

## **New ESPON Evidence on Territorial Trends: Accessibility**

**Klaus Spiekermann**  
Spiekermann & Wegener  
Urban and Regional Research (S&W)

**Open Days 2008**

*Workshop: Networking on European Spatial Planning:  
The first year of the ESPON 2013 programme  
8 October 2006, Brussels, Belgium*



**EUROPEAN UNION**  
Part-financed by the European Regional Development Fund  
**INVESTING IN YOUR FUTURE**

## Why accessibility?

- “Good accessibility of European regions improve their ***competitive position*** but also the competitiveness of Europe as a whole.”

*(European Spatial Development Perspective, 1999)*

- “Mobility and accessibility are ***key prerequisites for economic development*** of all regions of the EU.”

*(Territorial Agenda of the European Union, 2007)*

## What is accessibility?

- main "**product**" of the transport system
  - determines the **locational advantage** of an area relative to all areas
  - measures the **benefits** households and firms enjoy from the existence and use of transport infrastructure
- > accessibility indicators are transformations of transport system characteristics (combined with spatial distributions of opportunities) into **territorial indicators**

## Dimensions of accessibility

- origins
- destinations
- impedance
- constraints
- barriers
- type of transport
- modes
- spatial scale
- equity
- dynamic

## Basic types of accessibility indicators

Accessibility is a construct of two functions

$$A_i = \sum_j g(W_j) f(c_{ij})$$

**activity** function

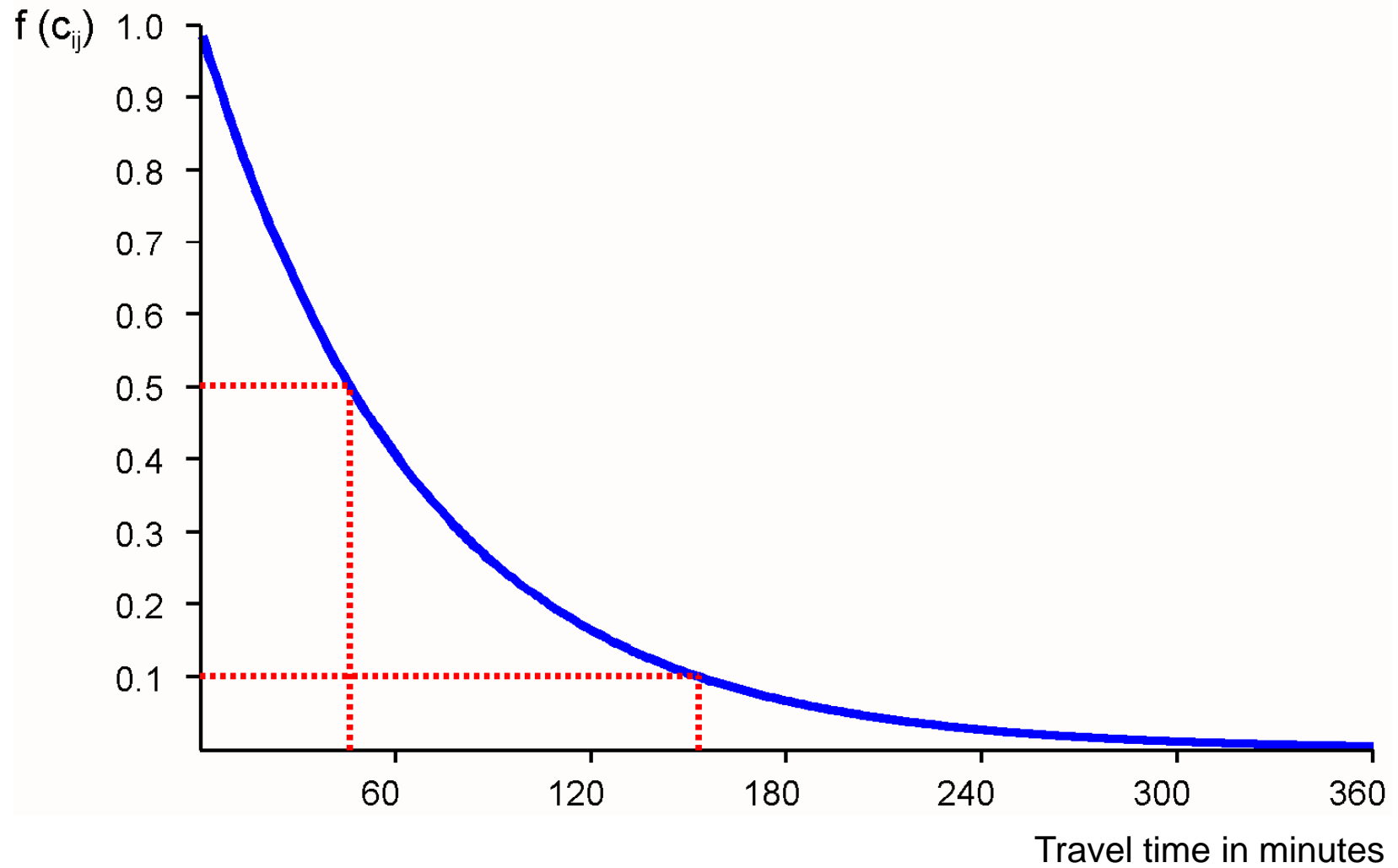
**impedance** function

***Travel cost:*** Travel cost to a predefined set of activities

***Cummulated opportunities:*** Activities in a given travel cost

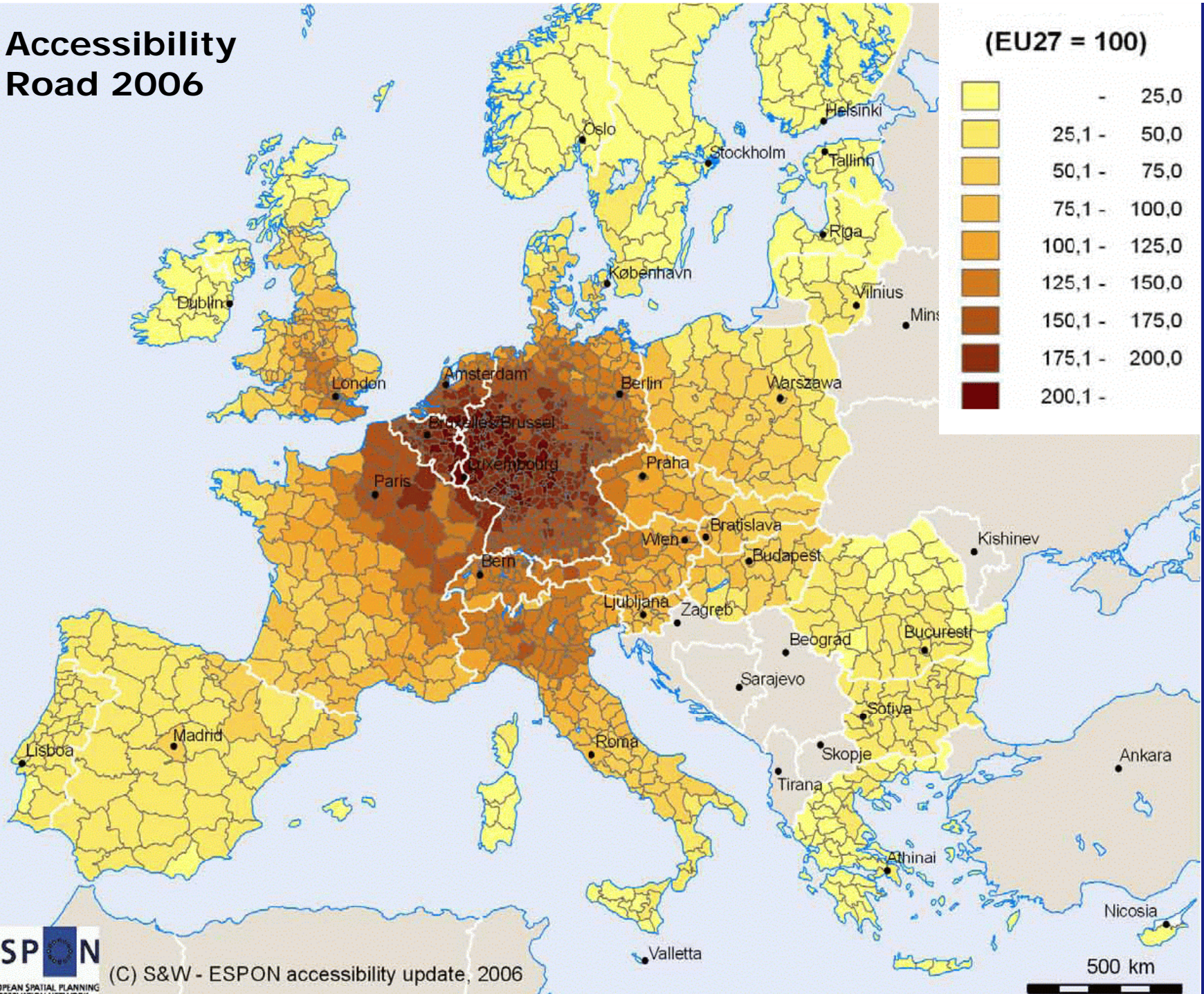
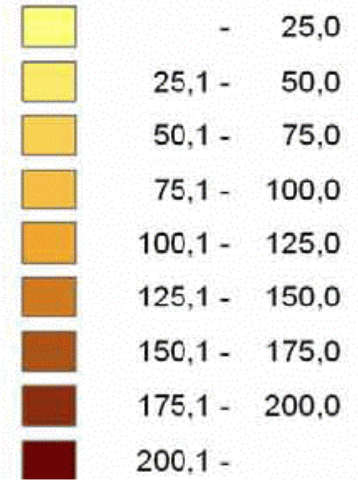
***Potential:*** Activities weighted by a function of travel cost

## Sample impedance function



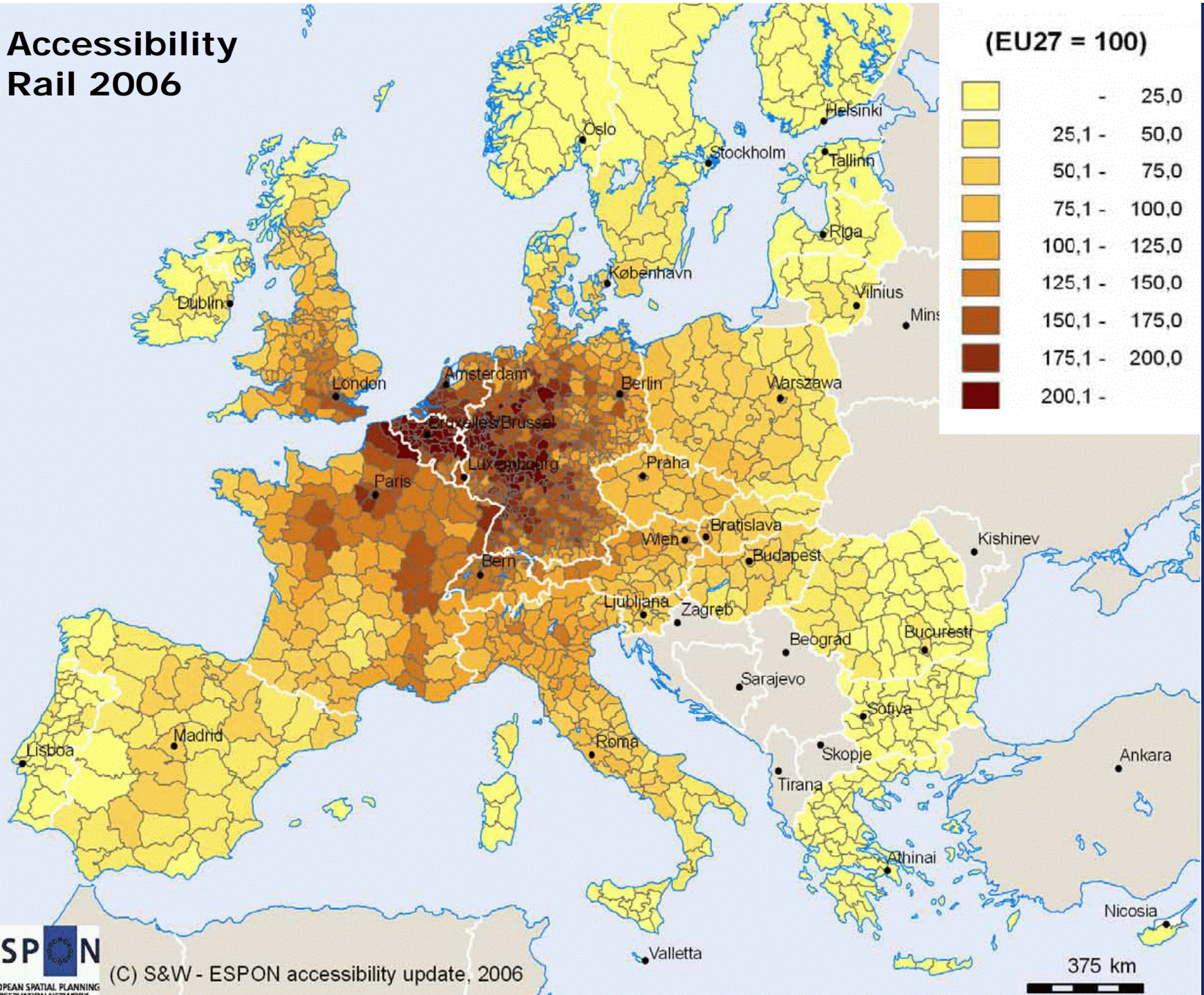
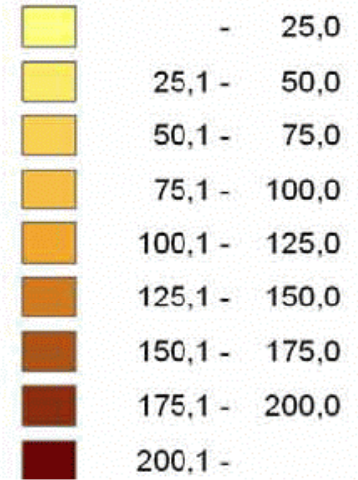
# Accessibility Road 2006

(EU27 = 100)



# Accessibility Rail 2006

(EU27 = 100)

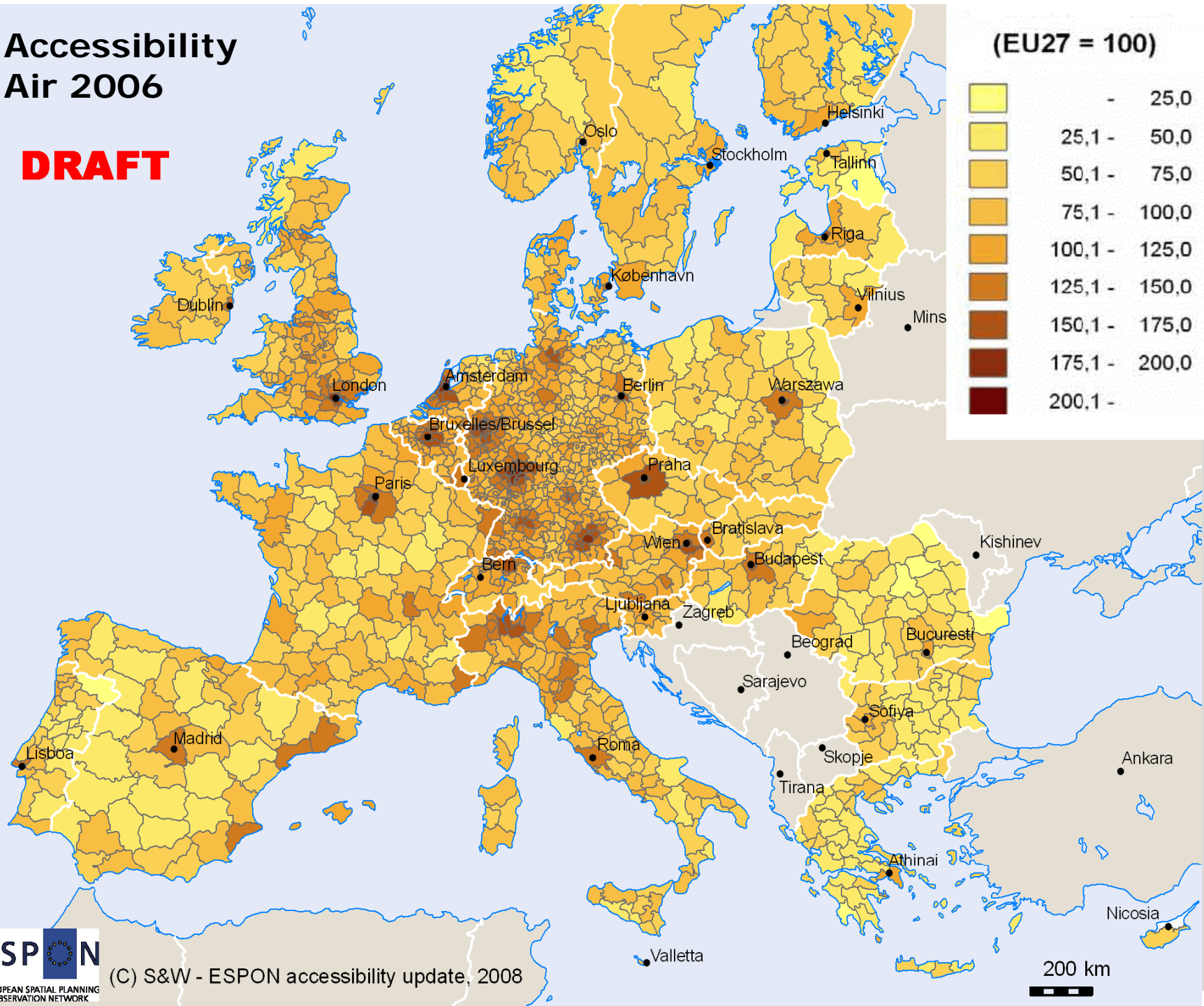
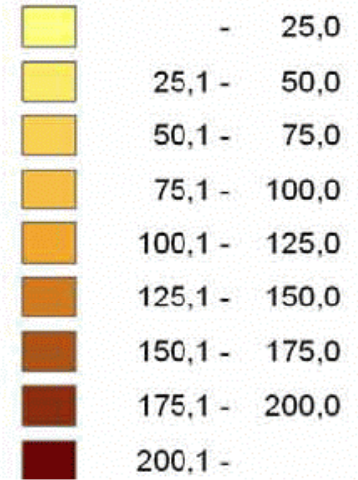




# Accessibility Air 2006

**DRAFT**

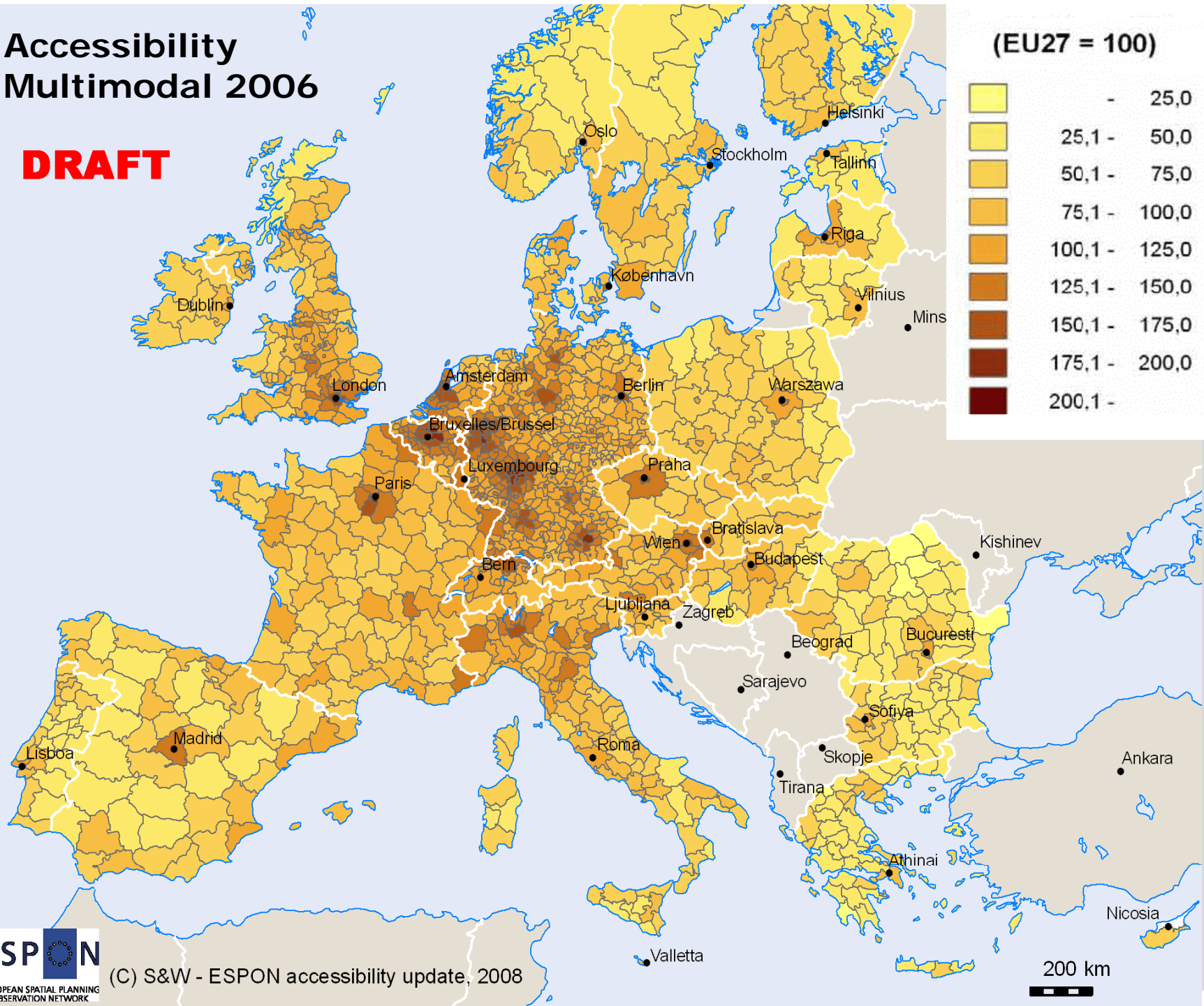
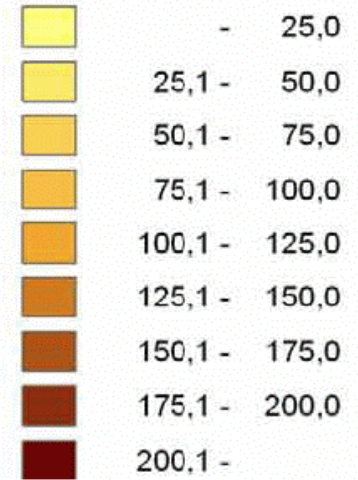
(EU27 = 100)



# Accessibility Multimodal 2006

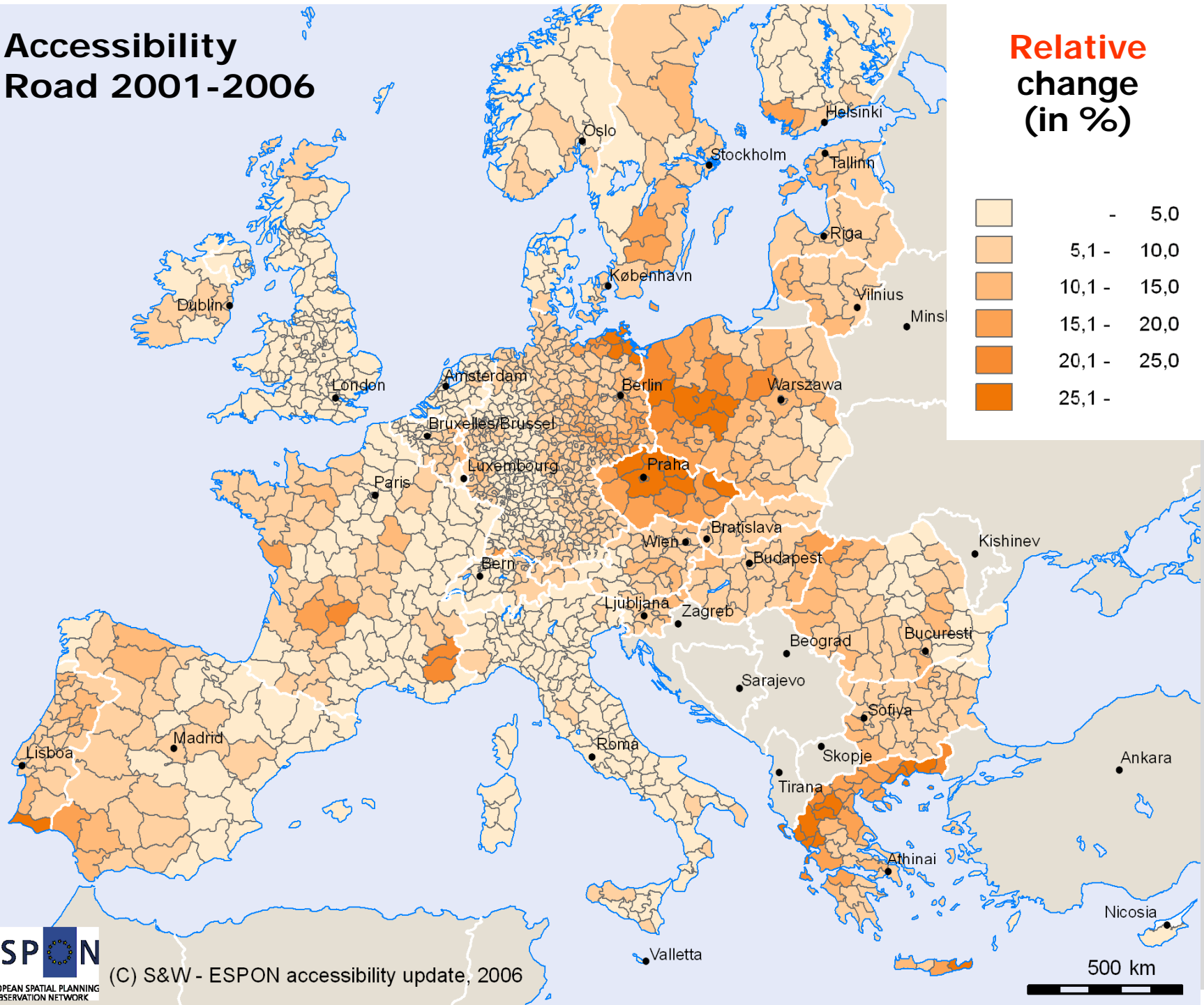
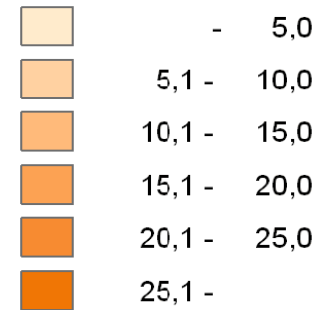
**DRAFT**

(EU27 = 100)



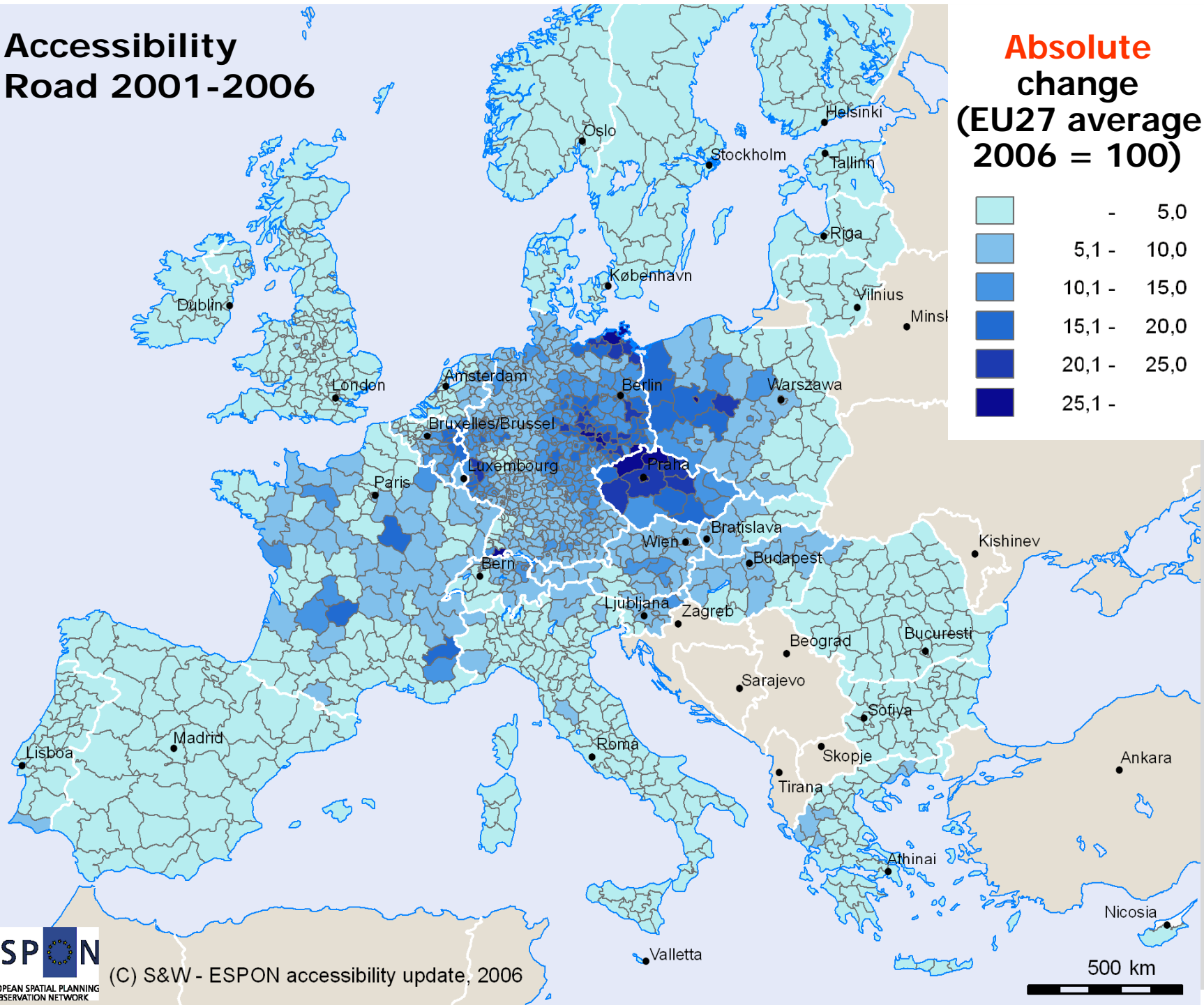
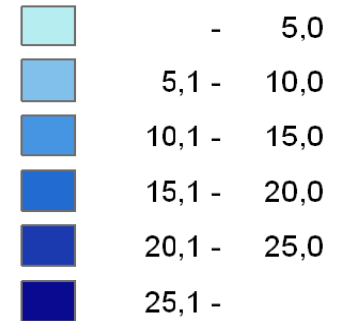
# Accessibility Road 2001-2006

**Relative  
change  
(in %)**



# Accessibility Road 2001-2006

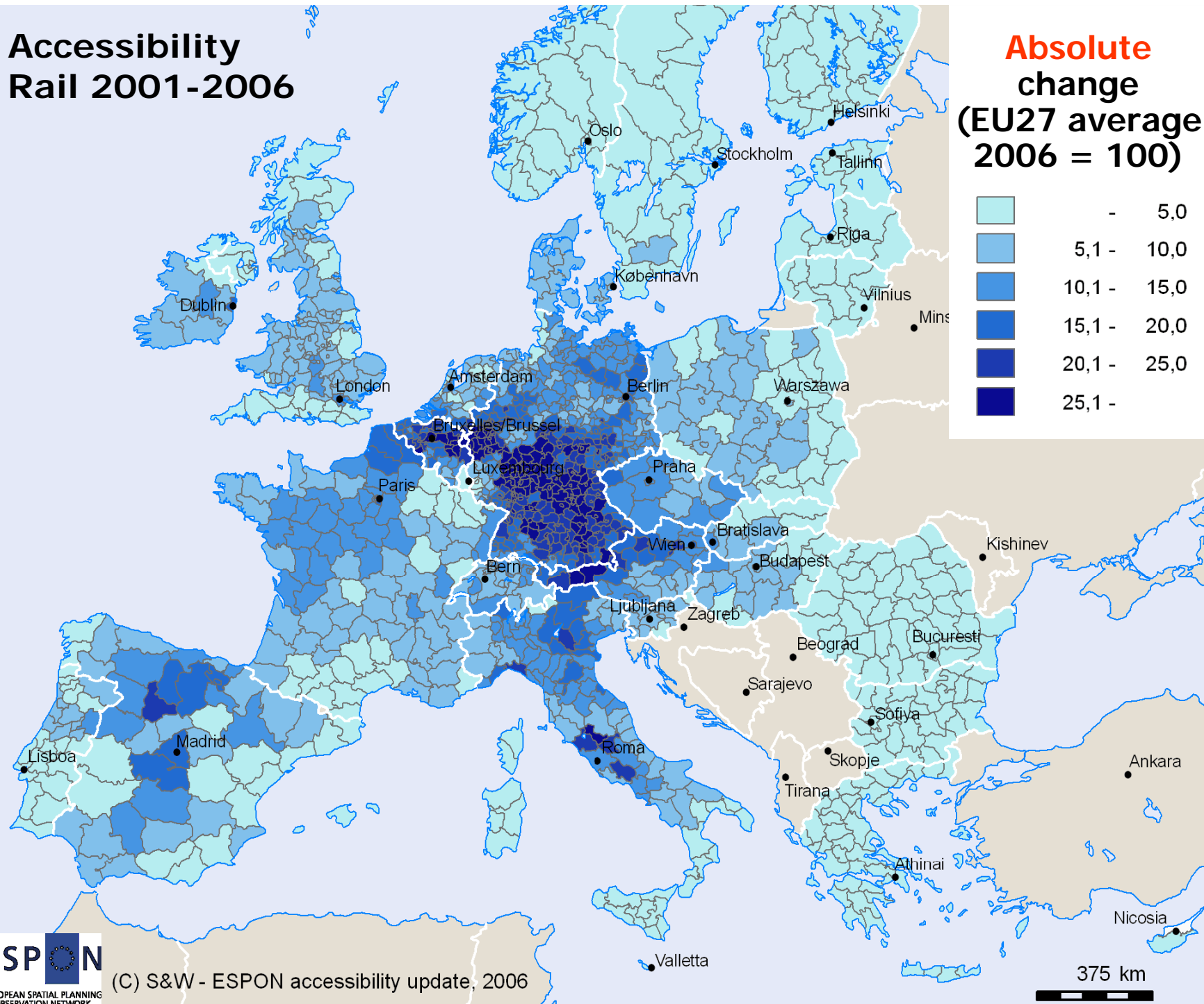
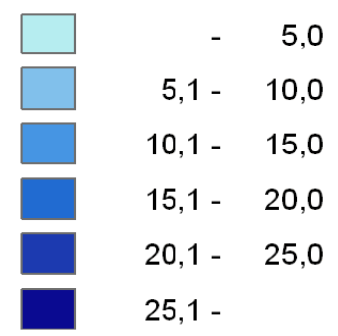
**Absolute  
change  
(EU27 average  
2006 = 100)**





# Accessibility Rail 2001-2006

**Absolute  
change  
(EU27 average  
2006 = 100)**



## Conclusions

- Different transport modes have ***very different spatial patterns*** of accessibility in Europe.
  - > ranging from traditional core-periphery pattern to new forms of core-periphery pattern
- ***Spatial disparities*** of accessibility do exist for all modes of transport
- All ***regions benefit*** from transport infrastructure investments, but to a ***different degree***
  - > road and rail investments of the past was in absolute terms in favour of core regions

## Further Information

- [www.espon.eu](http://www.espon.eu)
  - Project 1.2.1 *Transport Trends, Services and Networks*
  - *ESPON Accessibility Update Studies*
- [www.spiekermann-wegener.de](http://www.spiekermann-wegener.de)
- [ks@spiekermann-wegener.de](mailto:ks@spiekermann-wegener.de)