

Transportation Engineering
Road Safety Audit
01TR1202
(PCC)

Objective of the Course:

- To make student aware of different aspect of Road Safety Audit.
- To make student aware about accident prevention strategies.
- To make student aware about crash analysis.

Credit Earned: 3
Students learning outcomes:

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

1. Identify critical locations by black spot analysis.
2. Evaluate pedestrian safety while crossing.
3. Analyse vehicle pedestrian conflict points based on flow pattern.
4. Understand various preventive measures of accidents.

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	03
	Accident scenario in India, accidents vs crash, road safety improvement strategies, components of road safety plan	
2	Crash investigation and analysis	12
	Crash data collection, Black spot analysis, Crash statics, Crash rate, Interpretation of accident data, vulnerable road users and their safety, pre-crash and post-crash model, crash reconstruction	
3	Road safety audit	12
	Global and local perspective, aim and objective, role and responsibility, procedure of road safety audit, various stages of safety audit, report preparation for RSA	
4	Preventive measures for accidents	07
	Traffic calming devices, Park and ride lots, bus bays, Traffic flow improvement, Enforcement : Nonphysical and Physical measures, Educational mesures	
5	Economic analysis of accident	08
	Accident costing – economic appraisal, B/C ratio, IRR, NPV, PWOC, EUAC	
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Transportation Engineering**Theory Distribution**

Distribution of Theory for course delivery and evaluation

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.

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. Highway safety manual, 1st Edition. AASHTO.
2. Ezra Hauer, "Observational Before – After studies in Road Safety", Pergamon Press
3. Highway safety code, IRC SP 44 – 1996
4. Road safety audit manual, IRC SP 88 – 2019
5. Traffic management in work zone, IRC SP 55 – 2014
- 6 Traffic calming measures, IRC 99 – 2018
7. Evans S. K., Traffic engineering Handbook, Institute of Traffic engineers, USA
8. Kadiyali L. R., Traffic engineering and transport planning, Khanna publishers, 2003