

Transportation Engineering
Transportation System Management

01TR0209

(PEC)

Objective of the Course:

1. To provide the basic understanding of transportation system.
2. To provide the basic knowledge of various transportation system management techniques.
3. To provide knowledge of traffic operation and demand management.

Credit Earned: 3
Students learning outcomes:

After successful completion of the course it is expected that student will be able to,

1. To make the students aware of low cost techniques for reducing problems of traffic and transportation system.
2. To give the concepts of data collection for TSM actions, its implementation and impact analysis.
3. To provide the know-how of demand management, traffic operation improvement and parking management.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	0	0	03	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Introduction	06
	Methodology & Data Collection: Methodological frame work, objectives and problems, conflicts resolution, strategic categories and action elements, travel behavior impact and response time.	
2	TSM actions combinations and interactions	08
	Impact assessment and evaluation, monitoring and surveillance, Area wide data collection methodology, corridor data collection methodology. TSM Actions: Study of following TSM actions with respect to problems	
3	Demand Management	10
	Staggered work hours, flexible work hours, high peak period tolls, shuttle services, circulation services, extended routes	
4	Traffic Operations Improvement	9
	On-street parking ban, freeway ramp control & closure, travel on shoulders, one-way streets, reversible lanes, traffic calming, Right turn phase, right turn lanes, reroute turning traffic	
5	Parking Management	9
	Short term reserved parking, increased parking rates, time duration limits, expanded off-street parking, Non-Motorized Transport- pedestrian only streets, Dial-a-ride for elderly & handicapped.	
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Transportation Engineering**Suggested Theory Distribution**

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	5%	20%	25%	25%	20%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material:**Reference Book:**

1. D, Arlington, Transportation System Management in 1980: State of the Art and Future Directions, Transportation Research Board, 1980.
2. Institute of Transportation Engineers, Transportation and Traffic Engg. Hand Book, Prentice Hall, 1982