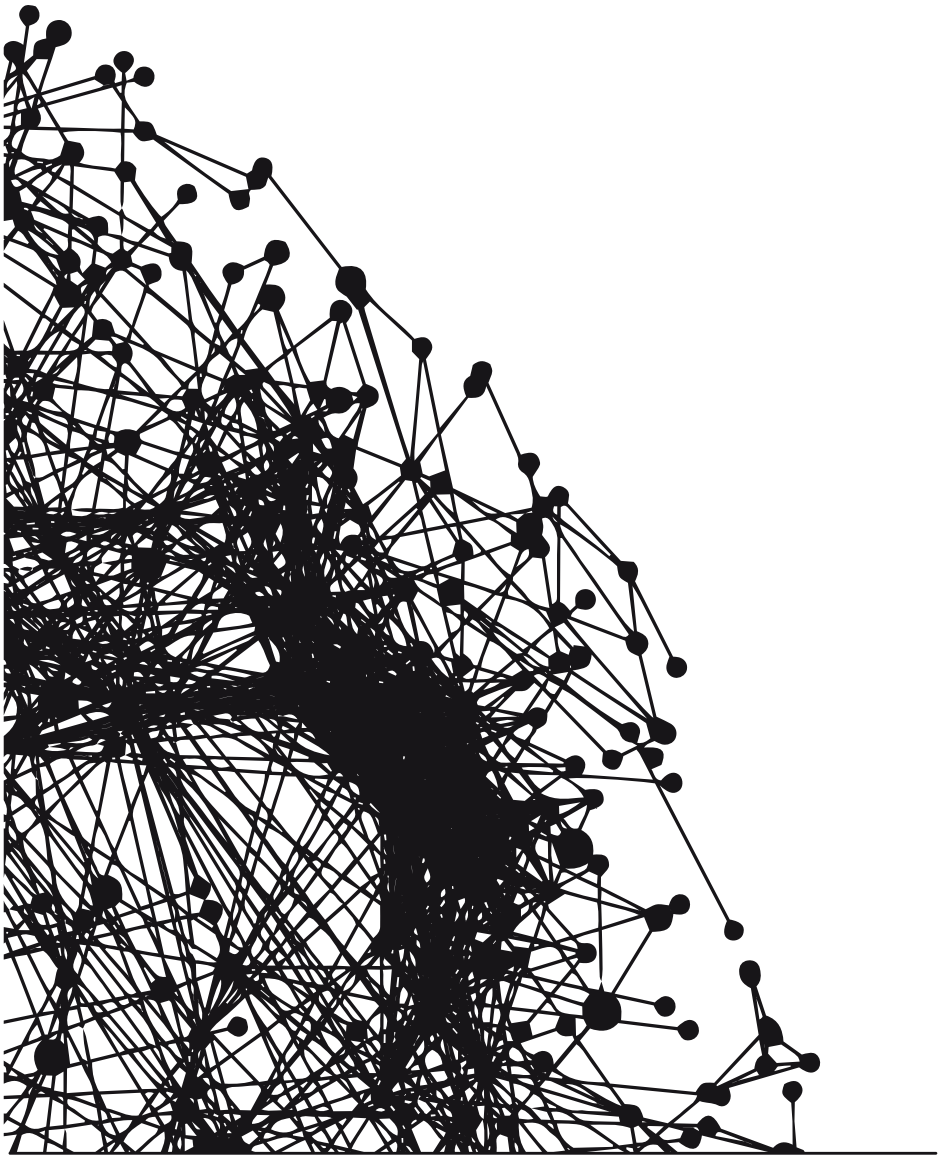
1ST INTERNATIONAL ACADEMIC CONFERENCE

PLACES AND TECHNOLOGIES 2014

BELGRADE, 3-4. APRIL 2014 | KEEPING UP WITH TECHNOLOGIES TO IMPROVE PLACES

EDITORS:
Eva Vaništa Lazarević, Aleksandra Đukić,
Aleksandra Krstić - Furundžić, Milena Vukmirović

conference proceedings



ISBN 978-86-7924-114-6

www.placesandtechnologies.eu

Proceedings of INTERNATIONAL ACADEMIC CONFERENCE ON PLACES AND TECHNOLOGIES

April 3-4, 2014, Belgrade, Serbia

PLACES AND TECHNOLOGIES 2014

Proceedings of First International Academic Conference on Places and Technologies

International Academic Conference on Places and Technologies, Places and Technologies 2014, will be the first conference organized by Univerisity of Belgrade – Faculty of Architecture, Professional association Urban Laboratory and University of Belgrade – Faculty of Philosophy.

Editors: Dr Eva Vaništa Lazarević, Dr Aleksandra Krstić-Furundžić, Dr Aleksandra Đukić and Dr Milena Vukmirović

For publisher: Dr Vladan Đokić

Publisher: University of Belgrade – Faculty of Architecture

Design: Stanislav Mirković

Place and year: Belgrade 2014

ISBN 978-86-7924-114-6

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

711.4.01(082)(0.034.2)
711.4:005.591.6(082)(0.034.2)

INTERNATIONAL Academic Conference on Places and Technologies (1st ; 2014 ; Belgrade)
Places and Technologies 2014 [Elektronski izvori] : keeping up with technologies to improve places : conference proceedings : 1st international academic conference, Belgrade, 3-4. April 2014 / [organized by Univerisity of Belgrade - Faculty of Architecture, Professional Association Urban Laboratory and University of Belgrade - Faculty of Philosophy] ; editors Eva Vaništa Lazarević ... [et al.]. - Belgrade : Faculty of Architecture, 2014 (Belgrade : Faculty of Architecture). - 1 USB fleš memorija ; 1 x 2 x 14 cm

Sistemski zahtevi: Nisu navedeni. - Nasl. sa naslovnog ekrana. - Tiraž 150. -
Bibliografija uz svaki rad.

ISBN 978-86-7924-114-6

1. Vaništa Lazarević, Eva, 1961- [уредник]
2. Faculty of Architecture (Belgrade)
a) Градови - Мултидисциплинарни приступ - Зборници b) Урбанистичко планирање - Технолошки развој - Зборници

COBISS.SR-ID 206380812

Organizers

University of Belgrade | Faculty of Architecture

URBANLAB
PROFESSIONAL ASSOCIATION URBAN LABORATORY

ФИЛОЗОФСКИ ФАКУЛТЕТ
1838

General sponsor

Telekom Srbija

Sponsors

Inženjerska komora Srbije

INSTITUT FRANÇAIS
SERBIE

Gradska opština Savski Venac

Arhi.pro

PHILIPS

Foundation Dokukino

Donators

Република Србија
МИНИСТАРСТВО ПРОСВЕТЕ,
НАУКЕ И ТЕХНОЛОШКОГ РАЗВОЈА

TONDACH
Krov za sva vremena!

LAFARGE

Supporters

ISOCARP
Knowledge for better Cities

CENTAR ZA ARHITEKTURU BEOGRAD

Stalna konferencija gradova i opština

SUPER PROSTOR
Portal za arhitekturu i kulturu prostora

CONTENTS

PART I: URBANISM

Urban planning and technologies

OVERCOMING BARRIERS TO GROWTH
Stephen Platt 16

URBAN CHALLENGES OF ENERGY EFFICIENCY AND CONTEXT-SENSITIVE PLANNING APPROACHES IN BULGARIA
Elena Dimitrova 25

NEW URBAN PROTOCOLS FOR FRAGMENTED TERRITORIES _ THE EXAMPLE OF WESTERN THESSALONIKI
Styliani Rossikopoulou-Pappa, Valia Fragkia 33

A FEASIBILITY STUDY FOR A TECHNOLOGICAL PARK IN FALCONARA MARITTIMA AN, ITALY
Giovanni Sergi 41

SAVING URBAN PLANNING FROM ANOTHER UTOPIAN MODEL
Danijela Milojkić, Marija Maruna 48

THE IMPLICATIONS OF DIGITAL TECHNOLOGY ON THE PERCEPTION OF CENTRALITY
Mihai Alexandru, Cătălina Ioniță 56

TECHNOLOGY AND LANDSCAPE: REDUCE, REUSE AND RECYCLE THE MINING DROSSCAPES
Nicola Martinelli, Francesco Marocco, Alessandro Reina, Maristella Loi, Federica Greco 63

THE ILLEGAL SETTLEMENTS IN BELGRADE VS. TAMING CITY GROWTH: CASE STUDY OF BELGRADE
Biserka Mitrović, Miodrag Ralević, Branislav Antonić 71

IMPACT OF CLIMATE CHANGE IN URBAN PLANNING
Tamara Tošić 78

CONCEPT OF URBAN VILLAGE: THE APPLICATION OF THE CONCEPT AS A FOUNDATION FOR NEW TYPOLOGY OF URBAN VILLAGES
Branislav Antonić 85

RESILIENCE AND VULNERABILITY OF URBAN SYSTEMS. A METHODOLOGICAL PROPOSAL FOR SEISMIC RISK MITIGATION
Rigels Pirgu 94

Urban design and technologies

PUBLIC PLACES AND SPLIT DEVELOPMENT MODEL
Višnja Kukoč 103

AGILE LANDSCAPES: REDESIGNING URBAN SPACE
Anastasios Tellios, Despoina Zavraka 110

PLANNING AND DESIGNING SAFE AND SECURE OPEN PUBLIC SPACES IN SERBIA
Svetlana Stanarević, Aleksandra Djukic 118

SPATIAL AND FUNCTIONAL TRANSFORMATION OF BUSINESS AREAS UNDER THE IMPACT OF INFORMATION TECHNOLOGIES – CASE STUDY OF NIŠ ADMINISTRATIVE DISTRICT
Aleksandar Ristić, Petar Mitković 130

THE IMPACT OF NEW TECHNOLOGIES ON CITY ACUPUNCTURE METHODOLOGY AND INTERVENTIONS
Kristina Careva, Rene Lisac 138

COMFORT OF OPEN PUBLIC SPACES: CASE STUDY NEW BELGRADE
Aleksandra Djukic, Nevena Novakovic 145

005 PUBLIC ART IN BERLIN
Biljana Arandjelovic 151

PROTECTION OF PERSON WHIT DISABILITIES: IMPLEMENTATION OF ACCESSIBILITY STANDARDS
Dragana Vasiljevic Tomic, Radojko Obradović 160

VERTICAL PUBLIC SPACE
Sorana Cornelia Radulescu, Roger Riewe 167

READY-AVAILABLE HYBRID METHODOLOGIES FOR CONTEMPORARY PUBLIC SPACE RESEARCH
Milena Ivkovic, Berit Piepgras, Robin van Emden 175

RETAIL – NEW TECHNOLOGIES AND URBAN CENTRALITY
Martin Brabant 181

TECHNOLOGY AND NEOLIBERAL URBAN PLACES
Marija Cvjetković 191

NEURAL CITIES OR HOW CITIES TEACH US TO DESIGN THEM BETTER
Angelica Stan 198

MORPHOLOGICAL AND TYPOLOGICAL CLASSIFICATION OF GREEN STREET FORMS: MLADEN STOJANOVIC STREET IN BANJA LUKA
Tanja Trkulja 206

Urban regeneration and tehcnology

PROPERTY ISSUES IN THE TURKISH URBAN REGENERATION PROJECTS
Mehmet Çete, Yunus Konbul 215

URBAN ENERGY AND URBAN REGENERATION STRATEGIES: EVALUATION OF IZMIR-UZUNDERE URBAN REGENERATION PROJECT
Yakup Egercioğlu, Çilem Türkmen 222

THE EMPTY URBAN SPACES AS AN OPPORTUNITY FOR THE CITY TO REINVENT ITSELF: THE CASE OF THE INDUSTRIAL TECHNOLOGICAL OBSOLETENESS
Cătălina Ioniță, Mihai Alexandru 230

ENHANCEMENT OF URBAN LIFE QUALITY IN URBAN REGENERATION PROJECTS: IZMIR-BAYRAKLI URBAN REGENERATION PROJECT
Yakup Egercioğlu, Tuğçe Ertan 238

THE INDUSTRIAL BUILDINGS WHICH USED IN SAUDI ARABIA AND SUSTAINABILITY
Wael Al-Buzz 246

AN OVERVIEW OF URBAN REGENERATION PROJECTS IN TURKEY
Yunus Konbul, Mehmet Çete 257

ART AND CULTURE AS INITIATORS OF ARCHITECTURAL AND URBAN TRANSFORMATION IN SAVAMALA
Ksenija Pantović, Iva Čukić, Jasna Kavran 265

Smart cites/regions and network protocols

SMART CITY GRAZ: FROM THE VISION TO THE ACTION
Carlos Varela Martín, Ernst Rainer, Hans Schnitzer 276

RESIDENTS INTERACTION WITH HOME RESOURCES
Cerasela Dinu, Constantin-Daniel Oancea 285

RENEWABLE AND DISTRIBUTED SOURCES WITHIN SMART ENERGY REGIONS
Jovan Todorovic 293

THE SMART CITY FOR THE FUTURE. HOW A SPATIALLY ENABLED AFFECTED BY THE URBAN POPULATION?
Shahryar Habibi 300

PERFORMANCE EVALUATION OF ROUTING PROTOCOLS FOR AD-HOC NETWORKS
Ledina Karteri, Valma Prifti 306

SMART CITIES AND CHALLENGES OF SUSTAINABILITY
Rigels Pirgu 315

A FUZZY BASED CALL CONTROL SYSTEM IN MOBILE NETWORKS, CONSIDERING PRIORITY COMMUNICATIONS
Valma Prifti, Ledina Karteri 323

Historical centers, Building heritage and Technologies

ICT AND VGI TO PROMOTE MINOR HISTORIC CENTRES AND THEIR LANDSCAPE
Pierangela Loconte, Francesco Rotondo 331

THE SUSTAINABILITY AND CULTURAL HERITAGE MANAGEMENT
Christian Kersten Hofbauer, Elham Madadi Kandjani, Jean Marie Corneille Meuwissen 339

CONCEPTS OF FORMING OF URBAN SOLUTIONS IN HOUSING SETTLEMENTS IN BELGRADE BUILT IN PRECAST INDUSTRIALIZED SYSTEMS IN SECOND HALF OF XX CENTURY
Dragana Mecanov 346

NEW ARCHITECTURE IN HISTORICAL CENTRES
Alessandro Bruccoleri 355

INFORMATION AND COMMUNICATION TECHNOLOGIES TO IMPROVE THE KNOWLEDGE OF PLACES. THE ROME HISTORICAL CENTRE AS A CASE STUDY
Francesca Geremia 363

CONTEMPORARY INTERVENTIONS IN HISTORIC PLACES _ THE EXAMPLE OF THESSALONIKI METRO
Stavros Apotsos 372

Image and Identity of place

THE IMAGE OF TRIFKOVIĆ SQUARE (NOVI SAD, SERBIA) THEN AND NOW
Ivana Blagojević, Ksenija Hiel 380

IDENTITY OF NEW MEDIA SPACES
Jelena Brajković, Lidija Đokić 388

THESSALONIKI: A MULTICULTURAL ARCHITECTURAL DESTINATION
Niki Manou-Andreadis, Maria Milona 400

ELEMENTS OF IDENTITY AND UNUSED POTENTIALS OF CENTRAL ZONE IN NOVI SAD
Milena Krklješ, Dijana Apostolović, Aleksandra Milinković 408

BELGRADE SKYLINE: CONTINUITY, PARADOXES & DESIRES
Vladimir Milenković, Snežana Vesnić, Tatjana Stratimirović 416

CITY OF THE MIND - INVISIBLE IN THE MAP
Jelena Stankovic, Milenko Stankovic 424

WHAT MAKES A PLACE?
Saskia I. de Wit, Denise Piccinini 432

SUSTAINABILITY, IDENTITY AND ROLE OF TRADITIONAL MATERIALS
Olivera Ilić Martinović, Mirjana Miletić 441

IDENTITY OF URBAN SPACES; ASSESSMENT AND EVALUATION
Elham Madadi-Kandjani, Christian Kersten Hofbauer, Jean Marie Corneille Meuwissen 448

IMAGE OF SUSTAINABLE PLACES
Vladimir Parežanin, Miloš Mihajlović 456

PRESERVATION OF IDENTITY OF SPACE WITHIN RAPID ECONOMIC AND TECHNOLOGICAL DEVELOPMENT OF TOURIST DESTINATIONS IN THE EXAMPLE OD JIJOCA DE JERICOACOARA IN BRAZIL
Maja Momirov 469

PART II: ARCHITECTURE AND TECHNOLOGIES

Sustainability, Sustainable buidings and technologies

SUSTAINABLE RETROFITTING OF EXISTING AND HISTORIC BUILDINGS
Marina Traykova, Tanya Chardakova 477

OSMOTIC LANDSCAPES - RECOVERED IDENTITIES
Venetia Tsakalidou, Anastasia Papadopoulou 485

DESIGN SCENARIOS FOR AN OFFICE BUILDING – ENERGY AND ENVIRONMENTAL ASPECTS
Aleksandra Krstic-Furundzic, Tatjana Kosic 493

TECHNOLOGICAL AND ENVIRONMENTAL ASPECTS OF RAPID HOUSING CONSTRUCTION
Nikola Macut, Bojana Stanković, Nataša Ćuković-Ignjatović 507

ENERGY ANALYSIS AND REFURBISHMENT STRATEGY FOR ZAGREB UNIVERSITY BUILDINGS: FORMER FACULTY OF TECHNOLOGY IN ZAGREB BY ALFRED ALBINI
Stanka Ostojić, Zoran Veršić, Iva Muraj 515

SUSTAINABLE REUSE OF OLD STRATEGIC INFRASTRUCTURE CANAL DANUBE-TISA-DANUBE 523
Mirjana Jočić, Nataša Kuburović

PLACE ATTACHMENT AS POTENTIAL FOR SUSTAINABLE LOCAL DEVELOPMENT IN SERBIA
Anđelka Mirkov 533

LOW ENERGY BUILDINGS: CONCEPT OF ENERGY PERFORMANCE OPTIMIZATION OF SINGLE-FAMILY HOUSES
Katarina Slavković 540

TECHNOLOGY AND PRODUCTIVE PROCESS: MINING REJECTIONS FROM WASTE TO SUSTAINABLE RESOURCE
Vincenzo Paolo Bagnato, Giovanna Mangialardi, Silvana Milella, Michele Mundo 549

ADAPTATION OF AN INDUSTRIAL BUILDING INTO HIGHER EDUCATION INSTITUTION IN ACCORDANCE WITH IMPROVED ENERGY PERFORMANCE
Branko Slavković, Komnen Žižić, Danilo Dragović 557

FUNCTION OF A DESOLATE SPACE
Aleksandra Pešterac, Daniela Dimitrovska 565

ENVIRONMENT CERTIFICATION OF REHABILITATION DESIGN PROJECTS: PUT AND SHU BUILDINGS AS CASE STUDY
Florian Nepravishta, Gerta Veliu, Ramadan Alushaj 570

Green strategies and technologies

GREEN URBAN STRATEGIES IN THESSALONIKI IN THE CONTEXT OF CRISIS
Evangelia Athanassiou 580

GEOSCIENTIFIC EDUCATIVE CENTRE AS SUSTAINABLE COMMUNITIES BUILDING MODEL – POSITIVE COOPERATION EXAMPLE OF LIKA-SENJ COUNTY (CROATIA) AND UNA-SANA COUNTY (BIH)
Ivan Brlić, Anita Bušljeta-Tonković, Katarina Milković 587

THE OCCUPANTS' PERSPECTIVE AS CATALYST FOR LESS ENERGY INTENSIVE BUILDINGS
Lucia Martincigh, Marina Di Guida, Giovanni Perrucci 597

THE COLLECTIVE SELF ORGANIZED HOUSING EXPERIENCE IN ITALY
Silvia Brunoro, Giacomo Bizzarri 605

APPLICATION OF ROOF GARDENS IN THE DEFINING IMAGE OF THE CITY
Mirjana Sekulić, Bojana Stanković, Ljiljana Dosenović 613

STRATEGY FOR NATIONAL DEFINITION OF NEARLY ZERO ENERGY BUILDINGS
Milica Jovanović Popović, Bojana Stanković, Jasna Kavran 621

ENERGY OPTIMIZATION OF THE BUILDING ENVELOPE OF THE REPRESENTATIVE SAMPLE OF THE EXISTING RESIDENTIAL BUILDING IN BANJA LUKA
Darija Gajić, Aleksandra Krstić – Furundžić 629

BLUE GREEN DREAM AND DAYLIGHT
Srdjan Stankovic, Cedo Maksimovic, Milenko Stankovic 637

POSSIBILITIES FOR ENERGY REHABILITATION OF TYPICAL SINGLE FAMILY HOUSE IN BELGRADE – CASE STUDY
Bojana Stanković, Dušan Ignjatović, Nataša Ćuković-Ignjatović 646

BLUE-GREEN INTEGRATED MODELING SOLUTIONS IN URBAN PLANNING AND ARCHITECTURAL DESIGN
Miloš Mirosavić, Ivana Mirosavić, Srđan Stanković, Čedo Maksimović, Ranko Božović 654

POTENTIALS AND LIMITATIONS FOR ENERGY REFURBISHMENT OF MULTI-FAMILY RESIDENTIAL BUILDINGS BUILT IN BELGRADE BEFORE THE WORLD WAR ONE
Ljiljana Đukanović, Ana Radivojević, Aleksandar Rajčić 661

FROM BUILDING INFORMATION MODELS TO SIMPLIFIED GEOMETRIES FOR ENERGY PERFORMANCE SIMULATION
Daniel Ladenhauf, René Berndt, Eva Eggeling, Torsten Ullrich, Kurt Battisti, Markus Gratzl-Michlmair 669

ENERGY CITY GRAZ - REININGHAUS: FIRST RESULTS FROM AN ENERGY SELF-SUFFICIENT QUARTER
Heimo Staller, Ernst Rainer, Carlos Varela Martín 677

ENERGY EFFICIENCY AS ADVANCED TECHNOLOGY FOR A SOLUTION TO THE PROBLEM OF DEPOPULATION OF RURAL AREAS IN SERBIA
Jovana Stanišić 684

THE ENERGY EFFICIENT CITY
Ivan Dochev 692

Innovative materials, systems and technology

INVESTIGATION OF FLY ASH INFLUENCE ON CEMENT MORTARS PROPERTIES
Dragica Jevtić, Aleksandar Savić 701

INFLUENCE OF GLASS COMPONENT JOINTS ON THE STRUCTURAL GLASS FACADE DESIGN
Aleksandra Krstic-Furundzic, Tatjana Kosic, Jefto Terzovic 709

QUANTIFYING THE THERMAL BRIDGING EFFECT WITH REGARD TO THE FAÇADE'S CONFIGURATION
Katerina Tsikaloudaki, Theodore Theodosiou, Dimitris Aravantinos, Karolos Nicolaos Kontoleon, Dimitrios Bikas 720

THE INFLUENCE OF NEW TECHNOLOGIES ON MODERN CITY FACADES
Jasna Čikić Tovarović, Jelena Ivanović Šekularac, Nenad Šekularac 728

DYNAMIC APPEARANCE OF URBAN AND ARCHITECTURAL SURFACES
Tihana Hrastar, Tamara Marić, Bojana Bojanić 736

TOWARDS GENERATIVE CONVERGENCE IN DESIGN OF ARCHITECTURAL STRUCTURES
Jelena Milošević, Zoran Šobić, Miodrag Nestorović 744

APPLICATION OF WOOD AS AN ELEMENT OF FACADE CLADDING IN CONTEMPORARY ARCHITECTURE OF BELGRADE
Jelena Ivanović Šekularac, Jasna Čikić Tovarović, Nenad Šekularac 752

COMPARISON OF INSOLATION APPLIED ON SURFACES OF MODEL PLACED IN THE AREA OF SKOPJE
Aleksandar Petrovski, Todorka Samardzioska, Ana Trombeva Gavriloska 758

APPLICATION AND EFFECTS OF PHASE CHANGE MATERIALS IN A MODERN ARCHITECTURAL AESTHETICS
Vladana Stanković, Goran Jovanović, Mirko Stanimirović 766

INTEGRATED DESIGN OF STRUCTURAL SYSTEMS
Aleksandra Nenadović 772

NEW COMPOSITE SLAB SYSTEM – LIGHTWEIGHT CONCRETE, STEEL SHEETING AND REINFORCEMENT
Zoran Šobić, Jelena Milošević, Miodrag Nestorović 780

MODERN METHODS OF STRENGTHENING MASONRY WALLS
Nenad Šekularac, Jasna Čikić Tovarović, Jelena Ivanović Šekularac 788

NEW PERSPECTIVES FOR FERROCEMENT
Ornela Lalaj, Yavuz Yardım, Salih Yılmaz 796

Cultural patterns, Architecture and technologies

SPATIAL AND SOCIAL ASPECTS OF THE ARSENAL TRANSFORMATION, MILITARY PORT IN TIVAT INTO NAUTICAL – TOURISM SETTLEMENT AND PORT „PORTO MONTENEGRO“
Goran Radović 805

DIGITAL FABRICATION IN THE FIELD OF ARCHITECTURE
Roberto Vdović, Morana Pap 816

THE IMPACT OF SMART HOME TECHNOLOGIES ON ARCHITECTURAL DESIGN
Goran Petrović, Marko Aleksendrić 822

BETWEEN THE PLACE AND NON-PLACE: ARCHITECTURE AND TERRITORY ON THE EXAMPLE OF SKOPJE
Saša Tasić, Mitko Hadzi Pulja, Minas Bakalchev 830

INTEGRATED ARCHITECTURAL COMPLEXITY - FROM ABSTRACTION TO TECHNOLOGY AND MATERIALISATION
Rada Čahtarević, Dženana Bijedić, Amra Taso 838

EVOLUTION DIGITIZED: ARCHITECTURE OF THE SUBLIME DREAM
Mihailo Popović, Vladimir Milenković 846

MONOCHROMATIC IN THE ARCHITECTURAL COMPOSITION: WITH SPECIAL REFERENCE TO THE APPLICATION OF WHITE COLOUR
Dragana Vasiljevic Tomic, Rifat Alihodzic, Dragana Mojsilovic 853

(RE)GENERATION & REFLECTIONS OF THE SCHOOL OF ARCHITECTURE – BANJALUKA IN THE CENTURY OF KNOWLEDGE AND SKILLS
Milenko Stanković, Una Umićević 864

QUANTUM ARCHITECTURE, NON-PLACE AND ACCULTURATION
Dubravko Aleksić 873

PLACES AND PRACTICES OF CONSUMPTION IN THE POST-SOCIALIST CONTEXT
Dejana Nedučin, Dušan Ristić, Vladimir Kubet 880

INTERACTIONS BETWEEN LIGHT AND ARCHITECTURE: AN EXPERIMENT USING MODELS AND PHOTOGRAPHS
Anita Stoilkov-Koneski 888

THE INTERPLAY OF MUSIC AND ARCHITECTURE: LAYERING OF SOUND AND SPACE
Anja Kostanjšak, Morana Pap 895

CULTURAL PATTERNS AND SENSITIVITY TODAY: FROM THE PHILOSOPHY TO THE TECHNOLOGY IN ARCHITECTURAL DESIGN PROCESS

Małgorzata Kądziela, Anna Sachse-Rynkowska 904

PART III: PLACES, TECHNOLOGIES AND RELATED FIELDS

Big data, apps, social networks and microblogs in urban planning and design

PLACE COMPETITIVENESS EXPRESSED THROUGH DIGITAL DATA. MEASURING THE PLACE ATTRACTIVENESS TRACKING THE GEOTAG DATA VISUALS
Milena Vukmirovic, Eva Vanista Lazarevic 914

ROOM BOOK 2.0 – BRING BACK THE INFORMATION TO ITS PLACE
Christoph Breser, Stefan Zedlacher 926

THE INTERCONNECTED OBJECT: ARE YOU AT HOME IN A NETWORK?
Kalina Ntampiza, Polina Zioga 936

THE INTERACTION TIME IN A NETWORKED SOCIETY
Danijel Baturina 944

GOOGLE EARTH AS A MICROWORLD
Milena Zindović 962

TRANSPARENCY OF SCALE: GEOGRAPHICAL INFORMATION PROGRAM (GOOGLE EARTH) AND THE VIEW FROM BEYOND
Pavle Stamenović, Dunja Predić, Davor Ereš 970

Geodesy and modern cartography

ROBUST ESTIMATION APPLIED TO GEODETIC DATUM TRANSFORMATION USING A METAHEURISTIC ALGORITHM
Mevlut Yetkin 979

THE STATE OF THE ART SURVEYING BY TECHNOLOGY OF THE TERRESTRIAL LASER SCANNING
Marko Pejić, Branko Božić, Verica Erić, Jelena Pandžić 987

ROLE OF CARTOGRAPHY IN MAKING A "SMART CITY": CASE STUDY OF INDJIJA
Dragutin Protić, Ivan Vučetić, Ivan Nestorov 995

MODERN CARTOGRAPHY IN PROJECT OF CENSUS
Maja Kalinić, Dragoljub Sekulović 1002

Mobility and technologies

PERSONAL RAPID TRANSIT – A SUSTAINABLE URBAN TRANSPORT SYSTEM
Ljupko Šimunović, Luka Novačko, Mario Ćosić 1011

FLIGHTPATH TO AN ENVIRONMENTAL FRIENDLY AIR TRANSPORT
Ivana Čavka, Olja Čokorilo, Slobodan Gvozdenović 1020

PRESERVATION OF PLACE-IDENTITY THROUGH URBAN TRANSFORMATIONS BASED ON SUSTAINABLE FORMS OF TRANSPORT
Miloš Kopić 1029

BELGRADE RIVERSIDE TRAFIC INTERCHANGES
Ksenija Stevanović, Milena Stevanović 1037

SUSTAINABLE URBAN MOBILITY PLANS IN EUROPE
Davor Brčić, Ljupko Šimunović, Marko Slavulj 1045

URBAN DEVELOPMENT IN BELGRADE IN THE CONTEXT OF GLOBAL TRENDS: CHANCES OF ILLEGAL HOUSING INTEGRATION
Biserka Mitrović, Miodrag Ralević, Branislav Antonić 1051

RE-THINKING INFRASTRUCTURE PROJECT FOR THE METROPOLIS: LABORATORY GRANADA
Juan Luis Rivas Navarro, Belén Bravo Rodríguez 1059

Public participation, e-governing and tehcnology

COMMUNITY PARTICIPATION AND GREEN INFRASTRUCTURES: A DELIBERATIVE EVALUATION METHOD
Saverio Miccoli, Fabrizio Finucci, Rocco Murro 1067

RESULTS OF INTRODUCTION OF PARTICIPATORY TOOLS IN URBAN PLANNING IN SERBIA – 7 CASE STUDIES
Ratka Čolić, Harald Mueller 1075

WAYS TOWARDS A CITY OF NEW TECHNOLOGIES
Miodrag Ralevic, Tatjana Mrdjenovic, Natasa Krstic, Djemila Beganovic 1083

PARTICIPATION OF CITIZENS IN TOWN PLANNING PROCEDURES IN NEIGHBOURHOODS WITH FORMER REFUGEE AND DISPLACED POPULATION IN PRIJEDOR, BOSNIA AND HERZEGOVINA
Rada Latinović 1090

THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN A VIRTUAL ORGANIZATION
Jelena Lukić 1098

PLANNING AND DESIGNING SAFE AND SECURE OPEN PUBLIC SPACES IN SERBIA

Svetlana Stanarević
Faculty of Security Studies, University of Belgrade
e-mail: svetlana_stanarevic@yahoo.com

Aleksandra Djukić
Faculty of Architecture, University of Belgrade
e-mail: adjukic@afrodita.rcub.bg.ac.rs

Abstract

The main role of the city in the past was protection of its citizens and goods. Cities represented the places where people were able to hide from savagery, crime and wilderness, with the enemies left on the other side of the walls. However, during the twentieth century, cities were more associated with the absence of safety than with security. They experienced transformation from shelters into a major source of danger. Safety and perceptions of safety are important factors contributing to the sustainability of a contemporary city. Open public spaces as the main generators of users are the focus of social life and vitality of environment. In the paper, we have analysed the connection between urban planning and design and safety and security of open public spaces. Such analysis could help planners create urban design for a safer urban place. Principles of designing or redesigning a public space which contribute to the safety of that space are also investigated together with their instruments. Special attention is given to the CEN/TR 14383-2 technical standard for crime prevention, and its use in Serbia. The conclusion contains generic advice for improving urban design with the aim of addressing safety in open public spaces.

***Keywords**: open public space, urban design, planning, safety, Serbia*

Introduction

The issue of urban security, primarily in open public areas, is of great social importance; moreover, it is a good topic with a broad scope of applications from various societal and political positions. At the same time, it can legitimise various strategies, the implementation of which can alter social reality. Profound social changes in the second half of 20th century also shaped new models of development in the field of urban planning. These models are described in number of ways, with the addition of diverse aspects, such as post-modernity, globalisation, or risk society.

There is a whole range of vulnerabilities looming over our planet, fully interspersed with the human interdependences network, where any single thing other people are doing or might do can have an impact on our safety now as well as in the future. Therefore, modern intellectual thought faces numerous challenges whilst looking for a way out of the labyrinth of ever more strained contradictions and indisputable problems which have significantly undermined the safety and security of individuals, social groups, and the entire society and the country itself. Another serious challenge is the manner of adjusting to constant changes in contemporary society. We are exposed to many often undefined threats to our safety every single day and it takes a lot of effort to calculate and alleviate their risks. The majority of these threats already exist in urban public areas used by all citizens mostly for commuting and performing various activities.

Open public spaces can most concisely be defined as areas or locations which are open and accessible to all citizens, regardless of their gender, race, ethnicity, socio-economic status and age. Contemporary urban planning surpasses traditional models of utilisation, zoning and urban design of public spaces by means of integrating social, economic, environmental and cultural components, for the purpose of accomplishing certain societal objectives, with high level of safety being of utmost importance (Đukić, Stajić, 2012). The definition of open public spaces is flexible, depending on a particular need and the context it is used in, permeating into the field of philosophical interpretation and almost metaphysical clarification, yet also involving very precise explanations detailing their functional, proprietary, compositional, aesthetic and other properties (Study of Public Areas, 2010).

In urban planning and its strategies, safety represents one of the fundamental criteria for determining the quality of public spaces and conditions for their planning, improvement, use, and organisation.

For years now, the world has witnessed a global trend of the "discovery" and reaffirmation of public areas, ranging from reshaping, redesigning, introducing new content, to the ever more significant role of public areas as public scenes, indicators and modifiers of societal circumstances. Pursuant to that, processes for making strategic, planning and designing endeavours regarding public areas have been developing, thereby creating various forms of partnerships between political and public sectors, users, owners and contractors, linked by their common goals and interests. Different motives can lead to such a societal action which gathers numerous partners; however, in many of these actions, security and safety of the citizens are being taken into account more and more often as very important aspects of general societal mobility.

Unfortunately, we must establish that in the Republic of Serbia, such approaches and actions are yet to be adequately and more transparently implemented. This paper will look into the existing problems and their possible solutions. We will also emphasise the fact that there is very little research in the Republic of Serbia tackling the issue of safety of people in public areas. Therefore, we may to a certain extent use the results of the research covering citizens' safety in their everyday life,

irrespective of the theoretical or practical reason for conducting such research. Together with the official statistical data gathered by governmental institutions monitoring unsafe phenomena, their occurrence and impact on work and other daily activities of citizens and other participants in social life, it is very important to be acquainted with the citizens' perception of this. More precisely, it is vital to be familiar with their understanding of potential dangers that surround them, or which they think pose a serious threat regardless of their location and the time of incidence.

When it comes to safety in public areas, it is interesting to analyse the relationship between urbanising solution of the developed surroundings on one hand and crime and antisocial behaviour on the other. Here we discover that spatial arrangement planning has a very important objective – to assure quality of the places of short- and long-term residence, i.e. for local inhabitants and temporary users. The achievement of this goal involves high-quality planning and spatial arrangement. In order to obtain a satisfactory degree of community safety, the planning policy must take into account the planning document elements considering the prevention of crime and fear of crime as a significant part of standard security measures.

Local community and town planning involves the establishment of certain hierarchy and order, including great capacity for forethought in numerous segments of human life and technical actions. From the sociological point of view, this means that it is necessary to coordinate various aspects and dimensions, ranging from the way of communicating within the society, relations between socio-environmental factors, to balancing aesthetic and spiritual content of architectural symbolism, as elements which create an appropriate or inappropriate experience by people inhabiting a certain space (Supek, 1987).

The first significant theoretical papers linking crime prevention and urban planning and attempting to clarify the connection between them started appearing around the beginning of the previous century and flourished in its second half. It took a while to get from the highest level of abstraction and theoretical thought to concrete strategies and practical policy guidelines. In this case, we are interested in the guidelines which possess a high reputation with policy-makers and interested parties, existing in the form of manuals and standards as the means for supporting the implementation and practical application of the policy of reducing opportunities for crime and fear of crime. For that purpose, this paper will elaborate on the CEN/TR 14383-2 technical standard for prevention of crime and its use in Serbia.

PERCEPTON OF SAFETY IN CITIES

City as a Sociological Phenomenon

Cities can be classified as some of the most complex social phenomena. Throughout history, cities have changed their form and undergone major changes; they have complex structure and internal relations, and can be analysed from the point of view of various scientific disciplines. Therefore, they represent multidimensional

integrated systems, consisting of qualitatively different psychological, societal and cultural subsystems, which constitute all of the city segments. A renowned representative of the Chicago school[19], J. Park, defined city as "*something more than a mixture of people and collective equipment – streets, buildings, electric lights, telephones etc... A city is also something more than a mere assemblage of institutions and administrative bodies: courts of law, hospitals, schools, police stations and various other public services. A city is a state of mind, a collection of customs and traditions and established stances... In other words, a city is not just a physical mechanism and an artificial construction... it is a product of nature, of human nature"* ( ).

City also means intermixing, exchange, differentiation, assuming various roles, everyday contact, exchange of relationships whose content and quality are conditioned by the proximity of its participants. Various conceptual approaches to the city area planning, designing and arrangement may, on one hand, create the feelings of companionship or alienation, or, on the other hand, disable spatial closeness (by limiting streets and erecting skyscrapers, in which people become lonely, cannot reach each other, or develop the idea of spatial and social networking). (Supek, 1987:148)

However, the city evolved as a consequence of social division of labour, which involved separation of social groups. The occurrence of social segregation also influenced the majority of citizens in such a way that they began to identify themselves with "their quarter", "their block", "their neighbourhood", and not with "their city". The fight against segregation initiated the development of those forms of spatial solutions and arrangements which allow people to share common space, to increase communication in informal relations, to participate in the life of their urban community. Thus, the city has been gradually turning into a place of social integration and cohesion, which in turn caused some other problems.

A traditional city has its insignia and its boundaries in physical space, visible in the form of ramparts, or invisible in the form of administrative authority. Modern cities have lost their boundaries which merged with a multitude of chaotically built houses in the suburbs, thus eliminating the experience of a separate entity, which would provide a feeling of security and the presence of common sense in the natural space cities take up. Industrialisation, market competition, together with substantial migrations of population have gradually erased former city boundaries, with new ones yet to be found.

[19] The first substantial theoretical work in American society-inclined criminology was done within the Chicago school. For all researchers of the time, around the beginning of the 20th century that city represented a kind of huge societal laboratory. In 1833 around 4,100 people lived there; in 1890 that number reached a million, and in 1910 it exceeded two million. Its population included a big number of black people from the South, but also immigrants from all around the world. Many different social groups concentrated in a relatively small area thus creating an „urban jungle" where crime and other social issues increased rapidly. Further reading: Tierney J. (1996), *Criminology – Theory & Context*, Pearson Education Limited, London.

Since the establishment of the first cities to the present day, cities have been the places where strangers live together, in near proximity of each other, and even a minor gathering of strangers greatly contributes to unpredictability and risk. Places incurring a lot of risk (big cities certainly being one of them), are at the same time attractive and repulsive. Public spaces are the places where strangers meet, thus representing condensation and extract of the main properties of urban life. These areas are vulnerable, exposed to different kinds of threats and attacks, but they are also places of discovery, learning and primary practice of satisfactory ways and means of urban living. Some authors claim that "the spirit of capitalism" has gone beyond all natural and human boundaries, introducing in this space not only disorder and chaos, but also insecurity and alienation. In relation to that, Bernard Oudin in "Plaidoyer pour la Ville" concludes: "*One thing is certain in any way: throughout the centuries, city, as a place of gathering, has been a symbol of protection and security, while the village was deemed frightening.*" *(Supek, 1987: 144)* On the other hand, Nan Ellin also notes that the protection against danger was "*an essential motive for establishing cities, with boundaries commonly being defined by huge ramparts or fences, from ancient Mesopotamian villages, via medieval towns, to the American Indians' settlements.*" (Ellin, 2003:43-61).

However, in the previous century, the city became much more associated with danger than with safety, thus shifting its role from a traditional one of "a symbol of protection and security" towards the chief source of danger. The "security" role, once traditionally associated with cities, was replaced by an ever increasing feeling of restlessness, which at one point reached the level of panic. Faced with growing urban violence and crime, some cities in different parts of the world started to analyse the occurrence of this new phenomenon and develop certain strategies in accordance with the results obtained, with the aim to eliminate, decrease or alleviate the effects of these phenomena (London, Baltimore, Barcelona, Sydney). The strategies produced had different content, the but common orientation or label was prevention.

Hence, one of the priorities for urban planners should also be the fight against insecurity; however, once that insecurity is removed, city streets also get robbed of spontaneity, flexibility, the ability to provide surprise, the possibility for adventure; all in all, plenty of attractions of urban life. A renowned sociologist, Zygmunt Bauman, in his study called *Fluid Life* asks: *Is it possible to conquer fear, while at the same time avoiding boredom?* (Bauman, 2009). This question calls for new answers, both from urban planners and from those who take care of citizens' safety and security in public urban areas. Public area, as a completely open social phenomenon, requires a review of the existing approaches to its arrangement and designing and the provision of new ones, in order to satisfy the needs and requirements of all its users.

The Perception of Safety in the Republic of Serbia

Safety conditions in a particular environment, in a certain space or a territorial unit can be determined using the data from the statistical reports created by official

government institutions monitoring these conditions in accordance with different parameters. These data do not always represent the true state of affairs, since there is a "missing link", a subjective or personal feeling of safety among the citizens in their daily activities. The fear they feel regarding a safety problem may or may not be justified, or sometimes imaginary, but regardless of the origin of such a fear and whether or not it is founded, it causes certain reactions, changes in habits, and, amongst other things, it leads to a change in the way public spaces are used. In that respect, it is important to compare citizens' observations and concerns with the data available to the institutions in charge, but at the same time also to establish a better cooperation between the citizens and those responsible for safety.

Based on the research of public opinion regarding safety in Serbia, conducted by the Belgrade Centre for Security Policy in 2011, the majority of citizens feel safe[20]. Furthermore, they feel safest in their homes (84.5%), followed by their place of residence (77.9%), and, finally, two-thirds of the citizens of the Republic of Serbia feel physically safe (75.3%). According to the BCSP researchers' findings, such a result is much better than the one obtained in some other European cities, such as London, Paris, Berlin, Madrid, Prague or Bucharest.

As the main reasons for the feeling of insecurity citizens listed unfavourable economic situation (15%) and a rise in street crime and violence (11%). When asked during the focus groups work if they would dare to walk about their place of residence without fear, the majority provided a positive answer. Citizens of Belgrade, females in particular, indicated that they would not dare go everywhere freely, and parents were somewhat worried about the safety of their children. Focus groups stated that sports supporters' violence represented the most common threat to personal safety, with some of the participants expressing their concern that the worsening of economic situation might lead to a rise in crime and anarchy on the streets.

According to the results of a survey conducted by the Urban Planning Institute of Belgrade, published in 2008 (on a sample of 190 respondents), it is interesting to note the answer to the question about whether they avoid certain parts of the city, specific areas or spaces because of the fear for their own safety; half of the respondents selected a positive answer. Spatial and social problems were provided as the most common reasons for fear. When asked to define locations where they experienced an unpleasant situation, respondents divided them into two groups in their answers: particular urban areas – mostly central zones and open green spaces; and general remarks regarding spatial elements and the functioning of the city.

The most interesting result is probably the fact that most respondents (98%) believe that it is possible to implement measures leading to the increase in safety in urban public areas. The majority chose better lighting and more frequent patrolling by

[20] A research called Serbian *Public on Security* was designed by a team from Belgrade Centre for Security Policy, and implemented by CeSID on the sample of 1200 respondents, in April 2011. The focus groups were organised in the following cities: Sombor, Valjevo, Zaječar, and Belgrade. Complete research results are available at: www.bezbednost.org

members of law enforcement units as key measures, as well as different mode of operation of public transport, video surveillance, different orientation of buildings, better arrangement of green spaces, etc.[21]

Taking into consideration only some of the results of the abovementioned research, it is clear that the urban planning practice requires a more active involvement of the segment providing safety measures which would guarantee a better protection of public interests and the improvement of the quality of life for all citizens. This may be achieved in a number of ways, one being the implementation of standards, technical instructions and recommendations at the planning and designing stage, i.e. at the prevention stage which secures optimal outcomes with regard to safety measures.

CEN / TR 14383-2 TECHNICAL STANDARD FOR CRIME PREVENTION

Urban planning and designing, as previously stated, represents much more than its merely technical dimension – it also acknowledges the social context in which such an activity is performed, as well as safety. The ideas analysing this relation occurred in the early 20th century, with a more intensive development starting in 1960s. Nowadays, this theory has evolved into various approaches, whilst the practice applies positive solutions brought about by numerous policies and strategies holding both national and local significance.

The clarification of the connection between crime prevention[22] and urban planning can be provided at several levels, with the scope ranging from a very high level of abstraction, down to concrete, practical policy guidelines. In this case, we are evaluating the guidelines in the form of manuals and standards, with great reputation amongst policy-makers and interested parties, as support for implementation and practical use. When it comes to safety, regardless of whether it is observed as "the absence of danger" or "the absence of the fear of danger", crime and fear of crime are stated as the main problems in urban areas. For that reason, European institutions made considerable achievements around the end of the 20th

[21] For more details, see publication: *Sigurniji javni prostori*, studija o bezbednosti javnih gradskih prostora u Beogradu (Safer public areas, study of Belgrade public areas safety), (2008), Urbanistički zavod Beograda i Misija OEBS u Srbiji, Beograd.

[22] In order to better understand how European institutions approach the notion of crime reduction, we shall use the interpretation by the European Commission for Crime Prevention. Namely, as defined by article 2.2. of the Council Decision 2009/902/ JHA which lies at the basis of the Europe an Crime Prevention Network (EUCPN): "*Crime prevention covers all measures that are intended to reduce or otherwise contribute to reducing crime and citizens' feeling of insecurity, both quantitatively and qualitatively, either through directly deterring criminal activities or through policies and actions designed to reduce the potential for crime and the causes of crime. It includes work of government, competent authorities, criminal justice agencies, local authorities and the specialist associations they have set up in Europe, the private and voluntary sectors, researchers and the public, supported by the media*". See: Council Decision 2009/902/JHA of 30 November 2009 setting up a European Crime Prevention Network (EUCPN) and repealing Decision 2001/427/JHA [OJ L 321, 8.12.2009, p. 44–46]. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0902:EN:NOT

century in adopting the first significant recommendations for local and regional authorities with the aim of developing integrated action plans for crime reduction in urban public areas. These involved greater participation by members of the public, and developing cooperation between the police, urban planners and professional designers, as well as providing special training for police officers so that they could be given the role of advisers on the relation between crime and developed environment.

Today, there is an ever-growing demand for establishing standards for furnishing public city areas, in order to contribute to their safer use. Naturally, the conditions, reasons for the occurrence of the feelings of insecurity or discomfort among the citizens in such areas need to be defined in advance.

It is known that standards have a distinctly positive influence on most aspects of our lives. They provide the desired characteristics of products and services, such as quality, positive impact on the environment, security, reliability, and efficiency.[23] They involve certain technical specifications or other precise criteria, with the aim of being used consistently, as proposed by the regulations in guidelines and definitions. Standards help make life simpler and increase reliability and effectiveness in performing various jobs and activities. Not being imposed by any legislation, they are usually meant for voluntary use.

In the mid-1990s, European institutions expressed their greater interest in safety issues in cities and organised a series of conferences, with the aim of formulating a set of valuable recommendations, in order to further develop and improve this topic of research.

The final declaration of an International Conference[24] organised by the Council of Europe's Congress of Local and Regional Authorities of Europe (CLRAE; Erfurt 26.-28. February 1997) stated that "crime, fear of crime and urban insecurity in Europe are major problems affecting the public and that finding satisfactory solutions for them is one of the main keys to civic peace and stability".

The European Urban Charter asserts the basic right for citizens of European towns to “a secure and safe town, free, as far as possible, from crime, delinquency and aggression“. This basic right to a safe community has been enshrined into many national and local crime reduction programs all over Europe.[25]

The first recommendation from this conference was for the local and regional authorities in Europe to develop integrated crime reduction action plans, with

[23] The implementation of standards is an integral component of routine tasks of any organisation and institution. In order to efficiently assess safety requirements (of an organisation) and evaluate various selected products and safety policies, it is necessary to systematically define safety conditions. They must be coordinated throughout all levels of operation and work of governmental and social institutions, companies and individuals.

[24] Erfurt (Germany), 26-28 February 1997, on Crime and Urban insecurity: the role and responsibilities of local and regional authorities

[25] CEN / TR 14383-2:2007, See: *www.cen.eu/cen/.../CENTechnicalCommittees/.*

continuing public involvement, in which crime reduction is included as a policy in all aspects of the responsibilities of local authorities. Such a plan should define the nature and the type of crime to be tackled, objectives, timetable, proposals for action and should be based on a wide ranging up-to-date survey of statistics and diagnosis of crime. In this respect, the CLRAE conference in Erfurt also stressed the importance of promoting collaboration between the police and professional designers and ensuring that police officers are specially trained to advise on the relationship between crime and the developed environment.

The scope of TC325 is the "Preparation of European standards on urban planning and building design to provide methods of assessment and performance requirements for the prevention of crime in residential areas at new and existing housing, including local activities in order to ensure safety and comfort and to minimise the fear of violence. "

At the moment (2013) there are several standards in the 14383 series: terminology, urban planning (the TR 14383-2), dwellings/houses, shops and offices, petrol stations, public transport facilities, schools, etc. The umbrella standard TR 14383-2 was issued in 2003. It presents the user with ideas on how to tackle and prevent crime by urban planning, and with a procedure on how to organise the process of crime prevention through environmental design (CPTED) in the best way possible. [26]

The Implementation of the CEN7TR 14383-2:2007 Technical Report in Serbia

In the Republic of Serbia, the Institute for Standardisation adopted European Technical Report CEN7TR 14383-2:2007[27], Prevention of crime – Urban planning and building design – Part 2: Urban planning, without any modifications, as SRPS CEN/TR 14383 – 2 Technical Report, in English. This report provides guidelines for evaluation methods for the risk of crime and/or fear of crime, as well as measures, procedures and actions aimed at reducing these risks.

Unfortunately, in the period between the adoption of this report and the beginning of 2014, it did not see its practical application. Not only did the Institute for Standardisation of Serbia fail to sell a single copy of this report, but it was not implemented in our planning practice either. The majority of respondents – urban planners in charge of the development of Serbian cities were not even aware of the existence of this technical report (the survey was performed late in 2013, in Belgrade, Novi Sad, Zrenjanin, and Kragujevac).

[26] Ibid

[27] This Technical Report was approved by CEN on 21 July 2007. It was drawn up by the Technical Committee CEN/TC 325. CEN members are the National standards bodies of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

For the purpose of research into the failure to implement the standard in planning practice in Serbia, SWOT analysis was carried out under the European project (COST Action TU 1203). This SWOT analysis is based on the traditional approach which identifies Strengths and Weaknesses as internal issues, while the Opportunities and Threats are considered to be external ones. One of the strengths of Standard is that it is a clear, flexible, well-structured handbook, with a lot of illustrations, to accompany the text. The fact that TR 14383-2 is not regulated by Serbian legislation and not included in formal planning system is one of the main weaknesses. Besides, the theoretical approach is not provided in the introduction to the handbook, and neither is an explanation of the fact that cities have become dangerous places (when and why it happened). References used in the standards' preparation are omitted. References can clarify certain terms to different processionals (urban planners, architects, safety experts). Specific spaces and areas with multicultural background are not treated separately. Moreover, the specifics of suburban areas, rural areas or places where teenagers and young people (as a special risk group) gather are not sufficiently emphasised. The main concerns are that there are no promotional activities by the Institute for Standardisation of Serbia, even though it has been four years since this particular standard was adopted; besides, the Standard is rather affordable at the price of 20-30 euros (for a CD or a printed version). In addition, the importance of the implementation of the TR is not recognised at a national level. An opportunity for this would be the fact that the TR Standard and handbook can be a good starting point for crime prevention through urban design, but it is necessary to create a clear connection with other concepts used in local community.

The individual (partial) segments of the standard are already being implemented, as parts of other strategies at a local level - such as the Sustainable Development Strategy, Strategy for Local Safety, Security Strategy of Prevention, Crime Prevention Strategy, Youth Strategy, the Local Action Plan for Youth etc. It is possible to implement TR through both formal and informal planning system and the Institute of Urbanism Belgrade is interested in promoting it. Another significant opportunity for the implementation of this standard is the fact that Safety of Urban Spaces is already part of the curriculum at the Faculty of Architecture and the Faculty of Security Studies in Belgrade.

CONCLUSION

Modern understanding of urban planning involves certain intensity and differentiation of social relations, together with a great volume of communication; their diversity represents the form of modern life. This also includes significant presence of modern technology which enables advanced exchange, high division of roles, borderless communications and global openness for every single individual in social life. One of the vital characteristics of this process is also designing space in terms of certain polarisation between urbanity and intimate community, which means that urbanity has to communicate with open or public areas.

When urban planners commence the designing process, a certain degree of flexibility is recommended, not only in relation to technological innovations, but also when it comes to the pluralism of value systems in the society itself. Urban planning must also take into account certain dimensions involving socio-technical component, social dimension of urban areas, dimension of physical and spiritual communications, distribution of temporality throughout the urban space, etc.

In the urban plan development process, public city areas should be the priority, in the sense of protecting public interest and improving the quality of life. In addition, security measures ought to be more actively involved in urbanisation practice, with the final objective of preventing crime and the fear of crime by means of preventative actions.

Furthermore, in the course of the procedure or process of implementing strategies and applying certain standards to regulate this field, it is necessary to develop an integral approach which would recognise various needs. One of the important questions is how to change the planning and design process to include the desired quality of safety at different levels of urban planning. To achieve that goal, it is important that urban planners include existing standards for safety and facilitate partnerships between local authorities, police and residents in all phases of urban planning procedures.

REFERENCES

Bauman Z., (2009): *Fluidni život,* Novi Sad:Mediteran Publishing.

Council Decision 2009/902/JHA of 30 November 2009 setting up a European Crime Prevention Network (EUCPN) and repealing Decision 2001/427/JHA [OJ L 321, 8.12.2009, p. 44–46].

Danilović Hristić N., (2013): *Bezbednost urbanih prostora*, Beograd: Orion art.

Djukić A., Stajić Lj., (2012): *Reconstruction of open public spaces in mega blocks towards safety: Case study block 21, New Belgrade,* at International Scientific conference "INDIS 2012 – Planning, design, construction and building renewal", Novi Sad: Faculty of Technical Science.

Ellin, N., (2003): *Fear and city building,* Hedgehog Review, 5:3, str 43-61

European Commission – Directorate-general Justice, Freedom and Security, (2008): Handbook on *Planning urban design and management for crime prevention*, European Commission

Gehl, J., (2004): Towards a fine city for people: Public Spaces for Public Life, London Copenhagen: Gehl Architects.

Gehl, J., Johansen L., Reigstad S., (2006): *Close encounters between buildings,* Urban Design International 11, pp. 29-47.

Pušić Lj., (2001): Održivi grad – ka jednoj sociologiji okruženja, Beograd: Srboštampa

Pušić Lj., (1991): *Grad: znaci vremena*, Novi Sad: Matica srpska IKA „Prometej".

Urbanistički zavod Beograda, (2008): *Sigurniji javni prostori*, studija obezbednosti javnih gradskih prostora u Beogradu, Beograd: Urbanistički zavod Beograda i Misija OEBS u Srbiji.

Supek R., (1987): *Grad po mjeri čoveka,* Zagreb: NITRO, Naprijed.

Stojanović D., (2013): *Iza zavese,* Beograd:Udruženje za društvenu istoriju.

Tierney J., (1996): *Criminology – Theory & Context*, London.: Pearson Education Limited.
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0902:EN:NOT