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Growth Analysis

Swedish Agency for Growth Policy Analysis

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Pinpoint Sweden - A platform for accessibility analysis based on grid data

- Introduction and background
- Examples of assignments and communication
- Future communication and needs

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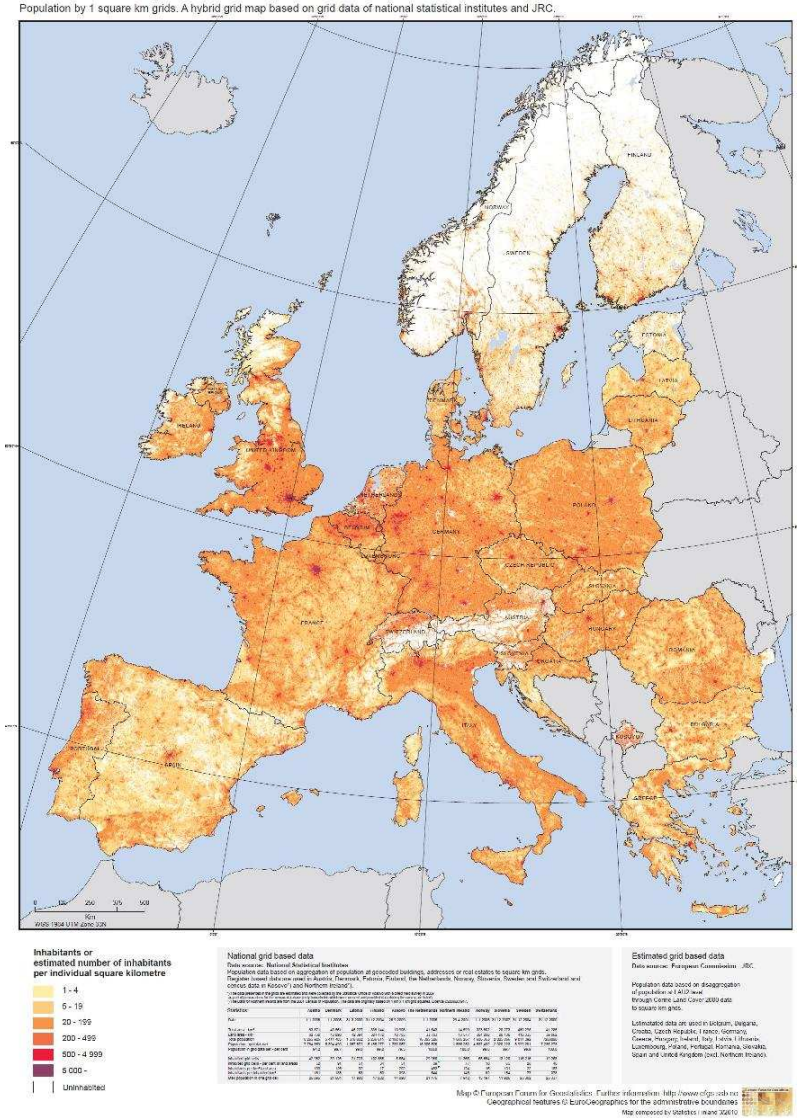
GEOSTAT Population Map 2010

Population by 1 square km grids. A hybrid grid map based on grid data of national statistical institutes and JRC.



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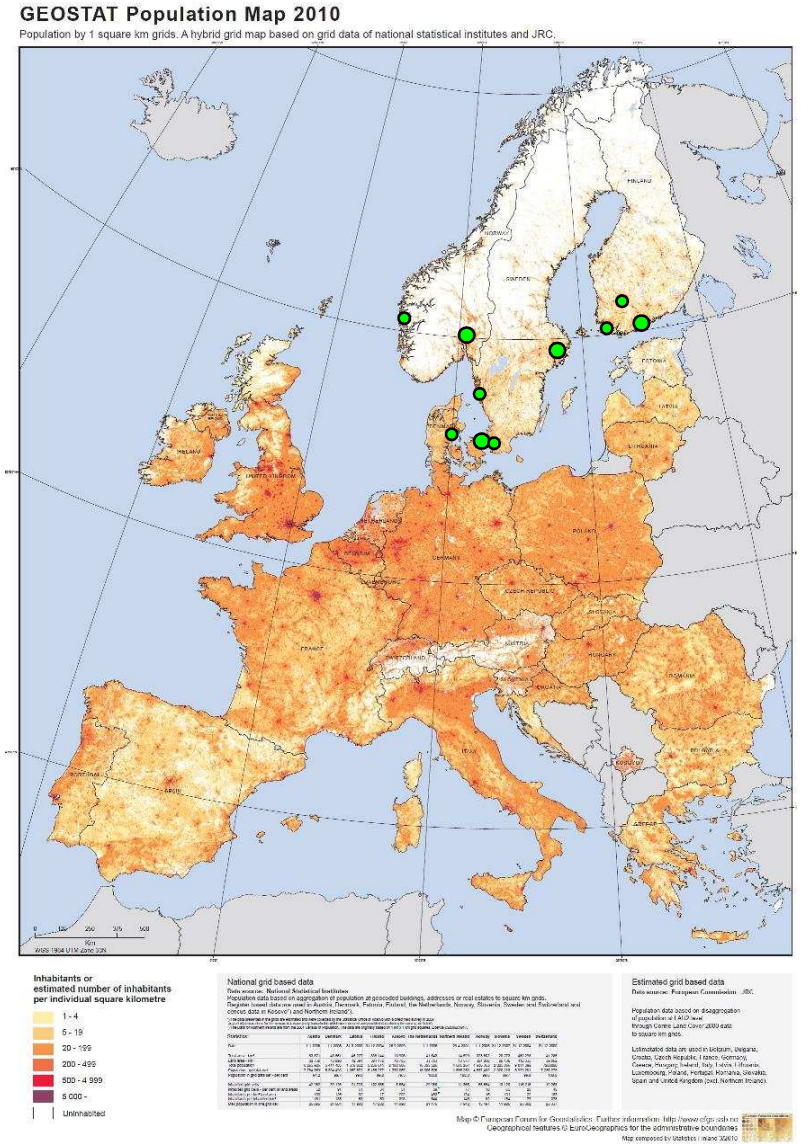

About 25% of the total population in Norden lives in localities with more then 200 000 inhabitants

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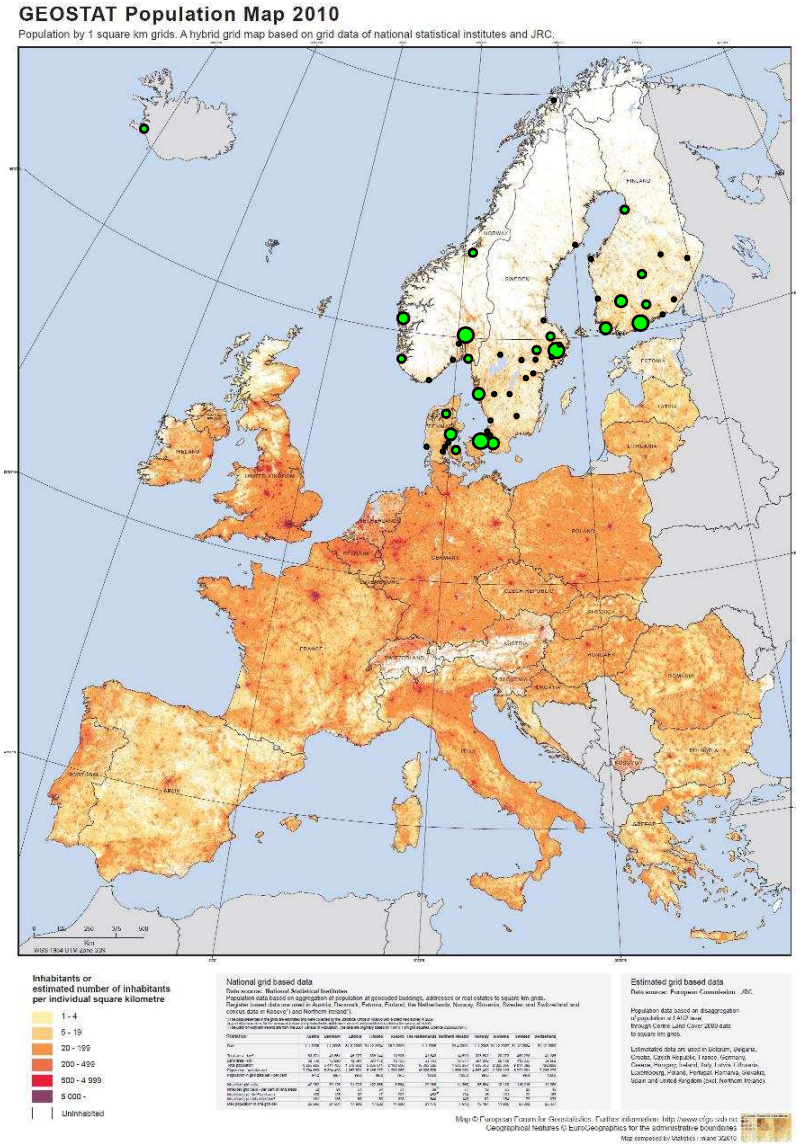

About 40% of the population in Norden lives in localities with more then 50 000 inhabitants

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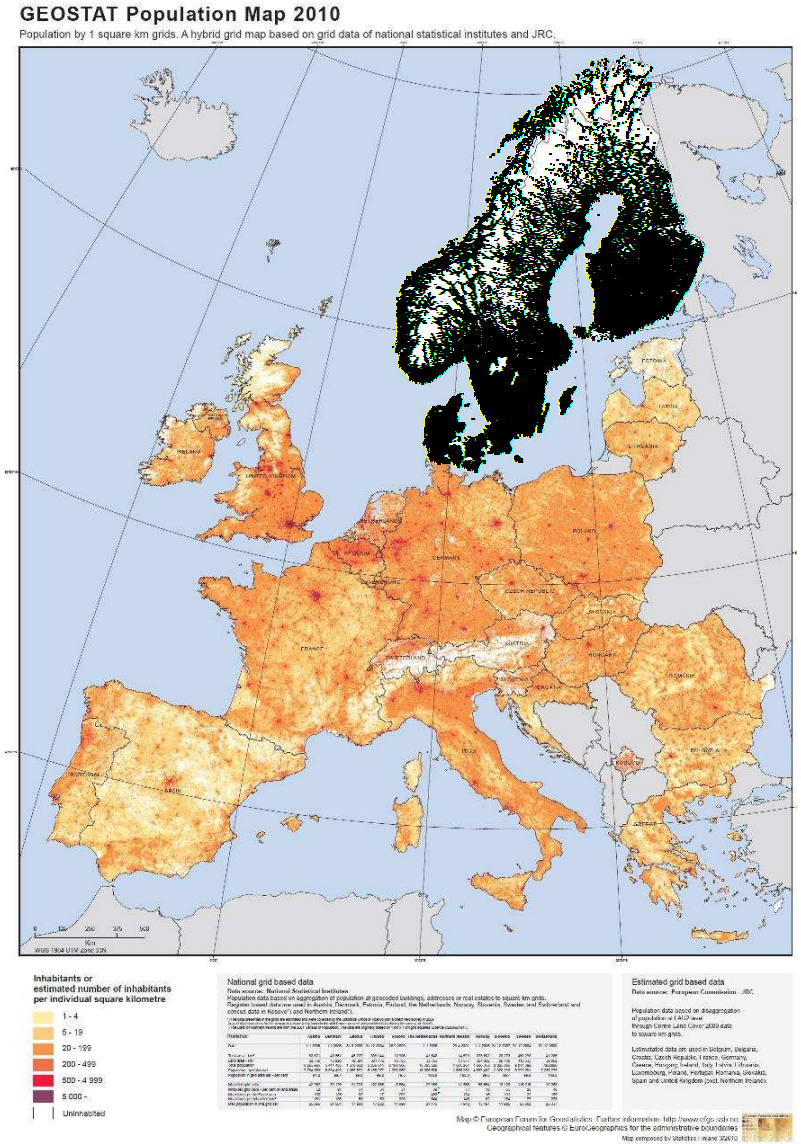

About 25 % of the cells in a 250 meter grid of Sweden are populated

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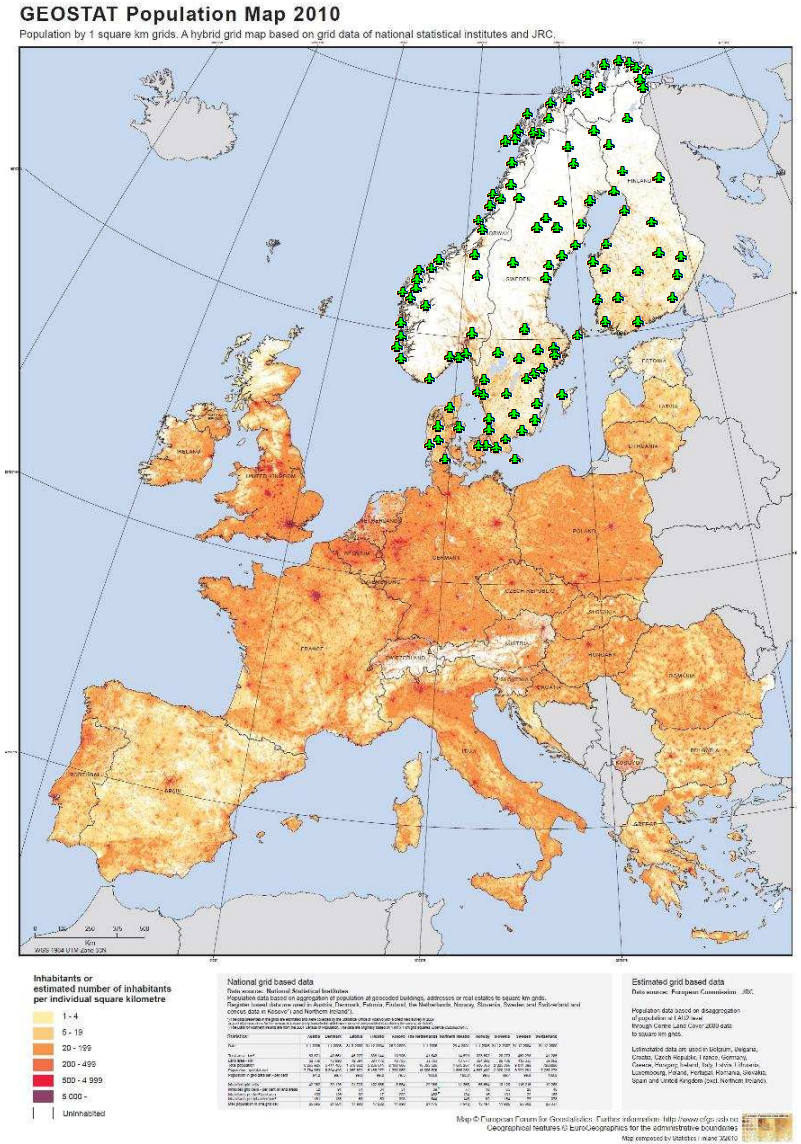

Citizens‘ average distance to an airport in Sweden is about 30 minutes by car

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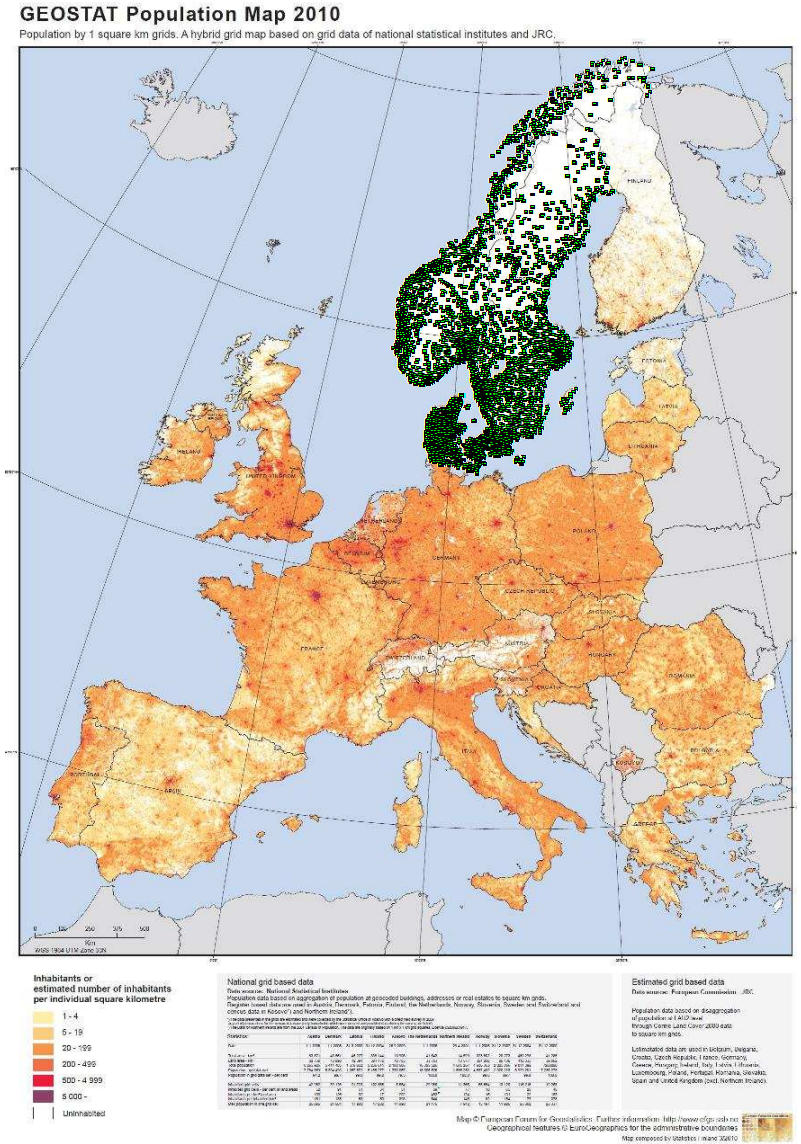

Citizens‘ average distance to a grocery store in Sweden is about two minutes by car

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pipos
pinpoint sweden

PiPoS a platform for Accessibility Analysis

- The platform calculates distances (meter or second) along a roadnetwork, between points in large datasets.
  - Road segments covering the nordic countries ~ 4.2 milj
  - Inhabitated 250m tiles ~ 1 milj
- A line production tool?

Tech stuff

- *Developed in C# in Microsoft Visual Studio*
- *SQL-server (with the Spatial datatypes)*
- *Thesis on accessibility analysis : http://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=1219034&fileOId=1219035*

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Three categories of use…

Classifying assignments.

- Simple accessibility *analysis*

  A thin user interface that calls PiPoS-functions in a direct manner.

  – Ex. Accessibility to Farmacies

- Batch applications

  An application that does some calculations but mainly repetaly tasks

  – Ex. Accessibility Index

- PiPoS as a small part (module) in a larger system.

  – Ex. Structural tax equalisation.

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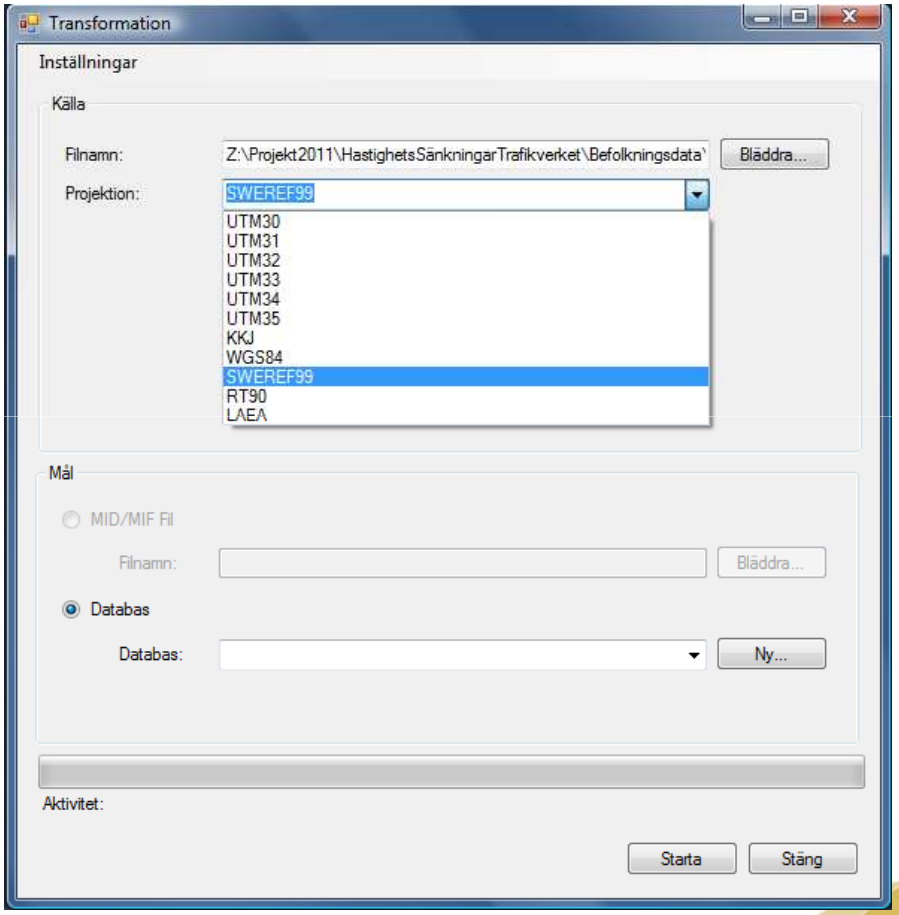
Obtain & Import

- dbo.Bef2010
  - Columns
    - Geometry1 (geometry, null)
    - Geometry2 (geometry, null)
    - ID (PK, int, not null)
    - Population (int, null)
    - AreaCode (nchar(4), null)
    - Country (nchar(10), null)
    - UrbanSize (int, null)



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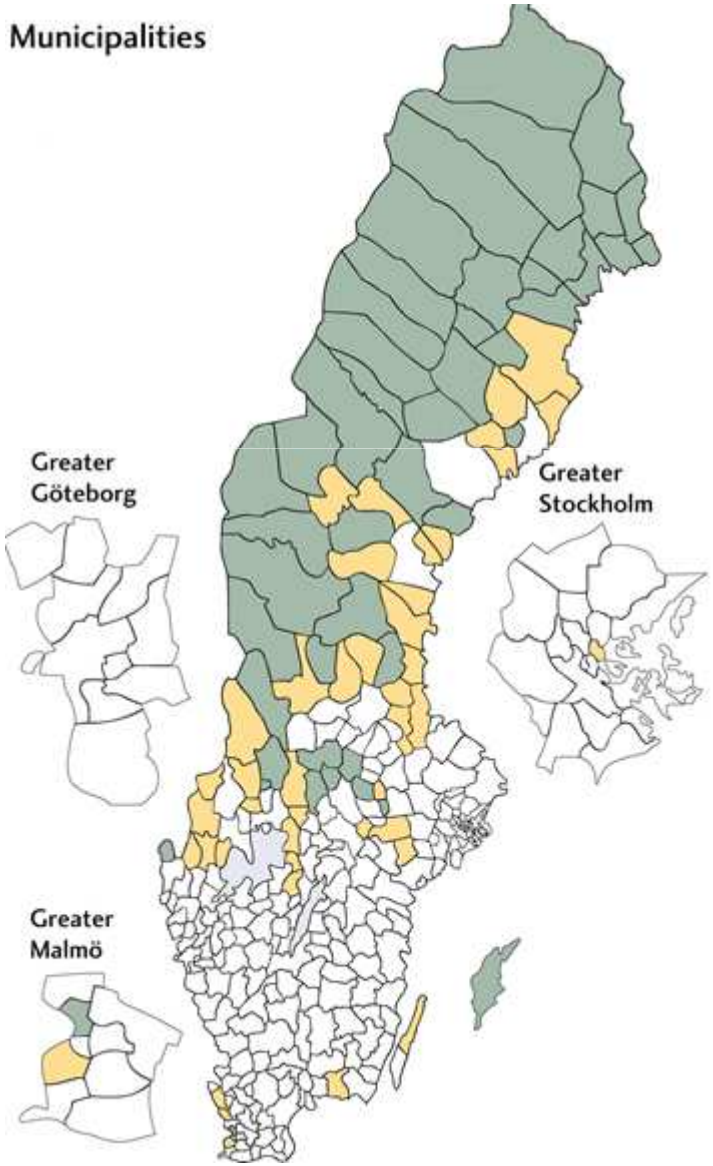
Structural tax equalisation (Municipality & County)

- Schools (Primary to College)
- Elderly services
- Medical Centers
- Ambulance services
- Hospitals

Local government financial equalisation - the structural part.



In the size of 270 miljon Euro is distributed on assignment of the Ministry of Finance:

We need a structural measure !

What are the cost for a ”bad” structured muncipality?

- Small units
- Long distances to the units

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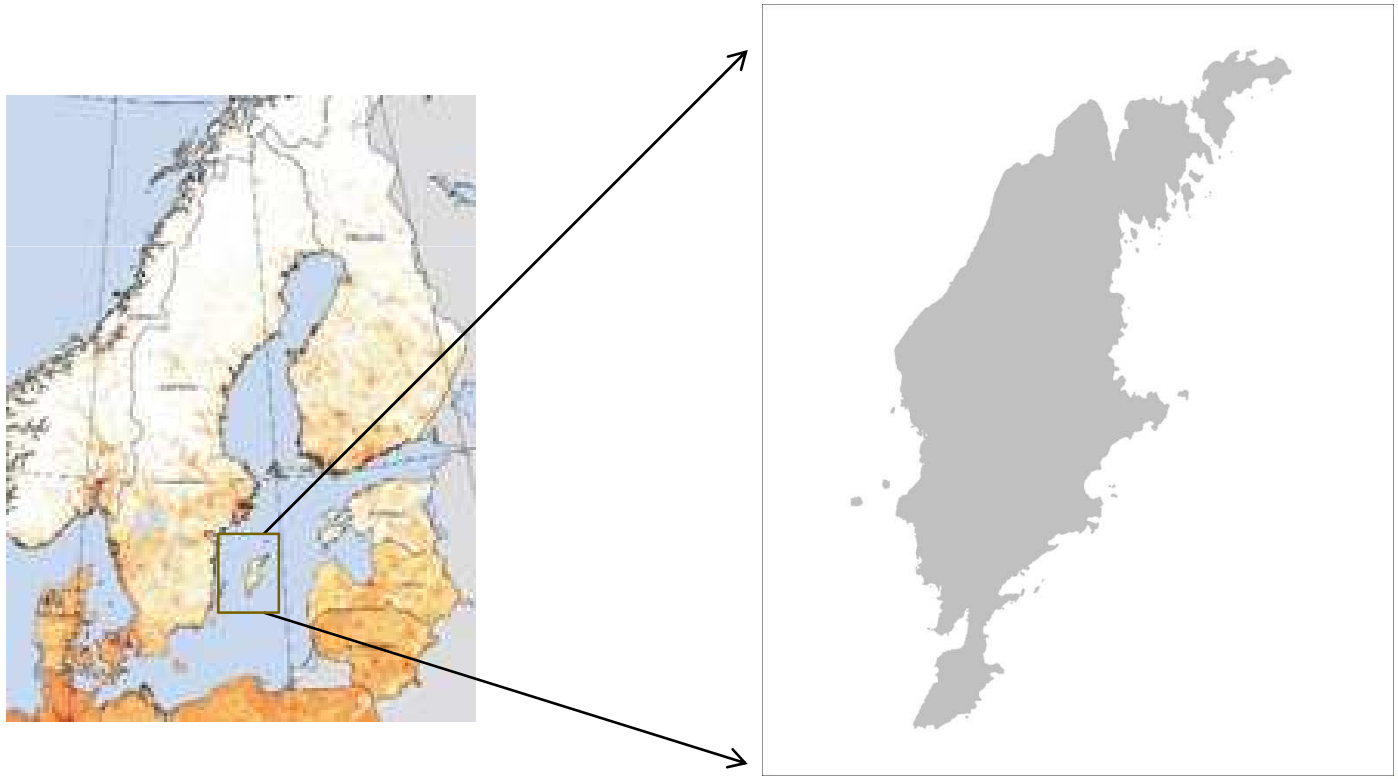
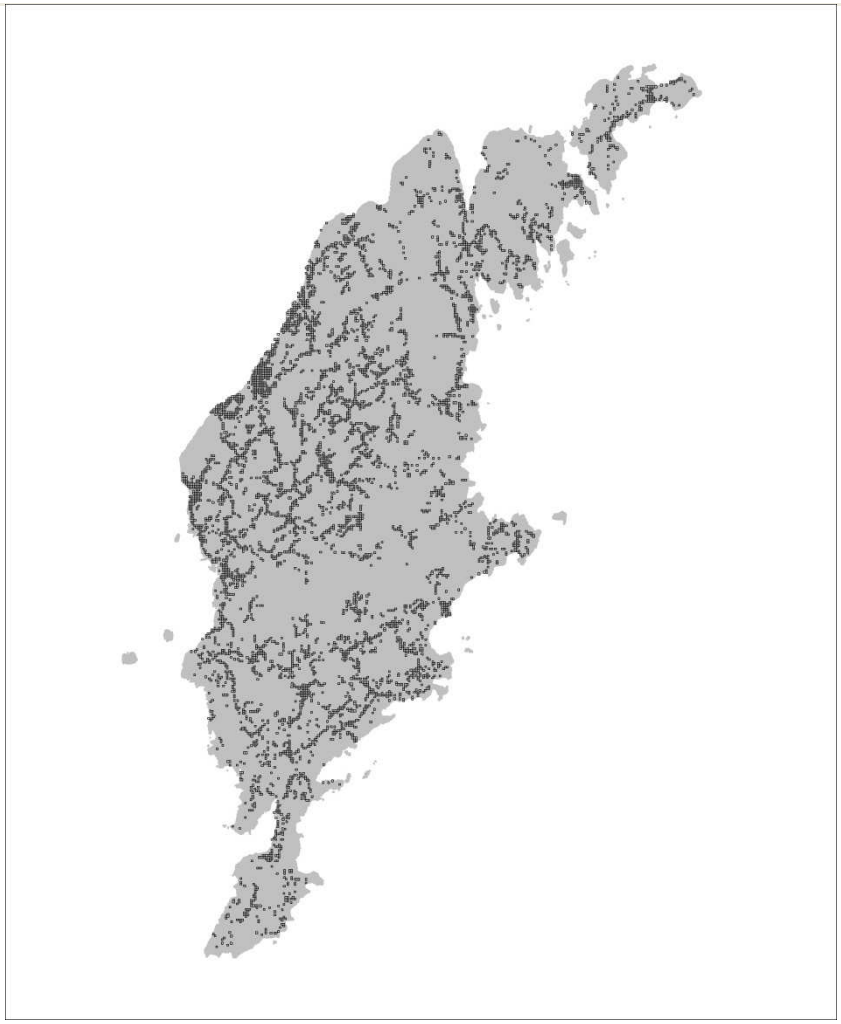
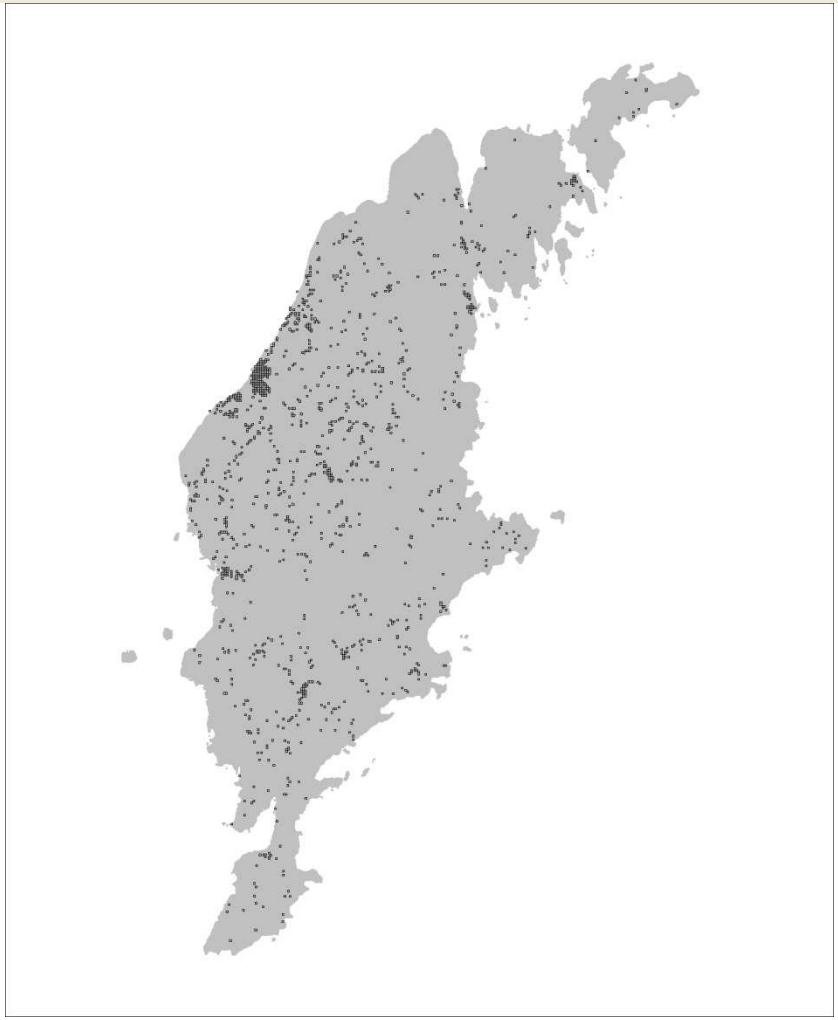
The Island / Municipality / County of Gotland



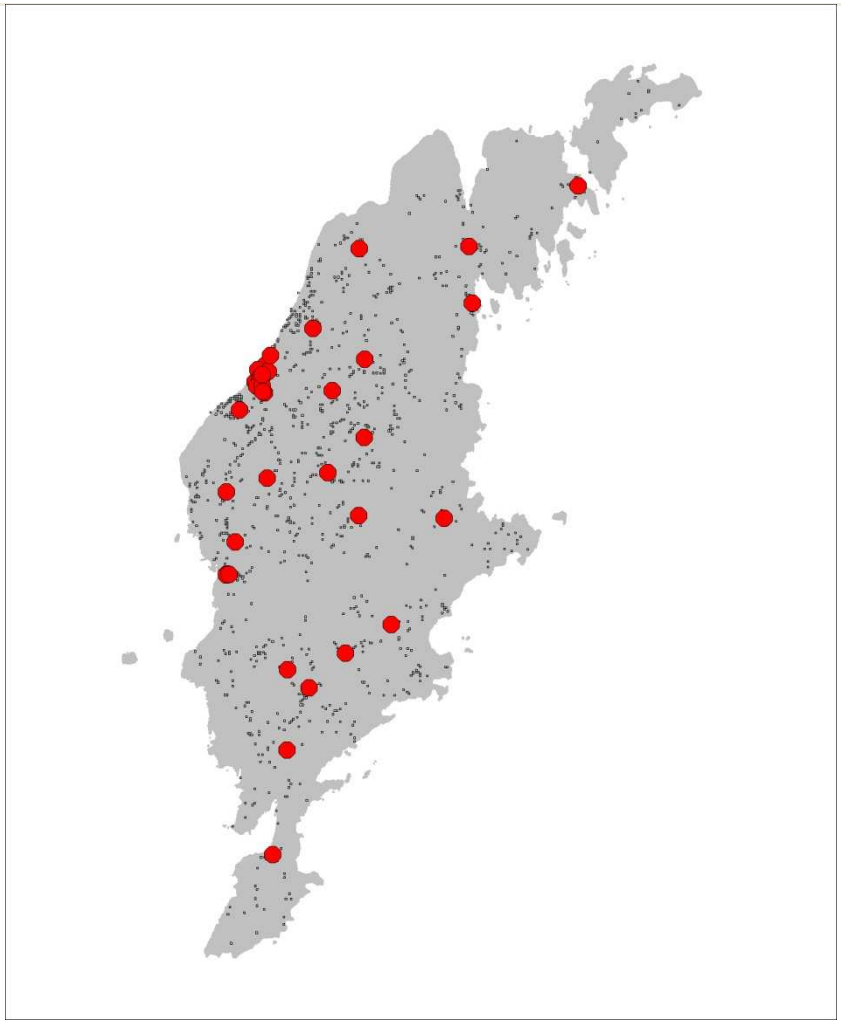
250m population grid



250m population grid (Age 6 to 12)



Primary schools on Gotland



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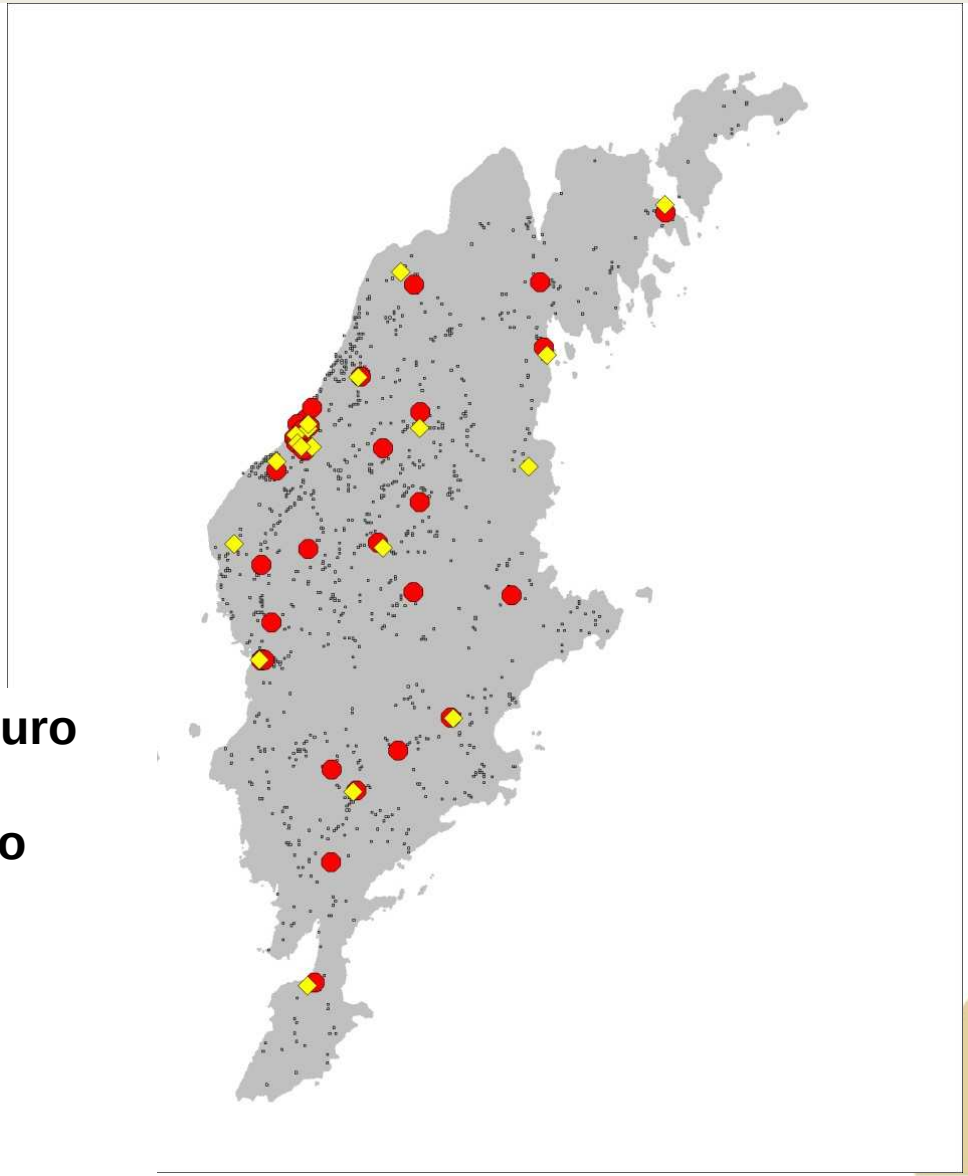
National Road Database

Placement Algoritm



2 small Schools 23 700 Euro

School bus 1 600 000 Euro

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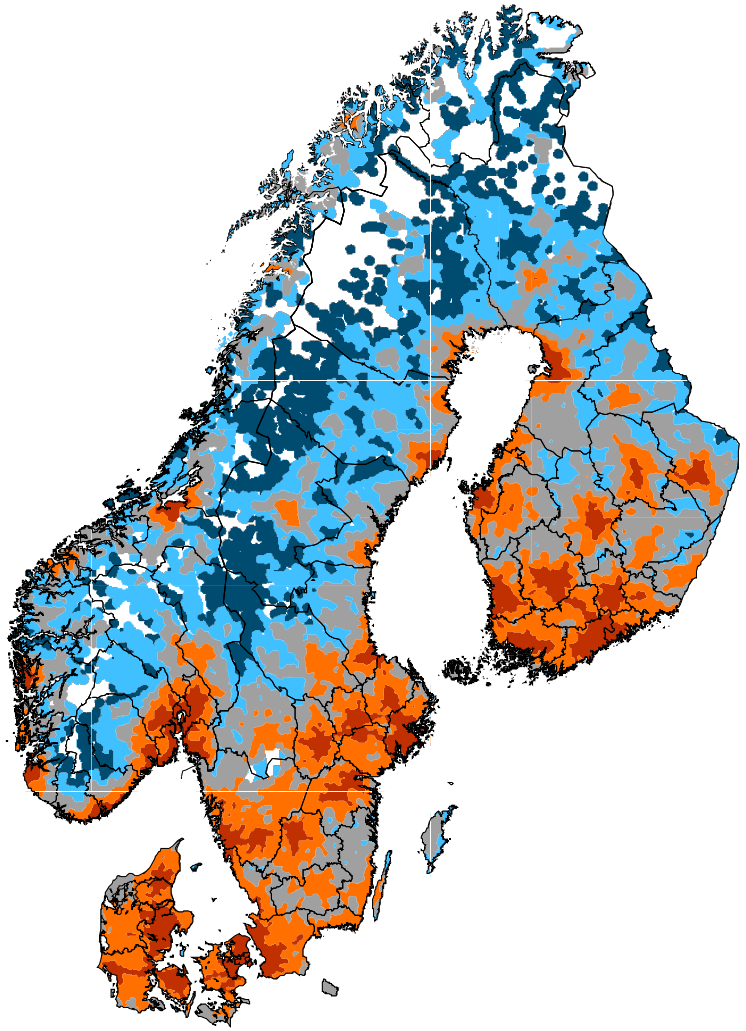
Indexed accessibility in an interpolated class divided map



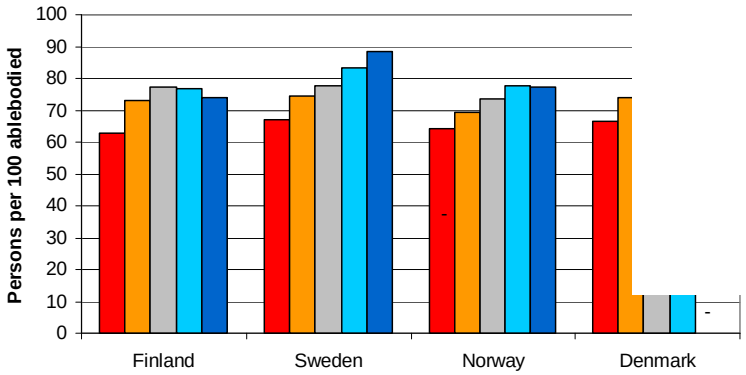
Degree of proximity to various sizes of localities

- Very high
- High
- Medium
- Low
- Very low

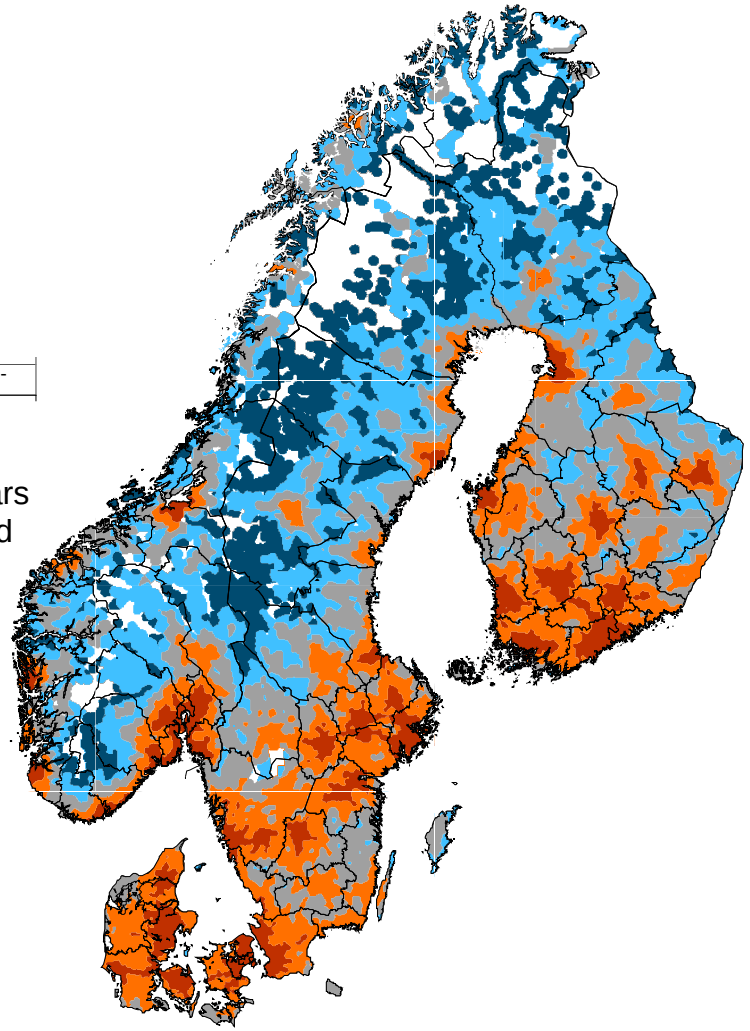
Indexed accessibility in an interpolated class divided map

Degree of proximity to various urba

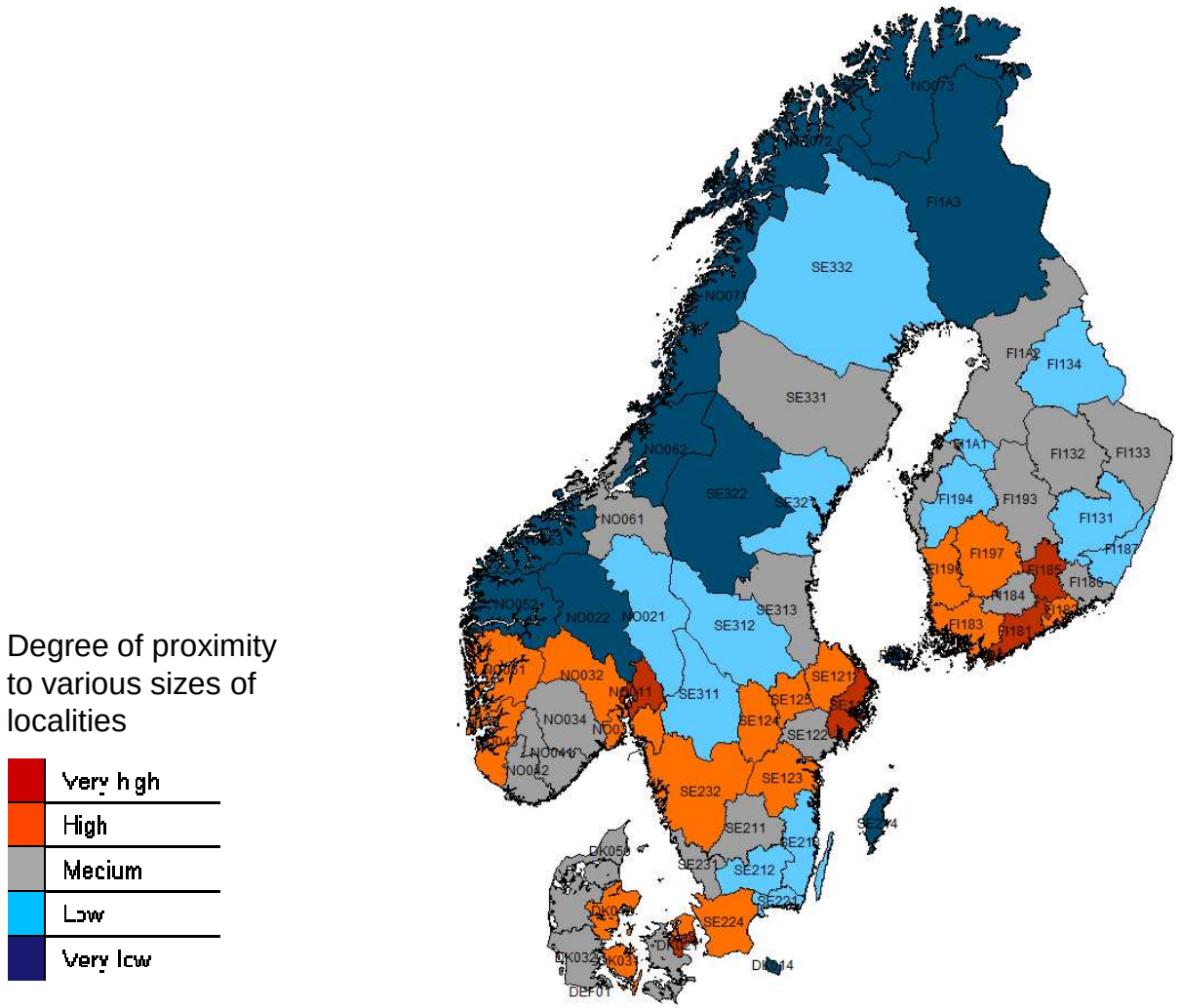
Demographic dependency ratio* in 2



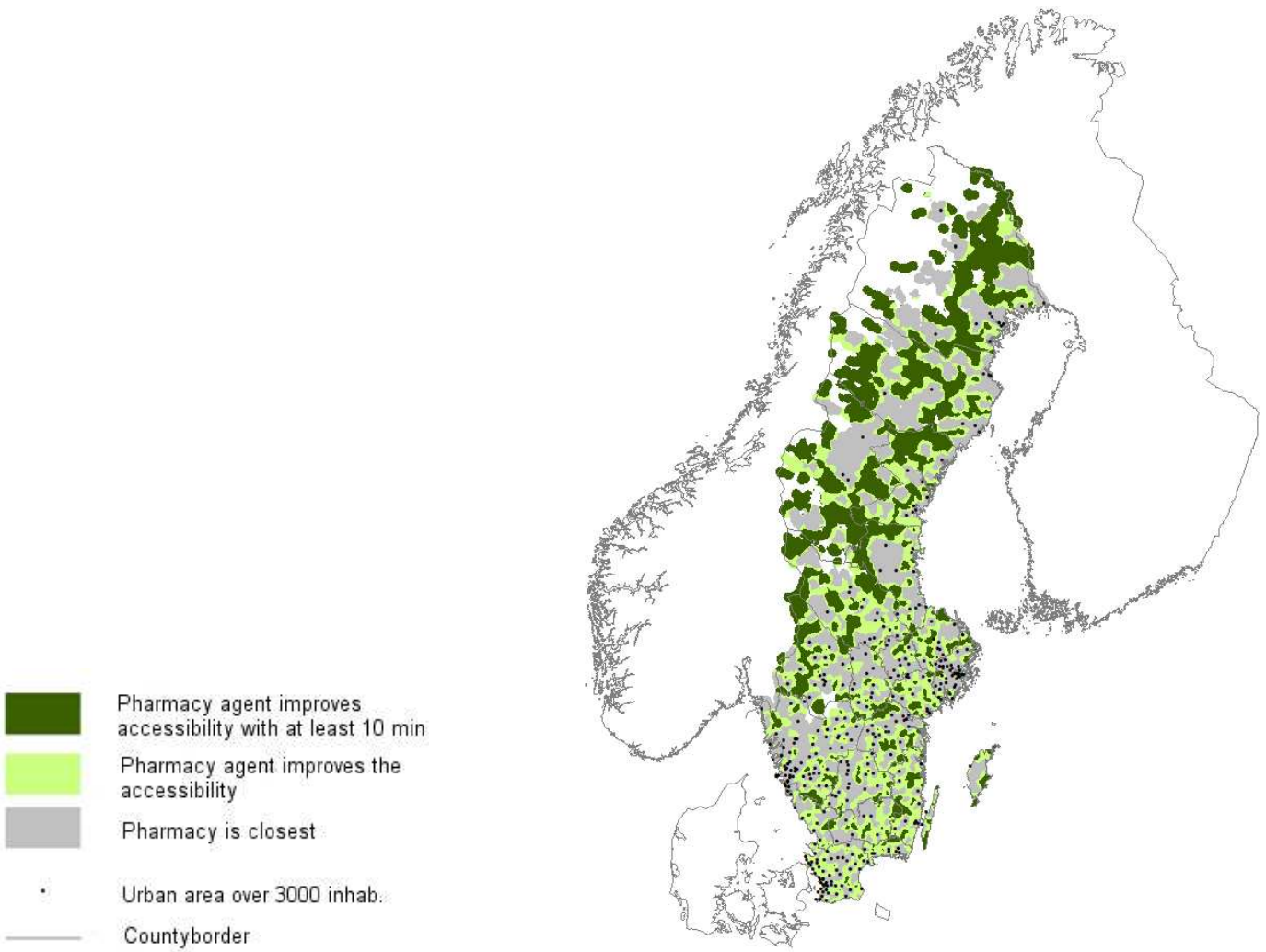
*number of people aged 0-19 years and 65 years and over divided by the number of people aged 20-64 years, multiplied by 100.



Indexed accessibility weighted to population 2010 in each NUTS3



Pharmacy agents importance at the pharmacy market



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Five preferred conditions for our needs

- Comparability over time
- Corresponding resolution between grid and road networks
- One single contact person/place
- One common method to handle confidential data
- Different pricing and dissemination policy dependent on purpose

Thank you for your attention
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