

Course title: Sustainable Urban Transport				
Course code: MEU 144		No. of credits: 2	L-T-P: 28-0-0	Learning hours: 28
Pre-requisite course code and title (if any): NA				
Department: Energy and Environment				
Course coordinator: deepthy.jain@terisas.ac.in			Course instructor: Dr Deepty Jain	
Contact details: anvitaa@gmail.com				
Course type: Elective			Course offered in: Semester 2	
Course description:				
<p>Urban Transport is in a state of crisis today. Availability of mobility options or the lack of it has direct implications on the economic efficiency of our cities and overall well-being. Rising levels of air pollution and emissions, high dependency on fossil fuels, rising number of road accidents, high congestion levels, rising noise levels and health concerns are all negative impacts arising from the urban transport sector. To mitigate the above issues, promoting sustainability in the transport sector is considered to be of vital importance in order to ensure that it meets the travel needs of all individuals besides providing basic access to all services apart from being energy efficient and environment friendly.</p> <p>This course aims to provide an advanced understanding of the concept of sustainable transportation introduced as a theme in the first semester core course on Sustainable Provision and Management of Urban Services. It will discuss in detail the need to promote sustainability in transport, elements and principles of sustainable transportation and various strategies to achieve sustainable transportation. To ensure a better understanding among the students, case studies from around the world will be discussed under the different topics.</p> <p>Students will be also be familiarized with the key aspects of transportation planning and policy making.</p>				
Course objectives:				
<ul style="list-style-type: none"> • To provide a clear understanding of the concept of sustainable transportation • To introduce the basics of transport planning concepts • To introduce the various strategies that can help in achieving sustainable transportation • To introduce relevant case studies on sustainable transport planning initiatives/practices in India as well as abroad 				
Course contents				
Module	Topic	L	T	P
1	Module 1: Transport Planning Process a) Elements of transportation planning process b) Transport planning surveys c) Transport demand and supply analysis d) Transport plan, policies and strategies	5		
2	Module 2: Land Use and Transport Integration a) Principles of land use and transport integration b) Impact of transport accessibility c) Key strategies for land use – transport integration	4		
3	Module 3: Transport Demand Management (TDM) a) Concept and benefits of TDM b) TDM measures and tools	3		
4	Module 4: Public Transport System and NMT Planning a) Taxonomy of public transport systems b) Public transport supply and demand indicators, performance measures and planning imperatives c) NMT Policy environment in India d) Measures to promote NMT e) Principles and strategies for inclusive mobility planning	7		
5	Module 5: Transport and Environment	4		

	a) Air quality, noise and energy impacts b) Fuel options for transport c) Life cycle analysis			
	Module 6: Intelligent transport Systems a) Architecture of ITS b) ITS applications	2		
	Module 7: Transport costs, pricing and financing urban transport projects	3		
	Total	28		

Evaluation criteria:

Assignment/ Presentation: 50%
Final Examination: 50%

Learning outcomes:

On completion of this course, the students would be able to:

- a. Acquire an understanding of the concept and theoretical background of sustainable urban transport.
- b. Develop critical thinking on strategies to address the challenges of transport planning.

Pedagogical approach:

The course will be delivered through a mix of classroom lectures and case studies discussions.

Materials:

Books

1. TERI (2009); An exploration of sustainability in the provision of basic urban services in Indian cities. Available at: http://www.teriin.org/files/Sus_Cities_Report_20090424151451.pdf
2. TERI (2013); Pro-poor mobility - Policy guidelines and case studies Available at: http://www.teriin.org/div/pro-poor-mobility_policy-guidelines-case-studies.pdf
3. TERI (2011); Review of Comprehensive Mobility Plans. Available at http://www.ecocabs.org/media/resources/1319107711_5610_Report_10June.pdf
4. UNEP (2011); Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication (Transport Chapter , pg 375-412); Available at www.unep.org/greeneconomy
5. Ministry of Urban Development, Government of India (2006); National Urban Transport Policy. Available at <http://urbanindia.nic.in/policies/TransportPolicy.pdf>
6. Parameters for the National Mission on Sustainable Habitat (NMSH) – Report of the Sub-Committee on Urban Transport. Available at http://urbanindia.nic.in/programme/ut/NMSH_parameters_v4.1.pdf
7. UN Habitat(2013); Planning and design for sustainable urban mobility, Global report on human settlements. Available at <http://unhabitat.org/planning-and-design-for-sustainable-urban-mobility-global-report-on-human-settlements-2013/>
8. UNEP (2013); NMT Infrastructure in India: Investment, Policy and Design. Available at www.unep.org/Transport/lowcarbon/Pdfs/NMTInfrastructure_India.pdf

Report/papers on PT and NMT

1. G.Tiwari (2011); Key Mobility Challenges in Indian Cities (Discussion Paper No. 2011-18, International transport forum). Available at www.internationaltransportforum.org/jtrc/.../DP201118.pdf
2. Ghate & Sundar (2013); Can We Reduce the Rate of Growth of Car Ownership? Economic & Political Weekly (EPW) June 8, 2013 vol xlviII no 23. Available at <http://www.scribd.com/doc/145359822/Can-we-reduce-the-rate-of-growth-of-carownership>
3. Badhami, M. (2009); Urban Transport Policy as if People and the Environment Mattered: Pedestrian Accessibility the First Step. Economic & Political Weekly (EPW) august 15, 2009 vol xliv no 33. Available at http://www.teriuniversity.ac.in/files/Urban_ransport_policy.pdf
4. Mohan, D. & Tiwari, G., (2000). “Mobility, Environment and Safety in Megacities: Dealing with a Complex Future.” IATSS Research, 24, (1) 39-46. Available at www.iatss.or.jp/common/pdf/en/publication/iatss-research/24-1-

05.pdf

5. Tiwari Geetam & Deepty Jain. (2010), "Bus Rapid Transit Projects in Indian Cities: A Status Report". Built Environment, 36(3), 353-362. Available at http://tripp.iitd.ernet.in/publications/paper/planning/brt%20in%20indian%20cities_built%20env.pdf
6. Geetam Tiwari, and Himani Jain. (2008), "Bicycles in Urban India". Urban Transport Journal. 7:2, 59-68. Available at <http://tripp.iitd.ernet.in/publications/paper/planning/bicle%20in%20india-IUThimani.o.pdf>
7. P.S. Kharola (2008), "Financing Urban Public Transport". Urban Transport Journal.7:2, 70-83. Available at <http://tripp.iitd.ernet.in/publications/paper/planning/financ%20urbn%20pub%20trpt-IUT-kharola.o.pdf>
8. P.S. Kharola, Geetam Tiwari, and Dinesh Mohan (2010) "Traffic Safety and City Public Transport System: Case Study of Bengaluru, India". Journal of Public Transportation, Vol. 13, No. 4, http://tripp.iitd.ernet.in/publications/paper/safety/JPT13-4_khrola.pdf
9. Mohan, D. (2010) "Traffic safety: International status and strategies for the future". Proceedings 12th World Conference on Transportation Research, 1-9. Lisbon, WCTR. Available at <http://tripp.iitd.ernet.in/publications/paper/safety/2010%20Mohan%20WCTR%20Lisbon.pdf>

Additional information (if any):NA

Student responsibilities:

Attendance, feedback, discipline: as per university rules.

Course Reviewers:

1. Prof. Sanjay Gupta, Department of Transport Planning, School of Planning and Architecture
2. Mr Shri Prakash, Distinguished Fellow, Centre for Research on Sustainable Urban Development and Transport System, TERI