

Major Elective – 1
(Group – 3)
Public Transportation Planning

Course Objectives:

1. To give detailed knowledge regarding public transportation systems, their operation, planning and economics.
2. To make the students familiar with problems of transit routing, scheduling, infrastructure facilities, fare structures and management.

Course Contents:

1. Development of Public Transit System: Historical Growth, Modes of public transport and comparison, public transport travel characteristics, technology of bus, rail, rapid transit systems, basic operating elements.
2. Transit Network Planning: Objectives, principles, Intercity and Regional transit system, considerations, transit lines – types, geometry and characteristics, transit routes and their characteristics, timed transfer networks, prediction of transit usage, network evaluation, accessibility considerations.
3. Transit Scheduling: Components, determination of service requirements, scheduling procedure, marginal ridership, crew scheduling.
4. Transit Infrastructure Facilities: Design of bus stops, design of terminals – principles of good layout, types of layout, depot location, twin depot concept, crew facilities and amenities.
5. Transit Agency and Economics: Organisational structure of transit agency, management and personnel, transit system statistics, performance and economic measures, operations, fare structure.

Tutorials:

1. Problems based on routing, scheduling.
2. Problems based on fare structure, transit system statistics.
3. Design of bus stops, terminals, depot, goods terminal area.
4. Computer applications for solving the above.

Group work:

Collect the data for the problematic situations in the existing mass transit system. Analyze the collected data and suggest the steps for improvements. It should be presented with group discussion.

Field visit:

Visit to the City Bus Transport/any mass transit system Office, depot and terminal area. Review operation, management and its performance.

References:

1. Vukan R. Vuchic, *Urban Transit : Operations, Planning and Economics*, Wiley Sons Publishers.
2. Peter White, *Public Transport*, UCL Press
3. Kadiyali L.R., *Traffic Engineering and Transport Planning*, Khanna Publishers
4. Khisty, C J., *Transportation Engineering – An Introduction*, Prentice-Hall, NJ
5. TCRP Report 30, TCRP Report 95, TCRP Report 100