KCG
COLLEGE OF TECHNOLOGY
AFFILIATED TO ANNA UNIVERSITY | AUTONOMOUS

DEPARTMENT OF CIVIL ENGINEERING

Report On Industrial Visit To Chennai Metro Rail Underground Tunnelling– Kolathur Site.

Date: 29 / 09 / 2025

Department of Civil Engineering organised an industrial visit to the **Chennai metro rail limited – Kolathur, Chennai on 29.09.2025.** The purpose of the visit is to provide our students to get exposure with the latest construction technology, foundation work and tunnel construction. This will enable them to gain valuable insights into practical applications and ongoing developments in civil engineering research.

A total of 57 students, accompanied by 3 faculty members, will participate in this visit. We assure you that all safety protocols and instructions will be strictly followed during the course of the visit.

Chennai Metro Rail Limited (CMRL):

The Government of Tamil Nadu created a Special Purpose Vehicle (SPV) for implementing the Chennai Metro Rail Project.

This SPV named as "Chennai Metro Rail Limited" was incorporated on 03.12.2007 under the Companies Act. It has now been converted into a Joint Venture of Government of India and Government of Tamil Nadu with equal equity holding.

What is the purpose of Metro Rail?

Chennai Metropolis has been growing rapidly and the traffic volumes on the roads have also been increasing enormously. Hence the need for a new rail based rapid transport system has been felt and towards this objective the Government of Tamil Nadu have decided to implement the Chennai Metro Rail Project. This project aims at providing the people of Chennai with a fast, reliable, convenient, efficient, modern and economical mode of public transport, which is properly integrated with other forms of public and private transport including buses, sub-urban trains and MRTS.

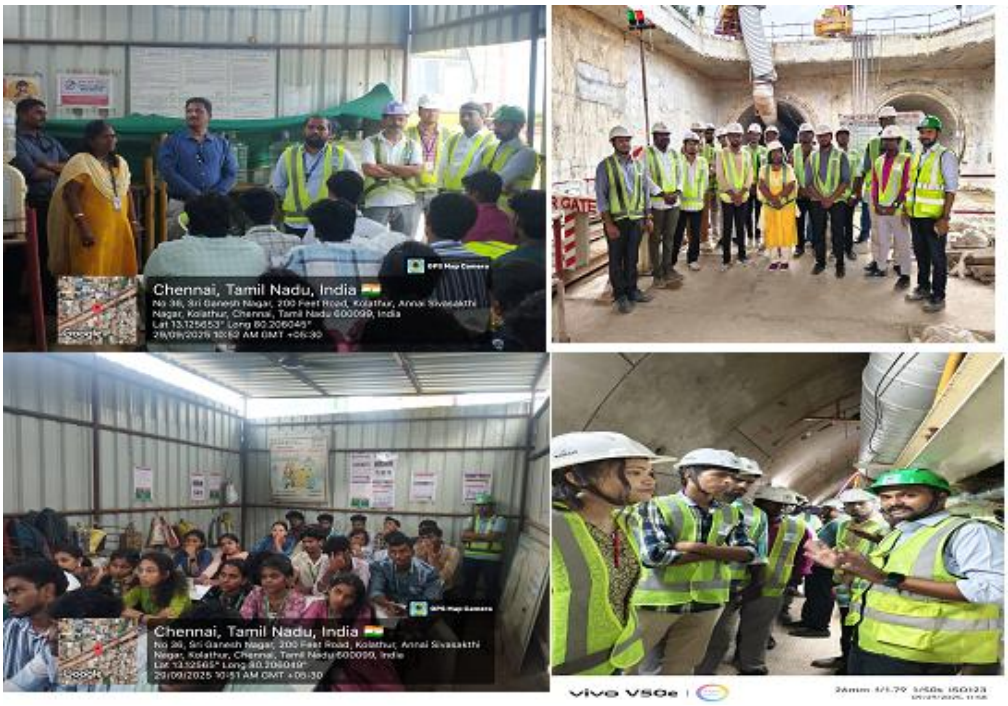
About The Project:

The soil testing has been fully completed and Detailed Design work is in the advanced stage of completion. Based on the Administrative sanction issued by the State Government, the tenders for construction of an Underground tunnel & Elevated stretch in Corridor 3, Elevated and Underground stretch, Depot & Track work in Corridor 4, Elevated stretch in Corridor 5 have already been awarded and work is in progress

Outcomes of the Industrial Visit:

1. **Tunnel Boring Machines (TBM) –** learnt the working principle and applications of TBM, how the TBM Works, its uses in the metro rail project.
2. **Underground Station Design** – gain knowledge in the constructing underground station and why underground stations are being constructed with its purpose and way of construction.

3. **Geotechnical and soil Investigation –** learnt how the detailed soil survey were done at the early stage of construction and explained the importance of soil test and its procedure in detail.
4. **Design tools and Advanced Construction Methods –** learnt about the Advanced technologies like Pre-cast Elements, TBM machines, Advance surveying, casting the structural members, constructing foundation for station and laying of tracks.
5. **Safety Measures –** safety measures and precautions to being followed in the site.
6. **Project Management –** uses of project management system for tracking cost, schedule, quality and contract materials, completion of work on time, delay analysis, reduction of cost and predicting the environmental changes.



SDG MAPPING:

The industrial visit to Chennai Metro Rail Limited (CMRL), Kolathur site, is strongly aligned with several **United Nations Sustainable Development Goals (SDGs)**.

The visit supports **SDG 4 (Quality Education)** by providing students with hands-on exposure to modern construction technologies, tunnel boring machines, geotechnical investigations, and project management practices, thereby bridging the gap between theory and practice.

It contributes to **SDG 9 (Industry, Innovation and Infrastructure)** through learning about large-scale metro infrastructure development, advanced construction methods, and innovative design tools used in underground and elevated transit systems.

The metro project itself directly addresses **SDG 11 (Sustainable Cities and Communities)** by promoting safe, affordable, reliable, and sustainable public transport, reducing traffic congestion and urban pollution.

Additionally, the emphasis on safety measures, efficient project management, and environmental considerations during construction reflects alignment with **SDG 8 (Decent Work and Economic Growth)** and **SDG 13 (Climate Action)**, highlighting sustainable and responsible infrastructure development.