



Guide Book 2015

## SUMMER SCHOOL URBAN SUSTAINABILITY

from July 13<sup>th</sup> to 29<sup>th</sup>, 2015

at King Mongkut's Institute of Technology Ladkrabang, Bangkok

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# SUMMER SCHOOL URBAN SUSTAINABILITY

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at King Mongkut's Institute of Technology Ladkrabang, Bangkok

In cooperation with the International Master Programme  
"Urban Agglomerations" (M.Sc.) at Frankfurt University  
of Applied Sciences

[www.urban-agglomerations.eu](http://www.urban-agglomerations.eu)

Imprint | June 2015

Edited by

Faculty 1: Architecture · Civil Engineering · Geomatics  
Frankfurt University of Applied Sciences

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# Welcome

Dear participants of the Summer School “Urban Sustainability”

Welcome to our Summer School which is conducted by the Frankfurt University of Applied Sciences (FRA-UAS) in cooperation with the partner university King Mongkut’s Institute of Technology Ladkrabang (KMITL).

The Summer School will take place in Bangkok from July 13th to 29th, 2015. Six professors from Faculty 1 of FRA-UAS, together with three colleagues from the International College of KMITL, will provide lectures and seminars on urban planning and development, sustainable transport, land management, water supply and sewage as well as urban culture and universal design. The Summer School is closely related to the topics taught in the master programme “Urban Agglomerations” Frankfurt University.

It is my pleasure to introduce you to our Master Programme “Urban Agglomerations”, too. The course is taught in English, runs over four semesters and leads to the internationally recognized degree of a Master of Science (M.Sc.), opening the possibility of subsequent doctorate studies. Based on an interdisciplinary and international orientation, the course aims to address graduates with a first academic degree in planning-related disciplines. Together with international partner universities, from Europe, Latin America, Asia and Australia, the course structure aims to impart a profile of knowledge in urban, regional or landscape planning, transport and mobility, GIS, data analysis, as well as social and cultural connotations.

Worldwide, a rapid urban change is an irreversible global process today, leading to new and highly integrated forms of large urban, metropolitan and regional networks and agglomerations. The issues addressed in the Summer School and in the Masters course are related to the most pressing challenges of urban agglomerations today. The experiences of the last decades demand new and integrated approaches and solutions that reach beyond the restrictive confines of separate technical fields. By bringing together diverse experiences and specific qualifications of a set of universities worldwide, our programmes enhance specific know-how with an interdisciplinary approach to the challenges of urban agglomerations, to students and scholars from all over the world.

We strive to supervise and coach all students individually and our foremost priority is to work to provide the best for our students in all aspects of university life.

A warm welcome to you to our Summer School and I wish you a good start and very successful and enriching studies.



Prof. Dr. Michael Peterek  
Programme Director



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# Welcome

Dear participants of the Summer School “Urban Sustainability”

It is our great pleasure to welcome you to the Summer School “Urban Sustainability” at the Southeast-Asian Center for Urban Sustainability (SEACUS), International College, King Mongkut’s Institute of Technology from 13-29 July 2015. The summer school, held together with our partner university, Frankfurt University of Applied Sciences (FRA-UAS), Frankfurt, Germany, aims to widen participants’ knowledge on sustainable urban development and related areas.

During the three weeks, the participants will be exposed to several topics from urban development and planning, land management, transportation, water supply and sewage to urban culture and design.

The program addresses, not only undergraduate and graduate students, but also urban management experts and professionals, who are welcome to participate. Indeed, anyone who wants to deepen his/her knowledge in urban sustainability is welcome to join and share his/her knowledge. There will be a series of lectures, seminars and workshops at ranging from introductory to technical level along with three field trips to see practical applications of the topics covered in classes. The courses will be held in English by professors and lectures from both universities, bringing the knowledge of the two sides of the world together and allow all participants to learn from each other. It is our hope that the three-week summer school will lay the foundation to a lasting national and international network of people working in the field of urban sustainability.

We believe that our summer school would be a great opportunity to our participants and organizers alike to exchange and explore knowledge from two metropolises to sustainably improve our cities and urban lives. For this, we like to welcome you to be part of this engaging event.



Assoc. Prof. Dr. Supat Kittiratsatcha  
Dean





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## About FRA-UAS



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### Frankfurt University of Applied Sciences

The Frankfurt University of Applied Sciences puts its students at the centre of its work. It provides a practice-oriented and academic education, based on international academic standards. All members of the university – students, professors, lecturers and administration – strive to fulfil this common task through their respective activities.

#### Location

The economic and social importance as well as the dynamism and internationalism of Frankfurt am Main and the Rhein-Main region are both a source of stimulation as well as a challenge. The educational services provided by the university take into account the local economic and cultural environment as well as international standards.



## Internationality

The Frankfurt University of Applied Sciences prepares its students for international professional fields, supported by foreign language programmes and the continuous exchange with partner universities. In addition, the attractiveness of the University for foreign students is to be guided through suitable study programmes and student services as well as the availability of both bachelor and master programmes.

## Facilities and Campus

Well-equipped lecture halls, laboratories and workspaces contribute to the motivation and support of students and staff of the university. This is a basic condition for the application of future-oriented methods, particularly in teaching, but also in service and administration. As a central facility of the University, the library is a service point for education, information and culture, equipped with an up-to-date and wide range of media. The Frankfurt University of Applied Sciences is centrally situated, and is being optimized by the on-going constructional developments. This will integrate the university into the life of the city more effectively.

## Our four faculties

- Architecture, Civil Engineering and Geomatics
- Computer Sciences and Engineering
- Business and Law
- Health and Social Work

offer more than 70 different undergraduate studies and master programmes. It is our aim to provide a top academic education which is also practice- and application-oriented. The International Office has compiled an **“Exchange Students’ Handbook”**, which gives detailed information about the University, the city Frankfurt am Main, important information concerning formalities, residence permit, health insurance, etc.

In addition, the International Office has a Frequently Asked Questions (FAQ) web site which provides information on visas, health insurance, banking, and additional topics important to students at the FRA-UAS. The site is located at: [http://www.fh-frankfurt.de/de/international/faq/studieren\\_an\\_der\\_fhffm.html](http://www.fh-frankfurt.de/de/international/faq/studieren_an_der_fhffm.html)

## Campus Culture

Cultural, social and political initiatives, as well as open communication, shape the campus culture of the Frankfurt University of Applied Sciences. The creative, academic and organizational abilities of students and staff result in a lively and creative atmosphere at the university. An essential element of campus culture for all university members is the wide and attractive range of sports offered. The basic principle of the campus culture is that of respect and tolerance among and between students and staff.

About KMITL



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## King Mongkut's Institute of Technology Ladkrabang

King Mongkut's Institute of Technology Ladkrabang (KMITL), established in 1960 aims to provide education and to promote research and development in science and technology for the industrial and economic development of Thailand as well as to instill the students a desire to serve a society. With royal permission, KMITL bears the royal name of King Rama IV, known as Father of Thai Science, and has its symbol, the royal crown emblem. Today, the institute consists of 9 Faculties; the International College is the newest Faculty and functions as an autonomous unit. The International College focuses on multidisciplinary programs which are based not only on the strong experience of KMITL in science and technology but also on knowledge in other fields such as business and management. The International College will be a place for studying on an international level attracting students, lecturers and researchers not only in Thailand but also from other countries and other cultures. In this connection, the International College takes KMITL one step further to be a leading university to produce graduates who succeed in today's globalized world.

To fulfill its mission, the International College aims to

- Provide multidisciplinary international programs on Bachelor, Master and Ph.D. levels with the highest academic standard
- Produce graduates who are well prepared to work in national and international organizations or continue their studies at leading universities worldwide
- Serve the industry by providing knowledge and expertise as advisors to both the government and the private sector
- Collaborate closely with universities, research institutes and the private sector worldwide
- Support the Institute to be a center of academic excellence on an international level.

# About Urban Agglomerations M.Sc.



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## Profile of the Programme

The Masters Programme in “Urban Agglomerations” started in October 2008 at the Frankfurt University of Applied Sciences and is completely taught in English. It runs over four semesters, leading to the internationally recognized “Master of Science (M.Sc.)” and opening the possibility of subsequent doctoral studies.

It is based on an interdisciplinary and international orientation, addressing graduates with a first academic degree in architecture, civil engineering, urban, regional, landscape or environmental planning, geo-informatics or other planning-related disciplines, as well as some professional experience.

Together with international partner universities, for example in Sweden, Australia, Chile, Brazil, Mexico, Thailand, Turkey, Poland, Italy, United Kingdom the course structure aims to impart a profile of knowledge in the domain of urban, regional or landscape planning, transport and mobility as well as GIS, data analysis, social and cultural connotations.

## General Objectives of the Programme

Worldwide, urbanisation is an irreversible global process today, leading to new and highly integrated forms of large urban, metropolitan and regional networks and agglomerations. Globalisation as well as an increase in international migration lead to additional challenges for urban planning, management and development when it comes to meet the demands resulting from the presence of new groups in society with diversified national, socio-economic and cultural backgrounds.

These developments entail serious demographical, economic, environmental and social changes - applying both, though in different and manifold ways, to the agglomerations of the so-called developing world (still in a phase of continuous expansion) and those of the developed world (where extension and shrinking processes can be registered all at once). At the same time, the experience of the last decades has shown that the challenges and problems of the rapid urban change cannot be coped with by methods and the

know-how of different single disciplines alone. The new developments of the 21st century's urbanisation make radically new and integrated approaches and solutions necessary that reach beyond the restrictive confines of separate technical fields.

The issues addressed in this Masters Course are related to the most pressing challenges of urban agglomerations today, including land management, environmental conditions, mobility and transportation, socio-economic differentiation, segregation and migration processes as well as urban and regional governance. They are dealt with in a global and intercultural perception linking, comparing and exchanging experiences and practices of European urban agglomerations with recent developments in highly dynamic city-regions and mega-cities worldwide.

Bringing together the diverse experiences and specific qualifications of a set of universities worldwide - and along with them the planning cultures and recent developments of relevant, yet very different city-regions and urban agglomerations - this Masters Programme enhances the attractiveness and competitiveness of these universities, and their specific know-how with regard to an interdisciplinary approach to the challenges of urban agglomerations, to students and scholars from all over the world.

### **Course Structure**

The course structure offers different thematic modules and imparts solid and broad professional, technical, and social competencies and qualifications for working in city-regions and large agglomerations. In all courses and subjects, professors as well as students work on practical and professionally relevant issues, mostly in co-operation with local authorities, planning and management departments, city-regional corporations and institutions. These practical elements form a central component of the Masters Course.

During the first two semesters in Frankfurt the students acquire a broad range of basic and fundamental knowledge. In project work, conceptual outlines and presentations, students work together in small groups of three to six persons, thus developing teamwork experience and presentation skills. They are able to apply their knowledge in a multidisciplinary project in the second semester. Here they are supported by two members of the academic staff, each representing a different discipline in "Urban Agglomerations".

In the third semester the students attend an international exchange semester. Here they choose one of the cooperating partner universities for the international exchange course. By studying agglomerations and city-regions in an international context, diverse approaches to other planning cultures, perceptions and contemporary developments become visible and offer the students new insights. During this international exchange semester the students take part in project studies at a Masters or postgraduate level with contents referring to urban agglomerations and depending on the lectures offered at the partner university. The modules taught at different places complement one another and are linked (E-learning platform, combined



projects, excursions, guest lectures, conferences, etc.).

In the fourth semester the students return to Frankfurt to write their Master Thesis and take part in the final colloquium.

The integrated structure offers the chance of studying and living in an international context.



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## About Studying in Frankfurt

Frankfurt am Main, one of the foremost financial centres in Europe and since 1998 the headquarters of the European Central Bank, has the flair of a manageable mini-metropolis. It is a striking city of contrasts - historical and modern, commerce and culture, activity and tranquility. Frankfurt's reputation as an international and cosmopolitan city can be attributed to its position as a commercial centre, as a finance capital and as a cultural centre and, last but not least, to its advantageous location in the heart of Germany and Europe.

The Rhine-Main area in central Germany is one of the most important city-regions in Germany. With about 4 million inhabitants it is an excellent place for the international Master Programme "Urban Agglomerations" and practice related studies.

As one of the leading Universities of Applied Sciences in Germany, with about 12.000 students from over 100 nations, Frankfurt University of Applied Sciences offers a broad range of study choices in Frankfurt am Main.

In Frankfurt students can enjoy an energetic social and cultural life on and off campus. So, apart from studying, there are always plenty of interesting things to see and to do, either in the city itself or in the surrounding Rhein/Main region.

As of its central geographic location cities like Berlin, Munich, Hamburg, Amsterdam, Brussels, Paris and even London as well as the seaside and the Alps are within easy reach.

More information is provided by the City Council's website.

[www.frankfurt.de](http://www.frankfurt.de)

# SUMMER SCHOOL URBAN SUSTAINABILITY

from July 13th to 29th, 2015

at King Mongkut's Institute of Technology Ladkrabang, Bangkok



## Summer School Urban Sustainability

KMITL, Bangkok

13<sup>th</sup> - 29<sup>th</sup> July, 2015

» Further information can be found on  
[www.urban-agglomerations.eu](http://www.urban-agglomerations.eu)

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Civil Engineering • Geomatics

# Introduction to the Study Course

The topic of the Summer School is “Urban Sustainability” and the course will focus on the diverse challenges and requirements a megacity is confronted with today. The aim is to develop an understanding of the complex structure of growing cities. By observing and analyzing specific examples of global best practices, the participants will be able to develop a differentiated perception and get to know about possible methods of solutions. Intercultural approaches, experiences, concepts, methods and procedures in European agglomerations as well as in global developments are the center of attention.

The Summer School is designed as a compact course taught in English, with a variety of didactic units, structurally organized as lectures, seminars, field trips and observations. Altogether the course will run over 17 days and is divided into three thematic groups:

Week 1: July 13<sup>th</sup> to 17<sup>th</sup>

## **Urban Theory and Sustainable Transport**



Urban Theory, Perception and Culture



Sustainable Transport

Week 2: July 17<sup>th</sup> to 23<sup>rd</sup>

## **Urban Infrastructure and Land Management**



Land Management



Urban Water Supply and Sanitation

Week 3: July 24<sup>th</sup> to 29<sup>th</sup>

## **Urban Planning and Development**



Urban Planning and Development



Universal Design

Most of the courses will be held by professors from the master programme “Urban Agglomerations”, which is operated in Frankfurt at the University of Applied Sciences. Additionally, colleagues from the KMITL will participate in lecturing and on field trips.

Urban Sustainability as a topic accomplishes many different disciplines and fields of expertise. Therefore the group of lecturers participating in the course is diverse and will offer very different insights to the subject.

# Programme Schedule

<b>Week 1</b>		<b>Urban Theory and Sustainable Transport</b>		
		<b>July 13<sup>th</sup> to 17<sup>th</sup>, 2015</b>		
<i>Day</i>	<i>Date</i>	<i>Course / Unit / Activity</i>	<i>Time</i>	<i>Lecturer</i>
1	13-07-2015 <i>Monday</i>	<b>Opening ceremony</b>	<b>9 – 10:30 am</b>	
		Welcome address		Dean International College
		Welcome address		German Embassy
		Welcome address		FRA-UAS
		Opening address		President KMITL
		Introduction to the programme of the Summer School		FRA-UAS
		<b>Sustainable Transport</b>	<b>11 – 12:30 pm</b>	M. Eng. Dennis Knese, FRA-UAS
		- Transport modes and their characteristics - Planning principles and best practices		
		<b>Sustainable Transport</b>	<b>1:30 – 5 pm</b>	M. Eng. Dennis Knese, FRA-UAS
		- Global megatrends, consequences for traffic and transport, measures and actions		
2	14-07-2015 <i>Tuesday</i>	<b>Urban Theory, Perception and Culture</b>	<b>9 – 12:30 pm</b>	Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS
		- Theories, perceptions and the cultural meaning(s) of public space		
		<b>Urban Theory, Perception and Culture</b>	<b>1:30 – 5 pm</b>	Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS
		- Urban memory, urban palimpsests, urban heritage		
3	15-07-2015 <i>Wednesday</i>	<b>Urban Theory, Perception and Culture</b>	<b>9 – 11 am</b>	Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS
		- Urban theory and the practice: Barcelona as a case study		
		<b>Sustainable Transport</b>	<b>11 – 12:30 pm</b>	Dr. Jaruwit Prabnasak, KMITL
		- Transportation Infrastructure in Thailand		
		<b>Sustainable Transport</b>	<b>1:30 – 5 pm</b>	M. Eng. Dennis Knese, FRA-UAS
		- E-Mobility and other concepts for future transport systems		
4	16-07-2015 <i>Thursday</i>	<b>Field Trip 1</b>	<b>9 – 12:30 pm</b>	Dr. Jochen Amrehn, Dr. Ronnachai Tiyaratannachai, KMITL
		- Exploration and evaluation of Bangkok public transport (Skytrain and/or water-based public transport)		
		<b>Finalizing of the Presentation</b>	<b>1:30 – 5 pm</b>	Students
5	17-07-2015 <i>Friday</i>	<b>Students' Interim Presentation 1</b>	<b>9 – 12 pm</b>	All
		Urban Theory and Sustainable Transport		





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### **Sustainable Transport**

M. Eng. Dennis Knese, FRA-UAS

This course deals with different approaches to make the mobility of the future more sustainable. Cities and transport systems around the world have evolved through history, and this led to a different understanding of mobility. An overview on transport modes and their characteristics are presented by various examples. It includes perspectives from both the developed and less developed worlds. The basic elements and principles of sustainable transport planning in Germany and other countries are explored by reference to best practices in public transport systems as well as non-motorized modes.

Further, the course examines megatrends as urbanization, demographic change, growing mobility, and climate change, and their consequences for traffic and transport. The students will learn about current trends which are influencing transport systems around the globe and how they are addressed. By looking at the measures to face these issues, the transferability of exemplary approaches from one to another area plays a central role.

Finally, the students will discuss possible developments in the future. E-Mobility is a key for an eco-friendly transport system. But it will not solve all problems caused by traffic and transport. Sustainable urban development strategies need to integrate innovative mobility concepts where electric vehicles are just one part of it. The course features an introduction to and debate on various promising concepts.

### **Sustainable Transport**

Dr. Jaruwit Prabnasak, KMITL

This lecture reviews and discusses ideas to setup a mega-project in transport infrastructure development in Thailand.



©: Kathrin Golda-Pongratz



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### Urban Theory, Perception and Culture

Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS

The course will introduce phenomenological theories related to urban space and the human perception of urban surroundings. The shape, the material appearance, the usage patterns and atmospheres of our surroundings have an effect on how we act and feel and determine ourselves as citizens. Nowadays these questions are of great importance since vast urban agglomerations determine the way of living of ever more persons around the world. Yet the very places where people spend their daily time should respond to human needs and support their well-being. The interpretation of urban spaces varies according to the respective cultural background and the urban memories related to it. The course will explain and discuss possible urban interventions and discourses established in diverse urban environments, from which to establish a critical reflection and to gain the ability to read and interpret the spaces we use and we live in. Theoretical approaches to urban perception and culture will be presented and exercises proposed, in which the students will establish new forms of reading and interpretation of urban public spaces they are familiar with.

#### Course requirement

For the first session, each student/ participant is asked to bring *two images*: one that shows an urban (or rural) situation or public space which is of emotional importance to the student, maybe related to his daily life, home, or childhood or youth; another one that is for the student the best representation of what is „urban“ to him or her. These two images are requested to be brought as digital files (jpg or pdf) with the student's name and image title and will be shown and discussed at the very beginning of the course.

# Programme Schedule

## Week 2

### Urban Infrastructure and Land Management

July 17th to 23rd, 2015

<i>Day</i>	<i>Date</i>	<i>Course / Unit / Activity</i>	<i>Time</i>	<i>Lecturer</i>
5	17-07-2015 <i>Friday</i>	<b>Urban Infrastructure</b> - Introduction to urban infrastructure and water supply	<b>1:30 – 5 pm</b>	Prof. Dr. Monika Horster, FRA-UAS
6	18-07-2015 <i>Saturday</i>	<b>Urban Infrastructure</b> - Management of municipal solid waste in Thailand - Concepts for community-based waste management: case studies from Thailand	<b>9 – 12:30 pm</b>	Dr. Jochen Amrehn, KMITL
		<b>Urban Infrastructure</b> - Sanitation	<b>1:30 – 5 pm</b>	Prof. Dr. Monika Horster, FRA-UAS
7	19-07-2015	<b>Sunday Off</b>		
8	20-07-2015 <i>Monday</i>	<b>Land Management</b> - Land management and land administration in theory and practice	<b>9 – 12:30 pm</b>	Prof. Dr. Fabian Thiel, FRA-UAS
		<b>Urban Infrastructure</b> - Urban runoff	<b>1:30 – 5 pm</b>	Prof. Dr. Monika Horster, FRA-UAS
9	21-07-2015 <i>Tuesday</i>	<b>Land Management</b> - Land policy and land governance	<b>9 – 12:30 pm</b>	Prof. Dr. Fabian Thiel, FRA-UAS
		<b>Land Management</b> - Land use planning and land registration	<b>1:30 – 5 pm</b>	Prof. Dr. Fabian Thiel, FRA-UAS
10	22-07-2015 <i>Wednesday</i>	<b>Land Management</b> - Site remediation and urban planning in Thailand	<b>9 – 11 am</b>	Dr. Ronnachai Tiyarattanachai, KMITL
		<b>Finalizing of the Presentation</b>	<b>1:30 – 3 pm</b>	Students
		<b>Students' Interim Presentation 2</b> Urban Infrastructure and Land Management	<b>3 – 5 pm</b>	Students
11	23-07-2015 <i>Thursday</i>	<b>Field Trip 2</b> - Excursion to Mahidol University Campus	<b>9 – 5 pm</b>	Dr. Ronnachai Tiyarattanachai, KMITL

## Course Topics



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### Urban Infrastructure

Prof. Dr. Monika Horster, FRA-UAS

By this course the students shall gain a general understanding of the most important aspects of a functioning and safe water supply system, the necessity and potentials to treat wastewater and new approaches to build up sustainable sanitation. The course will start with an introduction to the importance and relevance of the issue of water and disease. It will then focus on water supply, looking at water demand (public, agricultural, industrial demand; peak and average demand; effects on demand, ways of reduction, water losses), water sources and their reliability, water pollutants and their effects, safety management (multi-barrier systems and water protection areas), and finally water supply systems (catchment, transport, storage, distribution).

A second part of the course will be dedicated to sanitation dealing with topics such as the amount of waste water, content substances and characteristics, wastewater treatment (necessity, aims, main steps), new approaches to sustainable sanitation (separation of grey, yellow, brown water, closing the cycle).

### Urban Infrastructure

Dr. Jochen Amrehn, KMITL

The topic of this unit is the management of municipal solid waste in Thailand and will look at different case studies in the country.





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## Course Topics



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### Land Management

Prof. Dr. Fabian Thiel, FRA-UAS

This course is structured in four parts. The first topic “Land management and land administration in theory and practice” deals with the main concepts and principles of land management and land administration in theory and practice, with special reference to land rights and land tenure systems in Southeast Asia (e.g., Thailand, Cambodia, Laos, Vietnam). It looks at real-life examples on land management and land administration from Germany and programs of development cooperation.

The second part, “Land policy and land governance”, deals with the importance of land policy and land governance for the achievement of sustainability in urban areas as well as the main concepts and principles for land policy formulation and assessment of the land governance situation (e.g., Land Governance Assessment Framework).

As a third topic “Spatial and land use planning” gives an overview on spatial planning and land use planning principles and looks at the role of spatial planning and land use planning for urban and rural areas in Southeast Asia and Europe.

Finally, the part on “Land registration and cadastre systems” deals with the principles of land registration and cadastre systems, with a focus on projects in Southeast Asia and Africa and a special reference to development cooperation.

### Land Management

Dr. Ronnachai Tiyyarattanachai, KMITL

This course will focus on site remediation and urban planning in Thailand and will cover the concept of brownfield redevelopment. The situation in Thailand will be studied comparing this practice with more advanced countries.

# Programme Schedule

## Week 3

### Urban Planning and Development

July 23rd to 29th, 2015

<i>Day</i>	<i>Date</i>	<i>Course / Unit / Activity</i>	<i>Time</i>	<i>Lecturer</i>
12	24-07-2015 <i>Friday</i>	<b>Urban Planning</b> - General trends and challenges of worldwide urbanization - From cities to city-regional development	<b>9 – 12:30 pm</b>	Prof. Dr. Michael Peterek, FRA-UAS
		<b>Urban Planning</b> - Principles and concepts for a more sustainable urban development	<b>1:30 – 5 pm</b>	Prof. Dr. Michael Peterek, FRA-UAS
13	25-07-2015 <i>Saturday</i>	<b>Universal Design</b> - Challenges, potentials and implementation of Universal Design in urban planning	<b>9:00– 12:30</b>	Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
		<b>Universal Design</b> - Practical course – Experiencing physical impairments	<b>13:30 – 15:30</b>	Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
		Overview on the academic system and study opportunities in Germany	<b>16:00 – 17:30</b>	Prof. Dr. Michael Peterek, FRA-UAS Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
14	26-07-2015	<b>Sunday off</b>		
15	27-07-2014 <i>Monday</i>	<b>Field Trip 3</b> - Visit to Klong Toey, a local community, to investigate its urban planning related problems and potentials	<b>9:00 – 14:00</b>	Dr. Jochen Amrehn, KMITL
		Visit to DAAD Study Information Centre	<b>15:00 – 17:00</b>	DAAD
		Dinner in Tawandaeng	<b>Evening</b>	All
16	28-07-2015 <i>Tuesday</i>	<b>Urban Planning</b> - Selected case studies and best practices of sustainable urban planning and development	<b>9:00 -12:30</b>	Prof. Dr. Michael Peterek, FRA-UAS
		<b>Universal Design</b> - Impact on the city: best practices and international examples	<b>13.30 – 17.00</b>	Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
17	29-07-2015 <i>Wednesday</i>	<b>Elaboration of the final presentations</b>	<b>9:00 – 12:30</b>	Students
		<b>Students' Final presentation</b> Presentation of all elaborated course work and oral colloquium/ examinations	<b>13.30 – 15:30</b>	All
		<b>Evaluation of the Summer School</b>	<b>15:30 – 16:00</b>	All
		<b>Formal ending and handover of the certificates</b>	<b>16:30 – 18:00</b>	All

## Course Topics



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### **Urban Planning and Development**

Prof. Dr. Michael Peterek, FRA-UAS

The course will introduce students to the major planning-related challenges facing cities and urban agglomerations today and give them an overview on how to face these issues by describing principles of a more sustainable urban planning and development in the future.

In a first instance, general trends, characters and consequences of contemporary worldwide urbanization are presented in an international perspective, including characters and typologies of megacities and urban agglomerations, of their formal and informal developments in different continents and regions. Then the concept of city-regions is developed, looking at their contemporary physical, functional and infrastructural appearances and specifically the differentiation between mono-centric and polycentric metropolitan areas and the respective planning challenges. In the next part, guidelines and principles for a more sustainable urban development are explored, including the discussion of issues such as mixture and density, the role of public and of open space, sustainable mobility and walkability in cities, energy efficient urban districts as well the matter of participation. Finally, selected case studies, key projects and innovative approaches to a more sustainable urban planning and development are presented, including Hamburg, Frankfurt and Munich in Germany, Malmö in Sweden and Curitiba in Brazil. The whole course is supported by extensive visual and graphical material from a large number of international case studies.





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## Course Topics



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### Universal Design

Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS

This course will be looking at urban development and the potentials of urban renewal in cities, specifically in relevance to Universal Design. Universal Design supports the idea of inclusive cities, which means creating an urban environment that is liveable for all people and prevents exclusion from the very beginning. Inclusion implies designing cities that allow all people to participate, supporting independence and self-determination. In this context security and accessibility are major issues. Considering what makes a city liveable, it is inevitable to develop a vision of sustainable cities, reflecting on environmental, economic and social dimensions. In future demographic changes will become an important challenge as well.

The course will be structured in three parts. A first part will present an overview of challenges, potentials and implementation of Universal Design in urban planning. Secondly, practical experiences will give an insight to the importance of accessibility and usability of a city. And finally, international examples of best practices will demonstrate the potential impact on the city.



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# Sustainable Transport

*Unit* **Transport modes and their characteristics, Planning principles and best practices**

*Lecturer* M. Eng. Dennis Knese, FRA-UAS

*Content* The course features an introduction to and debate on various promising concepts. The first lecture will give an introduction to the field of traffic and transport. To understand basic planning principles, it is necessary to get an overview on different transport modes and their characteristics. Different types can be distinguished: Individual vs. public transport; motorized vs. non-motorized transport; passenger transport vs. transport of goods. The different forms will be characterized by various examples from both the developed and less developed world. Moreover, the main objectives of transport planning in general as well as basic elements of sustainable planning in Germany and other countries will be explained. An important element is the so-called A-S-I approach: avoiding or reducing the need to travel; shifting to more environmentally friendly modes; improving the energy efficiency of transport modes as well as the vehicle technology. The planning process, including problem and measure analysis, consideration and decision-making, implementation and monitoring, will be exemplified. Good practice examples for walking, cycling, and public transport measures will be shown. Also, the stationary traffic is part of transport planning, as all car trips start and end with parking. Moreover, questions as how to set effective restrictions, how to regulate non-sustainable transport modes, and how to influence mobility behavior are part of this lecture. The key words in modern transport planning perspectives are intermodality and multimodality. The terms will be clarified and examples for a sustainable implementation will be discussed.

- Literature*
- Rodrigue, J.P.; Slack, B. & Comtois, C. (2013): The geography of transport systems,  
URL: <https://people.hofstra.edu/geotrans/index.html>
  - Kenworthy, J. & Townsend, C. (2002): An International Comparative Perspective on motorization in urban China,  
URL: <http://www.iatss.or.jp/common/pdf/en/publication/iatss-research/26-2-12.pdf>
  - Dalkmann, H. & Sakamoto K. (2011): Towards a green economy: Transport - Investing in energy and resource efficiency,  
URL: [http://www.unep.org/transport/lowcarbon/newsletter/pdf/GER\\_10\\_Transport.pdf](http://www.unep.org/transport/lowcarbon/newsletter/pdf/GER_10_Transport.pdf)

## **Global megatrends, consequences for traffic and transport, measures and actions**

M. Eng. Dennis Knese, FRA-UAS

*Unit*

*Lecturer*

*Content*

Megatrends are large-scale and long-run drivers of change. They do not only change single segments or areas of social life and economics but transform the whole society. The first part of this lecture will highlight important megatrends for the transport sector. One megatrend with strong impacts on traffic and transport is urbanization. This appears in growing cities, changing social and population structures, and arising infrastructural risks. The demographic change is another topic, but can regionally differ in direction and dimension. Nevertheless, it creates different challenges for transport planning everywhere. Also, a general growth in mobility all over the world makes for congestion and environmental problems especially in big cities. The climate change as another megatrend influences all social areas, just as the transport sector. The consequences for cities and regions will be discussed, and current trends influencing transport systems around the globe will be analyzed. Comparing some facts and figures will help to understand different circumstances for transport planning activities. To show how sustainable transport comes as a “package deal” and not as isolated aspects of a city, a sustainability ranking among metropolitan areas with different variables will be presented. This includes factors as private vehicle ownership, urban density, public transport use, modal split, transport emissions, and others. Further, different measures and actions in transport planning regarding how to deal with megatrends will be discussed. Concluding, overall policy implications will be given and the transferability of exemplary approaches will be analyzed.

- KPMG International (2013): Future State 2030: The global megatrends shaping governments,  
URL: <http://www.kpmg.com/dutchcaribbean/en/Documents/Publications/FutureState2030WebAccessibleFINAL.pdf>
- PWC (2014): Five megatrends and possible implications, April 2014,  
URL: [http://www.pwc.com/en\\_US/us/corporate-governance/publications/assets/pwc-corporate-governance-directors-megatrends.pdf](http://www.pwc.com/en_US/us/corporate-governance/publications/assets/pwc-corporate-governance-directors-megatrends.pdf)
- Moss, M. & O'Neill, H. (2012): Urban Mobility in the 21st century,  
URL: [http://wagner.nyu.edu/files/rudincenter/NYU-BMWi-Project\\_Urban\\_Mobility\\_Report\\_November\\_2012.pdf](http://wagner.nyu.edu/files/rudincenter/NYU-BMWi-Project_Urban_Mobility_Report_November_2012.pdf)
- Newman, P. & Kenworthy, J. (2000): The Ten Myths of Automobile Dependence. In: World Transport Policy & Practice, Volume 6, Number 1, (2000) 15–25,  
URL: [http://www.worldcarfree.net/resources/freesources/ad\\_myths.pdf](http://www.worldcarfree.net/resources/freesources/ad_myths.pdf)

*Literature*

*Unit* **E-Mobility and other concepts for future transport systems**

*Lecturer* M. Eng. Dennis Knese, FRA-UAS

*Content* First of all, this lecture deals with environmental issues of transport. Air pollution, noise generation, land use consumption, and safety issues are key aspects to talk about. Different measures to reduce the negative effects of traffic and transport on the climate and living quality in cities will be outlined. Another focus lies on the peak oil discussion which has a strong influence on urban development and transport planning. The importance of renewable energies plays an important role for a successful mobility and energy transition likewise. Possible future developments in the mobility sector will be discussed. One big issue in this regard is e-mobility. Electric vehicles can play a key role for an eco-friendly transport system in the future. Following a historical overview, characteristics including advantages and disadvantages of e-mobility in general will be discussed. Moreover, vehicle types, infrastructure issues, and findings of different pilot projects will be presented. This includes some results of acceptance surveys in Germany. A comment on possible ways to attract more people to e-mobility as well as a discussion if or how much e-mobility is necessary for a sustainable transport system is also part of this lecture. Besides e-mobility, an overview on various innovative mobility concepts will be shown. It ends with a discussion on sustainable urban transport in the future in which students can state their opinion and talk about experiences from their home country.

- Literature*
- Schäfer, P.; Schmidt, K. & Knese, D. (2014): Social-Scientific Accompanying Research in the Model Region Electromobility Rhine-Main. In: Hülsmann, M. & Fornahl, D. (Hrsg.): Evolutionary Paths Towards the Mobility Patterns of the Future, Springer Verlag, Heidelberg, p. 319-334,
  - Teichmann, G.; Trützscher, J.; Hahn, C.; Schäfer, P.; Hermann, A. & Höhne, K. (2012): Electromobility Standards: Driving the future, URL: [http://www.pwc.de/de/offentliche-unternehmen/assets/studie\\_normung\\_executive\\_summary\\_e.pdf](http://www.pwc.de/de/offentliche-unternehmen/assets/studie_normung_executive_summary_e.pdf)
  - Van Audenhove, F.J.; Korniiuchuk, O.; Dauby, L. & Pourbaix, J. (2014): The future of urban mobility 2.0 - Imperatives to shape extended mobility ecosystems of tomorrow. January 2014, URL: [http://www.uitp.org/sites/default/files/members/140124%20Arthur%20D.%20Little%20%26%20UITP\\_Future%20of%20Urban%20Mobility%20%200\\_Full%20study.pdf](http://www.uitp.org/sites/default/files/members/140124%20Arthur%20D.%20Little%20%26%20UITP_Future%20of%20Urban%20Mobility%20%200_Full%20study.pdf)
  - Aftabuzzaman, M. & Mazloumi, E. (2011): Achieving sustainable urban transport mobility in post peak oil era. In: Transport Policy 18, p. 695–702,



Course Units



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# Sustainable Transport

<i>Unit</i>	<b>Transportation Infrastructure in Thailand</b>
<i>Lecturer</i>	Dr. Jaruwit Prabnasak, KMITL
<i>Content</i>	<p>Recently, the Thai Government has proposed an idea to setup a mega-project in transport infrastructure development for the country. With this plan, there are more than 30 investment projects with the total budget of 60,000 billion US dollar; these could completely change the figure of transport and logistics systems in Thailand. However, some controversy has been raised. The lecture reviews the contents as well as discusses the key success factors and debatable issue of this mega-project.</p>

Course Units



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# Urban Theory, Perception and Culture

<i>Unit</i>	<b>Theories, perceptions and the cultural meaning(s) of public space</b>
<i>Lecturer</i>	Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS
<i>Content</i>	<p>The first session of the Urban Theory, Perception and Culture seminar starts with a presentation of all participants and their respective two selected images.</p> <p>An introductory lecture will open up a theoretical framework of how to read and interpret public space. Parting from relevant sources and discourses, concepts of participation and strategies of appropriation of urban spaces will be discussed. A focus will be set on ad-hoc actions, community network organizations, strategies of civic involvement and rituals and cultural codes in the urban realm, as well as institutional, planning and architectural approaches to both avoid or enhance and challenge collective and participative initiatives.</p> <p>Multiple cultural backgrounds of the course participants and our diverse experiences with political and social as well as spatial, territorial and architectural dimensions in the definition of citizenship, publicness and appropriation of the urban will guide our explorations and discussions.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• De Certeau, Michel: The practice of everyday life. Berkeley, 1984.</li><li>• Habermas, Jürgen: The structural transformation of the public sphere. Cambridge, 1989.</li><li>• Hayden, Dolores: The power of place. Urban landscapes as public history. MIT Press, Cambridge/ Massachusetts 1995. (Chapter 2: Urban landscape history: The sense of place and the politics of space, pp. 14-43.) (*)</li><li>• Golda-Pongratz, Kathrin: Landscapes of Pressure. Barcelona, 2014.</li><li>• Peran, Martí/ CCCB (eds.): Post-it-city. Ciutats ocasionals.. Barcelona, 2008.</li><li>• Sennett, Richard: The fall of public man. New York, 1977.</li></ul> <p>(*) will be delivered as a pdf on the moodle platform</p>

# Urban Theory, Perception and Culture

## Urban memory, urban palimpsests, urban heritage

*Unit*

Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS

*Lecturer*

This session aims at setting up new frameworks of analysis and suggesting forms of (re) construction, (re) creation, narration and interpretation of memory in public spaces in a global context.

*Content*

A first settling of ideas at the beginning of the workshop introduces relevant theoretical sources and discourses and discusses concepts such as ideological, political and nation-related contexts, cultural, linguistic and social expressions and spatial, territorial, urbanistic and architectural dimensions.

Three lines of work address contemporary questions and approaches of interpreting, assessing and designing public spaces on various scales, related both to the immediate physical and the collective urban memory: first, relevant European projects that have gained international attention, are discussed and set into a larger framework in terms of discourse and documentation; second, specific spaces of memory are presented in order to enhance a discourse and illustrate how cities with their specific historic and political background deal with aspects of urban memory; and, third, a focus onto non-designed, maybe forgotten or invisible spaces and territories, where the memory has been transformed or eliminated, aims at discussing and suggesting methods of mapping and documentation.

- Boyer, M. Christine: The city of collective memory. MIT Press, Cambridge/ Massachusetts 1994.
- Foucault, Michel: The Archaeology of Knowledge. Routledge, London 1972. (Part II, Chapter 1: The unities of discourse, pp. 23-33 and Part IV, Chapter 2: The original and the regular, pp. 157-165.) (\*)
- Halbwachs, Maurice: On collective memory. University of Chicago Press, Chicago 1992. (Chapter 2: Historical and Collective Memory, pp. 50-87, and Chapter 3: Reconstruction of the Past, pp. 46-51.) (\*)
- Huyssen, Andreas: Present Pasts. Urban palimpsests and the politics of memory. Stanford University Press, Stanford 2003. (Introduction, pp. 1-29.) (\*)
- [www.publicspace.org](http://www.publicspace.org)

*Literature*

(\*) will be delivered as a pdf on the moodle platform



# Urban Theory, Perception and Culture

<i>Unit</i>	<b>Urban theory and the practice: Barcelona (Spain) as a case study: Phases of urban (re)development and making of public space</b>
<i>Lecturer</i>	Prof. Dr. Kathrin Golda-Pongratz, FRA-UAS
<i>Content</i>	<p>The Catalan capital Barcelona is, since the layout of its extension plan by Ildefons Cerdà after 1859 and its transformation around the Olympic Games in 1992, considered to be an urban model. It is presented as a unique metropolitan area that, since the mid 19th century, has undergone important phases of urban (re)development and has initiated a unique programme of creation of public spaces. At the beginning of the 21st century, the city has to cope with the effects of mass tourism and the definition of its role as a city of “social inclusion” and “proximity” and as a potent European business and service metropolis, while undergoing severe changes due to the economic crisis. Finally, the concept and Barcelona’s self-promotion as smart city is questioned in front of real developments and challenges discussed.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• Busquets, Joan (2005): “Barcelona, a European city. Another change of scale?”. In: Barcelona. The urban evolution of a compact city. Nicolini, Rovereto, pp. 413-444.</li><li>• De Solà-Morales; Manuel (2008): “Motorways and tunnels”. In: Ten lessons on Barcelona. Barcelona: COAC, pp. 527-578.</li><li>• Golda-Pongratz, Kathrin (2007): “Retracing a relation: Barcelona’s role as urban model for Ibero American metropolises. Lima as a case study”. In: Trialog N° 93. Journal on Planning and Building in the Third World. Darmstadt, pp 4-11. (*)</li><li>• Majoor, Stan (2011): “Framing Large-Scale Projects: Barcelona Forum and the Challenge of Balancing Local and Global Needs.” In: Journal of Planning Education and Research. DOI: 10.1177/0739456X11402694 (*)</li><li>• Neuman, Michael (2011): “Ildefons Cerdà and the future of spatial planning. The network urbanism of a city planning pioneer”. In: TPR, 82(2) 2011 DOI: 10.3828/tpr.2011.10 (*)</li><li>• <a href="http://smartbarcelona.cat/en/">http://smartbarcelona.cat/en/</a></li></ul>

(\*) will be delivered as a pdf on the moodle platform

Course Units



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# Urban Infrastructure

<i>Unit</i>	<b>Introduction to urban infrastructure and water supply</b>
<i>Lecturer</i>	Prof. Dr. Monika Horster, FRA-UAS
<i>Content</i>	<p>In this lecture, students shall gain a general understanding of the most important aspects of a functioning and safe water supply system and the necessity and potentials to treat water.</p> <p>The lecture will start with an introduction to the relevance water has to human health and wellbeing. It will then focus on water demand (mostly public, but also industrial, commercial, and agricultural); peak and average demands will be discussed as well as effects on demands, e.g. climate, life style and economic situation influence public water demand. Water losses and ways of reduction will be looked into as in many cities in the world losses are up to 50 percent.</p> <p>Different types of water sources and their reliability as a source will be considered.</p> <p>As the safety of potable water is paramount, sustainable water management requires multi-barrier systems and the obligation of water protection areas. The necessary modules of a water supply system (catchment, transport, storage, distribution, etc.) will be looked at. It will become apparent that urban water supply has to rely on the region and can't be managed on its own.</p> <p>Climate change and population growth will be discussed. Examples from different parts of the world will be explored.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• URL: <a href="https://www.koshland-science-museum.org/water/html/en/Overview/index.html">https://www.koshland-science-museum.org/water/html/en/Overview/index.html</a></li><li>• URL: <a href="http://adb.org/sites/default/files/pub/2014/urban-water-supply-sanitation-southeast-asia.pdf">http://adb.org/sites/default/files/pub/2014/urban-water-supply-sanitation-southeast-asia.pdf</a></li><li>• URL: <a href="http://www.pub.gov.sg/water/newater/Pages/default.aspx">http://www.pub.gov.sg/water/newater/Pages/default.aspx</a></li><li>• URL: <a href="http://www.who.int/water_sanitation_health/WHS_WWD2010_guidelines_2010_6_en.pdf?ua=1">http://www.who.int/water_sanitation_health/WHS_WWD2010_guidelines_2010_6_en.pdf?ua=1</a></li></ul>

## Sanitation

Prof. Dr. Monika Horster, FRA-UAS

Sanitation in general is about practical measures for the preservation of public health. First of all it is essential to know about the quantity and quality of waste water, its content substances and characteristics, and how it effects the environment. This leads to the need to postulate aims for wastewater treatment. The main steps to reach these aims will be discussed. Conventional systems which have been first developed 150 years ago and are still very effective and new approaches to sustainable sanitation will be compared and evaluated. The new approaches focus on closing the cycle of water and matter by applying a sustainable concept. Means are the separation of grey, yellow, and brown water and their reuse. Examples from different parts of the world will be explored.

- URL: [http://www.wssinfo.org/fileadmin/user\\_upload/resources/1251452757-A\\_Snapshot\\_of\\_Drinking\\_Water\\_in\\_SEA\\_Pacific\\_Final.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/1251452757-A_Snapshot_of_Drinking_Water_in_SEA_Pacific_Final.pdf)

*Unit*

*Lecturer*

*Content*

*Literature*

# Urban Infrastructure

<i>Unit</i>	<b>Urban Runoff</b>
<i>Lecturer</i>	Prof. Dr. Monika Horster, FRA-UAS
<i>Content</i>	<p>Some of the challenges especially in humid areas are rainfall or stormwater and growing flood threats due to climate change. The quantity of rainwater exceeds the amount of wastewater multiple and thus is a severe threat in urban space. Specifics of rainfall as occurrence and precipitation height and the impact of development of urban space on the hydrological cycle will be discussed.</p> <p>In developed areas impervious surfaces such as pavement and roofs prevent precipitation from naturally soaking into the ground. Instead, the water runs rapidly into storm drains, sewer systems, and drainage ditches and can cause e.g. flooding, bank erosion, and infrastructural damage. Traditionally, stormwater was and still often is gathered in open channels or piped networks and transported off site. These systems have limits which become more and more overburdened. Besides its sheer quantity stormwater runoff causes problems by picking up pollutants from surfaces such as sediments, bacteria, oil, and metals.</p> <p>Examples from different parts of the world will be discussed.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• URL: <a href="http://www.pub.gov.sg/abcwaters/ABCWatersProfessional/Documents/managingUrbanRunoff.pdf">http://www.pub.gov.sg/abcwaters/ABCWatersProfessional/Documents/managingUrbanRunoff.pdf</a></li><li>• URL: <a href="http://www.iwaponline.com/wpt/006/0067/0060067.pdf">http://www.iwaponline.com/wpt/006/0067/0060067.pdf</a></li></ul>



Course Units



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# Urban Infrastructure

<i>Unit</i>	<b>Management of municipal solid waste in Thailand: case studies from Thailand</b>
<i>Lecturer</i>	Dr. Jochen Amrehn, KMITL
<i>Content</i>	This course focuses on the management of Municipal Solid Waste in Southeast Asia with special focus on Thailand. Waste compositions, management structures both by private and government sectors will be introduced. Waste management strategies and technologies on various levels will be discussed.

Course Units



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# Land Management

*Unit* **Land management and land administration in theory and practice**

*Lecturer* Prof. Dr. Fabian Thiel, FRA-UAS

*Content* It is necessary to also subsume developed land under the term “land management” in order to record the use of cultural space for construction. Land management encompasses both the temporary and permanent management of land on the one hand and the realignment of landownership for construction or non-construction purposes on the other. This definition alone makes it clear that land management not only has an integrative nature endogenously but relates also and in particular to integrative property policy. The purpose of the course is to have a closer look on how the interrelationship of land management (the dynamic part) and “land administration” (the static part) operates. In this understanding, land management refers to dynamic processes which affect the territory and induce changes motivated by various reasons (e.g. conflict resolution, land development, nature protection) and which are subsequently reflected in the land administration system (cadaster and property registry). Therefore, there is virtually a constant cycle of more dynamic and static phases in accordance with local contexts, demands or pressure and with the land policy targets. In many countries, land policies serve as an umbrella for land management and land administration.

Land administration provides the infrastructure for the implementation of land policies and strengthens land governance through regulations and technical instruments/tools which allow for documenting and managing land rights. It provides the background information for structural change and transformation processes. Therefore, the establishment of an efficient comprehensive structure for land administration has become a central part of development cooperation. Land registration and cadaster are the cores of land administration.

Each parcel of land mirrors a singular location and is expressed by its address and owners (via land register) and location/geographical and geodetic data (via cadastre).

In some countries these components are separated technically and institutionally, in others, they may be integrated into one comprehensive system, depending on cultural and technical aspects. In general, the legal status of parcels of an administrative unit is described in the land register (to whom does the land belong and with what rights and responsibilities are connected to the belonging?) and the cadaster describes the location, size, use and possibly the value of parcels. Some examples of the advantages for the individual owners or the community based on a systematic establishment of the land register are: improved certainty in law with respect to land, stimulation for investments and sustainable use, improved access to credit, security and efficiency of property transactions and minimization of land conflicts and the costs associated with them.

*Literature*

- Lefebvre, Henri (1991): The Production of Space. Blackwell, Oxford.
- Dale, Peter F. and John D. McLaughlin (1999): Land administration, Oxford University Press, Oxford.

## Land policy and land governance

Prof. Dr. Fabian Thiel, FRA-UAS

Land policies are seen as a catalyst in development processes as they draw the attention of stakeholders to the need for secure land rights as a basis for the establishment of “healthy” (urban) land markets, land valuation and taxation systems, promoting economic growth and thus reducing poverty. But land policies imply much more than that. Land policy aims to achieve certain objectives relating to the security and distribution of land rights (tenure rights, not always and not necessarily private property rights), land use and land management, and access to land, including the forms of tenure under which it is held. It defines the principles and rules governing property and tenure rights over land and the natural resources it bears as well as the legal methods of access and use, and validation and transfer of these rights. It details the conditions under which land use and development can take place, its administration, e.g., how the rules and procedures are defined and put into practice, the means by which these rights are ratified and administered, and how information about land holdings is managed. It also specifies the structures in charge of implementing legislation, land management and arbitration of conflicts.

- Lefebvre, Henri (1991): The Production of Space. Blackwell, Oxford.
- Grey, Kevin and Susan Francis Gray (2009): Elements of land law. 5th edition. Oxford University Press, Oxford.

*Unit*

*Lecturer*

*Content*

*Literature*



# Land Management

*Unit*

**Land use planning and land registration and cadastre systems**

*Lecturer*

Prof. Dr. Fabian Thiel, FRA-UAS

*Content*

Land use planning is another fundamental instrument of land management and land administration. Land use planning presents a development approach that contributes to the prevention of land use conflicts, the adaption of land uses to physical and ecological conditions, the lasting protection of land as a natural resource, the lasting productive use of land and a balanced use that fulfills (all) social, ecological and economic requirements. There is no unified approach: Land use planning can simply mean introducing a spatial dimension and a more land use oriented way of thinking into existing planning systems (e.g. village, municipal or regional development planning). Land use planning can also occur in the form of local agreements on the access to and (temporary) use of certain areas – often common properties. Finally, land use planning can mean the introduction of an entire planning procedure. In all cases, it needs to be integrated into existing institutions, linked to budgeting and result in its implementation. It generally requires capacity development. In a nutshell: Land use planning results in a legally binding land use plan; it is integrated into state institutions having the official mandate for inter-sector planning and forms a dialogue that promotes civil engagement, follows the idea of subsidiarity and integrates bottom-up aspects with top-down aspects (vertical integration) as well as interdisciplinary cooperation and requires sector coordination (horizontal integration).

- UN-Habitat and Global Land Tool Network (GLTN) (2008): Secure land rights for all. Nairobi.
- UN-Habitat (2012): Handling land. Innovative tools for land governance and secure tenure. Nairobi.
- Williamson, Ian; Enemark, Stig; Wallace, Jude; Rajabifard, Abbas (2010): Land Administration for Sustainable Development, Redlands/California.
- Blomley, Nicholas K. (2001): Property and the City. Introduction. In: Blomley, Nicholas; Delaney, and Richard T. Ford (eds.): The Legal Geographies Reader. Law, Power, and Space. Blackwell Publishers, Malden, pp. 115-117.
- Bruce, John W.; Giovarelli, Renee; Rolfes, Leonard; Bledsoe, David; R. Mitchell (2006): Land Law Reform, Achieving Development Policy Objectives. Law, Justice, and Development Series, The World Bank, Washington/D.C.
- Davy, Benjamin (2012): Land Policy. Planning and the Spatial Consequences of Property. Ashgate, Farnham.
- Harvey, David (1973): Social Justice and the City. Johns Hopkins University Press, Baltimore.

Course Units



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# Land Management

*Unit* **Site remediation and urban planning in Thailand**

*Lecturer* Dr. Ronnachai Tiyarattanachai, KMIT

*Content* This course covers the concept of brownfield redevelopment and site remediation for urban sustainable development. It will talk about the current situation of this practice in more advanced countries like the US as compared to the situation in Thailand.

I will also give an overview of related laws and policy about site remediation in Thailand.



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# Urban Planning and Development

<i>Unit</i>	<b>General trends and challenges of worldwide urbanization</b>
<i>Lecturer</i>	Prof. Dr. Michael Peterek, FRA-UAS
<i>Content</i>	<p>A brief history of large cities and metropolises</p> <ul style="list-style-type: none"><li>• Early urban civilisations</li><li>• The first (industrial) “urban revolution” in the 19th century</li><li>• The second “urban revolution” since the 2nd half of the 20th century</li></ul> <p>The urban world of today</p> <ul style="list-style-type: none"><li>• The rise of the megacities</li><li>• Formal vs. informal urban developments</li><li>• “Dual” cities: share of slum/informal areas population in Africa, Asia, Latin America</li><li>• Different urbanisation rates and dynamics in different regions and continents: Europe and North America; Latin America; Sub-Saharan Africa; Asia</li></ul> <p>Urban Challenges</p> <ul style="list-style-type: none"><li>• Provision of decent housing for all inhabitants – high income “guarded housing” vs. public mass housing vs. self-help housing</li><li>• Establishing an efficient and adequate infrastructure (water, sewage, waste disposal...)</li><li>• Search for mobility options beyond the purely automobile-oriented city</li><li>• Improving land management and reducing land consumption (protection of agricultural land and ecologically valuable areas)</li><li>• Tackling the impacts of climate change (heat islands, air pollution, rising sea water levels)</li><li>• Bridging the urban divide – to create one social city for all (social conflicts, social insecurity, new global lifestyles)</li></ul>
<i>Literature</i>	<ul style="list-style-type: none"><li>• Burdett, R. and Sudjic, D. (2011) Living in the Endless City. Phaidon, Berlin &amp; London</li><li>• Burdett, R. and Sudjic, D. (2008) The Endless City. Phaidon, Berlin &amp; London</li><li>• Jenkins, P. et al (eds) (2007) Planning and Housing in the Rapidly Urbanising World. Routledge, London</li><li>• UN-Habitat (2006) State of the World’s Cities 2006/07. Earthscan, London, URL: <a href="http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2101">http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2101</a></li><li>• UN-Habitat (2013) Time to Think Urban. Nairobi, URL: <a href="http://unhabitat.org/time-to-think-urban-un-habitat-brochure-2013/">http://unhabitat.org/time-to-think-urban-un-habitat-brochure-2013/</a></li></ul>



## From cities to city-regional development

*Unit*

Prof. Dr. Michael Peterek, FRA-UAS

*Lecturer*

Monocentric agglomerations/city-regions versus polycentric agglomerations/  
city-regions

*Content*

- Examples of monocentric city-regions
- Examples of polycentric city-regions
- A polycentric mega-region: Pearl River Delta

The example of the Frankfurt Rhine-Mai city-region

- A system of “decentralised centralisation”
- Loss of the centre = loss of the peripheries
- New “centres beyond the centre”
- Development of new “city-regional” lifestyles

Consequences

- A car-dependent city and city-region
- Fragmentation of open space and built environment
- Development of a region of “city islands” and “artificial worlds”

How to plan the (polycentric) city region? Challenges and principles

- A network of efficient and integrated (public) mobility
- A coordinate land-use and development planning
- A mandatory link between urban development and efficient public transport
- Decentralised centralisation: a regional network of multifunctional centres
- Protection, continuity and connectivity of region open spaces
- Regional cooperation, definition of communal interests

- Simmonds, R. and Hack, G. (2000) *Global City Regions: Their Emerging Forms*. Spon Press, London

*Literature*

- Sieverts, T. (2003) *Cities without cities: An interpretation of the Zwischenstadt*. Spon Press, London
- Soja, Edward W. (2006) *Postmetropolis: Critical Studies of Cities and Regions* [Reprint.]. Blackwell, Oxford
- Calthorpe, P. and Fulton, W. (2001) *The Regional City: Planning for the End of Sprawl*. Island Press, Washington DC
- Jessen, J. et al (2008) *stadtmachen.eu: Urbanity and the Planning Culture in Europe*. Karl Krämer Verlag, Stuttgart (examples from Barcelona, Amsterdam, Copenhagen et al)
- Birch, E. (2008) *The Urban and Regional Planning Reader*. Routledge, London

# Urban Planning and Development

<i>Unit</i>	<b>Principles and concepts for more sustainable urban development</b>
<i>Lecturer</i>	Prof. Dr. Michael Peterek, FRA-UAS
<i>Content</i>	<p>A critical analysis of the model of the functionally zoned, car-oriented city of the 20th century</p> <ul style="list-style-type: none"><li>• Strict separation of different urban functions</li><li>• Dominance and dependence from individual (automobile) mobility</li><li>• Almost unrestricted and uncontrolled consumption of greenfield land</li></ul> <p>New social, economic and ecological challenges of today</p> <ul style="list-style-type: none"><li>• Social challenges: ageing of society; diversified household types; migration and cultural diversification; polarisation and segregation of lifestyles</li><li>• Economic challenges: globalisation</li><li>• Ecological challenges: climate change</li></ul> <p>Principles for a more sustainable urban development</p> <ul style="list-style-type: none"><li>• Sustainable urban development is based on integrated districts, which are physically and functionally diverse and mixed-use.</li><li>• Sustainable urban development provides the inhabitants with attractive public spaces and green areas for social interaction and communication.</li><li>• Sustainable urban development is based on “districts of short distances” and promotes an environment-friendly mobility (by walking – cycling – public transport).</li><li>• Sustainable urban development relies on climate-friendliness and energy-efficiency.</li><li>• Sustainable urban development rests upon an active participation of the citizens in local decisions.</li><li>• Sustainable urban development preserves specific urban identities and characters.</li></ul>
<i>Literature</i>	<ul style="list-style-type: none"><li>• Gaines, J. and Jäger, S. (2009) A Manifesto for Sustainable Cities: Think Local, Act Global / Albert Speer &amp; Partner. Prestel, München</li><li>• Beatley, T. (2000), Green Urbanism: Learning from European Cities. Island Press, Washington DC</li><li>• Gehl, J. and Rogers, R. (2010) Cities for People. Island Press, Washington, DC</li><li>• Newman, P. and Kenworthy, J. (1999) Sustainability and Cities: Overcoming Automobile Dependence. Island Press, Washington, DC</li><li>• Voynovic, I. (ed) (2013) Urban Sustainability. A Global Perspective. Michigan State University Press, East Lansing</li><li>• Penalosa, E. (2008) Politics, Power, Cities. In: Burdett, R. and Sudjic, D. The Endless City. Phaidon, Berlin &amp; London, pp. 307-319</li></ul>



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<i>Unit</i>	<b>Selected case studies and best practices of sustainable urban planning and development</b>
<i>Lecturer</i>	Prof. Dr. Michael Peterek, FRA-UAS
<i>Content</i>	<p>Curitiba: integration of public transport and urban development in the Brazilian eco-metropolis</p> <p>HafenCity Hamburg: creation of a new mixed-use urban centre (housing, business, commerce, education, culture, leisure and recreation)</p> <p>Freiburg Rieselfeld and Vauban: concepts for an integrated urban development</p> <p>Malmö Western Harbour: from industrial waste land to sustainable city</p> <p>Frankfurt am Main: programmes and projects for a “Green City”</p>
<i>Literature</i>	<p>Curitiba</p> <ul style="list-style-type: none"><li>• Campbell, T. (2007) Smart Cities: Curitiba. In: Urban Land, April 2007, pp. 68-75, URL: <a href="http://urbanage.org/work-view/smart-cities-curitiba/">http://urbanage.org/work-view/smart-cities-curitiba/</a></li><li>• Talk by Jaime Lerner, architect and former mayor of Curitiba (2007), URL: <a href="http://www.ted.com/talks/jaime_lerner_sings_of_the_city">http://www.ted.com/talks/jaime_lerner_sings_of_the_city</a></li></ul> <p>HafenCity Hamburg</p> <ul style="list-style-type: none"><li>• Informations and documents URL: <a href="http://www.hafencity.com/en/home.html">http://www.hafencity.com/en/home.html</a></li></ul> <p>Freiburg Rieselfeld and Vauban</p> <ul style="list-style-type: none"><li>• Stadt Freiburg (n.d.) Freiburg Green City – Approaches to Sustainability. URL: <a href="http://www.freiburg.de/pb/,Len/372840.html">http://www.freiburg.de/pb/,Len/372840.html</a></li><li>• Frey, W. (2011) Freiburg Green City – Approaches to Sustainable Urban Development. Herder, Freiburg</li></ul> <p>Malmö</p> <ul style="list-style-type: none"><li>• Reepalu, I. (2013) Malmö – from industrial waste land to sustainable city. URL: <a href="http://www.climateactionprogramme.org/climate-leader-papers/ilmar_reepalu_mayor_city_of_malmoe_sweden/">http://www.climateactionprogramme.org/climate-leader-papers/ilmar_reepalu_mayor_city_of_malmoe_sweden/</a></li></ul> <p>Frankfurt am Main</p> <ul style="list-style-type: none"><li>• Frankfurt Green City (partly in English) URL: <a href="http://www.frankfurt-greencity.de/">http://www.frankfurt-greencity.de/</a></li><li>• Frankfurt am Main City Planning Department (in English) URL: <a href="http://www.stadtplanungsamt-frankfurt.de/start_1152.html?langfront=en&amp;psid=g834bj0gqju77os9bo3smpva5">http://www.stadtplanungsamt-frankfurt.de/start_1152.html?langfront=en&amp;psid=g834bj0gqju77os9bo3smpva5</a></li></ul>



Course Units



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# Universal Design

<i>Unit</i>	<b>Challenges, potentials and implementation of Universal Design in urban planning</b>
<i>Lecturer</i>	Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
<i>Content</i>	<p>The first unit will give an introduction to Universal Design and Inclusion in the built environment. Inclusive Cities aim to integrate all people within the urban infrastructure and this involves specific requirements and consideration. In this lecture the students will gain a general understanding of the relevant aspects of Universal Design and the different types of disabilities. We will be looking at its origin and try to determine potentials and challenges in urban planning as well as in the renewal of our cities. Furthermore we will be discussing the impact the demographic development has on societies, focusing on its consequences for urban planning and investigating the anticipated results. The ageing society, mortality and fertility rates, as well as migration processes, will also be a topic in this course. Apart from that we will be looking at the objectives of planning regulations worldwide and specifically at those in Germany. Finally, we will focus on the meaning of inclusive planning for a city. Best practices and international examples will help to visualize the challenges, potentials and implementation of Universal and inclusive Design.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• Fischer, Joachim, Meuser, Philipp (Hrsg.), Handbuch und Planungshilfe Barrierefreie Architektur, DOM publishers, Berlin, 2009</li><li>• Meuser, Philipp (Hrsg.); Barrier-free Architecture: Construction and Design Manual, Dom Publishers; 2nd Edition March 2012.</li><li>• Frers, Lars, Meier, Lars, Encountering Urban Places: Visual and Material Performances in the City, Ashgate Publishing Limited, February 2007.</li><li>• Heiss, Oliver; Barrier-Free Design (Detail Practice), Birkhäuser Architektur; 1st Edition, 2010.</li><li>• Herwig, Oliver; Bruce, Laura; Universal Design: Solutions for a barrier-free living, Birkhäuser Architektur; 1st Edition, 2008.</li><li>• Perkins, Bradford, Building Type Basics for Senior Living, John Wiley &amp; Sons, February 2004.</li><li>• Skiba, Isabella; Züger, Rahel; Basics Barrier-free Planning (Basics), Birkhauser Architektur; 1st Edition, 2009.</li><li>• Torrington, Judith, Upgrading Buildings for Older People, RIBA Enterprises, Juli 2004.</li></ul>

## **Practical course - Experiencing physical impairments**

*Unit*

Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS

*Lecturer*

Experiencing physical impairments and the impact the built environment can then have, is important in understanding what barriers actually are. Universal Design does not only refer to handicapped people in a wheelchair, blind or deaf, but actually to every person. In the course of life most people are affected in some way, may it be by an injury, pregnancy, as a child, having to carry heavy luggage or by being old.

*Content*

The second session will be a small workshop, which is divided into two parts. In the first part each student will have the possibility to experience impairments in a very direct and practical way, with white canes, special glasses and an ageing suit. By moving and navigating in the built environment in an unusual way, architecture and space is perceived from a new perspective.

In the second part the students will apply the experiences and impressions they made in the practical session and undertake a critical analysis of one specific area of the university. The aim is to detect existing barriers by combining theoretical knowledge from the morning lecture and practical experience made afterwards. The task will be to analyze and evaluate the chosen situation in smaller groups in terms of accessibility, independent use, orientation, security aspects, contrast and lighting, temporary barriers and social inclusion. Optionally the groups can for instance work on a lecturing hall, an entrance situation, the design of the bathrooms, green spaces, students' office, students' restaurant, etc. The course will end with a short presentation and discussion of the results of the workshop.

# Universal Design

<i>Unit</i>	<b>Impact on the city: best practices and international examples</b>
<i>Lecturer</i>	Dipl.-Ing. M.Sc. Caroline Günther, FRA-UAS
<i>Content</i>	<p>The third unit contains two parts. The first part will be a lecture about the impact Universal Design has on the city. On the basis of best practices and international examples, challenges and potentials of recently developed urban quarters in a worldwide context, will be examined. The aim is to understand which aspects facilitate a livable environment for all people.</p> <p>In the second part the students will summarize and analyze a paper they received in the first unit and have read and worked on in groups in the meantime. The papers will give specific emphasis to topics such as “Cities and ageing”, “Barrier-free planning in different cities” or “Inclusive Design”. The aim here is to gain a wider understanding of the topic in a global context and develop awareness for inclusive cities.</p>
<i>Literature</i>	<ul style="list-style-type: none"><li>• Joshua, David and Hammond, Robert; High line; The Inside Story of New York City’s Park in the Sky, 2011</li><li>• Cheonggyecheon Restoration Project URL: <a href="http://webarchive.nationalarchives.gov.uk/20110118095356/">http://webarchive.nationalarchives.gov.uk/20110118095356/</a> URL: <a href="http://www.cabe.org.uk/case-studies/cheonggyecheon-restoration-project">http://www.cabe.org.uk/case-studies/cheonggyecheon-restoration-project</a></li></ul>

# Lecturers



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**Dr. Jaruwit Prabnasak**  
KMITL

Transportation Infrastructure in Thailand



**Dr. Ronnachai Tiyyarattanachai**  
KMITL

Land Management / Urban Planning in Thailand

## Lecturers



**Dr. Jochen Amrehn**  
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# Project



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# Project

## *Final project work and presentation*

Developing a more sustainable city –  
Analysis and future perspectives for a selected urban area

## *Project brief*

The final students' project work and presentation is to be elaborated in groups of students. It requires that each group chooses a part of a city, a neighbourhood or an urban area they are acquainted with, defines the challenges and deficiencies of this area and explains how it could be developed to achieve a higher degree of sustainability in the future. The chosen area can be a part of the city of Bangkok or any other urban area elsewhere familiar to the participants.

In this presentation the students should

- give a reason for their choice and a description of the area as it is today,
- analyse and assess today's situation by indicating its strength, weaknesses opportunities and threats (SWOT) relating to the different topics dealt with in the Summer School,
- propose a vision of how to make the area more sustainable in the future, including some general strategies as well as some examples of possible measures and interventions in detail.

It is expected that in this presentation the students will show a familiarity with the knowledge, the concepts and the planning approaches taught in the different lectures of the Summer School, which together can be used to help to build up a more sustainable urban environment.

The presentation should be structured in three parts according to the structuring of the Summer School:

- Part 1: Urban Theory and Sustainable Transport
- Part 2: Urban Infrastructure and Land Management
- Part 3: Urban Planning and Development

A first interim presentation of **part 1** is due at the end of the first lecturing block, **on July 17th.**

A first interim presentation of **part 2** is due at the end of the second block, **on July 22nd.**

The **final presentation** of the overall project (including parts 1, 2 and 3) is due at the end of the Summer School, **on July, 29th.**

The presentation should comport a maximum of 20 slides per part, that is 60 slides in total. This should include short texts, photos, maps, sketches etc.

After the successful final presentation of this project work a participation certificate for the Summer School will be issued to all participants.

# Project

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Topics to be dealt with in the presentation (relating to the different teaching blocks)

- Size and boundaries of the chosen area, population, density, growth dynamics, development of the area in general

## **Urban Spaces, their Uses, Cultural Impregnation and Perception**

Urban surroundings and public spaces are each time more theorized, discussed and reflected on and, at the same time, pressured by segregation, privatization and interests beyond their role as space for socialization, community making and exchange. Yet the very places where people spend their daily time should primarily respond to human needs and support their wellbeing and cultural identification. Urban strategies and interventions should aim at preserving or creating these characteristics. The social sustainability of a city originates from urban spaces that provide forms of conviviality and allow the understanding and the experiencing of a city's history and contemporary condition.

- Analysis of the physical location within the chosen urban context, its boundaries, landmarks, centralities, connections and accessibility
- Description and analysis of the historic development, cultural meaning(s) and layers of urban memory in the urban space
- Distinction and analysis of public, semi-public and private uses, the respective spatial and psychological boundaries and the space's perception
- Mapping of different layers of formal and informal appropriation of public spaces

## **Transport and Mobility**

The transport sector is responsible for more than 13% of the global CO<sub>2</sub> emissions. They have grown by 45% from 1990 to 2007. In some countries the volume of traffic is exploding, in other countries a shift from individual to public transport is visible. Many efforts are taken to reduce CO<sub>2</sub> emissions, noise, and other pollutants in order to retain the quality of living especially in cities. But local, regional, and national transport systems underlie different circumstances. Sustainable transport planning tries to develop ecofriendly solutions for differing mobility needs of people and goods.

- Short overview of transport arrangement and transport modes in the chosen area today (e.g. roads, public transport services, facilities for pedestrians and cyclists)
- Consideration of one megatrend (e.g. urbanization, demographic change, growing mobility, climate change) for the chosen area, incl. possible consequences
- Ideas and proposals to make mobility in the area more sustainable in the future

## Land Management and Land Policy

Land Management has never been an objective in itself; it always serves higher purposes. The establishment of a modern Land Management system is considered instrumental to reach the national goals of social, economic and infrastructural development. In addition, Land Management is intended to contribute to the rule of law, e.g., the Constitution of Thailand and its land law, and good governance. Hence, Land Management is part of the land and public policy.

- Patterns of land uses and present land use planning system and building regulations in the area
- Current situation of land tenure and ownership (property rights, Social Tenure Domain Model, advantages and disadvantages of cadastre and land register)
- Land policies and (good) governance
- Land markets (formal and informal land markets, role and function of land market participants, e.g., real estate agents, planning authorities, land administration institutions), and property valuation with relevance to land development

## Urban Infrastructure

Due to rapid urbanization, cities struggle with a still growing demand for water and sanitation services. About 25 % of urban dwellers live without access to improved sanitation facilities; roughly a quarter of city residents in the developing world lack access to piped water in their home. Many of the big cities transport water from distant areas with more or less abundant water. But due to political, economic and environmental (often enhanced by climate change) reasons this solution is not always achievable or eligible. Alternative strategies for sustainable, equitable and efficient water supply are needed. These will also inflict waste and storm water management in the cities.

- Description of water supply (demand of the different sectors, access to drinking water, availability, catchment areas, quality of raw water, standards, treatment, fees...), wastewater treatment (domestic and industrial wastewater, amounts, loads, sewer systems), handling of storm water (treatment, discharge ...) today
- Critical analysis of the problems related with the urban infrastructure situation in the chosen area
- Concepts for a well-functioning, safe and healthy infrastructure provision in the future

## Urban Planning and Development

In many respects our cities of today are not sustainable. Separation of the single urban functions, a predominantly car-based mobility, social and economic segregation, lack of green spaces and severe ecological threats make the elaboration of new concepts and principles of urban development necessary. These have to include the development of a polycentric urban structuring with diversified and mixed-use districts and neighbourhoods, a strong effort on walkability and environment-friendly mobility as well as energy-efficient and climate-friendly building structures. Sustainable cities rely on a network of attractive public spaces, an active involvement of their inhabitants and develop strategies to retain their specific physical, cultural and historical identity.

- Description of the present urban situation: types of uses (residential, commercial, offices, cultural...), densities, formal vs. informal developments, green areas and public spaces, social and cultural infrastructure
- Critical analysis of qualities and of problems of the urban situation of today
- Ideas and planning concepts for a more sustainable future, particularly with regards to urban functions and their relations, quality of open space, walkability, as well as public participation

## Universal Design

Apart from functional, infrastructural, economic and social aspects, a sustainable environment needs to consider the human dimension as well and focus on the user and his needs. Very often though, public spaces, public transport and buildings within cities are not suitable for the needs of all users, as their design is rather orientated towards people without disabilities, instead of considering it from an inclusive perspective. In May 2008 the UN Convention on the Rights of Persons with Disabilities entered into force and over 80 nations ratified the contract. By doing so they agreed on developing and implementing inclusion within their cities. The inclusive idea aims to develop cities which include all people from the very beginning, making participation possible by reducing as many barriers as feasible and supporting the idea of independence and accessibility.

- Understanding of the reciprocal effect between the demographic development and the built environment
- Description of the present urban situation: types of barriers in terms of accessibility within the public area, green areas and public spaces, residential and public buildings, social and cultural infrastructure
- Critical analysis of problems concerning security and accessibility, inclusion and exclusion within urban quarters
- Ideas and proposals to create a more inclusive urban environment



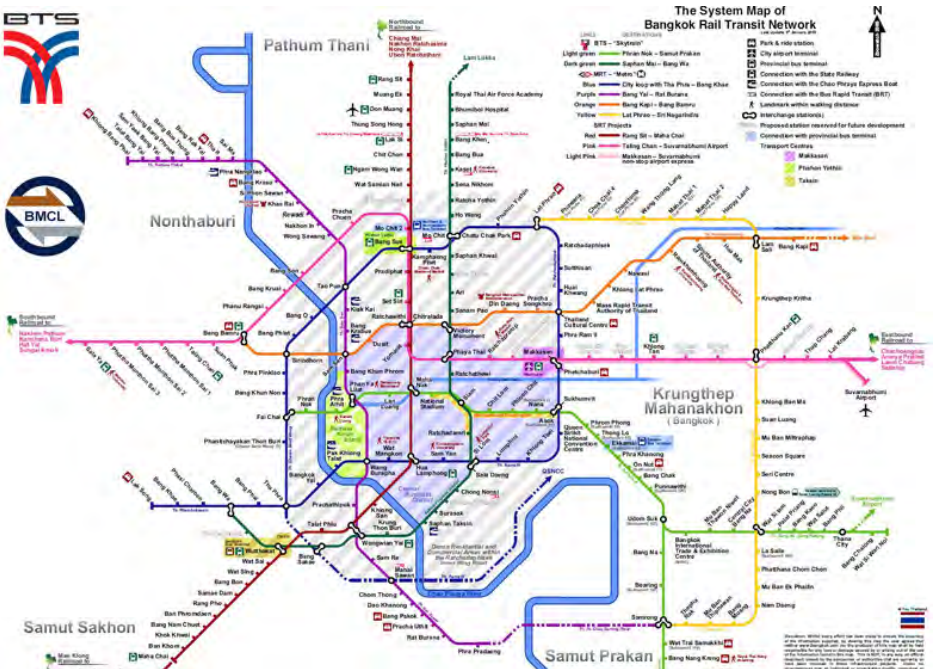
# Field Trips

## Field Trip 1

### Exploration and evaluation of Bangkok public transport (Skytrain and/or water-based public transport)

Thursday, July 16<sup>th</sup>

Dr. Jochen Amrehn | Dr. Ronnachai Tiyarattanachai, KMITL



Source: <http://www.adelphisuites.com/en/images/bts-map.jpg>  
<http://www.phukettravelling.com/images/uploads/Bangkok-Public-Transportation-Thailand.jpg>

# Field Trips

## Excursion to Mahidol University Campus

Thursday, July 23<sup>rd</sup>

Dr. Ronnachai Tiyarattanachai, KMITL

*Field Trip 2*



Source: [http://www.mahidol.ac.th/en/pic/salaya\\_3-3.jpg](http://www.mahidol.ac.th/en/pic/salaya_3-3.jpg)

[http://www.google.de/imgres?imgurl=http%3A%2F%2Fwww.mahidol.ac.th%2Fen%2Fpic%2Fsalaya\\_3-2.jpg&imgrefurl=http%3A%2F%2Fwww.mahidol.ac.th%2Fen%2Fcampuses.htm&h=300&w=760&tbid=0k256rqdBWkIM%3A&zoom=1&docid=0Huva4ZvQXIRBM&ei=hFGJVbKmhCjKlUc-aqpgB&tbm=isch&iact=rc&uact=3&dur=33&page=1&start=0&ndsp=20&ved=0CE4QrQMwDw](http://www.google.de/imgres?imgurl=http%3A%2F%2Fwww.mahidol.ac.th%2Fen%2Fpic%2Fsalaya_3-2.jpg&imgrefurl=http%3A%2F%2Fwww.mahidol.ac.th%2Fen%2Fcampuses.htm&h=300&w=760&tbid=0k256rqdBWkIM%3A&zoom=1&docid=0Huva4ZvQXIRBM&ei=hFGJVbKmhCjKlUc-aqpgB&tbm=isch&iact=rc&uact=3&dur=33&page=1&start=0&ndsp=20&ved=0CE4QrQMwDw)

## Field Trips

### Field Trip 3

**Visit to Klong Toey, a local community, to investigate its urban planning related problems and potentials**

Thursday, July 27<sup>th</sup>

Dr. Jochen Amrehn, KMITL

Source: <http://klongtoeycc.com/files/klongtoeycc/klong%20toey%20houses.jpg>  
<http://klongtoeycc.com/files/klongtoeycc/klong%20toey.jpg>











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