

# Transportation Planning

<b>Code</b> CE 863	<b>Credit Hours</b> 3-0
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## Course Description

This course aims to introduce the notions of transportation systems, organizations, and management. The course covers in detail the elements of the transportation planning process, namely trip generation, trip attraction, trip distribution, modal split, and trip assignment models. The course also covers aspects of forecasting travel demand and evaluating transportation alternatives using both economic and effective approaches.

## Text Book:

1. C. S. Papacostas and P. D. Prevedouros, Transportation Engineering and Planning, Prentice-Hall International Editions, 3rd edition, 2001.

## Reference Book:

1. Meyer, Michael D., and Miller, Eric J., 1984, Urban Transportation Planning: A Decision-Oriented Approach, McGraw Hill.
2. Harvey, G. and Deakin, E., Manual of Regional Transportation Modeling Practice, National Association of Regional Councils, Washington, D.C., July 1993.
3. Nustadin G. Goulias, Transportation Systems Planning: Methods and Applications.
4. Kurt W. Bauer, (2010), City Planning for civil engineers, and surveyors, CRC Press

## Prerequisites:

Nil

## ASSESSMENT SYSTEM FOR THEORY

Quizzes	10 – 15 %
Assignments	5 – 10 %
Mid Terms	25%
ESE	40 - 50%
Term Project	10%

## Teaching Plan

Week No	Topics	Learning Outcomes
1	Introduction to Transportation Planning	Course Outline, Course Objectives, Teaching Plan, Grading Policy Introduction to Transportation Planning
2-3	Transportation Systems	Modes and Means of Transportation Urban Transportation Modes Urban Transportation Problems in Pakistan
4	Travel Demand Modeling	Introduction to Travel Demand Modeling Purpose of Forecasting Traffic demand
5-6	Trip Generation	Land Use and their Characteristics Models to Estimate Trips Attractions and Production
7-8	Trip Distribution	Introduction and Concept of Trip Distribution Different Methods to Distribute Trips Gravity Model
9	<b>MID-SEMESTER EXAM</b>	
10	Trip Distribution	Calibration of Gravit Model
11-12	Modal Split	Introduction and Concept of Utility Function Characteristics of Different Transportation Modes Logit Model to perform Modal Split Nested Logit Model

13-14	Traffic Assignment	Generalized Cost of the Trip Minimum Path Tree and its application All or Nothing Traffic Assignment Capacity Restrain Method
15-16	Traffic Impact Study	Traffic Impact Study Purpose
17	Term Project	Term Project Technical Report
18	<b>END SEMESTER EXAM</b>	