by the various departments namely technical, operation, finance and personnel & administration headed by qualified officers from the respective fields.

The number of employees of the corporation is 105 on shore apart from the floating staff of 68 for the operation of own vessels.

### **17.3 CORE ACTIVITIES**

The core activities of the corporation are (a) Transportation of thermal coal along the East Coast of India and (b) Ferrying of tourists from the shore of Kanyakumari to Vivekananda Rock Memorial and Ayyan Thiruvalluvar statue and back.

### **17.4 TRANSPORTATION OF COAL AND TOURISTS**

#### **17.4.1 Transportation of Coal for the TANGEDCO**

The entire domestic coal allotted by the Indian coal companies to the TANGEDCO is transported by the two specially designed shallow draft 45000 MT vessels namely M.V.Tamil Anna and M.V.Tamil Periyar from the load ports of Haldia, Paradip and Visakhapattinam to discharge ports at Ennore and Tuticorin. Depending on the requirement,

13 vessels are also chartered from the private shipping companies for the transportation of the coal.

#### **17.4.2 Transportation of Coal for NTECL**

The corporation is also transporting the entire domestic coal from the load ports of Paradip and Dhamra to Ennore for NTPC Tamil Nadu Energy Company Ltd., (NTECL), a joint venture Company of the TANGEDCO and NTPC, for their three thermal power stations with 500MW each at Vallur, North Chennai as per the Memorandum of Understanding.

#### **17.4.3 Discharge operation and workshop at Tuticorin**

Apart from providing transportation of coal, the Corporation also undertakes the stevedoring function of discharging the coal from the hatches of the ships to the hoppers installed at the coal jetty-1 at VOC Port, Tuticorin using the ship's cranes, by engaging its own qualified manpower. The maintenance work of the front end loaders used for discharge operation is being carried out by the workshop at Tuticorin.

#### **17.4.4 Kanyakumari Ferry Service**

This corporation is also operating passenger ferry service from the shore of Kanyakumari to the Vivekananda Rock Memorial and Ayyan Thiruvalluvar statue. For ferrying the tourists, three ferries namely M.L.Guhan, M.L.Pothigai and M.L.Vivekananda with a seating capacity of 150 each are being operated.

#### **17.4.5 PRICING POLICY**

As the Corporation was formed with the main objective of transporting coal for the TANGEDCO, the Corporation operates its own vessels on "Cost plus Return on Equity of 12%" and chartered vessels on "No Profit and No Loss" basis.

The transportation of coal for NTECL is undertaken for a service charge of 5% on charter hire charges for their operations.

## 17.5 PERFORMANCE

### 17.5.1 Transportation of coal

The corporation transported the entire coal received at the load ports during the financial year through its own and chartered vessels.

The physical and financial performance of the corporation during the last three financial years is given below.

**Table 16.1: Physical and financial performances**

Year	In Lakh MT		Rs in Cr	
	Quantity of coal received at load ports	Quantity transported	Turn Over	Profit
2015-16	192.63	192.01	554.38	6.60
2016-17	171.86	169.37	427.15	4.71
2017-18	174.11	174.11	450.00*	4.50*

\*2017-18 Provisional

### **17.5.2 Dividend**

The corporation has proposed to declare a dividend of Rs.88.5 Lakh being 30% of the net profit after tax for the financial year 2016-17.

### **17.5.3 Passenger transportation**

The ferry service earned a profit of Rs.192.41 Lakh during 2015-16 and Rs.187.82 Lakh during 2016-17.

**Table 17.2: Physical and Financial Performances of Kanyakumari ferry service**

Year	No. of tourists (in Lakh)	(Rs. in Lakh)	
		Gross earnings	Profit
2015-16	19.80	665.56	192.41
2016-17	21.00	697.46	187.82
2017-18	21.32	931.64*	234.36*

\*2017-18 Provisional

## **17.6 PLANS FOR 2018-19**

### **17.6.1 Coal transportation**

The corporation proposes to transport the coal allotment of 200.98 Lakh MT and 58.90 Lakh MT by Indian coal companies to TANGEDCO and NTECL respectively through its own and chartered vessels.



## **18. CONCLUSION**

The Government of Tamil Nadu has recognized the importance of infrastructure development for the growth of the economy and is giving priority to the development of road infrastructure in the State considering the increasing traffic intensity. Numerous measures have been taken to ensure high quality safe roads, through effective planning and proper execution of works.

The Highways Department provides robust connectivity across the State by incorporating innovative approaches like PPP, OPRC, PBMC, EPC etc appropriately in conjunction using the data from RMMS, PFMS, GIS etc in a scientific manner.

Exponential increase in the number of automobiles and movement of freight by roads is exerting intense pressure on the existing road network. Therefore, the department is taking steps to augment the capacity of road network by various measures like, multi-laning,

constructing bypasses, river bridges, grade separators, elevated corridors including taking up green-field highway projects.

Highways Department is developing and promoting mutually advantageous arrangements for management of extensive road network in Tamil Nadu, for improving road safety and effective traffic management by signing Memorandum of Understanding (MoU) with several reputed organizations like Road Corporation of Victoria (VicRoads), Australia, IIT-Madras, CRRI, New Delhi, etc.

In order to achieve significant improvement in road safety, the Highways Department in addition to implementing over 5000 road engineering interventions in the last few years, has also institutionalised conscious planning for safe design of roads and related infrastructure, rectification of blackspots and undertaking road safety audits.

Improvement of road network cannot be taken as an end in itself without a proper insight

into the safety of road users. Therefore, various efforts are being taken to generate awareness about road safety by all concerned stakeholders. Highways Department has been contributing to the multi-dimensional issue through capacity building across the road management system. Such a task requires deep understanding and consideration of the varied road safety needs of different categories of road users. A range of guides to road safety interventions and management has been produced in recent years and the department is now emphasizing on focused safety in planning, design, operation and use of the road network.

Therefore, the Government is taking necessary measures to meet the increasing requirements in a comprehensive and integrated manner to fulfil its commitment and realizing its vision to increase the capacity, connectivity, efficiency and safety of road infrastructure in Tamil Nadu.

**Edappadi K. Palaniswami**  
**Chief Minister**



