

Mestrado em Engenharia do Ambiente / *Master on Environmental Engineering*  
**Gestão e Políticas de Ambiente e Território/**  
***Environment and Territory Management and Policies 4/P4***

*Territorial environmental components*  
*- socio-economic*

Prof. Doutora Maria do Rosário Partidário

# Territorial Environmental Components

**Socio-economic variables** - describe the social characteristics and economic activities of a community

**Determine a potential capacity but also drivers of change**

# KEY SOCIO-ECONOMIC VARIABLES

1. POPULATION – DEMOGRAPHY
2. HOUSING
3. SOCIAL FACILITIES
4. ECONOMIC ACTIVITIES



# SOCIO-ECONOMIC VARIABLES

POPULATION – DEMOGRAPHY- Interest:

To know the population of a region, one of the key development drivers: Characteristics and dynamic

A less-favoured region loses population, hence loses those that can look after resources, heritage, local. And loses tax payers.

An expanding region multiplies opportunities but may risk equity issues, sound development balance and the maintenance of local characteristics.



# SOCIO-ECONOMIC VARIABLES

## POPULATION – DEMOGRAPHY:

Population

Population Density

Age structure (5 yrs classes; M/F)

Physiological balance (mortality, new-bornes)

Active population structure

Three sectors: primary, secondary, terciary

*CAE - Código de Actividade Económica*

Family aggregated revenue

Mobility

- work
- school
- emigration/imigration



# SOCIO-ECONOMIC VARIABLES



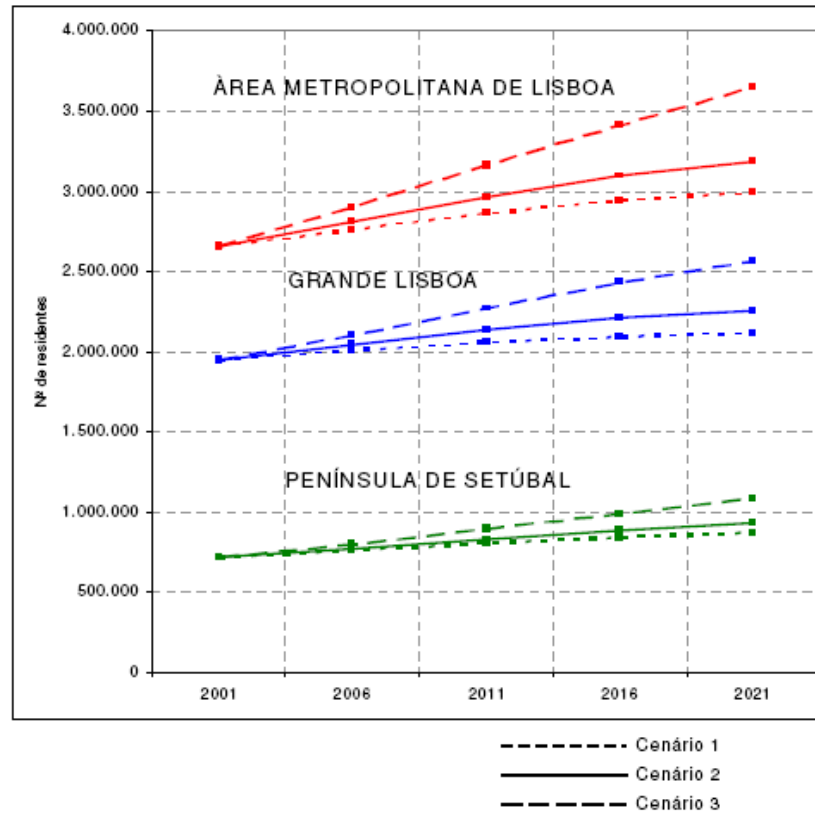
POPULATION – DEMOGRAPHY:  
Sources of information

Direct: INE, Population census (each 10 yrs)  
Municipalities (Local municipal plans - PDMs)

Indirect: Electoral registry  
Nº families x average dimension  
Direct inquiries

# PROT-AML

## Population projections



# SOCIO-ECONOMIC VARIABLES

HOUSING - Interest:

Assessment of needs and characterization of the community socio-economic level

More important at urban levels to characterize the housing availability and quality of construction.





# SOCIO-ECONOMIC VARIABLES



## HOUSING VARIABLES:

Housing park dimension: nr of units

Average House dimension : n° rooms, *capitação área coberta*

Construction period

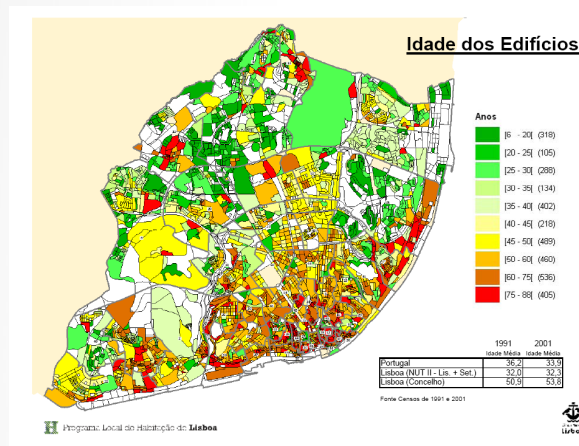
Quality of construction - construction

- materials

- conservation state

Infra-structures – sewage and waste systems (saneamento)

- Water
- WTP
- solid waste collection
- selective collection
- demand index (*nível de atendimento*)
- eletricity, telephone, natural gaz, cable

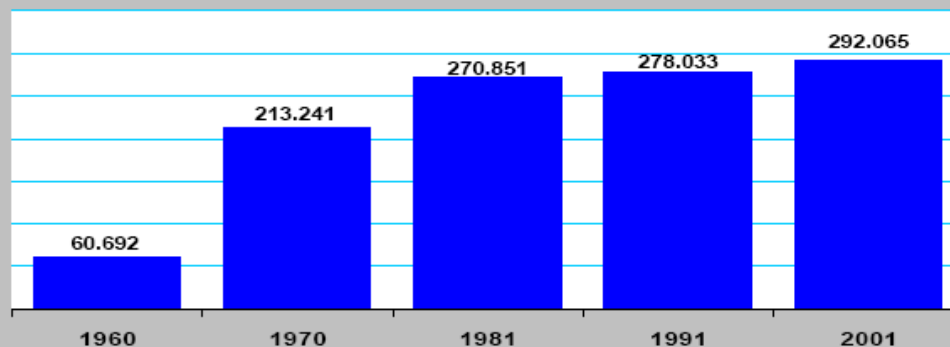


Quando se fala de políticas de habitação, há que considerar dois conjuntos:

Houses

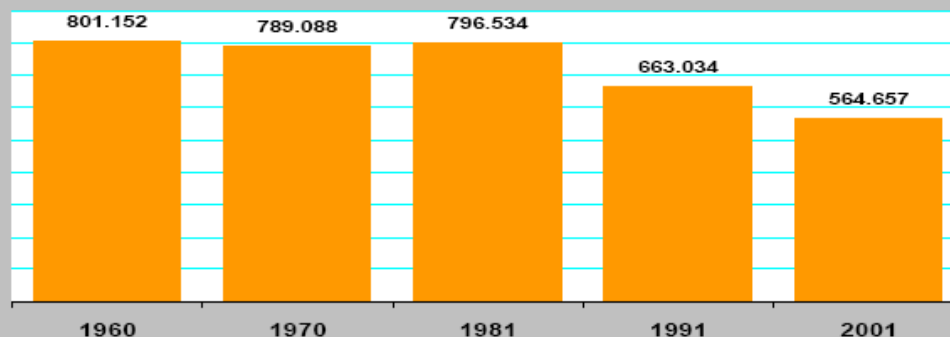
Households

Alojamentos em Lisboa, entre 1960 e 2001



O conjunto de alojamentos tem aumentado sempre desde 1960

População residente em Lisboa entre 1960 e 2001



... mas a cidade perdeu um terço da sua população em vinte anos

# SOCIO-ECONOMIC VARIABLES

## HOUSING Sources of information

Direct: INE, Population and Housing Census ( each  
10 yrs)  
Municipalities (Local municipal plans - PDMs)

Indirect: Electoral registries  
Water counter systems  
Direct counting, Inquiries



# SOCIO-ECONOMIC VARIABLES

SOCIAL FACILITIES Interest:

Structure of the social network: nr units of facilities and level of demand, quality of service and future needs.



# SOCIO-ECONOMIC VARIABLES

SOCIAL FACILITIES education, health, safety, sports, recreation

VARIABLES: nr units

level of demand

- e.g.:
- prof./100 students
  - m<sup>2</sup> room/student
  - medial doctor/1000 inhab
  - pharmacy/1000 inhab

accessibility (areas of influence)



# SOCIO-ECONOMIC VARIABLES

SOCIAL FACILITIES Sources of information

Municipalities, *Juntas de Freguesia*

Respective ministries (Gab. Estudos e Planeamento)

Telephone book



# SOCIO-ECONOMIC VARIABLES



ECONOMIC ACTIVITIES Interest:

Wealth and development generator activities in a region.

Relationship with endogenous resources, dependency in relation to exogenous resources- viability analysis of an activity and the need to keep the endogenous resources

# SOCIO-ECONOMIC VARIABLES

## ECONOMIC ACTIVITIES

AGRICULTURE + FARMING

FORESTRY

FISHERIES

INDUSTRY (EXTRACTIVE AND TRANSFORMING)

TOURISM

TRANSPORTS

TRADE AND SERVICES (INTERNAL AND EXTERNAL)





# SOCIO-ECONOMIC VARIABLES



## ECONOMIC ACTIVITIES VARIABLES

### Employment

#### Units / Areas

- Productivity Index
  - GIP (PIB)
  - GAV (VAB)
  - Resources consumption, energy

#### Sources of information

INE, sectoral statistics

Sectoral ministries, e.g. Tourism stats (DGT) - annual  
CCRs, DRAOTs

Municipalities, including master planning information

# SOCIO-ECONOMIC VARIABLES

## MIGRATIONS

Interest: social capital and mobility

Spatial and temporal scales

CLASSIFICATION    Emigration (ways out)

Immigration (entries)

Expatriates

Seasonal migration

Long-term migration

Short term migration



# SOCIO-ECONOMIC VARIABLES MIGRATIONS

## MIGRATION DRIVERS

- Employment
- Housing
- Education
- Reform
- Marriage
- Socio-cultural supply



## Migration Data: Census

Sec. Est. Emigration. Records

Health Records

Election registry

# TERRITORIAL RESTRICTIONS

Military

Aeronautic

Radioelectric

Prisons

Airports

Roads

Coastal

Rivers

Monuments – Cultural heritage

Protected landscapes

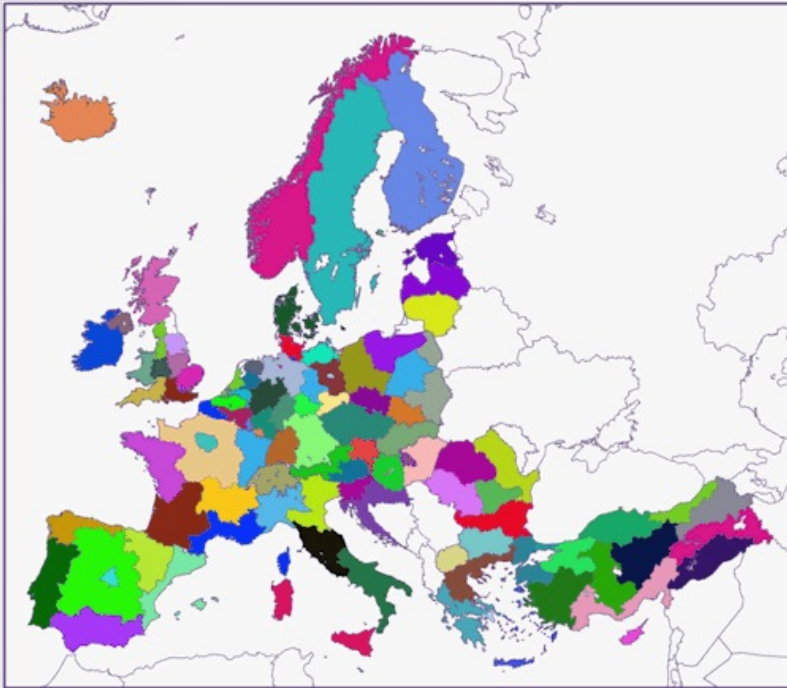
Natural protected areas



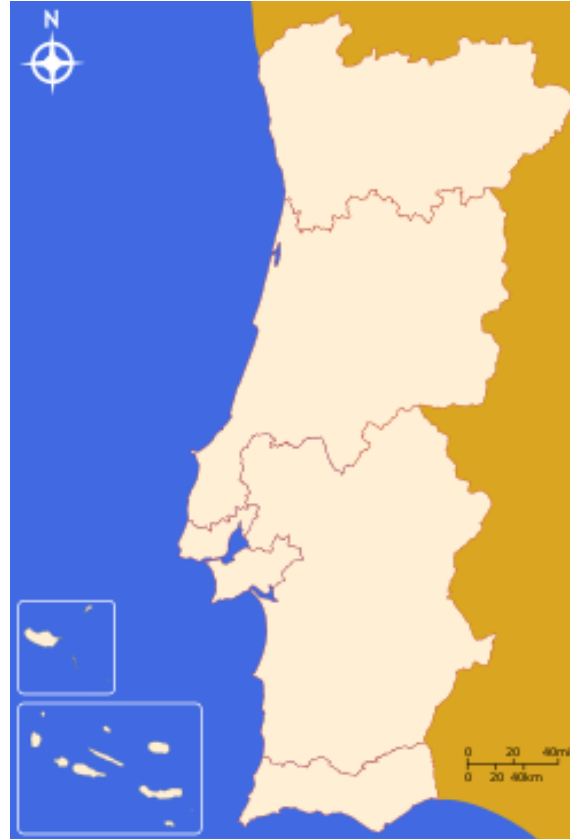
# Sources of Data

NUTS

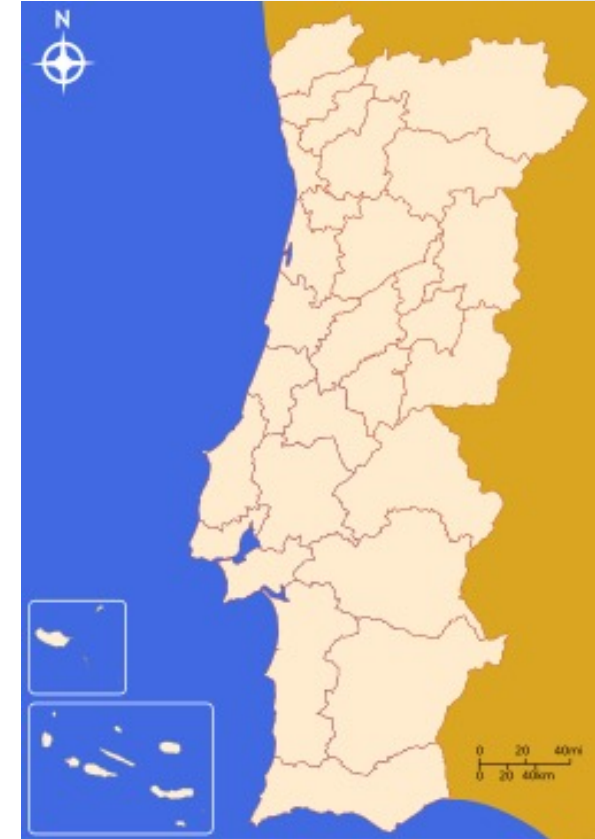
I



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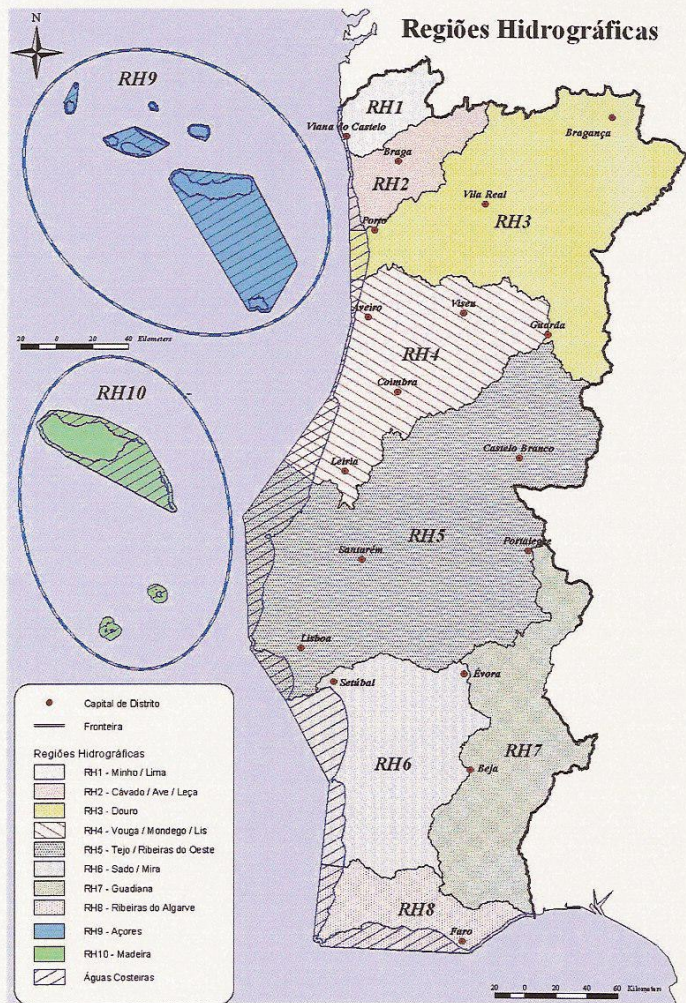


III

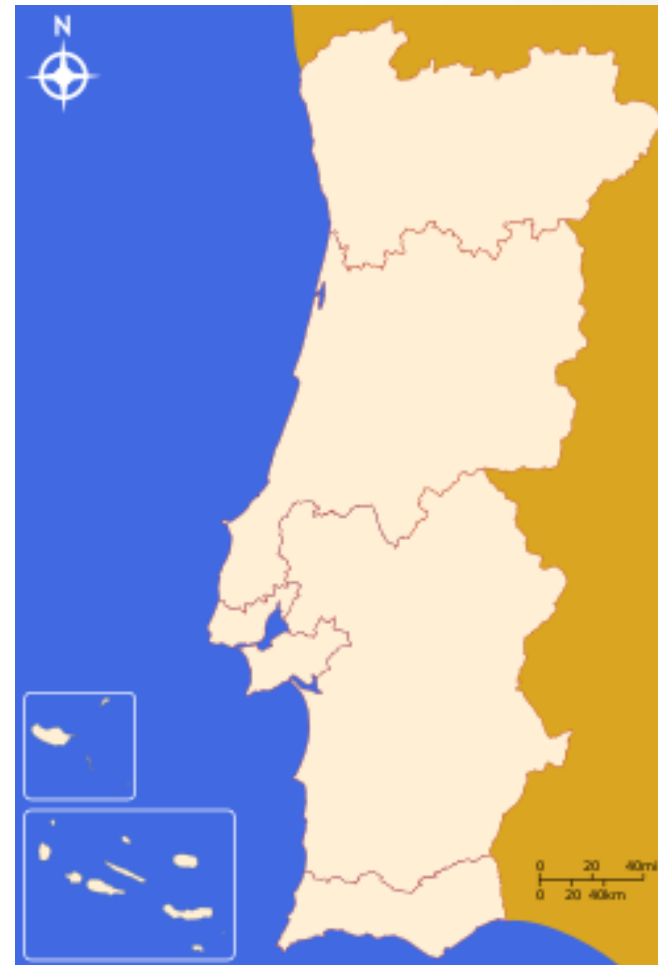


Corine Land Cover

Portugal: COS (Carta Ocupação Solo); Municipal Master Plans



**Watershed Regions**



**NUTS II**

### Thousands of Statistics about Municipalities, Portugal and Europe



Municipalities database analysed in 740 indicators divided into 15 themes

**MUNICIPALITIES**



Portugal database analysed in 1400 indicators divided into 19 themes

**PORTUGAL**



Europe database analysed in 846 indicators divided into 14 themes

**EUROPE**

### Latest Updates

**MUNICIPALITIES**

**Electoral Participation**

Registered individuals: total and by age group

**PORTUGAL**

**Income and Household Expenditure**

Average gross income of households by income tax category

**EUROPE**

**Sustainable Development Goals**

Patent applications to the European Patent Office (EPO) per million inhabitants



<https://www.pordata.pt/en/ODS/Goal/Sustainable+cities+and+communities-11>



MUNICIPALITIES PORTUGAL EUROPE GLOSSARY PUBLICATIONS 2030 AGENDA SDG

Pordata > 2030 Agenda SDG

## Objetivo 11: Sustainable cities and communities



◀ return to all goals



**Make cities and human settlements inclusive, safe, resilient and sustainable**

SDG 11 aims to renew and plan cities and other



# Community well-being Sense of Place

## Bibliography

Vanclay, F., 2008. Place matters (chapter 1) in Making sense of place: exploring concepts and expressions of place through different senses and lenses, edited by Frank Vanclay, Mathew Higgins, Adam Blackshaw. National Museum of Australia Press.

Lynch, K., 1960. The image of the city. MIT Press. Cambridge, Massachussets.

Kumagai, Y. and Partidario, M. 2018 Lasting community wellbeing: Comparison of Lisbon and Tokyo, Sustainable Development, 2018: 1-12

Philips R. and Wond C. 2017. Handbook of Community Well-being Research. Springer

# Community

A group of people with a common characteristic or interest living together within a larger society

Self-organized network of people with common agenda, cause, or interest, who collaborate by sharing ideas, information, and other resources.

Virtual communities consist of participants in online discussions on topics of mutual concern, or of those who frequent certain websites.

Read more:  
<http://www.businessdictionary.com/definition/community.html>



## Community well-being

Wide-ranging concept, encompassing multiple dimensions related to people and their communities

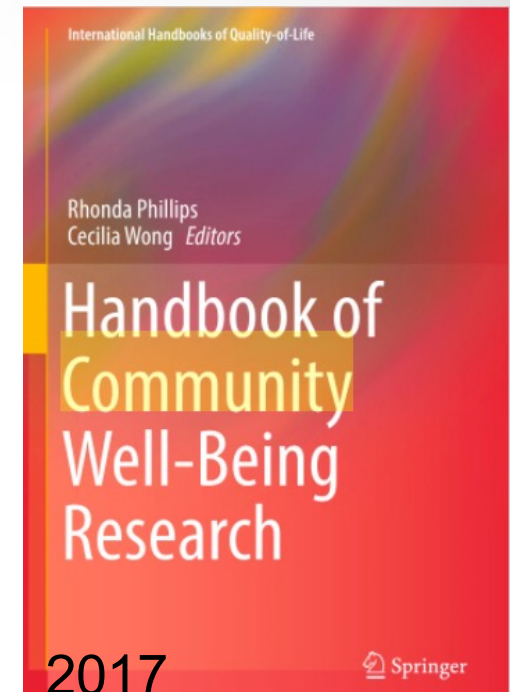
Happiness

Quality of life

Community development

Is embedded with multidimensional values including economic, social and environmental aspects that impact people

For example the type of governance structure, physical environment, the needs and desires of people (residents in this book) impact community well-being



## Lasting community wellbeing: Comparison of Lisbon and Tokyo

Yoichi Kumagai<sup>1,2</sup>  | Maria Partidario<sup>2,3</sup> 

### Five features of lasting community well-being:

- Vicinity
- Sense of Place
- Urban and sub-urban farming
- Safety
- Learning

## Place versus space (Vanclay, 2008)

Place is generally conceived as being “space” imbued with meaning – place is space that is special for someone, refers more to meaning than to physicalities of localities

Landmarks are icons with symbolic meaning in sense of place

Locations where people gather to play or to meet and share stories (parks, shopping malls, cafes and pubs – social meaning)

Different people will have varying views about the meaning of a place

## Sense of place (Vanclay, 2008)

Sense of place refers to the individual, not to the place

“Sense of place is a synaesthetic faculty that combines sight, hearing, smell, movement, touch, imagination, purpose and anticipation (...) connected to community as well as to personal memory and self” (Edward Relph)

Having a sense of place contributes to a person’s well-being, general health and life satisfaction

Perceptive feelings about a place:

- Identity
- Dependence
- Belongingness
- Satisfaction



**Is this a Place?**

**What is that makes this a Place?**

Street (Rua)

Highway (auto-estrada)

District (bairro)

River (Rio)

Garden (Jardim)

Home (Casa)

Bulding (Edifício)

Office (escritório)



## Place-making

Places are rarely static and are frequently dynamic

Transforming bad places in good places

Place includes environmental qualities and values of a locality

Can we make places as environmental or civil engineers?

How? What do we need to make a place?

## Lynch's Image of the City (1960)

What does the city's form actually mean to the people who live there?

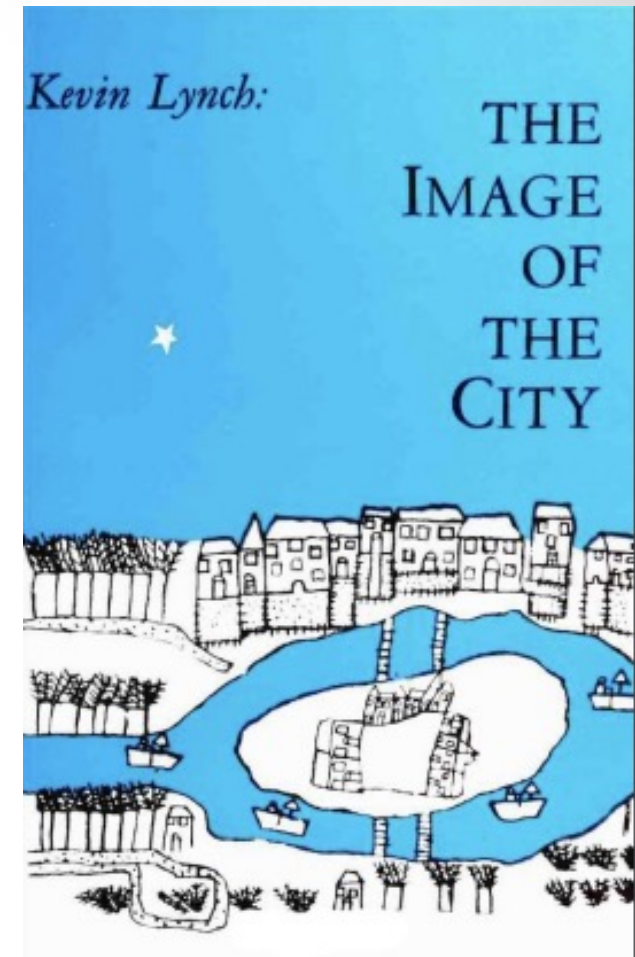
What can the city planner do to make the city's image more vivid and memorable to the city dweller?

Explains that people's perception of the city is important  
Going through a city from the viewers mind is "image of the city"

Make a visual plan (mental map - an individual's own map of their known world).

Analyze the forms and public areas.

Understand problems, opportunities and use them in designing a city.



Lynch's elements in a built structure of a city that are important in the perception of the city.

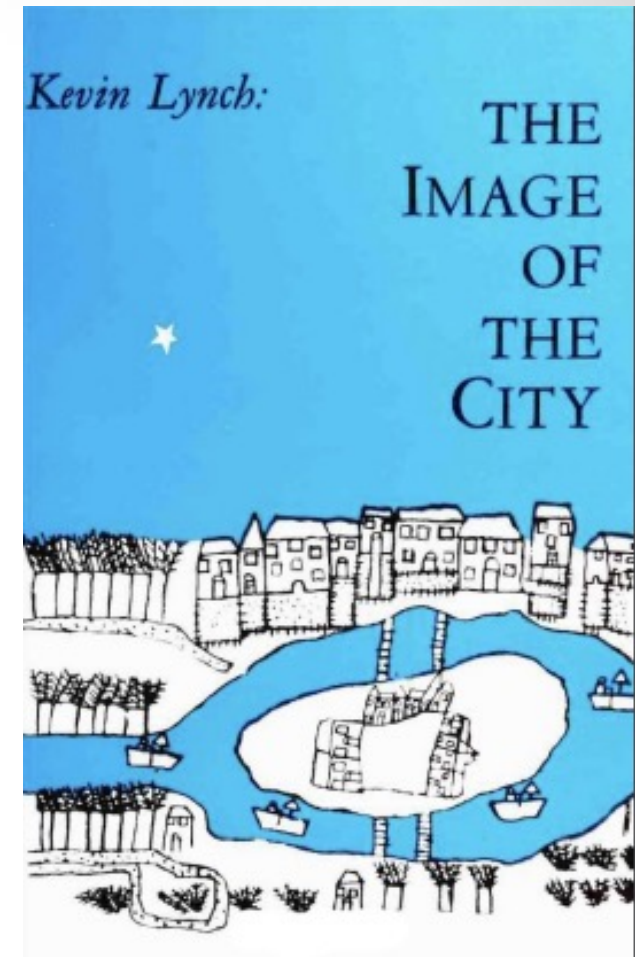
**PATHS** : Channels by which people move along. Eg: roads, sidewalks, rails, etc.

**EDGES** : Dividing lines (boundaries) between 2 phases. Eg: seashores, railway lines, etc.

**DISTRICTS** : Are medium to large sections of the city, characterized by a wealthy neighborhood. Eg: suburbs, college campuses, etc.

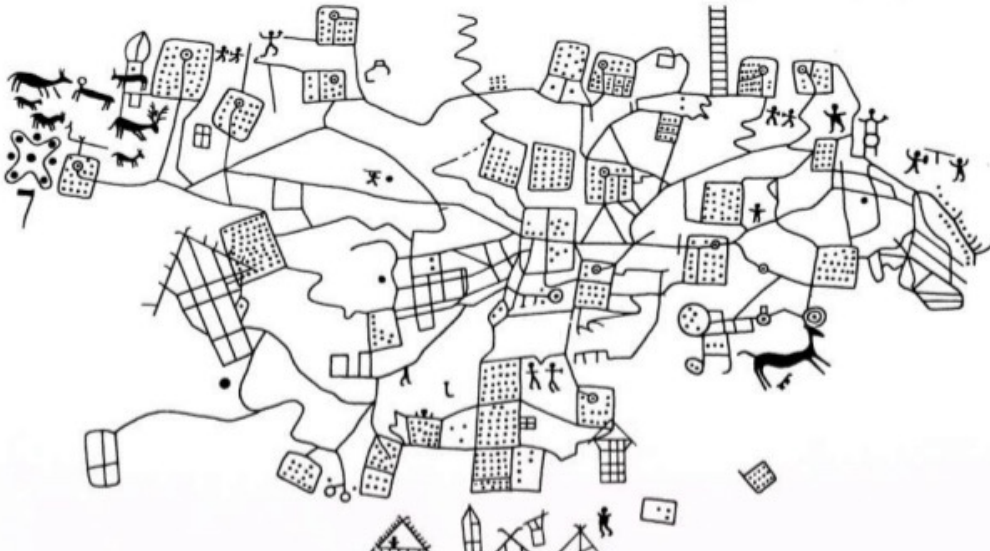
**LANDMARKS** : Point of reference, orient oneself. E.g: signs, buildings, stores, etc.

**NODES** : Area of strategic spots where extra focus is given. E.g: busy intersection, popular city center, etc.



# Mental maps

## LEGIBILITY



People understand the cities through recognisable elements that provides legibility and emotional security of being in familiar territory.

Prehistoric map  
Bronze and Iron Ages  
Petroglyph 1000-200 BC  
Bedolina, Camonica valley, Italy

## Lynch mental map

