PUBLIC TRANSPORT SYSTEMS
(Professional Elective-3)

I I Semester

Course Code: 19CE2160

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Prerequisites: Transportation Engineering

Course Outcomes:

After the completion of the course students should be able to:

CO1 Tell transit modes, management activities and demand analysis.

CO2 Do Comparative Analysis and evaluations.

CO3 Illustrate financing and management of Public Transportation.

CO4 Appraise working of various performance attributes.

CO5 Illustrate various aspects of transportation systems

UNIT-I: (10 Lectures)
SYSTEM AND TECHNOLOGIES:

Urban passenger transportation modes, transit classifications and definitions, theory of urban passenger transport modes, rail transit, bus transit, Para transit and ride sharing, designing for pedestrians, trends in transit rider ship and use of different modes.

Learning outcomes:

1. Illustrate classification and definition of system (L4)
2. Discuss about trends in transit ridership and use of different modes (L2)
3. Compare rail and bus transit (L5)

UNIT-II: (10 Lectures)
COMPARING ALTERNATIVES:

Comparing costs, comparative analysis, operational and technological characteristics of different rapid transit modes, evaluating rapid transit

Learning outcomes:

1. Compare analysis and costs of rapid transit modes (L5)
2. Discuss about technical characteristics of different rapid transit modes (L2)
3. Evaluate various rapid transit modes.

UNIT-III: (10 Lectures)
PLANNING:

Transportation system management, system and service planning, financing public transportation, management of public transportation, public transportation marketing.

Learning outcomes:
1. Illustrate the planning of transportation system management (L4)
2. Discuss about financing and management of public transportation (L2)
3. Explain the public transportation marketing (L2)

UNIT-IV: (10 Lectures)
TRANSIT SYSTEM EVALUATION:

Definition of quantitative performance attributes, transit lane capacity, way capacity, station capacity, theoretical and practical capacities of major transit modes, quantification of performance

Learning outcomes:
1. Evaluate performance of transit system (L5)
2. Discuss about theory and practical capacities of major transit modes (L2)
3. Illustrate the station capacity of transit system (L4)

UNIT-V: (10 Lectures)
CITY TRAFFIC:

Classification of transportation systems, conventional transportation systems, unconventional transportation systems, prototypes and futuristic solutions, analysis and interpretation of information on transportation systems, perspectives of future transportation.

Learning outcomes:
1. Illustrate the classification of transportation systems (L4)
2. Analyse and Interpret transportation systems(L4)
3. Explain the perspectives of future transportation (L2)

Text Books:
1. George E. Gray and Lester A. Hoel. Public Transportation, Prentice Hall, New Jersey.

2. Vukan R Vuchic, Urban Public Transportation Systems and Technology, Prentice Hall Inc., New Jersey.

References:
1. Horst R. Weigelt, Rainer E. Gotz, Helmut H. Weiss,' City Traffic – A Systems Digest', Van Nostrand Reinhold Company, New York.

2. John W. Dickey,' Metropolitan Transportation Planning', Tata McGraw-Hill Publishing Co. New Delhi.