

Car sharing and socio-spatial injustice

Original

Car sharing and socio-spatial injustice / Pedo, E.C., Staricco, L.. - ELETTRONICO. - (2017), pp. 2324-2333. (SPACES OF DIALOG FOR PLACES OF DIGNITY: Fostering the European Dimension of Planning. Aesop Annual Congress '17 Lisbona 10 - 14 luglio 2017).

Availability:

This version is available at: 11583/2727558 since: 2020-02-12T13:40:54Z

Publisher:

Universidade de Lisboa

Published

DOI:

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)



SPACES OF DIALOG
FOR PLACES OF DIGNITY:
Fostering the European
Dimension of Planning
11 - 14 July 2017 Lisbon



BOOK OF PROCEEDINGS



Editors: Eduarda Marques da Costa; Sofia Morgado; João Cabral

With: José Antunes Ferreira; José Manuel Simões; Isabel Loupa Ramos; Jorge Batista e Silva; Miguel Baptista-Bastos; Paulo Silva

Organizers: Carlos Freitas; Inês Fonseca

Publisher: Lisboa, Universidade de Lisboa

ISBN: *Forthcoming*

30th annual AESOP 2017 Congress Lisbon, Portugal

In an uncertain world that is rapidly changing economically, socially and culturally, cities and territories have become the common ground for resilient breakthroughs in the policies and practices of planning and design.

These extreme times urge us to shift towards renewed actions in urban and less urbanised territories. Societal changes, disparities in population growth and incomes and consequential impacts on the sustainability of social services and labour markets, climate change and extreme natural events, complex social-economics trends, challenge us to debate and seek paths that lead to a progressive common future.

The planning and urban minded communities are invited to join efforts under the flag of the next congress topic – SPACES OF DIALOGUE FOR PLACES OF DIGNITY: Fostering the European Dimension of Planning.

A few of the ideas we may want to provide a platform for discussion include developing people's wellbeing, promoting integrated and flexible planning approaches, encouraging collective engagement in urban and environmental management, inclusiveness and multiculturalism.

From one of the most western cities in Europe we believe that we may address potential European urban futures and the need for opening effective dialogue and cooperation with other corners of the globe.

We look forward to welcoming you in Lisbon and engaging with you in discussing these challenges.

REPRESENTATIVES OF LOCAL ORGANISING COMMITTEE

José Antunes Ferreira | IST-ULisboa
José Manuel Simões | IGOT-ULisboa
Sofia Morgado | FA-ULisboa

LISBON AESOP ANNUAL CONGRESS 2017

LOC – LOCAL ORGANISING COMMITTEE

Representatives of LOC: José Antunes Ferreira (IST-ULisboa); José Manuel Simões (IGOT-ULisboa); Sofia Morgado (FA-ULisboa)

Other Members: Eduarda Marques da Costa (IGOT-ULisboa); Isabel Loupa Ramos (IST-ULisboa); João Cabral (FA-ULisboa); Jorge Batista e Silva (IST-ULisboa); Miguel Baptista-Bastos (FA-ULisboa); Paulo Silva (UAveiro)

Secretariado: Agência ABREU (contact person – Madalena Almeida)

Help Us Supporters

Afonso Amaral (IST-ULisboa); Carlos Freitas (IGOT-ULisboa); Natasha Nazarali (IST-ULisboa); Rosário Cavaleiro (IST-ULisboa); Inês Fonseca (FA-ULisboa)

INSTITUTIONAL ORGANISERS



The IST (or just Técnico) is part of the Universidade de Lisboa, and was founded in 1911. Actually, Técnico is the largest school of Engineering, Science and Technology and Architecture, in Portugal, involving a community of over 12,000 people. Innovation, Knowledge and Technology are the guiding principles, which promote excellence and fit the requirements. Técnico offers Bachelor, Master and PhD programmes, lifelong training and develops Research, Development and Innovation (RD&I) activities, which are essential to provide an education based on the top international standards. <https://tecnico.ulisboa.pt>



The Institute of Geography and Spatial Planning (IGOT) is part of the Universidade de Lisboa and is the largest school and a reference in the field of Geography and Planning in Portugal. IGOT comprises the Centre for Geographical Studies (CEG), rated internationally as a centre of excellence. CEG is a reference in research and in the dissemination of geographical knowledge, namely in: Regional and Urban Planning, Evaluation of Public Policy, Regional and Local Development, Migration Studies; GIS and information Technologies, Human and Regional Geography, Physical Geography, Risks and Environmental Impacts and Regional, Tourism, and Historical Geography. <http://www.igot.ulisboa.pt>



The Faculty of Architecture (FAUL) is part of the Universidade de Lisboa. As a school of architecture, it is the oldest Portuguese institution, its origins going back to the “Paços da Ribeira” Civil Architecture, established in 1594. The FAUL provides degrees at the three different cycles – Bachelor, Masters and PhD in Architecture, Urbanism and Design, besides specialisation and postgraduate programmes. Research, Dissemination and Innovation is also a main focus at the FAUL, hosted by CIAUD – Research Centre in Architecture, Urbanism and Design, a research centre rated “Excellent” in 2008 by the national research institution, the Foundation for Science and Technology (FCT). <http://www.fa.ulisboa.pt>

TABLE OF CONTENTS

TRACKS	29
T01 PLANNING THEORY: CONCEPTUAL CHALLENGES AND PLANNING EVALUATION.....	37
ID 117 FROM DIVERSITY AND HYBRIDITY TO EQUALITY AND UNIFORMITY IN IMPLEMENTATION OF REGIONAL PLANNING STRATEGIES, RPS, IN NORWAY	39
ID 1016 THE RETURN OF PUBLIC PLANNING IN A POST-POST-POLITICAL MEMPHIS.....	51
ID 1356 'DECISION NOT TO DECIDE': A NEW CHALLENGE FOR PLANNING	59
ID 1365 'SOCIAL INNOVATION' AND CONTENTIOUS URBAN POLITICS: QUESTIONING THE INNOVATIVE POTENTIAL OF CONTESTED URBAN DEVELOPMENTS IN BERLIN	74
ID 1415 PLANNING THEORY IN THE GLOBAL SOUTH: CIRCULATING TRAVELLING MODELS FROM THE NORTH OR HYBRID ARRANGEMENTS?.....	87
ID 1419 DEVELOPING AN ANALYSIS FRAMEWORK OF URBAN MORPHOLOGY STUDY	96
ID 1458 CONFORMANCE VS PERFORMANCE: ZONING OF THE URBAN AGRICULTURAL ZONES IN TAIWAN	105
ID 1464 ANTHROPOPHAGY IN PLANNING: BUILDING A THEORY FROM THE SOUTH THROUGH AN ASSOCIATION OF ACTOR- NETWORK THEORY AND HISTORICAL MATERIALISM.....	113
ID 1465 THE PRAXIS OF CREATING LEITBILDER (GUIDING VISIONS) FOR SPATIAL PLANNING PROJECTS IN METROPOLITAN ZURICH.....	124
ID 1480 PLANNING FOR CREATING A PEACE PARK; PEACE PARK BETWEEN TURKEY AND GEORGIA AS CASE STUDY.....	134
ID 1483 URBAN REGENERATION AND ITS ROLE ON MARKET SUSTAINABILITY: A CASE STUDY OF MANCHESTER	145
ID 1490 CRITICAL DISTANCE IN URBAN PLANNING. WILL SMART, SUSTAINABLE AND RESILIENT NARRATIVES SAVE OUR CITIES? INSIGHTS FROM DELHI METROPOLITAN AREA.....	156
ID 1494 DECIPHERING PLANNING CONCEPTS FROM A PERSPECTIVE OF LACAN'S FOUR DISCOURSES - A CASE STUDY OF URBAN VILLAGE IN BRITISH PLANNING POLICY.....	166
ID 1512 ESSEX SCHOOL OF DISCOURSE ANALYSIS: A LOGIC-BASED APPROACH TO ONTOLOGICAL INVESTIGATION OF PLANNING	177
ID 1513 EXPLORING THE ZONING AND LAND USE MISMATCH – AN EX-POST EVALUATION OF A DETAILED PLAN IN A LAND READJUSTMENT AREA IN TAINAN	187
ID 1540 ON WHAT GROUND STANDS STRATEGIC PLANNING?.....	195
ID 1543 SHAPING SPACES OF INTERACTION FOR SUSTAINABILITY TRANSITIONS.....	202
ID 1565 CRITITQUE OF EVERYDAY LIFE AND POST-POSITIVIST PLANNING.....	209
ID 1571 SYSTEMATIC SHARING OF EXPERIENCES AND KNOWLEDGE OBTAINED IN PILOT PROJECTS	219
ID 1598 PLANNING ETHICS IN MAJOR TRANSPORT SCHEMES: REFRAMING THE CHALLENGE	226
ID 1600 IF NEOLIBERALISM IS EVERYTHING, MAYBE IS IT NOTHING? QUESTIONING NEOLIBERAL IDEOLOGY IN SPATIAL POLICIES AND PROJECTS.....	234
ID 1612 WHEN ACTIVISM MEETS RADICAL POLITICS - LANDSCAPE PLANNING AS A CATALYST FOR TRANSFORMATIVE CHANGE	241
ID 1613 SUBVERTING THE PRESENT, PLANNING THE FUTURE: PROPOSING A COUNTER- PLANNING.....	256

ID 1623 ROLE AND GOALS OF ONTOLOGICAL ANALYSIS IN UNDERSTANDING SPACE AND PLACES	264
ID 1637 TERRITORIAL OPPORTUNITIES FOR URBAN REQUALIFICATION PRACTICES	271
ID 1650 LOCAL IDENTITIES ON CHANGE- URBAN WATERFRONT REGENERATION WITHIN THE GLOBAL CITY ISTANBUL SERIN GEAMBAZU	279
ID 1659 FLANDERS' SPATIAL (POLICY) PLANNING IN THE MAKING: POTENTIAL AND LIMITS TO COLLABORATION AS COLLECTIVE LEARNING	285
ID 1660 CHALLENGES AND TRICKY WORDS. A STRONGER ROLE FOR PLANNERS	296
ID 1668 LEARNING FROM EUROPE?	301
ID 1691 PLANNING AS A RHIZOMIC PROCESS OF EXPERIMENTATION. NOTES FROM BRAZILIAN PLANNING EXPERIENCE	308
ID 1694 CITY-MARKETING POLICY AS GENERATOR OF URBAN DISCONTENT	320
ID 1696 - PROTOTYPES AS OPEN-ENDED ARTEFACTS IN URBAN DESIGN	330
ID 1721 GLOBAL SOUTH PLANNING: FROM WAR TO WARS	338
ID 1738 PLANNING THEORY, A 'DECONSTRUCTIONIST-TURN': ARE WE THERE YET?	345

T02 PLANNING EDUCATION: BUILDING UP SPACES OF DIALOGUE FOR PLACES OF DIGNITY..	351
ID 1350 DEALING WITH OPPOSITION IN PARTNERSHIP DEVELOPMENT PROCESSES	353
ID 1372 THE DEVELOPMENT OF CHINESE PLANNING THEORY SINCE THE 1978: A THEMATIC PERSPECTIVE	365
ID 1407 LEARNING THROUGH SOCIAL ACADEMIC GROUPS: UNDERSTANDING, SHARING AND CONTRIBUTING. THE FAU SOCIAL CASE	370
ID 1436 PLANNING EDUCATION IN THE CASE STUDY OF THE COURSE OF METROPOLITAN PLANNING IN ISTANBUL.....	381
ID 1449 PROCESS-ORIENTATED LEARNING AS KEY ASPECT IN HANDLING UNCERTAINTY. EXPERIMENTAL TEACHING METHODS IN CONTINUING EDUCATION IN SPATIAL PLANNING	390
ID 1468 TEACHING-IN-THE-FIELD IN A “HUB” ACCOMODATING MIGRANTS IN TRANSIT IN MILAN. CHALLENGES AND OPPORTUNITIES FOR A “SOCIAL AND URBAN ANALYSIS” COURSE.....	398
ID 1473 USING BOUNDARY OBJECTS TO MAKE STUDENTS BROKERS ACROSS DISCIPLINES - A DIALOGUE BETWEEN STUDENTS AND THEIR LECTURERS ON BERTOLINI'S NODE-PLACE-MODEL AND INTERDISCIPLINARITY.....	409
ID 1506 CHALLENGES AND INNOVATION IN THE ARCHITECTURE AND URBANISM RESIDENCY: WORKING TO OVERCOME THE GAP BETWEEN PLANNING AND IMPLEMENTATION	423
ID 1576 CHALLENGES FOR URBAN PLANNING TEACHING: POSSIBLE PATHS THROUGH COMMUNITY OUTREACH UNIVERSITY PROJECTS	429
ID 1605 THE CHALLENGES OF PLANNING IN THE UNEQUAL CITIES. "URBAN POVERTY WORKSHOP" FOR INNOVATING URBAN PLANNERS EDUCATION PATH	439
ID 1639 COMMUNITY GARDENS AS TEMPORARY USES FOR VACANT LAND REVITALIZATION: THE CASE OF RIGA	444
ID 1642 THE LEARNING EXPERIENCE OF TRANSPORT PLANNERS: AN INTERNATIONAL SURVEY	449
ID 1672 GAMES AS DIALOGUE TOOLS FOR SPATIAL LEARNING: AN EXPERIENCE IN EDUCATION.....	456
ID 1679 POST-GRADUATE STUDIES IN PLANNING IN LATIN AMERICA: RATIONALITY VS. DELIBERATION.....	463
ID 1710 ON THE PATH TOWARDS SMART PARTICIPATION: A CASE STUDY OF TAIWAN ...	470
ID 1735 PEDAGOGY BUILT ON WORKING WITH COMMUNITIES.....	479

T03 SPACES OF DIALOGUE FOR ACTIVE, NETWORKED AND RESPONSIBLE CITIZENSHIP	491
ID 1371 BRIDGING THE GAP BETWEEN CRITICAL THEORY AND EMPIRICAL STUDIES: A RELATIONAL APPROACH TO THE STUDY OF THE URBAN COMMONS	493
ID 1379 CHALLENGING PERIPHERALITY THROUGH ACCESS TO THE INTERNET? SOCIO-SPATIAL PRACTICES OF THE CONNECTED RURBAN	503
ID 1380 SOCIO-SPATIAL JUSTICE: THE SOCIAL STRUGGLE FOR THE ACCESS TO BASIC RIGHTS SUCH AS HOUSING OR SUPPLIES IN SPAIN	514
ID 1391 REINSTATING SOCIAL PRACTICES FOR SOCIAL INTEGRATION: EXPERIENCING THE BADARO- PINE FOREST AREA IN BEIRUT	525
ID 1474 TOWARDS CONSENSUS BETWEEN STAKEHOLDERS WITH CONFLICTING INTERESTS: EXPERIENCES FROM URBAN AREAS KALARANNA, TALLINN, AND MEZAPARK, RIGA	535
ID 1486 FROM KNOWLEDGE OF THE TERRITORY TO THE SPATIAL PLANNING CULTURE	547
ID 1522 SPACES FOR LOCAL WELFARE. HOW PLANNERS CAN CONTRIBUTE TO MAKE SOCIAL SERVICES MORE INCLUSIVE	555
ID 1545 SOCIAL PERSPECTIVES OF URBAN REGENERATION ON NEIGHBOURHOOD-SCALE: THE CASE OF SPANISH QUARTERS IN NAPLES	561
ID 1587 LEVELS AND SCOPE OF PARTICIPATED PROJECTS: CASE STUDIES IN THE PORTUGUESE CONTEXT	573
ID 1599 LOCAL STRUGGLES, GLOBAL CONFLICTS: CREATING CONNECTIONS AND SPACES OF VOICES	582
ID 1628 URBAN REGENERATION PROCESS AS AN ASSET TO RISE ACTIVE CITIZENSHIP: THE HUMAN CITIES EXPERIENCE WITH USING PHOTOSTORIES AS A TRIGGER	589
ID 1698 VALUE ADDED AS A TOOL IN PARTICIPATORY APPROACH TO URBAN REHABILITATION PROJECTS. A CASE STUDY IN YEREVAN	597
ID 1709 INSURGENT CITIZENSHIP AND ITS UNFOLDINGS IN THE OCUPE O COCÓ INITIATIVE	608
ID 1725 PARTICIPATORY PLANNING: THE ROLE OF NGOS IN NEIGHBOURHOOD REGENERATION IN RIGA	616
ID 1756 LOCAL PLANNING INSTRUMENTS - IF ONLY WE KNEW HOW TO PLAY	623

T04 URBAN DESIGN, PUBLIC SPACES AND URBAN CULTURE	633
ID 1324 EVALUATING THE ROLE OF PUBLIC SPACES IN PROMOTING SOCIAL INTERACTION IN DIVIDED CITIES. THE CASE STUDY OF NICOSIA, CYPRUS	635
ID 1332 THE COLLECTIVE SPACES SYSTEM IN COASTAL AREAS PLANNING – THE IMPORTANCE OF BUILDING A THEORETICAL FRAMEWORK OF EVALUATION OF THE APPROACH OF DIFFERENT TOOLS.....	646
ID 1333 PLANNING OF URBAN GREEN AREAS BASED ON GIS TOOLS	654
ID 1337 “VILLAGE IN THE CITY” IN CHINA AS PRODUCT OF POPULATION TRATIFICATION AND SOCIAL RELATIONSHIP REPRODUCTION-CASE OF JIANGDONG VILLAGE IN NANJING AND XIBALI VILLAGE IN XI'AN.....	665
ID 1338 STUDY ON THE RENEWAL OF TRADITIONAL COMMUNITIES IN THE URBAN-RURAL CONCURRENT BUSINESS BEHAVIOR - A CASE OF GUOYANG COMMUNITY, BAISE	670
ID 1340 TRANSNATIONAL URBAN DESIGN FIRMS AND LOCAL IMPLICATIONS FOR PLANNING.....	681
ID 1343 CHINESE RETURN TO THE PUBLIC BENEFIT AFTER THE WAVE OF MASSIVE URBANIZATION - A CASE STUDY OF THE SHENZHEN BAY RECREATIVE SEAFRONT BELT	694
ID 1348 USE AND DESIGN OF NEIGHBORHOOD PARKS AS PAROCHIAL REALMS BY MOTHERS AND ELDERLY: A CASE STUDY IN IZMIR, TURKEY	700
ID 1366 URBAN NIGHTSCAPES: SPATIOTEMPORAL NARRATIVES AND LIVED PERCEPTIONS, THE CASE OF NIGHTTIME LISBON.....	712
ID1370 ASSESSING THE QUALITY OF NEIGHBORHOOD PUBLIC SPACES, A CASE STUDY OF MISURATA CITY, LIBYA	724
ID 1375 GOMM PARK. INEFFICIENT MANAGEMENT (DUE TO) AND CAPITAL PRESSURE, SOFTENED BY THE COMMUNITY AND COLLECTIVE CREATIVITY	736
ID 1386 AN INDOOR SOUNDSCAPE SURVEY ON THE USER’S COPING METHODS FOR NOISE ANNOYANCE, DISTURBANCE AND LOSS OF CONCENTRATION IN PUBLIC STUDY AREAS.....	745
ID 1412 ARTS AND CULTURE STRATEGIES FOR ACTIVATING NEIGHBOURHOOD PUBLIC SPACES: BRINGING ARTS TO THE HEARTLANDS OF SINGAPORE	752
ID 1422 THE GATED COMMUNITY IN CHINA: ETHICS AND THE PATTERN OF SETTLEMENT	764
ID 1423 RECLAIMING SPACES: FAMILY INCLUSIVE URBAN DESIGN	773
ID 1425 WHAT IS PUBLIC SPACE’S SERVICE VALUE? SOME RELEVANT RESEARCH QUESTIONS.....	785
ID 1426 THE ROLE OF PUBLIC SPACE SYSTEMS ON URBAN TRANSFORMATION: A REVIEW ON LISBON SOUTH BANK REGENERATION PROCESS	796
ID 1430 BORDERS AND DOMAINS OF PUBLIC SPACE FOR OPERATIONAL SUSTAINABILITY IN CAMPOLIDE	807
ID 1441 BRINGING LIFE BACK TO STREETS THROUGH LANDSCAPE DESIGNS: A CASE STUDY IN SUZHOU INDUSTRIAL PARK, CHINA.....	818
ID 1448 PUBLIC SPACES AS A PLANNING DIMENSION: MILAN CASE STUDIES AND POTENTIALITIES	828

ID 1451 CITY UNSILENCED: PUBLIC SPACE AND URBAN DEMOCRACY ON TRIAL SABINE KNIERBEIN.....	840
ID 1454 PERCEIVED QUALITY OF URBAN OPEN SPACE: A STOCKHOLM CASE STUDY	851
ID 1455 ASSESSING THE PUBLICNESS OF 'PLANNED' PUBLIC OPEN SPACES PROGRESSIVELY: THE AU MODEL OF PUBLICNESS	859
ID 1463 THE URBAN DESIGN REVIEW IN THE PROCESS OF URBAN RENEWAL: A CASE STUDY OF ZHONGSHAN ROAD HISTORIC BLOCK.....	871
ID 1466 THE CONSTRUCTION OF PUBLIC SPACE IN HIGH INTENSITY GATED COMMUNITY: A CASE STUDY OF ZHONGYUAN TWO-BENDS COMMUNITY IN SHANGHAI	879
ID 1477 URBAN CODES INDUCING STREET LIFE, A POSSIBLE APPROACH FOR THE BRAZILIAN CASE	887
ID 1484 CITY VERSUS SUBURB: THE EFFECTS OF NEIGHBOURHOOD LOCATION ON PLACE ATTACHMENT AND RESIDENTIAL SATISFACTION.....	899
ID 1497 SHAPING PROCESS AND IMPACT MECHANISM OF THE THIRD SPACE UNDER BLOCK RENEWAL: AN CASE BASED ON KNOWLEDGE & INNOVATION COMMUNITY RENEWAL PROJECT.....	905
ID 1501 A CONTRASTIVE STUDY ON STRATEGIC VALUE OF PUBLIC SPACE PLAN IN URBAN DEVELOPMENT FROM THE PERSPECTIVE OF SPACE PRODUCTION	918
ID 1516 FROM INFORMAL TO FORMAL PUBLIC SPACE: THE ORGANIZATION AND INSTITUTIONAL TRANSFORMATION OF TACTICAL URBANISM MOVEMENT IN SAN	924
ID 1528 RESEARCH ON THE HUMAN SETTLEMENTS CONSTRUCTION WISDOM OF ZHASHUI PHOENIX ANCIENT TOWN IN CHINA BASED ON NATURAL LANDSCAPE	935
ID 1529 THE SCHOOL TRAVEL BEHAVIOR CHARACTERISTICS AND ITS CONSTRAINT OF THE PRIMARY SCHOOLS IN XI'AN CITY	941
ID 1538 WHEN TRADITIONAL AND CREATIVE INDUSTRIES BLEND: A CASE-BASED DISCUSSION OF THE IMPLICATIONS FOR URBAN DESIGN.....	949
ID 1549 SUPERBLOCK VS. TRADITIONAL GRID IN URBAN DESIGN IN BARCELONA: INTEGRATING SUPERBLOCKS WITH EACH OTHER THROUGH WALKABLE PUBLIC GREEN AXIS.....	959
ID 1554 STUDY ON THE OPTIMIZATION OF RESIDENTIAL SPACE IN RESOURCE-BASED CITIES - A CASE STUDY OF YULIN.....	967
ID 1555 A METHOD FOR MAPPING THE PUBLICITY-PRIVACY SPECTRUM IN A HISTORICAL BAZAAR IN IRAN: ILLUSTRATING THE SOCIO-SPATIAL FABRIC OF THE TABRIZ BAZAAR AS A PUBLIC PLACE	977
ID 1589 E-CAMPUS SPACE REVISITING THE LIFE AND DEATH OF THE CAMPUS URBAN LIFE	988
ID 1592 The city from below.....	1000
ID 1606 THE MORE COMMERCIAL, THE LESS SAFE? -IMPACT OF COMMERCIALIZATION ON STREET SAFETY IN REVITALIZED DOWNTOWN AREA.....	1010
ID 1620 VISIBILITY OF TURKISH IMMIGRANTS IN AMSTERDAM	1017
ID 1633 REPRESENTATION OF TERRITORIAL HERITAGE & DEVELOPMENT: CONJECTURED MAPPING TO UPDATE PORTUGUESE POSTULATES OF CITY-MAKING IN SÃO MATEUS, ES, BRAZIL.....	1032

ID 1638 EVERYDAY NATIONALISM AND URBAN CULTURE – NORMALIZING NATIONALIST REPRESENTATIONS, DISCOURSES AND PRACTICES IN PUBLIC SPACE	1041
ID 1644 THE IMPACT OF INTERNATIONALLY URBAN CULTURE IN REDESIGNING AND RECLAIMING LOCAL PUBLIC SPACES VIDEOGAMES AND STREET-ART MOVEMENTS AS DESIGNING PLATFORMS FOR PUBLIC SPACES	1048
ID 1652 VILLAGE CHARACTER – TO THE ROOTS OF RURAL AESTHETICS	1056
ID 1669 SOUNDS IN THE CITY WORKSHOPS: INTEGRATING THE SOUNDSCAPE APPROACH IN URBAN DESIGN AND PLANNING PRACTICES	1064
ID 1680 THE (IN)CONSISTENT COMMUNITY BOUNDARIES: TEMPORALITY IN MULTIPLE SOCIAL-SPATIAL INTERACTIONS	1075
ID 1695 THE ROLE OF PUBLIC SPACE IN THE RECENT TRANSFORMATIONS OF MEXICO CITY. FROM PROTAGONIST TO FORGOTTEN ACTOR.....	1087
ID 1717 REGENERATION STRATEGY AND EVALUATION OF SHANGHAI HUANGPU RIVER UNDER THE BACKGROUND OF TRANSFORMATION AND DEVELOPMENT.....	1099
ID 1728 WINTER BUZZ AND SUMMER SIESTA IN ZAGREB - PERCEPTUAL DIFFERENCES IN SOUNDSCAPE OF THE SEQUENCE OF URBAN OPEN SPACES	1108

T05 GREEN INFRASTRUCTURES: FOSTERING DIALOGUE ACROSS SCALES AND POLICIES ..	1117
ID 1339 GREEN SPACE SYSTEM PLANNING BASED ON THE GREEN INFRASTRUCTURE - A CASE STUDY OF JI'AN, CHINA	1119
ID 1353 GREEN INFRASTRUCTURE IN LIMINAL STREETSIDE SPACES: CASES FROM EUROPEAN CITY CORES	1128
ID 1369 GREEN INFRASTRUCTURES: A FRAMEWORK TO APPLY A MULTISCALAR AND TRANSECTORAL APPROACH IN PLANNING	1138
ID 1392 POLITICAL CONFLICT ON SPATIAL PRACTICE AT URBAN PARKS IN TURKEY: CASES OF ANKARA AND İSTANBUL	1143
ID 1406 GREEN INFRASTRUCTURE AS EMERGING OPPORTUNITIES FOR INCLUSIVENESS. COMPLEXITY AND DYNAMICS IN MUNICH NORTHERN REGION	1154
ID 1428 ARTICULATING NATURE, CULTURE AND URBANIZATION: AN EXPERIENCE OF METROPOLITAN PLANNING IN BELO HORIZONTE	1159
ID 1509 UTILIZING SPATIAL AND LANDSCAPE PLANNING TO PROMOTE ECOLOGICAL CONSERVATION ON UNIVERSITY CAMPUSES.....	1169
ID 1541 PARTICIPATIVE APPROACH FOR DEVELOPING NATIONAL LEVEL GREEN INFRASTRUCTURE POLICY: A REFLECTION ON SLOVENIAN SPATIAL DEVELOPMENT STRATEGY.....	1180
ID 1550 MODELING ECOLOGICAL NETWORKS AND LAND VALUE FOR THE PRIORITIZATION OF NATURAL AREAS CONSERVATION.....	1188
ID 1591 ACHIEVING SPATIAL QUALITY IN INTEGRATED PLANNING: AN EVALUATION OF THE DUTCH 'ROOM FOR THE RIVER' PROGRAM USING QUALITATIVE COMPARATIVE ANALYSIS	1197
ID 1643 EVALUATING NEIGHBOURHOOD SUSTAINABILITY ASSESSMENT METHODOLOGY AS A LOCALIZATION TOOL FOR GLOBAL TARGETS.....	1221
ID 1686 WHICH STANDARDS FOR PUBLIC OPEN SPACE? A NEW CONCEPTION FOR THE 21ST CENTURY CITY	1231
ID 1693 OILLANDSCAPES. THE RECONVERSION OF FOSSIL FUELS MESHES AS "GREEN ENERGY BACKBONES" FOR THE TERRITORIAL RESTRUCTURING OF THE THIRD INDUSTRIAL REVOLUTION.....	1241

T06 TERRITORIAL COHESION: A MULTISCALE APPROACH	1253
ID 1398 SPATIAL PLANNING ACROSS EUROPEAN PLANNING SYSTEMS AND SOCIAL MODELS: A LOOK THROUGH THE LENS OF PLANNING CULTURES OF SWITZERLAND, GREECE AND SERBIA	1255
ID 1453 INTRODUCING BUSINESS REGIONS IN DENMARK: TOWARDS A NEW PLANNING CULTURE?	1266
ID 1478 THE ECONOMIC CRISIS MODELLING THE TERRITORIAL COHESION. THE FRENCH CASE	1275
ID 1523 PARTNERSHIPS IN THE EU URBAN AGENDA: A WAY TO MAKE STRATEGY PAPERS COUNT?	1285
ID 1544 PLANNING FOR A SUSTAINABLE SHORELINE DEVELOPMENT PERSPECTIVES ON NORWEGIAN COASTAL PLANNING.....	1296
ID 1553 SPATIAL PLANNING POLICIES AND THE INTEGRATION MODELS AS A MEAN FOR A BETTER DELIVERY OF SERVICES OF GENERAL INTEREST.....	1304
ID 1560 RETHINKING PLANNING CULTURES: FROM EVIDENCE-BASED RESEARCH TO CONCEPTUAL IMPLICATIONS	1316
ID 1572 REVISITING THE CONCEPTS OF SCALE AND RESCALING IN RELATION TO THE EU MACRO-REGIONAL STRATEGIES	1325
ID 1597 TOWARD TERRITORIAL COHESION WITH THE NATIONAL SPATIAL PLAN FOR ALBANIA 2030	1340
ID 1611 METROPOLITAN GOVERNANCE APPROACHES IN DEVELOPING SUSTAINABLE EUROPEAN CITIES	1346
ID 1656 BRAIN TRAIN OR BRAIN DRAIN? EFFECTS OF HIGH SPEED RAIL ON THE SPATIAL STRUCTURE IN THE AGE OF THE KNOWLEDGE ECONOMY	1356
ID 1675 COORDINATION OF TERRITORIAL COHESION BY EUROPEAN TERRITORIAL COOPERATION AND TRANS-EUROPEAN TRANSPORT NETWORKS – THE CASE OF CROSS- BORDER TRANSPORT	1371
ID 1715 PARTICIPATORY APPROACH TO REGENERATION PROCESSES IN POLISH CITIES AND REGIONS	1380
ID 1722 MIND THE GAP: TERRITORIAL GOVERNANCE AND SPATIAL PLANNING SYSTEMS IN THE WESTERN BALKAN REGION.....	1390
ID 1746 SYDNEY IS NOT AUSTRALIA: WHAT CAN AUSTRALIAN TRANSPORTATION PLANNING POLICY MAKERS LEARN FROM THE EUROPEAN DIMENSION OF PLANNING?.	1405
ID (1285) SHAPING REGIONAL FUTURES: PERFORMANCE OF REGIONAL DESIGN IN EUROPEAN REGIONS.....	1413

T07 DIALOGUES IN DIVERSE, INCLUSIVE, AND MULTICULTURAL CITIES	1423
ID 1309 PLANNING FOR DIVERSITY AND SUSTAINABLE SPATIAL PLANNING RELIGION SPACE GENDER AND ETHNICITY	1425
ID 1325 THE RIGHT TO THE CITY FOR REFUGEES AMID A EUROPEAN CRISIS: AN EXPLORATORY PERSPECTIVE	1435
ID 1358 SPATIAL INJUSTICE OF CENTRAL AREA PUBLIC SPACES AND ITS PRODUCTION MECHANISM: A CASE STUDY IN NANJING, CHINA.....	1441
ID 1400 INTEREST AT STAKE: A NON-SUBSTANTIAL READING OF COMMUNITY	1453
ID 1401 CHALLENGING COMMUNITY DIVERSITY THROUGH DIVERSE NEIGHBORHOOD DESIGN PRINCIPLE: A CASE STUDY OF WAT-KET, CHIANG MAI, THAILAND	1461
ID 1403 ETHNIC HOUSING SEGREGATION AND THE ROMA/GYPSY POPULATION: A PORTUGUESE PERSPECTIVE	1472
ID 1420 ANALYZING A GLOBAL SENSE OF PLACE BY USING COGNITIVE MAPS: A STUDY OF AFGHAN IMMIGRANT WOMEN IN AUCKLAND.....	1480
ID 1429 THE 'FOSTER CITY': THE DIFFERENT STRATA OF URBAN DIVERSITY IN A NEWLY- MIXED TOWN.....	1493
ID 1437 PUBLIC SPACES AND URBAN CULTURE IN SAINT-LOUIS OF SENEGAL. DETERIORATION OR DISAPPEARANCE OF AN AFRICA'S UNESCO SITE	1502
ID 1492 THE STREET FOOD MARKET, TO BE OR NOT TO BE? A STUDY OF DIFFERENT GROUPS' INTEREST DIALOG BEHIND INFORMAL URBAN SPACE.....	1511
ID 1535 BOUNDARY-MAKING AROUND A "TRANSGENDER GHETTO" IN A NEIGHBORHOOD: A CASE IN ALSANCAK, IZMIR (TURKEY).....	1519
ID 1586 MAPPING INFORMALITY: THE CASE OF STREET FOOD IN THEWET, BANGKOK..	1531
ID 1588 THE ANTHROPOLOGY OF MODERNIST MASS HOUSING: A TOOL FOR URBAN PLANNERS.....	1537
ID 1632 RECONCILING GOALS OF SOCIAL AND PHYSICAL SUSTAINABILITY: AN EXAMINATION OF SPATIAL DIMENSION OF SOCIAL INTEGRATION IN TRONDHEIM, NORWAY	1544
ID 1641 METROPOLITAN PLANNING AND URBAN MINORITIES "ON THE MOVE". A TRANSNATIONAL PERSPECTIVE ON INTEGRATION PATTERNS	1553
ID 1702 PLANNING, PLURALISM AND RELIGIOUS DIVERSITY: THE SPATIAL REGULATION OF MOSQUES IN ITALY	1563
ID 1741 IMMIGRANTS AS AGENTS OF URBAN TRANSFORMATION: TESTING NEW TYPOLOGIES AND NEW BRIDGES BETWEEN CONCEPTS AND EMPIRICISM.....	1578
ID 1750 CHARACTERISTIC TOWNS - THREE LEVELS OF LINK AND DIALOGUE BETWEEN EUROPE AND CHINA	1589

T08 REGIONAL ECONOMICS AND SCARCE RESOURCES PLANNING	1595
ID 1344 OVERCOMING RESOURCE SCARCITY BY IMPLEMENTING STRATEGIC REGIONAL PLANS THROUGH URBAN-REGIONAL DEVELOPMENT PROJECTS: A EUROPEAN PERSPECTIVE	1597
ID 1345 THE URBAN-RURAN RELATIONSHIP AND ITS DEVELOPMENT TENDENCY BASED ON THE PHENOMENON OF PSEUDO COUNTER-URBANIZATION - TAKING WUHAN AS AN EXAMPLE	1608
ID 1418 FOR AN ANTI- AND POST-CRISIS TERRITORIAL REGENERATION AGENDA. THE FRIULI VENEZIA GIULIA REGION AS A STUDY AREA.....	1617
ID 1462 THE MENTAL HEALTH ATLAS AS TOOLS FOR AN COMPREHENSIVE SPATIAL BASED MANAGEMENT OF MENTAL HEALTH CARE	1623
ID 1502 SPATIAL PATTERN ANALYSIS OF MIXED-USE AND VERTICALIZED URBAN MANUFACTURING INDUSTRY IN THE SEOUL METROPOLITAN AREA OF SOUTH KOREA..	1633
ID 1685 PRIORITIZATION OF THE LOCAL ECONOMIC DEVELOPMENT FACTORS: TR41 AND TRC1 NUTS II REGIONS IN TURKEY	1639
ID 1737 PLANNING WITHIN SCARCITY: CHANGING A 'GROWTH PARADIGM' INTO A 'CAPABILITY APPROACH' TO THE TERRITORIES? A VIEW FROM THE NORTHWEST OF PORTUGAL	1649

T09 BRIDGING GAPS IN TRANSNATIONAL PLANNING	1659
ID 1326 COMPLEXITY AND ASYMMETRY WITHIN THE BORDER CITIES IN THE BASEL METROPOLITAN AREA. TOWARDS AN ANALYSIS OF RECENT SPATIAL AND ORGANIZATIONAL PROCESSES.	1661
ID 1335 SPATIAL DEVELOPMENT STRATEGIES TO FOSTER TERRITORIAL COHESION IN THE DANUBE REGION	1669
ID1450 THE BOSNIAN SPATIAL PLANNING SYSTEM - ATTEMPT AT AN EXPLANATION	1677
ID 1471 UNDERSTANDING DIFFERENCES IN THE GOVERNANCE OF MACRO-REGIONAL COOPERATION.....	1687
ID 1488 THE ROLE OF ARTS FESTIVALS IN THE EUROMETROPOLIS LILLE-KORTRIJK-TOURNAI: BRIDGING GAPS IN THE FRENCH-BELGIAN CROSS-BORDER METROPOLIS.....	1699
ID 1517 CROSS BORDER COOPERATION IN WESTERN BALKANS- A COMPARATIVE ANALYSIS OF CROSS BORDER EXPERIENCES BETWEEN ALBANIA-KOSOVO AND ALBANIA-GREECE	1710

T10 | HOUSING AND URBAN REHABILITATION AND QUALIFICATION FOR PLACES OF DIGNITY 1719

ID 1327 NEW MECHANISMS OF INTERVENTION IN THE EXISTING CITY: REQUALIFYING THROUGH DEGROWTH. OBJECTIVE: A RESILIENT CITY THROUGH A CIRCULAR URBAN PLANNING.....	1721
ID 1349 SOCIAL HOUSING POLICY OR SOCIAL POLICY FOR HOUSING? THE ROLE OF THE PROGRAMA ESPECIAL DE REALOJAMENTO (PER) IN THE HOUSING/PLANNING NEXUS IN PORTUGAL	1731
ID 1374 CONTRIBUTION OF SPATIAL PLANNING TO AFFORDABLE HOUSING IN AUSTRIA	1746
ID 1376 RENEWED NEIGHBOURHOODS: REQUALIFIED AND DIGNIFIED NEIGHBOURHOODS? EXEMPLES OF DISTRICTS IN REGION AUVERGNE RHÔNE ALPES (FRANCE).....	1752
ID 1377 URBAN REHABILITATION AND SUSTAINABLE MOBILITY OPTIONS FOR RESIDENTS - AN EXAMPLE FROM SOCIAL HOUSING IN VIENNA	1762
ID 1382 ROLE OF THE RUMORS DURING THE URBAN TRANSFORMATION PROCESS IN ISTANBUL GECEKONDU SETTLEMENTS.....	1770
ID 1383 STUDY ON LIVING SPACE AND COMMUNITY ATTACHMENT OF THE THREE GORGES MIGRANTS - A COMPARISON BETWEEN MIGRANTS RESETTLED NEARBY AND RELOCATED OUTSIDE	1780
ID 1387 IMPACTS OF THE NEW URBAN LEASE LAW AND THE NON-REGULAR RESIDENT TAX REGIME ON HOUSING AFFORDABILITY AND URBAN REGENERATION IN LISBON'S HISTORIC CENTRE	1791
ID 1402 LOW INCOME HOUSING PRODUCTION IN THE NEIGHBORHOOD OF SANTA IFIGENIA IN SAO PAULO, BRAZIL	1803
ID 1405 IMAGE AND QUALITY OF LIFE IN NEIGHBORHOODS WITH RENEWAL DEMAND – CHALLENGES IN THE COOPERATION BETWEEN URBAN PLANNERS AND HOUSING PROVIDERS: THE CASE STUDY WÜRZBURG	1808
ID 1414 EMPTY HOUSING: CRITICAL REVIEW ON THEORETICAL EXPLANATIONS OF HOUSING VACANCY	1816
ID 1432 THE REUSE OF ABANDONED PUBLIC BUILDINGS: AN ANSWER TO HOUSING CRISES? AN INVESTIGATION ON THE CITY OF ROME	1828
ID 1434 MODELS OF URBAN REHABILITATION UNDER NEOLIBERALISM AND AUSTERITY: THE CASE OF PORTO.....	1839
ID 1485 SOCIAL HOUSING AND REHABILITATION OF CENTRAL AREAS: THE EXPERIENCE OF ZEIS 3 IMPLEMENTATION IN SÃO PAULO, BRAZIL.....	1851
ID 1520 COLLABORATIVE HOUSING SHAPING NEW FORMS OF URBAN REGENERATION: AN ITALIAN APPROACH, THE CITY OF TURIN	1861
ID 1521 THE DEVELOPMENT AND IMPACTS OF CULTURAL URBAN REGENERATION IN BEIJING-WITH CULTURE QUARTER, 798 ART DISTRICT AS EXAMPLE	1868
ID 1527 UNDERSTANDING TERRITORIAL DIFFERENCES AND SCALE EFFECTS WHEN EVALUATING HOUSING CONDITIONS USING CENSUS DATA: THE CASE OF PORTUGAL ..	1878
ID 1563 SUPPORTING INNOVATION IN REHABILITATION INITIATIVES FOR DEPRIVED NEIGHBOURHOODS: A MULTI-LEVEL PERSPECTIVE	1893

ID 1567 INNOVATION MANAGEMENT TECHNOLOGY STANDARDS AS A TOOL FOR PARTICIPATORY STRATEGIES IN URBAN REGENERATION OF PREFABRICATED HOUSING ESTATES.....	1907
ID 1575 THE PRODUCTION OF COMMON SPACES IN BUILDINGS OF VILA VIVA AT 'AGLOMERADO DA SERRA', BRAZIL	1918
ID 1580 FEDERAL MY LIFE MY HOUSE ENTITIES PROGRAM: A CASE STUDY ABOUT HIGH QUALITY HOUSING PROVISION IN BRAZIL	1928
ID 1603 PROGRESSIVE CONVERGENCE BETWEEN PRIVATE AND PUBLIC INITIATIVES IN CITY PLANNING AND URBAN POLICY: THE CASE STUDY OF KERAMEIKOS	1938
ID 1604 KNOWLEDGE AND VISIBILITY OF COHOUSING. ACCEPTANCE OF COHOUSING IN MADRID SOCIETY	1948
ID 1635 PROGRESSIVE CONVERGENCE BETWEEN PRIVATE AND PUBLIC INITIATIVES IN PLANNING AND URBAN POLICY: THE CASE STUDY OF KERAMEIKOS	1959
ID 1674 STATE-LED GENTRIFICATION AND DISPLACEMENT IN TARLABASI: AN END TO RESISTANCE?	1969
ID 1707 GATED COMMUNITIES IN TURKEY AS A GOVERNANCE STRUCTURE: ISTANBUL CASE	1980
ID 1739 POLICIES FOR AFFORDABLE RENTALS IN GERMANY AND SWEDEN – HOW DO HOUSING POLICIES GET IMPLEMENTED IN PLANNING AND REALISED IN GROWING CITIES?	1995

T11 HEALTHY AND LIVEABLE CITIES	2003
ID 1359 THE RIGHT PATH TO HEALTH: THE WALKABILITY OF A EUROPEAN MEDIUM SIZED CITY CALLED GUIMARÃES.....	2005
ID 1385 ASSESSING SPATIAL ACCESSIBILITY OF PHYSICAL FITNESS FACILITIES FOR OLDER ADULTS IN WINTER CITY: A CASE STUDY IN HARBIN, CHINA.....	2013
ID 1460 RELATIONSHIPS BETWEEN HEALTH STATUS AND SOCIOECONOMIC AND HEALTH SERVICES INDICATORS DURING THE FINANCIAL CRISIS	2022
ID 1489 URBAN GREEN SPACE AND THEIR IMPACTS ON PHYSICAL ACTIVITY LEVELS OF OLDER PEOPLE: EXPLORING APPROPRIATE METHODOLOGIES.....	2029
ID 1557 LASTING COMMUNITY WELLBEING EMBRACING HEALTH AND LIVEABILITY: COMPARISON OF LISBON AND TOKYO.....	2045
ID 1577 CONNECTING FOOD WITH PLANNING PROFESSION: A REVIEW PAPER ON THE DEVELOPMENT AND EVOLUTION OF URBAN FOOD PLANNING, EDUCATION AND RESEARCH	2056
ID 1582 RESEARCH OF TRAVEL BEHAVIOR INFLUENCE FACTORS OF THE AGED AND SUGGESTIONS OF THE SENILE APARTMENT SITING	2067
ID 1621 MULTI-SENSORY APPROACH TO HEALTH-SUPPORTIVE AND AGEING-FRIENDLY HIGH-DENSITY URBAN ENVIRONMENTS	2076
ID 1646 ANALYSIS OF THE AIR FLOW PERFORMANCE IN WARSAW IN YEARS 2002-2016.....	2089
ID 1654 GEOGRAPHY OF “SUSTAINABILITY WITHIN URBAN FOOD STRATEGIES	2100
ID 1677 WORLD EXHIBITION AS A TOOL FOR THE PROMOTION OF HEALTHY AND LIVEABLE CITIES: CASE STUDY MILAN, ITALY	2109
ID 1678 AN EVALUATION OF THE ACCESS TO NEIGHBOURHOOD PARKS BASED ON THE “NEED-BASED EQUITY”: A CASE STUDY IN IZMIR (TURKEY).....	2119

T12 TOURISM, LEISURE AND GENUINE URBAN CULTURES	2129
ID 1318 TOURISM INVASION? STUDY ON THE FUNCTIONAL TRANSFORMATION OF DWELLINGS AND POPULATION LOSS OF LOCAL RESIDENTS IN VENICE HISTORIC CENTER	2131
ID 1330 MAKING THE MOST OF THE EUROPEAN CAPITAL OF CULTURE. CULTURAL EVENTS AND SPATIAL STRATEGIES IN EUROPEAN PORT CITIES	2138
ID 1378 THE DIRECT AND INDIRECT IMPACTS OF MEGA-EVENTS ON EUROPEAN URBAN HERITAGE.....	2148
ID 1421 TOURISM AS ECONOMIC RESOURCE FOR PROTECTING THE LANDSCAPE: INTRODUCING TOURISTIC INITIATIVES IN PROTECTED AREAS OF ALBANIA	2161
ID 1431 TOURISM, GLOCALIZATION AND URBAN REHABILITATION - TRANSFORMATIONS OF THE TOURISTIC ENVIRONMENT OF BAIXA IN LISBON	2168
ID 1507 TOURISM IDENTITY IN SOCIAL MEDIA: THE CASE OF A CHINESE HISTORIC CITY, SUZHOU	2175
ID 1614 THE SPECTACULARIZATION OF THE URBAN SPACE FOR TOURISM IN BRAZIL AND ITS CONTRADICTIONS	2186
ID 1627 ANALYZE OF SOUTH GEORGIAN HEALTHCARE TOURISM CLUSTER COMPARING WITH GERMAN AND HUNGARIAN EXAMPLES OF THE REGIONAL PLANNING OF RESORT CITIES.....	2197
ID 1690 EXAMINING THE POTENTIAL IMPACTS OF 2017 EUROPEAN YOUTH OLYMPIC WINTER FESTIVAL (EYOWF) IN ERZURUM, TURKEY	2208
ID 1708 THE AIRIFICATION OF CITIES. MAKING SENSE OF THE IMPACT OF PEER TO PEER SHORT TERM LETTING ON URBAN FUNCTIONS AND ECONOMY	2212

T13 MOBILITY POLICIES, TRANSPORT REGULATION AND URBAN PLANNING	2225
ID 1307 EVALUATING JOB ACCESSIBILITY FOR DIFFERENT TYPES OF TRANSIT ORIENTED DEVELOPMENT AREAS IN BEIJING	2227
ID 1322 COMMUTING PATTERNS AND CAR DEPENDENCY IN URBAN REGIONS	2238
ID 1342 INFLUENCE OF URBAN MORPHOLOGY ON THE USE OF BRT TRANSPORT SYSTEM	2249
ID 1346 HOW URBAN TRANSPORT SYSTEMS SUPPORT INDIVIDUAL CAPABILITIES: RECONSIDERING BOGOTÁ'S TRANSMILENIO FROM THE PERSPECTIVE OF ACCESSIBILITY	2256
ID 1363 "MIND THE MINDEMYREN" A NEW SPATIAL ANALYSIS TOOL FOR LINKING BUILDING DENSIFICATION STRATEGIES TO PUBLIC TRANSPORT AND STREET NETWORK ACCESSIBILITY IN BERGEN CITY.....	2266
ID 1397 INTEGRATED SPATIAL AND TRANSPORT DEVELOPMENT IN EUROPE: THE EXAMPLES OF TWO EUROPEAN CORRIDORS.....	2275
ID 1467 MOBICAMPUS-UDL: COMBINING WEB-BASED TRAVEL SURVEY AND SMARTPHONE APP DATA COLLECTION TO UNDERSTAND AND MANAGE URBAN MOBILITY BEHAVIOUR	2283
ID 1499 COLLECTIVE TRANSPORT. A SPATIAL ANALYSIS IN THE CITY OF RECIFE, BRAZIL	2290
ID 1508 A HEURISTIC FRAMEWORK FOR EXPLORING UNCERTAINTIES IN TRANSPORT PLANNING.....	2300
ID 1534 SUSTAINABLE MOBILITY AT FEUP	2312
ID 1542 CAR SHARING AND SOCIO-SPATIAL INJUSTICE	2324
ID 1548 UNSUSTAINABLE GROWTH OF URBAN TRANSPORT: QUESTIONING MAINSTREAM SUSTAINABILITY SOLUTIONS FOR TURKISH CITIES	2333
ID 1573 MOVING TO ACCESS IN TRANSPORT PLANNING: IDENTIFYING BARRIERS, DESIGNING STRATEGIES	2338
ID 1618 HOW CONGRUENCE BETWEEN FORMAL AND INFORMAL INSTITUTIONS EFFECTS INTEGRATED TRANSPORT AND LAND USE PLANNING: A STUDY ON DUTCH NATIONAL PLANNING PRACTICE.....	2343
ID 1651 THE AMBIGUITY OF CYCLING AND URBAN DESIGN	2353
ID 1657 ANALYSIS OF DYNAMIC PUBLIC TRANSIT ACCESSIBILITY IN WARSAW	2363
ID 1683 RECLAIMING STREETS AS PLACES OF DIALOG: CAR-FREE SUNDAYS IN ISTANBUL AS AN EXPERIENCE OF SOCIAL DIMENSION OF TRANSPORTATION	2374
ID 1742 CHANGING MOBILITY BEHAVIOURS IN ACADEMIA UNDER AUSTERITY: THE CASE OF FEUP.....	2381
ID 1743 POLICIES AND MEASURES TO PROMOTE BICYCLE USAGE IN STARTER CYCLING CITIES: THE CASE OF LISBON.....	2394
ID 1751 SOCIO-SPATIAL DIMENSIONS OF HOW TO MAKE A CITY BICYCLE-FRIENDLY: THE CASE OF KAYSERI, TURKEY	2405

T14 POLICIES FOR SMART AND CO-CREATIVE CITIES.....	2413
ID 1645 A THEORY OF TECHNOLOGICAL CITIES	2415
ID 1673 A CLOSER LOOK INTO HOW LAND-USE, SOCIAL NETWORKS AND ICT INFLUENCE LOCATION CHOICE OF SOCIAL ACTIVITIES	2424
ID 1744 CHALLENGES FOR THE FUTURE OF SMART CITIES FROM A GENDER PERSPECTIVE	2430

T15 LAW AND PLANNING UNDER SOCIETAL CHALLENGES	2441
ID 1404 EVALUATION OF THE INSTITUTIONAL FRAMEWORK AND POLICIES OF SPATIAL PLANNING IN GREECE	2443
ID 1416 MULTI-LEVEL CLIMATE GOVERNANCE IN GERMANY – THE OPPORTUNITIES AND CONSTRAINTS IN FORMAL AND INFORMAL INSTRUMENTS FROM A LEGAL PERSPECTIVE	2450
ID 1438 INSTITUTIONAL INNOVATION OF URBAN REGENERATION IN CHINA: A COMPARATIVE STUDY OF GUANGZHOU, SHENZHEN AND SHANGHAI	2460
ID 1442 COMPARISON OF TWO URBAN DEVELOPMENT’S MODELS AND REDEFINITION OF URBAN PLANNERS’ ROLE-- A CASE OF YUZHONG DISTRICT, CHONGQING, CHINA.....	2478
ID 1461 GOVERNING URBAN REGENERATION: PLANNING AND REGULATORY TOOLS IN THE UK.....	2486
ID 1495 THE GAP BETWEEN PLANNING AND REALITY: THE EVALUATION OF COMMERCIAL LAND USE PLANNING IMPLEMENTATION IN KAOHSIUNG CITY, TAIWAN	2499
ID 1518 THE EVOLUTION MECHANISM OF CLAN - SPACE IN URBAN VILLAGE - CASES OF LIEDE AND CHEBEI IN GUANGZHOU	2506
ID 1532 WHAT FACTORS AFFECT PUBLIC PARTICIPATION IN THE URBAN REDEVELOPMENT PLANNING PROCESS IN CHINA.....	2515
ID 1537 URBAN REGENERATION PROJECTS IN BRAZILIAN CITIES: HEGEMONIC DISCOURSES AND POLICY MODELS.....	2521
ID 1552 THE SUBSTANTIVE IMPACT OF A PROCEDURAL RULE: THE CASE OF THE DUTCH ‘LADDER’ FOR SUSTAINABLE URBANIZATION	2532
ID 1558 HOW CAN PUBLIC-PRIVATE PARTNERSHIP (PPP) APPROACH CONTRIBUTE TO A DYNAMIC BUT CONTROLLED URBAN DEVELOPMENT: THE CASE OF PPP IN SLOVENIA ..	2539
ID 1561 CONSULTANCY FIRMS AS INTERMEDIARIES: THEIR PERCEPTIONS ON COMMUNITY INVOLVEMENT IN URBAN DEVELOPMENT (WORK IN PROGRESS, PLEASE DO NOT CITE WITHOUT PERMISSION)	2549
ID 1595 FLEXIBILITY IN URBAN RENEWAL PRACTICES: THE CASE OF TURKEY	2558
ID 1608 ADAPTING TO ADAPTATION: FLEXIBLE PLANNING, POLICY MAKING, AND THE TRANSITION FROM REACTION TO (PRO)ACTION	2572
ID 1610 THE NEW “PLANNING AMNESTY” IN PORTUGAL: HOW FAR SHOULD PLANS ACCOMMODATE NONCOMPLIANT DEVELOPMENT?	2584
ID 1662 GROUP DECISION MAKING	2591
ID 1663 A SOCIO-JURIDICAL CRITICISM TO URBANISTIC LAW FOR A NEW URBAN STRATEGY IN NATAL/RN/BRAZIL	2597
ID 1703 CORRUPTION AND ORGANIZED CRIME IN THE FIELD OF URBAN PLANNING	2604
ID 1732 THE EFFECT OF LEGISLATIVE FRAMEWORK IN CONSERVATION PRACTICES: EXAMPLE OF TURKEY	2616
ID 1733 ENVIRONMENTAL VERSUS URBAN PLANNING AND MANAGEMENT – A COMPARATIVE ANALYSIS BETWEEN METROPOLITAN AREAS OF FORTALEZA (BRASIL) AND LISBON (PORTUGAL)	2628

T16 URBAN METABOLISM AND TERRITORIAL EFFICIENCY	2641
ID 1525 URBAN METABOLISM AND WATER-ENERGY-FOOD NEXUS, NEW CHALLENGES FOR SPATIAL PLANNING	2643
ID 1629 BUILDING URBAN PLANNING FOR A SUSTAINABLE FUTURE THROUGH URBAN METABOLISM.....	2652

T17 BIG DATA, OPEN SOURCES, GENERATIVE TOOLS	2657
ID 1393 WHERE IS THE COMMUTERS? RESEARCH OF SHANGHAI COMMUTING TRAFFIC BASED ON TRANSPORTATION CARDS DATA.....	2659
ID 1396 GEODESIGN AS SUPPORT TO OPINION MAKING, IN LOCAL, REGIONAL AND TERRITORIAL SCALE: CASE STUDIES IN BRAZIL	2671
ID 1472 SOCIAL MEDIA GEOGRAPHIC INFORMATION IN SPATIAL PLANNING	2682
ID 1515 COLLABORATION IN PLANNING: THE GEODESIGN APPROACH.....	2688
ID 1559 MULTI-CRITERIA DECISION ANALYSIS FOR PROMOTING BIKE-FRIENDLY CITY VISION OF IZMIR USING GIS.....	2699
ID 1569 SOCIAL TOPOGRAPHY: LEARNING SPATIAL INEQUALITY THROUGH 3D REGIONAL MODEL	2706
ID 1570 AN ECOSYSTEM SERVICES BASED ENVIRONMENTAL SUSTAINABILITY ASSESSMENT TOOL FOR LAND USE PLANS.....	2713
ID 1624 MEASURING BUILDING DENSITIES (FSI/GSI) FOR THE NETHERLANDS	2719
ID 1634 A LAND CAPACITY ANALYSIS METHOD USING GIS TOOLS, AS EXEMPLIFIED BY THE CITY OF WARSAW, POLAND.....	2727
ID 1666 OPERATIONAL RESEARCH IN SPATIAL PLANNING	2738
ID 1697 MULTI-CRITERIA DECISION ANALYSIS FOR PROMOTING BIKE-FRIENDLY CITY VISION OF IZMIR USING GIS.....	2746
ID 1714 ENABLING YOUTH GEOGRAPHIES IN THE DIGITAL SMART CITY. AN ACTION- RESEARCH APPROACH	2753
ID 1720 DEMOCRATIC PLATAFORMS: FROM MUNICIPALIST APPROACH TO DEMO-CRATIC SPATIAL AGENCIES.....	2763

T18 UNRAVELLING COMPLEXITY FOR PLANNING	2769
ID 1334 PLANNING IN POST-COMMUNIST CITY: BY FLEXIBLE PLANNING TO NATURAL GROWTH AND DEVELOPMENT	2771
ID 1341 THE USE OF BOUNDARY SPANNING IN SPATIAL PLANNING AND COMMUNITY PLANNING TO PROMOTE WELLBEING	2781
ID 1364 REACHING FOR SIMPLICITY; CITIZEN PARTICIPATION, COMPLEXITY THEORY AND THE TRANSPORT MEGAPROJECT	2790
ID 1424 HOW TO APPROACH URBAN COMPLEXITY, DIVERSITY AND UNCERTAINTY WHEN INVOLVING STAKEHOLDERS INTO THE PLANNING PROCESS	2800
ID 1447 STUDY ON SUITABLE MODE OF URBAN SPATIAL FORM IN NORTHERN SHAANXI COUPLING WITH FRACTAL LANDFORM OF LOESS PLATEAU	2812
ID 1475 DESIGNING WITH UNCERTAINTY: A FORM BEHAVIOUR APPROACH TO BEHAVIOURAL SCIENTIFIC STUDIES	2823
ID 1524 WHAT IF LARGE INFRASTRUCTURE PROJECT PROCESSES ADOPTED A COEVOLUTIONARY CHARACTER? DISCUSSING THE MERITS AND CONSEQUENCES FOR THE OOSTERWEEL LINK PROJECT, ANTWERP	2833
ID 1585 DECODING AND MANAGING CITIES: TOWARD A COMPLEX AND DYNAMIC SYSTEM APPROACH	2843
ID 1647 AN INFRASTRUCTURE-BASED PLANNING AS A MODEL FOR ADDRESSING COMPLEXITY AND UNCERTAINTY	2851
ID 1661 CONCEPTUALIZING SELF-ORGANIZATION IN URBAN PLANNING: TURNING DIVERGING PATHS INTO CONSISTENCY	2862
ID 1676 ANALYSING RETAIL LOCATION AND URBAN DYNAMICS IN LISBOA	2879
ID 1687 DIMENSIONING OF MATRIX OF URBAN STRUCTURES COMPLEXITY – FUNCTIONAL PARADIGM	2890
ID 1727 EMBRACING UNCERTAINTY WITHOUT ABANDONING PLANNING	2898
ID 1730 REGIONAL RESILIENCY: EXPLORING THE EMERGENCE AND RESILIENCY OF TWO REGIONAL INITIATIVES IN THE NETHERLANDS	2911

T19 RESILIENT AND SUSTAINABLE TERRITORIES	2923
ID 1315 A MODEL FOR THE PURSUIT OF ROBUST URBAN FORM	2925
ID 1317 VISUAL INTERACTIVE SUPPORT FOR CROSS-DOMAIN SIMULATION AND NEW INFORMATION FLOWS IN EARLY STAGE PLANNING PROCESSES.....	2932
ID 1331 REGIONAL PLANNING RESPONDING TO CLIMATE CHANGE	2942
ID 1354 FLOOD RISK MITIGATION: FROM ENGINEERING TO ECOSYSTEM-BASED MEASURES. THE BENEVENTO CASE STUDY	2951
ID 1368 RESILIENCE THROUGH A METHODOLOGY TO PLAN GREEN INFRASTRUCTURES	2962
ID 1409 LIVING THE CLIMATE RESILIENT CITY—HANGZHOU’S ‘FIVE WATER CO-LEAD’ STRATEGY.....	2969
ID 1411 SOCIAL RESILIENCE AND NATURAL HAZARDS - ANALYZING MULTIPLE SOCIAL LEVELS OF RESILIENCE IN THE CONTEXT OF PLANNING AND RISK GOVERNANCE	2980
ID 1482 CHINESE EXPERIENCE IN DELTA CITIES: TO WHAT EXTENT DOES GUANGZHOU CITY’S SPATIAL PLANNING SYSTEM FACILITATE THE INITIATIVES IN RESOLVING FLOOD RISK?.....	2991
ID 1500 STUDY ON THE SPACE GROWTH BOUNDARY DELIMITATION OF MIZHI COUNTY IN CHINA BASED ON THE COMPACT DEVELOPMENT CONCEPT	3005
ID 1510 CLIMATE CHANGE ADAPTATION MEASURES FOR ITALIAN COASTAL CITIES.....	3014
ID 1533 AN OUTPUT OF PARADIGM-SHIFT IN URBAN PLANNING: “RESILIENT TRANSPORTATION” AND EXAMINATION ON CITY OF ISTANBUL.....	3025
ID 1546 DROUGHT RISK, FARMER COMMUNITIES’ PERCEPTIONS AND PLANNING FOR RESILIENCE IN RURAL CRETE, GREECE	3032
ID 1556 SPATIAL TRANSFORMATIONS THROUGH MIGRANT CRISIS IN GREECE	3046
ID 1562 CLIMATE ADAPTATION IN REGIONAL PLANNING IN GERMANY	3053
ID 1566 THE URBAN RISK ASSESSMENT: A METHODOLOGICAL PROPOSAL	3064
ID 1583 TRANSLATING NEW CONCEPTIONS OF CLIMATE CHANGE RISK INTO URBAN CLIMATE CHANGE RISK ASSESSMENTS AND ADAPTATION RESPONSES.....	3077
ID 1602 THE SPATIAL DISTRIBUTION OF URBAN HEAT VULNERABILITY AND COPING STRATEGIES IN BEIJING	3086
ID 1630 PARTICIPATORY MODELLING TO SUPPORT GROUP DECISION MAKING PROCESSES IN CLIMATE RESILIENT URBAN DESIGN	3097
ID 1671 LISBON SOCIAL DIMENSION IN URBAN RESILIENCE	3105
ID 1718 THE PROFILE OF RISK GOVERNANCE (IN MUNICIPAL PLANNING) IN PORTUGAL	3116
ID 1726 STRENGTHENING THE CULTURE OF RESILIENCE IN URBAN SPACE VULNERABLE TO RECURRENT UNFAVOURABLE CLIMATIC PHENOMENA – EXPERIENCE EXCHANGE AIMED AT SOLUTIONS.....	3122
ID 1747 INVESTIGATING THE ROLE OF RESILIENCE THEORY IN ASSESSING SUSTAINABILITY OF COASTAL TOURISM DESTINATIONS: THE CASE STUDY OF NEW ZEALAND.....	3131

T20 TERRITORIES UNDER PRESSURE: DISRUPTIVE EVENTS, SHATTERED CITIES, COLLECTIVE MEMORIES	3145
ID 1389 STUDY ON THE CONDITIONS OF LAND USE CONVERSION FROM RESIDENTIAL LAND TO FARMING LAND.....	3147
ID 1457 TRANSNATIONAL SPACES IN THE CITY, BETWEEN FRACTALIZATION AND DIVERSITY NEW RELATIONS BETWEEN CENTER AND PERIPHERY	3156
ID 1511 GREEN INNOVATION AREAS AS CONTESTED SPACES? INVESTIGATING POTENTIALS AND RISKS OF REVITALIZATION SCHEMES IN SHRINKING CITIES	3167
ID 1590 REGIONAL INTEGRATION IN ETHNIC AND RELIGIOUS CONTEXTS: TAKING GERMANY AND CHINA AS EXAMPLES	3173
ID 1596 FROM MACRO-LEVEL POLICIES TO MICRO-LEVEL PRACTICES: CHANGING GLOBAL ECONOMIC LANDSCAPES AND PROLIFERATION OF MIDDLE CLASS GATED COMMUNITIES IN MEXICO	3179
ID 1601 CONNECTIONS AROUND THE WORLD: INSURGENCIES, URBAN PLANNING AND PROTESTS.....	3186
ID 1636 SPORTS MEGA-EVENTS AND URBAN LEGACIES: THE 2014 FIFA WORLD CUP, BRAZIL.....	3193
ID 1734 SOCIAL SEGREGATION IN ATHENS' METROPOLITAN AREA IN THE PRE-CRISIS PERIOD	3203
ID 1736 FRAMING THE SOCIAL AMPLIFICATIONS OF RISK IN URBAN TRANSFORMATION OF ISTANBUL.....	3212
ID (1017) TOWARDS A THEORY OF CHANGE: MARGINAL AREAS AND DEVELOPMENT POLICIES IN A CULTURAL PERSPECTIVE	3217

T21 URBAN FUTURES: CHALLENGES AND VISION.....	3227
ID 1316 THE CHANGE OF URBAN SPATIAL FORMS AND ITS INFLUENCING FACTORS – FROM TOWN PLANNING TO COMMUNITY EVOLUTION.....	3229
ID 1427 DISSECTING THE URBAN(IZED) BINOCULARS. ‘LOOKING AT’ URBAN FUTURES	3236
ID 1439 SHAPING THE CITY OF TOMORROW IN EAST ASIA: CONCEPTS, SCHEMES AND IDEAS FOR URBAN DEVELOPMENT FROM 1960S TO 2010, AND BEYOND	3262
ID 1476 RESEARCH ON THE RELATIONSHIP BETWEEN SPACE OF PLACES AND SPACE OF FLOWS - EMPIRICAL ANALYSIS BASED ON GLOBAL SCALE AND LOCAL SCALE	3270
ID 1607 INTERNET+ URBANIZATION IN LESS-DEVELOPED AREAS - CASE STUDY ON TAOBAO TOWNS AND VILLAGES IN CHINA	3282
ID 1609 EXPATS AND THE CITY: THE SPATIALITIES OF THE HIGH-SKILLED MIGRANTS’ TRANSNATIONAL LIVING IN THE CITY OF MOSCOW.....	3288
ID 1631 TECHNOLOGY USE AND ITS INFLUENCE IN TRAVEL BEHAVIOUR AND URBAN FORM.....	3300
ID 1648 WHAT ARE THE NEW MEGA PROJECTS? AN ASSESSMENT OF THE DIMENSIONS OF NEW LARGE SCALE DEVELOPMENT PROJECTS	3312
ID 1664 GREEN GROWTH AND TRANSFORMATION TO SUSTAINABILITY: SUPPLEMENTATION OR CONTRADICTION?	3321
ID 1689 THE RIGHT TO THE CITY IN TIMES OF BIOPOLITICS - TACTICAL URBANISM IN A TRANSITION PROGRAM.....	3340
ID 1755 PROJECTIONS: 100 KM2 OF CAATINGA BIOME	3348

AUTHOR INDEX

Adelcke Rossetto Netto	1928	Anisa Qorri	1340
Adriana Diaconu	1553	Anna Gralewska	1380
Adriana Galderisi	2951	Anna Laura Palazzo	1154
Agnes Förster	1413	Anna M. Hersperger	1597
Akkelies van Nes	887, 2266	Anna Maiello	1828
Aksel Hagen	39	Anna Rodewald	409
Alain Thierstein	409, 1356	Annamaria Bagaini	271
Alba Nuñez	2249	Annette Kuhk	285
Alberto Salinas-Pérez	1623	Antonella Maiello	1828
Alberto Verde	1241	Antonello Romano	2212
Alda Alagic	2911	Antoni Remesar	785
Aldrey Cristiane Iscaro	582, 3186	António Ferreira	449, 2338
Aleksandra Jedut	2089	Argyro Gripsiou	3203
Alenka Fikfak	2539	Arjan Harbers	2719
Alessandro Colombo	1731	Arne Tesli	1296
Alessandro Massarente	1241	Arnoud Lagendijk	3236
Alessia Calafiore	2753	Arthur Kanonier	1746
Alessio Antonini	2753	Arthur Schindelegger	1746
Alexandra Weitkamp	1995	Arzu Erturan Topgül	2374
Alisa Korolova	444	Asım Mustafa Ayten	2405
Alvaro Luis dos Santos Pereira	2521	Astghik Grigoryan	597
Ana Aguiar	2312	Auxiliadora Gonzalez-Portillo	2022
Ana Brandão	785, 796	Ayman Abdellatif	988
Ana Catarina Ferreira	1731	Ayman Zoubir	2283
Ana Clara Mourão Moura	2671	Ayse Yonder	479
Ana Cláudia Proença	2312	Azime Tezer	2713
Ana Farias	3340	Baete Caesar	1371
Ana Ferreira	785, 796	Barbara Černič Mali	1304
Ana Mafalda Madureira	635	Basak Demires Ozkul	134
Ana Maria Martin Castillejos	2430	Beatrice Galimberti	828
Ana Mônica Medeiros Ferreira	2597	Beitske Boonstra	2862
Ana Paula Baltazar	113	Benedetta Marani	555
Ana Paula Falcão	2628	Beng Kiang Tan	752
Ana Paula Gomes M. Pinto	3122	Benhao Xie	871, 879
Ana Paula Silva de Assis	456	Bernd Scholl	2275
Ana Peric	1255, 2275	Bianchi, Iolanda	493
Ana Silva Fernandes	1649	Biba Tominc	589
Anabela Ribeiro	2290	Bing Chen	818
Anais Garcia Perez	1948	Bowen Chen	905, 918, 2506, 3270
André Pedro Viegas Cabral Gonçalves	3340	Bruno Amaral de Andrade	1032
Andrea Gabilondo Cuéllar	1623	Burcu Yaşlak	2616
Andrea Malerba	2197	Büşra Durmaz	959
Andreas Ortner	1995	Çağrı İmamoğlu	899
Andreas Voigt	1669, 2932	Caio Santo Amore	429
Andrew Tallon	2486	Camila D'Ottaviano	429, 1928
Ángel Aparicio	226	Carlos Henriques Ferreira	807, 2168
Angela Barbanente	241, 1893	Carlos R. García-Alonso	1623
Angela Connelly	3077	Caroline Câmara Benevides	2628
Angelique Trachana	2430	Catarina Cadima	2381
Angelo Corallo	2843	Caterina Di Giovanni	1731

Cathrin Zengerling	2450	Domenico Camarda	264
Cecília Fiúza	1928	Dominic Stead	1325, 2991
Cecilia Scoppetta	1000	Dominik Bothe	2932
Cecília Silva	2312	Dong Yang	2460
Celina Martinez-Cañavate	124	Ebru Kurt	1639
Chao Tsuyuan	2499	Edib Uruci	1677
Chao Tzu-Yuan	105	Eduardo A. C. Nobre	1851, 3193
Charles Hoch	1255	Eduardo Oliveira	1597
Chen Kai	3086	Egidio Dansero	2753
Chen Xiaojian	967	Eider Muniategui-Azkona	2022
Chen Yu-Wen	105	Ekin Erkan Nihal	381
Chi Yun Lee	2056	Eled Fagu	1340
Chiara Cocco	2688	Elena Gilcher	219
Chien-Ling Lo	145	Elena Pede	2324
Cho Im Sik	859	Eleni Vogiatzaki	3046
Chris Steenhuis	773	Elham Bahmanteymouri	177
Christine Mady	525	Eli Støa	1544
Chuan Wang	166	Elif Aksel	899
Chun-Tzu Fan	187	Elina Kränzle	1041
Chunyu Zheng	2013	Elisabeth Nagl	409
Cihan Erçetin	959, 2333	Elisabetta Anna Di Cesare	2688
Clara Greed	1425	Ella Segal	1169
Clara Musacchio	271	Emin Yahya Mentese	2713
Clarissa Figueiredo Sampaio Freitas	608	Emma Puerari	202
Clarisse Figueiredo de Queiroz	608	Emma Regina Morales Garcia de Alba	3179
Claudia Alcoforado	2290	Enrica Papa	449, 2338
Claudia Meschiari	3217	Enrico Gualini	74
Cristina García-Nicolás	1275	Enrico Porfido	2161
Cristina Sousa	156	Enrico Tommarchi	2138
D'Ascanio Romina	1154	Erbilin Berisha	1390
Damir Krajnik	2109, 2890	Erica Treccozzi	2951
Dan Liu	2969	Eva Álvarez de Andrés	514
Dana Shevah	1493	Eva Favry	1762
Daniek Reijnders	773	Eva Purkarthofer	1285
Daniel Lorenz	2980	Everardus Michiel Stapper	2549
Daniel Orenstein	1169	Fabian Schmid	409
Daniela De Leo	296, 439	Fabian Wenner	409, 1356
David Evers	2532	Fátima Loureiro de Matos	1878
David Smith	1544	Fatma Senol	700, 1519, 2119, 2699, 2746
David Troupin	1169	Fernanda Paula Oliveira	2584
David Willians	2486	Fernando Cruz	654
Davide Ponzini	681	Filippo Magni	3014
Débora Andrade Gomes Moura	1918	Flint Ashery Shlomit	59
Denis Maragno	3064	Francesca Perrone	271
Denise Falcao Pessoa	1803	Francesco Chiodelli	1563, 2604
Derk Loorbach	202	Francesco Musco	2643, 2652, 3014, 3064
Dexter Du	2942	Francisco Serdoura	2394
Diego Gomez Baya	2022	Franziska Sielker	1325
Dino Borri	264	Frederico Canuto	338, 2763
Diogo Ribeiro	1878	Frederico Leite Gonçalves	608

Gael Sánchez-Rivas	2851	Isabelle Klein	1995
Gaida Limongi	2951	Isidoro Fasolino	2962
Gal Biran Belahuski	409	Jachimowicz Anna Małgorzata	2727
George Liu	2353	Jahn Hansen Carsten	1266
Geraint Ellis	2029	Jake Wiersma	2238
Gerard Hutter	2980	Jan Cholewiński	2089
Gerhard Steinebach	219	Jan Schreurs	285
Giacomo Magnabosco	3014	Janez Grom	2539
Giacomo Pettenati	2753	Javier Alvarez-Galvez	2022
Giada Di Sante	1154	Javier Martinez	635
Giancarlo Cotella	1390	Jeffrey Hou	840
Gili Hakima-Koniak	1169	Jelte van den Broek	1197
Gilles Verpraet	3156	Jennifer Holzer	1169
Giovanna Mangialardi	2843	Jeong-Il Park	1633
Giovanni Vecchio	2256	Jeremy Carter	3077
Giulia Lucertini	2652	Jia Geng	918, 3270, 3282
Giuliana Costa	398	Jianqiang Yang	1441
Giulio Giovannoni	1537	Jiaying Huang	935, 3005
Gizem Aksümer	1770	Jincheng Weng	694
Gloria Martinez-Cousinou	2022	Jing Qiao	1608
Gorka Cubes	1721	Jingxian Tang	2460
Gripsiou Argyro	1938, 1959	Jo Phillips	2790
Gudrun Nahrendorf	2197	Joana Dias	3105
Guido Boella	2753	Joana Pereira	807
Gülden Erkut	1639	João António de Abreu e Silva	2424
Guowei Lyu	2227	João de Abreu e Silva	2879, 3300
Hanna Christine Schmitt	3053	João Filipe Teixeira	2312
Hanna Obracht-Prondzynska	1380	João Manuel Carvalho	597
Hao Haizhao	967	João Marrana	2394
Haochen Shi	3229	João Pedro Reis	2572
Hatice Aysun Ozkan	1980	João Rovati	429
Heinz Nagler	977	João Seixas	1791
Helena Linzer	1669	John Handley	3077
Heloisa Soares de Moura Costa	1159	Joon Sik Kim	2175
Hilde Nymoén Rørtveit	1544	Jordan Benson	2781
Hong Geng	1119, 1608	Jörg Knieling	3321
Hong Leng	2013	Jorge Baptista e Silva	2628
Hsiao-Yu Chou	924	Jorge Bassani	429
Hsiu-Tzu Betty Chang	187, 924, 2056	Jorge Pinho de Sousa	3300
Huixia Lei	2812	Jorn van de Wetering	2942
Iago Lestegás	1791	Jos Arts	2343
Ibrahim Abaid	724	Jose Alberto Salinas-Perez	2022
Ida Castlenuovo	398	José Miguel Fernandez-Güell	514
Ifigeneia Dimitrakou	1816	José Vargas-Hernandez	3167
İlgi Atay Kaya	2119	Jossé-Miguel Fernández-Güell	2800
Ilir Dalipi	1048	Jotte de Koning	202
Inês Calor	2584	Juan Ángel Demerutis-Arenas	463
Ingrid Mulder	202	Juan Camilo Osorio	479
Ioannis Daskalakis	3032	Julia Forster	1669, 2932
Irene Bianchi	74	Julia Pechhacker	1669

Julio A. Soria-Lara	2300	Marcin Dabrowski	2991
Kalliopi Sapountzaki	3032	Marco Allegra	1731
Kalnis Gregoris	330	Marco Cremaschi	1231
Kang Cao	365, 2067	Margarida Pereira	2584
Kareem Adel Ismail	3131	Margarida Queirós	3116
Karin Pfeffer	2227	Margo van den Brink	1197
Karina Pallagst	1316, 3167	Maria Beatrice Andreucci	1154
Karl Friedhelm Fischer	301	Maria de Fátima Ferreiro	156
Kastas-Uzun	700	Maria Lucia Refinetti Martins	423, 2521
Katarzyna Goch	2089, 2363	Maria Luisa Rodero-Cosano	2022
Katarzyna Osirńska-Skotak	2089	Maria Partidario	2045
Katharina Klindworth	3321	Maria Pilar Campoy-Muñoz	2022
Katrin Paadam	535	Maria Rosaria Stufano Melone	264
Ken Tamminga	1128	Maria Rosário Partidário	3105
Kevser Üstündağ	2374	Marija Kukoleca	635
Kjell Harvold	1296	Marijn van de Weijer	949
Kolbein Halkjelsvik	353	Marijn van Geet	2343
Krystyna Solarek	2727	Marina Gaboleiro Carreiras	1578
Kyriaki Stavridou	3046	Marina Vasarini Lopes	370
Laura Alonso Pérez	1623	Marta Aldrabinha	646
Laura Grassini	1893	Marta Popasziewicz	1380
Laura Saija	51	Martin Wickel	2450
Laurent Martinez	1188	Martina Orsini	828
Lavanya Jothi Venkatachalam	859	Massimo Bricocoli	555
Lea Petrović Krajnik	2109, 2890	Matej Niksic	589, 2539
Ledio Allkja	1710	Matt Grant	623
Lenka Švecová	2771	Matteo Poli	681
Li Destri Nicosia Giulia	1453	Maurizio Pioletti	2652
Li Sinyi	2499	Maximilian Stechele	409
Li Zheng	365	May ElAdas	988
Lili Fu	1441	Mayara Moraes Monteiro	3300
Linda Nijland	3097	Meijie Wang	665
Lingyu Kong	2659	Meirav Aharon Gutman	2706
Liyao Wang	3229	Mencía Ruíz Gutiérrez-Colosía	1623
Lorena Melgaço	113, 503	Meng Meng	2991
Lorenza Sganzzetta	2100	Meng Zhang	2131
Lorenzo De Vidovich	561	Mengwei, Gao	764
Louis Albrechts	241	Mercedes Narciso	479
Louise Ganz	3348	Miao He	818
Luca Bertolini	2227, 2238	Michael Bentlage	409
Luca Staricco	2324	Michael Zettl	409
Lucía Martínez-Quintana	1502	Michela Teobaldi	2212
Luis Miguel Valenzuela-Montes	2300	Michele Campagna	2682, 2688
Luis Salvador-Carulla	1623	Michele Dalla Fontana	2643
Luisa Pedrazzini	1138	Michele Grimaldi	2962
Luiz Carvalho Filho	887	Miguel Ângelo Fonseca	1907
Lukas Gilliard	409	Miguel L. Navarro-Ligero	2300
M. Luisa Rodero-Cosano	1623	Miguel Saraiva	1878
Magdalena Wagner	2591, 2738	Miha Konjar	2539
Manuel Fernandes de Sá	1649	Milan Martinović	2415

Mildred Moreno-Villanueva	1087	Pierangelo Massa	2682
Milton Montejano-Castillo	1087	Pieter van Wesemael	2353
Mingming Zhu	1511, 3282	Pilar Campoy-Muñoz	1623
Miriam Bodino	439	Pinar Ertan Saracoglu	3212
Mohsen Mohammadzadeh	320	Piotr Rodak	2089
Mojca Golobic	1180	Pongpisit Huyakorn	1461
Mona Abdelwahab	345	Qi Li	1075
Monika Piotrkowska	2363	Qing Yuan	2013
Muhammed Ziya Paköz	2405	Qinghua Zhou	2812
Myrsini Fotopoulou	3203	Qinshi Li	2067
Nadia Caruso	1861	Qixuan Wang	1511
Nadja Penko Seidl	1180	Quyen Duong	752
Naggila Taissa Silva Frota	608	Raffaele Pernice	3262
Naja Marot	1304	Rainer Randolph	256
Natalia Pertiwi Ginting	1346	Randal Martins Pompeu	2186
Natasa Colic	1390	Remco E. de Koning	2266
Nelson Mileu	654, 3116	Renata Maia de Paula	2186
Nicholas Low	195	Richard J. Nunes	2942
Nicola Martinelli	2843	Richard Jarman	724
Nilton Torres	308	Rita Padawangi	752
Nina Gorsic	589	Rob Atkinson	2486
Nina Mascarenhas	752	Robbert van Driessche	3236
Ningxing Lv	1608	Roberta Floris	2682
Nino Chachava	2197	Roberto Ghidini	736
Nuno David	654	Rogério Palhares	1159, 2671
Nuno Marques da Costa	2005	Roja Tafaroji	1480
Nuno Portas	1649	Rolee Aranya	1544
Nuno Travasso	785, 1649	Roode Liias	535
Oksana Chabanyuk	1907	Rosa Branco	1839
Olesen Kristian	1266	Rubén-Camilo Lois-González	1791
Ondřej Boháč	2771	Rui Colaco	2879
Onur Tümtürk	2823	Ruibing Kou	2029
Östen Axelsson	851	S. Pelin Ozkan	2119
Özge Yenigün	1969	Sabina Maslova	3288
Özlem Arslan	1519	Sabina Mujkic	2539
Özlem Kevseroğlu Durmuş	2405	Sabine Knierbein	209, 840
Paola Briata	398	Sahar Pouya	134
Paola Rizzi	1461	Sander Lenferink	2343
Patricia Hammer	3167	Sandra Treija	444, 616
Paula Grant	623	Sandro, Fabbro	1617
Paula Guerra	1878	Sara Uchoa	1928
Paula Raquel Ferreira	547	Sarah Abd Elmagid	988
Paulette Duarte	1752	Sebastião Santos	156
Paulo Pinho	2381	Seckin Ciris	3025
Paulo Vitor Siffert	1699	Semiha Yilmazer	745
Pedro Brandão	785, 796	Serin Geambazu	279, 3312
Pedro Janela Pinto	2572	Sevim Pelin Özkan	2699, 2746
Pedro Mendes	573	Sevkiye Sence Turk	1980, 2558
Peter Ache	3236	Sezen Tarakci	2558
Petrit Ahmeti	1048	Shu Wang	2131

Silke Weidner	977	Ulla Higdem	39
Silvia Fernández Marín	1661	Valderez Ferreira Fraga	3122
Sílvia Leiria Viegas	1435	Valentina Alberti	439
Silvio Motta	2671	Valeria Monno	241
Simge Özdal-Oktay	1221	Vasiliki Charalampidou	2443
Simone Ferreira Gatti	1851	Vasiliki Lianopoulou	3046
Simone Tulumello	1731	Vasiliki, Fragkaki	712
Simonetta Armondi	234	Verena Balz	1413
Sinning, Heidi	1808	Viktória Csizmadiané Czuppon	2197
Sirirat Somprasit	1531	Viktorija Prilenska	535
Sisi Liang	1010	Vishnu Baburajan	2424
Siyuan Tang	1511	Vít Rýpar	1056
Sofia Arrias Bittencourt	423, 2521	Viviana Fini	3217
Sofía Melero-Tur	2430	Vladimir Petrović	2890
Sofia Simões Santos	1032	Volkan Acun	745
Solmaz Yadollahi	977	Wang Liyao	2515
Somayeh Taheri Moosavi	3077	Wang Tong	967
Sónia Alves	1472, 1839	Wang Zhihan	1780, 2478
Sophie Sturup	195	Ward Rauws	2862, 2898
Špela Kolarič	1304	Wei Xuanzi	96
Stefan Verweij	1197	Wenbin Chen	935
Stefania Sabatinelli	555	Werner Rolf	1154
Stefano Borgo	264	Wil Zonneveld	1413
Stefano Moroni	1563	Wim Leendertse	2343
Stefano Picascia	2212	Wolfgang Scholz	87
Stephen Hincks	3077	Xia Wang	941
Suellen Ribeiro	2671	Xiaochang Liu	2659
Sukanya Krishnamurthy	773, 2353	Xiaodan Yang	2812
Susana Gaivoto	573	Xiaojian Chen	941
Susana Pereira	2005	Xing Zhen	1589
Suzanne Van Brussel	2833	Yan Tang	2460
Szymon Ochota	2363	Yang Chen	1441
Tamar Khoshtaria	2197	Yasemin İlkay	1143
Tang Yan	3086	Yatong Wang	871, 879
Teresa Calix	1649	Yepeng Liu	935, 3005
Teresa Heitor	2005	Yi-Jen Tsai	470
Teresa Sá Marques	1878	Ying Zhang	1099, 1589
Tetsuji Uemura	3147	Yiwan Li	694
Theodoros Soukos	1687	Yi-Wen Wang	2175
Thomas Kaufmann	2932	Yodan Rofe	1231
Tiago Marino	2671	Yoichi Kumagai	2045
Tianyu Zhu	1075	Yuan Tao	670
Tim Busscher	1197	Yuci Huang	1868, 3229
Tim Ryley	1405	Yue Tang	724
Timothy Donnet	1405	Yue Yufeng	2515
Tomáš Hudeček	2771	Yufeng Yue	1868, 3229
Tony Hall	2925	Zachary Jones	2148
Toya Engel	3321	Zdravko Trivic	752, 2076
Tuna Batuhan	2208	Zeynep Özçam	2699, 2746
Uģis Bratuškins	616	Zeynep Özdemir	2616

Zhao Chunyu	1780, 2478
Zhaoxi Zhang	3173
Zhuojun Fang	1119
Zorica Nedović-Budić	1390
Zuobin Wu	3005
Zuzanna Kunert	2089, 2363

World Energy Council. (2016, May). CO2 emissions of transport per capita. Retrieved June 4, 2016, from Energy Efficiency Indicators: <https://www.wec-indicators.enerdata.eu/transport-co2-emissions-per-capita.html>

Zhao, F., Ghorpade, A., & Pereira, F. C. (2015). Stop Detection in Smartphone-based Travel Surveys. *Transportation Research Procedia*, 11, 218 – 226.

ID 1542 | CAR SHARING AND SOCIO-SPATIAL INJUSTICE

Elena Pede¹; Luca Staricco¹

¹Politecnico di Torino

elena.pede@polito.it; luca.staricco@polito.it

1 INTRODUCTION

Car sharing is nowadays commonly acknowledged as an innovative approach to the transportation problems of urban areas (Firnkorner and Müller, 2015). Scientific literature regularly discusses car sharing related to the context of sustainable mobility and environmental benefits, or in relation to consumer behaviours in the sharing economy rhetoric. The former approach is common in transport studies and concerns strategies to face mobility-related problems in urban context and potential solutions for the environmental impacts of car traffic due to CO2 emissions (Martin and Shaheen, 2011), number of vehicles per household (Martin et al., 2010) and vehicle-kilometres travelled (Firnkorner, 2012). On the other side, social studies are more interested in the changes of consumer behaviour and their implications on society and economy. These publications are mostly based on the shift from ownership to service use lifestyles (Kuhnimhof et al., 2011; Pretenthaler and Steininger, 1999; Schaeffers, 2013): the concept of ownership is changing fast and determining lots of consequences on consumers' practices and business strategies (as, for example, the interest of auto companies in short-term rental like a way to balance the loss of purchases; Schwanen, 2016a).

Differently, poor attention has been so far focused in scientific literature to the social impacts of car sharing. This can sound quite surprising: the first car sharing organisation, the SEFAGE (Selbstfahrgemeinschaft, self-riding community), was founded in 1948 in Zürich by a housing co-operative, just to allow people, who could not afford to purchase an own car, to share one (Harms and Truffer, 1998). Shaheen and Cohen (2007) outlines that the main beneficial social impact of car sharing is the possibility for households (in particular, low-income ones) to gain or maintain vehicle access without bearing the full costs of car ownership. Litman (2000) reads it in terms of equity: car sharing can increase equity by improving the mobility options of people who are transportation disadvantaged.

But the spatial dimension can play a crucial role for these supposed social benefits, in particular in urban areas. On the one hand, the distribution of social deprivation problems in the city is not homogeneous, on the contrary it tends to increasingly polarize (especially in times of austerity and economic crisis; Cucca and Ranci, eds., 2016). On the other hand, car sharing services hardly cover all the territory of a city; private companies can choose the area where to operate, or can modulate costs and levels of service (e.g., the density of stations) in different neighbourhood of the same city. If these two spatial distribution patterns mismatch, car sharing can deepen rather than reduce socio-spatial injustice and inequity

As regards the spatial dimension of car sharing services, until now scientific literature has mainly focused its attention on models and tools to assess the market potential for new car-sharing operations in urban communities (Habib et al., 2012). For example, Celsor and Millard-Ball (2007) developed a methodology that supports car-sharing operators and transit agencies to assess the market potential for car sharing in different neighborhoods, according to their characteristics. Wagner et al. (2016) use a set of indicators for the attractiveness of certain areas (based on points of interest in their vicinity, such as shopping malls, movie theatres, train stations etc.) to identify promising regions for an expansion of car sharing business areas. However, the potential negative impacts of these approaches in terms of social inequity have not been considered.

Conversely, in this paper we will try to examine precisely if present car sharing services increase or reduce socio-spatial injustice. The paper focuses on three Italian cities (Turin, Milan and Rome), where private transport plays a key role in mobility choices of citizens (section 2). A deprivation index is calculated to identify in each city the neighbourhoods where potential car sharing benefits could be more significant, and levels of car sharing service are assessed in each of these neighbourhood (section 3). Positive or negative correlations between levels of deprivation and car sharing services are then calculated (section 4), and reasons for these results are hypothesised and discussed (section 5).

2 CASE STUDIES

In Italy, private motorized transport plays a key role in mobility choices of citizens: (its modal share is close to 70%; Isfort, 2016) and the Country has the highest motorization rate in EU, after Luxemburg and Malta, with 610 cars per 1,000 inhabitants. At the same time, road traffic is one of the main problems in urban areas in terms of air and noise pollution emissions, loss of public space, reduced efficiency of surface public transport. Despite these critical situation related to private transport, the diffusion of car sharing services inside most important Italian cities was considered, since the beginning, a potential advantage for solving mobility problems and an innovative “ethic” perspective of mobility (Fistola, 2007). Nowadays, car sharing is spreading quickly, especially in Northern Italy, whereas is less widespread in the South.

The first car sharing services started at the end of the 90's thanks to the national Car Sharing Initiative (ICS) promoted by the Ministry of Environment, that financed station-based services in 12 cities and 4 provinces at the beginning of 2000s. Since 2013, several private free-floating services were set up in main urban areas, followed also by van and scooter sharing. The introduction of free-floating services is reducing the number of users of station-based services, which are more expensive and less flexible. At the same time, new types of station-based and free-floating services are emerging related to electric vehicles.

The case study analysis takes into account three of the four Italian cities with the highest number of inhabitants: Rome, Milan, and Turin. They have different types of car sharing services and more than one company interested to operate in this service (Table 1). Naples (the third city per population) was not considered because it has only one company that operates with a very limited car sharing services (only 4 stations in the whole city). Rome, Milan and Turin have both station-based and free-floating services. In general, each city has its public (station-based) car sharing initiative even if some of them have a limited number of cars or the service has stopped because of the high decreasing of customers. On the contrary, free floating mainly concerns private companies whose numbers of cars, costumers and services are increasing rapidly in the last 4 years.

Station-based services			
	number of car services	number of scooter services	number of electric vehicles
Rome	1	-	-
Milan	3	-	2
Turin	2	-	1
Free-floating services			
	number of car services	number of scooter services	number of electric vehicles
Rome	3	5	3
Milan	4	1	2
Turin	2	-	-

Table 2 – Details of the car sharing services analysed in the three cities

At the same time, it is important to consider the different dimensions, densities and spatial structures of Rome, Milan and Turin (Figure 1), which can influence the implementation strategies of car sharing companies.

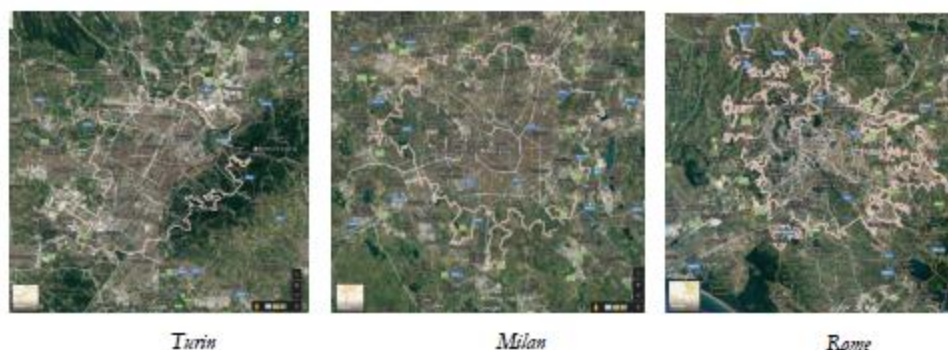


Figure 1 – Spatial structure of the three case studies

Rome is the largest and most populated Italian city (and the fourth-most populated one in the European Union) with 2.873.598 residents (2016) on 1.285 square kilometres. Its urban boundaries are wide due to historical reasons: its surface is six times the size of Milan. Its territory is divided between highly urbanised areas, parks, natural reserves, rural areas, wetlands. The transport infrastructure is based on the radial network of roads that connected, already at the time of the Roman empire, the city with its surrounding region. Nowadays, Rome is cut in two parts by the Grande Raccordo Anulare (GRA), a ring-road that circles the city centre with a radius of about 10 km. Most inhabited areas lay inside the GRA, but there are also neighbourhoods outside of it and also up onto the Tyrrhenian coast (20 km far from the city centre). The city suffers from chronic road congestion, also because of the limited size of Rome's metro system (two underground lines) compared to other cities of similar size. Due to poor efficiency of public transport, citizens have become addicted to private vehicles and the ring-road has become the main transport infrastructure. Today the city has one of the highest motorized vehicle ownership rate in Europe: 613 cars every 1,000 inhabitants.

Milan is the second most populated city in Italy with 1,369,000 people in the proper city and 3,209,000 in the metropolitan area (2016). Its territory covers 181 square kilometres with a population density of 7.315 inhabitants per square kilometres. The urbanized area covers almost the entire city surface and has swallowed many municipalities of the metropolitan area, especially in the North. The city has a concentric layout and the public transport network consists of five underground lines and 154 surface bus and tram lines. Also in Milan, mobility problems are related to the private transport demand, due to the high number of people entering the city during the day and the absence of co-ordinated mobility management at the metropolitan level between the city and its hinterland. A congestion charging scheme has been introduced in 2011 in the central part of the city.

Turin counts 888,921 inhabitants (2016) and covers 130 square kilometres. The city has a natural limit on the Eastern front, where it is surrounded by high hills. On the Northern and Western fronts the urbanized area spreads far beyond the city limits and covers several municipalities up to the Alpine mountains, while the Southern front is wider due to the plain territory. The city has grown along the North-South railway axis that used to cut the territory in two parts; this trench was covered in the 90s and its transformation has allowed to build a 8-lines commuter rail system that connects the city to its metropolitan area. The public transport network consists of one underground line and several surface bus lines. Nevertheless, also in Turin private transport plays a leading role in citizens' choices of mobility.

These transport and morphological structures have influenced the car sharing models adopted in each city. For example, due to severe congestion problems, in Rome 5 companies were or are specialized in scooter sharing services. In the cases of Rome and Milan, the municipalities required to the companies to serve specific areas, while in Turin there is not specific demands (even if Eastern hills are not served because of their poor residential density and difficult accessibility). Rome limited the services to the region inside of the ring road (GRA) even if some of the companies have showed an interest in serving also parts of the surface outside the GRA, especially the coast during summer season. On the contrary, the municipality of Milan tried to impose spatial equity elements requiring to cover a certain percentage of the

municipal surface. As a consequence, one of the company operating in the city (Car2Go) has introduced an additional cost for outskirts zones because they registered a low utilization of the cars and the relocation of the vehicles by the company was considered non- economic.

In this paper, we will focus on the three car sharing services that are active in each of the three cities (Table 2): the already mentioned station-based ICS service, promoted by the State, and two private free-floating services, Enjoy (promoted by the Italian oil company ENI) and Car2go (promoted by the Dutch automotive Daimler group).

	Turin	Milan	Rome
ICS: number of station	67	84	131
Enjoy: operational area (square kilometres)	49	118	97
Car2go: operational area (square kilometres)	56	117	90

Table 2 – Details of the car sharing services analysed in the three cities

3 METHODOLOGY

3.1 DEPRIVATION INDEX

Data above driving licences of car ownership at sub-municipal neighbourhood level are not available for Italian cities. We have decided to use, as a proxy for these, a social deprivation index: the assumption is that people that cannot afford to own a car are more likely to live in neighbourhood where social conditions are worse, rather than in more richer ones. Therefore, a deprivation index (ID) was calculated for each census tract¹ of the three cities. The index is made up of four distinct indicators of social deprivation, for which disaggregated data at the census tract level were available from 2011 population census. These indicators are:

- Education (z1): percentage of people aged 15 years and over which has attained at maximum a primary or lower secondary level of education;
- Unemployment (z2): percentage of people aged 15 years and over which is unemployed;
- Living condition – overcrowding rate (z3): average number of people per dwelling;
- Living condition – housing condition (z4): percentage of people living in mediocre or poor condition houses.

For each indicator z, census tract variables x are standardized by subtracting the city mean μ_x and dividing the difference by the standard deviation σ_x :

$$z_j = \frac{x_j - \mu_{x_j}}{\sigma_{x_j}}$$

The deprivation index of each census tract is then calculated as the sum of the four indicators:

$$I_D = \sum_{i=1}^4 z_i$$

On the basis of the deprivation index values, census tracts are finally clustered in five “deprivation classes” through the Jenks natural breaks method, where “class 1” comprises the least deprived tracts and “class 5” the most deprived ones.

¹ The census tracts referred in this paper are the so-called ACE (“aree di censimento”), which are defined by the Italian national statistics Institute as municipality partitions hosting between 13.000 and 18.000 inhabitants.

3.2 LEVELS OF CAR SHARING SERVICE

For station-based car sharing services, each station is geo-referred and “attributed” to the census tract it is located inside. Two indicators are then calculated for each census tract:

- the absolute number of car sharing stations;
- the density of car sharing stations (i.e., the number of stations divided by the number of residents).

For free-floating car sharing services, the border of the operational area covered by the service is geo-referred, and census tracts (with their number of inhabitants) inside and outside this border are identified; the same is done for borders which separate operational areas covered by different service tariffs. If a census tract is partly inside and partly outside this border, the tract is divided in two sub-tracts and its total population is attributed to these portions proportionally to their surface. An indicator is calculated to measure the percentage of population living in census tracts that are covered by the car sharing service, and the percentage that is not served; in the case of diversified tariffs, the percentage of population covered by each tariff is calculated.

4 EMPIRICAL RESULTS

4.1 DEPRIVATION INDEX

Table 3 shows the mean values and the standard deviation of the four deprivation indicators for each of the three cities, as well as the range of values for the five classes of the derived deprivation index.

	Turin	Milan	Rome
N° of census tracts	57	86	147
ID dimensions:			
<i>Education</i>			
mean value	0,230	0,186	0,187
standard deviation	0,053	0,052	0,058
<i>Unemployment</i>			
mean value	0,071	0,054	0,064
standard deviation	0,016	0,013	0,014
<i>Overcrowding rate</i>			
mean value	2,140	2,065	2,302
standard deviation	0,159	0,143	0,217
<i>Housing conditions</i>			
mean value	0,122	0,096	0,123
standard deviation	0,074	0,069	0,099
ID classes			
1	-4,95 – -2,89	-4,27 – -3,04	-5,25 – -2,83
2	-2,89 – -1,22	-3,04 – -1,44	-2,83 – -0,67
3	-1,22 – 0,35	-1,44 – 0,30	-0,67 – 1,38
4	0,35 – 2,70	0,30 – 3,00	1,38 – 3,75
5	2,79 – 8,02	3,00 – 9,95	3,75 – 8,31

Table 3 – Details of the deprivation index in the three cities

Population is quite homogeneously distributed (Figure 2) among the five deprivation classes in Milan and Rome, despite classes 4 and 5 cover over the half (76% in Rome) of the municipality surface. In Turin residents are more concentrated in the first and in the two last classes.



Figure 2 – Distribution of population and surface among the five classes of the deprivation index

Conversely, from a spatial point of view, the distribution of the census tracts among the five deprivation classes is quite far from being homogeneous. As shown in Figure 3, in all the three cities deprivation levels generally tend to increase from the central area to the outskirts. In the case of Turin, less deprived areas are concentrated in the Northern part of the city and in the Eastern hills; in Milan, they cover the Western and Southern outskirts; in Rome, a wide deprivation “class 4” area surround the central city, while “class 5” census tracts are quite restricted in surface.

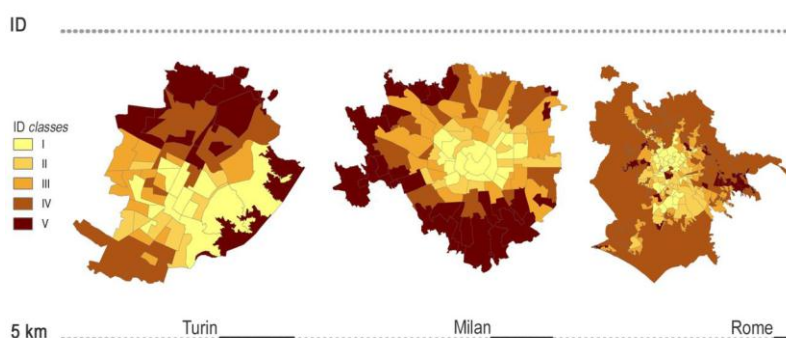
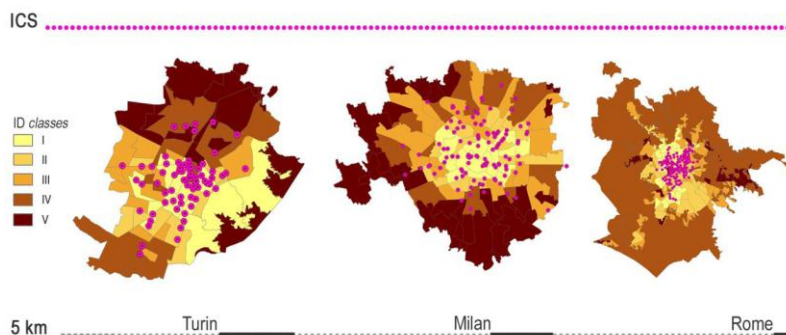


Figure 3 – Spatial distribution of the five classes of the deprivation index in Turin, Milan and Rome

4.2 STATION-BASED CAR SHARING SERVICES

In all the three cities, it is clearly evident (Figure 4) that the level of station-based car sharing service decreases significantly from less deprived areas to more deprived ones, either considering as service level the absolute number of stations in each class or their density (n° of station / inhabitants ratio). For example, in Turin 55% of stations are concentrated in census tracts of the first deprivation class. In all the three cities, two thirds of the stations or over are located in the census tracts of the two less deprived classes.



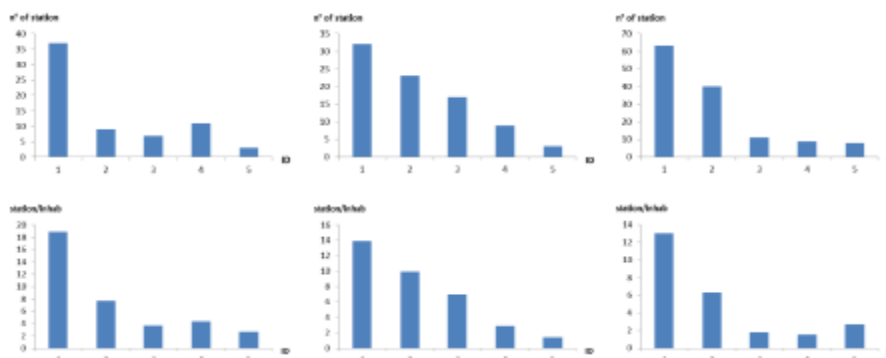


Figure 4 – Number and density of the fixed car sharing stations

4.3 FREE FLOATING CAR SHARING SERVICES

As regards Enjoy (Figure 5), the percentage of the population living in census tracts covered by the service decreases from less deprived tracts to more deprived ones (except in Rome, where population in the tracts of the fifth deprivation class is more served than in the fourth class). In Milan, the coverage range from 100% for the first class of deprivation to 74% for the fifth class; in Turin from 81% to 50%; in Rome, 83% of the population in the first deprivation class is served, but only 5% in the fourth class and 16% in the third and fifth classes.

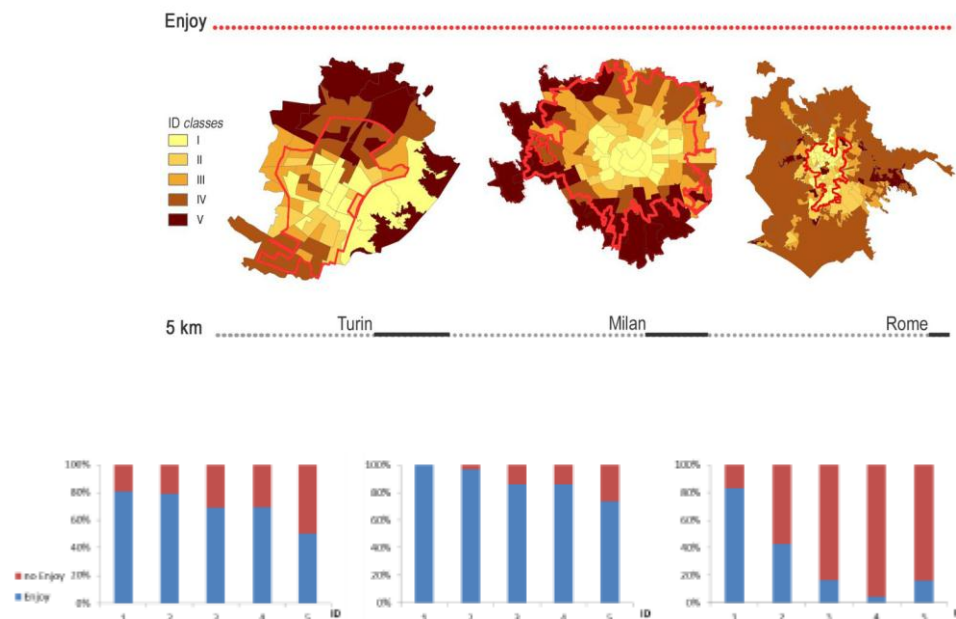


Figure 5 – Percentage of the population living in census tracts covered by the Enjoy car sharing service

As regards Car2go (Figure 6), a similar uneven spatial coverage of the service can be noted. In Rome, 76% of the population in the first deprivation class is served, compared to 6-7% in the fourth and fifth classes. In Milan, where the service has a dual tariff, in the first two classes over 95% of the residents are served by the less expensive tariff; in the fifth class, only 6% of the residents live in a census tract covered by this tariff, 61% are covered by the more expensive tariff and 33% are not served at all. In Turin the decreasing level of the service is less clean but anyway acknowledgeable: the coverage reaches 86% of the population for the second deprivation class, and only 65% in the fifth class.

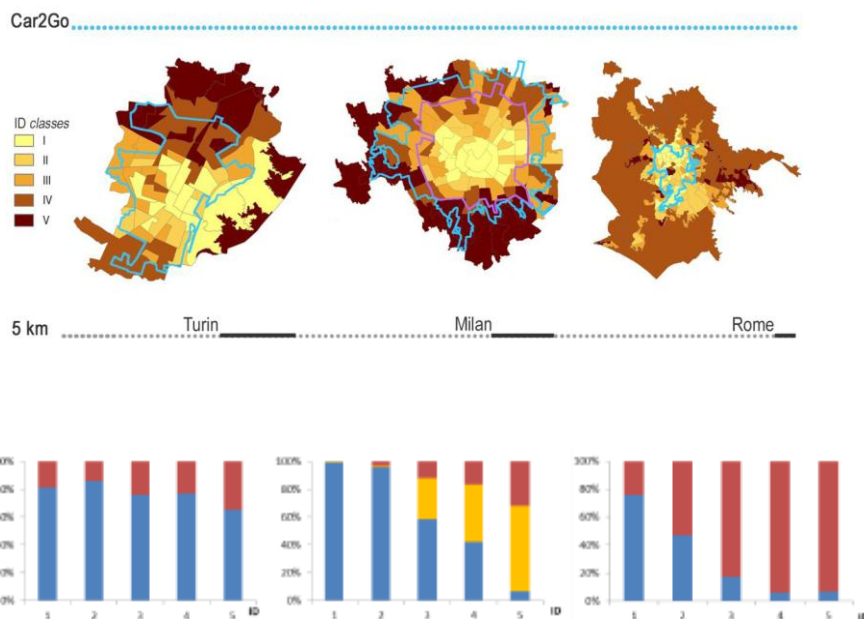


Figure 6 – Percentage of the population living in census tracts covered by the Car2go car sharing service

5 DISCUSSION AND FUTURE RESEARCH

The importance of transportation in spatial justice issue is still hardly considered (Martens, 2016) even if transportation systems, for their very nature, influence the urban structure and affect the accessibility from and to a specific place. For example, Schwanen (2016b) wonders whether the reconstitution of public transport as efficient and economical in neoliberal and post-neoliberal cities has reduced or intensified socio-spatial polarization.

Car sharing could be thought as a factor that improves socio-spatial justice and transport equity, since it offers people, who cannot afford to own a car, the opportunity to drive more or less occasionally. But the results of the analysis of car sharing services in three Italian cities clearly demonstrate that, because of their spatial distribution, these services (be they station-based or free floating) increase – at least in relative terms – social and spatial polarization in the city, rather than reduce it. As a matter of fact, in Turin, Milan and Rome car sharing is less developed in most deprived urban areas (where a greater share of residents is likely not to be able to own a car) than in less deprived tracts. In other words, car sharing services tend to give precedence to central urban areas, while most deprived tracts are mainly concentrated in the outskirts.

As Soja (2011) outlines, it is relatively easy to discover examples of spatial injustice descriptively, but it is much more difficult to identify and understand the underlying processes producing unjust geographies. In this paper, we do not examine the strategies that car sharing operators adopt in defining the spatial distribution and extent of their services. A few hypothesis can be done. As some studies have outlined, car sharing users are mainly urban, young and professional: they tend to be in their 30s or 40s, have middle- to higher-incomes, are primarily employed in professional occupation, live in one-person households (Bardhi and Eckhardt, 2012; Katzev, 2003; Millard-Ball, 2005; Schmöller et al., 2015). In order to maximize their profits, private companies can decide to intensify their car sharing services where this kind of potential users are more concentrated (typically, central urban areas), to the detriment of other areas (as the most deprived ones). Other studies (Celsor and Millard-Ball, 2007) show that car sharing has success in places where transit and walking are realistic alternatives, where a car is not needed for everyday travel and little off-street parking is available: again, these are typically central older, historic neighbourhoods. Finally, private operators can avoid to serve (or reduce their levels of services in) most deprived areas for fear acts of vandalism: for example, in Italy Car2Go allows to rent its cars in a city and park them in another one, but prohibits to drive them in the South of Italy.

Further research on the spatial strategies that car sharing operators adopt in defining their services could help to better understand the reasons of the socio-spatial injustice that car sharing can determine. Moreover, they could offer relevant information to public administration that aims at encouraging car-sharing operators to place their cars in low-income neighbourhoods (through co-funding, subsidies for households etc.) (Millard-Ball, 2005).

ACKNOWLEDGEMENTS

The authors want to thank Stefania Guarini (Politecnico di Torino) for the collaboration in GIS analyses and map drawing.

BIBLIOGRAPHIC REFERENCES

- Bardhi, F., & Eckhardt, G. M. (2012). Access-based consumption: The case of car sharing. *Journal of Consumer Research*, 39(4), 881-898. <https://doi.org/10.1086/666376>
- Celsor, C., & Millard-Ball, A. (2007). Where does carsharing work?: Using geographic information systems to assess market potential. *Transportation Research Record: Journal of the Transportation Research Board*, (1992), 61-69. <http://dx.doi.org/10.3141/1992-08>
- Cucca, R., & Ranci, C. (Eds.). (2016). *Unequal Cities: The Challenge of Post-Industrial Transition in Times of Austerity*. New York: Routledge.
- Firnkor, J. (2012). Triangulation of two methods measuring the impacts of a free-floating carsharing system in Germany. *Transportation Research Part A: Policy and Practice*, 46(10), 1654-1672. <https://doi.org/10.1016/j.tra.2012.08.003>
- Firnkor, J., & Müller, M. (2015). Free-floating electric carsharing-fleets in smart cities: The dawning of a post-private car era in urban environments?. *Environmental Science & Policy*, 45, 30-40. <https://doi.org/10.1016/j.envsci.2014.09.005>
- Fistola R. , 2007, Gestione e innovazione della mobilità urbana: car sharing e ICT. *Tema. Journal of Land Use, Mobility and Environment*, 0 (0) 51-59 Retrieved from: <http://www.tria.unina.it/index.php/tema/article/view/urn:nbn:it:unina-3586>
- Habib, K. M. N., Morency, C., Islam, M. T., & Grasset, V. (2012). Modelling users' behaviour of a carsharing program: Application of a joint hazard and zero inflated dynamic ordered probability model. *Transportation research part A: policy and practice*, 46(2), 241-254. <https://doi.org/10.1016/j.tra.2011.09.019>
- Harms, S., & Truffer, B. (1998). *The Emergence of a Nation-wide Carsharing Co-operative in Switzerland*. EAWAG: Zürich. Retrieved from: <http://www.communauto.com/images/Nation%20wide%20CS%20org%20Suisse.pdf>
- Isfort (2016). *La domanda di mobilità degli italiani. Rapporto Audimob 2015*. Retrieved from www.isfort.it/sito/statistiche/Congiunturali/Annuali/RA_2015.pdf
- Katzev, R. (2003). Car sharing: A new approach to urban transportation problems. *Analyses of Social Issues and Public Policy*, 3(1), 65-86. <https://doi.org/10.1111/j.1530-2415.2003.00015.x>
- Kuhnimhof, T., Buehler, R., & Dargay, J. (2011). A new generation: travel trends for young Germans and Britons. *Transportation Research Record: Journal of the Transportation Research Board*, (2230), 58-67. <http://dx.doi.org/10.3141/2230-07>
- Litman, T. (2000). Evaluating carsharing benefits. *Transportation Research Record: Journal of the Transportation Research Board*, (1702), 31-35. <http://dx.doi.org/10.3141/1702-04>
- Martin, E. W., & Shaheen, S. A. (2011). Greenhouse gas emission impacts of carsharing in North America. *IEEE Transactions on Intelligent Transportation Systems*, 12(4), 1074-1086. <https://doi.org/10.1109/TITS.2011.2158539>
- Martens, K. (2016). *Transport justice: Designing fair transportation systems*. New York: Routledge.
- Martin, E., Shaheen, S., & Lidicker, J. (2010). Impact of carsharing on household vehicle holdings: Results from North American shared-use vehicle survey. *Transportation Research Record: Journal of the Transportation Research Board*, (2143), 150-158. <http://doi.org/10.3141/2143-19>
- Millard-Ball, A. (2005). *Car-Sharing: Where and how it succeeds* (Vol. 108). *Transportation Research Board*.

- Prettenthaler, F. E., & Steininger, K. W. (1999). From ownership to service use lifestyle: the potential of car sharing. *Ecological Economics*, 28(3), 443-453. [https://doi.org/10.1016/S0921-8009\(98\)00109-8](https://doi.org/10.1016/S0921-8009(98)00109-8)
- Schaefers, T. (2013). Exploring carsharing usage motives: A hierarchical means-end chain analysis. *Transportation Research Part A: Policy and Practice*, 47, 69-77. <https://doi.org/10.1016/j.tra.2012.10.024>
- Schmöller, S., Weigl, S., Müller, J., & Bogenberger, K. (2015). Empirical analysis of free-floating carsharing usage: The Munich and Berlin case. *Transportation Research Part C: Emerging Technologies*, 56, 34-51. <https://doi.org/10.1016/j.trc.2015.03.008>
- Schwanen, T. (2016a). Rethinking resilience as capacity to endure: automobility and the city. *City*, 20(1), 152-160. <http://dx.doi.org/10.1080/13604813.2015.1125718>
- Schwanen, T. (2016b). Geographies of transport I: Reinventing a field?. *Progress in Human Geography*, 40(1), 126-137. <https://doi.org/10.1177/0309132514565725>
- Shaheen, S., & Cohen, A. (2007). Growth in worldwide carsharing: An international comparison. *Transportation Research Record: Journal of the Transportation Research Board*, (1992), 81-89. <http://dx.doi.org/10.3141/1992-10>
- Soja, E. W. (2010). *Seeking spatial justice*. Minneapolis: University of Minnesota Press.
- Wagner, S., Brandt, T., & Neumann, D. (2016). In free float: Developing Business Analytics support for carsharing providers. *Omega*, 59, 4-14. <https://doi.org/10.1016/j.omega.2015.02.011>

ID 1548 | UNSUSTAINABLE GROWTH OF URBAN TRANSPORT: QUESTIONING MAINSTREAM SUSTAINABILITY SOLUTIONS FOR TURKISH CITIES

Cihan Erçetin¹

¹Middle East Technical University
cihanercetin@gmail.com

1 INTRODUCTION

The automobile, supported by bus, has become the transportation mode which formed the urban physical structure after the beginning of the years of Second World War. By this technology, it was possible for the city to develop in any direction. Initially, urban development occurred between train lines, and then the cities started to develop fifty kilometers away from the central core for the average half-hour journey (Newman & Kenworthy, 1999). When the effects of car dependence are considered in urban areas in terms of sustainability concerns for the future of environment, society and economy, it is obvious that an automobile based urban pattern cannot be sustained.

As opposed to car dependency, mainstream solutions are put forth as public transport, walking and cycling. In addition, decreasing policies for car use such as congestion charging, traffic calming, disincentive tax measures for car entrances to city centers and awareness raising campaigns and policies have been seen as supplementary solutions to sustain the future of urban transport. The positive feed backs of those mainstream sustainability solutions have been observed in positive manner over years in especially U.S and Europe –in cycling friendly cities such as Copenhagen, Amsterdam, Strasbourg, Antwerp-. However, cities in Turkey has still been experiencing the hazardous outcomes of car dependency and unsustainable urban transport. Whether the policies has been taken consciously or unconsciously concerning making urban transport more sustainable, there have also been several sustainable solutions in particularly public transport in Turkish cities. These are new urban rail investments, pedestrianization projects, cycling lanes and bike-sharing systems. Therefore, the main question is that “Have sustainability precautions worked so far in cities in Turkey or not?”

In this research, firstly, unsustainable transport concept will be mentioned together with its sustainable solutions as public transport walking and cycling. Then, unsustainable urban transport, namely car dependency, in Turkey will be revealed to constitute a base for research question. Finally, sustainable transport solutions in cities of Turkey will be critically discussed concerning the effects of new public