



PBL Netherlands Environmental
Assessment Agency

The rural-urban fringe in the Netherlands: a morphological analysis of recent urban developments

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REAL CORP conference Rome

Research

- Verstedelijking in de stadsrandzone



Scope

- Focus on urban developments (incl. recreational functions)
- Quantitative and qualitative spatial analysis
- Developments 1990-2010

Rural-urban fringe: hybrid landscape



Clearly defined city edges




Soft edges, spatial and functional heterogeneity




Dutch context

1950



 1 miljoen inwoners

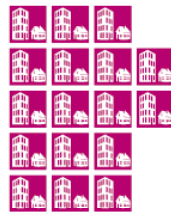
 25.000 hectare stad

 1 miljoen auto's

1970



1990



2010



Dutch context

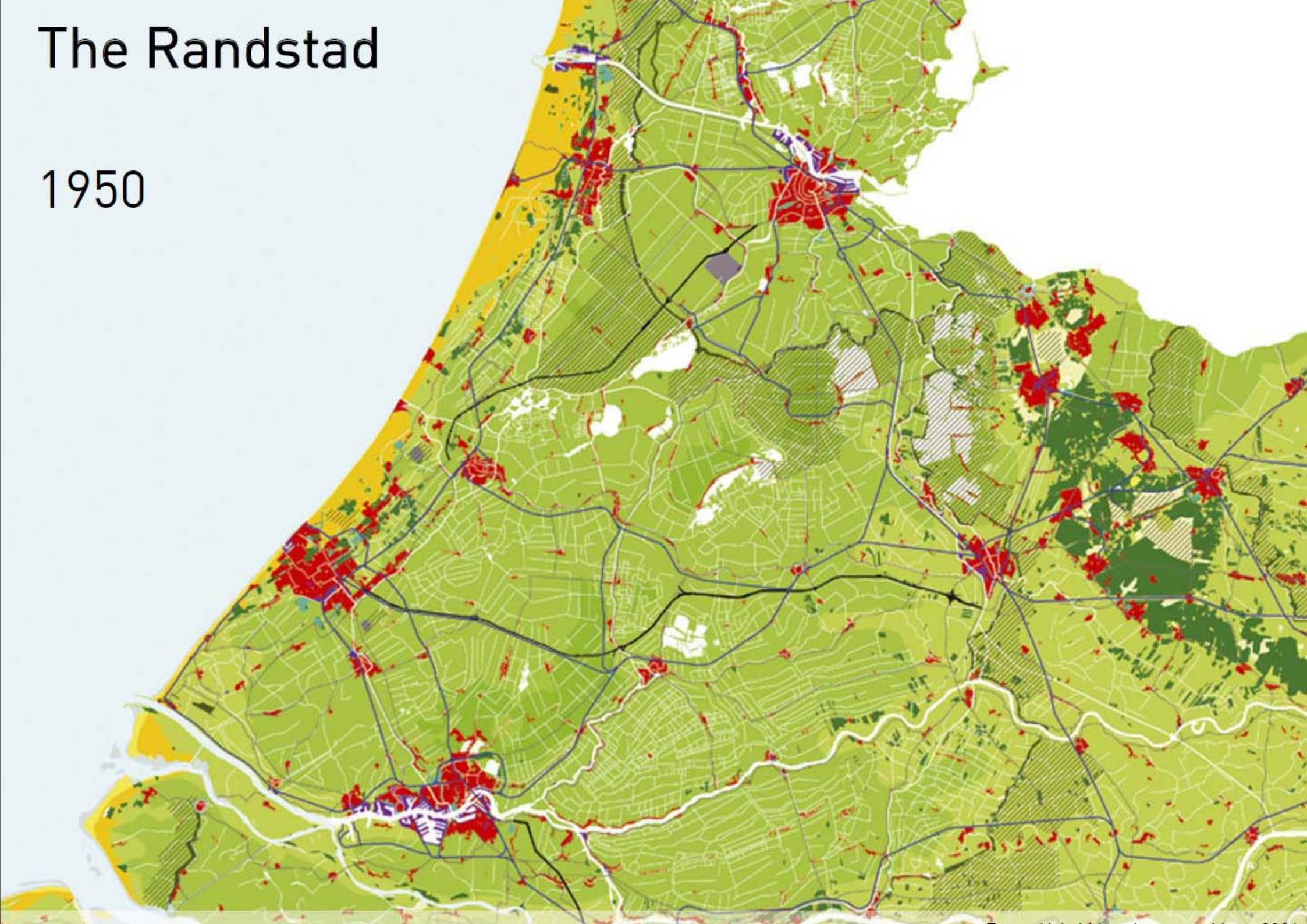


National spatial planning policy -> urban concentration

1901	the Housing Act is passed to improve housing conditions for the working class
1956	the First National Planning Document is published, dealing with the growth of the Randstad Holland
1966	the Second National Planning Document -> clustered dispersal , growth centres and new towns
1979	the Third Second National Planning Document
1988 1992	the Fourth National Planning Document , followed-up by Vinex , plans to accelerate the building of affordable houses -> compact city
2004	Planning Document Nota Ruimte continues VINEX
2012	Planning Document SVIR : -> national concentration policy abolished

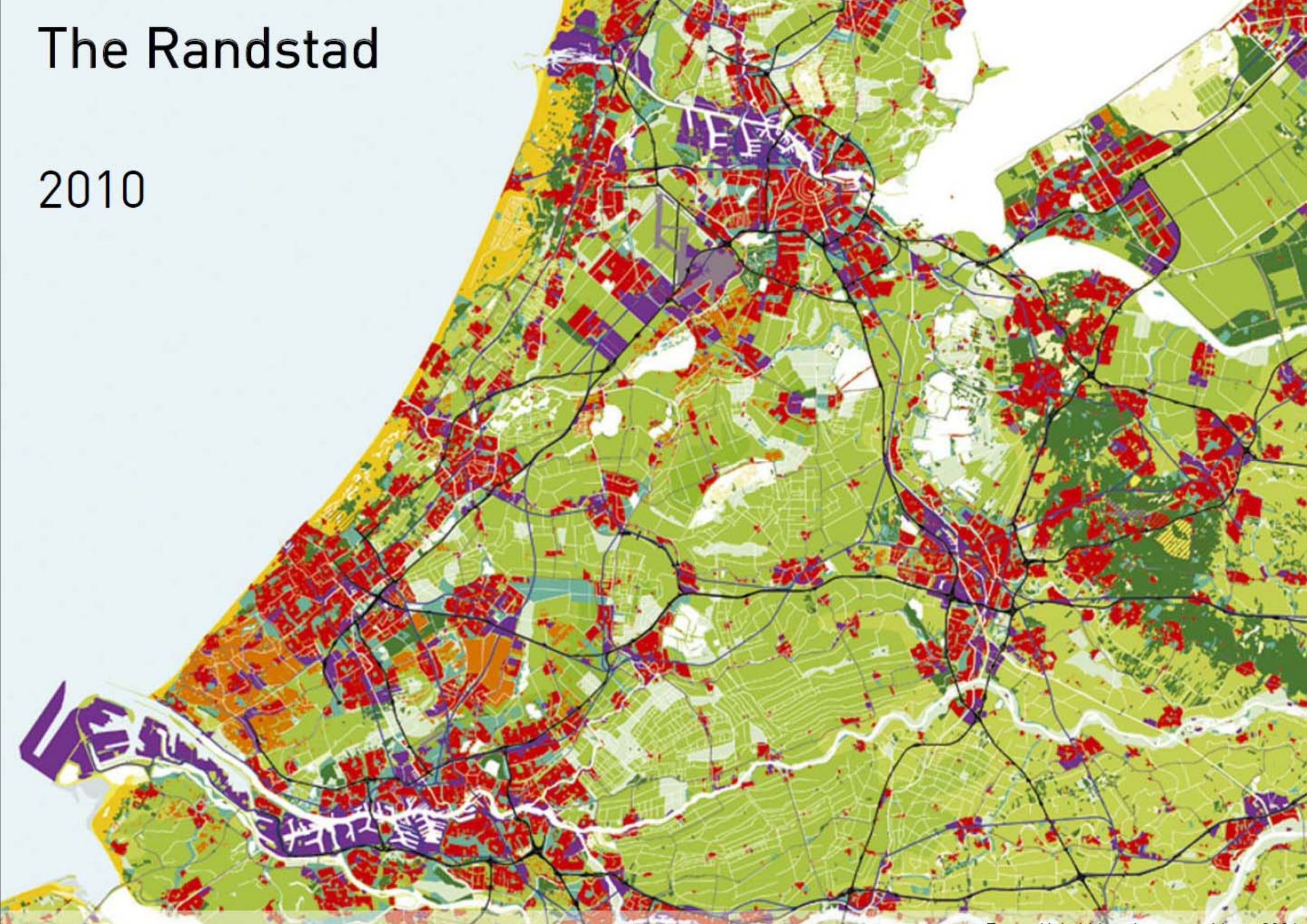
The Randstad

1950

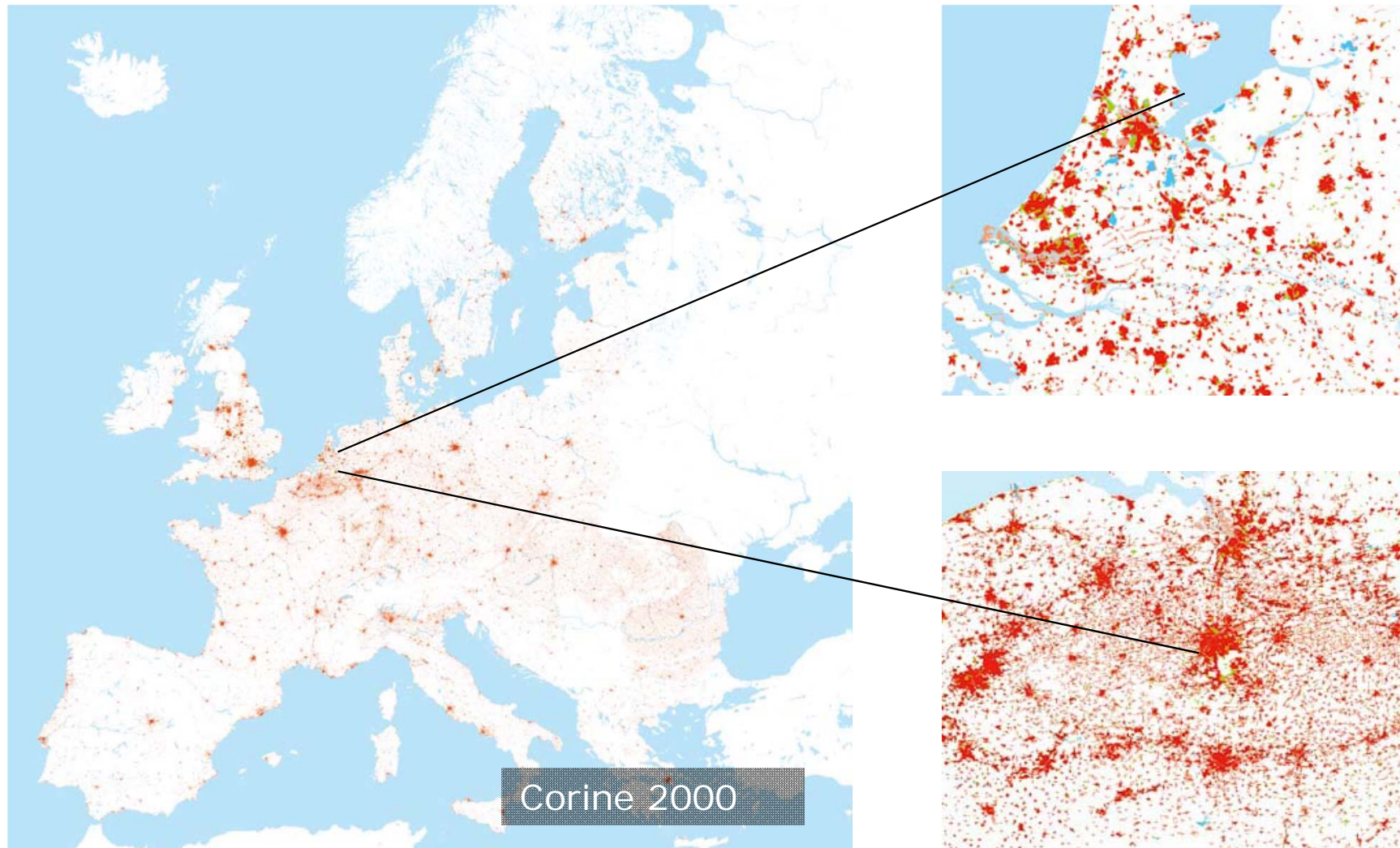


The Randstad

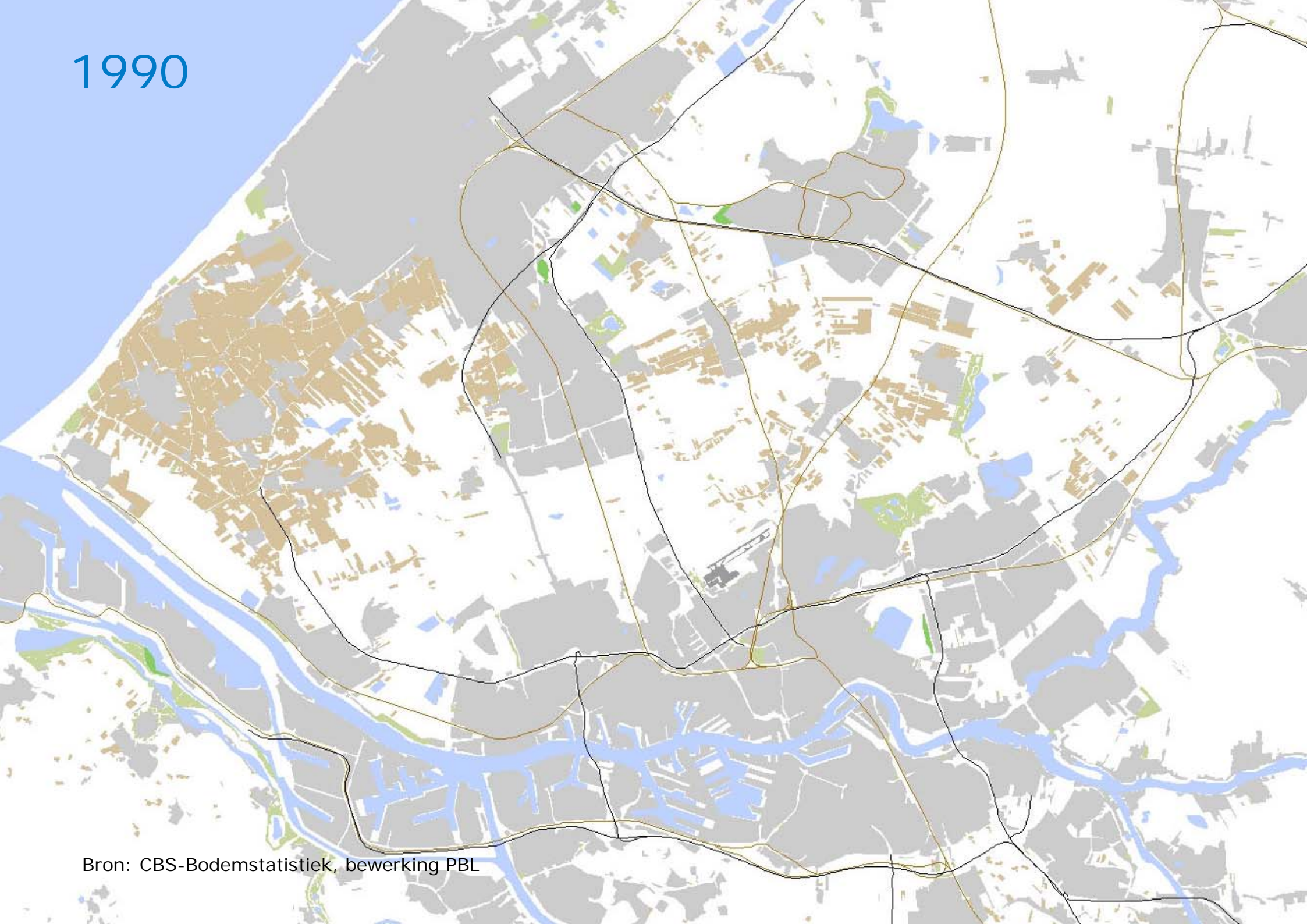
2010



NL / Belgium: morphology visible in Corine

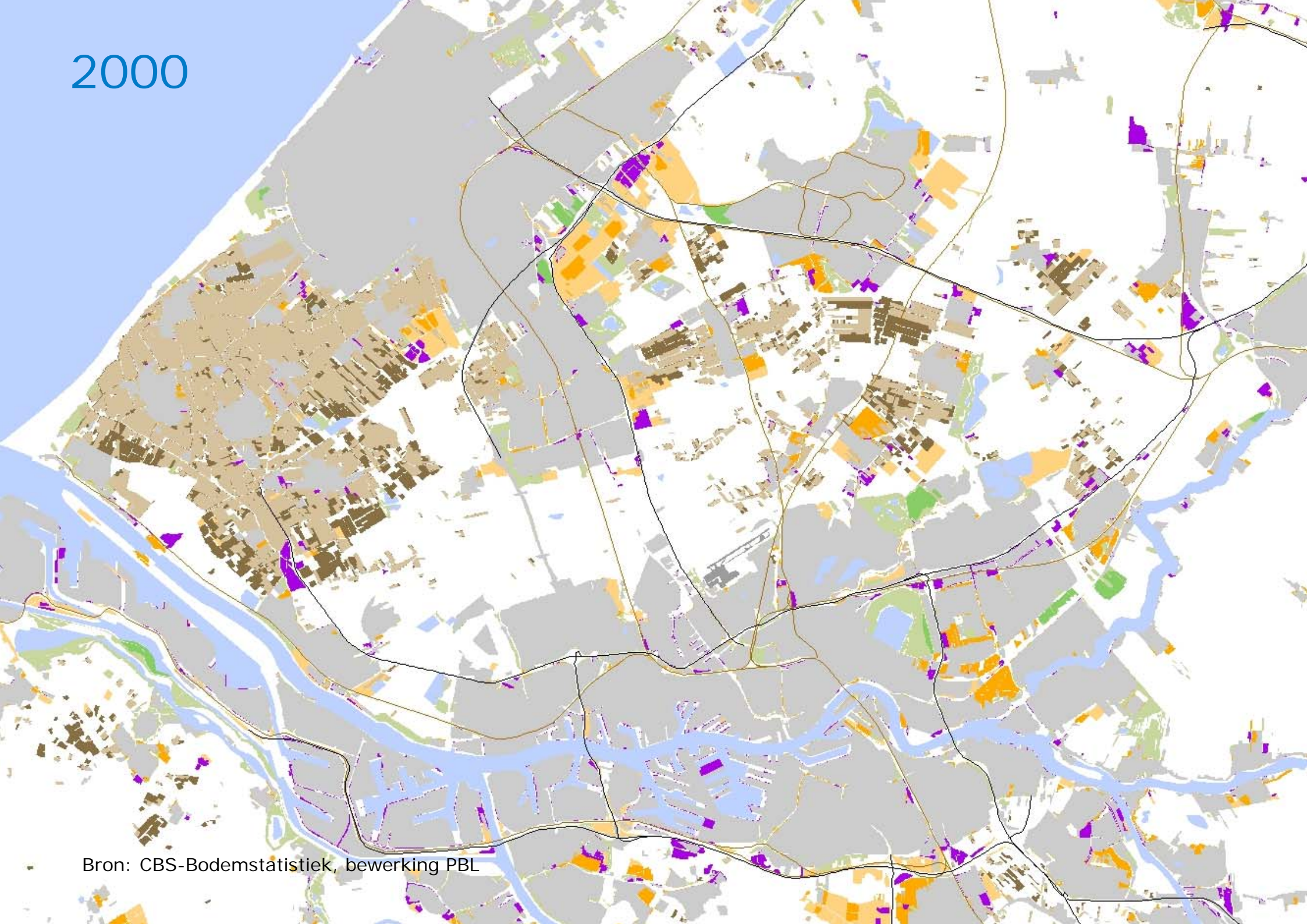


1990



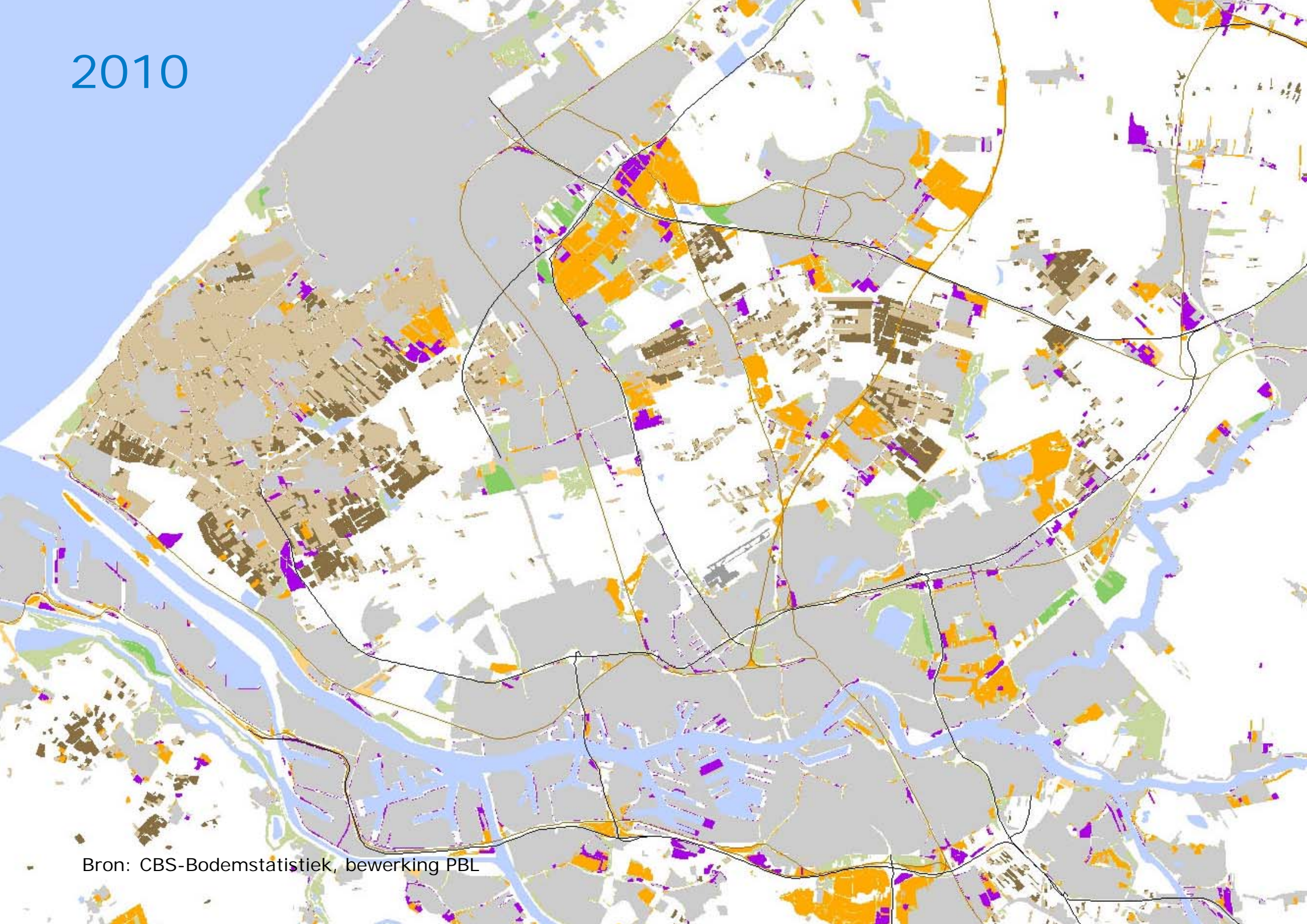
Bron: CBS-Bodemstatistiek, bewerking PBL

2000



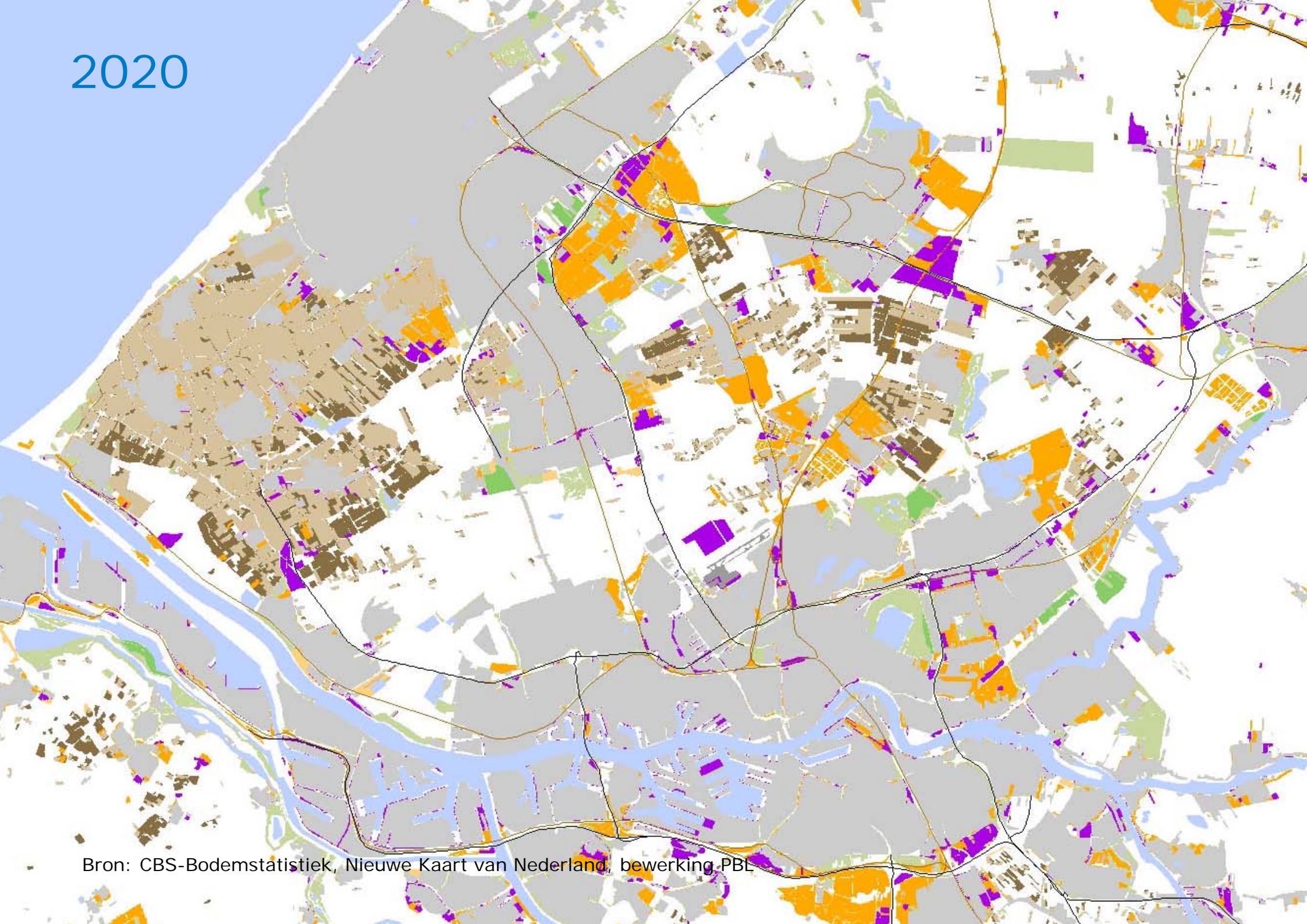
Bron: CBS-Bodemstatistiek, bewerking PBL

2010



Bron: CBS-Bodemstatistiek, bewerking PBL

2020



Bron: CBS-Bodemstatistiek, Nieuwe Kaart van Nederland, bewerking PBL

Research questions

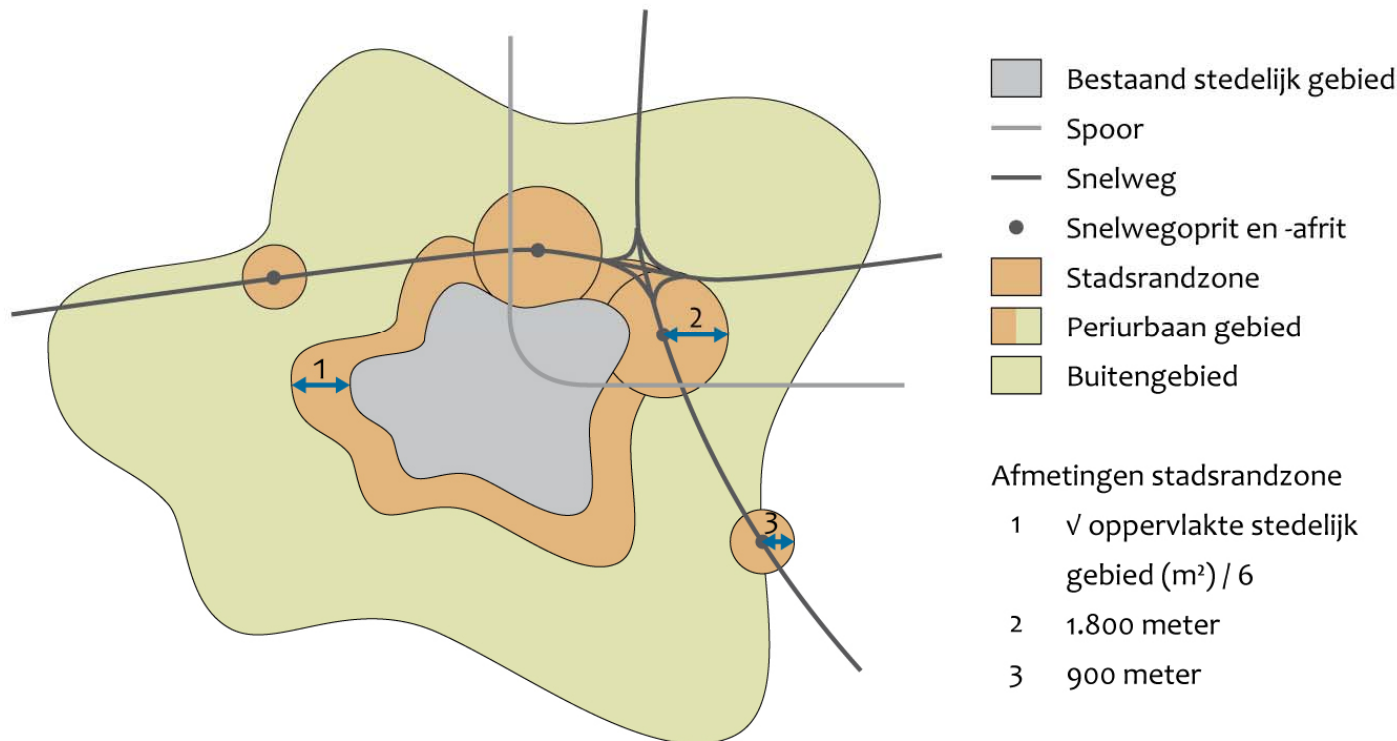
- What is the **scale** of recent urban developments at the rural-urban fringe in the Netherlands?
- What **types** of urban developments can be distinguished?
- What are the morphological structures at the **regional scale**?
- How do the urban developments relate to **policy ambitions** to keep urban areas compact?
- And finally, what are **future challenges** for policy makers, urban planners and designers concerning urban developments at the rural-urban fringe?

Method

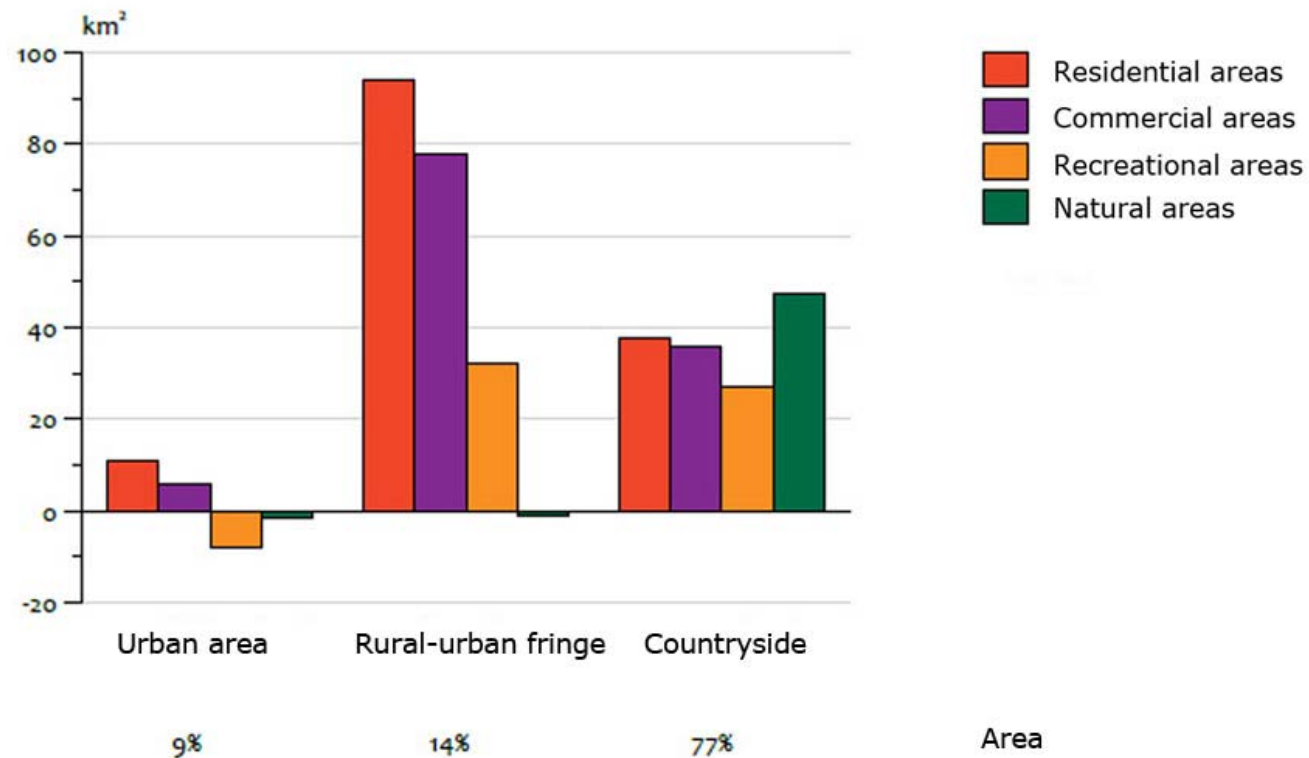
- Quantitative analysis (land-use statistics)
- Qualitative morphological analysis (typologies, functions, patterns, characteristics): looser spatial definition of the rural-urban fringe

Definition of the rural-urban fringe

- The rural-urban fringe is an area between the city and the countryside. This area is like a shell around the existing urban area and follows its irregular contours.



Quantitative analysis: most urban developments at the rural-urban fringe



Source: CBS, edited by PBL

Qualitative analysis: 7 types of urban developments at the rural-urban fringe



Large-scale residential areas (Vinex-locations)



Small-scale residential areas



Retail centres



Recreational areas



Commercial areas



Office parks

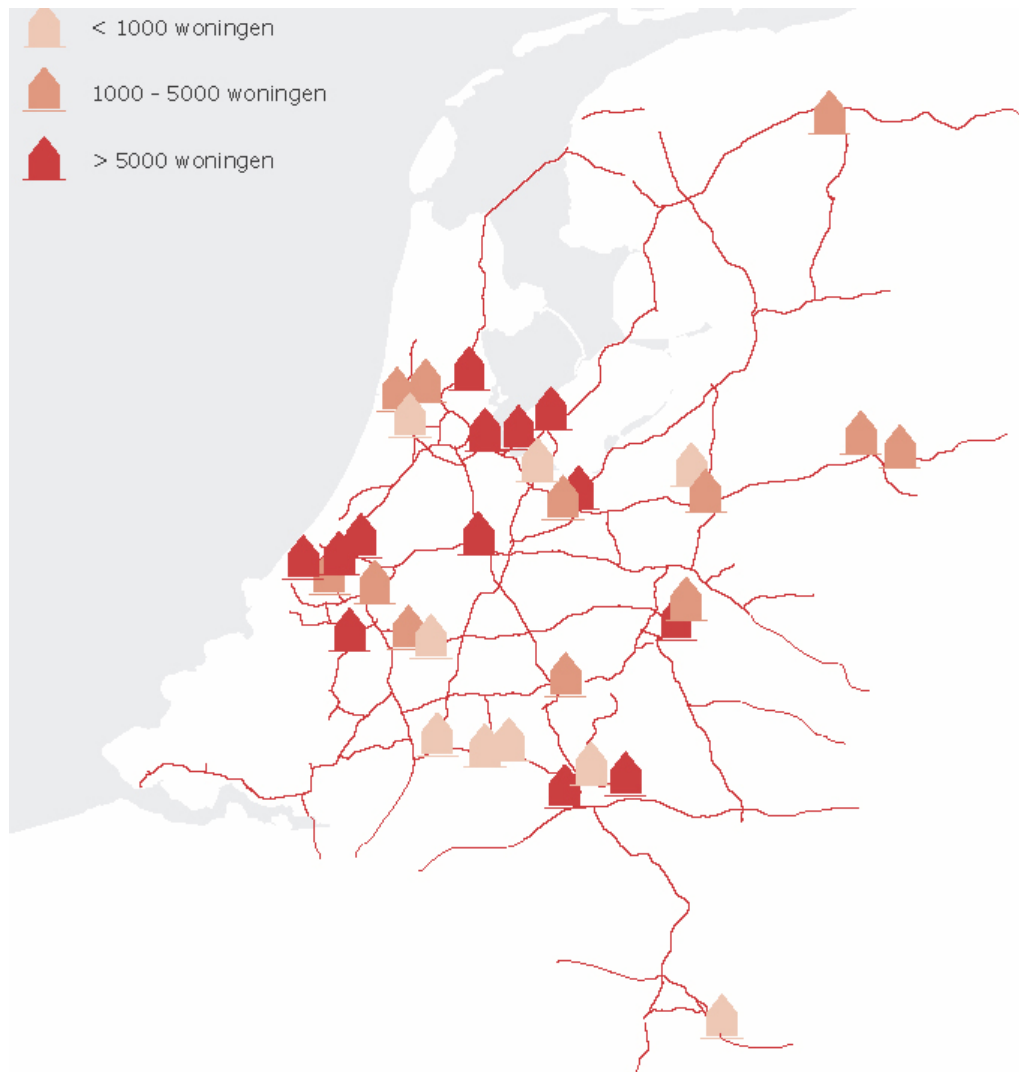


Shadowland (in-between areas)

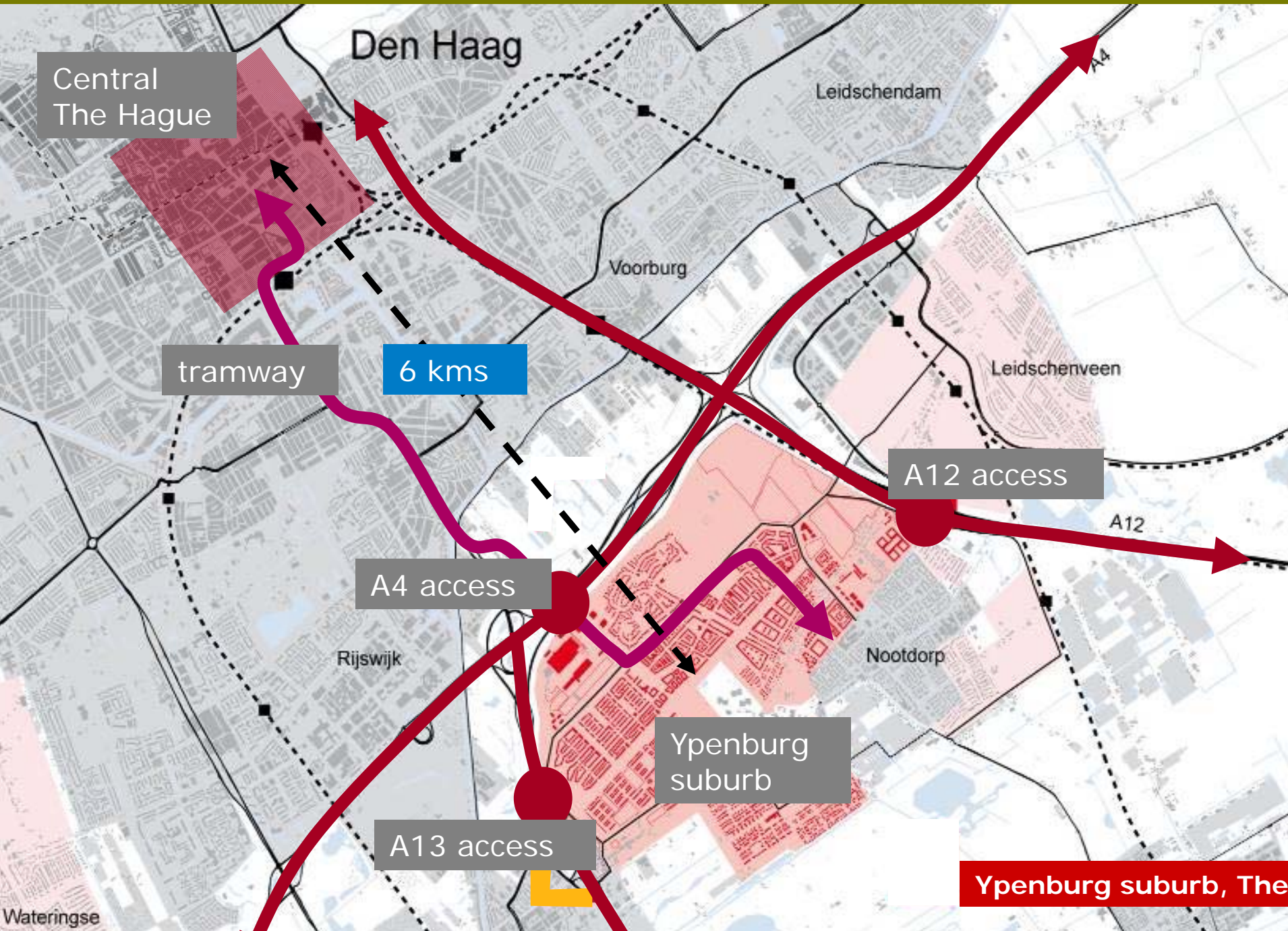
1. Large-scale residential areas (VINEX-locations)



1. Large-scale residential areas (VINEX-locations)



- Locations medium density; lower than cities, higher than countryside
- Locations mainly adjoining existing cities (not sprawl)
- Single use zoning; few facilities
- Locations are car dependent in practice, near motorways (sprawl); but car use less than in non-vinex suburbs



Ypenburg suburb, The Hague



2. Small-scale residential areas (1/2)



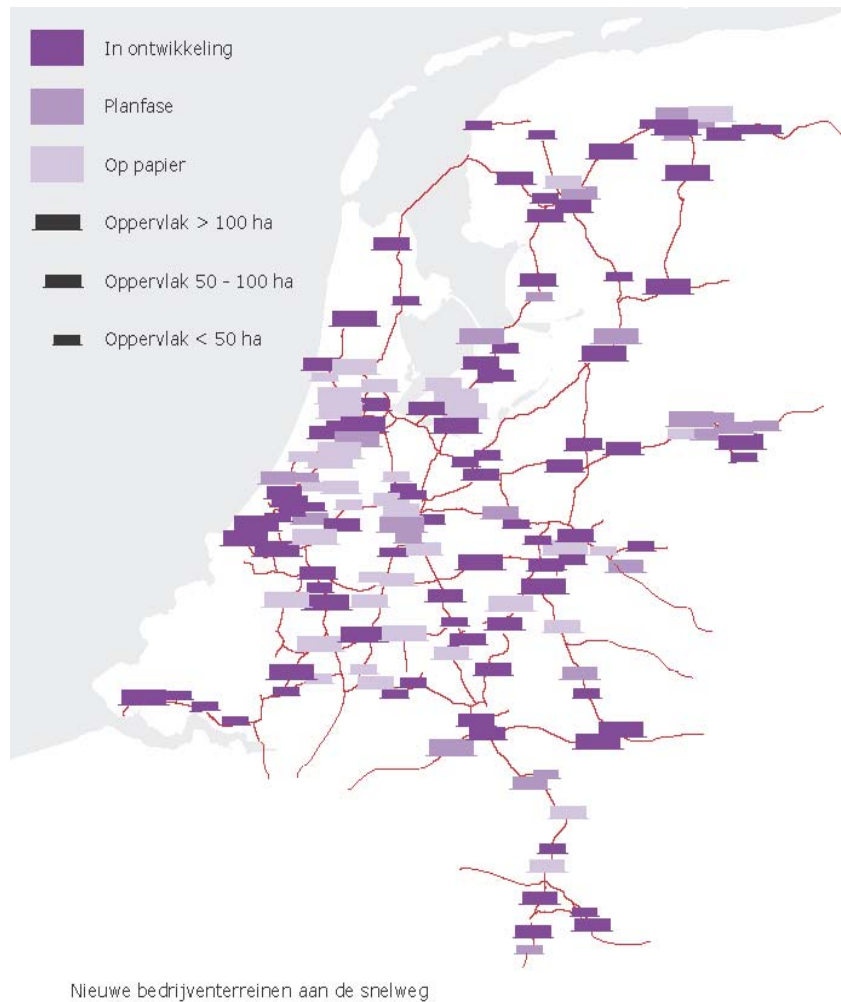
2. Small-scale residential areas (2/2)



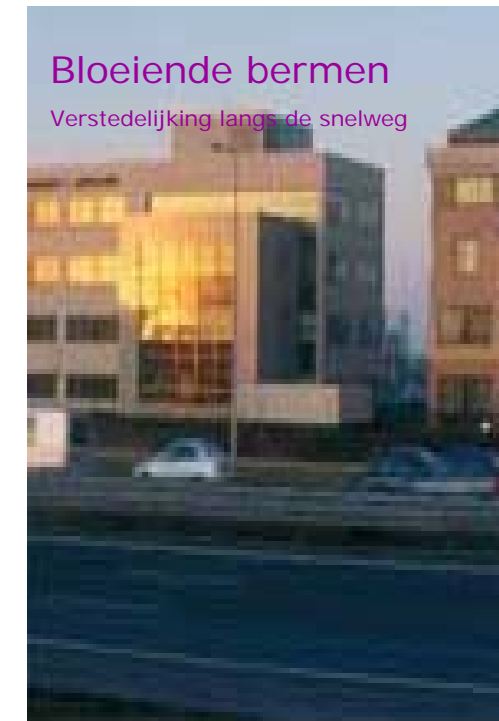
3. Commercial areas



3. Commercial areas



- Growth of office and industrial parks mainly along highways
- Especially on sites visible from highway and near exit



4. Office parks



5. Retail-centers



6. Recreational areas (outdoor)



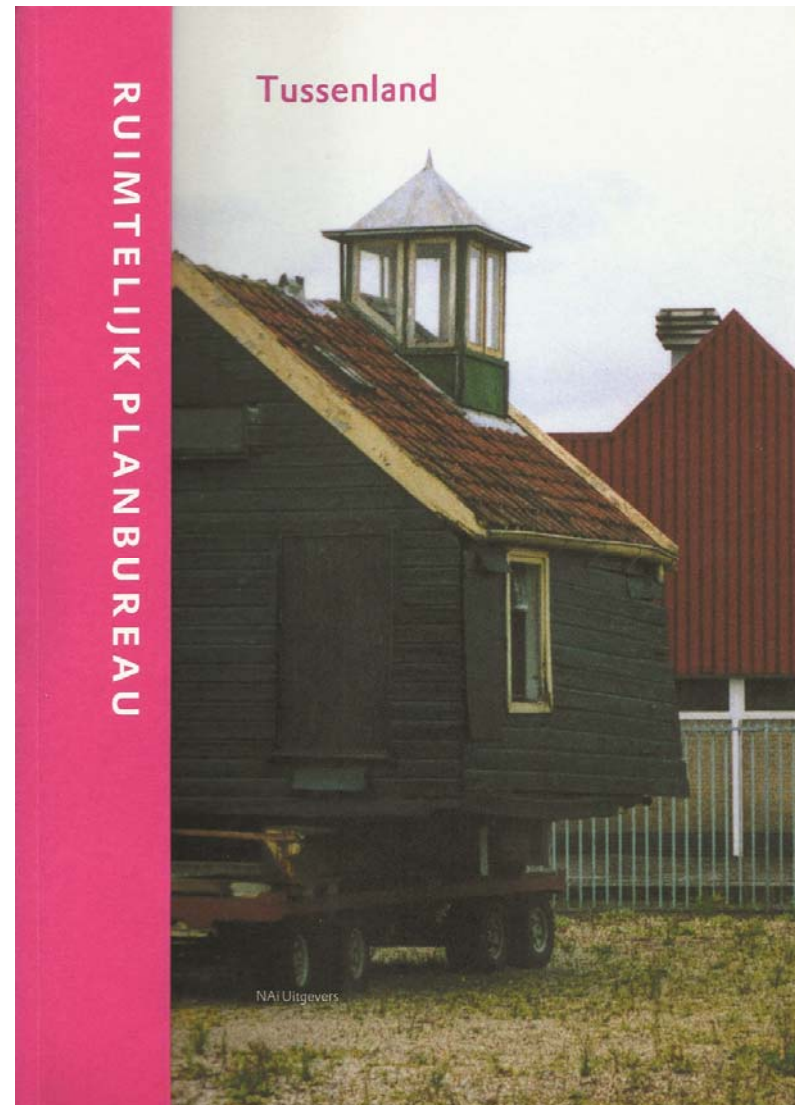
6. Recreational areas (indoor)



7. Shadowland

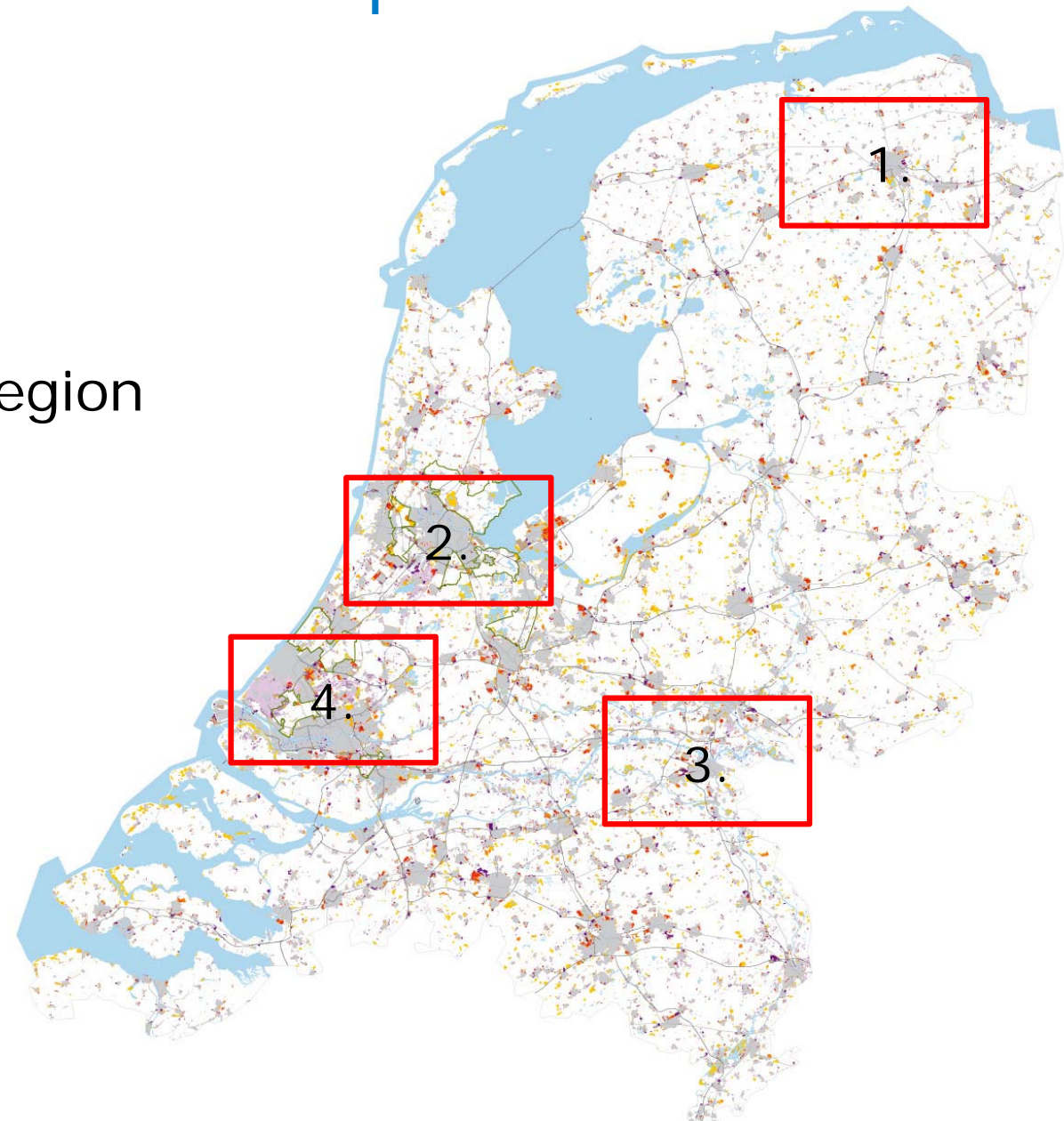


7. Shadowland



Regional comparison: urban patterns

1. Groningen region
2. Amsterdam region
3. Arnhem-Nijmegen region
4. Rotterdam-The Hague region



Ruimtelijke ontwikkelingen 1989-2003

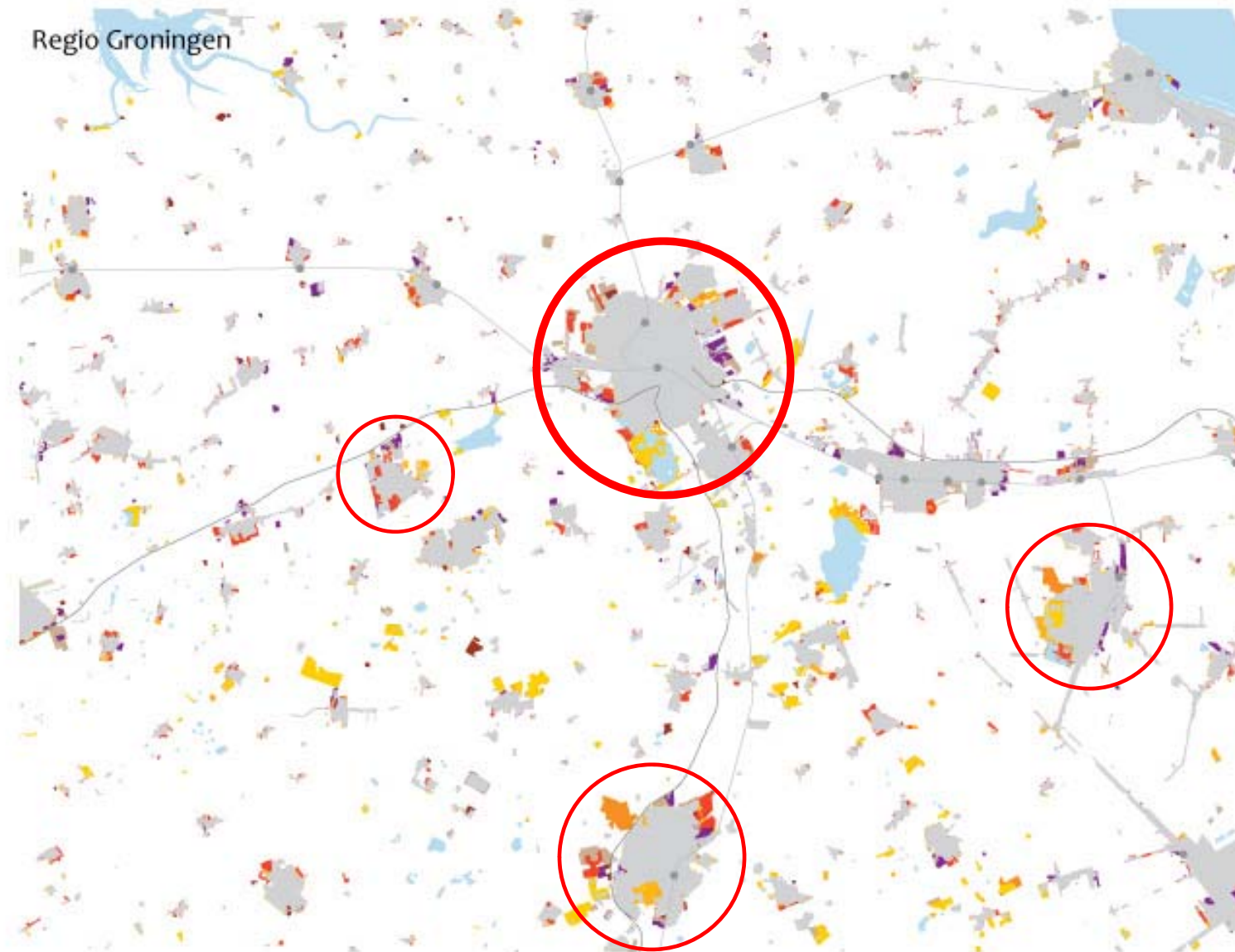
-  Bebouwd gebied 1989
-  Nieuw woongebied 1989-2003
-  Nieuw bedrijventerrein 1989-2003
-  Nieuwe detailhandel en voorzieningen 1989-2003
-  Nieuw bouwterrein 1989-2003
-  Glastuinbouwgebied 1989
-  Nieuw glastuinbouwgebied 1989-2003
-  Recreatiegebied 1989
-  Nieuw recreatiegebied 1989-2003
-  Nieuw golfterrein 1989-2006
-  Water
-  Snelweg
-  Rijksbufferzone 2007
-  Spoor
-  Treinstation



1. Groningen region

Ruimtelijke ontwikkelingen 1989-2003

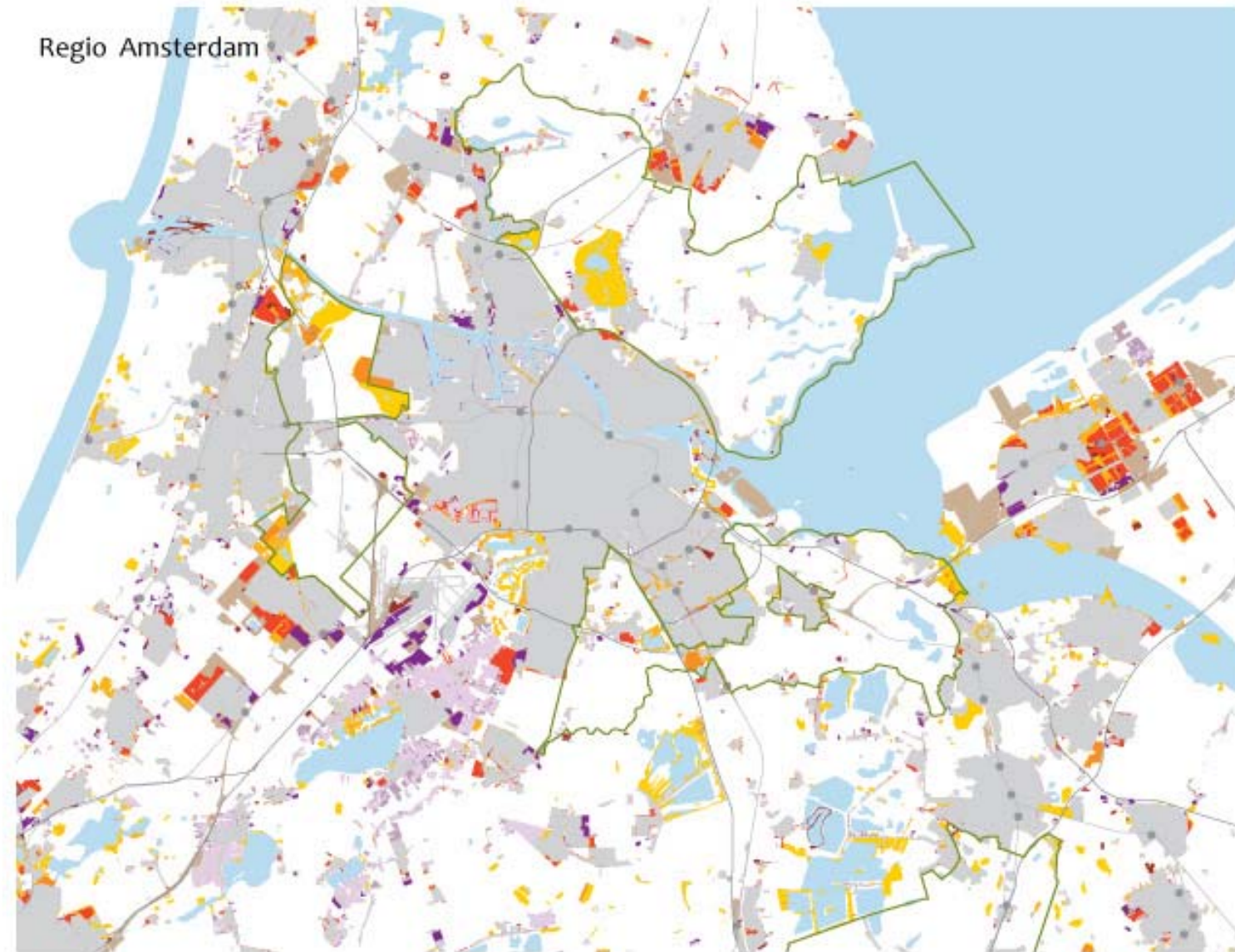
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1. Groningen region > compact extensions

Ruimtelijke ontwikkelingen 1989-2003

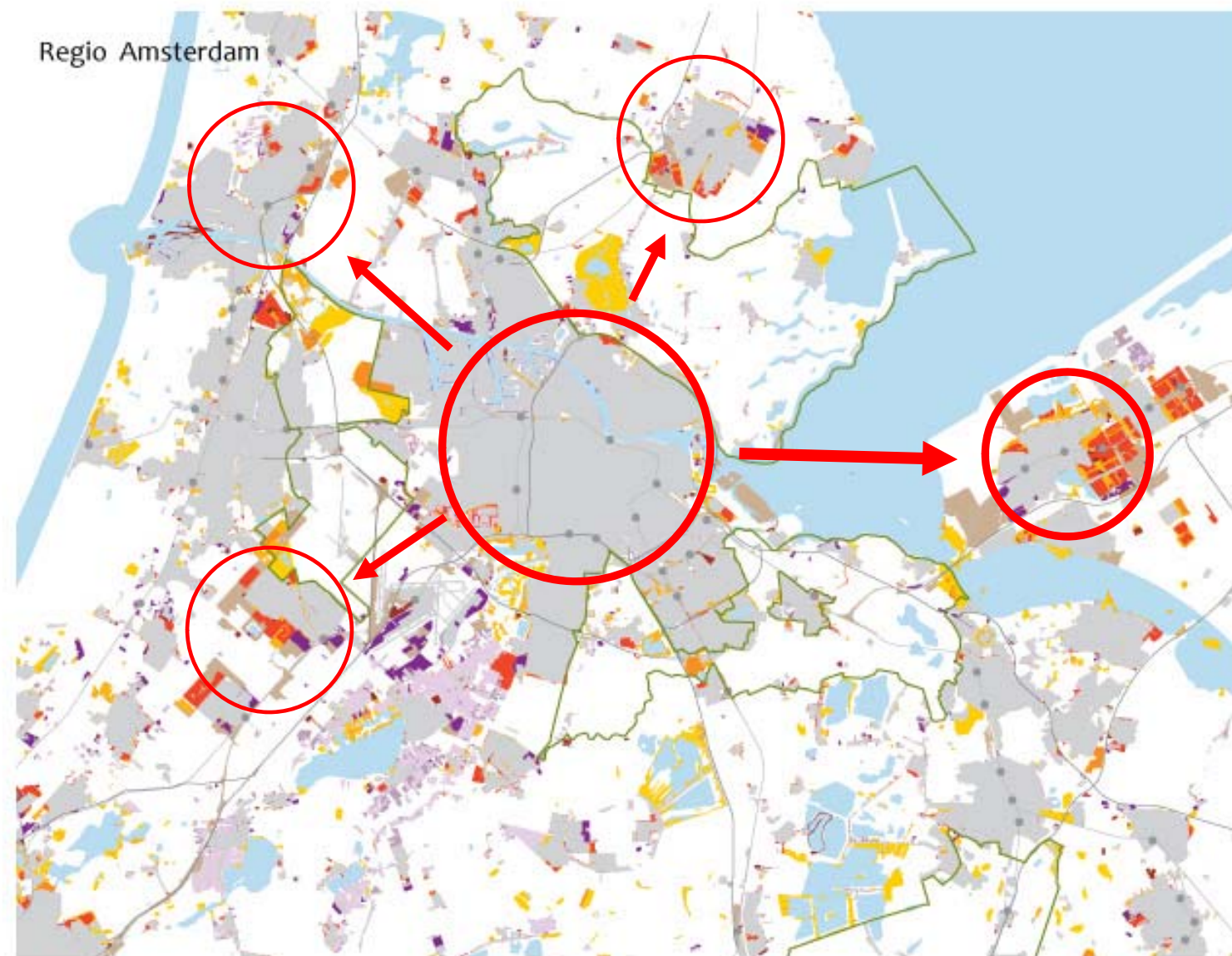
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2. Amsterdam region > shift to smaller cities

Ruimtelijke ontwikkelingen 1989-2003

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- Nieuw woongebied 1989-2003
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2. Amsterdam region > shift to smaller cities

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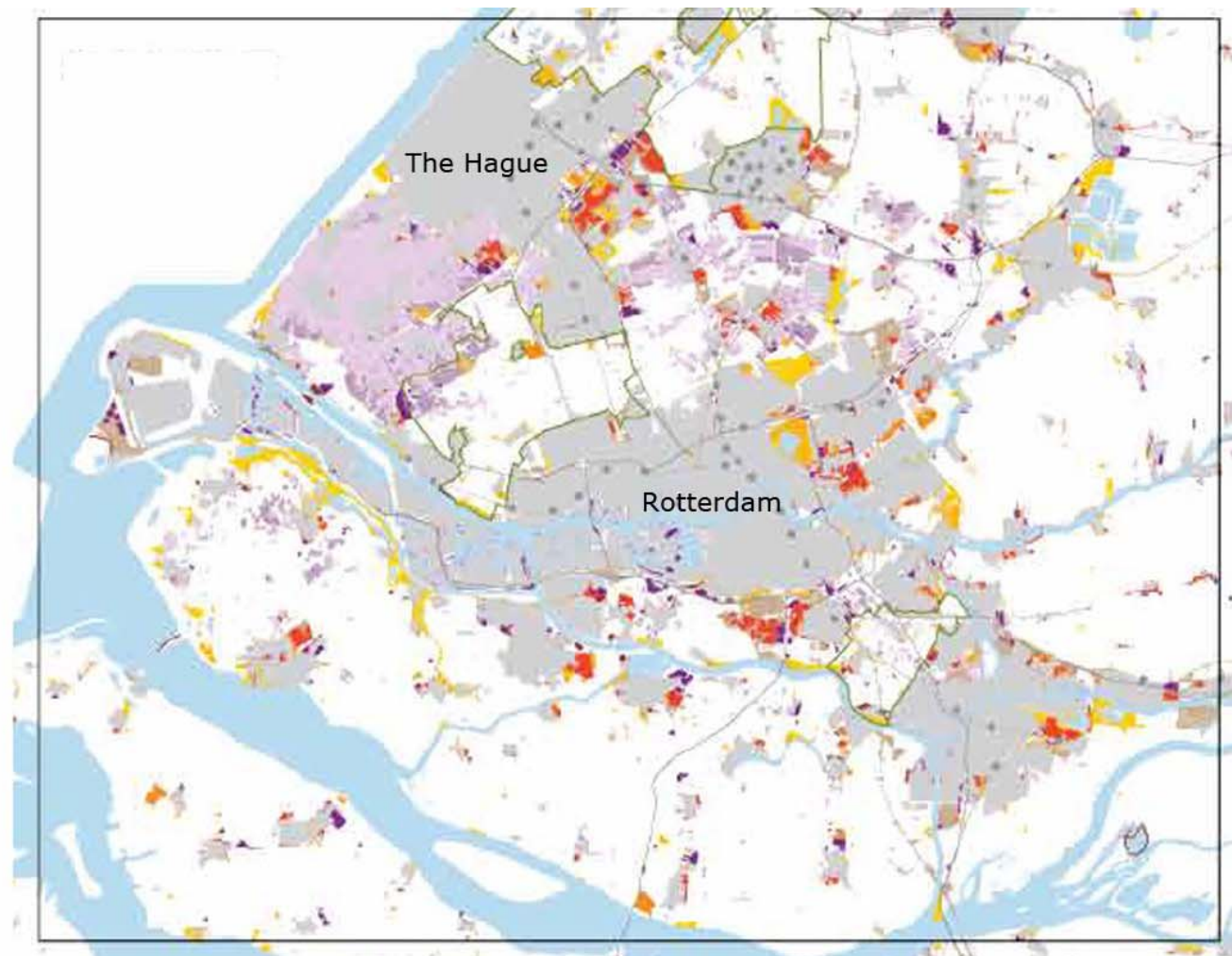
3. Arnhem-Nijmegen region

Ruimtelijke ontwikkelingen 1989-2003



3. Arnhem-Nijmegen region > peri-urban developments

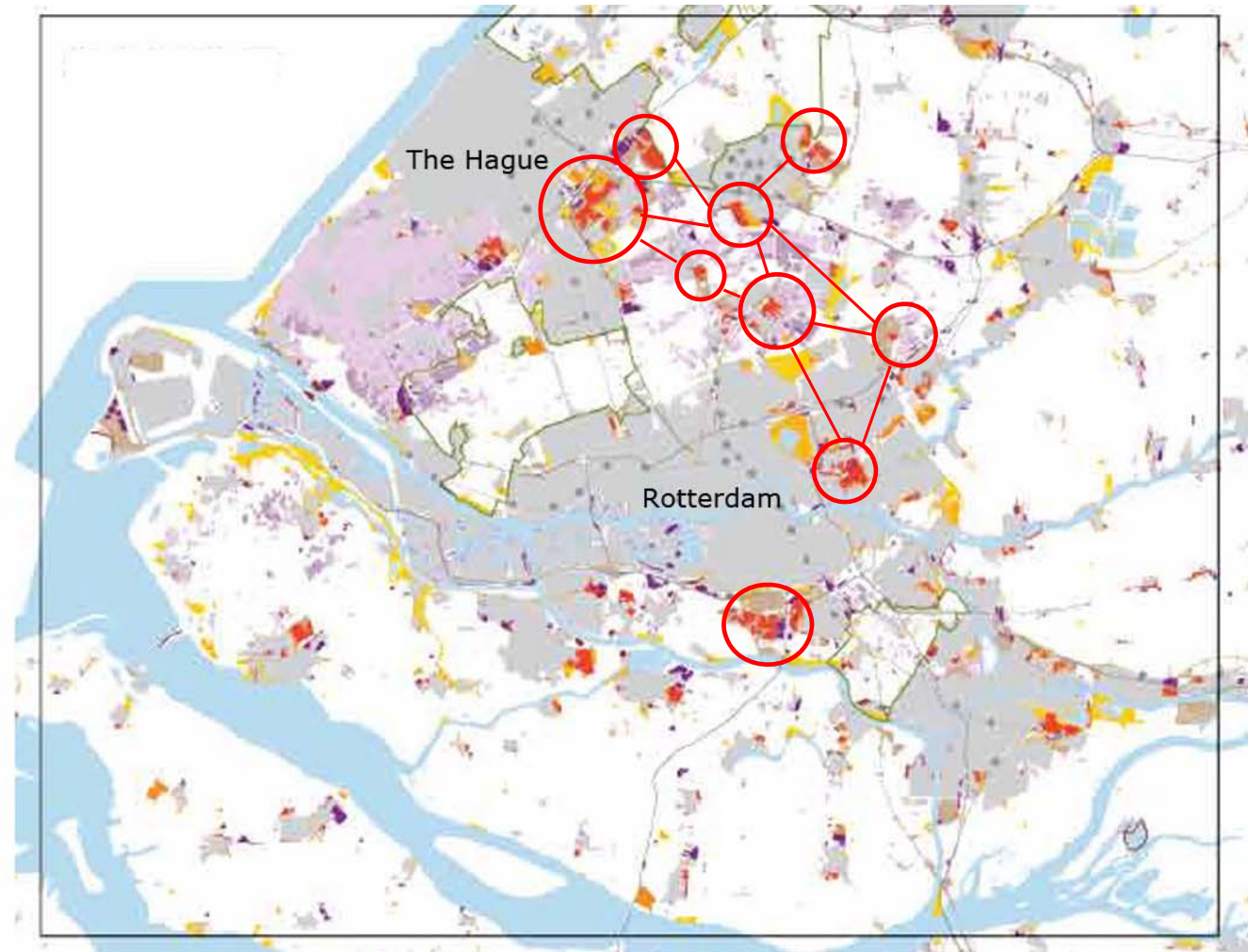
-  Urban area 1989
-  New residential areas 1989-2003
-  New commercial areas 1989-2003
-  New retail areas 1989-2003
-  Areas under construction 1989-2003
-  Greenhouse areas 1989
-  New greenhouse areas 1989-2003
-  Recreational areas 1989
-  New recreational areas 1989
-  Buffer zone



Source: CBS, edited by PBL

4. Rotterdam-The Hague region

-  Urban area 1989
-  New residential areas 1989-2003
-  New commercial areas 1989-2003
-  New retail areas 1989-2003
-  Areas under construction 1989-2003
-  Greenhouse areas 1989
-  New greenhouse areas 1989-2003
-  Recreational areas 1989
-  New recreational areas 1989
-  Buffer zone



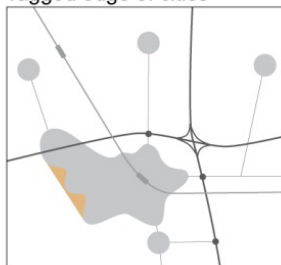
Source: CBS, edited by PBL

4. Rotterdam-The Hague region > peri-urban developments

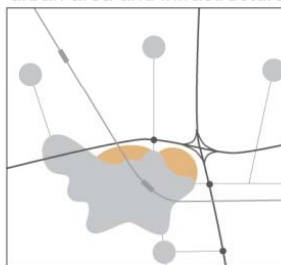
Future patterns

Pattern

P7: developments along the ragged edge of cities



P8: developments in the zones between urban area and infrastructure



- Existing urban area
- Spatial pattern
- Motorway
- Motorway exits
- Motorway node
- Main access route
- Railway
- Railway station

Example area

V7: De Volgerlanden, IJsselmonde



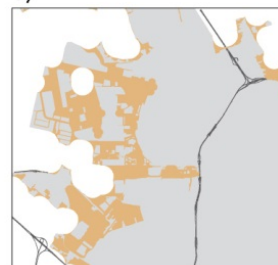
V8: Veenendaal-Ede



- Focus area
- Urban area 1989
- New business estates 1989-2003
- New residential area 1989-2003
- New construction area 1989-2003
- Motorway
- Motorway exits
- Railway
- Railway station

TA-factor

T7



T8



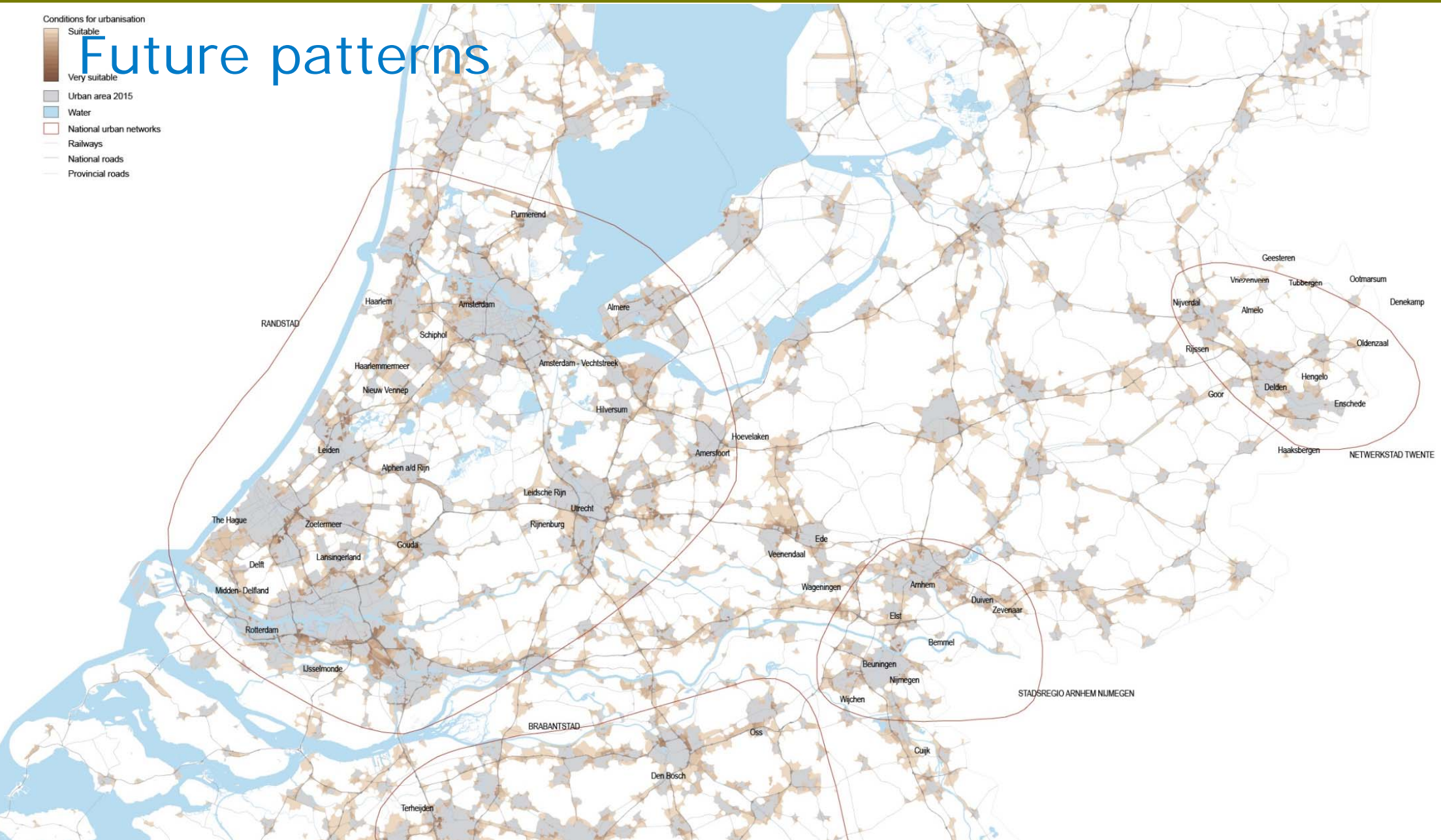
- Existing urban area
- Spatial pattern
- Motorway
- Railway



Conditions for urbanisation

- Suitable
- Very suitable
- Urban area 2015
- Water
- National urban networks
- Railways
- National roads
- Provincial roads

Future patterns



Main findings

- **Strong increase** of urban functions at the rural-urban fringe, leading to increasingly **dispersed patterns of urbanization**
- New residential areas are rather **compact**, whereas new commercial and recreational areas show a more **fragmented** pattern
- **Significant** regional differences
- At the local level, urban compaction policy seems quite **successful**, whereas at the regional level, in some regions local developments add up to traditionally unwanted urban development patterns.
- **Function separation** and single functionality, in many cases these entities are separated by infrastructural bundles

General conclusions

- The **rural-urban fringe** has become much more than just a peripheral zone.
- Planning at the rural-urban fringe **requires special attention** from policy makers, urban planners, landscape architects and architects.

Conclusions (landscape/architects)

- **At the local level**, planners and designers should develop strategies to (1) **create multi-functional areas** with shared facilities, (2) **improve connections** between separated functions and (3) **upgrade the identity** of places at the fringe.
- **Shift** from planning new areas towards **redesigning existing areas**.

Conclusions (policy makers and planners)

- Different regions show different urbanisation patterns: the resulting spatial **planning task differs**
- **At the regional and national level**, sector-based policy for housing, employment, infrastructure, recreation and nature will remain necessary, but an **integral spatial policy** is also required where the possibilities and limitations are viewed in relation to each other, **transcending the boundaries** between national policy dossiers.

Thank you!



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