

Urban Infrastructure

Compulsory and Recommended Readings

SUS
TAIN

Urban Infrastructure Module Reading List

This Module Outline provides details to assist your study regarding Urban Infrastructure Module within Sustainable Urban Development (SUD) Curricula developed under Strengthening Higher Education in Urban Sustainability and Transitions towards Internationalization of Academic Institutions and Networks (SUSTAIN) project. SUSTAIN aims to improve the quality of Tertiary Education in SUD in Europe and partner Universities in Asia. In doing so, the project aims to develop standardized educational modules related to SUD and furthermore enriching them with international perspectives and academic and vocational skills and competencies. The target groups of this high quality international and multidisciplinary educational programme are students in Europe and Asia, as well as lecturers from European Higher Education (EHE) Institutes, Erasmus Mundus programmes, and Asian Universities in the field of SUD.

Technical infrastructures such as energy, water, waste water, telecommunication and transport systems guide and facilitate urban functioning and urban life in multitude of ways. They are backbones for urban livelihoods and economies, integrate (or splinter) cities socially and spatially, and mediate resource flows. Under such perspective, the urban infrastructure module, as a part of the broader context of SUSTAIN curricula, introduces the history, the key characteristics (ecological, socio-technical, political and economic) and the problems of these urban support systems, their co-evolution with cities and the imperatives for changing these systems. The module also provides an overview and introduction to the issues of sustainable urban infrastructure development patterns and planning, infrastructural crises, and debates on social and technical solutions to the infrastructure question at the course of splintering urbanism, public health problems, and environmental degradation.



Required Readings

Gandy, Matthew 2006: Planning, Anti-planning and the Infrastructure Crisis Facing Metropolitan Lagos. In: *Urban Studies* 43(2): 371–396

Graham, Stephen and Marvin, Simon 2001: Introduction. In: Graham, S. and Marvin, S.: *Splintering Urbanism. Networked Infrastructures, Technological Mobilities, and the Urban Condition*, Routledge, London.

Hughes, Thomas P. 1987: The Evolution of Large Technological Systems. In: Bijker, Wiebke E.;

Hughes, Thomas P.; Pinch, Trevor J. (eds.): *The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology*. Massachusetts: MIT: 51-82.

Star, Susan Leigh 1999: The Ethnography of Infrastructure. In: *American Behavioral Scientist* 43(3): 377–391.

Additional Readings

Coutard, O. 2008. Placing Splintering Urbanism: Introduction. In: *Geoforum* 39 (6): 1815- 1820.

Dupuy, G. 2008: *Urban Networks – Network Urbanism*. Techné Press, pp. 11-74.

Egyedi, Tineke M./Mehos, Donna C. (eds.) 2012: *Inverse Infrastructures: Disrupting Networks from Below*. Edward Elgar Publishing Ltd.

Pflieger, G./ C. I. Rozenblat 2010: Introduction. *Urban Networks and Network Theory: The City as the Connector of Multiple Networks*. In: *Urban Studies* 47(13): 2723-2735.

Monstadt, J. 2009: Conceptualizing the political ecology of urban infrastructures: insights from technology and urban studies. In: *Environment and Planning A* 41 (8): 1924-1942

Neuman, Michael 2006: Infiltrating Infrastructures: On the Nature of Networked Infrastructure. In: *Journal of Urban Technology* 13 (1): 3–31

Neuman, Michael/ Smith, S. 2010: City Planning and Infrastructure: Once and Future Partners. In: *Journal of Planning History* 9(1) 21-42.



Chair for Spatial and Infrastructure Planning

ABOUT THE INSTITUTE

Cities and regions are in transition. They keep changing their built environment and social structures, they are growing, shrinking, are being exposed to a growing locational competition, are increasingly integrated into new national and international networks. And, they are faced with novel ecological risks and global environmental changes. These fundamental transformations of cities and regions, but also their momentum and path dependency are mediated by technical infrastructure systems like energy, water, sanitation, waste or telecommunication systems. These systems do not only have a large impact on architecture and the built environment, but on the sustainability of urban and regional development in manifold ways. Vice versa, these technical systems themselves significantly depend on urban and regional conditions, such as the settlement structure, local system builders in the utilities, in public policy and administration, in research and technology development, in the private sectors and in civil society.

Targeting the thorough study and teaching of these urban and regional processes of change, the restructuring of urban infrastructures, and new forms of urban and regional governance, the Chair for Spatial and Infrastructure Planning was established in March of 2009 as part of Darmstadt University of Technology, one of the leading institutes of technology in Germany. The Chair is integrated into both the Faculty of Architecture and the Faculty of Civil Engineering and Geodesy. It is our ambition to introduce perspectives of public policy and planning into both faculties, to deal with problems arising from sustainable spatial and infrastructure development and to provide scientific knowledge towards the development of planning strategies.

Learn more about the Chair:

http://www.raumplanung.tu-darmstadt.de/fg_ruip/startseite_ruip/index.en.jsp

ABOUT SUSTAIN PROJECT

The SUSTAIN project aims to improve the quality of tertiary education in Sustainable Urban Development in Europe and partner universities in Asia; develop standardized education modules related to SUD and furthermore enriching them with international perspectives and academic and vocational skills and competencies; promote collaboration and international cooperation between European and Asian Higher Education Institutions in SUD but also collaboration and sharing between Erasmus Mundus programmes; establish links and bridge European Higher Education and practice in SUD; increase the visibility and access to European Higher Education in Asia in the field of SUD, attracting prospective Asian and international students.

The SUSTAIN project is co-ordinated by the Institute for Housing and Urban Development Studies (IHS) with the Dutch Research Institute for Transitions, the Netherlands, the Rotterdam School of Management, the Netherlands, Darmstadt University of Technology, Germany; National Technical University of Athens, Greece; European Academy of Bolzano, Italy; Ca' Foscari University of Venice, Italy; Gadjah Mada University, Indonesia; Centre for Environmental Planning and Technology, India; Beijing University of Civil Engineering and Architecture, China; and International Council for Local Environmental Initiatives, Germany.

www.sustainedu.com

**SUS
TAIN**