

<b>EAR023</b>	<b>Elective -III (iii) Urban Transportation Planning</b>	<b>HR 3-0-0</b>	<b>CR-3</b>
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### **Objective**

The course imparts basic concepts and theories related to transportation planning and traffic engineering. To expose students to forecasting techniques that are relevant to transportation planning. To introduce students to geometric design of roads and environmental issues and policy related to transportation.

### **Module 1**

#### **INTRODUCTION TO TRANSPORTATION SYSTEMS**

Transportation systems and modes; Demand and supply of transportation services; Physical structure of the city and transportation system.

### **Module 2**

#### **TRANSPORTATION PLANNING**

Inter-relationship of land use and transportation; Transportation planning process; Systems approach to transport planning; Travel demand forecasting; Planning for public transport system, goods transportation.

### **Module 3**

#### **TRAFFIC STUDY AND DESIGN**

Traffic flow characteristics; Transportation survey: Type of surveys, origin destination survey, Traffic analyses and design considerations; Design of intersections; Traffic signals and signs; Street design: street lighting, street furniture; street plantation; Parking: Parking problems, Parking space requirement standards.

### **Module 4**

#### **ENVIRONMENT AND POLICY ASPECT**

Environmental impact of traffic; Energy issues in transportation, Transportation policies and safety standards.

### **Module 5**

Study of different transportation proposals as suggested by the faculty.

### **References**

1. Khisty, C. J. and Lal, B. K., Transportation Engineering: An Introduction.
2. Papacostas, C. S., Fundamentals of Transportation Engineering.
3. Bruton, M. J., Introduction to Transportation Planning.
4. Khanna, S. K., and Justo, C. E. G., Highway Engineering.