

Smart cities for ageing societies

– multidisciplinary seminar

Smart cities and ageing – problems and solutions. Introduction

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Outline:

- History of cities
- Ageing population
- Smart cities – advantages and disadvantages
- Smart cities and ageing

Medieval city:



By Chensiyuan - Own work, CC BY-SA 4.0,
<https://commons.wikimedia.org/w/index.php?curid=50100276>

1. 15-minute city:

Six basic functions within a 15-minute walk (or bike) from their dwellings: living, working, commerce, healthcare, education and entertainment.

2. Very integrated community, cooperation, high level of social capital?

However

Narrow, dark, crowded, dirty, stinking, unhealthy (water and air pollution), and in the constant danger of fire.

Thus, you do not want to live in a medieval city, but it had some positive sides. Where and when they were lost? Were they lost?

The growth of cities from the late Middle Ages:

- First centers of trade, attracting craftsmen
- Agricultural revolutions allowing for excess of food, which could be used by cities.
- More than 90 % of the global population lived in rural areas in 1800.
- Rapid growth of cities can be associated with the Industrial Revolution.
- Industrialization created a huge demand for workers.
- Cities started to increase not only horizontally but also vertically.
- Trams, trains and metro made transport easier on bigger distances.
- Problems remained (pollution, lack of health, lack of light, overcrowding, etc.) and problems appeared (lack of social cohesion, poverty and inequality, unemployment, lack of education, etc.).



Official railway map of London, 1899.

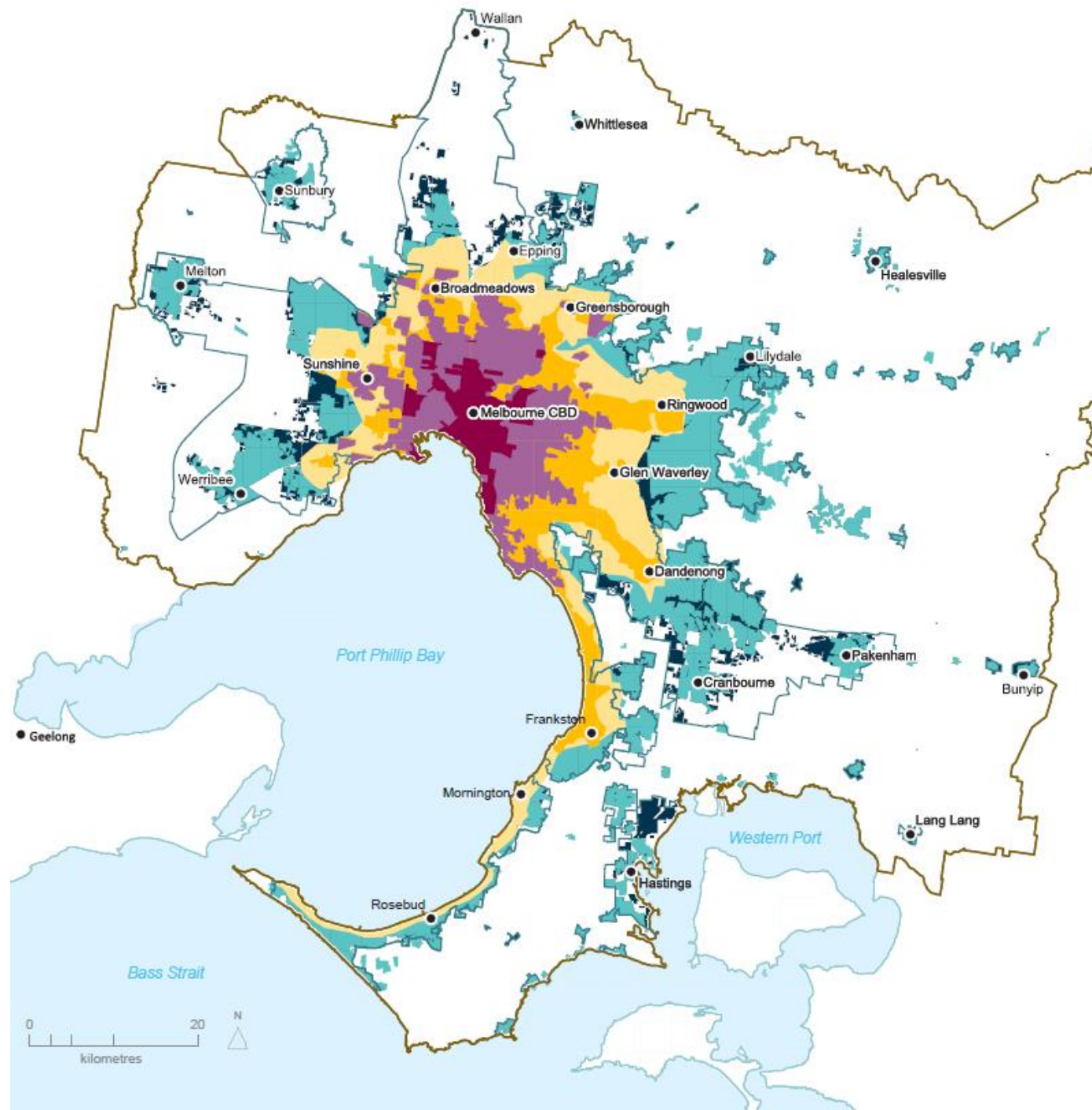
Source: Harvard Map Collection,
<https://iif.lib.harvard.edu/manifests/view/ids:8982539>

Radical changes at the end of XIX and in XX centuries :

- City planning:
 - If people live further away from each other and from industries, they will be healthier.
 - Zoning: people, business and industry separated.
 - Le Corbusier and modernism.
- Car industry lobbying and activities: roads for cars!
- If everything is further away, use a car.
- If you have a car, you can escape from the city to peace and quiet of the countryside.
- If many people need to get to city to work, roads for cars!



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Urban sprawl Melbourne area

Source:

https://www.planmelbourne.vic.gov.au/_data/assets/pdf_file/0003/376653/Map-1-Melbournes-urban-growth.pdf

Melbourne's urban growth

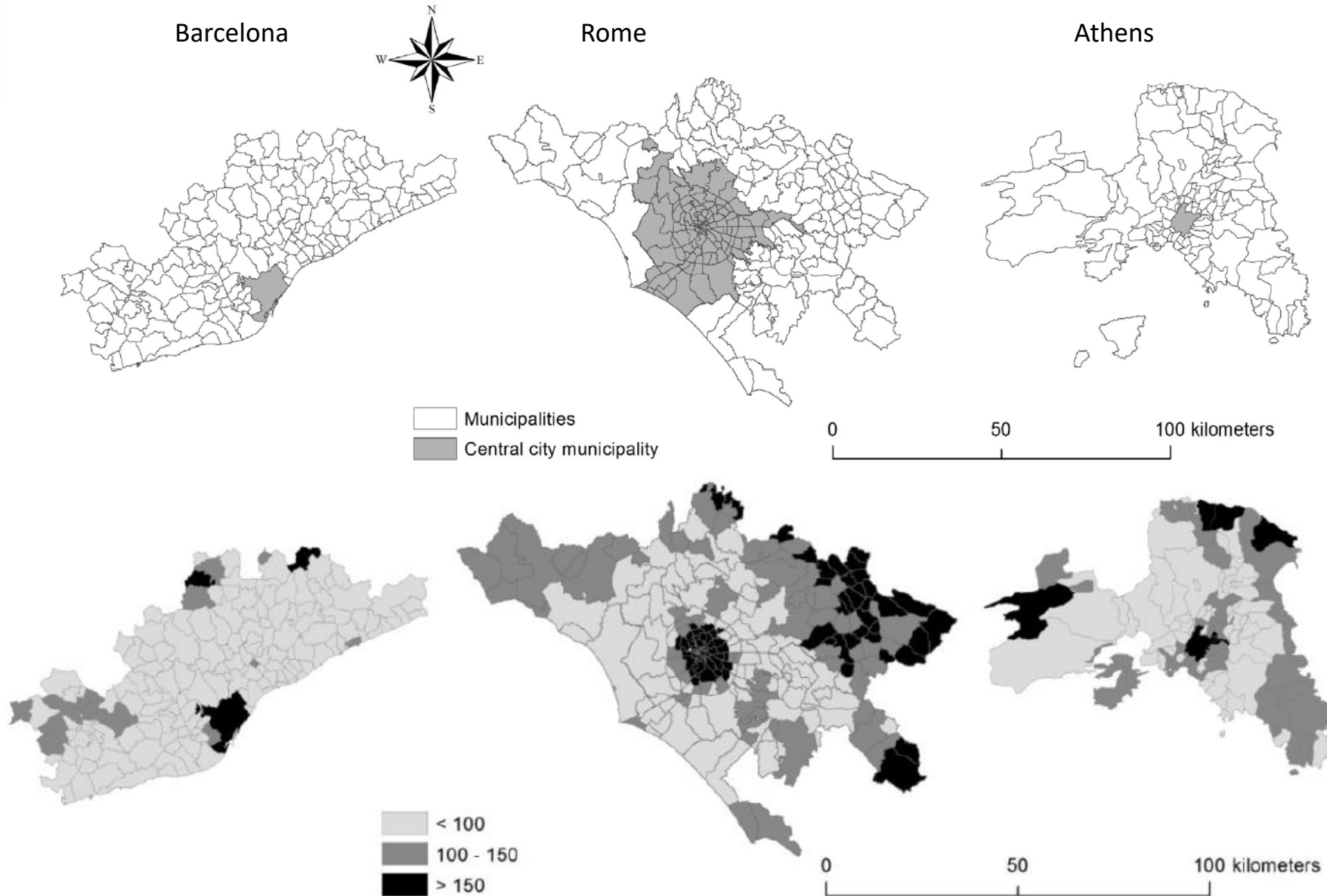


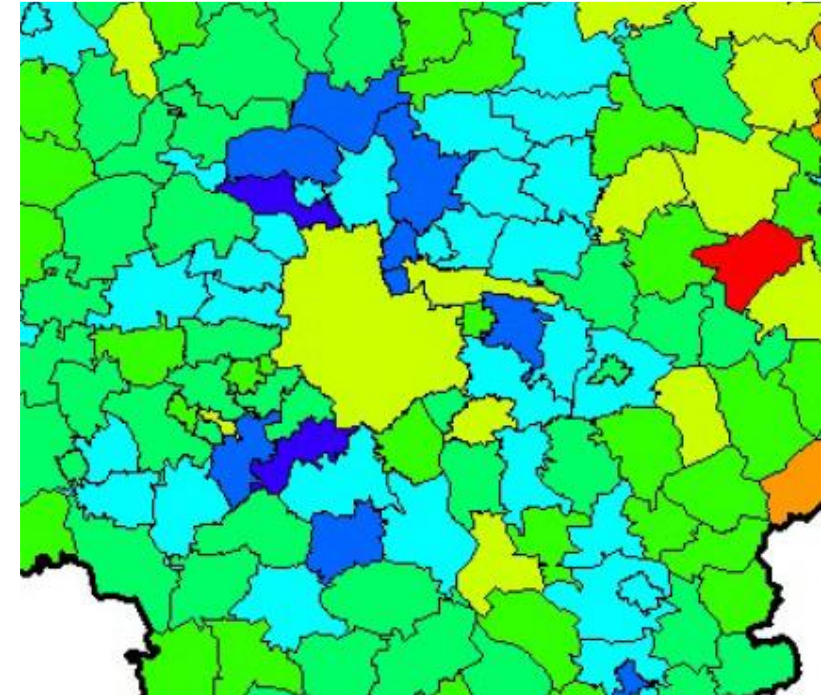
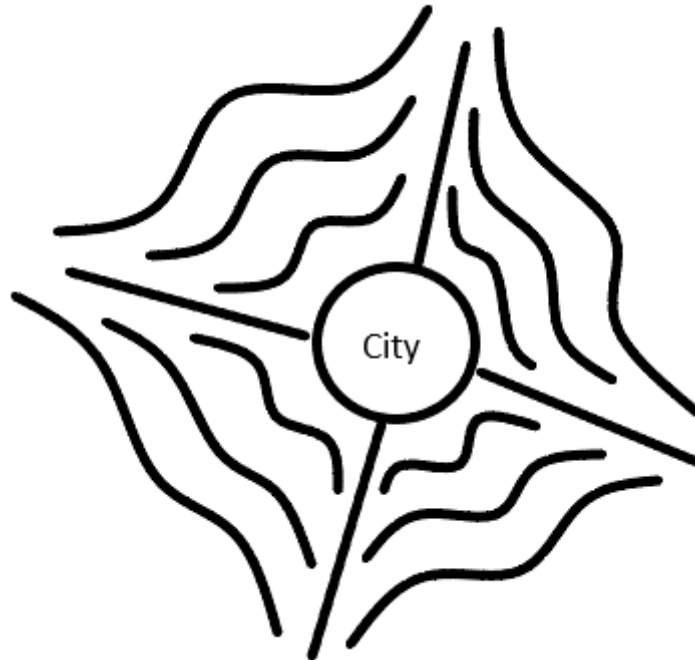
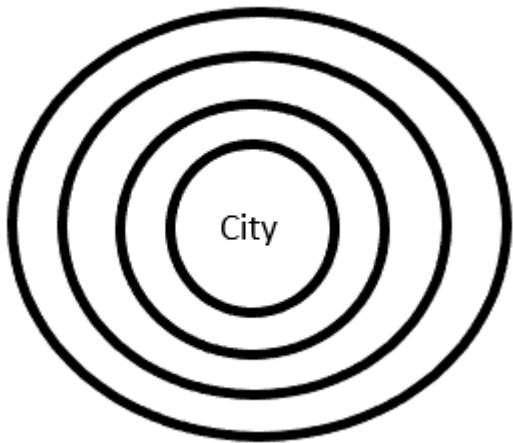
Ageing problem:

- Populations all around the world are ageing.
- Metropolies are not ageing so fast, since they are attracting young people from the whole country and from abroad.
- The size of urban population means that most elderly live in urban areas.
- Given the patterns of migrations to cities, many of them do not have extended families near by, only their children (if they had them).
- Problems with helping the elderly and providing them with services they need.
- Problems with paying for these services.
- In big cities there is a zoning problems: parts of the city when the share of elderly population is much higher.

Source: Tombolini et al., 2015

Elderly index





Urban sprawl and age zones

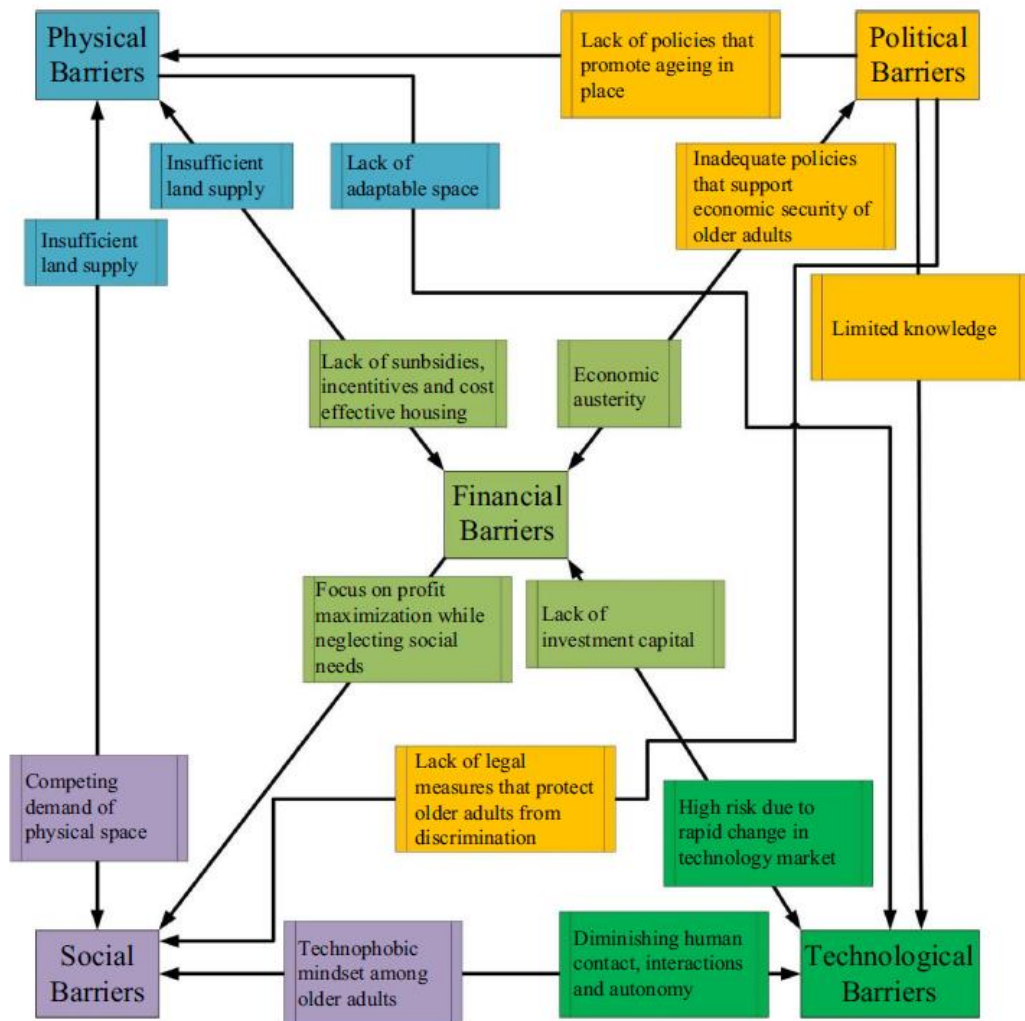
Warsaw and surrounding municipalities, share of 70+ in the population, 2013. Scale: from dark blue (lowest share), green, yellow to red (highest share)

The problems of population ageing for municipalities:

- Lower tax revenues and slower development,
- The need to provide care for the elderly, including them in the life of the local community, increasing their activity,
- Changes in the infrastructure to adjust it to the needs of older people,
- Limited labour supply – who will work and who will take care of the elderly,
- Changes in the structure of demand and supply of goods and services on the local market,
- Housing problem,
- The pressure of older people on the authorities to meet their needs and demands.

The advantages of population ageing for municipalities:

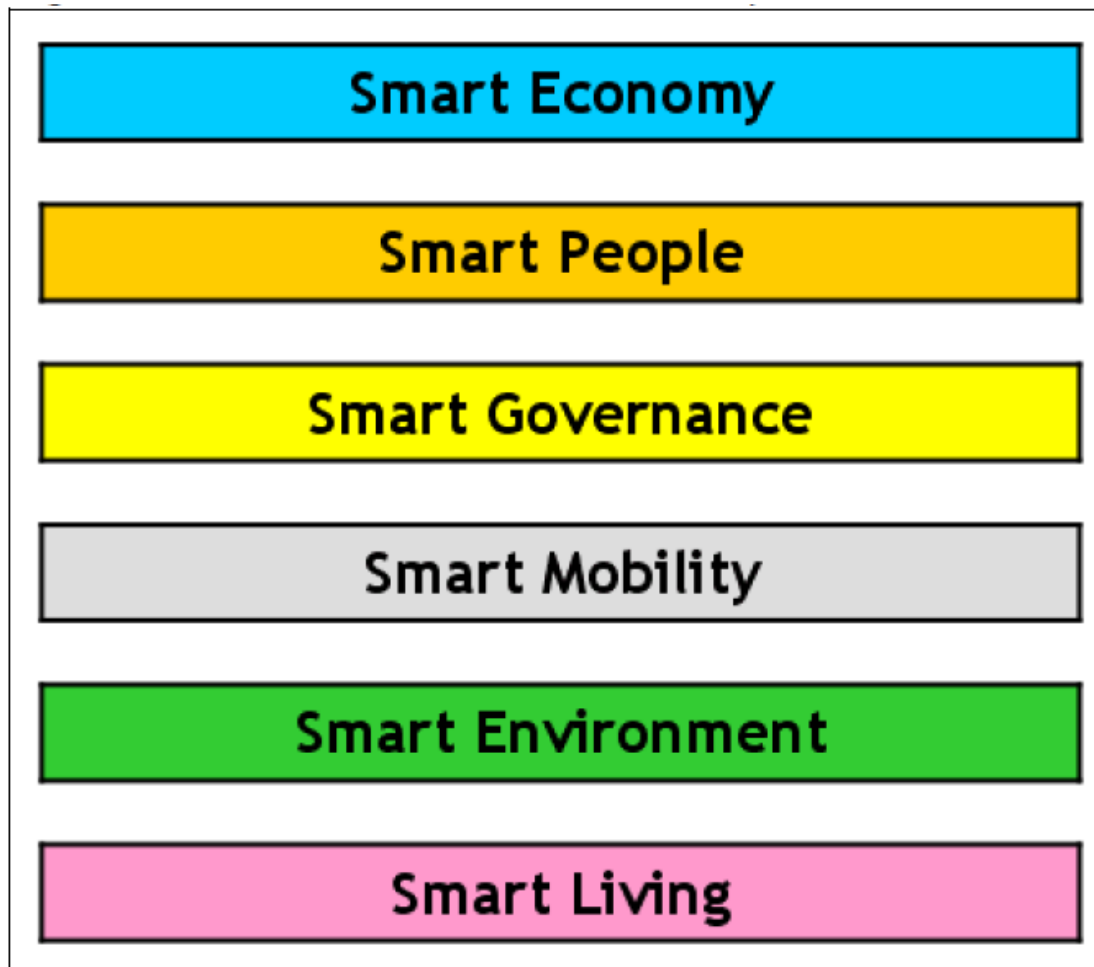
- Ageing trends and their effects are predictable.
- Transformation of metropolitan areas into lower density areas with „central functions” spreading from city centers into suburbs.
- Migrations of elderly.
- High share of young elderly.
- Ensuring a high quality of life for the elderly creates a good place for all generations.
- Information and communication technology and its services can be used to create a better sustainable and cost efficient environment for the elderly.



Integrated conceptual
interpretive model of the barriers
hindering the implementation of
age-friendly initiatives

Source: Torku, Hiu Kwan Yung and Chan,
2020, p.10

Smart cities:



„A Smart City is a city well performing in a forward-looking way in these six characteristics, built on the ‘smart’ combination of endowments and activities of self-decisive, independent and aware citizens.”

Source: Giffinger et al. (2007), p. 11

Modern cities

Problems	Solutions	Problems of technology
urban sprawl	smart traffic management	technology as a goal itself
environmental pollution	smart parking	focus on huge, new projects
urban logistics	smart lighting	uneven application of ICT
technical infrastructure	smart policing	lack of technical literacy
waste management	smart waste management	costs of tools
ageing population	smart health care	privacy concerns
stratification of wealth levels	smart governance	algorithmic bias
areas of poverty	smart...	machine ethics
low level of citizen participation	...	"bad" artificial intelligence
...		...

Smart city and the elderly:

- **Digital divide** - inequalities in the access to, and usage of, digital technologies, in benefits from digital technologies, in knowledge and in power
- Problems with low-skilled, the elderly and poor regions
- Danger of exclusion, discrimination and stigmatization
- Smart cities can solve many problems of the ageing world but the elderly must be able to understand it and obtain assistance when necessary
- Solution:
 - Education, institutions, regulations,
 - No revolutions, gradual development, fitted to local problems and possibilities -> does it mean that they will be left behind?

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