Major Elective – 3
(Group – 3)
Transportation System Management

Course Objectives:

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.

Course Contents:

1. Methodology & Data Collection: Methodological frame work, objectives and problems, conflicts resolution, strategic categories and action elements, travel behaviour impact and response time.
2. TSM actions combinations and interactions, 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. Public transportation & HOV treatment - Toll discounts for car pools during peak periods, park and ride, car pooling, exclusive lanes, priority at ramp terminals, bus transfer stations, limited and skip-stop bus services, shared ride.
4. Demand Management: Staggered work hours, flexible work hours, high peak period tolls, shuttle services, circulation services, extended routes.
5. Traffic Operations Improvement: 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.
6. Parking Management: 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.

Practical work:

1. Traffic data collection on congested/problematic corridor for TSM action.
2. Traffic data collection on congested/problematic traffic network area for TSM action.
3. Analysis of data and suggestion of suitable TSM techniques, preparation of alternatives.
4. Prediction of impacts due to suggested TSM alternatives- either by computer simulation or by actual implementation.
5. Problem solving for the problematic transit operation and parking management.
6. Group discussion on the proposed TSM solutions.

References:

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
3. TRB Publications.