



Is urban spatial development on the right track? Comparing strategies and trends in the European Union

Chiara Cortinovis^{a,b}, Dagmar Haase^{b,c,d},
Bruno Zanon^a, Davide Geneletti^a

(a) University of Trento, DICAM (IT)

(b) Humboldt University of Berlin, Department of Geography (DE)

(c) Helmholtz Centre for Environmental Research, Leipzig (DE)

(d) Wallenberg-Professor at the SLU, Alnarp (SE)



UNIVERSITÀ DEGLI STUDI
DI TRENTO



Planning for Ecosystem Services

HUMBOLDT-UNIVERSITÄT
ZU BERLIN





background

- spatial development has key impacts on the sustainability of urban systems
(Alberti 1996, Camagni et al. 2002, Jabareen 2006, Tratalos et al. 2007, Hamin & Gurran 2009, Ewing 2010)
- spatial strategies are being advanced at the international level to direct urban development
- the applicability of common spatial strategies to the large variety of cities worldwide is debated
(e.g., Watson 2016)





World Forum on
Urban Forests
Mantova 2018

objective

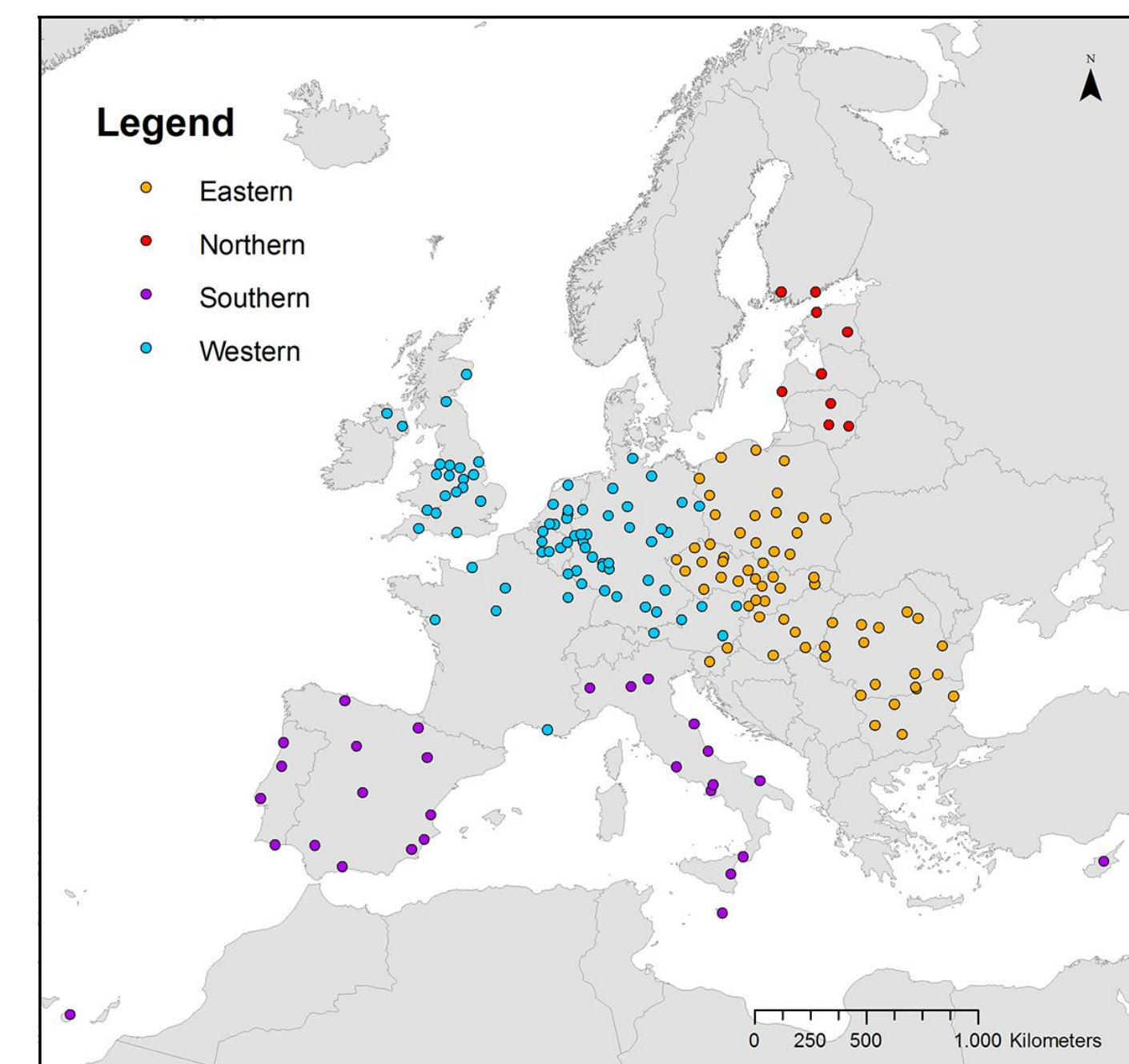
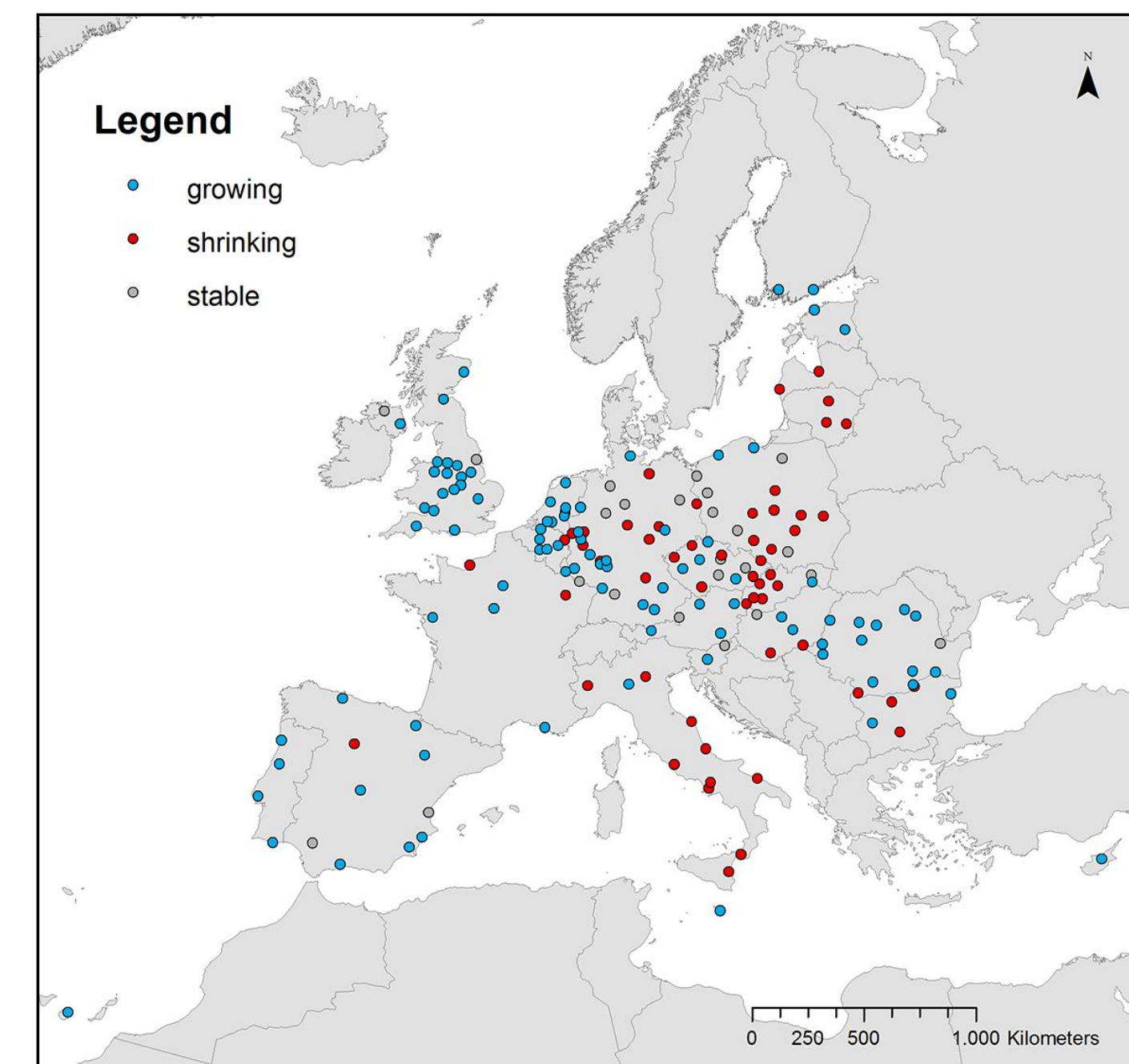
investigate whether the recent trends in the spatial development of EU cities have been following the directions suggested by the main spatial strategies agreed-upon in the EU





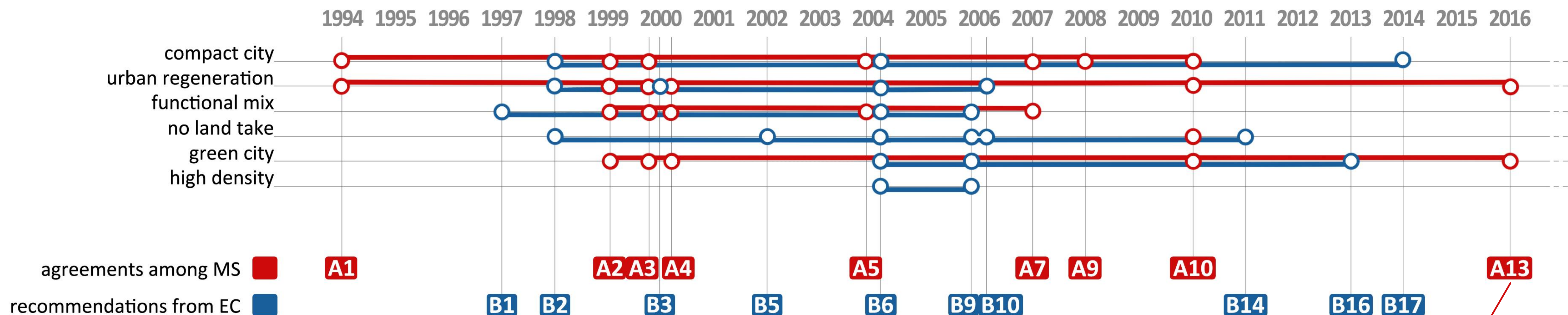
methods

1. identifying the strategies by analyzing the contents of 30 EU policy documents published since 1993
 - 17 bottom-up agreements among Member States
 - 13 top-down recommendations from the EC
2. selecting suitable indicators to measure the progress toward the directions suggested by the strategies
3. investigating the development trends of 175 EU cities between 2006 and 2012 (data: Urban Atlas + Eurostat)

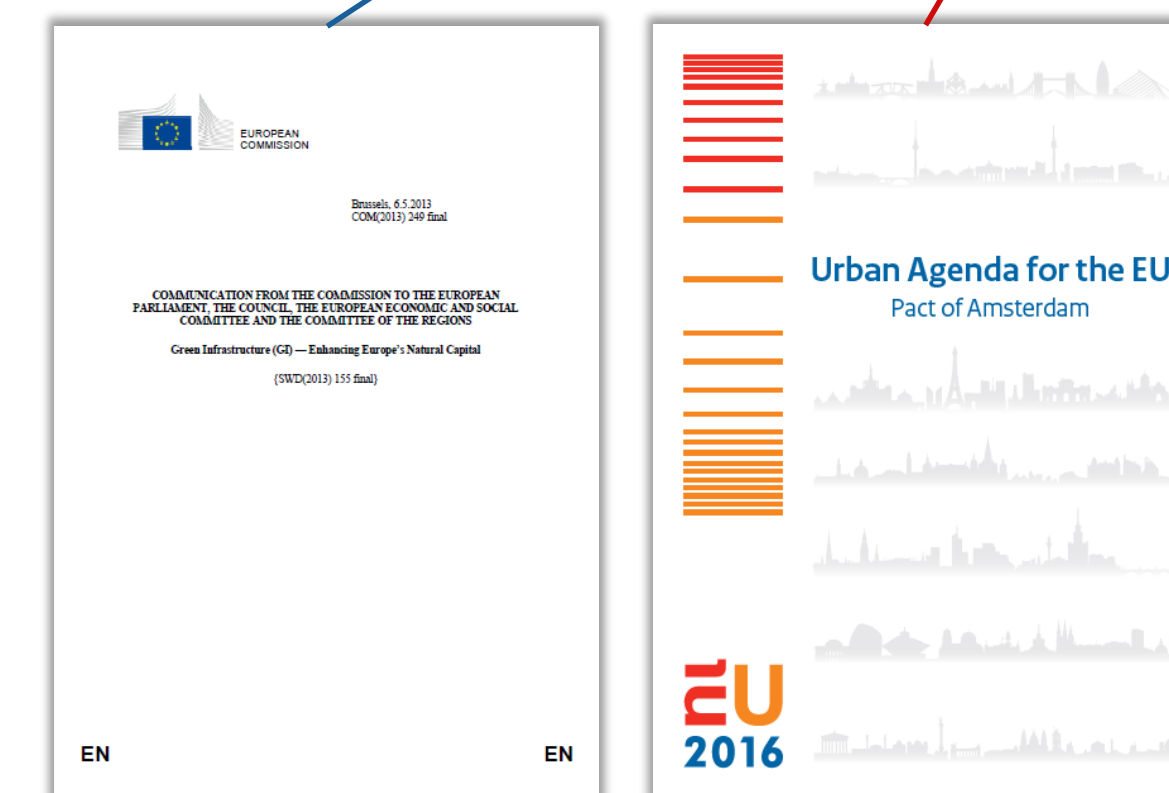




EU strategies



- 6 main strategies
- variable presence in the two groups and across time



indicators

STRATEGY	INDICATOR
compact city	Edge Density (ED) *
	new green fragments without use
urban regeneration	recycling of urban land *
	in-fill development and re-use of brownfields
functional mix	Interspersion and Juxtaposition Index (IJI) *
no land take	urban area *
	new urbanization
	conversion from urban to non-urban uses
green city	urban green area *
	per-capita urban green area
	new urban green areas
	loss of urban green areas
high density	urban density *
	residential density
	residential densification

3 types of indicators:

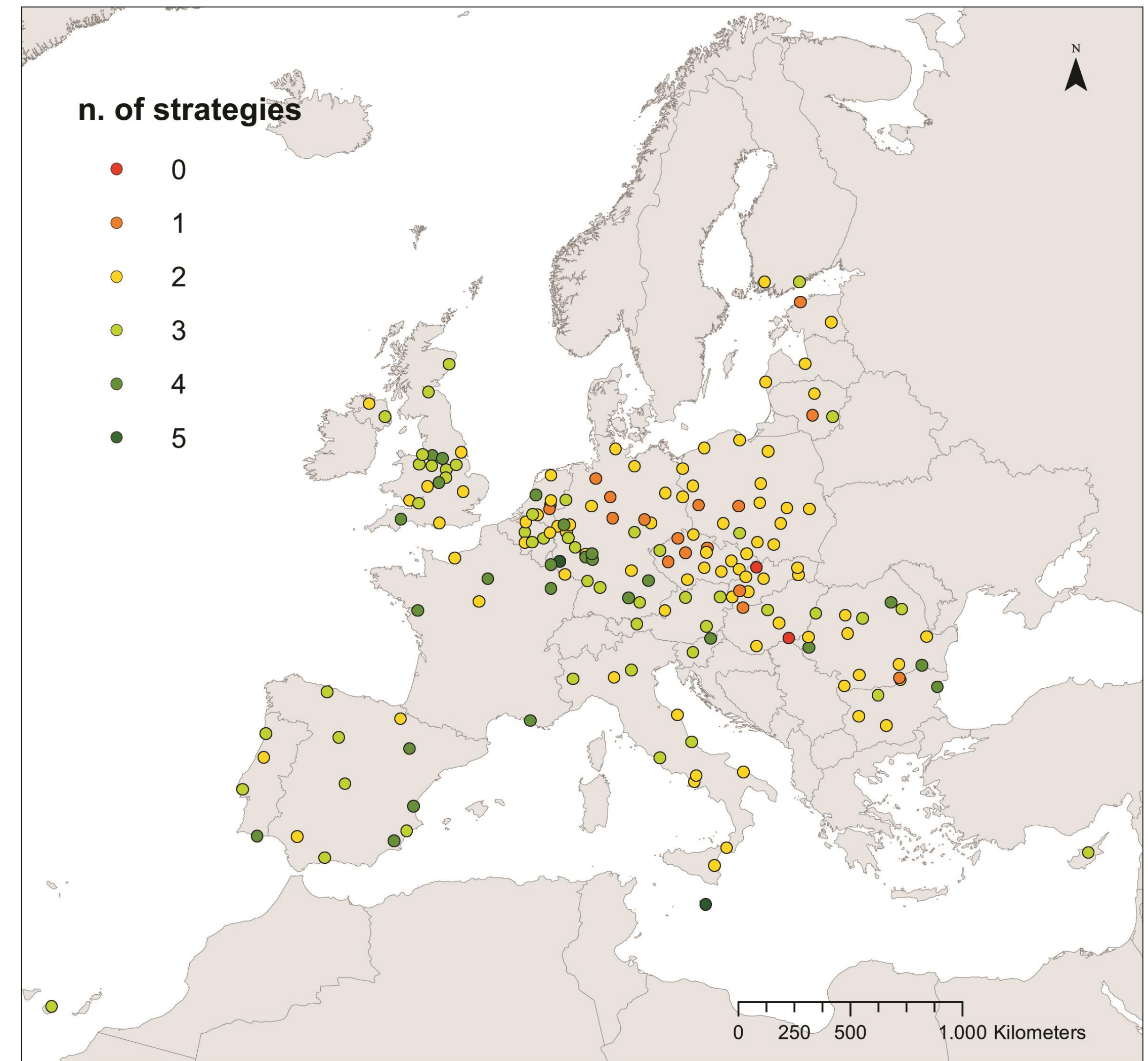
- LULC and population dynamic
- landscape metrics
- land cover flows (from... to...)

** illustrative indicators considered in the assessment of the overall performance*

overall results

	whole sample	growing cities	shrinking cities	Eastern cities	Northern cities	Southern cities	Western cities
Compact city	↑	↑	↑	↑	↑	↑	↑
Urban regeneration	↓	↓	↓	↓	↑	↓	↑
Functional mix	↑	↑	↑	↑	↓	↑	↑
No land take	↓	↓	↓	↓	↓	↓	↓
Green city	↔	↔	↔	↓	↔	↑	↔
High density	↔	↑	↓	↓	↓	↓	↑

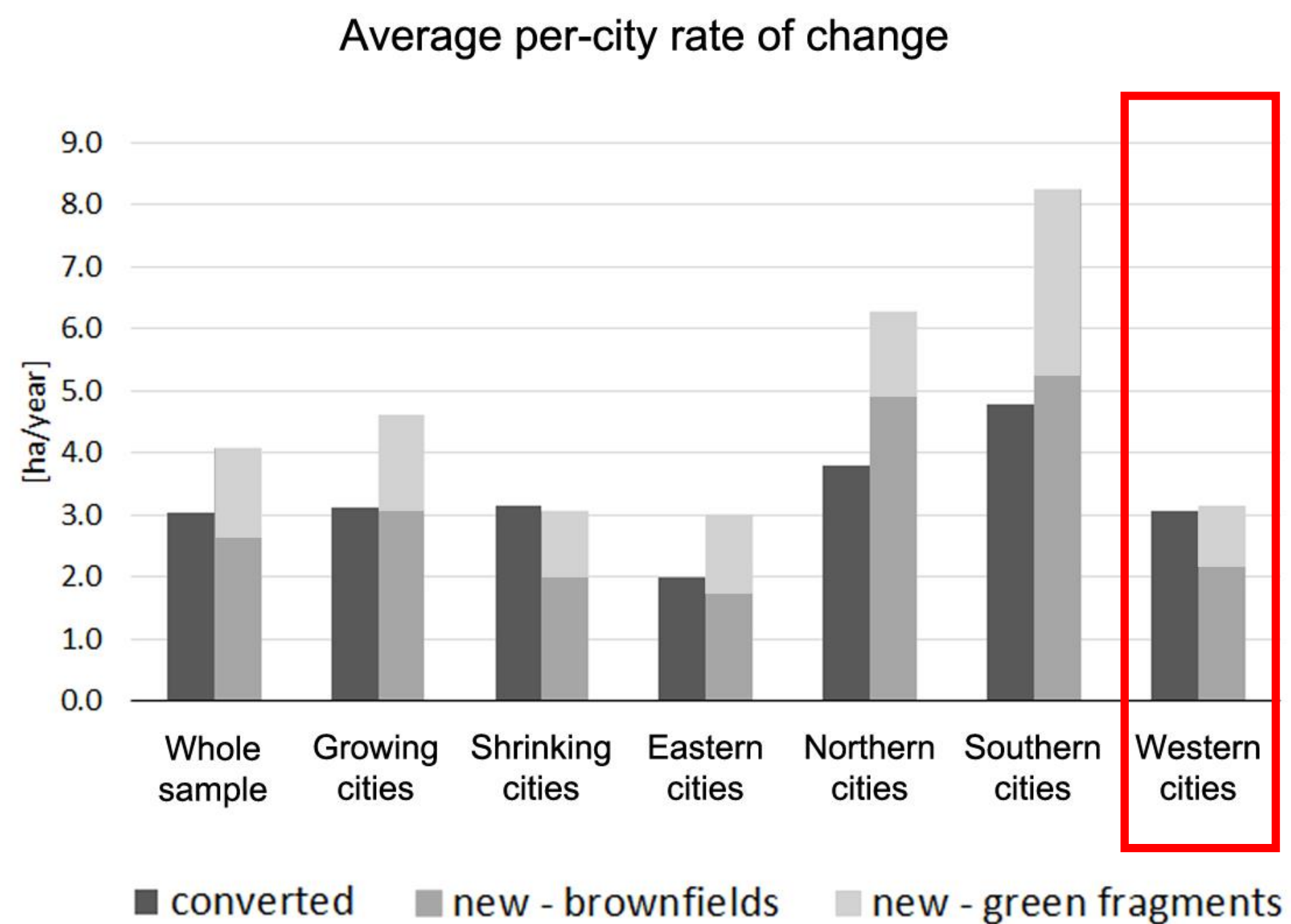
- no city in line with all strategies
- overall trend towards more compact and mixed cities
- only two cities achieved *no net land take*



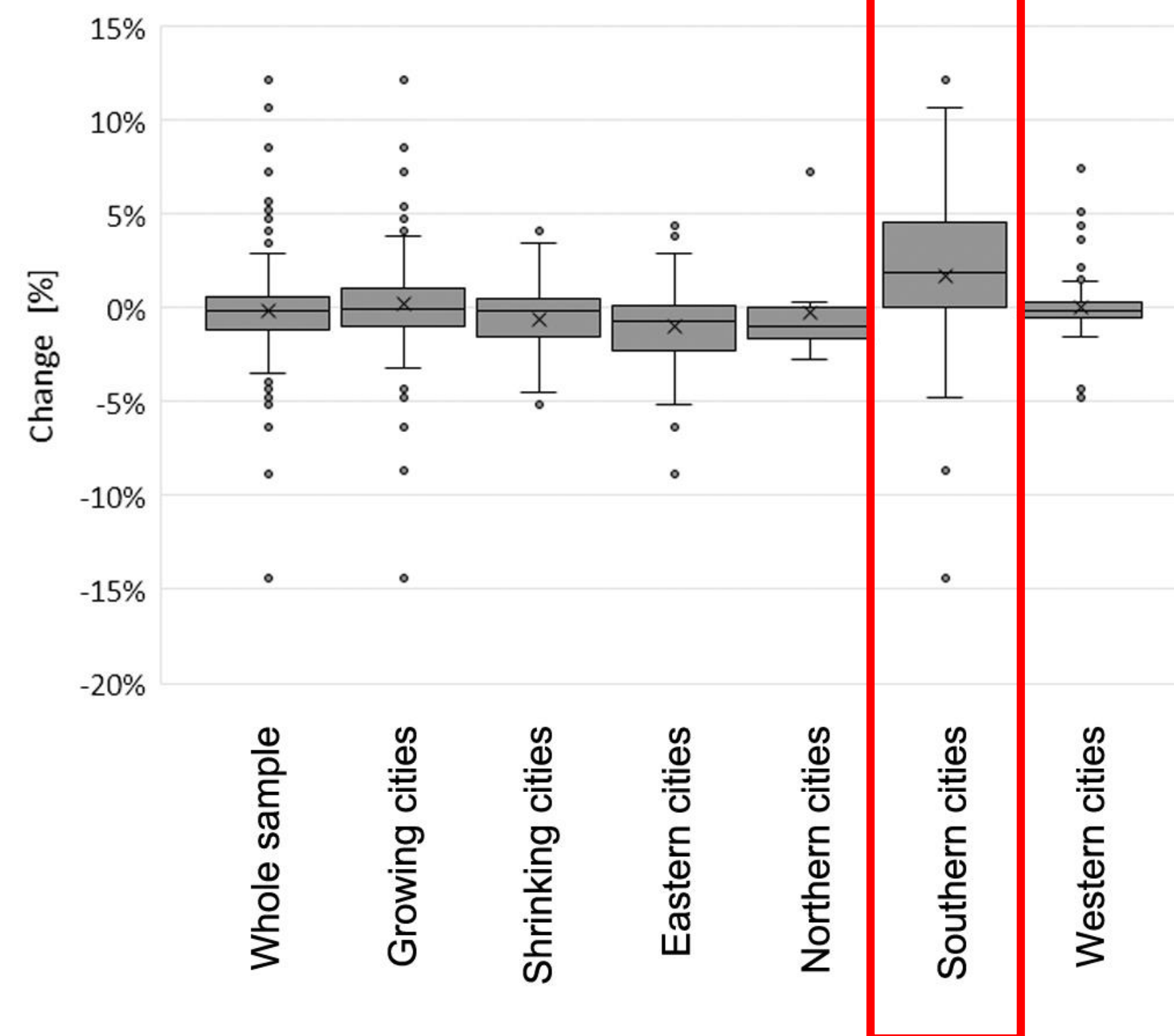


regional trends

a) Land without current use



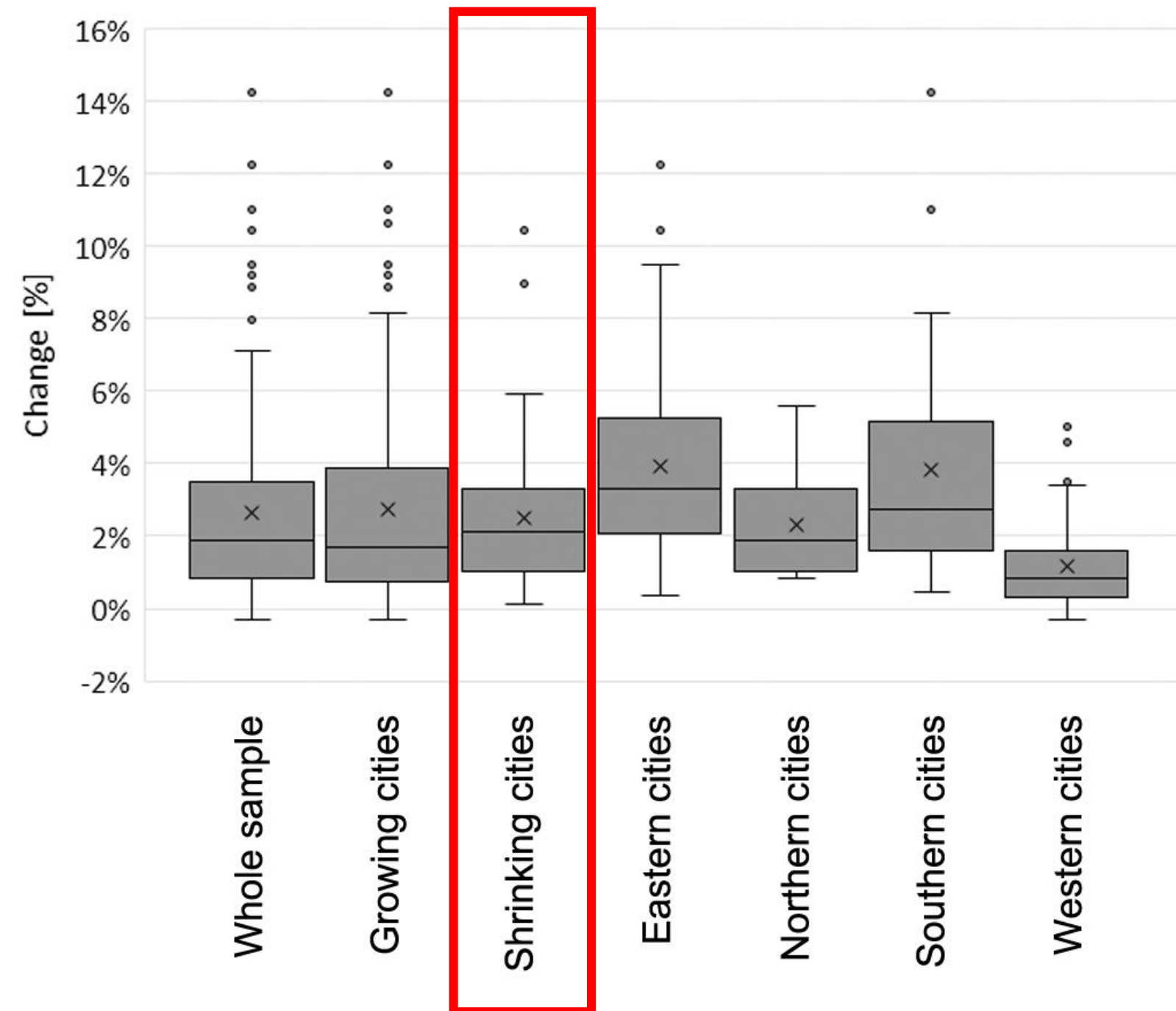
b) Urban green area





shrinking but expanding

a) Urban area

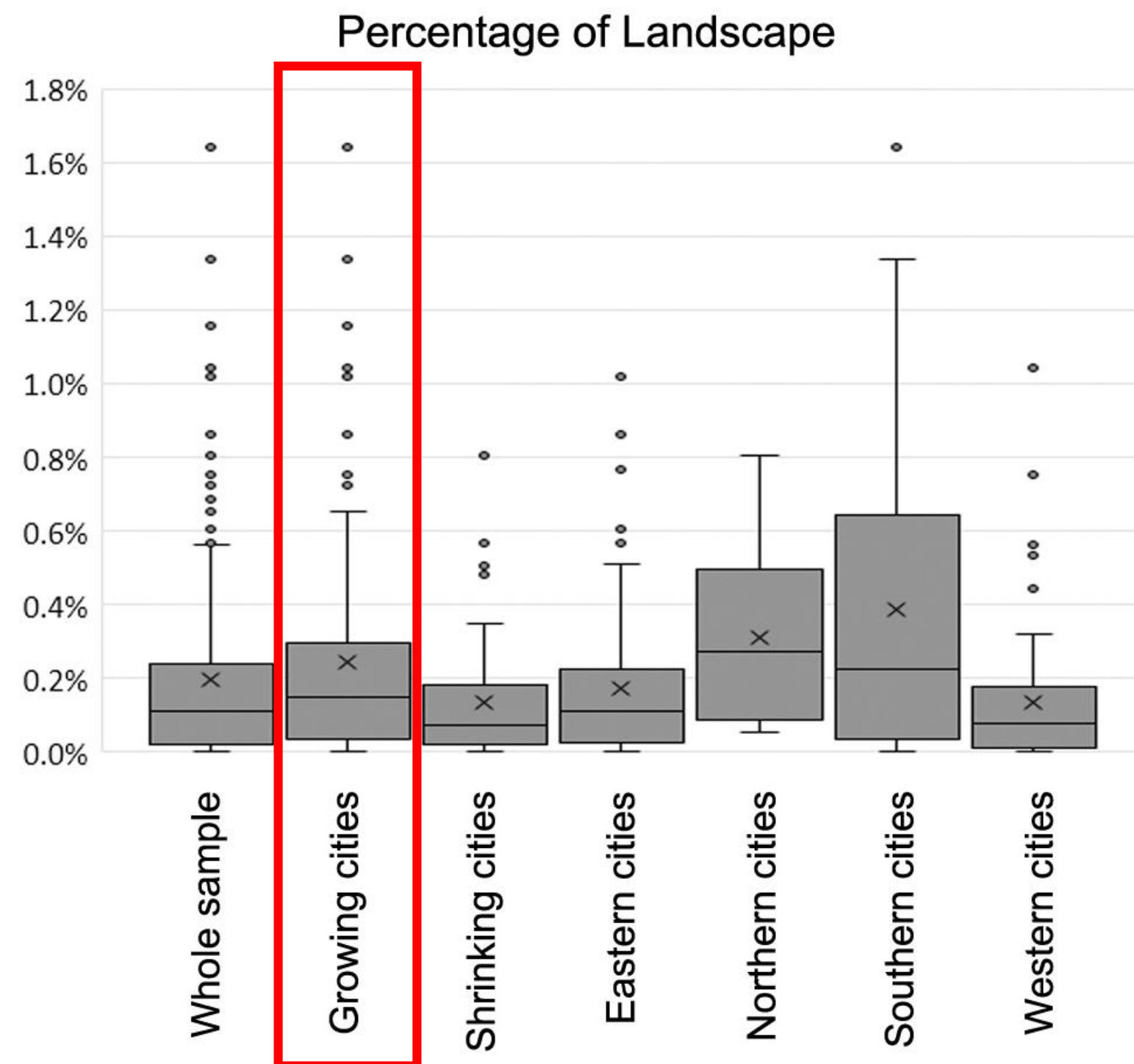


- the ‘paradox’ of shrinking cities: density decreases as a result of combined population loss and urban expansion
- increase of per-capita living space already noted in Haase, Kabisch & Haase (2013)
- role of land take for economic uses and infrastructures



growing inefficiently

b) New brownfields



- density increases in growing cities due to population growth, but...
- abandonment of urbanised land, generation of new brownfields, and fragmentation of agricultural land are higher than in shrinking cities

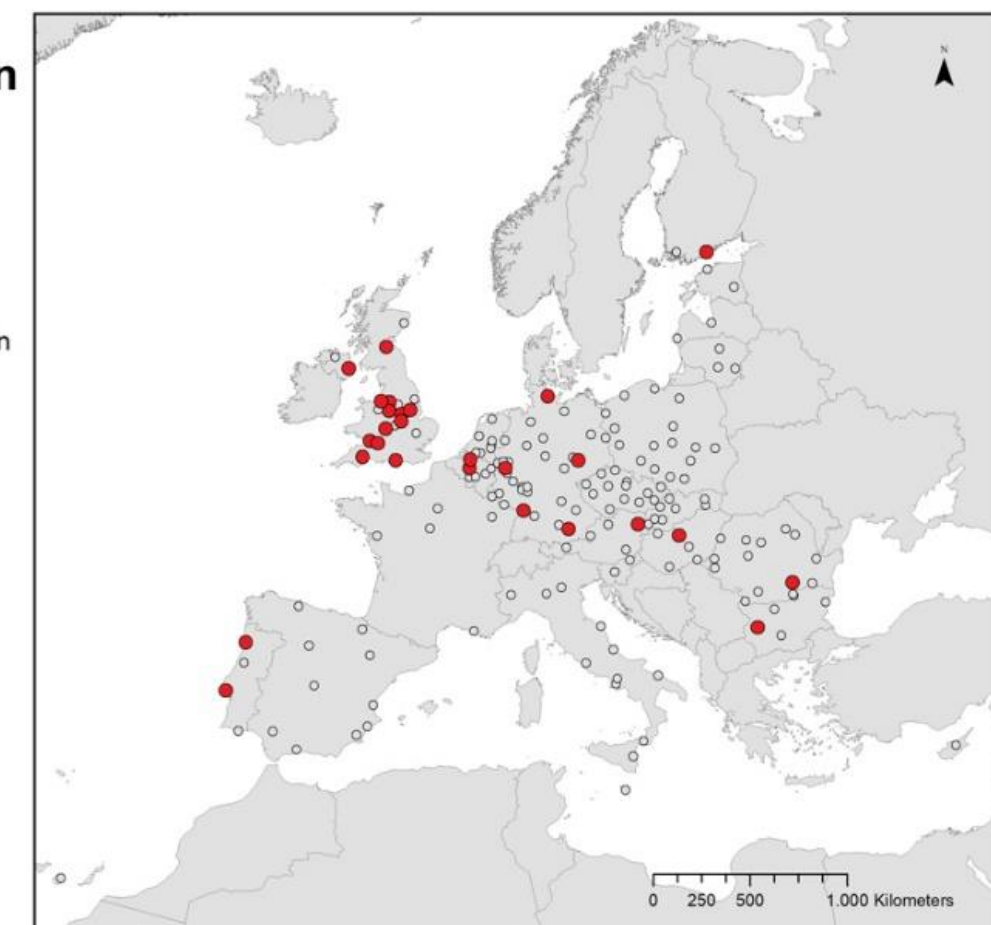
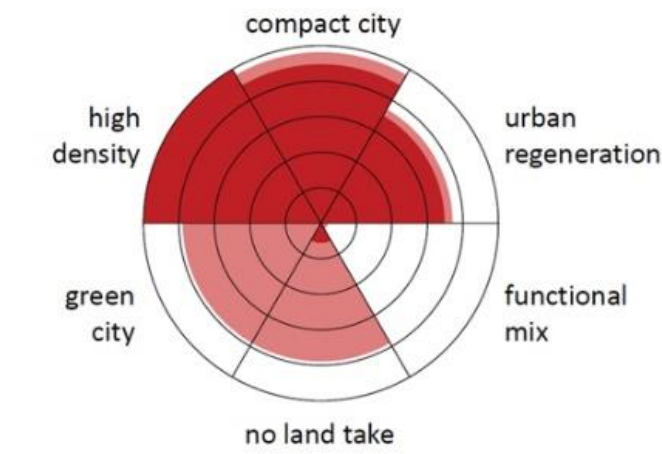


World Forum on
Urban Forests
Mantova 2018

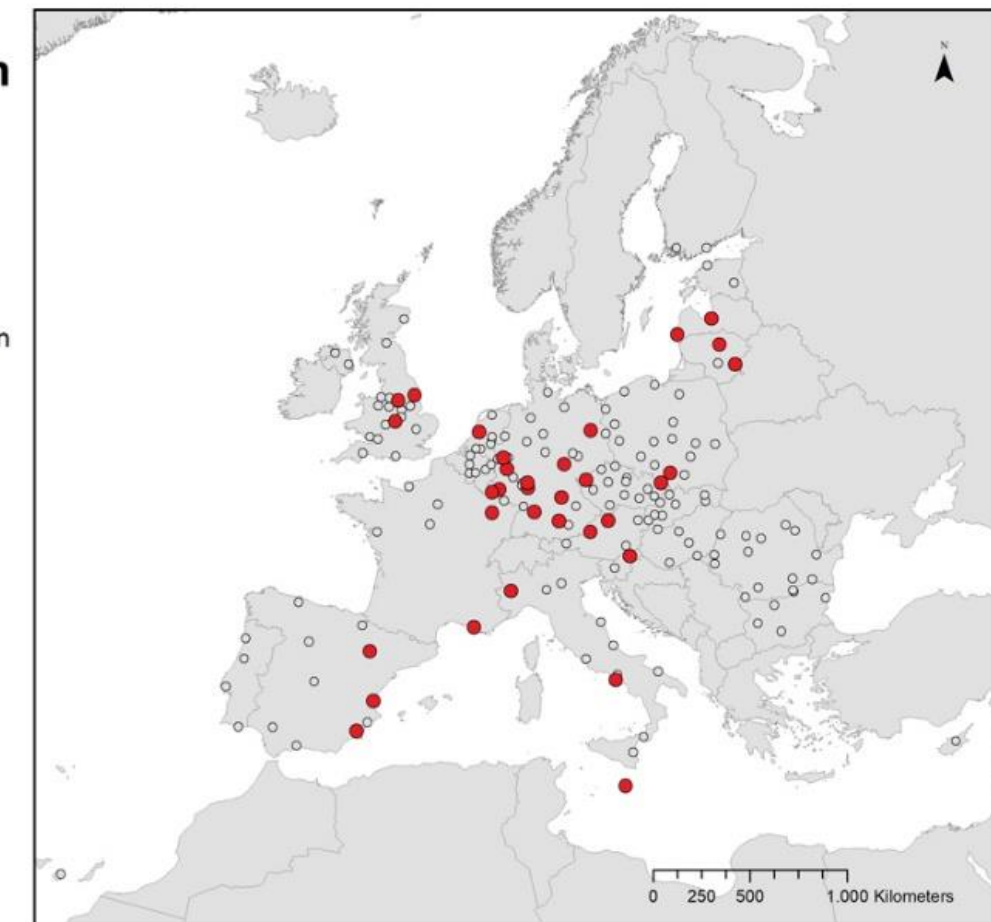
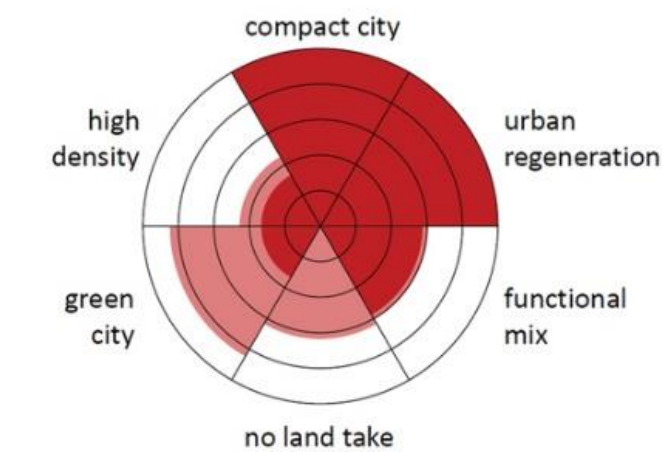
conclusions

- regional patterns and relation with population dynamics suggest that **planning culture, land use legacies and economic trends** may affect cities' capacity to pursue the strategies
- **trade-offs** emerge among the strategies (not only *compact* vs. *green*, but also *green* vs. *no land take*)
- **potential synergies** (e.g., *green regeneration*) are not obvious and must be consciously promoted
- **cross-city comparisons** using simple indicators can promote mutual learning and support local administration in the implementation of non-prescriptive strategies

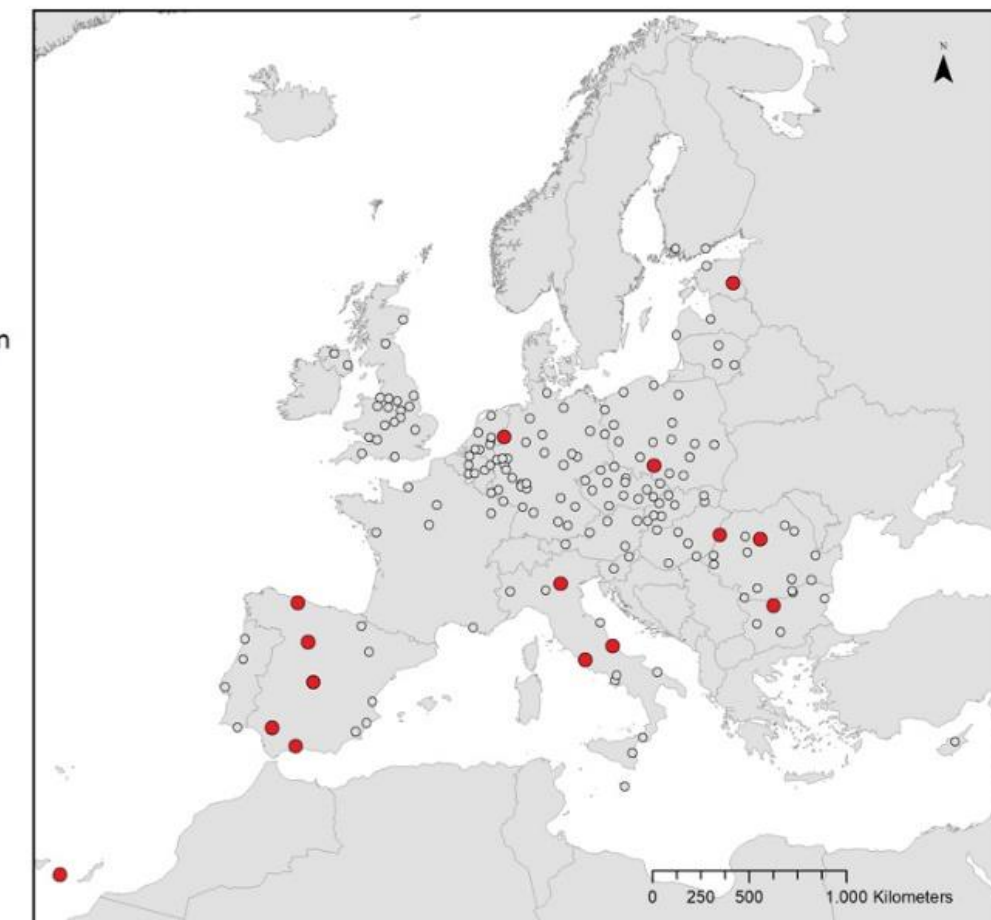
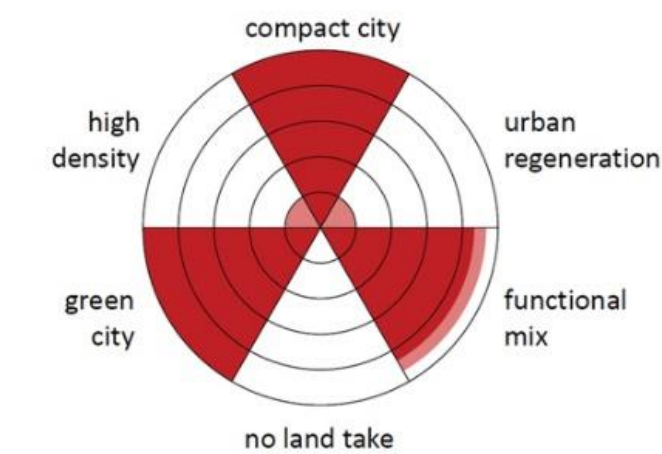
Monofunctional densification
(N=27)



Regeneration and expansion
(N=33)



Green de-densification
(N=15)



any questions?

Chiara Cortinovis - chiara.cortinovis@unitn.it

www.planningfores.com

Dagmar Haase - dagmar.haase@geo.hu-berlin.de

Bruno Zanon - bruno.zanon@unitn.it

Davide Geneletti - davide.geneletti@unitn.it

Landscape and Urban Planning 181 (2019) 22–37



Contents lists available at ScienceDirect

Landscape and Urban Planning

journal homepage: www.elsevier.com/locate/landurbplan



Is urban spatial development on the right track? Comparing strategies and trends in the European Union



Chiara Cortinovis^{a,b}, Dagmar Haase^{b,c,d}, Bruno Zanon^a, Davide Geneletti^{a,*}

^a University of Trento, Department of Civil, Environmental and Mechanical Engineering, Trento, Italy

^b Humboldt Universität zu Berlin, Department of Geography, Berlin, Germany

^c Helmholtz Centre for Environmental Research, Leipzig, Germany

^d Wallenberg-Professor at the Swedish University of Agricultural Sciences SLU, Alnarp, Sweden

<https://doi.org/10.1016/j.landurbplan.2018.09.007>



UNIVERSITÀ DEGLI STUDI
DI TRENTO



Planning for Ecosystem Services

HUMBOLDT-UNIVERSITÄT
ZU BERLIN

