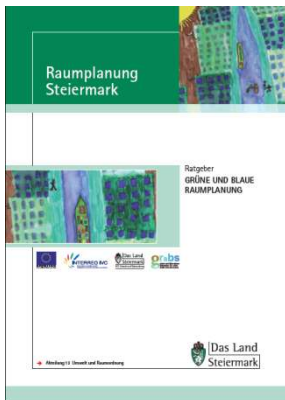


# Raumplanung Steiermark



**Will the guidebook  
„Green and Blue spatial planning“  
be a value help for Styrian cities to become a  
„Smart City“**



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Provincial Government of Styria

Christine Schwabinger



Das Land  
Steiermark

- What is a smart city?
- The INTERREG IVC project GRaBS
- The guidebook “Green and Blue spatial planning”
- Conclusions

- Definition (wikipedia):

“A city can be defined as ‘smart’ when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic development and a high quality of life, with a wise management of natural resources, through participatory action and engagement. (Caragliu et al. 2009)”.

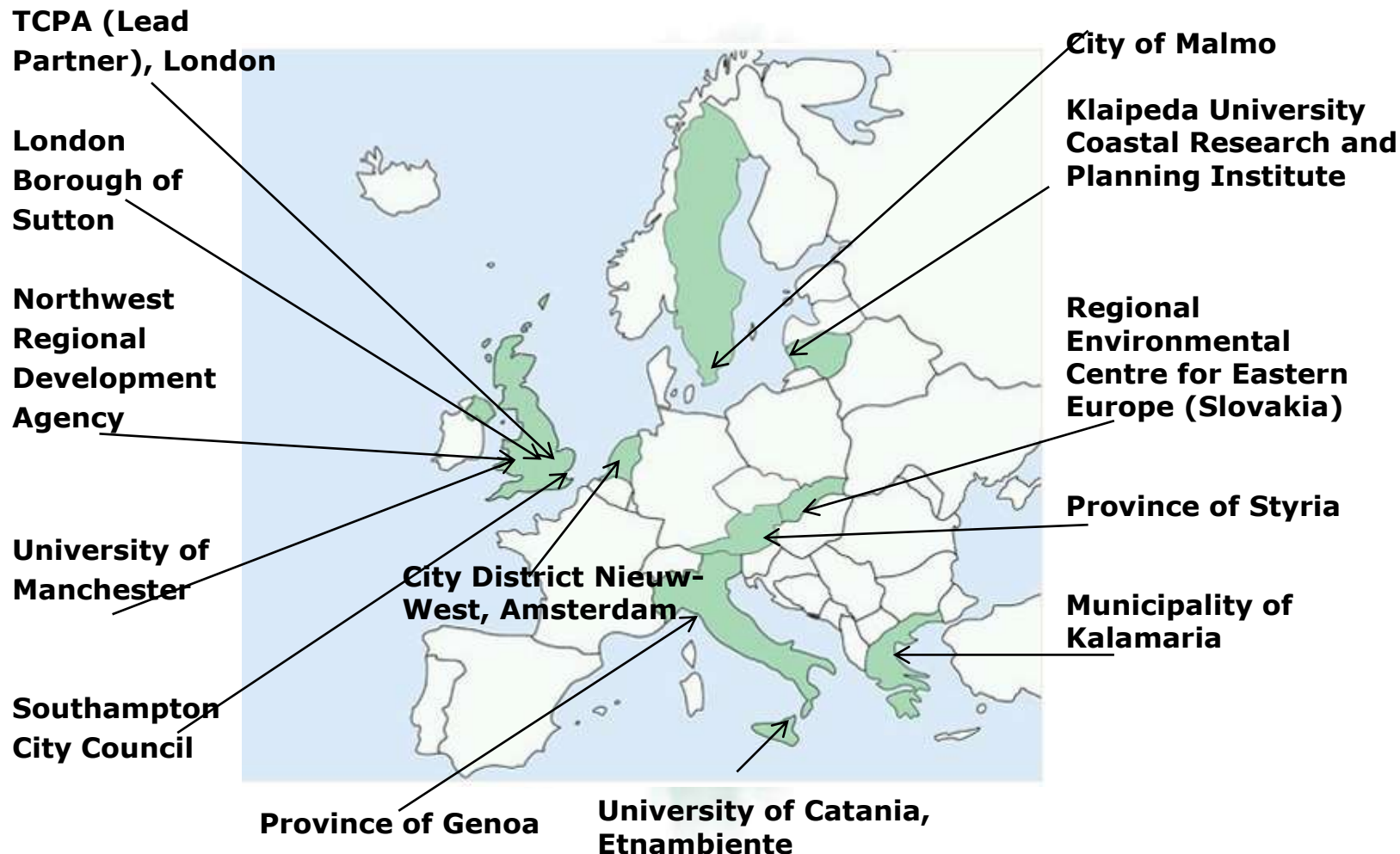
- Smart means intelligent, nice
- Terms of welfare, recreation, social acceptability.....
- Climate smart



- INTERREG IVC Project (2008-2011)
- 14 Partners from 8 different countries (England, Sweden, Greece, Netherlands, Austria, Italy, Lithuania, Slovakia)
- Improve planning on green and blue infrastructure to ensure that mixed urban development is adapted to the impact of climate change.
- Exchange of knowledge and experience and transfer of good practice on climate change adaptation strategies
- Raise awareness on the benefits of green infrastructure
- Develop Adaptation Action Plans
- Develop a Risk and Vulnerability Assessment Tool
- Improve Community Involvement in Climate Change Adaptation



# Partners in the GRaBS Project



# Why GRaBS ?



# How?

- Green infrastructure: with parks, innercourtyards and gardens, productive agricultural areas, green links, green roofs and facades...
- blue infrastructure: rivers, ponds, brooks, surface rain water systems....





# Best Practise Examples

## „Green Net of GRAZ“



STADT  
GRAZ






### GRÜNES NETZ GRAZ

The Graz Green Network consists of the city's green and open spaces and the green routes between them. These green routes have the following hierarchical structure:

- green corridor - city as a whole
- green way - district
- green link - neighbourhood.

The higher the routes' place in this hierarchy, the more versatile and multifunctional their infrastructure should be.

-  River Mur green corridor
-  green ways
-  green links

## Standards for open spaces in Graz

(for zoning maps and masterplans)

- Inner courtyards
- Front gardens
- Greening of basement garages
- Protection of trees, street trees
- Changes of areas
- Greening of roofs
- Greening of noise protection walls
- Sealing, surface sealing
- Playgrounds
- Parking areas



## Revitalising the inner courtyards of Graz

### where – aims

- classic block border buildings of the pre modernism
- Semi public and private open spaces in the histor. centre
- aim in development concept – the conservation of these spaces
- Creating incentives for the private owners to participate
- Improving access to inner courtyards (space acquirable, legally)
- Extending and improving green spaces in the inner courtyards

### results

- Strategy document with a participative planning process
- Pilot projects for seven courtyards
- Establishment of an Inner Courtyard Advisory Centre



# Best Practise Examples





- Some of these best practice case studies are part of the Adaptation Action Plan of Styria
- AAP – planning guide for communities and planners
- Climate check list for the spatial planning instruments
- Communities make a self assessment, results evaluated



Climate check		Local Development Concept		Goal achievement Please fill in	Partial result
Green space	20%	<b>Number of open and green areas</b> - Increasing the proportion of open and green areas in the densely-populated area - Safeguarding a high proportion of open and green areas in new building areas	45%	Taken into account very well	
		<b>Keeping strategically important green areas free of building development</b> - Preventing the fragmentation of green space corridors / green belt - Spatial outline/Green space concept	45%	Taken into account poorly	
		<b>Other measures</b> - Own description....	10%	Not taken into account	
Fresh air	30%	<b>Taking climate-relevant areas into account</b> - Keeping fresh air corridors (green zones) free of building development - Taking climatological reserved areas into account - Keeping areas important for cold air production free of building development	90%	Taken into account in part	
		<b>Other measures</b> - Own description...	10%	Taken into account very well	
Waterbodies/ Floods	20%	<b>Safeguarding flood protection</b> - Keeping areas free for flood protection structures - Keeping areas free for retention measures (e.g. local priority zone for recreation) - Keeping HQ30 or yellow hazard zone free of building development (implementing measures) - Implementation of measures from technical programmes on flood hazards	45%	Taken into account poorly	
		<b>Safeguarding the good ecological state of the waterbodies</b> - Keeping areas free for renaturation measures - Initiation of freshwater-ecological improvements - Conserving contiguous open areas bordering waterbodies	45%	Taken into account very well	
		<b>Other measures</b> - Own description...	10%	Taken into account very well	
Resource-protection and settlement development	30%	<b>Settlement development in accordance with climate-relevant criteria</b> - Avoidance of unplanned settlement - Prioritised settlement development in local settlement focuses - Consolidate inwards before expanding outwards - Settlement development along axes with public transport (within 300m of public transport stopping point)	90%	Taken into account very well	
		<b>Other measures</b> - Own description...	10%	Not taken into account	
<b>Overall result</b>		<b>Climate Check: Local Development Concept</b>			



- Winner of the REGIO STAR AWARD 2012 „sustainable growth“
- Implementation of the adaptation action plan in Styria
- Guidebook: „Green and Blue Spatial Planning“ (by: office DI Daniel Kampus, Graz) 



- Transform the results and aims of GRaBS into the Spatial Planning system of Styria
- What can cities, municipalities, architects and planners do to adapt the urban areas for climatechange or to mitigate the effects?
- Which planning instruments are adequate for transferring the measures?



- Summarise the project GRABS
- What are green and blue infrastructures
- Climate change
- Aims of spatial planning
- Adaptation with the help of the instruments in spatial planning
- riskcatalog
- Best practise examples

- **Small structured combined green areas and open spaces** (parcs, gardens, green courtyards)
  - Minimise sealing
  - Minimise risk of flooding
  - Create cool air corridors
  - Create „refugiums“ for heat stress
  - Air filter
- **Green roofs and facades**
  - Cool air production
  - Cooling of buildings
  - Storage for rainwater..

- **Rivers, brooks (nature orientated development)**
  - Create „refugiums“ for heat stress
  - Flood protection
  - Ground water production
  - Recreation areas
  - ....

# Guidebook Green and Blue spatial planning – climate change effects

G+B infrastructure  important functions for climate change effects	Temperature raising	Minimising risks of natural hazards	Saving and protection of water resources and water quality	Soil and subsoil
Gardens, parcs, green courtyards, streetgreen	■	■	■	■
Greenareas and open spaces	■	■	■	■
Flowing water and area along riverbanks	■	■	■	■
Green roofs and green facades	■	■	■	■
Ponds and lakes	■	■	■	■
Retention areas	■	■	■	■



- **Styrian spatial planning act (StROG 2010)** - Basic spatial planning rules

## § 3 (1)

Quality of natural lifebasics has to be kept by a safe use of natural resources such as soil, water and air and as far as needed improved in a sustainable way.

The use of area has to be done in a saving way.... avoiding of negativ influences and urban sprawl

→ By balancing following aims

## § 3 (2)

The development of settlements should be done under consideration of climate protection aims and avoiding of natural risks and environmental damages by choosing relevant sites and areas

- **other directives and laws** (regional development concept with green zones, styrian building up law, water right directive, .....

**Depending on the work of planners and municipalities  
and the controlling process of the authority (Styrian  
Government)**

- **Development concept**
  - Keep free areas
  - Priority zone
  - Territorial concept....
- **Land use map**
  - Showing up of risc zones
  - flooding areas, green areas along rivers
  - retention areas,
  - building density....
- **Zoning maps**
  - Optimal situating of buildings
  - Density
  - Green areas, green roofs
  - Sealing grade
  - Planting order
  - Surface water reglementations.....

Zoning map, Peggau

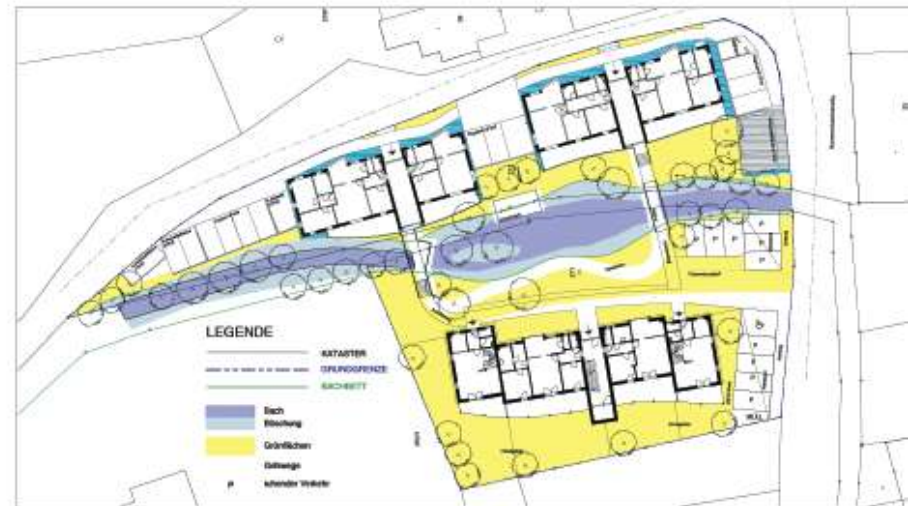
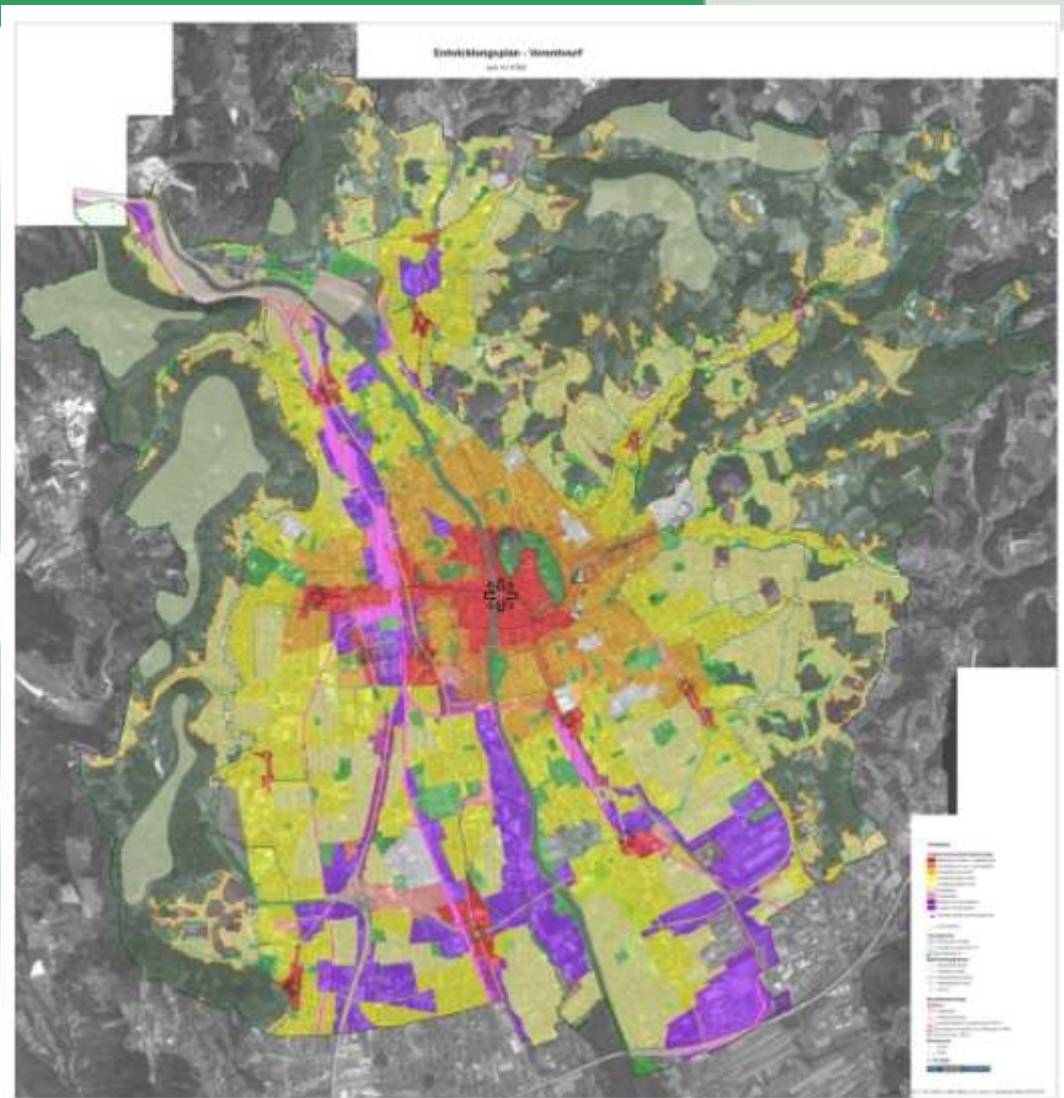


Abbildung 4: Lageplan der Gesamtanlage (Büro Mikula + Partner 2006)

# Guidebook Green and Blue spatial planning – planning instruments

**Development Concept,  
City of Graz, department for  
urban planning**



# Guidebook Green and Blue spatial planning – risc catalogue

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riscs	example measurement	discription	planning instrument
Lowering of ground water level	Lowering the sealing	Rain water goes directly to the soil → Regeneration of building ground water	Detailed determinations of green- und keeping free areas in landusemap
effecting the surface water quality	Saving of retention areas	Harmfull substances from agricultural areas – heavy rainfall Retention areas lower highwater-waves	Determining of kept free zones and water priority areas

\*\*\*\*\*





Kat.	Risiko	Beispiel Maßnahme	Beschreibung	Raumplanungsinstrument
Naturgefahren	<input type="checkbox"/> Erdbeben, Muren	Freihalten von erdbebengefährdeten Flächen (Gefahrenzonenpläne)	Durch anhaltende starke Niederschläge kann es unter bestimmten Voraussetzungen (Hangneigung, Durchnässung des Bodens) zu Erdbeben kommen, welche Schäden an Gebäuden verursachen und Menschen gefährden. Wesentlich ist auch die Entwässerung des Erdreichs (Drainagen).	<b>Ersichtlichmachungen</b> (z.B. Gefahrenzonenpläne) im ÖEK und FWP
	<input type="checkbox"/> Lawinen	Sicherung von Flächen mit Schutzfunktion (Schutzwald) vor Lawinen	Die Anpflanzung von Schutzwald (Bannwald gem. ForstG) ist eine kostengünstige Möglichkeit zur Bekämpfung von Lawinen. Gleichzeitig werden im Unterland Hochwasser und Überschwemmungen verhindert.	<b>Ersichtlichmachungen</b> und Festlegung von <b>Vorbehaltsflächen</b> im FWP
	<input type="checkbox"/> Waldbrände	Sicherung von Flächen für Teiche oder Seen	Durch Trockenheit und Hitze erhöht sich die Waldbrandgefahr. Gewässer dienen als Flächen mit Schutzfunktion und als Löschwasserreservoir.	Festlegung von <b>Freihaltzonen</b> und <b>Vorrang- und Eignungszonen</b> im ÖEK

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kampus



- **Guidebook not a directive but a planning help**
- **For preventing risk and for adapting to climate change**
- **To have more green and blue cities**
- **For having more recreation areas**
- **For making the cities more attractive**
- **Which makes the cities more smart**
- **Could be a first step for preparing liveable areas in the cities**

# THANKS FOR YOUR ATTENTION

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