



Sri Venkateswara College of Engineering

(An Autonomous institution affiliated to Anna University)

Pennalur, Sriperumbudur (Tk) 602117

30/09/2019

Department of Civil Engineering

Guest Lecture on Railway Track Construction Practice – An Overview

A guest lecture on 'Railway Track Construction Practice – an Overview' has been delivered by Dr. R. Udayakumar, General Manager, Rail Unit, CDM Smith, Chennai on 26th Sep 2019. The lecture was attended by the final year Civil Engineering students.

Following are the main observations of the lecture:

- (1) Different components of a permanent way are embankment fill/ subgrade, blanket, ballast, sleeper, and rails, rail-sleeper fastenings.
- (2) Embankment is constructed with natural soil or borrowed soil to get a level surface for laying of track.
- (3) Before construction starts, the natural subgrade is kept opened for at least two monsoons so as to attain consolidation.
- (4) Before construction of track, required amount of ballast and sleepers are stacked properly.
- (5) For automatic adjustment of the track gauge, rail threading machines are used.
- (6) Pandoral clips are used to reduce creep in the rails.
- (7) Ballast packing machines are used to pack ballast to the required height (ballast cushion).
- (8) A video was shown on ballast packing machine.
- (9) Now-a-days ballast less tracks are in use for metro construction.


(M-SELVAKUMAR)

Organizer



Head of the Department/Civil

SRI VENKATESWARA COLLEGE OF ENGINEERING

(An Autonomous Institution affiliated to Anna University, Chennai)

Pennalur, Sriperumbudur Taluk – 602 117



Department of Civil Engineering

Solicit your esteemed presence for the
Guest lecture

on

Railway Track Construction Practices

By

Dr. R. Udayakumar

General Manager (Rail Unit)

CDM Smith

Chennai.

Date	:	26.09.2019 (Saturday)
Time	:	10:00 am to 11:00 am
Venue	:	CB-528

Coordinator

Dr. M. Selvakumar
Associate Professor
Civil Engineering

Convener

Dr. P. Venkateswara Rao
Professor and Head
Civil Engineering



Guest Lecture delivered by Dr. R. Udayakumar



Memento given by the HoD to the Invited Guest



Sri Venkateswara College of Engineering
Department of Civil Engineering

Guest Lecture on “RAILWAY TRACK CONSTRUCTION PRACTICE”

Venue: CB528

Date: 26.09.2019

List of Students Attended:

S. No.	Reg. No.	Name	Year
1	160401023	MUNIRAJ M	IV
2	160401303	ANEES K	IV
3	160401024	MUTHUKARUPPAN KT	IV
4	160401006	DHINESH KUMAR P	IV
5	160401037	SAILESH K	IV
6	160401008	DINESHKUMAR G	IV
7	160401002	ARUN RAJA P	IV
8	160401009	GENGESH K	IV
9	160401016	KRISHNA KUMAR V	IV
10	160401007	DHIVAGAR M	IV
11	160401020	MAGENDIRA RAJ S	IV
12	160401005	CHANDRU J	IV
13	160401001	ANUBAMA S	IV
14	160401003	ASWINI R	IV

Coordinator


(M-SELVAKUMAR)

Convener



Dr. P. Venkateswara Rao
Professor / HOD i/c

Dr. R. Udayakumar

Transportation Planner and Railway Engineer

I possess 17 years of professional experience and have actively involved in several transportation studies such as feasibility studies of flyovers, Traffic Operation Management Plan, Traffic Circulation and Capacity studies, Peri-urban Development Studies, Comprehensive Traffic and Transportation Studies, Comprehensive Mobility Plans, Toll revenue forecast studies, Project Management Consultancy Studies for doubling of Railway Lines among other Transportation projects. In Transportation planning studies my responsibility includes project coordination, organizing traffic surveys and collection of primary and secondary data, compilation and analysis of data, preparation of various alternatives, formulation of short, Medium and long-term proposals using ridership estimate and preparation of various stage reports. In the Toll revenue forecast studies my

Experience Highlights

- Experience in Feasibility Studies in the Transportation Sector
- Preparation of Traffic Operation Management Plan, Traffic Circulation and Capacity studies, Peri-urban Development Studies, Comprehensive Traffic and Transportation Studies, Comprehensive Mobility Plans, Toll revenue forecast studies, Project Management Consultancy Studies for doubling of Railway Lines.
- EMME/2-Transportation Planning software
- STELLA – Systems approach modelling tool
- Trans CAD – GIS based Transportation Planning software
- CUBE – Comprehensive Transportation Planning toolkit.
- MX-Road/Rail – Alignment & DPR preparation tool.

responsibility includes estimating toll revenue with respect to normal, optimistic and pessimistic scenarios apart from data collection and preparation of reports. In the Project Management Consultancy studies my responsibility includes project coordination, identification and deployment of technical team, review of design & drawings, preparation and periodic updating of project management plan, collaboration with expatriate Joint Venture Partners and submission of progress reports.

At present I am working with CDM Smith, a multinational consulting firm in the capacity of General Manager, Rail Unit. I am one among the key persons to deal with the client and is responsible for technical support, ensuring competent technical professional's availability for project execution, monitoring the cash flow, and submission of progressive stage reports.

Earlier I worked as a Teaching Research Associate (TRA) in the Division of Transportation Engineering, Department of Civil Engineering, Anna University, Chennai. Apart from involving in the consultancy studies of the department, the other responsibilities include teaching the Undergraduate (both Full Time and Part time) and Postgraduate students of Anna University and carrying out Research for my Ph.D. on Part-Time basis.

Education

PhD during 2007 in the faculty of Civil Engineering with Specialization in Transportation Planning and Master's (M.E) during 2002 in Urban Engineering, College of Engineering, Anna University, Chennai, Tamil Nadu, India.

B.E during 1999 in Civil and Structural Engineering, Annamalai University, Annamalai Nagar, Tamil Nadu, India.

Years of Experience

Total: 17 Years

Nationality

Indian

Age

40

Recognitions/Awards received

- CDM Smith's Encore Team 2-5 appreciation award for impressive contributions and Great work at CDM Smith.
- Invited to deliver a technical talk at Department of Civil Engineering, Indian Institute of Technology, Madras.
- CDM Smith's Service award in grateful appreciation of 10 years of dedicated Service
- CDM Smith's award for outstanding contribution to the company - June 2015
- CDM Smith's Service award in grateful appreciation of 5 years of dedicated Service
- Recognition from Mr. Derek Sherman, International Team Leader for successful completion of Asian Development Bank (ADB) assignment viz. CDP Review and pre-feasibility study for Traffic & Transportation Sector for Vijayawada City, India undertaken by Cities Development Initiatives for Asia (CDIA)
- Recognition from Mrs. Susan Mathew I.A.S, Vice-Chairperson, Chennai Metropolitan Development Authority for publishing a technical paper titled "Ridership Forecast for Jaipur Metro" in the proceedings of National Seminar on "Sustainable Urban Mobility"- Feb 2011.
- Prof. Thillainayagam's Endowment prize and Gold Medal for securing highest marks in the project work in M.E Urban Engineering.
- Prof. R.M Sethunayanan's Endowment Prize for All-round Proficiency in Structural Engineering.
- The Annamalai University Engg & Tech Alumni Association prize for Active part in Academic, Sports, NSS, Literary & Leadership attainments.
- Awarded Financial Assistance by Tamilnadu State Council for Science and Technology (TNSCST) for M.E project work.
- Third prize for the paper presentation at National Level Students Technical Symposium-EDIFICE '99 organized by Pondicherry Engineering College



SRI VENKATESWARA COLLEGE OF ENGINEERING
 FEEDBACK FROM THE SPEAKER - GUEST LECTURE

DEPARTMENT : CIVIL ENGINEERING

Name of the Speaker	: D.Y. R. UDAYAKUMAR
Designation	: GENERAL MANAGER / RAIL UNIT
Institution/University/Organisation	: CDM SMITH
Mobile / E-mail	: YUKUMAR78@yahoo.co.in 7338793348
Title of the Lecture	: RAILWAY TRACK CONSTRUCTION PRACTICE - AN OVERVIEW
Date	: 26.09.2019
Time	: 11.00 AM.
Venue	: CLASS ROOM BLOCK
Comments by the Speaker	: I am happy to share my industrial experience with the students of this esteemed Institution and I thank the organisers Dr. Selvakumar & Prof. Venkateswar Rao for having given me this opportunity. Thank you.
Suggestions for improvement	: NIL
Signature of the Speaker	: <u>Dr. R. Udayakumar</u>

[Signature]
 26/9/19
 Signature of Coordinator

[Signature]
 26/9/19
 Signature of HOD