



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education, Govt. of India

Department of Planning,
Lecture Plan, Odd Semester, AY 2026-27

Name of Course: M.Planning

Subject Name:	Transport Infrastructure Design
Year & Sem:	MTP II Year III Sem
Course Duration:	20 th July to 11 th Nov 2026
Course Coordinator:	Srikanta Bhargava Teja
Number of Credits:	03
Subject Category:	TC
Total Periods/Week:	03
Internal Assessment	50
End Evaluation	50
Total Marks	100
Total No. of Internal Assessment & Mode	3 – Written Exam & Assignments

Subject Objective: To introduce planning strategies, design considerations and standards for transportation infrastructure.

Week	Lecture / Session Topic (Teaching-Learning Objective aimed)	Session Mode	Reference/ Suggested Readings
20 th July	Commencement of Classes		
22 nd July (Week 1)	Unit I – Road Infrastructure Design of roundabouts; Design of grade separated intersection and interchange; design of tunnel roads;	Lecture	IRC:65-2017 Guidelines for Planning and Design of Roundabouts
29 th July (Week 2)	Design of bus stops and shelters, bus bays; Parking facilities (surface and multi-level) layout design;	Lecture	IRC: 80-2022 Guidelines for design of bus stops on rural highways
05 th Aug (Week 3)	design of pedestrian facilities (subways, foot over bridges); cycle tracks; NMT facilities.	Tutorial	IRC: 103-2022 Guidelines for Pedestrian facilities; IRC: 11-2015 Recommended practices for the design and layout of cycle tracks
12 th Aug (Week 4)	Unit II – Rail Infrastructure Rail alignment surveys; Permanent way - rails, sleepers, ballast;	Lecture	Clifford F Bonnett (2015), PRACTICAL RAILWAY ENGINEERING 2nd Edition, Imperial College Press, London
19 th Aug (Week 5)	Curvature of track types of curves, degree of curvature, super-elevation, transition curves; railway points, crossings and junctions; station yards;	Lecture	Kadiyali L. R. (2016), Transportation Engineering,
23 Aug- 6 Sep, 2025	Field Work		



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9 th Sept (Week 6)	terminals - size, parking, circulation, platforms, passenger service and amenities area; metro rail alignment and stations design elements.	Tutorial	Khanna Publishers, New Delhi.
15-19 September (Week 7)	Mid- Semester Assessment week		
23 rd Sept (Week 8)	Unit III – Airports Airport location planning; Components of airport design; Air side development – runways, taxiways, aprons, air and ground navigation and traffic control aids;	Lecture	Rangwala S. C. (2009), AIRPORT ENGINEERING 9th Edition, Charotar Publishing House Pvt. Limited, Gujarat
30 th Oct (Week 9)	Land side development – passenger building, cargo facilities, internal airport circulation and parking;	Lecture	Kadiyali L. R. (2016), Transportation Engineering, Khanna Publishers, New Delhi.
7 th Oct (Week 10)	Design of ground access facilities and airport support facilities etc.; land side airport connectivity planning.	Tutorial	
14 th Oct (Week 11)	Unit IV – Ports, Docks and Harbour Harbours - Types, layout, components of harbour - entrance, approach channel, turning basin, sheltered basin, breakwaters, wharves and quays, dry docks, Jetties and piers;	Lecture	Kadiyali L. R. (2016), Transportation Engineering, Khanna Publishers, New Delhi.
21 st Oct (Week 12)	Appurtenances to Harbour - Aprons, Transit Sheds, Warehouses, Moorings; Ports - types, components, Seaport location planning and land side connectivity.	Lecture	
28 th Oct (Week 13)	Guest Lecture	Lecture	
4 th Nov (Week 14)	Unit V – Multimodal Interchange Types of modal interchange, facility requirements for interchanges, international case	Lecture	IRC:92-2017 Guidelines for the Design of Interchanges In Urban Areas





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	studies and best practices for modal interchanges;		Blow, C. J. (2005), Transport terminals and modal interchanges: planning and design, Elsevier, United Kingdom.
11 th Nov (Week 15)	components of modal interchange design, space standards, movement control, parking; design standards, access control design, mobility assistance.	Tutorial	
11 th November end of class work			

Details of Internal Assessments

Tentative Date/Week of the Assessment	Mode of Assessment	Marks of the Assessment
Week 04/05	Write up/ Class Test	15
Week 07	Written Exam	20
Week 12/13	Write up/ Class Test	15

Reference books:

1. Blow, C. J. (2005), Transport terminals and modal interchanges: planning and design, Elsevier, United Kingdom.
2. Kadiyali L. R. (2016), Transportation Engineering, Khanna Publishers, New Delhi.
3. IRC Manuals
4. Rangwala S. C. (2009), AIRPORT ENGINEERING 9th Edition, Charotar Publishing House Pvt. Limited, Gujarat
5. Clifford F Bonnett (2015), PRACTICAL RAILWAY ENGINEERING 2nd Edition, Imperial College Press, London

Note:

1. Any other closed holidays as declared by SPAV shall supersede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.


Signature of the Faculty