KUVA: ADOBE STOCK

Finnish localities

Ville Helminen
Senior researcher

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

Finnish localities

Finnish Environment Institute

Background

Localities method in Finland

Pros and cons of the Finnish method

Examples + adjustments + use

Urbanisation and built environment - key themes in Finnish Environment institute (Syke)

SYKE develops solutions that promote sustainable urbanisation, land use and built environment

SYKE has used and developed nationwide registers and spatial data for over 20 years

A long-term co-operation with planners, decision makers, researchers and the producers of the data

Long-term monitoring of the state of the environment and related trends

Combining science and planning experience

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

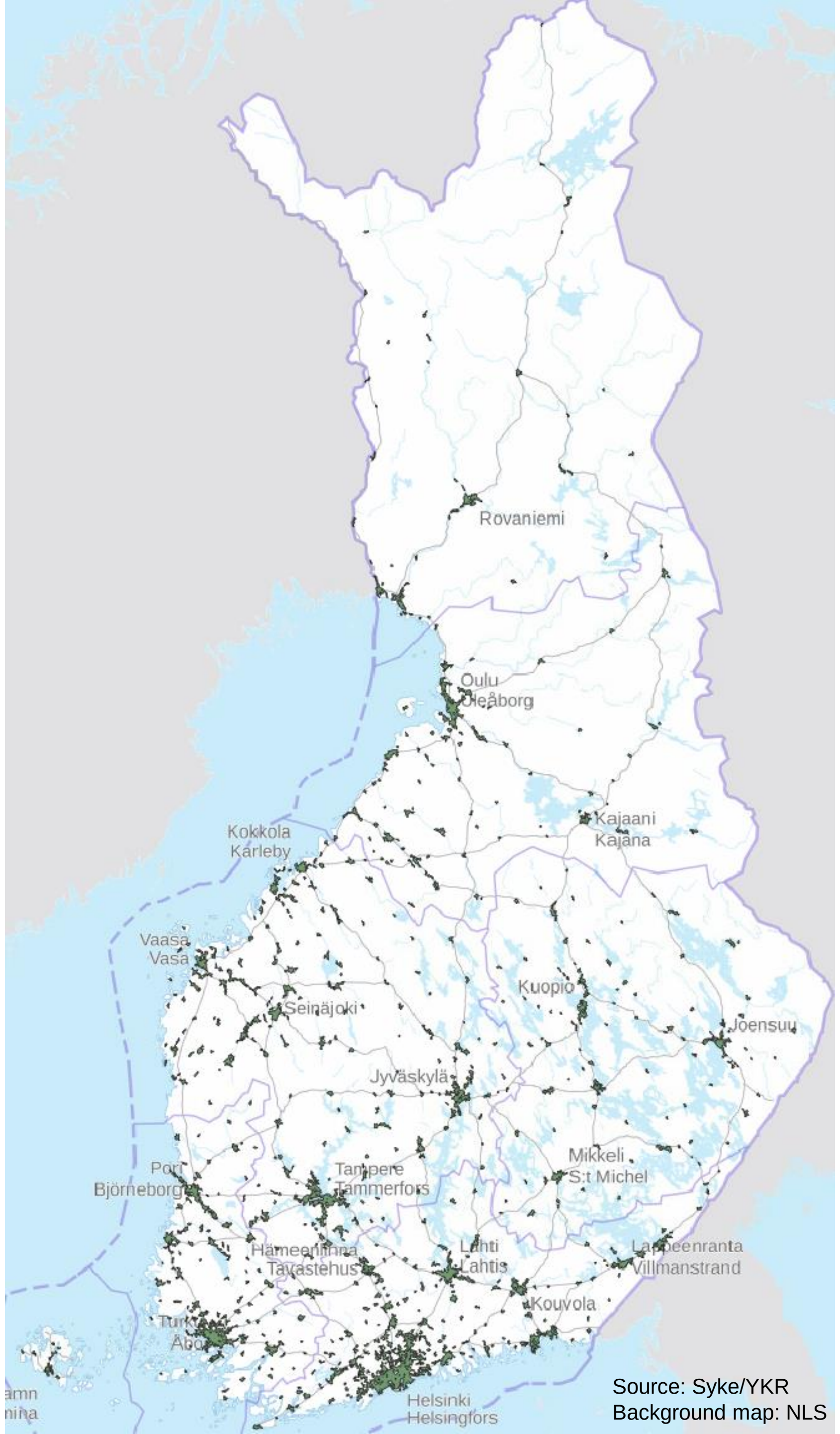
Background

708 localities (in 1990, 740)
Largest Helsinki kt. – 1,38 million inhabitants
Six with population over 100 000
37 with population over 15 000
397 with population under 1000

- Since 2010 updated every year
- Before 2010 datasets in 5-year interval available in current coordinate system

- Grid based method developed 25 years ago
- 250x250 meters grid containing information of buildings and population

- The delineation of localities is produced on the basis of the Monitoring System of Spatial Structure and Urban Form (YKR), which is a spatial grid-based information system maintained by the Finnish Environment Institute



Source: Syke/YKR
Background map: NLS

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

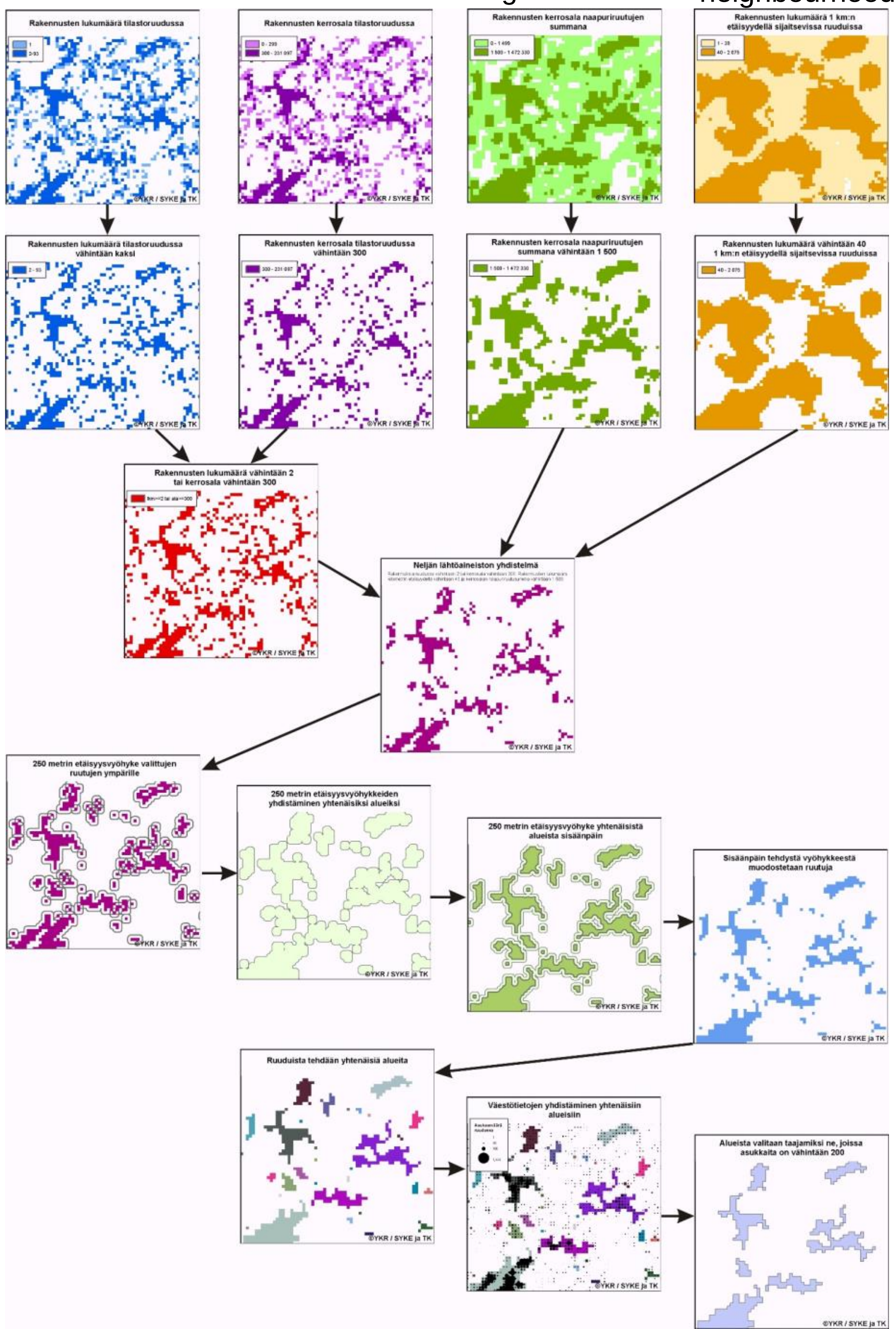
Grid based method for delineating localities

Number of buildings in grid

Gross floor area of buildings in grid

Gross floor area in 3x3 neighbourhood

Number buildings in 1 km neighbourhood



Building data – four dimensions

Threshold values

Overlay analysis

Buffering to areas

Population threshold: at least 200 inh./distinct area

1. The **number of buildings** in the cell must be **at least two** OR the **gross floor area of the building stock at least 300 square meters**.
2. **The total number of buildings** in cells located **within one kilometer** from the cell in question must be **at least 40**.
3. **The gross floor area of the buildings** located in the cell and its eight **neighboring cells** must be **at least 1500 square meters**.

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

Pros and cons of the Finnish method

Pros:

- Easy to maintain and update with coded automated method
- Long time series with the same method
- Systematic estimation of named densely populated areas as spatial units

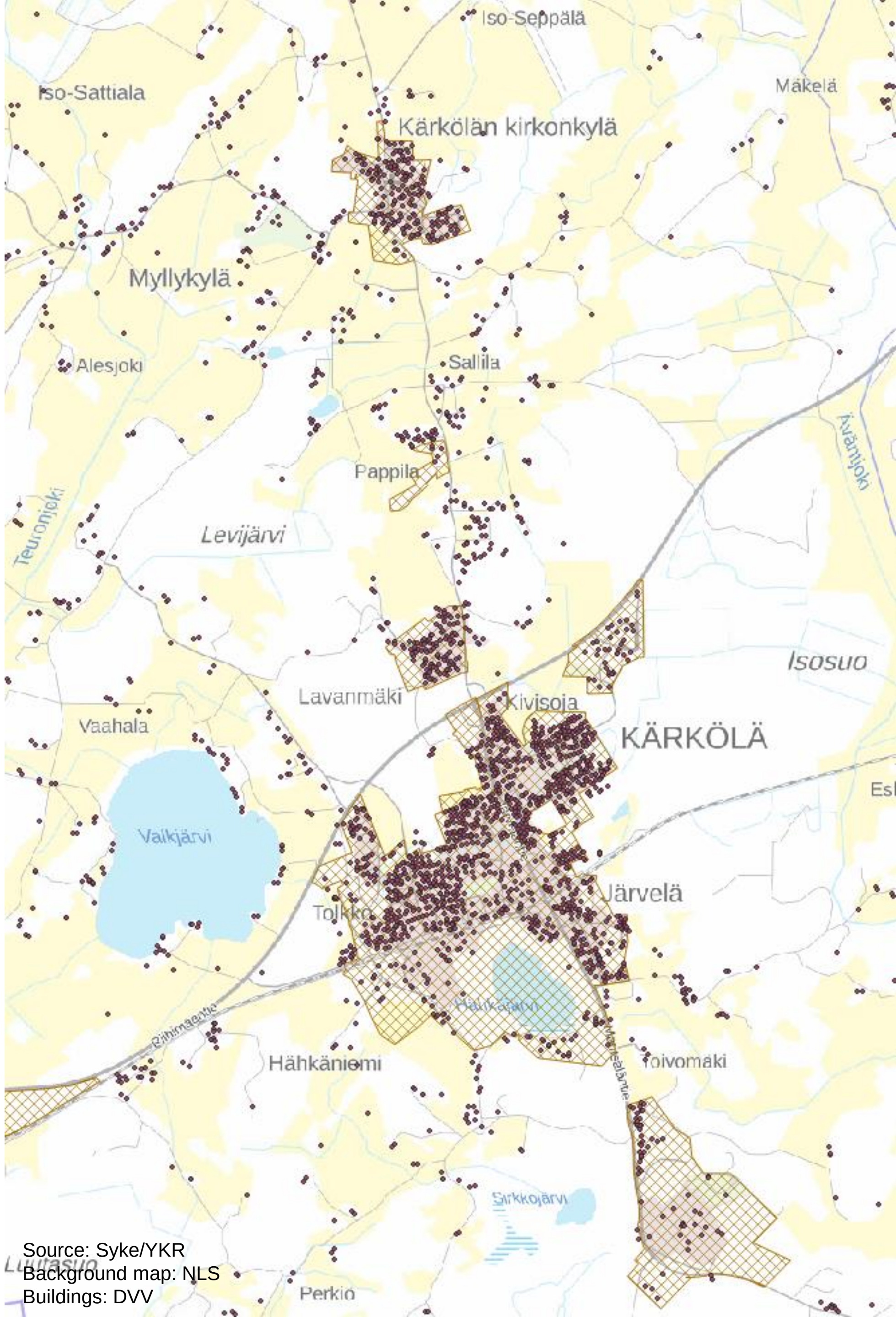
Cons:

- Shortcomings in source data
- Improvements/changes in the building register influence results
- Grid method is not very accurate considering the borders of localities
- Too sensitive for small changes: Minor changes in building data may occasionally create changes in localities
- Complex method

General problems

Finnish rural and semi-rural settlement structure is problematic for classifications due to continuous sparse settlement patterns surrounding the centres

In many cases the clear border is not evident

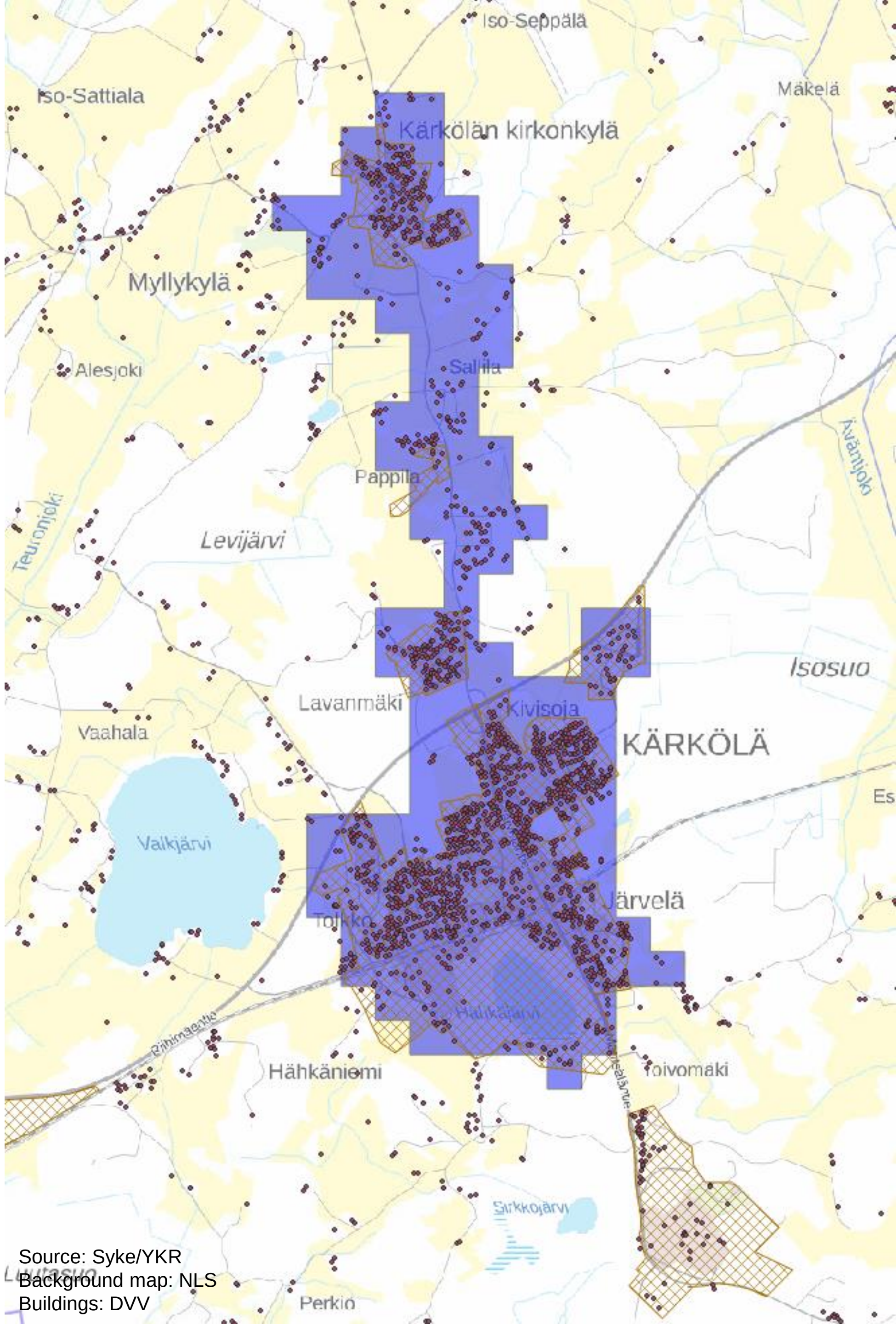


Source: Syke/YKR
Background map: NLS
Buildings: DVV

General problems

Finnish rural and semi-rural settlement structure is problematic for classifications due to continuous sparse settlement patterns surrounding the centres

In many cases the clear border is not evident and the result does not follow exactly the Nordic criteria

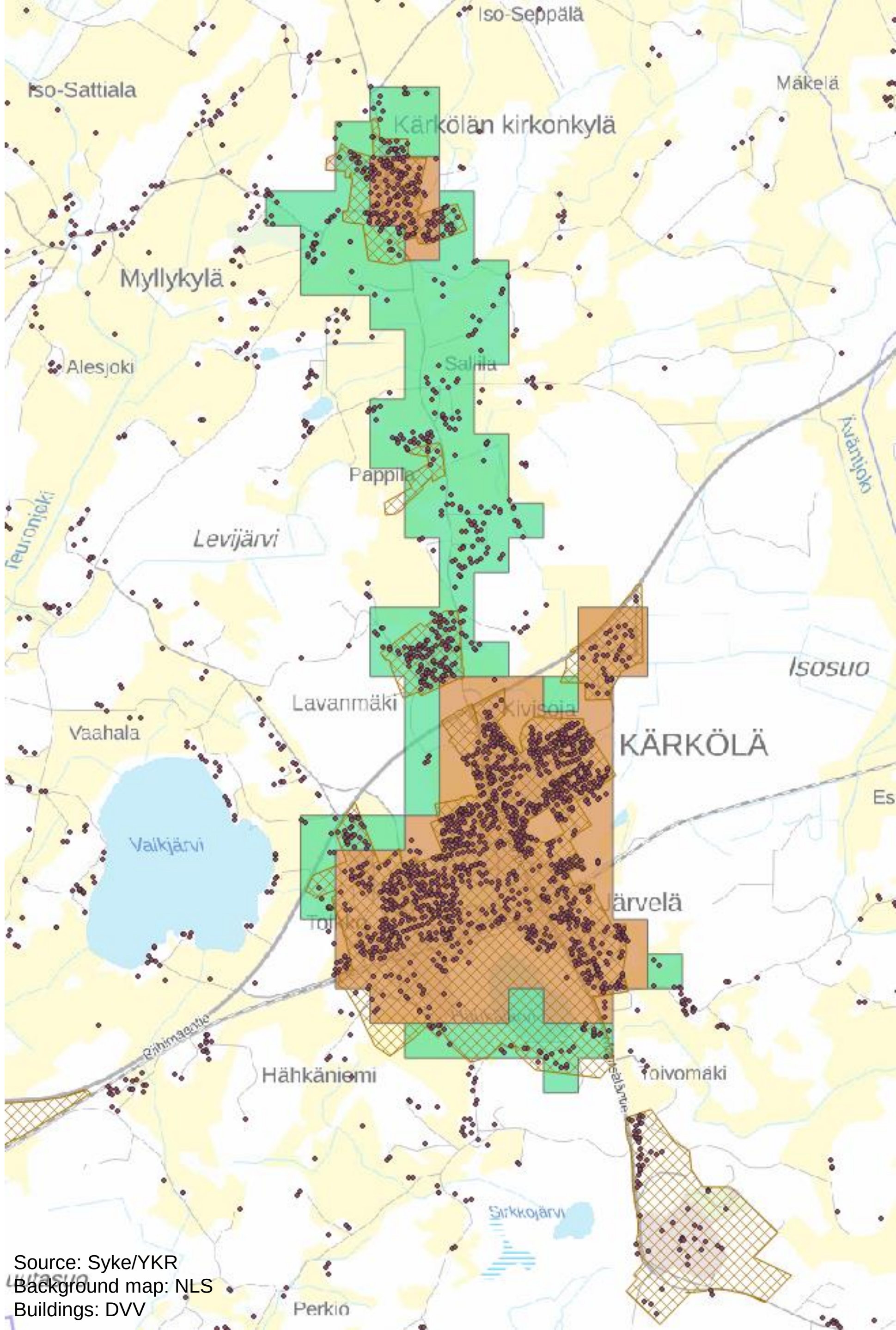


Source: Syke/YKR
Background map: NLS
Buildings: DVV

General problems

Finnish rural and semi-rural settlement structure is problematic for classifications due to continuous sparse settlement patterns surrounding the centres

In many cases the clear border is not evident



Source: Syke/YKR
Background map: NLS
Buildings: DVV

Dense and sparse localities

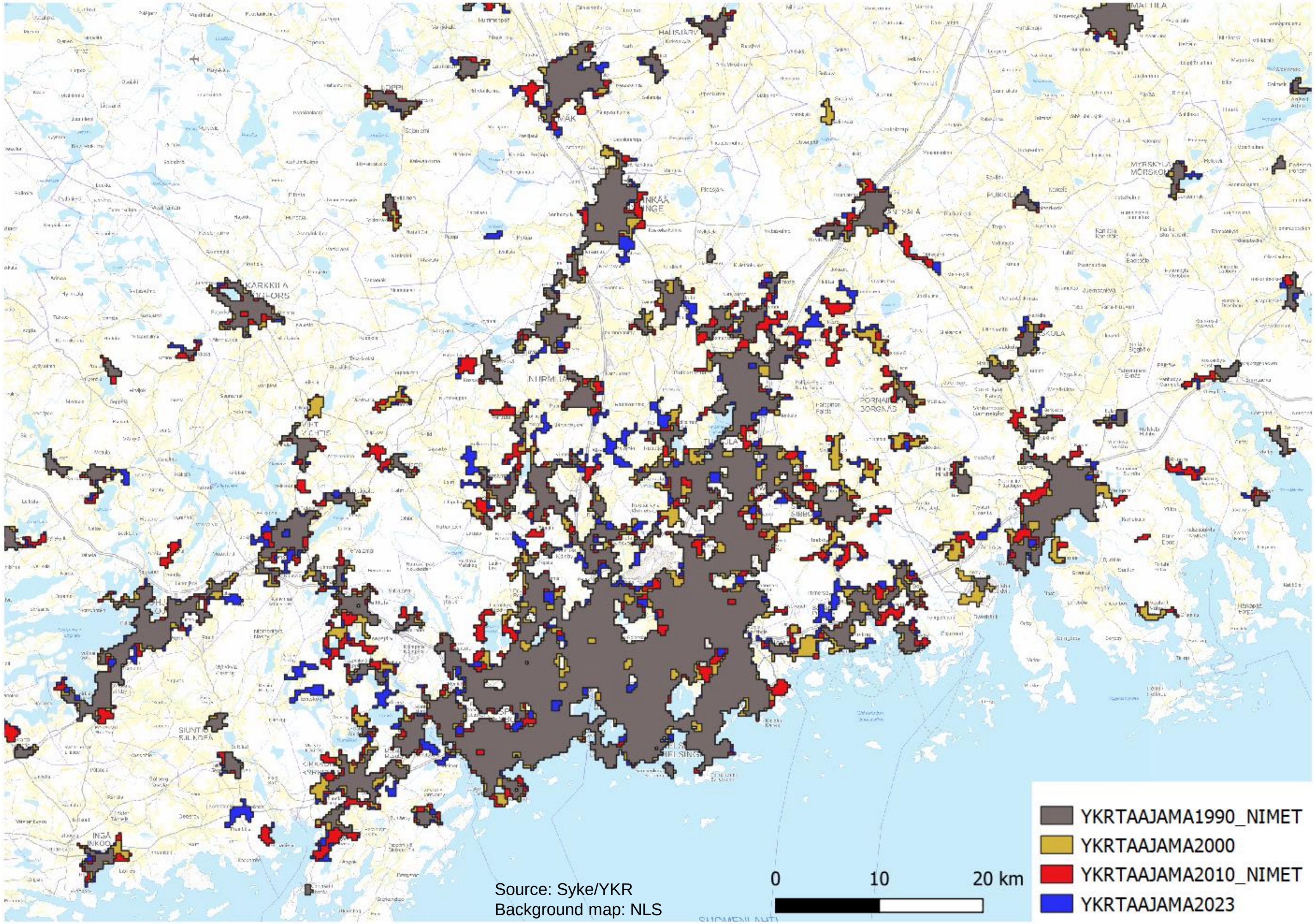
- **Densely built locality settlements** represent areas where the area density corresponds in general to already locally planned areas inside localities.

- Whereas **sparsely populated locality settlements** correspond generally to areas within localities with low area density and no local detailed plans

- Densely built locality settlements include the 250 x 250-meter cells that form an area density of at least 0,02 calculated from surrounding eight cells. The remaining locality cells are categorized as areas of sparsely built locality settlements.

- The delineation of sparsely built locality settlements may include incomplete planned areas nearby areas of locally planned land, narrow settlements along roads or functionally linked village-like settlements near densely built locality settlements.

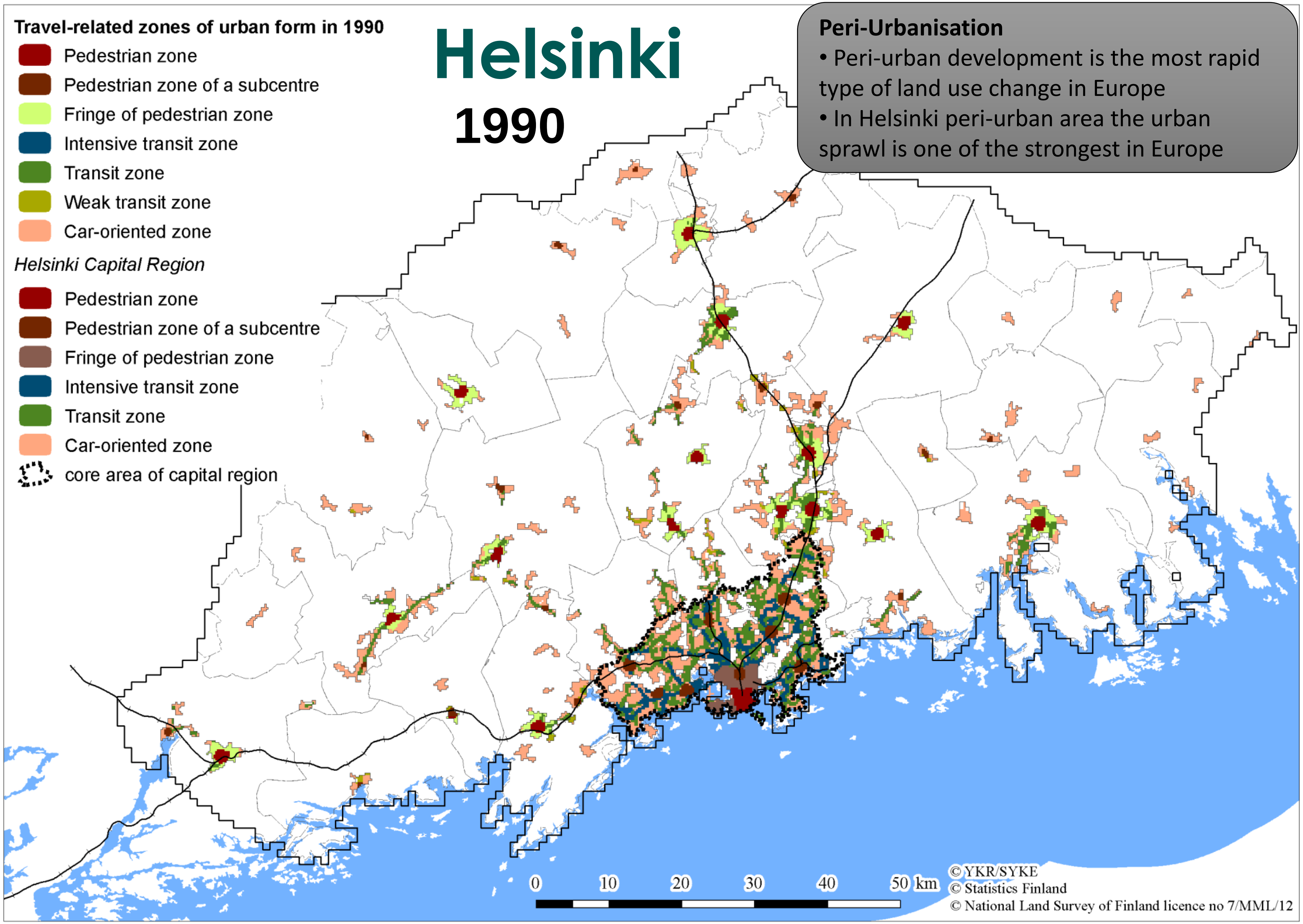
Examples..

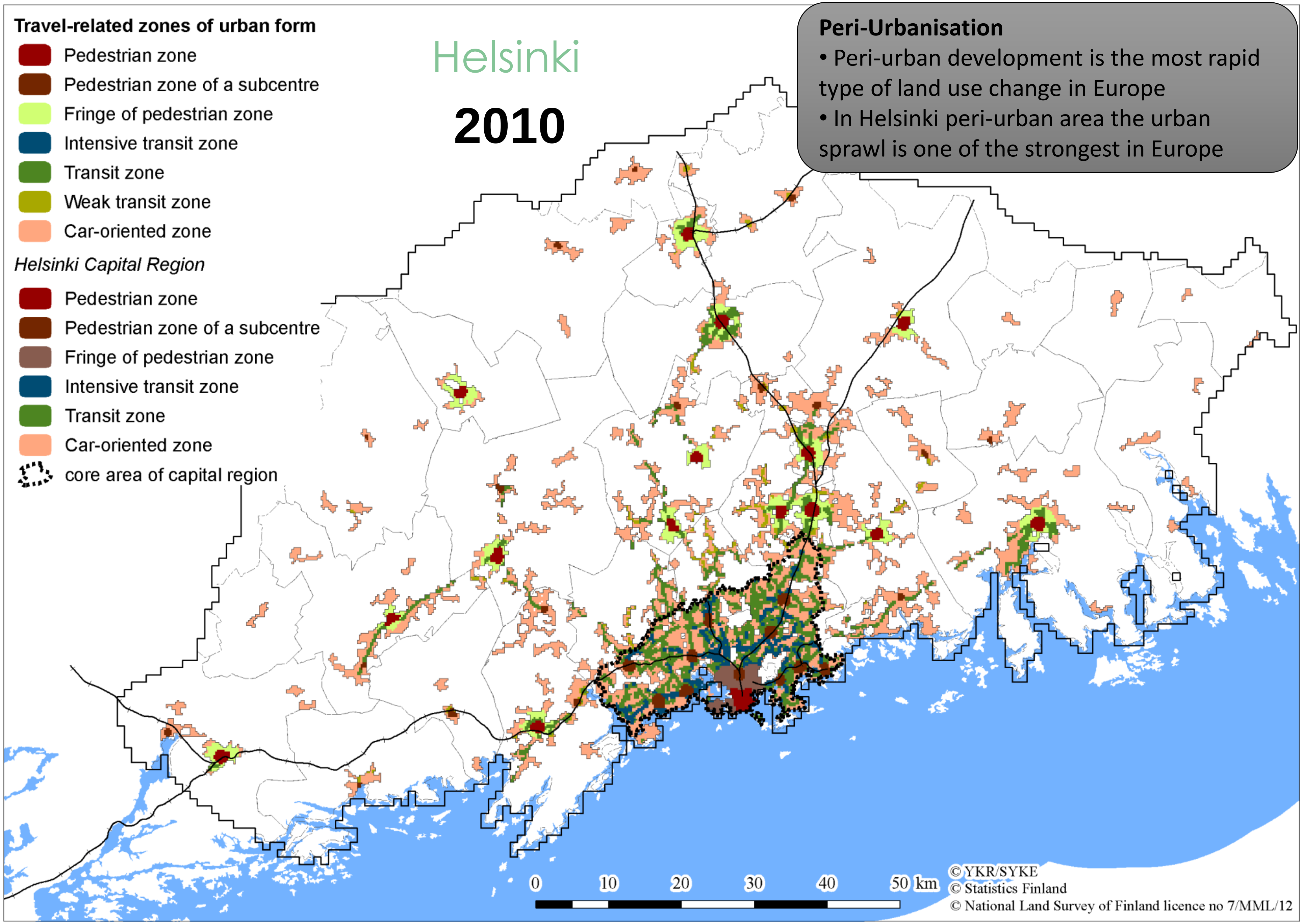

YKRTAAJAMA1990_NIMET
YKRTAAJAMA2000
YKRTAAJAMA2010_NIMET
YKRTAAJAMA2023
0
10
20 km
Source: Syke/YKR
Background map: NLS

Helsinki

1990

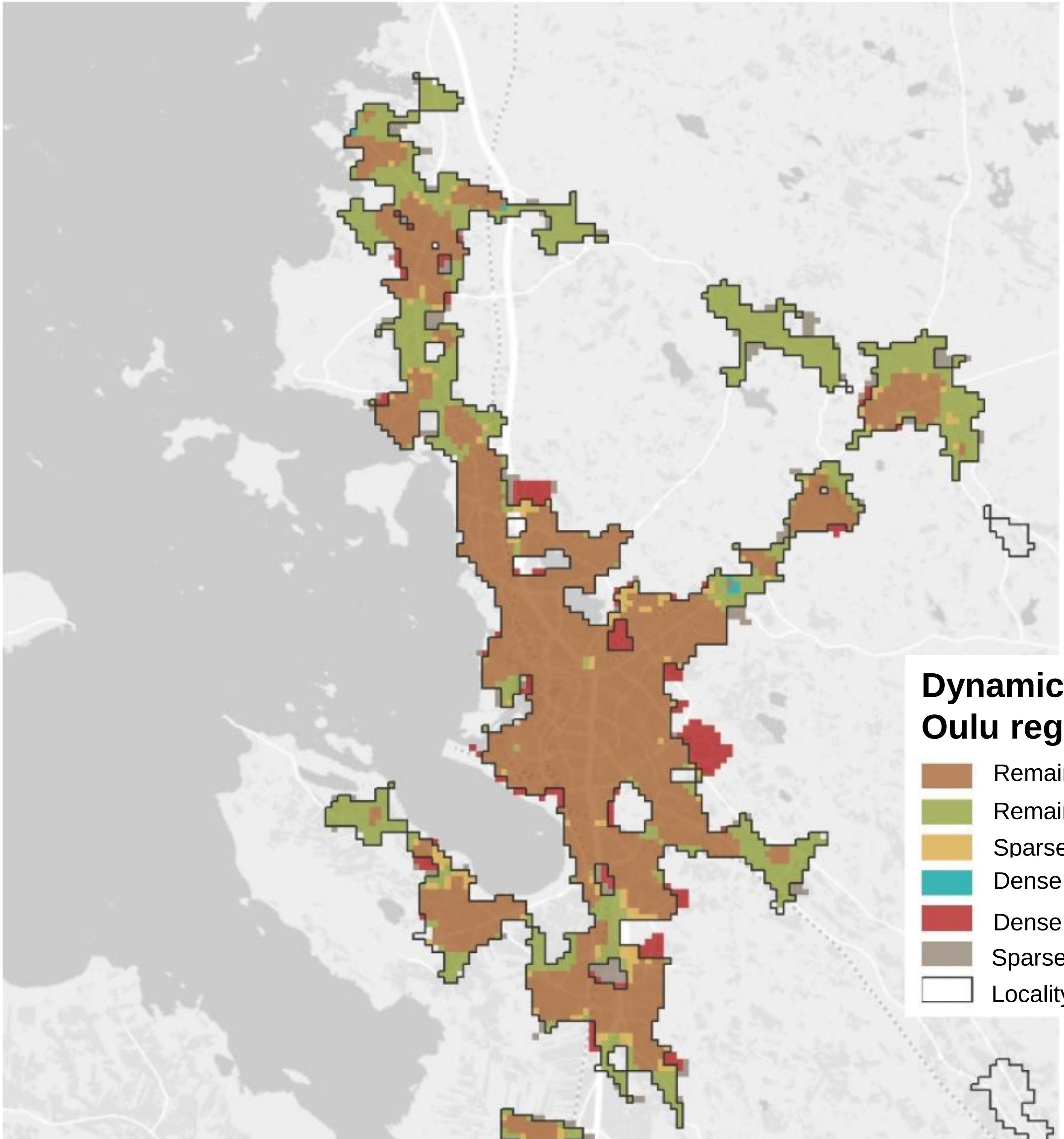
Peri-Urbanisation
- Peri-urban development is the most rapid type of land use change in Europe
- In Helsinki peri-urban area the urban sprawl is one of the strongest in Europe





Travel-related zones of urban form
Pedestrian zone
Pedestrian zone of a subcentre
Fringe of pedestrian zone
Intensive transit zone
Transit zone
Weak transit zone
Car-oriented zone
Helsinki Capital Region
Pedestrian zone
Pedestrian zone of a subcentre
Fringe of pedestrian zone
Intensive transit zone
Transit zone
Car-oriented zone
core area of capital region
Helsinki
2010
Peri-Urbanisation
• Peri-urban development is the most rapid type of land use change in Europe
• In Helsinki peri-urban area the urban sprawl is one of the strongest in Europe
0
10
20
30
40
50 km
© YKR/SYKE
© Statistics Finland
© National Land Survey of Finland licence no 7/MML/12

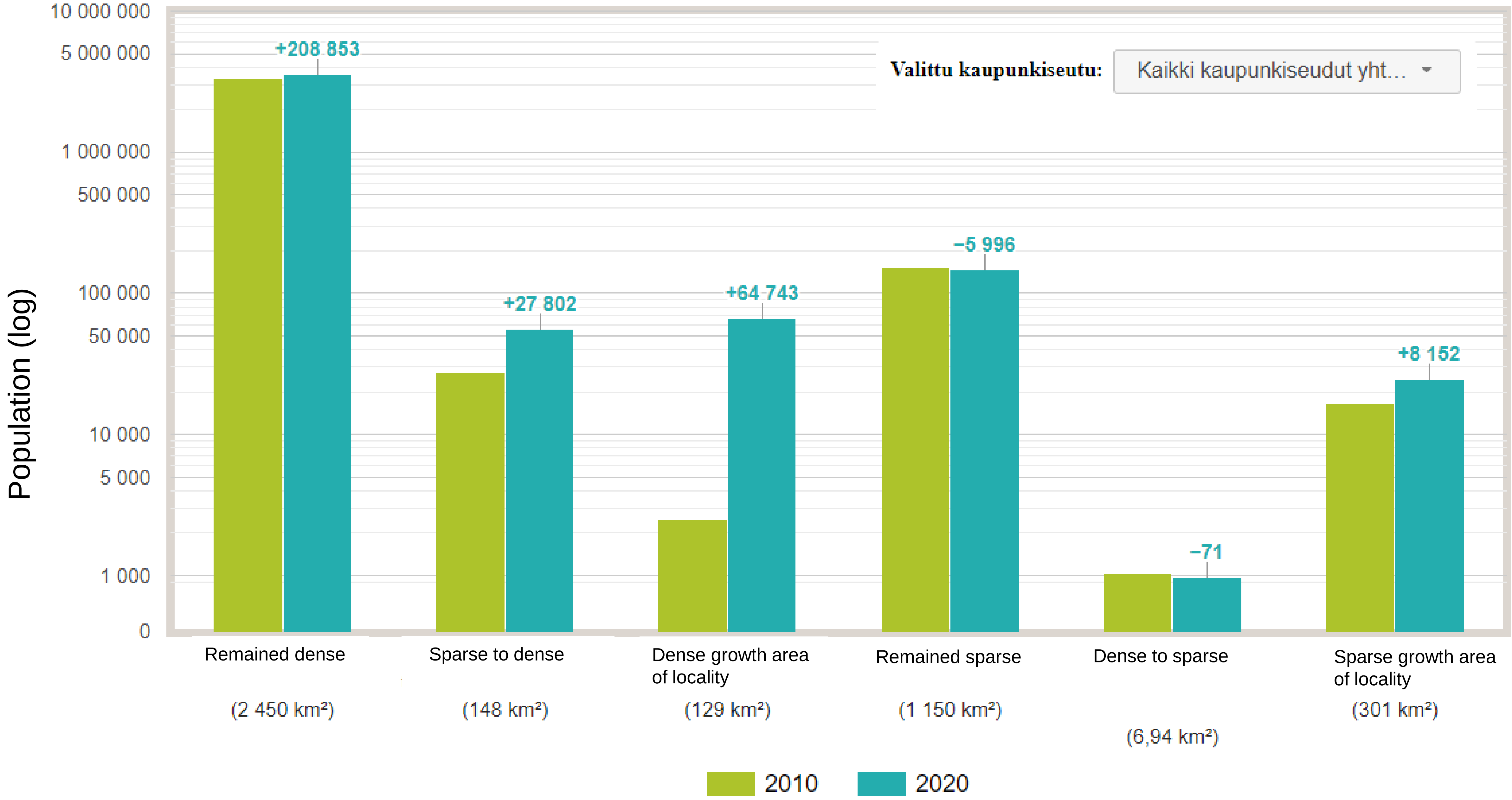
Dynamics of localities in Oulu region 2010-2020



Source: Syke/YKR

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

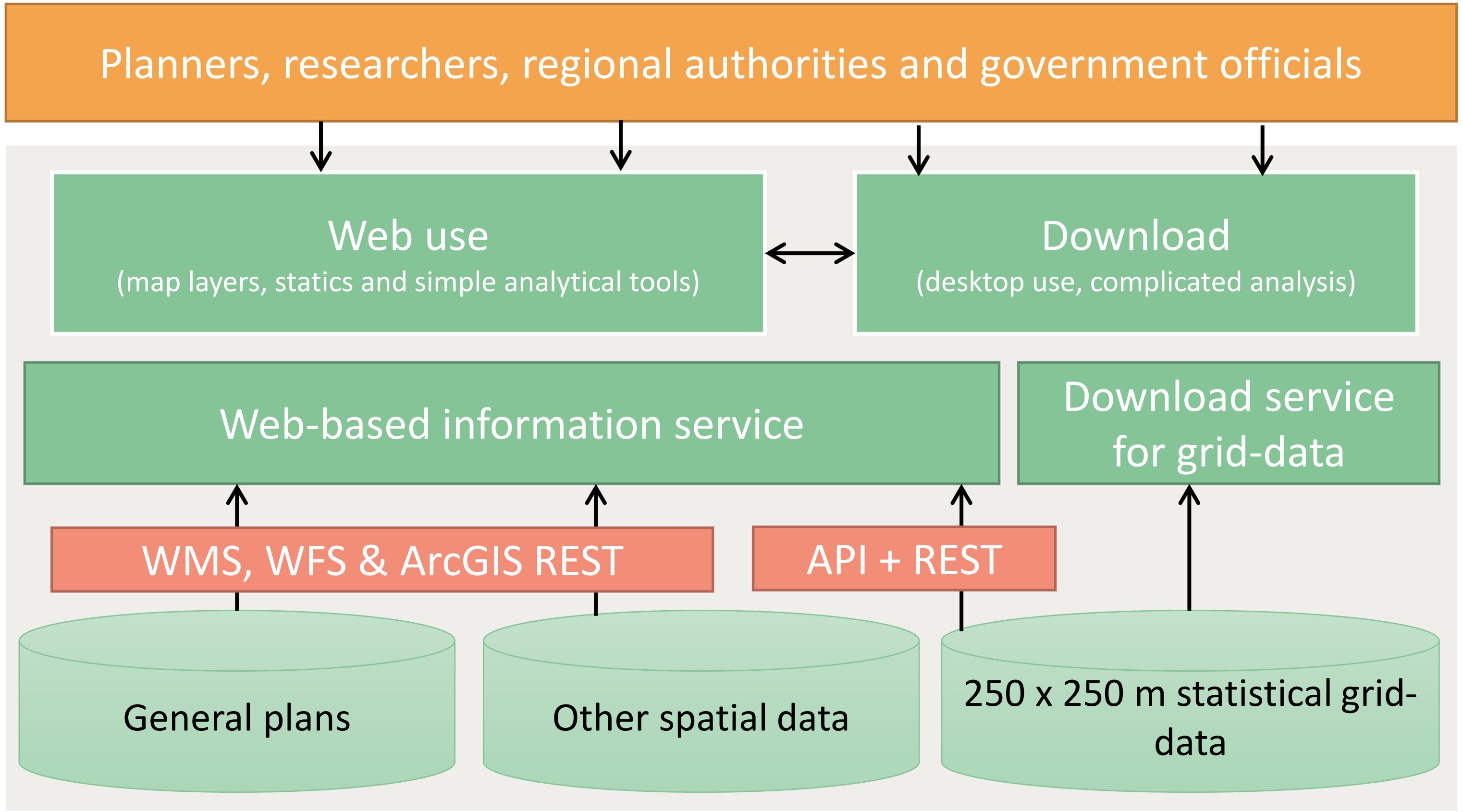
Population in change areas of dense and sparse urban localities 2010-2020



LIITERI information service

http://liiteri.ymparisto.fi/

1300 users monthly



Thank You!

ville.helminen@syke.fi

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute