

Year & Sem	Course Code: CE3607	Course Name: <b>Urban Transport Planning</b>	No. of Credits: 4	L	T&PS	P
				2	2	0

### **UNITI: Urban Travel Demand**

Urban Development, transport problems and travel characteristics, Need for planning and overall planning process, Components of travel demand: Independent variables & Travel Attributes, Demand function and assumptions in demand estimation, Sequential travel demand modeling, Study Area: Zoning, cordon lines and screen lines

Data requirements for demand estimation: Socio-Economic surveys, Land use Surveys, Traffic and Transport surveys, Study of reports and proposals.

### **UNIT II: Trip Generation**

Trip characteristics, Factors influencing trip production and attraction, Trip rates, Zonal regression models, Category analysis, Personal trip generation models

### **UNIT III: Trip Distribution**

Factors influencing trip distribution, Trip Length-Frequency Diagram, Growth Models: Growth factor methods, Linear Programming method, Opportunity models, Gravity opportunity model.

### **UNIT IV: Mode Choice Analysis**

Factors influencing mode choice, Zonal regression models, Utility maximization, Discrete Choice Situation, Binary and multinomial logit models, Probability curves, Probit and nested logit models.

### **UNIT V: Traffic Assignment**

Need for assignment, Objectives, Diversion curves, Shortest path algorithms Assignment techniques: all or nothing assignment technique, capacity restraint assignment technique, multi path assignment technique, Link flows: sufficiency and deficiency analysis.

### **UNITVI: Plan Preparation and Evaluation**

Types of plans: conceptual plans, master plan etc., Short term planning Vs long term planning, Corridor identification and evaluation techniques, Role of mass transit in urban transportation, Alternate systems of different mass transit systems, Multimodal integration and master plan preparation.

### **References/Text Books:**

1. Khanna S.K., And Justo C.E.G - Highway Engineering – Nem Chand Bros., Roorkee.
2. MOST Publications - Specifications for Roads and Bridges - Manual for Maintenance of roads.
3. Kadiyali LR, Principles of Highway Engineering; Khanna Publishers, New Delhi

**Lecture Plan:** Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations.

### **Video Lectures (Web Links):**

1. <http://www.nptelvideos.in/2012/11/urban-transportation-planning.html>