CHENNAI PERIPHERAL ROAD

Alternate Alignment Study at Reserve Forest Areas

Chennai is the Capital of Tamil Nadu, has grown as a perfect base in respect of institutions, information technology, automobile and hardware manufacturing. Due to growing volume of traffic in and around the City, there is an immediate need for improvement of infrastructure facilities. One of the major projects included in VISION 2023 of Government of Tamil Nadu is Chennai Peripheral Road.

Chennai Peripheral Road is conceptualized to provide better connectivity around the city catering future traffic requirements and provide efficient commercial transportation by enhancing port connectivity. This road will facilitate container movement from southern districts to Ennore Port.

The Government of Tamil Nadu through Construction & Maintenance wing of Highways Department is preparing of DPR for forming Peripheral Road.

Name of Work: Peripheral Road connecting Mahabalipuram to Ennore Port (via) Singaperumalkoil, Sriperumbudur, Thiruvallur, Thamaraipakkam, Periyapalayam, Puduvoyal and Kattupalli.

The alignment for Chennai Peripheral Road was approved by the Steering Committee and finalized by the Principal Secretary, Highways and Minor Ports, Government of Tamil Nadu.

The Peripheral road will starts at Ennore Port and ends at Poonjeri Junction (km 56/800 of ECR) in Mahabalipuram. The proposed road will connect four National Highways – NH-5, NH-205, NH-4 and NH-45, and eight State Highways – SH-51, SH-50A, SH-50, SH-48, SH-57, SH-49B, SH-49A (OMR) and SH 49 (ECR). Length of proposed peripheral road will be around 133.381 km (35.4 km existing road and 97.981 km new alignment).

The project road requires diversion of forest land (10.23 Ha) in three reserve forests.

Mannur Reserve Forest: **0.28 Ha.**

Thirutteri Reserve Forest: **1.86 Ha.**

Sengundram Reserve Forest: **8.09 Ha.**

Mannur Reserve Forest

Section-3 of Peripheral road includes widening of existing SH-57 to 6-lane carriageway with service road between Tiruvallur and Sriperumbudur, with 60m right of way.

There is a 4-arm junction formed by SH57 and Tandalam-Perambakkam Road at Mannur (Kuttu Road junction), for which underpass is proposed in the Peripheral road project to improve the road safety and avoid congestion.

The Mannur RF is located on the LHS of SH-57 from existing km 31/840 to km 32/040 which is from design Ch. 69+700 to Ch. 69+900 of Peripheral Road.

As the alignment of existing road is straight, the existing alignment is followed to minimize social impact and land acquisition. Realignment of existing road is not feasible due to the following reasons:

- Mannur RF is spreads more than 1.5km length on LHS of the project road, hence realignment of existing road on LHS will affect more RF land.
- Delphi - TVS Diesel Systems Limited is spreads more than 750m length on RHS of the project road with lots of industrial building and there is a water tank on RHS of project road at 450m from the Kuttu Road junction. Hence realignment of existing road on RHS will cause social impact and affects water body.

For widening of existing road and construction of underpass, about 0.28 Ha of forest land needs to be diverted in this location.

Thirutteri and Sengundram Reserve Forest

Section-5 of Peripheral Road is totally new alignment connecting Singaperumalkoil and Mahabalipuram with 6-lane carriageway and service road on both sides, with 60m right of way.

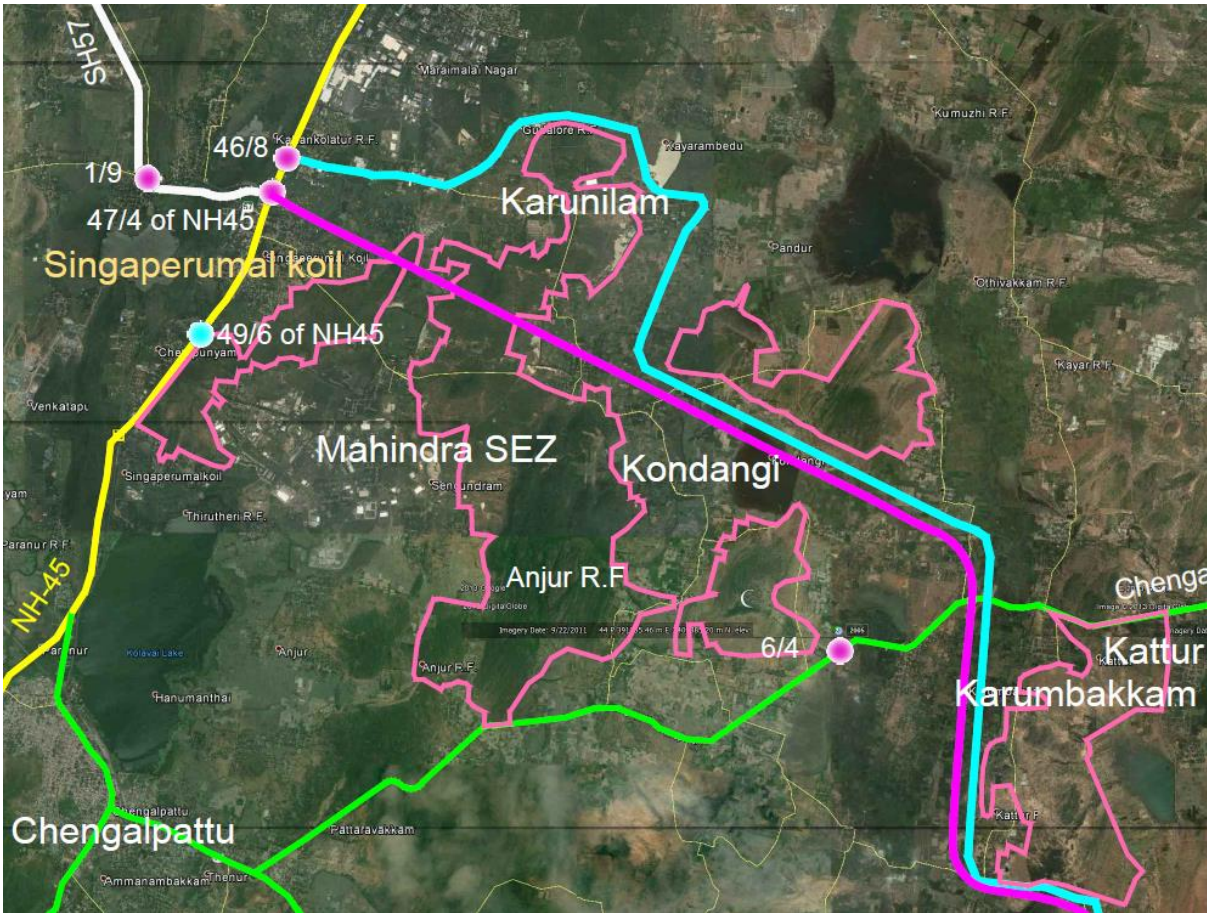
The existing SH-57 from Singaperumalkoil to Sriperumbudur is widened already to 6-lane with service road which is considered as Section-4 of Peripheral Road. There is a Railway level crossing in this road at Singaperumalkoil which cause congestion and safety hazard. So, Government of Tamilnadu decided to construct a Road over Bridge (ROB) which is partially constructed already.

Considering the presence of 6-lane road, it is decided to start the Section-5 of Peripheral road from this under constructed ROB, which will create connectivity from Sriperumbudur to Mahabalipuram directly. This ROB structure will have an interchange over NH-45 (Trichy Highway) on northern side of Singaperumalkoil built-up area, to access Peripheral Road from NH-45.

As this section is new formation, alternate alignments were studied.

- There are number of Reserve Forests on the eastern side of NH-45 in the project area i.e. Thirutteri RF, Sengundram RF, Sirukundram RF, Irutteri RF, Anjur RF, etc.
- These forests are spread in north-south direction and located stagger to each other.
- In order to avoid forest area, an alignment was studied along the periphery/between the forests. Due to the position and spread of these forests, the road alignment needs to take sharp turns, travel reverse direction, etc. As the proposed Peripheral road is a 6-lane access controlled highway with 100kmph design speed, this horizontal alignment is not technically viable as per the standards set out by Indian Road Congress (IRC).
- Hence, another alignment was studied through RF with minimum land required to cross the forest area. The alignment is designed as per the IRC standards.
- The length of the project road through forest area is about 3.5km shorter than the alignment studied for avoiding the forest area.
- The shorter length of new road requires about 21 Ha of less land acquisition and cause less social impact.
- Map of these alternate alignments was submitted already in our application.
- The above alignments were reviewed by various committees and final alignment was approved by the Steering Committee.

For forming new road, about 9.95 Ha of forest land needs to be diverted in this location.



Cost-Benefit Analysis for Sengundram RF and Kondamangalam RF:

- Selected alignment requires land acquisition of about 21 Ha lesser than alternate alignment, which costs about Rs. 9.09 Crores.
- Length of selected alignment is about 3.5km lesser than the alternate alignment, which reduces the construction cost of Rs. 138 Crores and annual maintenance cost of Rs. 28 Lakhs per year (in 2019) which will increases around 5% per annum throughout the life of the project road.
- Travel distance savings in selected alignment is about 3.5km which will reduce vehicle operating cost for all the vehicles using the project road throughout the life of the project road.
- From the above, it is clear that, the selected alignment will have more benefits to,
    - Government in-terms of LA cost, construction cost and maintenance cost
    - Road users in-terms of savings in vehicle operating cost, travel time savings, etc.
    - Local People in-terms of less land acquisition, social impacts, etc.
    - Environment in-terms of less pollution due to shorter road length.