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SUSTAINABLE & TANSPORT PLANNING

UNITED NATIONS DEVELOPMENT PROGRAMME SERBIA & BELGRADE LAND DEVELOPMENT PUBLIC AGENCY,

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International Conference SUSTAINABLE URBAN & TRANSPORT PLANNING – SUTP 2013

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The Conference is organized within the frame of the GEF financed project and implemented by UNDP Serbia that provides support to the City of Belgrade in enhancing the sustainability of the urban transport in the City of Belgrade. The Ministry of Energy, Development and Environmental protection of Serbia is the main implementing partner on this project.

FRIEND OF THE CONFERENCE

SIEMENS d.o.o. recognized the importance of the topics of the conference and the significance of involving the academic society and the students in these processes. Siemens, as a friend of the Conference is providing sponsorship to the students' competition in awarding the best team on the competition. A group of maximum four students will visit London and the Crystal palace of Siemens for couple of days during October 2013.

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FOREWORD

Decoupling the economic development from CO_2 emissions is a challenge faced not only by cities, but also by society in all developed countries, as well as in developing countries. Transport is recognized as one of the sectors that mostly contribute to increased emissions of greenhouse gases. The emissions caused by transport count for more than 40% in the urban areas. Many cities in the EU are facing the same problems, therefore new instruments and approaches have been established in the past five years in tackling the problems of urban sprawl, congestions, decreased quality of life, air pollution and health problems by also having side effects on the economy and competitiveness of the agglomerations. Solving this problem represents an extremely complex task that requires a holistic and systemic approach.

Belgrade, like many European cities today, is facing various challenges, such as high demographic pressure and migrations from rural areas and less developed regions, uncontrolled urban development which cannot be followed by adequate infrastructure, transport and energy one, facing also economic development that also presents a challenge for the City in certain manner.

Belgrade as a home to nearly 2 million people who commute and circulate in the City on a daily basis, and is constantly faced with the above mentioned challenges. The City authorities in the last decade, and especially in the past year, are placing these problems and challenges high on their list of priorities and problems to be solved. Serbia has also recognized these problems not only at local but also at national level and supports these and similar initiatives aimed at combating climate change through its participation in the process of European integrations and as a signatory of international conventions related to climate change.

The problem of sustainable transport in Belgrade is in itself a remarkable and complex challenge. The project, which supports sustainable transport in Belgrade, is directly addressing this issue.

The "Support to sustainable transport in the City of Belgrade" project began its activities in spring 2011 and is funded by the Global Environmental Facility fund. The project lifecycle is set to be completed by spring 2014. The main project objective is to reduce carbon emissions at metropolitan level.

Through this project, implemented in partnership with the City of Belgrade (through the Belgrade Land Development Public Agency and the City Secretariat for Transport), and under the auspices of the Ministry of Energy, Development and Environmental Protection of Serbia, the City of Belgrade received support in the preparation of all necessary measures to lead to systemic changes in the planning process, both in urban and transport sense. To tackle the traffic and urbanism problems of a modern city, it is necessary to establish a strategic and systematic approach to planning, which simultaneously takes into account social, economic and environmental aspects of an agglomeration. These plans are better known to the scientific community in Europe as a Sustainable Urban Mobility (or Transport) plans.

The Sustainable Urban Transport Plans (SUTPs) are new policy tools that integrate the urban mobility and transport systems into environmental context, at the same time addressing the economic and social aspects.

The SUTPs go far beyond the need to respond by managing road traffic flows and their impacts, but also providing economic and social cohesion through demographic changes that shape the structure of the cities. SUTPs are therefore a valuable tool for overcoming legal, financial, social, and cultural barriers that may hamper the development and implementation of a sustainable urban mobility system.

The City of Belgrade has already taken the first step in dealing with the main urban challenges that affect the environment, economy and social context. In the frame of the support provided by the Global Environmental Facility and the UNDP Serbia, a process of preparing the first phase of SUTP for Belgrade was initiated that resulted with the planning process of the SUTP being in place late 2012.

The purpose of the SUSTAINABLE URBAN & TRANSPORT PLANNING International Conference (SUTP 2013), aims at disseminating the knowledge on integrating urban and transport planning through the SUTPs and exchange of experience in launching, implementing and financing these innovative new tools.

Programme Chairman and Editor-in-Chief,

Natasha Martins

Portfolio Manager,

Climate change, Sustainable transport and reduction of metropolitan emissions

United Nations Development Programme,

Serbia



SUSTAINABLE URBAN &TRANSPORT PLANNING International Conference

Međunarodna konferencija ODRŽIVO URBANO I SAOBRAĆAJNO PLANIRANJE

KNOWLEDGE DISSEMINATION ON URBAN MOBILITY AT THE FACULTY OF ARCHITECTURE IN BELGRADE

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ABSTRACT

This paper explores and discuses new knowledge from the comparison of European concepts on integrated urban mobility and findings in Serbian context and its applicability in the future urban development and mobility education and practice in Serbia.

The initial framework for dissemination of knowledge was found within FP6 EU funded project 'Sustainable Surface Transport' that lasted from 2006 till 2010 in which the Faculty of Architecture Belgrade University participated as one of the partners with two assistant professors - authors of this paper as coordinators of cooperation. Since then, we have developed new teaching concepts and methods on the course "Mobility in City" at the Faculty. In that way, we were disseminating knowledge on sustainable urban transport and mobility among students, and to public officials from local and national government. Furthermore, we have recently continued to research impacts of urban mobility and land use patterns in relation to the climate change adaptation tools within scientific project from 2011 and included those findings into the education process at the same course "Mobility in City". As a result of the education process we have disseminated knowledge on sustainable urban transport and mobility in Serbia trough promotion of European local transportation information system web site (ELTIS) on seminars and round tables; translated more than 120 English case studies to Serbian and four guide books; and researched and posted 14 Serbian case studies in English on mobility issues accessible on the ELTIS web site.

Keywords: sustainable development, knowledge dissemination, mobility management

KSENIJA LALOVIĆ BIOGRAPHY

Graduated and received a Master of Science in Urban planning at Faculty of Architecture in Belgrade, and works at the Department of Urbanism as Assistant Professor. She was one of leaders of EU project FP6 PARAMOUNT from 2006-09; international interdisciplinary project PAPS from 2003; and national consultant of UN HABITAT Belgrade in SIRP project from 2003-09 for local capacity in planning, management and territorial information systems.

She was program manager for Information System Development and co-organizer of Permanent Education Program at Urban Planning Institute of Belgrade. Team member for Strategy of Spatial Development of Serbia in field of information support to spatial development of Serbia and has realized spatial and urban plans, urban and architectural projects in urban planning, urban and architectural design. Received 10 national and international awards, published over 40 scientific and professional papers in international and national publications in field of urban planning, urban and architectural design.

UROŠ RADOSAVLJEVIĆ BIOGRAPHY

Works at the Faculty of Architecture in Belgrade Department of Urbanism from 2009 as Assistant Professor and as assistant from 1999 when he graduated. He got MA in Urban Management and Development in 2005 at IHS, Erasmus University Rotterdam. In 2011 he spent semester teaching at the School of Urban and Regional Planning, University of Iowa. He is a member of the Presidency of Serbian Town Planners Association from 2008.

He is author of scientific studies on urban development and planning in books, journals and conferences of national and international importance. He has participated in international and national scientific research projects funded by the EU FP6 PARAMOUNT, Serbian Ministry of Science, and consultant of UN-Habitat and GIZ in Serbia. He has won 10 awards in urban planning and architecture at international and national competitions and exhibitions. He is the author of several urban master and regional plans and architectural projects.

JELENA RADOSAVLJEVIĆ BIOGRAPHY

Jelena Radosavljević graduated with a Bachelor degree at the Faculty of Architecture University of Belgrade in 2012. She is currently studying Master of Architecture, on the Faculty of Architecture in Belgrade. She has participated with her colleagues in several student competitions including the 'Schindler Award 2012'; 'Novosti' award; 'Veka' design competition; 'Garden cities for tomorrow' organized by IFHP and chosen for the finalist etc. She works as a student demonstrator with Assistant Professor Uroš Radosavljević from 2012. Currently she is student demonstrator at the course "Mobility in a city" leaded by Assistant Professors Ksenija Lalović and Uroš Radosavljević. During studies she went to professional excursions to Milano, Lucerne, Bern, etc. Along with her colleagues, she took part in international workshop "The legacy of conflict in the built environment", organized by Faculty of Architecture in Belgrade in collaboration with Oxford Brookes University.

KNOWLEDGE DISSEMINATION ON URBAN MOBILITY AT THE FACULTY OF ARCHITECTURE IN BELGRADE

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INTRODUCTION

The importance of education, knowledge, and information is rapidly growing in the knowledge economy especially in cities where knowledge is produced, processed, exchanged, and even traded. Important role in that process which occurs in cities belongs to the Universities and research institutes, beside many other relevant actors like public authorities, NGO's & CBO's, private companies, and civil society.

On the other hand, there is a rich and growing body of literature about knowledge and the knowledge economy in general and the impacts on cities in particular. However, much of the research is related mainly to formal scientific knowledge as a key resource of the knowledge economy, and less attention is paid to the creative capacity in emerging sectors such as culture or organizational knowledge.

Additionally, climate change, growing urbanization, economic and technological transformations urges for creative, efficient and effective adaptation and mitigation measures to be planned and implemented in urban areas, especially in the field of transport. The experience had shown that hard policy measures in the field of transport, such as the construction of capital infrastructure projects and bio-fuels facilities or cycling paths construction and implementation, have to be followed with soft policy measures which cover the issues of management and organization in transportation sector and travel awareness among citizens. There are very successful practices of urban sustainable mobility, urban mobility management, and travel awareness campaigns that were used in FP6 EU funded project 'Sustainable Surface Transport' and in the education process at the Faculty of Architecture Belgrade University that we will present here.

SUSTAINABLE URBAN TRANSPORT & FACULTY OF ARCHITECTURE

Faculty of Architecture University of Belgrade (FABU) participated as a partner in the FP6 EU funded project 'Sustainable Surface Transport' from the year of 2006 and lasted till 2010 with the coordination Austrian Mobility Research (FGM AMOR). Aims of the Project were achieving international cooperation and applying the results achieved in EU FP6 projects in countries that have recently become EU members or countries that are its potential members. Participation of FABU in the Project was of the great importance, since it was the first time that one of the countries from the Western Balkans, potential EU members was included in the EU FP6 program. European Union (EU) and European Commission have made great efforts for a long time in promoting sustainable urban transport, and one of them was the creation of European Local Transport Information System (ELTIS) with the initiative of the European Commission's Directorate General for Energy and Transport. ELTIS website provides access to the best scientific and practical results and training and learning research materials in the field of sustainable transport systems. The aim of ELTIS is to provide information and disseminate practical transfer of knowledge and exchange of experience in the field of urban and regional transport in Europe.

The Project's primary objectives were: to make easier to use and allow users easy access to all relevant information (news, files, materials); increase the number of available examples, materials, and translations and to include new content and topics; increase the number of users through the construction of "brand" ELTIS Web site and allow a professional Marketing (goal is that ELTIS website become "Google" search engine in the field of transport); focus attention to the new EU countries and countries in the EU accession process through a system of expert training and workshops, translation of the most important examples of the languages of these countries and to offer active user support; and offer non-traditional ways of knowledge dissemination.

The expected results of the implementation of the Project was increased level of knowledge and practical use of research results developed in the enlarged EU and that was supposed to

be achieved through expanded ELTIS service, specific activities in the field of education and training of professionals and focused on development initiatives.

The project had enormous importance for the capacity building activities of Serbian institutions and organizations in the field of clean and sustainable urban transport systems and promotion and participation of Serbia in EU projects. Benefits of using ELTIS web site are that experts from various fields can expand their knowledge on sustainable urban transport and mobility systems using findings and specific experience from other countries.

With the aim of disseminating knowledge on sustainable urban transport and mobility in Serbia, FABU realized several activities and results on urban transport and mobility issues:

- Promotion of ELTIS web site on seminars, round tables and trainings delivery in Serbia to public sector representatives (ministries, local authorities, urban planning traffic departments), NGO's (bicycle associations), and private sector urban design offices;
- Translation of more than 120 English case studies to Serbian language and 14 Serbian case studies in English accessible on the ELTIS web site.
- New course "Mobility in city" was established in 2007/08-school year onwards at the Bachelor level at the Faculty of Architecture with great success. Students work on the course analyzing implemented EU and Serbian case studies on sustainable urban transport and mobility and its implications on urban structure; compare EU & Serbian context and suggest recommendations in soft policy aspects for issues sustainable urban mobility, urban planning & management, and urban design.

NEW TEACHING CONCEPT – "MOBILITY IN CITY"

New elective course 'Mobility in City' at the Faculty of Architecture Belgrade University was designed and established in 2007/08-school year by Assistant Professor MSc Ksenija Lalović and Assistant Professor MSc Uroš Radosavljević as a direct outcome of, at that time ongoing, EU project 'Sustainable Surface Transport'. The course followed also Project's goal, the idea to disseminate knowledge first among students in the field of architecture and urbanism, since they are going to be the ones who are the prospective owners of future sustainable urban development of Serbia. They will be responsible for urban governance issues, either as experts helping and preparing alternatives for political and private decision makers. Another role they could play in the society could be as facilitators of the planning process advocating new concepts of citizen involvement, compact community development, inter-modality in cities and more transportation choices through increased accessibility, and the preservation and expansion of green and agricultural land (Lalović, Živković and Radosavljević, 2011).

Secondly, we were aiming also to initiate and open-up the discussion about sustainable urban mobility in the real world of practice of urban and transport planning, urban design and urban management. This we did with two reasons. One was a 'selfish' one, wanting to involve our students into the real life arena, with various interests and preferences of urban actors they would feel, taste, and experience during their education. Another reason was to communicate and try to influence *mind shift* of professionals and experts in the field of urbanism, transport planning and architecture; and employees and local government

administrators. We say mind shift, since most of Serbian decision makers still think in a closed box of the conventional approach of urban and transport planning and engineering, towards an alternative approach and shift in the paradigm – sustainable mobility, as Banister (2008) would call it.

In order to achieve sustainable development of urban areas, classes on the subject "Mobility in a city" are organized to explore contemporary aspects of multimodal transport in urban areas. The aim of education is to improve and reach the outcome (product, result, effect) and the process (working method, route, action plan, activities). Using new teaching concepts and methods in the education of students provides a basic understanding of modern management concepts in transportation systems and mobility in relation to land use in urban areas. They have to understand the importance of the role of architects, urban designers and planners in these processes along with other experts and stakeholders such as public authorities representatives, local communities and their needs, private sector interests, etc.

With the aim to apply knowledge and learn what kind of different effects decisions founded on principles of sustainable transport will have on the spatial organization, students gain knowledge on methods, techniques and skills on organization of sustainable urban transport systems in relation to land use. Subject outcomes on the course "Mobility in City" are directly associated with the problems of urban design and planning. Different knowledge, skills, and learning outcomes gained on the subject are: understanding contemporary concepts, methods and practical knowledge for enabling multimodality in transport and urban mobility of people through the review of mobility management, parking management, relation of land use planning with the sustainable transport, ecological vehicles and safety and environmental protection.

In order to apply this theoretical and practical knowledge, competence of students in solving problems of urban design and planning will be increased in relation to the principles of sustainable transport systems in the city. Skills to collaborate with experts in the field of integrated transport in solving urban problems in a competent manner will be improved too.

TEACHING METHODOLOGY ON THE COURSE "MOBILITY IN CITY".

During six years already, a variety of different methodological activities have been conceptualized and implemented in the process of education in order to achieve diverse results based on new urban mobility paradigms and with knew shift in the process of education, namely student-oriented learning, meaning direct involvement of students both in the research and in the real life arena.

Initial launch of the new methodology: learning from experience

Initially, during the first 2007/08-school year onwards in two separate semesters our teaching methodology on Mobility in city was concentrated around block of interactive lectures and block of interactive exercises. Block of interactive lectures was divided into three groups of basic trainings in the field of mobility management and travel awareness, parking management, and use of alternative vehicles.

Block of interactive exercises was divided into two parts in which students were working on:

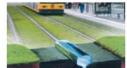
- A) The study of literature and analysis of implemented cases from the Europe Union and Serbia for each taught concept; and
- B) Comparison of EU and Serbian cases and Guidelines for soft policy measures in sustainable mobility in Serbian context.

The first part of interactive exercises, *A)* The study of literature and analysis of implemented cases from the Europe Union and Serbia was done trough several important steps:

Translation of several English case studies to Serbian language – during this process, students have been researching electronic base of all case studies on ELTIS web site in order to find ones that reflect the concepts taught and that are suitable for Serbian context. Those case studies represent a benchmark towards which to explore innovative mechanisms from the interrelation of land use and transport policies, mobility management and travel awareness, parking management, and ecological vehicles. Translation had a secondary educational goal in the form of accepting professional English language terms with the outcome of reading and understanding English literature in the field of sustainable transport and sharing knowledge and experience with the global community.



Smanjenje buke zahvaljujući kolosecima sa travom, Drezden/Nemačka



Može se dokazati, da je nivo buke kod koleseka zasadjenih travom znatno niži nego kod koloseka bez trave. S toga je planiranje biljnog pokrivača na kolosecima aktivna mera u zaštiti gradova od buke.

Trenutno stanje i ciljevi

Figure 1: Example of translation and publishing of English case to Serbian language. Source: Böhme, 2007.

Search of several corresponding Serbian case studies in the field of sustainable urban development in relation to mobility in Serbia – students were researching under our guidance initial realized cases on sustainable mobility usually done by public sector or sometimes even with the private sector initiative again towards concepts taught. Methods they used were ranging from primary sources like adopted urban and transportation policies and master plans, but even more separate actions within our society on capacity building and travel awareness; and interviews with sustainable mode's users and local city decision makers. Limitations for this search were sometimes reflected in lack of quantitative data.

Translation of Serbian case studies to English language – In order to become a part of ELTIS network, share specific potentials and findings from our context, and to present good quality of solutions in mobility management from Serbia, students had to analyze and search for examples that were implemented or ready for implementation in Serbia.

CASE STUDY ELTIS

Vase Carapica Street only for public transport and taxi vehicles, Belgrade, Serbia



Congestion in the relatively small city centre of Belgrade raised public interest and made city authorities undertake mobility management measures. The aim of this measure is relief of Vase Carapica St. and Student's Square that are nearby existing pedestrian zone by reducing and calming some modes

Background & Objectives

Figure 2: Example of Serbian case published in English language on ELTIS. Source: Radosavljević, 2009

The second part of the interactive exercises, *B) Comparison of EU and Serbian cases and guidelines for soft policy measures* in the field of urban design and planning in accordance with the principles of sustainable mobility in Serbian context was based on student's previous research and they have formed own conclusions about implemented solutions and their characteristics in urban design.

We used group workshops to encourage dissemination of ideas on urban sustainable mobility among students. Throughout their research, students dealt with important questions such as: What is missing in Serbia so that similar principles / decisions / actions like in EU can be applied in this context (for example: lack of integrated policies, transport awareness campaigns, institutional resources and know-how, the will to change or learn, the participation of relevant stakeholders, guidelines, laws, monitoring results, etc.)? What are the benefits in Serbia or what is better done than in the European Union, or what the pitfalls are? As a result, further recommendations were given as the series of future and next steps in capacity building, travel awareness, stakeholders participation, campaigns targeted towards end – users. We have established contact and cooperation with different institutions and different levels of administration: the Belgrade city government and the Ministry for Capital Investments.

Taking one-step forward: deepening the knowledge

Based on the continues evaluation that we have established as a good non-obligatory practice at the course, beside the official Faculty's evaluation, and according to our new research and findings in the field of sustainable urban mobility, we have decided to enlarge our teaching methodology from the second school year 2008/09 onwards in two separate semesters in addition to previous blocks of interactive lectures with concepts of basic trainings in urban land use and relation to sustainable mobility. Those decisions have led as well, in addition to former block of exercises, that students had to translate several ELTIS training material in English language to Serbian language.

We had two goals with this addition. One of them was to deepen and diversify student's knowledge from fields of sustainable mobility and land use impacts and vice verse, and improve their English professional terminology. Furthermore, translated books represent a

good enlarged body of knowledge for future generation of students. Another goal was to disseminate ideas of sustainable mobility in Serbia trough published material in Serbian language among decision makers, professionals in urban planning and transport field, and general public since their knowledge of English is limited.

First two books that we have translated and published were "Mobility Management and Travel Awareness" and "Making Campaigning for Smarter Choices Work. Guidelines for Local Authorities" (TAPESTRY, 2005). The other two were "Parking Management and Pricing" (Rye, 2006) and "Transport and Land Use Planning" (Rye, 2007). Students from the Faculty of Architecture in next school generations and from other courses were pleased to use those translated books in their education.



Figure 3 & 4: Translation of ELTIS training material in English to Serbian language. Source: 3 – (Pressl and Reiter, 2005); 4 – (TAPESTRY, 2005).

Going forward: applying urban mobility for solving urban specific problems

We have further developed our methodology in two ways in blocks of exercises from the third school year 2009/10 onwards.



Figure 5: "Green Station: Promotion of mobility through the redesign of the bus station" Source: Student's work Miljević A., Pantelić A., Vojinović N

One approach was that students had to apply knowledge from concepts on sustainable mobility based on the analysis of case studies and their comparison from one of the four thematic areas and their own research in Serbian context on actual problems. Students had to create applicable policy solutions and measures and solutions for the selected Serbian cities and propose urban design solutions. This was done according to chosen criteria conducted through taught concepts and surveyed needs of existing users



Figure 6: "Interior design and use of magazines for increasing comfort of users" Source: Student work Pelivanović, A.

The other one was to take students for an excursion and visit, see and test in real space and time multimodal transport, which presents an integral part of those cities in Europe. Site visit and students' excursions represents a good way to improve their knowledge in the field of

urban mobility management, parking management and ecological vehicles and their relation to urban sustainable development.



Figure 7: Students on excursion in Graz in front of the Mobility Center listening to Mr. Pressl Source: Radosavljević, 2010.

First site visit that we have organized was to Budapest, Bratislava, Vienna, and Graz in school year 2009/10. Students had the opportunity to see the Mobility Center in Graz, where all important information about different possibilities and modes of transport could be obtained, bicycles rented and so on. Students also had the chance to visit FGM AMOR Austrian Mobility Research office building in Graz and speak and interact with Mr. Robert Pressl from Graz about the role of research and education projects in the transport and traffic area; user behavior and ongoing research on the reasons and effects of mobility; and development of new services by applying ICT solutions in order to make ecological, sustainable traffic more attractive and efficient.



Figure 8: Students and professors on excursion in Bern in front of the Main railway station Source: Radosavljević, 2012.

Fast forward: linkages of urban mobility with urban & architectural projects

Finally, from 2010/11-school year onwards we have added additional exercise for students: we made direct link with student's urban and architectural designs on the course Studio

Design Project 4 - Synthesis. Student's task was to search for adequate concepts on urban mobility and then apply specific English or Serbian case studies from the course 'Mobility in City' into their urban and architectural design projects on the course Studio Design Project 4 - Synthesis. That was done according to chosen criteria conducted through analyzing of the site's specific characteristics and surveyed needs of future and existing users. Students had to evaluate their own solutions and to upgrade mechanisms from chosen case studies. After application of cases they had to reevaluate their solutions again and to compare existing conditions with future solutions.

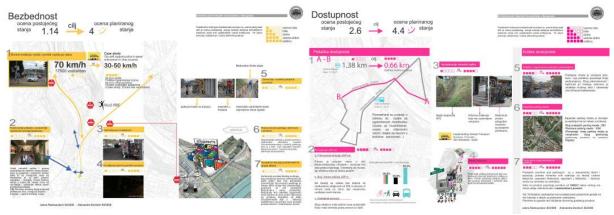


Figure 9: Analyzes of safety and accessibility according to user needs Source: Radosavljević. J. & Đorđević, A. 2012.

Assistant Professors MSc Ksenija Lalović and Assistant Professor MSc Uroš Radosavljević were also mentors of student groups on the course Studio Design Project 4 – Synthesis that they did in 2011/12-school year for the Schindler Award Competition "Access for all, Vision for a revived cultural quarter in Bern, Switzerland". They have led together with Professor MSc Petar Arsić and his Final Master Project students, and Assistant Professor PhD Marija Maruna and her Bachelor students, more then 45 students for the site visit. Beside the city of Bern, we have visited the city of Milan in Italy in which students could see some of sustainable solutions in university campuses, interconnections and technological innovations in urban mobility.

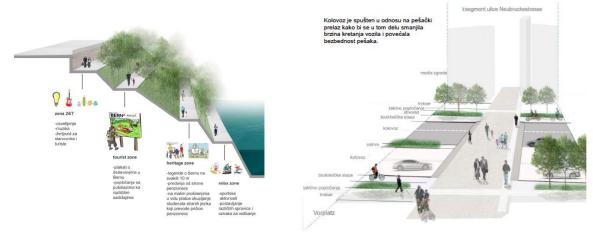


Figure 10: Urban mobility solutions: links to the waterfront and street design— "Access for all" Source: Radosavljević. J. & Đorđević, A. 2012.

Main objective of this organized visit to the competition site in Bern was to explore on the location about the wider and closer context of the competition site. This meant to learn about the city of Bern, its specific historical development, culture, life, and properties of the built environment. Then directly with the competition site, which was necessary to consider at personal level in order to gain a true impression of cultural and physical characteristics of this

complex environment. Students and professors were able to examine and gather all necessary information about the location: take photos, visit entire site by foot, discuss with local stakeholders and speak directly with users, citizens of Bern in order to understand their personal preferences on urban development problems, issues and travel needs.



Figure 11: Sustainable mobility in urban & architectural projects – "Access for all" Source: Radosavljević. J. & Đorđević, A. 2012.



Figure 12: High quality living environment – "Access for all" Source: Radosavljević. J. & Đorđević, A. 2012.

CONCLUSIONS

We have shown in this paper that a variety of new, substantially updated contemporary knowledge on concepts of sustainable urban development in general and on urban sustainable mobility in particular can lead to a change trough the two-way learning process. One way was, and still is, that new teaching concepts and learning methodology that we have employed on the course 'Mobility in City' are both student-oriented and designed for the dissemination of ideas of sustainability towards the wide arena of public and private sector and civil society. Other way of learning was that we, the authors of this paper, two of as university professors and one as student demonstrator, have learned a lot trough the process as well, both from the European partners and practices within the EU FP6 project; and from students while guiding them in the research.

New, designed, & conducted teaching concepts and methods by the authors of this paper have been tested for about 10 semesters. Each of this semester courses provides diverse knowledge and specific expert skills, which have been used in Urban Design Projects on Bachelor and Master level of studies. Students have a chance to apply new knowledge and skills in aspects of urban design and planning of the development of cities and achieve more livable and healthier cities for all citizens according to the principles of sustainable mobility concepts.

Trough translating material to Serbian language, publishing, and making it available on ELTIS web site, we have managed to disseminate ideas of sustainable mobility in Serbia among decision makers, professionals in urban planning and transport field, but also to develop communication and collaboration among experts in different areas to confront specific sustainability problems (Stephens, et. al, 2008, p.330).

Implemented teaching concepts, methods and skills that are an integral part of the course "Mobility in City" have considerable importance for the improvement of students' knowledge as future architects and urban planners and designers, giving them the opportunity to implement learned knowledge in the practice. Using findings and specific experience from other countries that have been published on the ELTIS web site, but also learning from successful Serbian case studies, provides benefits for future experts through expansion of their knowledge on sustainable urban transport and mobility systems.

This approach presented here, although specific for Serbian context, could be used and applied in other higher educations around the World in different contexts in order to produce a network of change agents. Loops of learning are still continuing in the days to come.

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