

# GUJARAT TECHNOLOGY UNIVERSITY

M.Tech.(Civil)Transportation System Engineering

Syllabus

## **Major Elective2: MASS TRANSPORTATION SYSTEM**

Course Objectives :

To develop and systematize the basic concepts and technical aspects of mass transportation system.

Course Contents :

History and role of Transit, Recent Trends Mass Transportation Characteristics. Demand Characteristics, Spatial, Temporal and Behavioural Characteristics of Transportation Demand. Urban Mass Transportation Planning, Demand Surveys, Estimation and Demand Projection, Four Stages of Planning. Performance Evaluation of Mass Transport System, Structure of Decision Making, Evaluation and Selection Methods, Selection Procedures, Economic Evaluation Methods. Terminals and their Functions. Design, Typical Characteristics. Scheduling, Service Analysis, Vehicle Dispatch Policy, Vehicle Requirements, Spacing of Bus Tropos, Route Spacing and Performance. Operational and Management Issues, Reserved Bus Lanes, Signal Preemption, Dial-a-Bus, Vehicle Monitoring and Control System, Modal Coordination, Special Studies, Underground Transportation, Para transit, Rail Transit, Case Studies.

Pre-requisite : Nil

Reference Books :

1. Vuchic V.R., "Urban Public Transportation System and Technology", Prentice Hall, Inc. Englewood Cliffs, New Jersey, 1981.
2. Agarwal M.K., "Urban Transportation in India", INAE, Allied Publishers Ltd., 1996.
3. Grey G.E. & Hoel, LA, "Public Transportation" Prentice Hall, Englewood Cliffs, N.J.