

Understanding the livability in a city through smart solutions and urban planning toward developing sustainable livable future of the city of Skopje

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First Urban Century

- *Sustainability*
- *Resilience*
- *Livability*

developing sustainable livable city of Skopje



City of Skopje, photo by Jovica Trajkovski

understanding the livability in a city

- *urban structure*
- *urban energy*
- *urban mobility*
- *urban climate*
- *urban smart technology*



City of Skopje, photo by Jovica Trajkovski

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

(Brundtland Report)

- how to urbanize in harmony with society, economy and environmental?
- how to balance our short term needs with the long term demands that have to obtain livable conditions for our future generations?



Gro Harlem Brundtland

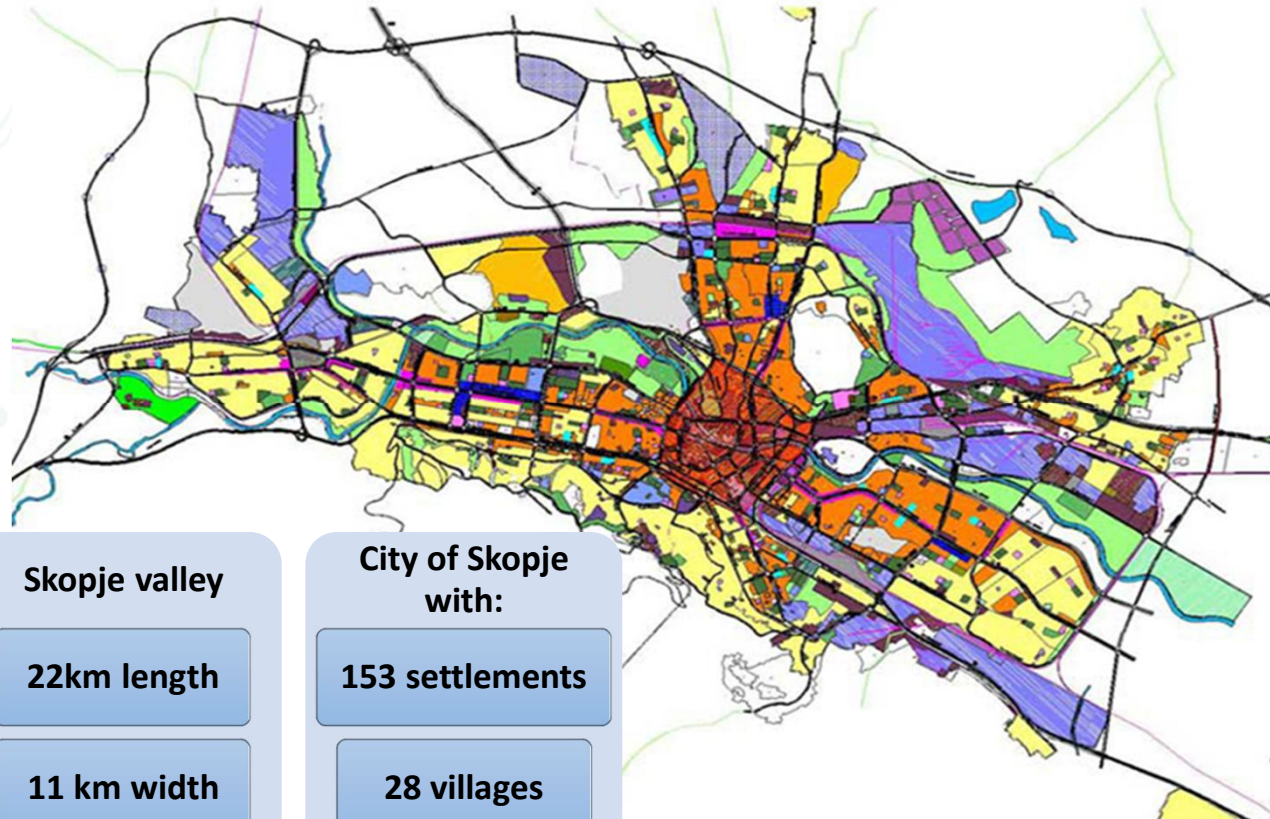
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expectations for population growth from 2001-2025 in the world's top 15 megacities



Source: UN Population Division, World Urbanisation Prospects 2011 Revisions

General Urban Plan for Skopje year 2001-2020



444760 inhabitants

7088.60 ha total area

**180 705.53 ha
surrounding region**

Skopje valley

22km length

11 km width

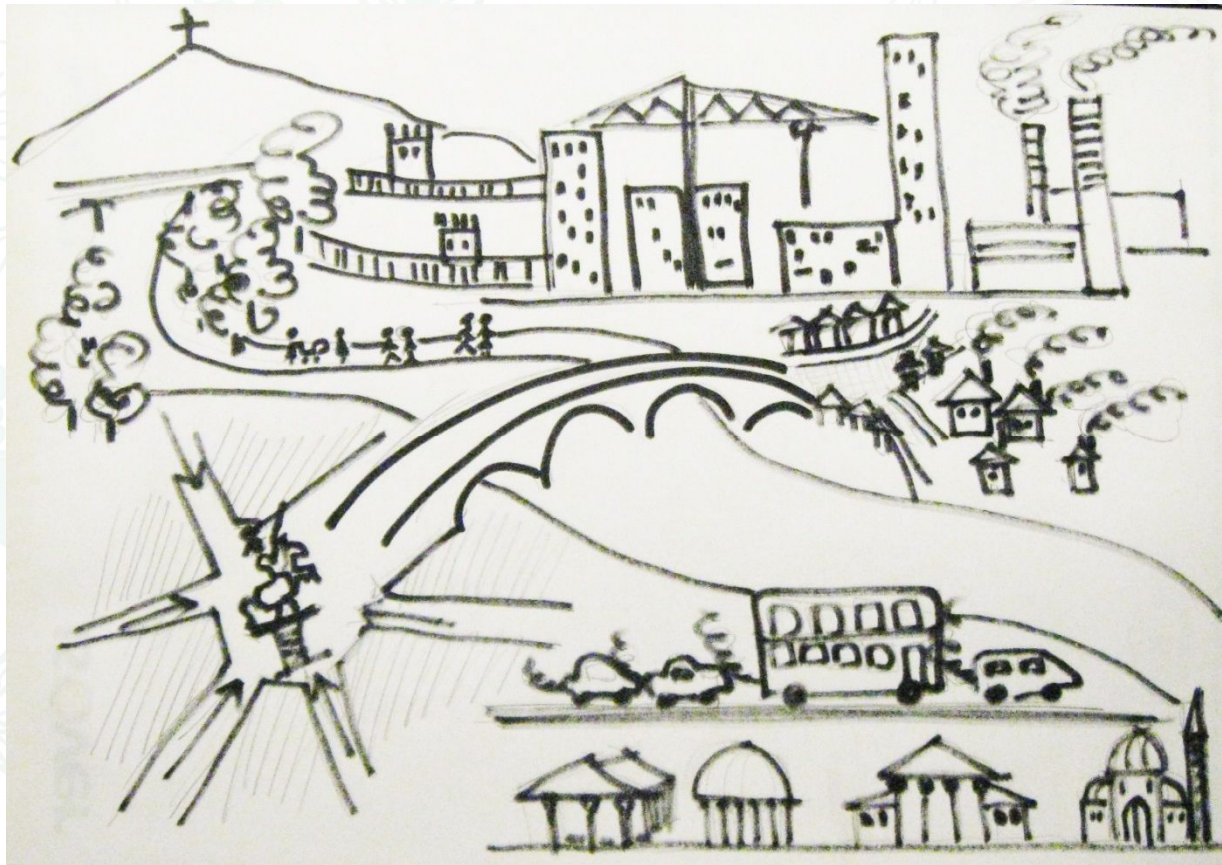
**City of Skopje
with:**

153 settlements

28 villages

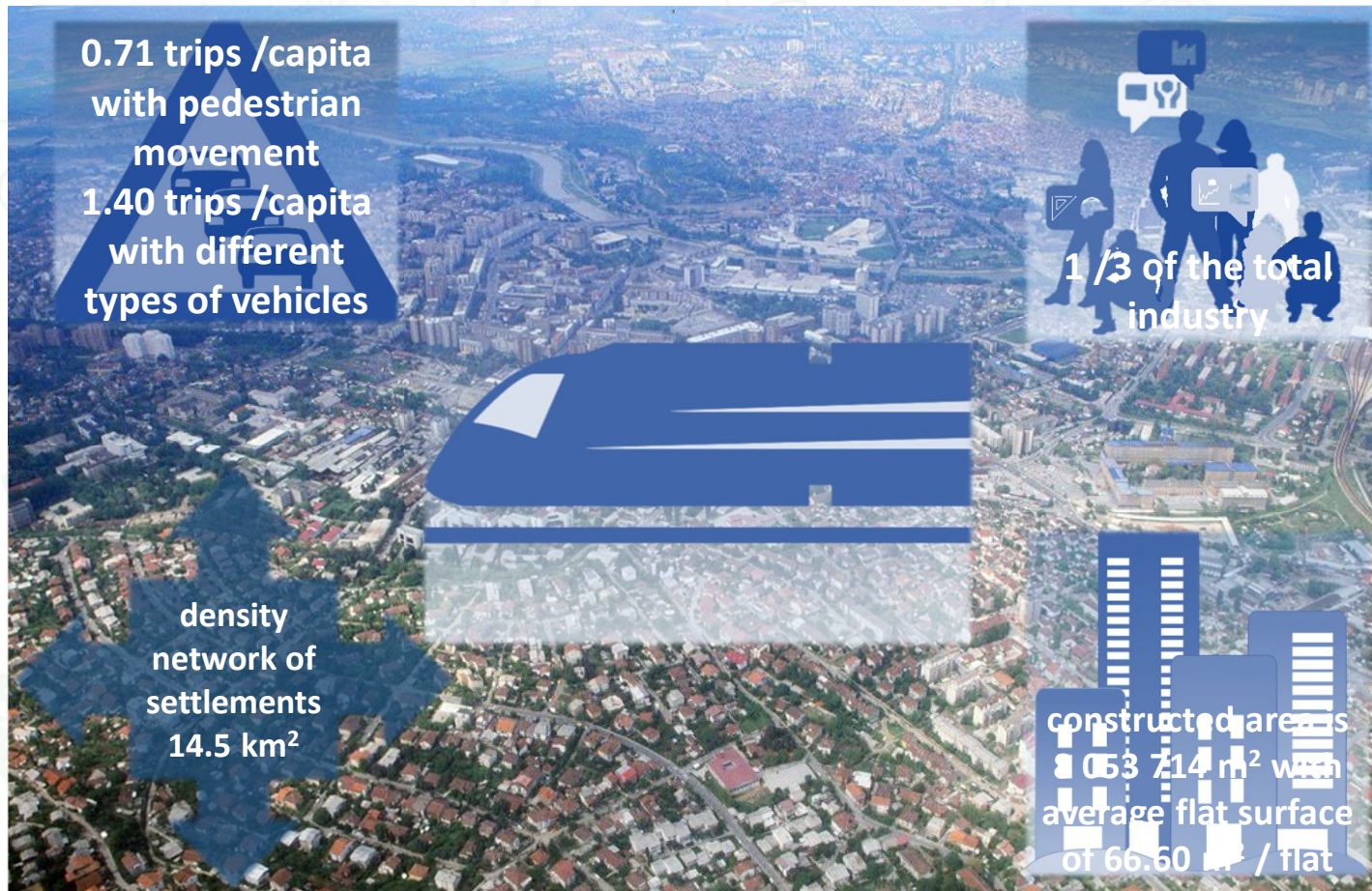
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Skopje's rich picture



City of Skopje, photos by Jovica Trajkovski

Skopje's urban structure



City of Skopje, photos by Jovica Trajkovski



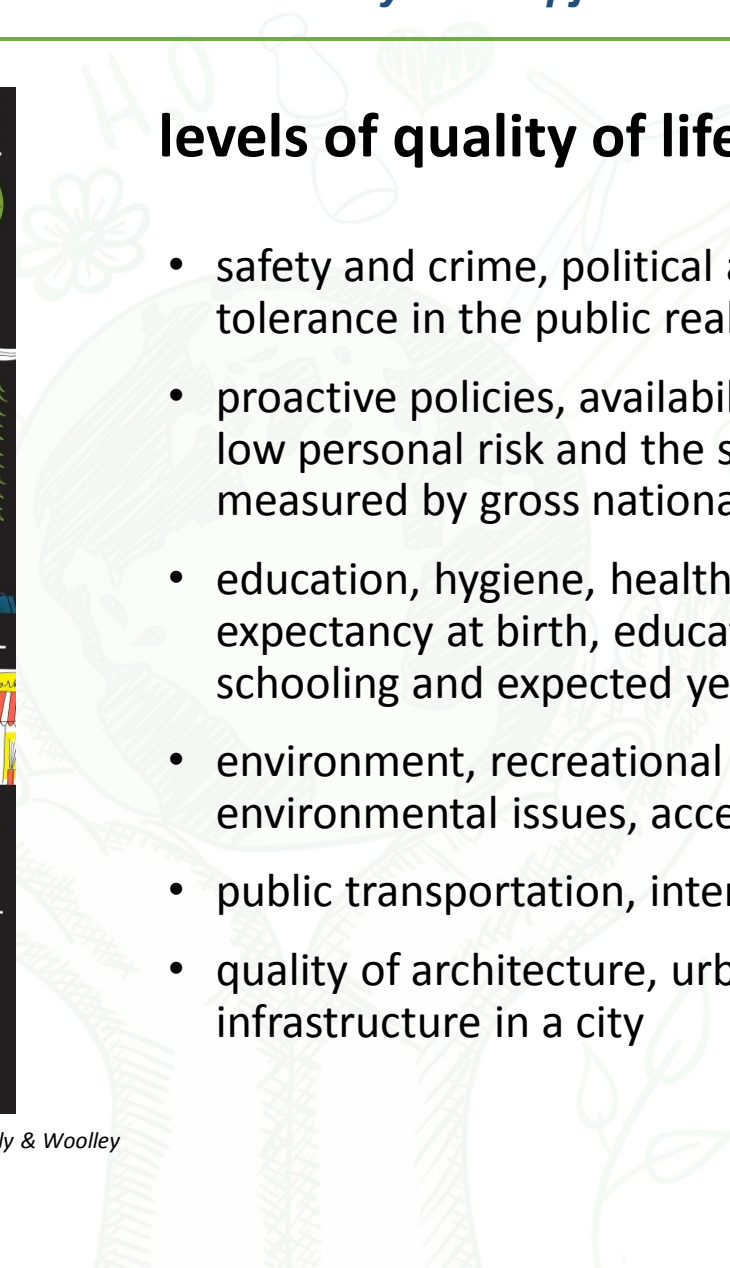
Source: UCL Institute for Sustainable Resources

cities' sustainable development

- *buildings with low energy consumption*
- *diverse land use*
- *population density*
- *economic provision in using heating and cooling services*
- *waste disposal*
- *transport strategies*
- *smart urban solutions*

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levels of quality of life in the city

- safety and crime, political and economic stability, tolerance in the public realm, business conditions
- proactive policies, availability of goods and services, low personal risk and the standard of living measured by gross national income per capita
- education, hygiene, health care, culture, life expectancy at birth, education index, years of schooling and expected years of schooling
- environment, recreational possibilities, the climate, environmental issues, access to nature
- public transportation, international connectivity
- quality of architecture, urban design, effective infrastructure in a city

Source: UTSC Commons Magazine, Hambly & Woolley

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**polycentric
urban model**



**model of
compactness**



**spatial models for
sustainable urbanization of Skopje**

Skopje's urban greenery

- 276.70 ha of public greenery which is composed of residential green
- 3.38 ha of regional parks
- 54.82 ha of city parks
- 144.98 ha of vegetation within the public facilities (health, education, science, culture, botanical gardens...)
- 68.70 ha of recreational sports centers
- 166.83 ha of protect foliage

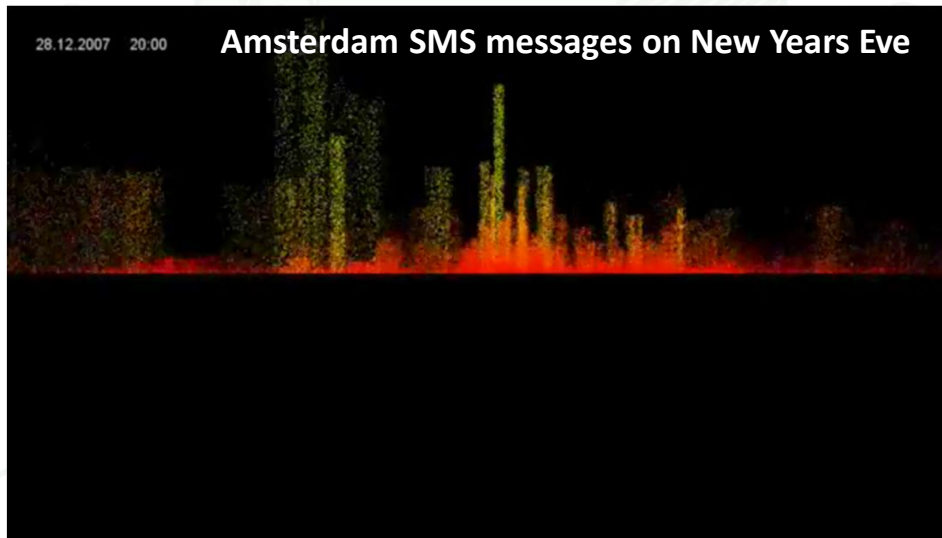


Skopje City Park

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Source: <http://cities.human.co/>



Source: <http://www.aaronkoblin.com/project/amsterdam-sms/>

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Source: University of Miami,
School of Architecture, Smart Cities Program

smart city as project includes:

- daily service management infrastructure through Information Technology and social platforms
- data analysis and intelligent urban management
- use of environmentally friendly mechanism for generating its own energy needs from alternative energy sources (fields with solar panels, farms to collect wind, etc.)
- recycling, water production and go as far as to set up their own autonomous system for waste management

Skopje as a livable smart city



- information for passengers of public transportation in real time
- Internet platform for mapping traffic jams and similar problems in the city
- marking of bicycle paths
- sensors the parking spaces
- urban eco gardens with smart technology irrigation

City of Skopje, photos by Jovica Trajkovski

livable city of Skopje



Skopje FF (Time-lapse of Skopje in 4K/UHD/2160p) by Goran Dzambazov

Thank you for your attention