Supplementary Material

Appendix A. Data and Methods

There are various databases containing bibliographic records available worldwide, and it is essential to recognise the difference and select one that is suitable for the designed scope of analysis. The major sources include Google's Google Scholar (GS), Elsevier's Scopus and Thomas Reuters's Web of Science (WoS) and PubMed (Chen 2017). The major difference is that GS is completely free of charge, whereas the others are for paid subscriptions. Aguilo (2012) argues that GS is an alternative or complementary source as compared to commercial bibliographic databases like WoS and Scopus. With the advancement of Google and digital technologies, the GS is currently the largest database available with the greatest number of users, in particular, Harzing (2007) has developed the Publish or Perish software to facilitate mass data collection from GS. Delgado López-Cózar, Orduña-Malea and Martín-Martín (2019) believe that GS could be a good supplementary source for scientific evaluation, due to its ability to shed light on underrepresented academic publications, however, the WoS Core Collection is still currently the best database available for conducting bibliometric analysis considering its data quality and compatibility with other analytical software. The multidisciplinary nature and indexing of cited references have secured its cutting-edge position among the databases (Bornmann et al. 2008; Derudder et al. 2019).

The scope of urban studies and planning research on a universal scale is defined in renowned search engines and journal databases, such as GS and WoS. In GS, 'Urban Studies & Planning' is classified as a sub-category of the broader field of social science, which comprises 8 broad categories and 302 sub-categories (Delgado López-Cózar, Orduña-Malea and Martín-Martín 2019). The h-index of a journal is determined by the largest number of articles in that journal that have been cited at least that number of times (Pendlebury 2009). The h5-index measures citation impact within a 5-year period, and only includes journal articles covered in publication with more than 100 articles being published and received citations; books and dissertation data are excluded. Within WoS, 'Urban Studies' is classified as a category of 254 categories under the Economics & Business, Social Sciences, General and Visual & Performing Arts groups of 21 groups in the InCities Journal Citation Report (JCR), 2022 JCR Social Science Edition (Clarivate 2023). The JCR encompasses journals indexed in the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI) of WoS. Journals are classified into at least one subject category under either the science or social sciences research area, meaning that the same journal can appear in multiple research disciplines (i.e. interdisciplinary). More than 40 journals are included in the 'Urban Studies' category, considering its Impact Factor (IF); the IF is calculated as the average number of times papers published in the journal in the past two years have been cited based on the reference published year of the JCR report (i.e. cites in 2020 on items published in 2018 and 2019 over the number of items published in 2018 and 2019) (Clarivate 2023). Journals more specific to regional and urban planning are further categorised under the category of 'Regional & Urban Planning'. Goldstein and Maier (2010) have made an early attempt to identify the top journals through peer assessment and impact factors, however, further research is required to accurately determine the top journals in the field, considering its topical focus and contribution over the years.

There are three common strategies to delineate a scientific research field and collect related bibliographic data, namely (i) the keywords strategy – based on chosen keywords of a field (e.g. 'autonomous vehicle' for smart city research); (ii) the citation-based strategy – based on clusters of individual publications citing each other; and (iii) the journal-level strategy – based on a specific number of chosen journals (Peris, Meijers and Ham 2018). In response to the mismatch identified for rankings of top urban studies and

planning journals, this research adopts the journal-level strategy for data collection. Hence, the bibliographic data were collected from the WoS Core Collection in September 2022, using the default advanced search functions of the WoS database, based on the following criteria: the top 30 urban studies and planning journals, combining the category of 'Urban Studies and Planning' in GS 2022 and in the categories of 'Urban Studies' and 'Regional & Urban Planning' in JCR of WoS 2022, within the time frame from 1991 to 2021. After applying the criteria, the citation data from 44,147 records in these top 30 journals of urban studies and planning research field were cleansed for further analysis. Prior to data cleaning, a total of 46,640 records were collected based on the above search criteria. Aria and Cuccurullo (2017) emphasise that the quality of analytical results is heavily dependent on the data quality. Hence, five steps were adopted for the data cleaning of 2,493 records: (1) manually clean up the results by merging stray citations into their master records; (2) delete any additional records that are out of the scope from 1991 to 2021; (3) sort by title and author to remove duplicate records and erroneous entries; (4) check on missing fields; (5) review the publications with 0 cites; and (6) only the document type of 'article' or related (i.e. proceedings paper and retracted publication) are included, while book review, editorial material, etc. are excluded. This is a standard approach of data collection and cleaning for bibliometric analysis to only include research papers (i.e. article-type publications) in a strict sense (Wang et al. 2012; Derruder et al. 2019). The analysis begins with demonstrating the overall categorical and temporal pattern of the research landscape of urban studies and planning research fields via bibliometric descriptors such as the no. of publications, authors, citations, references, page numbers, as well as their corresponding average over the years. The general trend of research output could then be depicted to facilitate the understanding of the development of scientific publications in urban studies and planning research from 1991 to 2021.

Furthermore, an LDA machine learning model has been applied to identify topics for topic modelling. The identified research topics/clusters from the literature review have been utilised to support and validate the findings of the results on the changing dynamics of urban studies and planning research themes. Sun and Yin (2017) suggest that the abstract of an article can offer a comprehensive understanding of a research field, as it is a concise piece of content-related information which summarises the key message of the scientific literature. To capture the overall picture of the research article without overwhelming the machine learning model with the full text, the LDA model of this research was applied on a text corpus combining text from titles, abstracts and author keywords of the research articles. The optimal number of topics to use for the topic model was tested, and it was found that the model with 12 topics achieved the highest coherence score among the topic models ranging from 2 to 50. Therefore, 12 topics were pre-set to attain the optimal value and ensure meaningful yet accurate results.

Appendix B. Research Themes

Table B1. Research themes under ACSP, AESOP and ISOCARP (ACSP, 2021; AESOP, 2022; ISOCARP, 2021)

ACSP (North America)	AESOP (Europe)	ISOCARP (International)

• Themes from planning journals
  ○ History
  ○ Literature
  ○ Theory
  ○ Housing policy
  ○ International Development
  ○ City and regional planning
  ○ Theory and practice
• Planning specializations
  ○ Land use planning
  ○ Environmental planning
  ○ Economic development planning
  ○ Transportation planning
  ○ Housing, social, and community development planning
• New initiatives
  ○ Anti-racism
  ○ Climate action
  ○ COVID-19
  ○ Global planning
	• Planning and complexity
	• New technologies and planning
	• Planning, law and property rights
	• Transboundary spaces, policy diffusion, planning cultures
	• Transportation planning and policy
	• Ethics, value and planning
	• Resilience and risks mitigation strategies
	• French and British planning studies
	• Sustainable food planning
	• Public spaces and urban cultures
	• Planning/conflict
	• Planning education
	• Urban futures
	• Urban transformation in Europe and China
	• Regional design
	• Nordic planning
	• Planning theories
		• Main Themes
		  ○ Theory
		  ○ Policy
		  ○ Practice
		• Sustainable cities
		• Planning with water
		• Food security planning
		• New planning tools and methods
		• Climate change planning

Table B2. Conference/congress research themes in 2022

ACSP Congress 2022 (North America)	AESOP Congress 2022 (Europe)	WPSC-APSA Congress 2022 (Global/Asian)	ISOCARP Congress 2022 (International)
1. Technology, Society and Analytical Methods 2. Community Development 3. Economic Development 4. Environmental Planning & Resource Management 5. Gender and Diversity in Planning 6. Housing 7. International Development Planning 8. Land Use Policy and Governance 9. Food Systems, Community Health, Safety 10. Planning Education and Pedagogy 11. Planning Process, Administration, Law and Dispute Resolution 12. Regional Planning 13. Scholarship on Planning History or Planning Theory (two traditional tracks merged in 2022) 14. Transportation & Infrastructure Planning 15. Urban Design	1. PLACES: Places as the social and ecological glue of cities and regions 2. CULTURE: Reinterpreting the spatial value of culture, heritage and tourism 3. LAW: Planning, law and property rights: a means to ensure diversity 4. HOUSING: Aspects of affordability and inclusion in terms of housing 5. GOVERNANCE: Integrating institutions, actors and policies 6. METHODS: Digital innovations of inclusive planning 7. MOBILITIES: Mobility as a right, infrastructure and transportation planning 8. URBAN DESIGN: Healthy cities and well-being 9. SPATIALITIES: Making and unmaking spatial inequalities 10. EDUCATION: Education in the face of uncertainty and complexity 11. RESOURCES: Risk generation and risk mitigation in the Anthropocene era 12. ECOLOGIES: Circular economy and nature-based solutions for sustainable development and climate change mitigation 13. POLITICS: Opportunities for transformative and creative action 14. THEORY: Reinterpreting foundations, complexity, past and future narratives 15. ACTIVISM: Mobilisation in the midst of diverse interests	1. Urban, peri-urban, and metropolitan development 2. Informality, inclusion, and participation 3. Heritage, culture, and identity 4. Disaster, risk, and resilience 5. Environment, climate, and health 6. ICT, knowledge, and innovation 7. Spatial analysis, methods, and modelling 8. Governance and politics 9. Infrastructure, transport, and mobility 10. Rural, regional, and small island development 11. Planning history, theory and practice 12. Planning education and pedagogy 13. Land, housing, and settlement	Focused on Healthy Cities only: 1. Healthy People 2. Healthy Panet 3. Healthy Governance 4. Healthy Economy

Appendix C. LDA Model

The essential steps for developing the LDA model for this research include: (i) setting up the Python environment; (ii) importing the necessary packages, particularly the Natural Language Toolkit (NLTK) library for stopwords (see http://www.nltk.org/); (iii) constructing the bigram, trigram models and lemmatizing with the Gensim and SpaCy packages: the articles in the dataset were converted into a list of lowercase token to build the bigrams-trigrams model and for implementing lemmatization, followed by removing the stopwords, short tokens and letter accents for a second round of bigram-trigram implementation, as well as lemmatization to filter out unwanted part of speech tags, and removing the stopwords and short tokens again after lemmatization; (iv) creating the dictionary and corpus required for topic modelling by monitoring the term frequency: for instance, the words appearing 3,000 times or more (i.e. sector specific and general writing words with high frequencies, such as urban, utilize, land, study, city, paper, area, result, etc.) were added to the stop list and the pre-process step was repeated to obtain better topic clusters. The full list of 65 stopwords selected can be found **Table C1** below. The original dictionary contained a vocabulary size of 41,859. For diversification of topics, all terms that occurred fewer than 2 times (i.e. in less than 2 articles) or more than 99% of all the articles were also removed to avoid recurring themes. A total of 23,521 words remained in the dictionary after the pre-processing for creating the corpus for further analysis; (v) constructing the topic model using the LDA mallet, which produced a coherence score of 0.51 (the benchmark of a model of acceptance is about 0.45) and a topic-term matrix showing the 50 terms that form each of the 12 topics was then calculated; and lastly (vi) WordClouds containing the relative weights of the topic terms for each of the 12 topics were produced, thus facilitating the interpretation of the topics in the following section. Furthermore, further interpretation has been done in the Python environment with regard to the visualization of the Intertopic Distance Map (via multidimensional scaling) and Top-50 Most Salient Terms (see **Figure C1** and **Table C2**). It should be noted that the order of the topics does not reflect their relative importance in the dataset.

Table C1. List of stopwords

65 stopwords included in the LDA model (the order is random and not based on term frequency)

1.	urban	23.	new	45.	area
2.	city	24.	include	46.	base
3.	study	25.	explore	47.	datum
4.	paper	26.	part	48.	draw
5.	case	27.	small	49.	claim
6.	result	28.	large	50.	attempt
7.	also	29.	year	51.	describe
8.	article	30.	number	52.	propose
9.	argue	31.	compare	53.	problem
10.	show	32.	increase	54.	review
11.	provide	33.	decrease	55.	discuss
12.	research	34.	focus	56.	promote
13.	develop	35.	perspective	57.	lead
14.	find	36.	recent	58.	important
15.	examine	37.	question	59.	reveal
16.	however	38.	present	60.	explain
17.	suggest	39.	represent	61.	type
18.	understand	40.	test	62.	due
19.	assess	41.	demonstrate	63.	land
20.	high	42.	address	64.	conclude
21.	elsevi	43.	identify	65.	great
22.	low	44.	reduce		

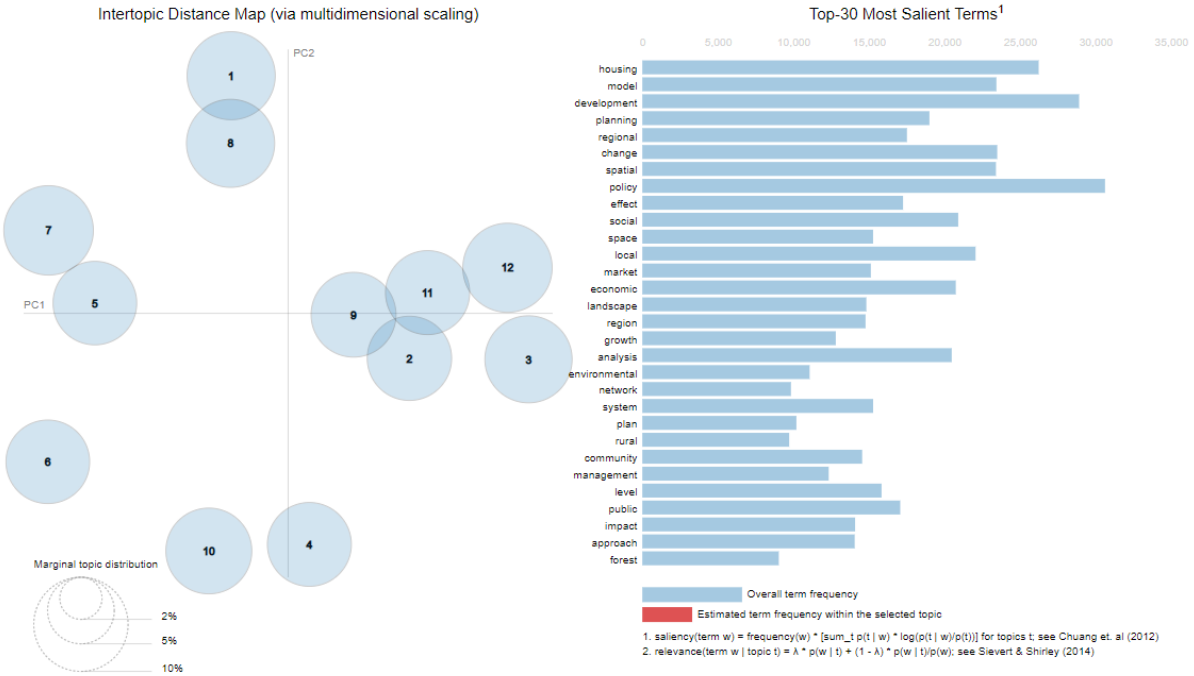


Figure C1. Visualisation of overall topic centrality with intertopic distance map via multidimensional scaling and top-30 most salient terms of the topic corpus

Table C2. The 50 topic terms with highest posterior probability for the 12 urban studies and planning topics

	T1: Spatial analysis and modelling	T2: Regional economics	T3: Socio-political geography	T4: Housing and property market	T5: Transportation	T6: Spatial effect	T7: Landscape and forestry	T8: Environmental management	T9: Urban-rural development	T10: Neighborhood planning	T11: Public space and urban design	T12: Planning policy and community governance
#1	spatial	regional	political	housing	model	effect	landscape	environmental	development	social	space	planning
#2	analysis	region	social	market	service	spatial	forest	management	change	residential	public	policy
#3	system	economic	state	property	location	level	tree	change	growth	resident	place	local
#4	approach	network	theory	price	time	impact	green	water	economic	group	design	community
#5	method	knowledge	practice	private	cost	factor	park	policy	rural	neighborhood	cultural	plan
#6	information	firm	concept	income	infrastructure	difference	specie	sustainable	population	neighbourhood	building	government
#7	scale	economy	power	household	estimate	evidence	plant	climate	pattern	people	nature	governance
#8	apply	innovation	politic	public	demand	analysis	cover	resource	dynamic	survey	form	project
#9	framework	industry	relation	investment	energy	employment	site	agricultural	urbanization	health	build	development
#10	tool	industrial	global	financial	transport	relationship	natural	impact	central	mobility	open	process
#11	assessment	cluster	process	state	good	rate	diversity	risk	process	individual	make	institutional
#12	indicator	role	debate	policy	choice	migration	human	sustainability	transition	quality	view	participation
#13	application	capital	context	sector	accessibility	distribution	vegetation	system	structure	perception	create	support
#14	evaluation	business	work	real_estate	distance	significant	ecological	farmer	trend	household	role	challenge
#15	index	technology	smart	rent	travel	size	biodiversity	production	expansion	experience	environment	strategy
#16	evaluate	sector	form	tenure	transportation	influence	management	farm	decline	live	culture	approach
#17	measure	global	discourse	government	efficiency	labour	conservation	food	period	community	experience	public
#18	technique	european	emerge	welfare	density	characteristic	ecosystem	conservation	major	activity	street	implementation
#19	methodology	country	critical	regulation	consumption	positive	habitat	future	town	school	strategy	issue
#20	integrate	production	world	supply	road	local	soil	resilience	zone	finding	tourism	conflict
#21	multi	policy	regime	finance	rights_reserved	income	rights_reserved	potential	settlement	life	identity	stakeholder
#22	define	activity	make	home	impact	affect	condition	strategy	transformation	migrant	traditional	framework
#23	map	national	movement	reform	function	empirical	environment	agriculture	country	preference	context	planner
#24	geographic	integration	geography	house	agent	inequality	garden	adaptation	chinese	access	medium	initiative
#25	quality	international	theoretical	ownership	simulation	negative	influence	scenario	metropolitan	segregation	future	institution
#26	process	local	literature	program	decision	variation	potential	improve	construction	poverty	event	capacity
#27	performance	trade	shape	control	amenity	finding	native	practice	decade	environment	offer	role
#28	objective	agglomeration	contemporary	rental	mode	worker	density	benefit	rapid	perceive	play	municipal
#29	point	territorial	understanding	equity	facility	measure	effect	rights_reserved	grow	gentrification	exist	practice
#30	pattern	analyse	actor	provision	benefit	investigate	restoration	current	suburban	move	aspect	strategic
#31	combine	geography	idea	return	measure	concentration	total	level	village	physical	activity	national
#32	level	geographical	informal	asset	public	determinant	structure	program	scale	family	creative	action
#33	order	performance	seek	poor	transit	metropolitan	composition	support	drive	influence	element	authority

	T1: Spatial analysis and modelling	T2: Regional economics	T3: Socio-political geography	T4: Housing and property market	T5: Transportation	T6: Spatial effect	T7: Landscape and forestry	T8: Environmental management	T9: Urban-rural development	T10: Neighborhood planning	T11: Public space and urban design	T12: Planning policy and community governance
#34	complex	link	call	owner	flow	labor	scale	ecological	time	relationship	term	actor
#35	potential	empirical	argument	developer	traffic	productivity	bird	protection	sprawl	association	contribute	involve
#36	rights_reserved	development	society	condition	commute	period	field	target	analysis	home	work	programme
#37	multiple	structure	neoliberal	crisis	access	strong	characteristic	response	socio	child	attention	agency
#38	data	product	frame	mortgage	alternative	immigrant	benefit	adoption	centre	woman	regard	context
#39	criterion	interaction	broad	homeownership	behavior	variable	significantly	scheme	form	ethnic	literature	organization
#40	feature	analysis	notion	rate	optimal	wage	significant	livelihood	center	associate	specific	effort
#41	quantitative	technological	challenge	sale	distribution	crime	patch	protect	build	work	user	interest
#42	classification	district	produce	evidence	equilibrium	relative	ecology	flood	density	poor	heritage	goal
#43	temporal	proximity	author	affordable	predict	panel	determine	vulnerability	occur	education	order	implement
#44	boundary	university	crisis	rise	standard	estimate	range	loss	future	characteristic	retail	outcome
#45	exist	dynamic	comparative	fiscal	variable	control	degree	crop	urbanisation	satisfaction	share	make
#46	support	competition	attention	informal	improve	regression	connectivity	farmland	shift	participant	concern	regeneration
#47	unit	european_union	material	house_price	exist	hypothesis	greenspace	carbon	early	status	post	citizen
#48	structure	relate	discussion	unit	determine	pattern	affect	waste	implication	outcome	potential	partnership
#49	source	service	alternative	subsidy	emission	black	surface	natural	condition	behaviour	physical	municipality
#50	interaction	innovative	academic	transfer	choose	associate	size	integrate	historical	benefit	issue	decision_make

Appendix D. Journal Analysis

Table D1. Journal article data in this study

Journal	Abbreviation	Start Year	Publication
Land Use Policy	LUP	1993	5096
Urban Studies	US	1991	4123
Landscape and Urban Planning	L&UP	1991	3813
Cities	-	1994	2810
Regional Studies	RS	1991	2689
Environment and Planning A: Economy and Space	EPA	1991	2187
European Planning Studies	EPS	2000	2008
Urban Forestry & Urban Greening	UFUG	2009*	1976
Habitat International	HI	1996	1947
International Journal of Urban and Regional Research	IJURR	1991	1780
Regional Science and Urban Economics	RSUE	1991	1541
Journal of Urban Economics	JUE	1991	1505
Urban Geography	UG	1991	1463
Housing Studies	HS	1995	1306
Computers Environment and Urban Systems	CEUS	1991	1284
Papers in Regional Science	PiRS	1995	1104
Urban Affairs Review	UAR	1991	1060
Environment and Urbanization	E&U	1993	907
Journal of the American Planning Association	JAPA	1991	862
Journal of Planning Education and Research	JPER	1994	777
Real Estate Economics	REE	1995	772
European Urban and Regional Studies	EURS	1997	575
Local Environment	LE	2015	548
Journal of Urban Technology	JUT	1994	511
Environment and Planning B: Urban Analytics and City Science	EPB	2017^	456
Cambridge Journal of Regions Economy and Society	CJRES	2008	383
Journal of Planning Literature	JPL	2001	202
Planning Theory & Practice	PTP	2015	189
International Journal of Urban Sciences	IJUS	2017	151
International Journal of Housing Policy	IJHP	2017	122

Note:

* First issued in 2002 – data prior to 2009 is not covered in the dataset.

^ Data prior to the journal's retitling from *Environment and Planning B: Planning and Design* is not included in the dataset.

Table D2. Research topic rank changes over time in terms of total publications per interval – based on topic model of individual intervals

Topic	Overall: 1991-2021	Interval #1 1991-2000	Interval #2 2001-2005	Interval #3 2006-2010	Interval #4 2011-2015	Interval #5 2016-2018	Interval #6 2019-2021
T1: Spatial analysis and modelling	9	5	10	6	8	8	11
T2: Regional economics	4	6	9	3	3	3	2
T3: Socio-political geography	1	2	1	2	1	2	1
T4: Housing and property market	2	7	7 / 12	4	2	7	3
T5: Transportation	10	11	5	8			7
T6: Spatial effect	8			7	11		12
T7: Landscape and forestry	5	10	11	10	5	11	9
T8: Environmental management	6	3			7	12	
T9: Urban-rural development	11			9		5	
T10: Neighborhood planning	7		6	5	9	9	4
T11: Public space and urban design	12	12	8	11		10	6
T12: Planning policy and community governance	3	1	3	1	6	1 / 4	5 / 10
N1: Economic development		4	2				
N2: Demography		8					
Emerging/Declining Topic							
N3: Public and social housing		9			12		
N4: Firm and industry network			4				
N5: Agricultural and food system				12		6	
N6: Sustainability					4		8
N7: Public-private investment					10		

Table D3. The 10 relevant documents for the 12 urban studies and planning topics

	T1: Spatial analysis and modelling	T2: Regional economics	T3: Socio-political geography	T4: Housing and property market	T5: Transportation	T6: Spatial effect	T7: Landscape and forestry	T8: Environmental management	T9: Urban-rural development	T10: Neighborhood planning	T11: Public space and urban design	T12: Planning policy and community governance
#1	W3C PROV TO DESCRIBE PROVENANCE AT THE DATASET, FEATURE AND ATTRIBUTE LEVELS IN A DISTRIBUTED ENVIRONMENT	INTERPLAY BETWEEN REGIONAL AND INDUSTRIAL ASPECTS IN THE R&D-PRODUCTIVITY LINK: EVIDENCE FROM EUROPE	RADICAL AND POSTMODERN? POWER, SOCIAL RELATIONS, AND REGIMES OF TRUTH IN THE SOCIAL CONSTRUCTION OF ALTERNATIVE ECONOMIC GEOGRAPHIES	FINANCING AFFORDABLE AND SUSTAINABLE HOMEOWNERSHIP WITH FIXED-COFI MORTGAGES	WHEN HOTELLING MEETS VICKREY. SERVICE TIMING AND SPATIAL ASYMMETRY IN THE AIRLINE INDUSTRY	INTERMETROPOLITAN VARIATION IN THE LABOUR FORCE PARTICIPATION RATES OF WHITE AND BLACK MEN IN THE UNITED STATES	QUERCUS VIRGINIANA ROOT ATTRIBUTES AND LATERAL STABILITY AFTER PLANTING AT DIFFERENT DEPTHS	FOSTERING INTEGRATED LAND AND WATER MANAGEMENT APPROACHES: EVALUATING THE WATER FOOTPRINT OF A MEDITERRANEAN BASIN UNDER DIFFERENT AGRICULTURAL LAND USE SCENARIOS	RURAL SETTLEMENT LAND DYNAMIC MODES AND POLICY IMPLICATIONS IN BEIJING METROPOLITAN REGION, CHINA	AUSTRALIAN ABORIGINAL URBAN RESIDENTS' SATISFACTION WITH LIVING IN THEIR NEIGHBOURHOOD: PERCEPTIONS OF THE NEIGHBOURHOOD SOCIO-CULTURAL ENVIRONMENT AND INDIVIDUAL SOCIO-DEMOGRAPHIC FACTORS	THE CHANGING IMAGE OF ARRIYADH CITY - THE ROLE OF SOCIO-CULTURAL AND RELIGIOUS TRADITIONS IN IMAGE TRANSFORMATION	AN ASSESSMENT OF STAKEHOLDERS' PARTICIPATION IN LAND USE PLANNING PROCESS OF LUAPULA PROVINCE PLANNING AUTHORITY
#2	INTEGRATING ONTOLOGICAL MODELLING AND BAYESIAN INFERENCE FOR PATTERN CLASSIFICATION IN TOPOGRAPHIC VECTOR DATA	GLOBALIZATION: COUNTRIES, CITIES AND MULTINATIONALS	OF HOLY COWS AND UNHOLY POLITICS: DALITS, ANNIHILATION AND MORE-THAN-HUMAN URBAN ABOLITION ECOLOGIES	AFFORDABLE HOUSING WITHOUT PUBLIC SUBSIDIES RENT-SETTING PRACTICES IN SMALL RENTAL PROPERTIES	IMPACT OF DATA GAPS ON THE ACCURACY OF ANNUAL AND MONTHLY AVERAGE DAILY BICYCLE VOLUME CALCULATION AT PERMANENT COUNT STATIONS	SELECTIVE IN-MIGRATION AND INCOME CONVERGENCE AND DIVERGENCE ACROSS BELGIAN MUNICIPALITIES	Prepare the table/figure for topic modelling write up	SMALLHOLDER FARMS' ADAPTATION TO THE IMPACTS OF CLIMATE CHANGE: EVIDENCE FROM CHINA'S LOESS PLATEAU	COMPACT URBAN FORM AND EXPANSION PATTERN SLOW DOWN THE DECLINE IN URBAN DENSITIES: A GLOBAL PERSPECTIVE	NEIGHBORHOOD CHARACTERISTICS, NEIGHBORHOOD SATISFACTION, AND WELL-BEING: THE LINKS WITH NEIGHBORHOOD DEPRIVATION	THE SHOPHOUSE HOTEL: VERNACULAR HERITAGE IN A CREATIVE CITY	EVALUATING GEODESIGN FOR COMMUNITY-BASED TRIBAL PLANNING THE ROLE OF PLANNERS IN MARGINALIZED COMMUNITIES
#3	EVALUATION OF THE USE OF SPECTRAL AND TEXTURAL INFORMATION BY AN EVOLUTIONARY ALGORITHM FOR MULTI-SPECTRAL IMAGERY CLASSIFICATION	INNOVATION, HETEROGENEOUS FIRMS AND THE REGION: EVIDENCE FROM SPAIN	"WE ARE ALL REFUGEES": CAMPS AND INFORMAL SETTLEMENTS AS CONVERGING SPACES OF GLOBAL DISPLACEMENTS	THE MARKET PRICE OF LOW-INCOME HOUSING TAX CREDITS	CROSS-NESTED LOGIT MODEL FOR THE JOINT CHOICE OF RESIDENTIAL LOCATION, TRAVEL MODE, AND DEPARTURE TIME	SPATIAL WAGE DISPARITIES: SORTING MATTERS!	RELATIONSHIP OF STRUCTURAL ROOT DEPTH ON THE FORMATION OF STEM ENCIRCLING ROOTS AND STEM GIRDLING ROOTS: IMPLICATIONS ON TREE CONDITION	RESOURCE-EFFICIENT USE OF LAND AND ANIMALS-ENVIRONMENTAL IMPACTS OF FOOD SYSTEMS BASED ON ORGANIC CROPPING AND AVOIDED FOOD-FEED COMPETITION	DIVERSITY IN DECLINE: THE CHANGING SUBURBAN FORTUNES OF TOKYO METROPOLIS	WORKPLACE GREENERY AND PERCEIVED LEVEL OF STRESS: BENEFITS OF ACCESS TO A GREEN OUTDOOR ENVIRONMENT AT THE WORKPLACE	MAKING PLACES: THE ROLE OF ATTACHMENT IN CREATING THE SENSE OF PLACE FOR TRADITIONAL STREETS IN MALAYSIA	COLLABORATIVE WORKSHOP AND COMMUNITY PARTICIPATION: A NEW APPROACH TO URBAN REGENERATION IN CHINA
#4	CONCEPTS AND TECHNIQUES FOR INTEGRATION, ANALYSIS AND VISUALIZATION OF	TECHNOLOGICAL CAPABILITY, AGGLOMERATION ECONOMIES AND	THE TROUBLE WITH FLAG WARS: RETHINKING SEXUALITY IN	REIT AND COMMERCIAL REAL ESTATE RETURNS: A POSTMORTEM OF	A STUDY ON EMISSION AND FUEL CONSUMPTION OF MOTORCYCLES IN IDLE MODE AND THE	HUMAN CAPITAL SPILLOVERS AND THE CHURNING PHENOMENON: ANALYSING WAGE	GREEN ROOF VEGETATION TYPE AFFECTS GERMINATION AND INITIAL SURVIVAL	ECONOMIC AND ENVIRONMENTAL IMPACTS OF INTRODUCING LAND USE POLICIES AND	SPATIAL PATTERN EVOLUTION OF RURAL SETTLEMENTS FROM 1961 TO 2030 IN	URBAN GREEN SPACES FOR CHILDREN: A CROSS-SECTIONAL STUDY OF ASSOCIATIONS	WHEN VIRTUAL AND MATERIAL WORLDS COLLIDE: DEMOCRATIC	EVALUATION OF COMMUNITY-BASED LAND USE PLANNING THROUGH

	T1: Spatial analysis and modelling	T2: Regional economics	T3: Socio-political geography	T4: Housing and property market	T5: Transportation	T6: Spatial effect	T7: Landscape and forestry	T8: Environmental management	T9: Urban-rural development	T10: Neighborhood planning	T11: Public space and urban design	T12: Planning policy and community governance
	MASSIVE 3D POINT CLOUDS	FIRM LOCATION CHOICE	CRITICAL URBAN THEORY	THE FINANCIAL CRISIS	IMPACTS ON AIR QUALITY IN HANOI, VIETNAM	EFFECTS FROM GROSS IN- AND OUTFLOWS OF HIGH-SKILLED WORKERS	OF COLONIZING WOODY SPECIES	ROTATIONS ON PRINCE EDWARD ISLAND POTATO FARMS	TONGZHOU DISTRICT, CHINA	WITH DISTANCE, PHYSICAL ACTIVITY, SCREEN TIME, GENERAL HEALTH, AND OVERWEIGHT	FASHION IN THE DIGITAL AGE	GEODESIGN: APPLICATION TO AMERICAN INDIAN COMMUNITIES
#5	EXTENDING LADM TO SUPPORT WORKFLOWS AND PROCESS MODELS	RELATEDNESS, EXTERNAL LINKAGES AND REGIONAL INNOVATION IN EUROPE	RETHINKING URBAN POWER AND THE LOCAL STATE: HEGEMONY, DOMINATION AND RESISTANCE IN NEOLIBERAL CITIES	PRIVATISED KEYNESIANISM AND THE STATE-ENHANCED DIVERSIFICATION OF CREDIT: THE CASE OF THE FRENCH HOUSING MARKET	THE MERITS OF SEPARATING CARS AND TRUCKS	THE GEOGRAPHY OF INEQUALITY: DIFFERENCE AND DETERMINANTS OF WAGE AND INCOME INEQUALITY ACROSS US METROS	EFFECTS OF PLANTING COMBINATIONS AND MULCH TYPES ON SOIL MOISTURE AND TEMPERATURE OF XERIC LANDSCAPES	INCENTIVIZING SUSTAINABLE RANGELAND PRACTICES AND POLICIES IN COLOMBIA'S ORINOCO REGION	RELATIONSHIP BETWEEN URBAN CONSTRUCTION LAND EXPANSION AND POPULATION/ECONOMIC GROWTH IN LIAONING PROVINCE, CHINA	ASSOCIATIONS BETWEEN USE, ACTIVITIES AND CHARACTERISTICS OF THE OUTDOOR ENVIRONMENT AT WORKPLACES	THE EFFECTIVENESS OF PLACE BRAND COMMUNICATION	CRITICAL ELEMENTS IN SUSTAINING PARTICIPATORY PLANNING: BAGAMOYO STRATEGIC URBAN DEVELOPMENT PLANNING FRAMEWORK IN TANZANIA
#6	GEOAI IN TERRAIN ANALYSIS: ENABLING MULTI-SOURCE DEEP LEARNING AND DATA FUSION FOR NATURAL FEATURE DETECTION	THE IDENTIFICATION OF REGIONAL INDUSTRIAL CLUSTERS USING QUALITATIVE INPUT-OUTPUT ANALYSIS (QIOA)	THE ORDINARY CITY TRAP	LOW INCOME HOUSING TAX CREDIT PROGRAMME IMPACTS ON HOUSING AFFORDABILITY IN AUSTRALIA: MICROSIMULATION MODEL ESTIMATES	TAXED TO DEATH? FREIGHT TRUCK COLLISION EXTERNALITIES AND DIESEL TAXES	HUMAN CAPITAL EXTERNALITIES OR CONSUMPTION SPILLOVERS? THE EFFECT OF HIGH-SKILL HUMAN CAPITAL ACROSS LOW-SKILL LABOR MARKETS *	SPECIES AND SEASON AFFECT RESPONSE OF CONTAINER-GROWN SHADE TREES TO PRE-PLANT ROOT MODIFICATIONS	LAND USE CHANGE AND THE CARBON DEBT FOR SUGARCANE ETHANOL PRODUCTION IN BRAZIL	RURAL RESIDENTIAL LAND TRANSITION IN THE BEIJING-TIANJIN-HEBEI REGION: SPATIAL-TEMPORAL PATTERNS AND POLICY IMPLICATIONS	THE EFFECTS OF PHYSICAL ACTIVITY FACILITIES ON VIGOROUS PHYSICAL ACTIVITY IN GATED AND NON-GATED NEIGHBORHOODS	PLACE IDENTITY - SYMBOLS OF SELF IN THE URBAN FABRIC	LEGAL AND INSTITUTIONAL PERPLEXITIES HAMPERING THE IMPLEMENTATION OF URBAN DEVELOPMENT PLANS IN PAKISTAN
#7	THE LADM VALUATION INFORMATION MODEL AND ITS APPLICATION TO THE TURKEY CASE	PRODUCTIVITY EFFECTS OF UNITED STATES MULTINATIONAL ENTERPRISES: THE ROLES OF MARKET ORIENTATION AND REGIONAL INTEGRATION	TRANSCENDING (IN)FORMAL URBANISM	VALUING THE DEFEASANCE OPTION IN SECURITIZED COMMERCIAL MORTGAGES	TRIP-TIMING DECISIONS WITH TRAFFIC INCIDENTS	THE EFFECT OF UNEMPLOYMENT, AGGREGATE WAGES, AND SPATIAL CONTIGUITY ON LOCAL WAGES: AN INVESTIGATION WITH GERMAN DISTRICT LEVEL DATA	NATURAL VERSUS HUMAN DRIVERS OF PLANT DIVERSITY IN URBAN PARKS AND THE ANTHROPOGENIC SPECIES-AREA HYPOTHESES	FARMERS' PERCEPTIONS AND MANAGEMENT OF RISK IN RICE-BASED FARMING SYSTEMS OF SOUTH-WEST COASTAL BANGLADESH	DIFFERENTIATION OF RURAL DEVELOPMENT DRIVEN BY INDUSTRIALIZATION AND URBANIZATION IN EASTERN COASTAL CHINA	HOW DO CHILDHOOD NATURE EXPERIENCES AND NEGATIVE EMOTIONS TOWARDS NATURE INFLUENCE PREFERENCES FOR OUTDOOR ACTIVITY AMONG YOUNG ADULTS?	REFLECTION OF URBAN SPACE IN IRANIAN CINEMA A REVIEW OF THE LAST TWO DECADES	PREPARATION AND IMPLEMENTATION OF A GENERAL PLANNING SCHEME IN TANZANIA: KAHAMA STRATEGIC URBAN DEVELOPMENT PLANNING FRAMEWORK
#8	GSAM: A DEEP NEURAL NETWORK MODEL FOR EXTRACTING COMPUTATIONAL REPRESENTATIONS OF CHINESE ADDRESSES FUSED WITH GEOSPATIAL FEATURE	DETERMINING THE EFFECTS OF OPEN INNOVATION: THE ROLE OF KNOWLEDGE AND GEOGRAPHICAL SPILLOVERS	PLACING LGBTQ PLUS URBAN ACTIVISMS	SHARING EQUITY WITH FUTURE GENERATIONS: AN EVALUATION OF LONG-TERM AFFORDABLE HOMEOWNERSHIP PROGRAMS IN THE USA	OPTIMIZATION OF CARSHARING FLEET SIZE TO MAXIMIZE THE NUMBER OF CLIENTS SERVED	DO INEQUALITY, UNEMPLOYMENT AND DETERRENCE AFFECT CRIME OVER THE LONG RUN?	DEAD TREE BRANCHES IN URBAN FORESTS AND PRIVATE GARDENS ARE KEY HABITAT COMPONENTS FOR WOODPECKERS IN A CITY MATRIX	INTRA-URBAN AND PEN-URBAN DIFFERENCES IN CATTLE FARMING SYSTEMS OF BURKINA FASO	URBANIZATION FROM BELOW - THE GROWTH OF TOWNS IN JIANGSU, CHINA	THE EFFECT OF AGE, GENDER AND MARITAL STATUS ON RESIDENTIAL SATISFACTION	THE INTEGRATION OF TRADITION AND MODERNITY: A SEARCH FOR AN URBAN AND ARCHITECTURAL IDENTITY IN ARRIYADH, THE CAPITAL OF SAUDI ARABIA	COMMUNITY-SUPPORTED SLUM-UPGRADING: INNOVATIONS FROM KIBERA, NAIROBI, KENYA
#9	DEVELOPING A NEW FRAMEWORK BASED ON SOLID MODELS FOR 3D CADASTRES	GLOBAL KNOWLEDGE AND CREATIVITY: NEW CHALLENGES FOR FIRMS AND REGIONS	MANAGING VIOLENCE: AID, COUNTERINSURGENCY, AND THE HUMANITARIAN PRESENT IN PALESTINE	WHY DO REIT RETURNS POORLY REFLECT PROPERTY RETURNS? UNREALIZABLE APPRECIATION GAINS DUE TO TRADING CONSTRAINTS AS THE SOLUTION TO THE SHORT-TERM DISPARITY	SIMULATING TRAVEL RELIABILITY	USING SPATIAL ECONOMETRICS TO ANALYSE LOCAL GROWTH IN SWEDEN	EDGE EFFECTS OF ROADS ON TEMPERATURE, LIGHT, CANOPY COVER, AND CANOPY HEIGHT IN LAUREL AND PINE FORESTS (TENERIFE, CANARY ISLANDS)	IMPLICATIONS OF CAP REFORM FOR LAND MANAGEMENT AND RUNOFF CONTROL IN ENGLAND AND WALES	URBAN-RURAL CONSTRUCTION LAND TRANSITION AND ITS COUPLING RELATIONSHIP WITH POPULATION FLOW IN CHINA'S URBAN AGGLOMERATION REGION	OBJECTIVE NEIGHBOURHOOD ATTRIBUTES AS CORRELATES OF NEIGHBOURHOOD DISSATISFACTION AND THE MEDIATING ROLE OF NEIGHBOURHOOD PERCEPTIONS IN OLDER ADULTS FROM CULTURALLY AND PHYSICALLY DIVERSE URBAN ENVIRONMENTS	IMPROVING PLACE REPUTATION: DO AN OPEN PLACE BRAND PROCESS AND AN IDENTITY-IMAGE MATCH PAY OFF?	THE EFFECT OF MANDATED PLANNING ON PLAN QUALITY A FRESH LOOK AT WHAT MAKES "A GOOD PLAN"
#10	CONTEXTUAL MAPPING: VISUALIZATION OF HIGH-DIMENSIONAL SPATIAL PATTERNS IN A SINGLE GEO-MAP	TECHNOLOGICAL SPECIALIZATION AND VARIETY IN URBAN INVENTION	DISAMBIGUATING THE SOUTHERN URBAN CRITIQUE: PROPOSITIONS, PATHWAYS AND POSSIBILITIES FOR A MORE GLOBAL URBAN STUDIES	THE IMPACT OF DIFFERENT LAND-SUPPLYING CHANNELS ON THE SUPPLY OF HOUSING	EVALUATING VALUE-PRICING PROJECTS WITH BOTH SCHEDULING AND ROUTE CHOICES	SPATIAL JOB SEARCH AND JOB COMPETITION AMONG IMMIGRANT AND NATIVE GROUPS IN LOS ANGELES	CAN POWERLINE CLEARINGS BE MANAGED TO PROMOTE INSECT-POLLINATED PLANTS AND SPECIES ASSOCIATED WITH SEMI-NATURAL GRASSLANDS?	FARMERS' PERCEPTIONS AND MANAGEMENT OF RISK IN RICE/SHRIMP FARMING SYSTEMS IN SOUTH-WEST COASTAL BANGLADESH	POPULATION DISTRIBUTION AND URBAN GROWTH IN SOUTHERN ITALY, 1871-2011: EMERGENT POLYCENTRISM OR PATH-DEPENDENT MONOCENTRICITY?	RESIDENTIAL RELOCATION AND LIFE SATISFACTION CHANGE: IS THERE A DIFFERENCE BETWEEN HOUSEHOLD COUPLES?	DISPERSING THE CROWD - BONUS PLAZAS AND THE CREATION OF PUBLIC SPACE	IMPACT OF PLANNING MANDATES ON LOCAL PLANS: A MULTI-METHOD ASSESSMENT

Table D4. Top 3 journals (no. of publications and contributions) for each urban studies and planning topic

Topic	Top 1	Top 2	Top 3
T1: Spatial analysis and modelling	Computer Environment and Urban Systems (750, 25%)	Land Use Policy (461, 15%)	Landscape and Urban Planning (457, 15%)
T2: Regional economics	Regional Studies (1306, 29%)	European Planning Studies (946, 21%)	Papers in Regional Science (354, 8%)
T3: Socio-political geography	International Journal of Urban and Regional Research (887, 18%)	Environment and Planning A – Economy and Space (784, 16%)	Urban Studies (784, 16%)
T4: Housing and property market	Housing Studies (642, 14%)	Real Estate Economics (621, 13%)	Urban Studies (620, 13%)
T5: Transportation	Regional Science and Urban Economics (452, 15%)	Journal of Urban Economics (373, 13%)	Computer Environment and Urban Systems (275, 9%)
T6: Spatial effect	Regional Studies (514, 16%)	Urban Studies (416, 13%)	Regional Science and Urban Economics (412, 13%)
T7: Landscape and forestry	Landscape and Urban Planning (1859, 49%)	Urban Forestry & Urban Greening (1361, 36%)	Land Use Policy (362, 9%)
T8: Environmental management	Land Use Policy (2071, 56%)	Landscape and Urban Planning (376, 10%)	Habitat International (206, 6%)
T9: Urban-rural development	Cities (446, 16%)	Land Use Policy (403, 15%)	Urban Studies (336, 12%)
T10: Neighborhood planning	Urban Studies (606, 17%)	Housing Studies (341, 9%)	Cities (311, 9%)
T11: Public space and urban design	Cities (375, 16%)	Urban Studies (268, 12%)	Landscape and Urban Planning (192, 8%)
T12: Planning policy and community governance	Land Use Policy (708, 15%)	Urban Studies (393, 8%)	European Planning Studies (384, 8%)

Table D5. Top 3 cited journals over the study periods

Interval	Top 1 (Citation Count / Relative Contribution % by Interval)	Top 2 (Citation Count / Relative Contribution % by Interval)	Top 3 (Citation Count / Relative Contribution % by Interval)
1991-2000	Urban Studies (37213 / 17.8%)	Landscape and Urban Planning (24424 / 11.7%)	Journal of Urban Economics (20427 / 9.8%)
2001-2005	Urban Studies (40065 / 16.9%)	Landscape and Urban Planning (32790 / 13.8%)	Regional Studies (21953 / 9.3%)
2006-2010	Landscape and Urban Planning (47218 / 15.5%)	Urban Studies (32048 / 10.5%)	Environment and Planning A: Economy and Space (26786 / 8.8%)
2011-2015	Landscape and Urban Planning (52341 / 16.1%)	Land Use Policy (40819 / 12.6%)	Urban Studies (26588 / 8.2%)
2016-2018	Land Use Policy (36701 / 20.7%)	Landscape and Urban Planning (21841 / 12.3%)	Cities (16430 / 9.3%)
2019-2021	Land Use Policy (20183 / 22.1%)	Cities (11854 / 13.0%)	Landscape and Urban Planning (8830 / 9.7%)

Table D6. Top 3 cited articles over the study periods

Interval	Title (Cited Count/ Relative Contribution % by Interval)	Topic	Journal	Author
1991-2000	1. Impervious Surface Coverage - The Emergence of a Key Environmental Indicator (1253 / 0.60%)	T8-Environmental management	Journal of the American Planning Association	Arnold, Cl;Gibbons, Cj
	2. The Learning Region: Institutions, Innovation and Regional Renewal (1040 / 0.50%)	T2-Regional economics	Regional Studies	Morgan, K
	3. Simple Diagnostic Tests for Spatial Dependence (904 / 0.43%)	T6-Spatial effect	Regional Science and Urban Economics	Anselin, L;Bera, Ak;Florax, R;Yoon, Mj
2001-2005	1. Social Cohesion, Social Capital and The Neighbourhood (852 / 0.36%)	T3-Socio-political geography	Urban Studies	Forrest, R;Kearns, A
	2. Physical Place and Cyberplace: The Rise of Personalized Networking (717 / 0.30%)	T10-Neighbourhood planning	International Journal of Urban and Regional Research	Wellman, B
	3. The Determinants of Agglomeration (524 / 0.22%)	T6-Spatial effect	Journal Of Urban Economics	Rosenthal, Ss;Strange, Wc
2006-2010	1. The New Mobilities Paradigm (2730 / 0.90%)	T3-Socio-political geography	Environment and Planning A-Economy and Space	Sheller, M;Urry, J
	2. Urban Effects on Native Avifauna: A Review (939 / 0.31%)	T7-Landscape and forestry	Landscape and Urban Planning	Chace, Jf;Walsh, Jj
	3. Many Pathways from Land Use to Health - Associations Between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality (765 / 0.25%)	T10-Neighbourhood planning	Journal of the American Planning Association	Frank, Ld;Sallis, Jf;Conway, Tl;Chapman, Je;Saelens, Be;Bachman, W
2011-2015	1. Smart Cities in Europe (1413 / 0.43%)	T1-Spatial analysis and modelling T2-Regional economics	Journal of Urban Technology	Caragliu, Andrea;Del Bo, Chiara;Nijkamp, Peter
	2. Constructing Regional Advantage: Platform Policies Based on Related Variety and Differentiated Knowledge Bases (746 / 0.23%)	T2-Regional economics	Regional Studies	Asheim, Bjorn T.;Boschma, Ron;Cooke, Philip Robinson, Jennifer
	3. Cities in a World of Cities: The Comparative Gesture (574 / 0.18%)		International Journal of Urban and Regional Research	
2016-2018	1. Defining Urban Resilience: A Review (822 / 0.46%)	T8-Environmental management	Landscape and Urban Planning	Meerow, Sara;Newell, Joshua P.;Stults, Melissa
	2. The Driving Forces of Landscape Change in Europe: A Systematic Review of The Evidence (266 / 0.15%)	T9-Urban-rural development	Land Use Policy	Plieninger, Tobias;Draux, Helene;Fagerholm, Nora;Bieling, Claudia;Burgi, Matthias;Kizos, Thanasis;Kuemmerle, Tobias;Primdahl, Jorgen;Verburg, Peter H. Rigolon, Alessandro
	3. A Complex Landscape of Inequity in Access to Urban Parks: A Literature Review (259 / 0.15%)	T10-Neighbourhood planning	Landscape And Urban Planning	
2019-2021	1. Guidance on Conducting a Systematic Literature Review (317 / 0.35%)	T1-Spatial analysis and modelling T3-Socio-political geography	Journal of Planning Education and Research	Xiao, Yu;Watson, Maria
	2. Urban Resilience for Whom, What, When, Where, And Why? (242 / 0.26%)	T3-Socio-political geography	Urban Geography	Meerow, Sara;Newell, Joshua P.
	3. On Big Data, Artificial Intelligence and Smart Cities (218 / 0.24%)		Cities	Allam, Zaheer;Dhunny, Zaynah A.

Figure D1. Topic distribution over time for each individual journal

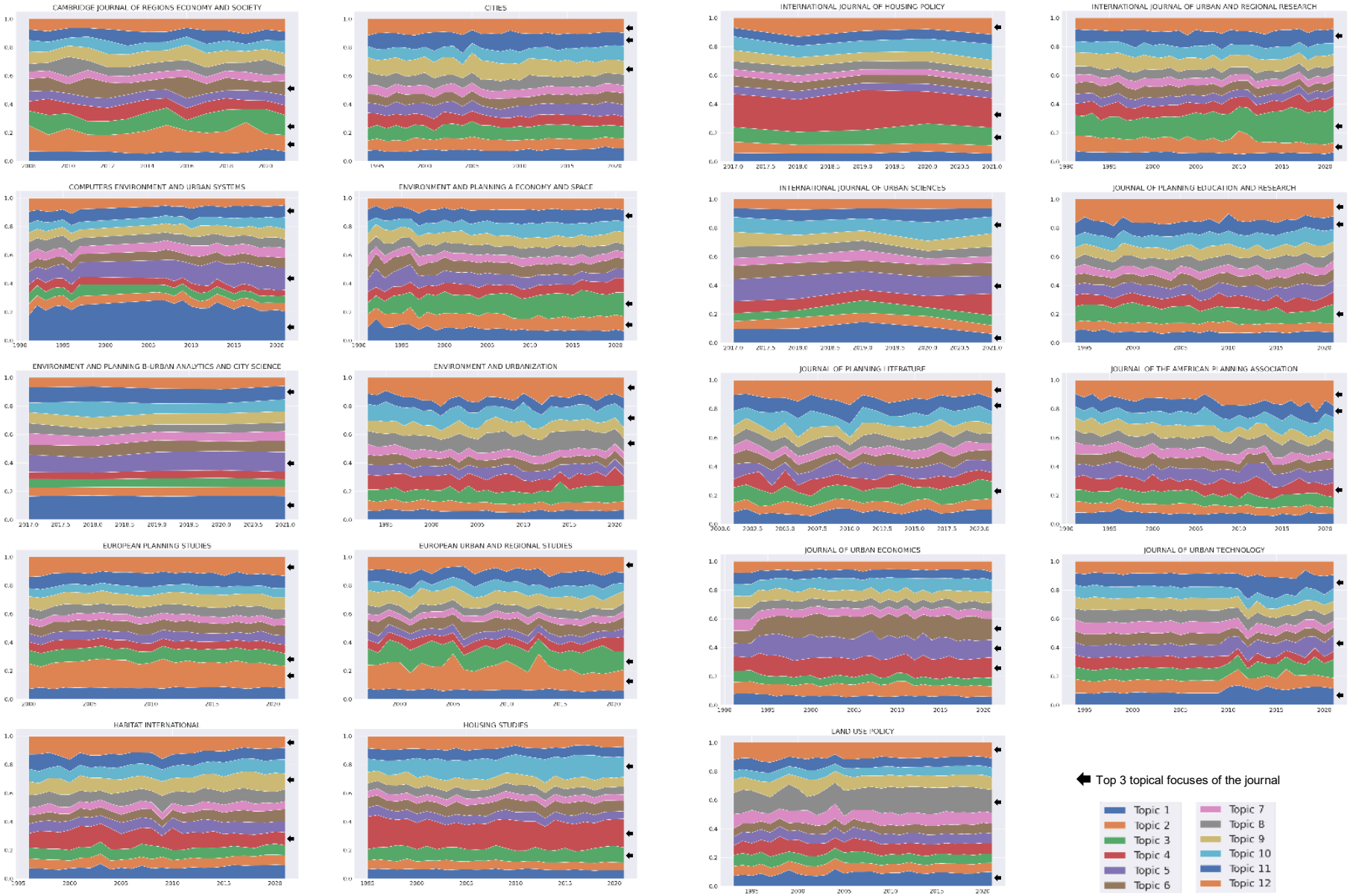


Table D7. Top 3 topical focuses of the journals

Journal	Top 1	Top 2	Top 3
Land Use Policy	T8: Environmental management	T12: Planning policy and community governance	T1: Spatial analysis and modelling
Urban Studies	T3: Socio-political geography	T10: Neighbourhood planning	T4: Housing and property market
Landscape and Urban Planning	T7: Landscape and forestry	T1: Spatial analysis and modelling	T8: Environmental management
Cities	T9: Urban-rural development	T11: Public space and urban design	T12: Planning policy and community governance
Regional Studies	T2: Regional economics	T6: Spatial effect	T12: Planning policy and community governance
Environment and Planning A-Economy and Space	T3: Socio-political geography	T2: Regional economics	T11: Public space and urban design
European Planning Studies	T2: Regional economics	T12: Planning policy and community governance	T3: Socio-political geography
Urban Forestry & Urban Greening	T7: Landscape and forestry	T10: Neighbourhood planning	T11: Public space and urban design
Habitat International	T12: Planning policy and community governance	T4: Housing and property market	T9: Urban-rural development
International Journal of Urban and Regional Research	T3: Socio-political geography	T11: Public space and urban design	T2: Regional economics
Regional Science and Urban Economics	T5: Transportation	T6: Spatial effect	T4: Housing and property market
Journal of Urban Economics	T6: Spatial effect	T5: Transportation	T4: Housing and property market
Urban Geography	T3: Socio-political geography	T10: Neighbourhood planning	T9: Urban-rural development
Housing Studies	T4: Housing and property market	T10: Neighbourhood planning	T3: Socio-political geography
Computers Environment and Urban Systems	T1: Spatial analysis and modelling	T5: Transportation	T11: Public space and urban design
Papers in Regional Science	T6: Spatial effect	T2: Regional economics	T5: Transportation
Urban Affairs Review	T12: Planning policy and community governance	T3: Socio-political geography	T6: Spatial effect
Environment and Urbanization	T12: Planning policy and community governance	T8: Environmental management	T10: Neighbourhood planning
Journal of the American Planning Association	T12: Planning policy and community governance	T11: Public space and urban design	T4: Housing and property market
Journal of Planning Education and Research	T12: Planning policy and community governance	T3: Socio-political geography	T11: Public space and urban design
Real Estate Economics	T4: Housing and property market	T6: Spatial effect	T5: Transportation
European Urban and Regional Studies	T2: Regional economics	T3: Socio-political geography	T12: Planning policy and community governance
Local Environment	T8: Environmental management	T12: Planning policy and community governance	T3: Socio-political geography
Journal of Urban Technology	T11: Public space and urban design	T1: Spatial analysis and modelling	T5: Transportation
Environment and Planning B-Urban Analytics and City Science	T1: Spatial analysis and modelling	T5: Transportation	T11: Public space and urban design
Cambridge Journal of Regions Economy and Society	T2: Regional economics	T3: Socio-political geography	T6: Spatial effect
Journal of Planning Literature	T12: Planning policy and community governance	T3: Socio-political geography	T11: Public space and urban design
Planning Theory & Practice	T12: Planning policy and community governance	T3: Socio-political geography	T11: Public space and urban design
International Journal of Urban Sciences	T5: Transportation	T10: Neighbourhood planning	T1: Spatial analysis and modelling
International Journal of Housing Policy	T4: Housing and property market	T3: Socio-political geography	T12: Planning policy and community governance

Appendix E. Co-occurrence Network and Keywords Analysis

Louvain Community Detection method used in this study to investigate the co-occurrence network is based on the concept of modularity, and it aims to maximize the modularity of a network (Blondel et al. 2008). Modularity is a measure of the quality of the division of nodes into communities within a network. The modularity (Q) of a network is calculated using the following equation:

$$Q = \frac{1}{2m}\sum_{i,j}\left(A_{ij} - \frac{k_i k_j}{2m}\right)\delta(c_i, c_j)$$

Where: Q is the modularity of the network; A_{ij} is the weight of the edge between nodes *i* and *j*; k_i is the degree (total number of edges) of node *i*; k_j is the degree of node *j*.
m is the total sum of edge weights in the network (twice the total number of edges).
$\delta(c_i, c_j)$ is the Kronecker delta function, which equals 1 if nodes *i* and *j* are in the same community (belong to the same group) and 0 otherwise.
c_i and c_j are the community assignments of nodes *i* and *j*, respectively.

The goal of Louvain Community Detection is to find a division of nodes into communities that maximises the modularity (Q). In other words, it aims to find the grouping of nodes that results in the highest increase in modularity.

During the Louvain algorithm's iterative optimization process, it seeks to identify communities that maximise this modularity measure, leading to a meaningful partitioning of the network into communities.

Figure E1. Heatmap diagram showing the normalized co-occurrence values between topics from 1991–2021

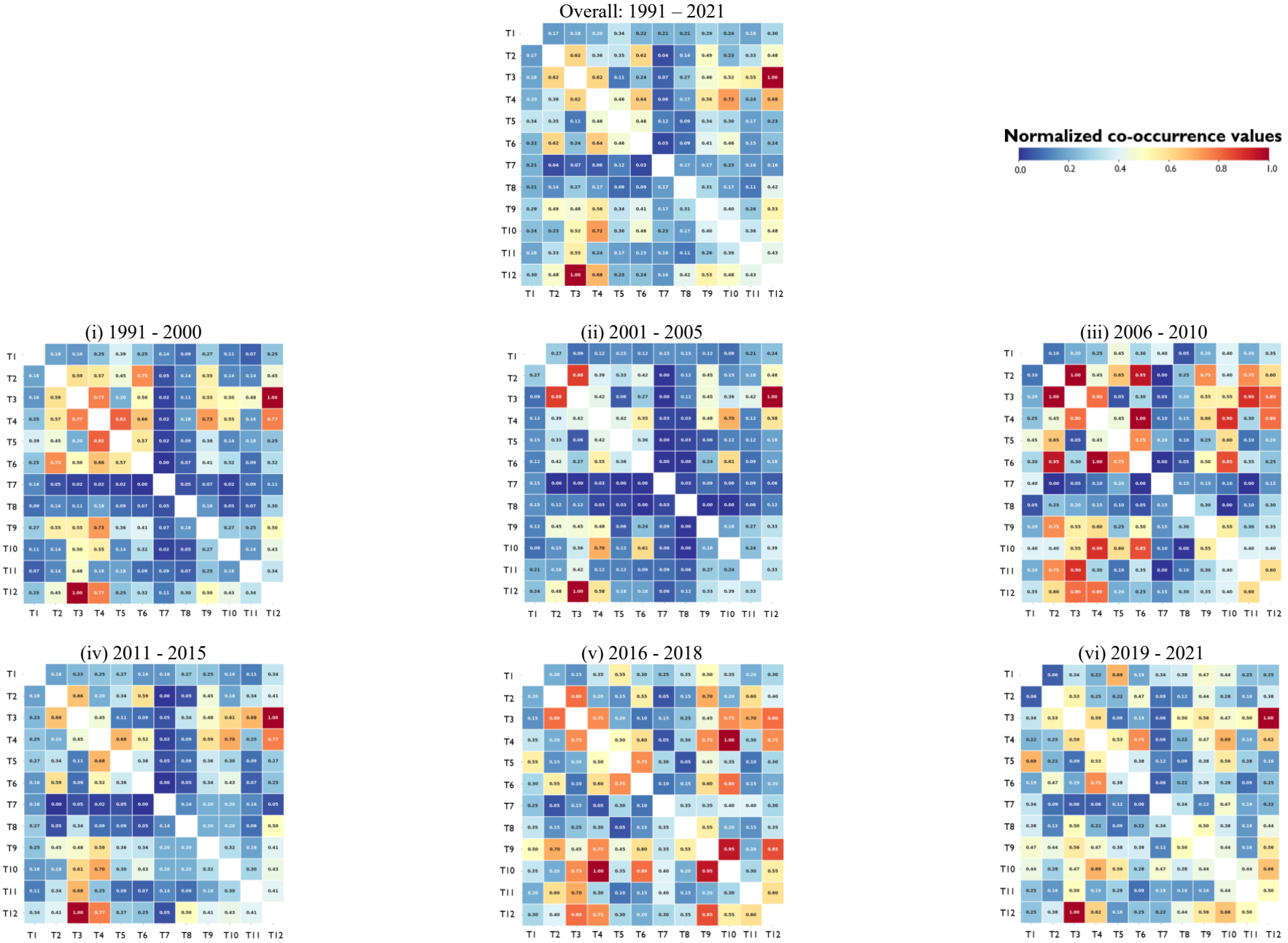
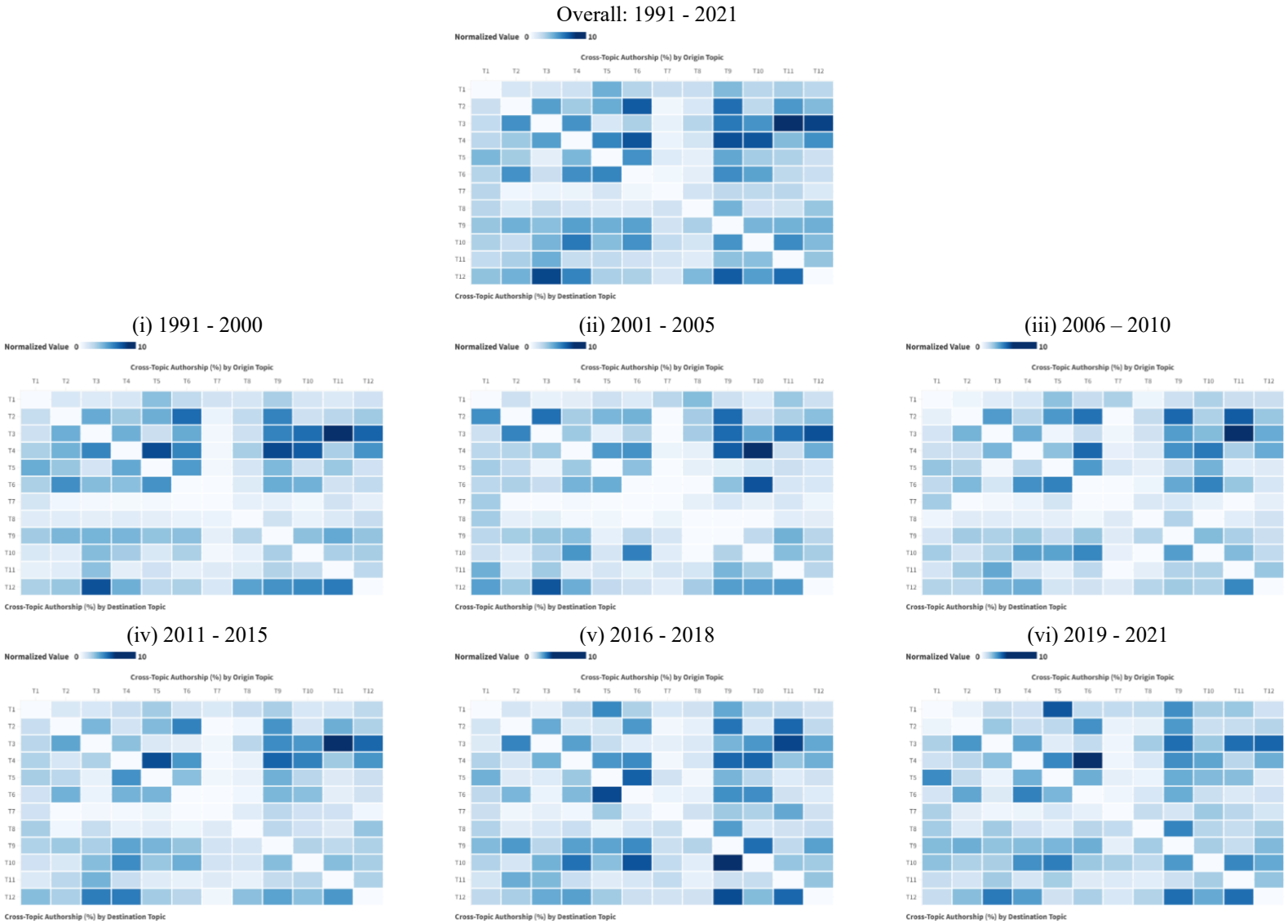


Figure E2. Heatmap showing the normalized bilateral co-occurrence pattern (relative closeness) of topics from 1991–2021



Notes:

1) The heatmap shows more detail about the relative closeness of topics from 1991–2021 using rates rather than exact numbers.

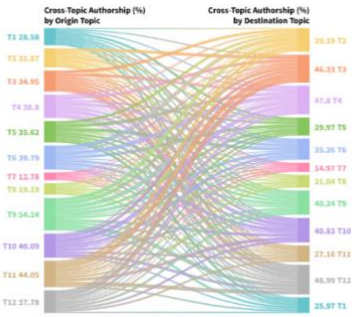
2) Relative closeness showing in this figure is different from Figure E1. It calculated based on **the number of author co-occurrences between topics, divided by the total number of authors in the origin and destination topics**. For example, 'Cross-Topic Authorship by Origin Topic' represents the share of authors in one topic who also appear in other topics, while 'Destination Topic' reflects the share of authors from other topics who appear in the origin topic.

3) The X-axis represents the origin topic. The colour of each cell in a column indicates the closeness between the origin topic on the X-axis and the destination topic on the Y-axis. The higher the value, the darker the colour of the cell, and vice versa.

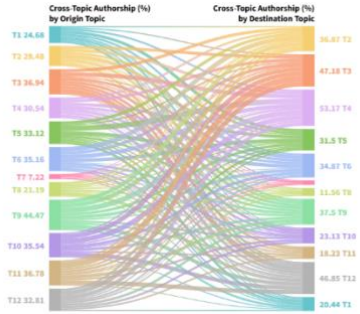
4) To enhance transparency, the normalized co-occurrence values are provided in Figure E1. For visual clarity, the detailed numbers are not displayed in this diagram.

Figure E3. Sankey diagram showing the relative closeness of topics from 1991–2021

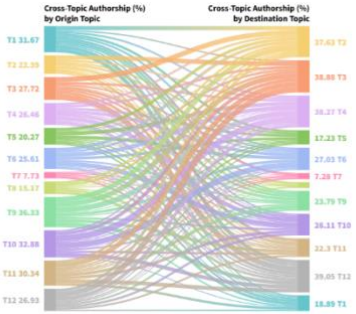
Overall: 1991 - 2021



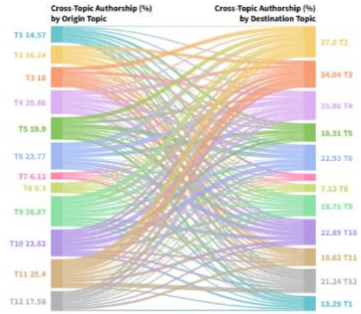
(i) 1991 - 2000



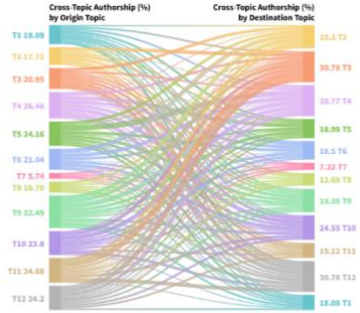
(ii) 2001 - 2005



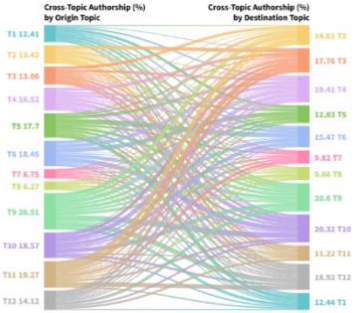
(iii) 2006 - 2010



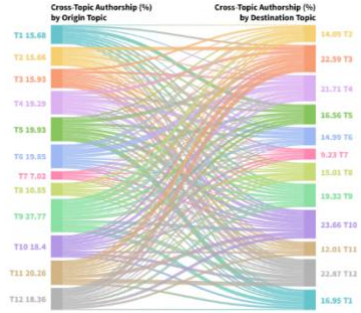
(iv) 2011 - 2015



(v) 2016 - 2018



(vi) 2019 - 2021



Note:

1) The Sankey diagram illustrates the relative closeness of topics from 1991–2021 by showing the flow of cross-topic authorship percentages between origin and destination topics.

2) Relative closeness is calculated based on the number of authors who have published across multiple topics, divided by the total number of authors in each origin and destination topic. For example, the 'Cross-Topic Authorship (%) by Origin Topic' represents the percentage of authors from one topic who also publish in other topics, while the 'Cross-Topic Authorship (%) by Destination Topic' reflects the percentage of authors from other topics who publish in the origin topic.

3) The thickness of the flows between topics represents the strength of the connection, with thicker flows indicating higher cross-topic authorship percentages. The diagram provides a visual summary of how closely related each pair of topics is over the period.

Figure E4. Wordcloud showing the word (unigram) frequencies in title abstract keyword from 1991–2021

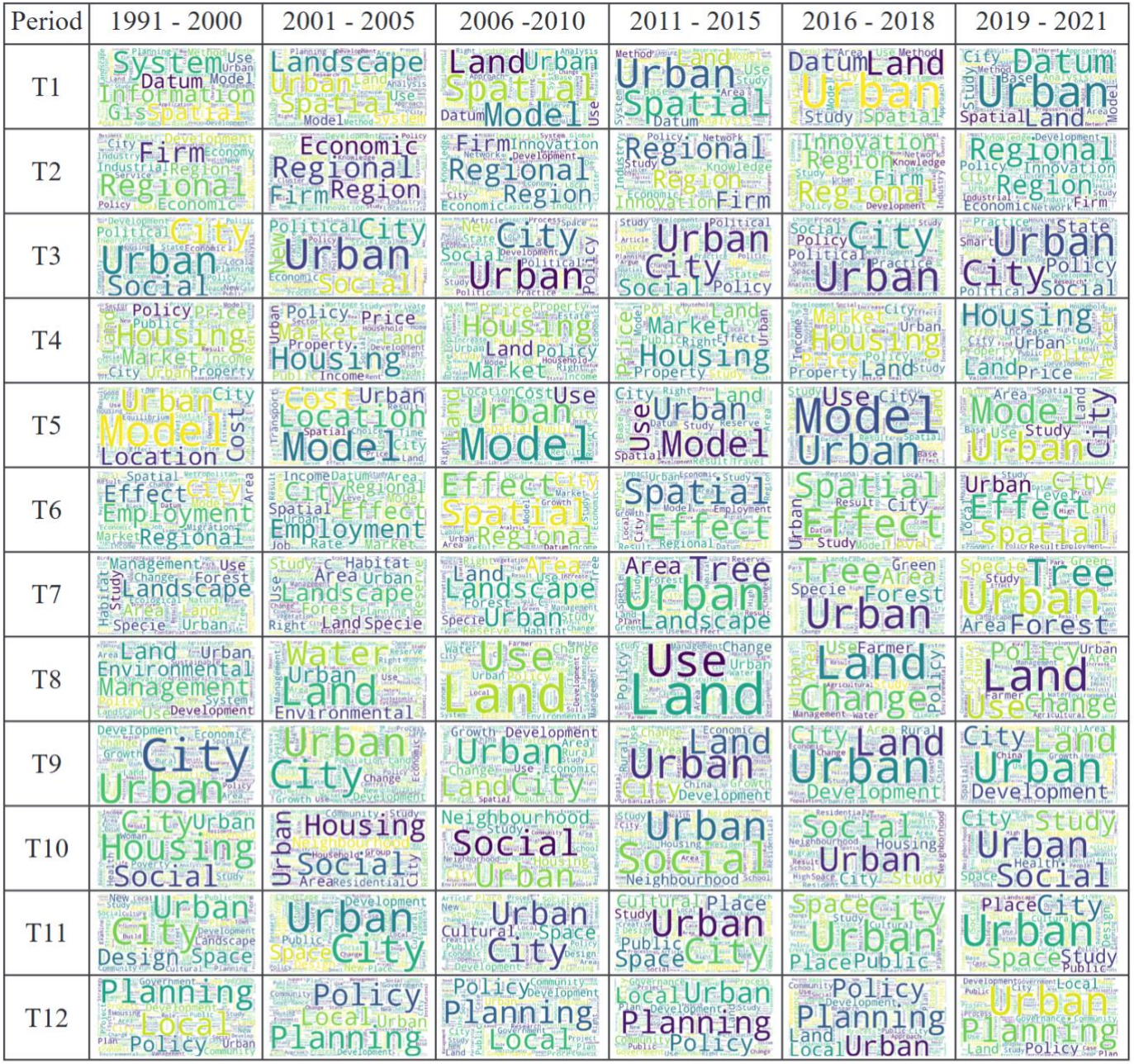


Figure E5. Wordcloud showing the word (bigram) frequencies in title abstract keyword from 1991–2021

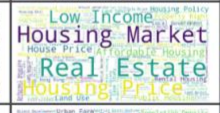
Period	1991 - 2000	2001 - 2005	2006 -2010	2011 - 2015	2016 - 2018	2019 - 2021
T1						
T2						
T3						
T4						
T5						
T6						
T7						
T8						
T9						
T10						
T11						
T12						

Figure E6. Wordcloud showing the word (trigram) frequencies in title abstract keyword from 1991–2021

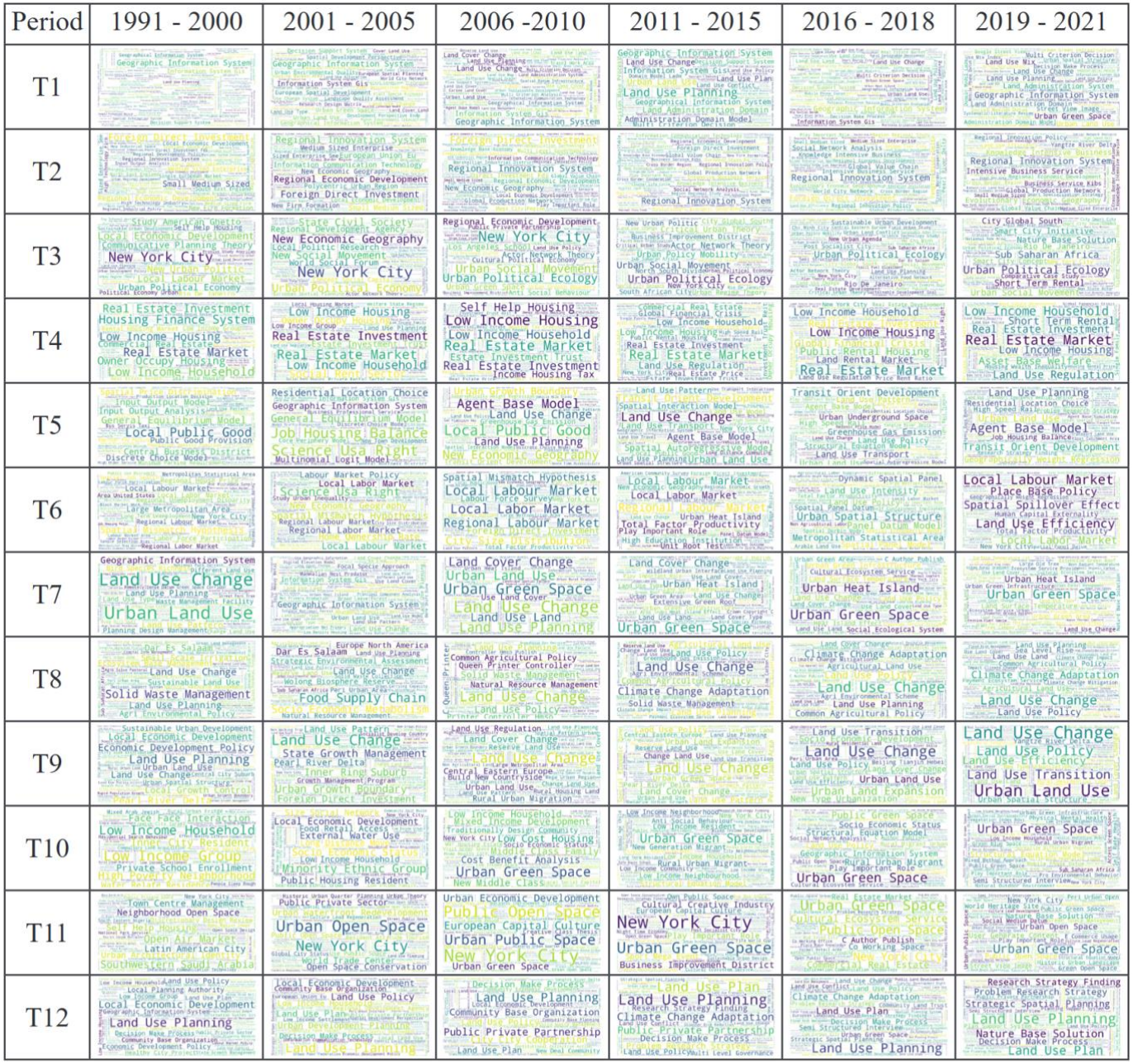


Figure E7. Wordcloud showing the word (combination) frequencies in title-abstract-keyword from 1991–2021

Period	1991 - 2000	2001 - 2005	2006 -2010	2011 - 2015	2016 - 2018	2019 - 2021
T1						
T2						
T3						
T4						
T5						
T6						
T7						
T8						
T9						
T10						
T11						
T12						

References

ACSP (2021) Association of Collegiate Schools of Planning, Inc. Available at: https://www.acsp.org/ (accessed 14 February 2022).

AESOP (2022) Welcome to the Association of European Schools of Planning - AESOP. Available at: http://www.aesop-planning.eu/ (accessed 14 February 2022).

Aria M and Cuccurullo C (2017) bibliometrix: An R-tool for comprehensive science mapping analysis. Journal of Informetrics 11(4). 4: 959–975.

Bornmann L, Mutz R, Neuhaus C, et al. (2008) Citation counts for research evaluation: standards of good practice for analyzing bibliometric data and presenting and interpreting results. Ethics in Science and Environmental Politics 8: 93–102.

Chen C (2017) Science Mapping: A Systematic Review of the Literature. Journal of Data and Information Science 2(2). 2: 1–40.

Clarivate (2023) Journal Citation Reports 2022 - Journals. Available at: https://jcr-clarivate-com.eproxy.lib.hku.hk/jcr/browse-journals (accessed 17 July 2023).

Delgado López-Cózar E, Orduña-Malea E and Martín-Martín A (2019) Google Scholar as a Data Source for Research Assessment. In: Glänzel W, Moed HF, Schmoch U, et al. (eds) Springer Handbook of Science and Technology Indicators. Springer Handbooks. Cham: Springer International Publishing, pp. 95–127. Available at: https://doi.org/10.1007/978-3-030-02511-3_4 (accessed 10 January 2022).

Derudder B, Liu X, Hong S, et al. (2019) The shifting position of the Journal of Transport Geography in 'transport geography research': A bibliometric analysis. Journal of Transport Geography 81. Celebrating 25 years of Journal of Transport Geography: 102538.

Goldstein H and Maier G (2010) The Use and Valuation of Journals in Planning Scholarship: Peer Assessment versus Impact Factors. Journal of Planning Education and Research 30(1). 1. SAGE Publications Inc: 66–75.

Google Scholar (2022) Urban Studies & Planning - Google Scholar Metrics. Available at: https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=soc_urbanstudiesplanning (accessed 17 July 2023).

Harzing A-W (2007) Publish or Perish. Available at: https://harzing.com/resources/publish-or-perish (accessed 28 November 2021).

ISOCARP (2021) Publications. Available at: https://isocarp.org/publications/ (accessed 14 February 2022).

Pendlebury DA (2009) The use and misuse of journal metrics and other citation indicators. Archivum Immunologiae et Therapiae Experimentalis 57(1). 1: 1.

Peris A, Meijers E and van Ham M (2018) The Evolution of the Systems of Cities Literature Since 1995: Schools of Thought and their Interaction. Networks and Spatial Economics 18(3). 3: 533–554.

Sun L and Yin Y (2017) Discovering themes and trends in transportation research using topic modeling. Transportation Research Part C: Emerging Technologies 77: 49–66.

Wang H, He Q, Liu X, et al. (2012) Global urbanization research from 1991 to 2009: A systematic research review. Landscape and urban planning 104(3–4). 3–4. Elsevier: 299–309.

WPSC-APSA (2022) Tracks of The Congress. Available at: https://wpsc-apsa2022.org/tracks-of-the-congress/ (accessed 14 February 2022).