



Planning for Rapid Urbanisation

The perfect global storm?

- Rapid urbanisation
- Climate change
- Natural resource depletion
- Rise in pandemics



- Rapid urbanisation
- Lessons from organic/planned city extensions
- ‘Bare bones’ rapid planning
- Rapid urban planning – Bo case study

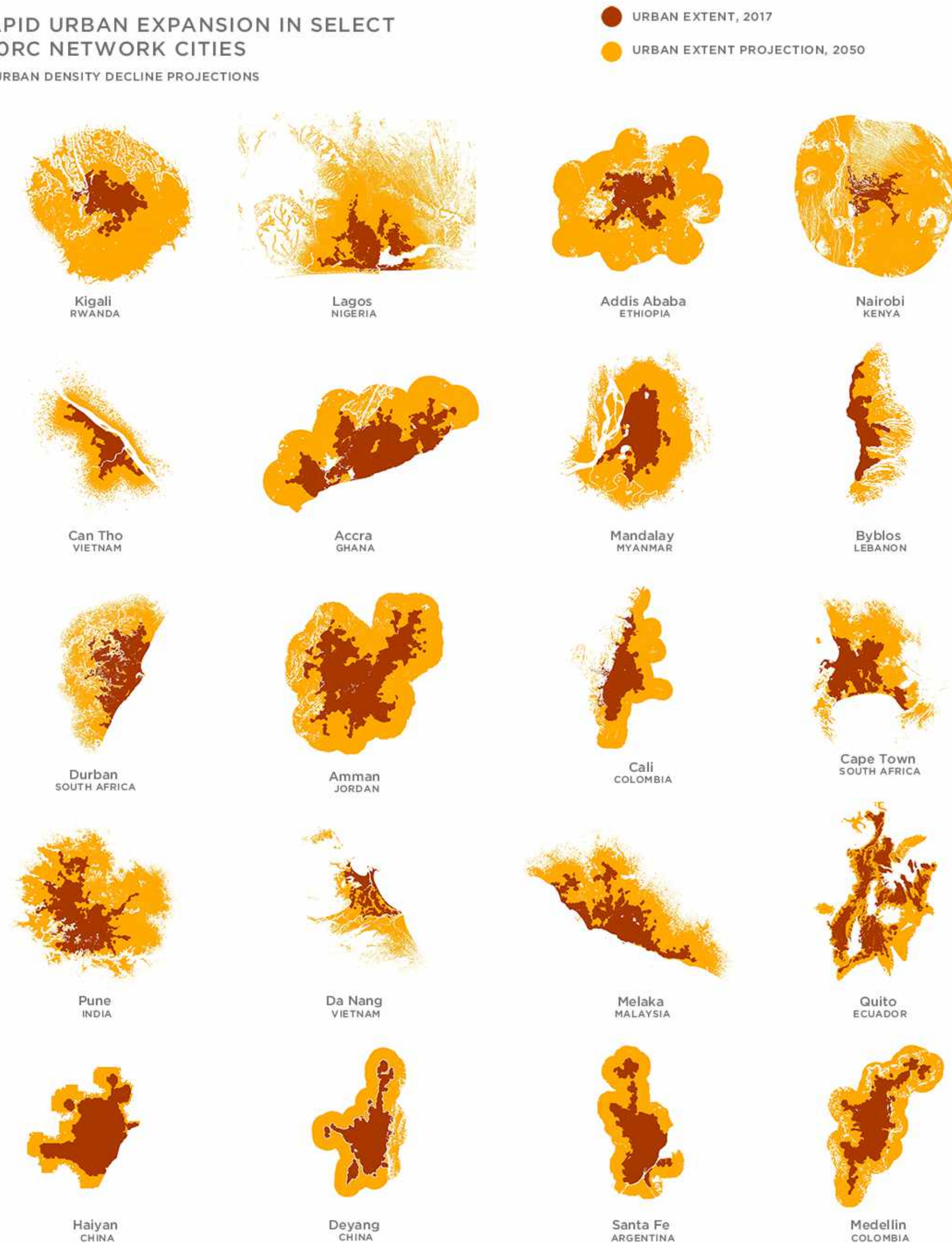


Growing trend
towards sprawl and
unplanned
settlements

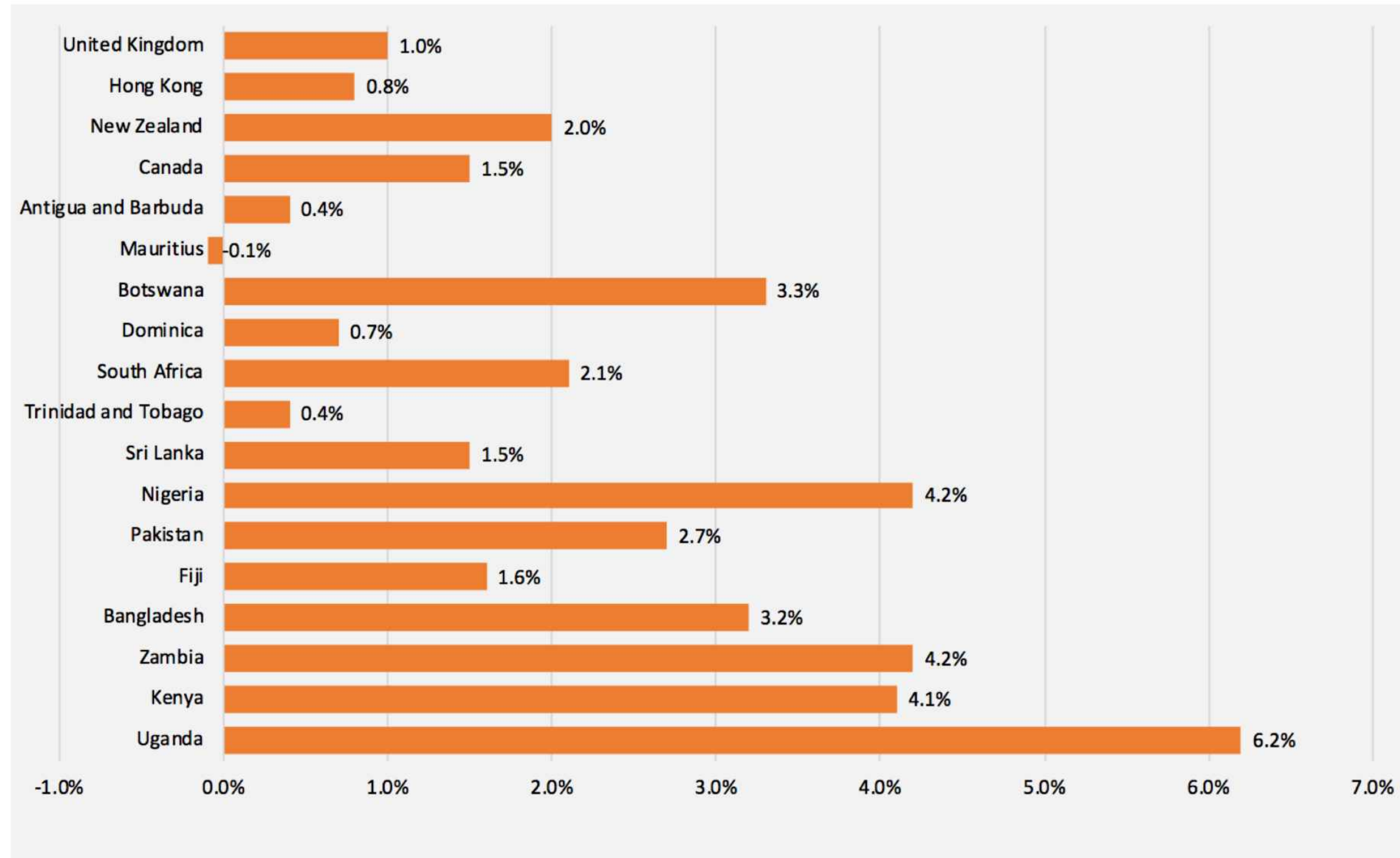
Nairobi, Kenya is
forecast to increase
its total area 5.3-fold
by 2050

Source: Marron Institute of Urban Management

RAPID URBAN EXPANSION IN SELECT
100RC NETWORK CITIES
2% URBAN DENSITY DECLINE PROJECTIONS

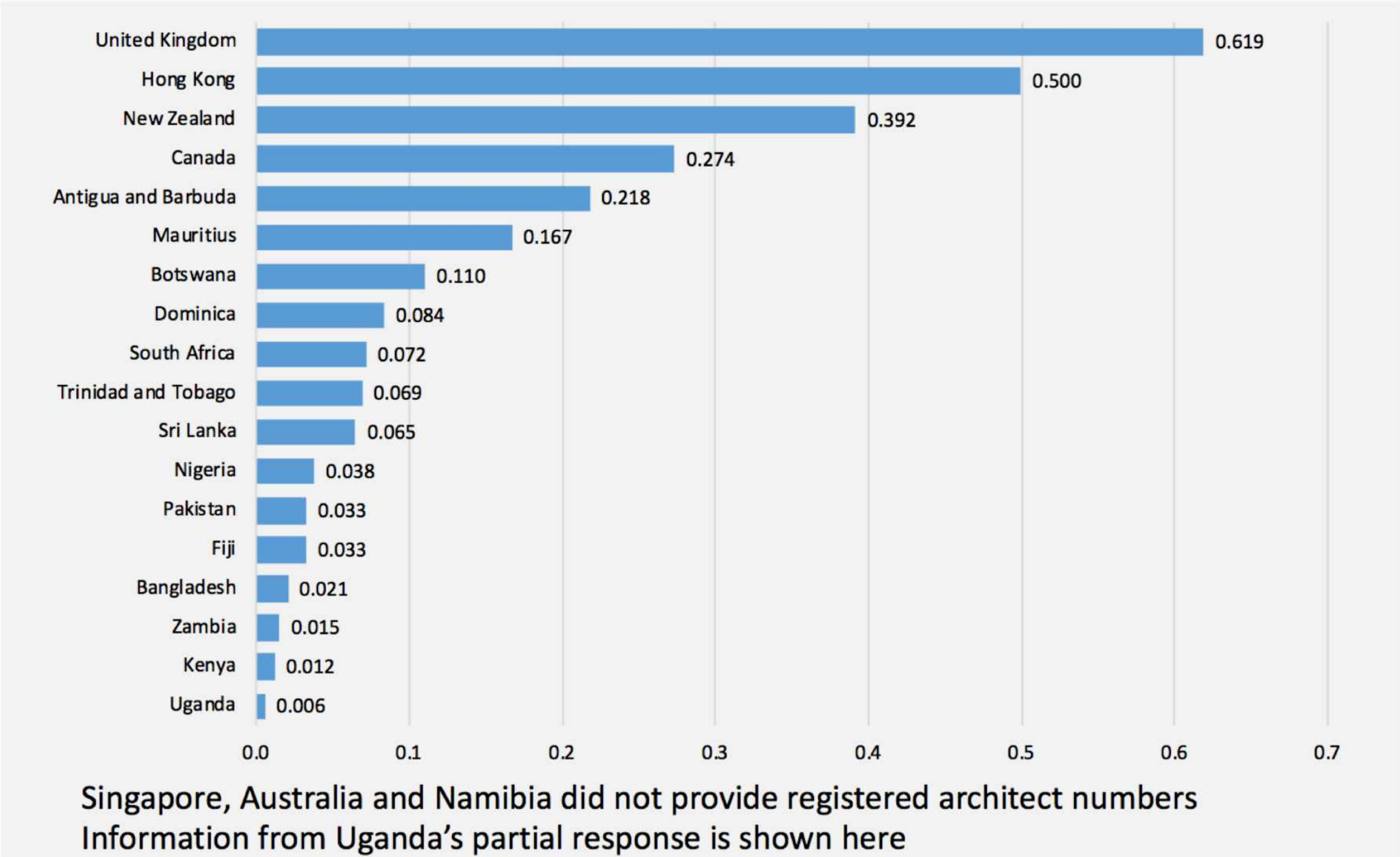


Rates of urbanisation, 2019



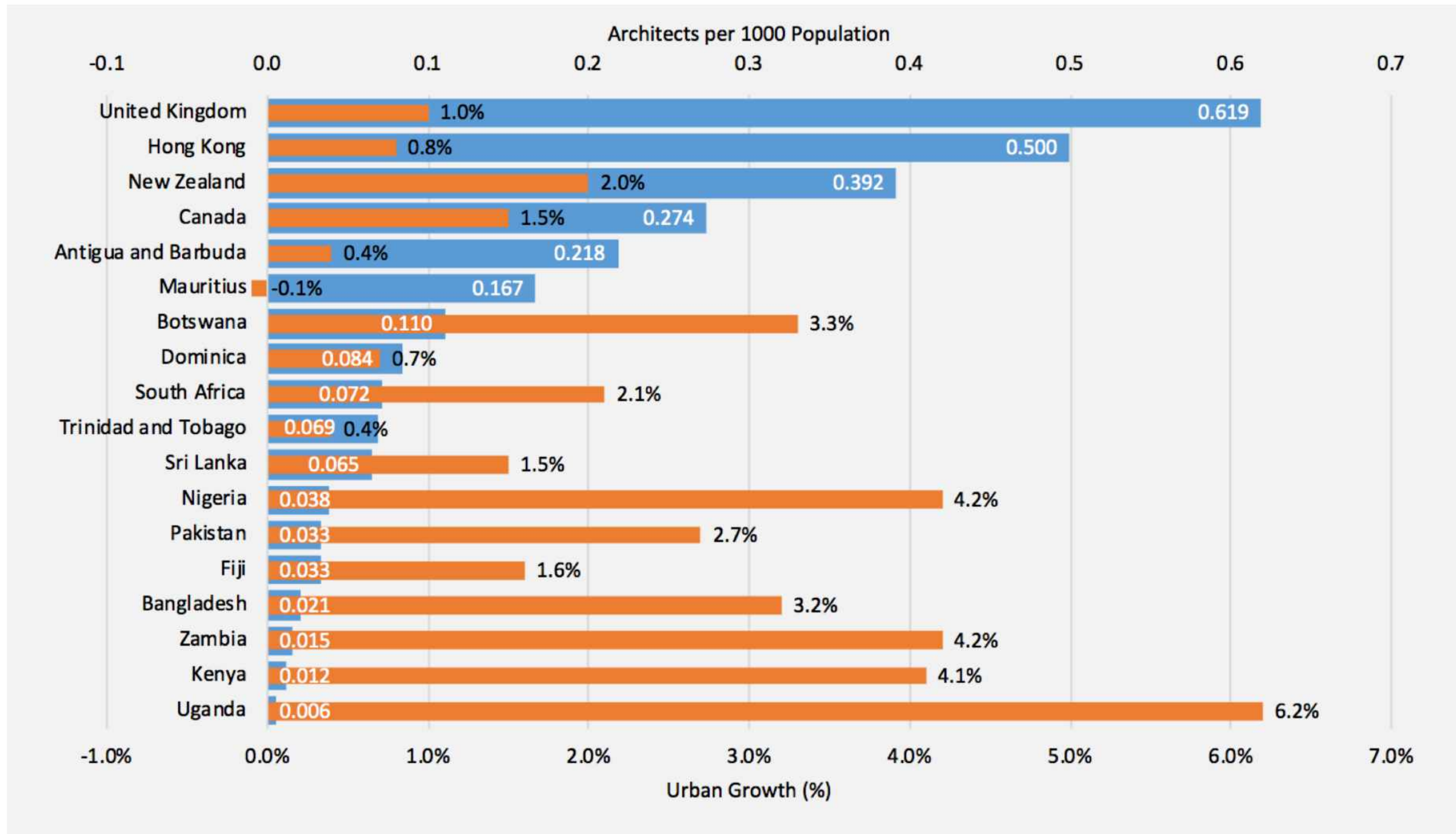
Source: Commonwealth Association of Architects, Survey of the Profession

Architects per 1,000 population, 2019



Source: Commonwealth Association of Architects, Survey of the Profession

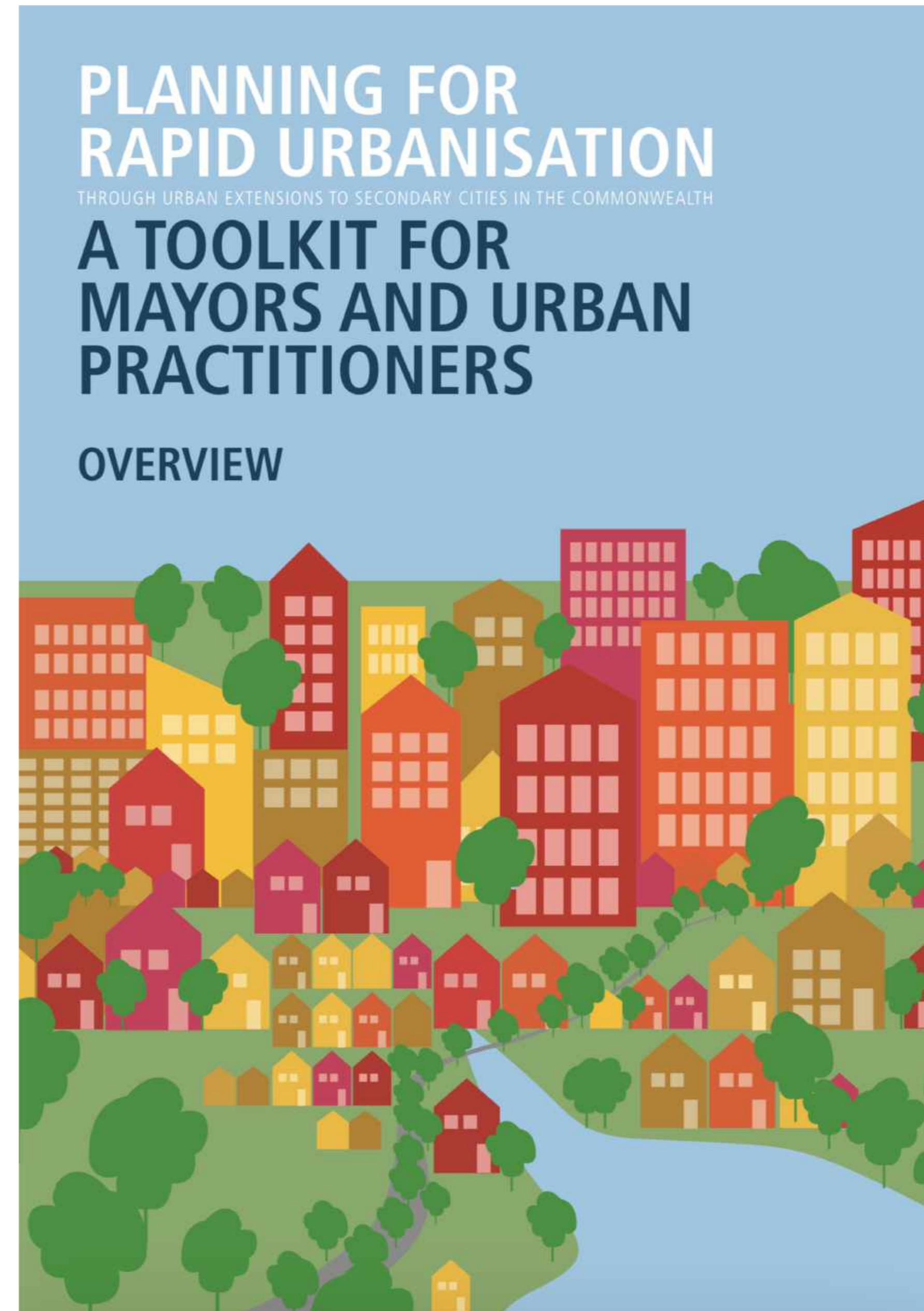
Professionals and Urbanisation, 2019



Source: Commonwealth Association of Architects, Survey of the Profession

With more than 80% of global GDP generated in cities, urbanisation can contribute to sustainable growth if managed well by increasing productivity, allowing innovation and new ideas to emerge.

The World Bank



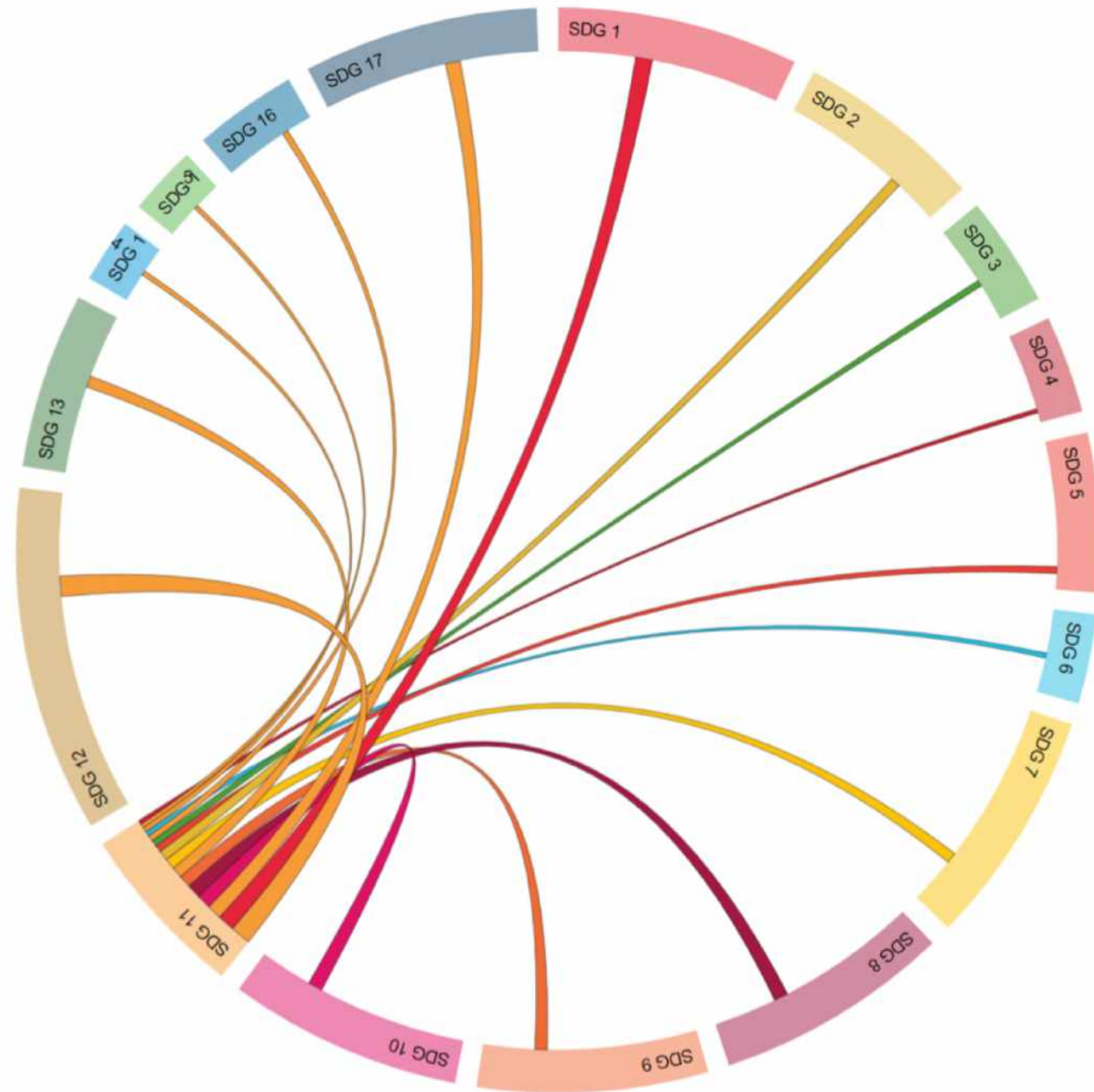
UN Sustainable Development Goals, 2030



SDG	Name
1	No Poverty
2	Zero Hunger
3	Good Health and Well-Being
4	Quality Education
5	Gender Equality
6	Clean Water and Sanitation
7	Affordable and Clean Energy
8	Decent Work and Economic Growth
9	Industry, Innovation and Infrastructure
10	Reduced Inequalities
11	Sustainable Cities and Communities
12	Responsible Consumption and Production
13	Climate Action
14	Life Below Water
15	Life on Land
16	Peace, Justice and Strong Institutions
17	Partnerships for the Goals

Source: Centre for Innovation, Leiden University

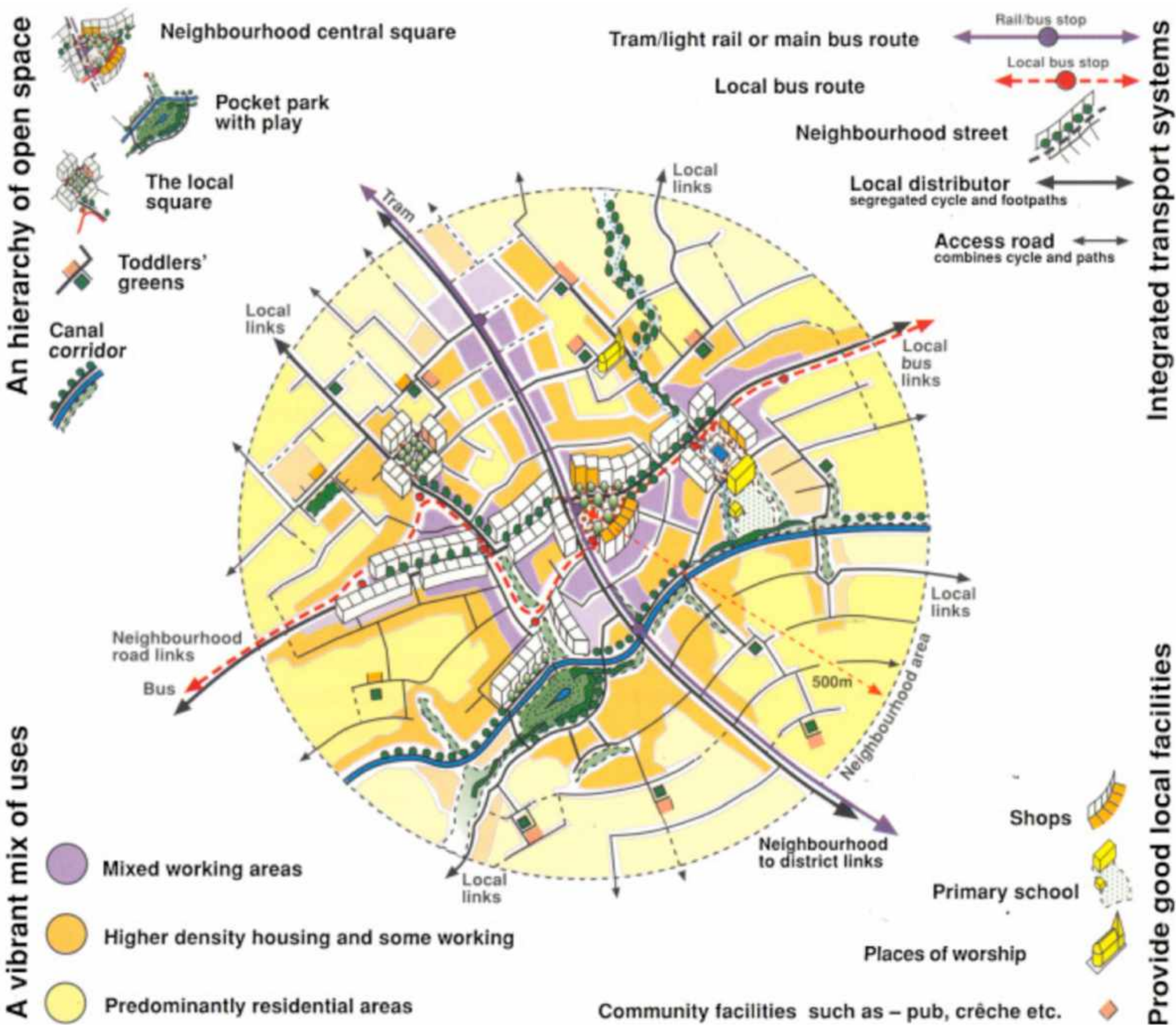
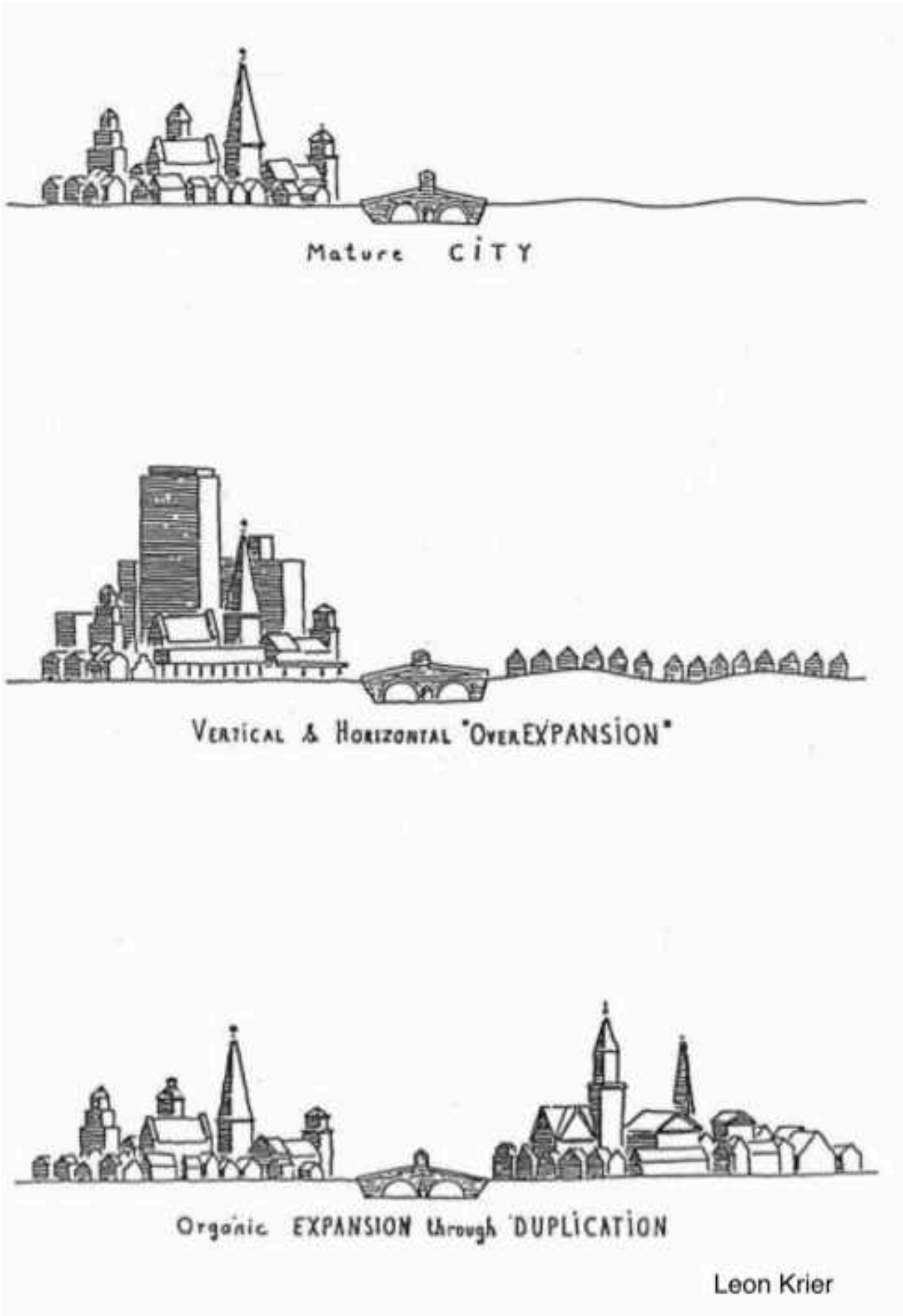
Sustainable cities & communities, the convening SDG



SDG	Name
1	No Poverty
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Source: Centre for Innovation, Leiden University

Organic Growth - the urban village



Walkable neighbourhood



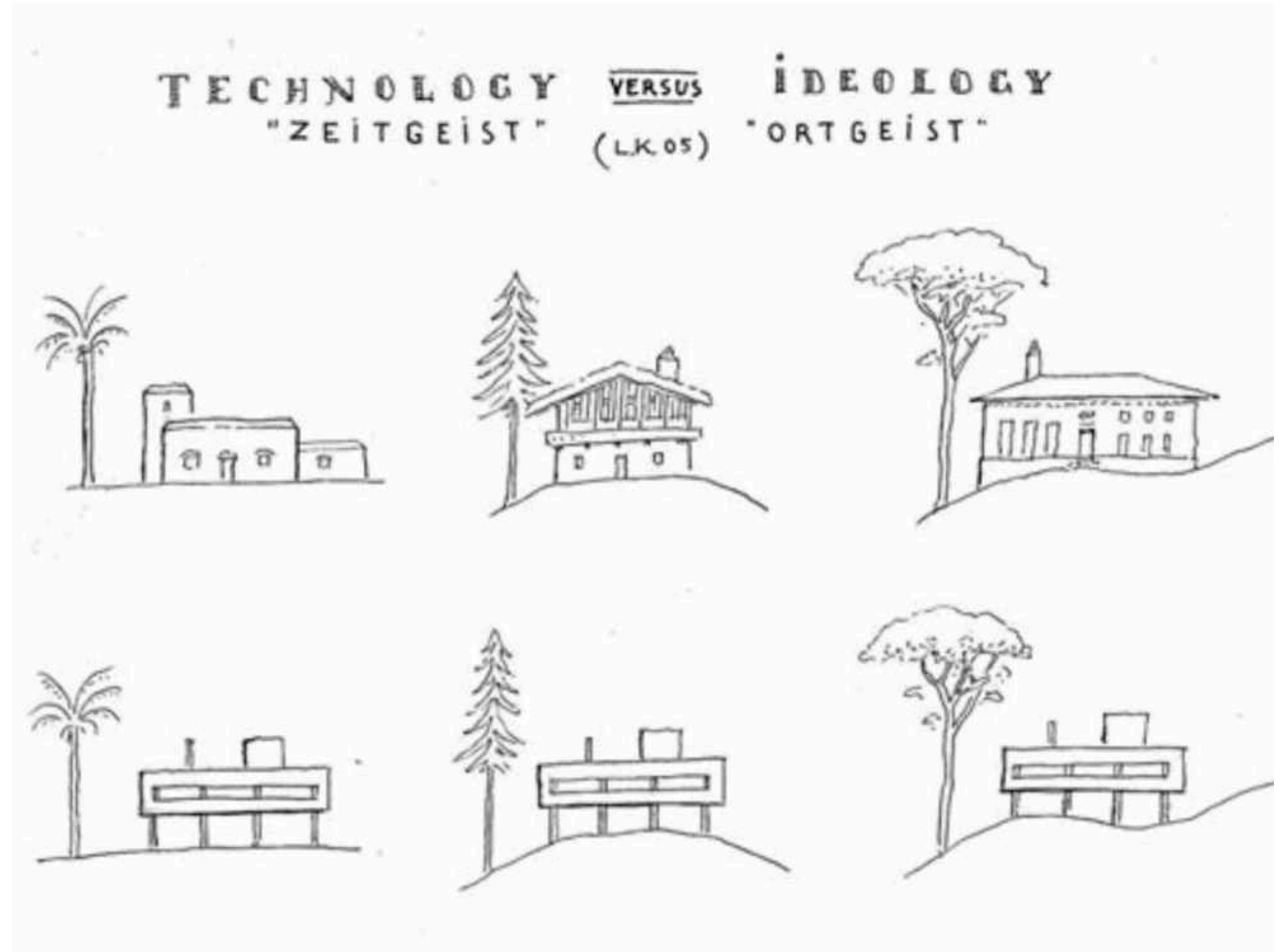
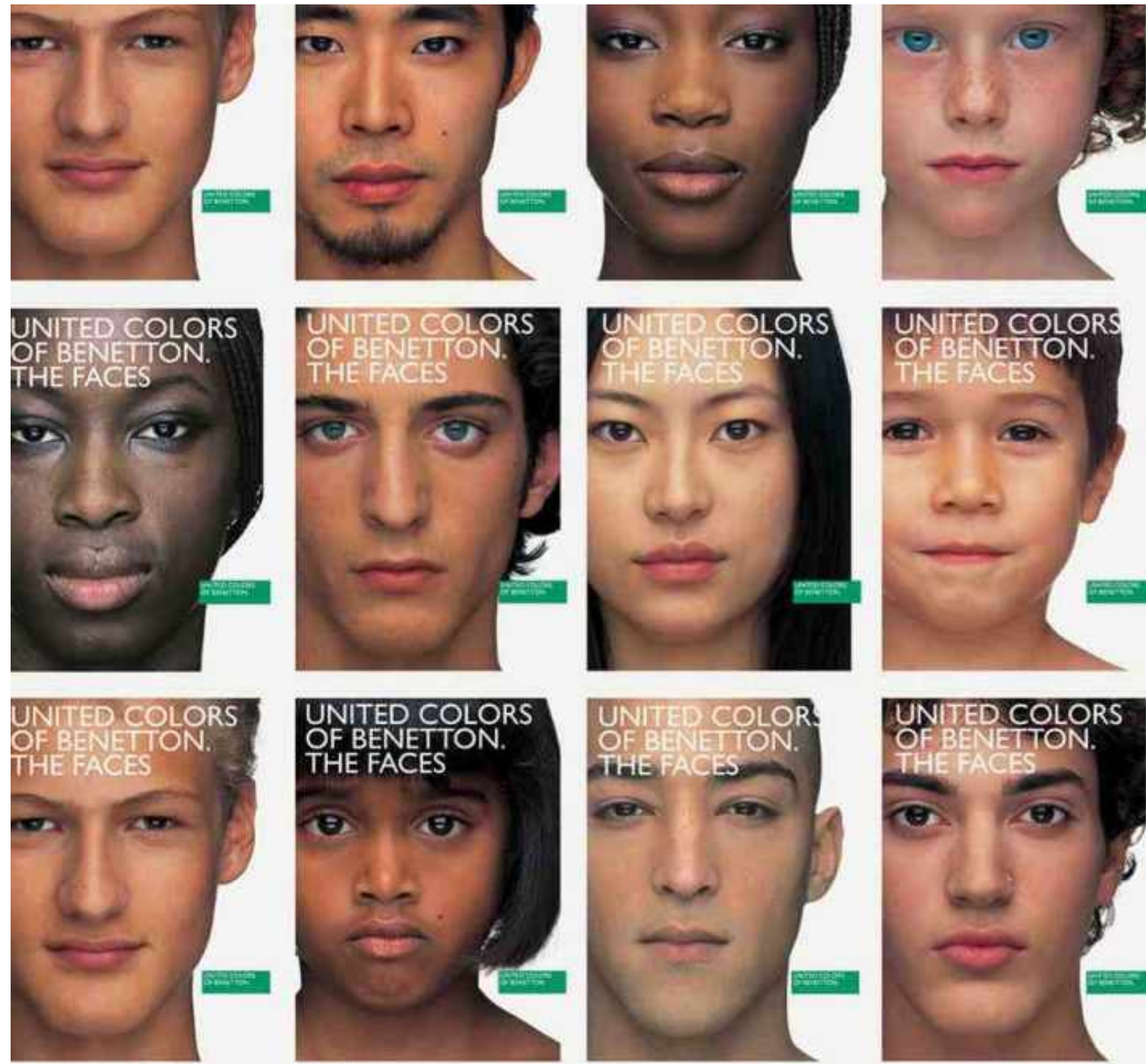
Planned City Extensions: Analysis of Historical Examples

‘Planned city extensions will be one of the essential elements to take into consideration in the creation of a pattern of sustainable urban development fostering a new model city.’

Joan Clos
Under-Secretary-General,
United Nations Executive
Director, UN-Habitat

The urbanisation process should be planned for the long term; it should provide the **spine, the matrix, the pattern** of how the city will expand. Over time, economic activities and the various social needs will shape the urban land uses, but not the pattern. **This essential element must be defended and protected by the local authority**, the repository of political legitimacy, and the rule of law.

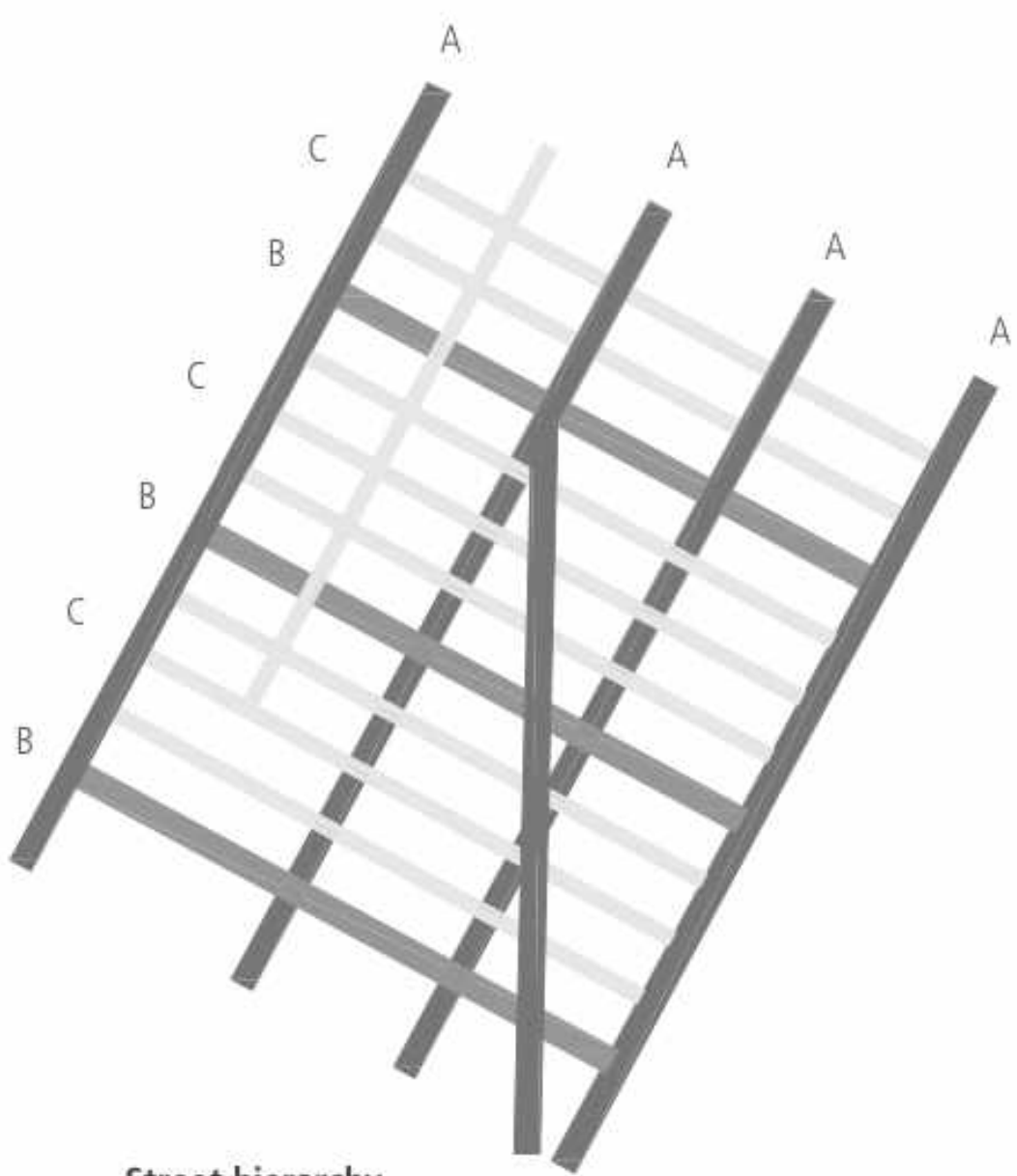
Universal structures and regional variety - spine and pattern



The Spine	=	The street (universal)
The Matrix	=	The block (universal/local)
The Pattern	=	Spaces/buildings/uses (local)

The street

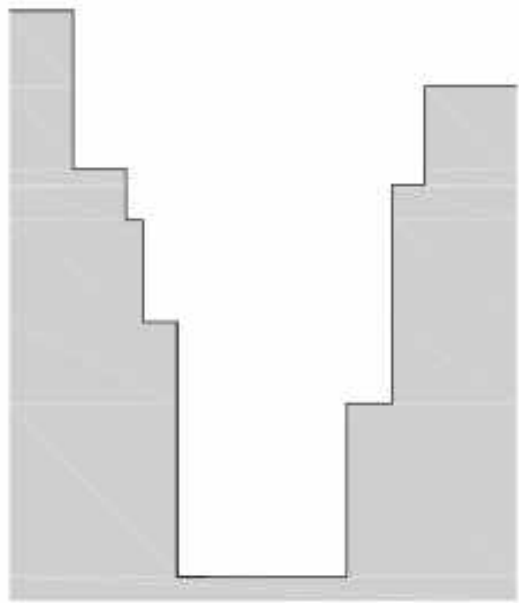
Manhattan's grid has two main factors that create variety: street widths and block dimensions. Although block widths are constant (60m), block lengths vary. The street network considers the territorial and the local scales. The 30m wide, NE-SW Avenues, represent the territorial scale. The 30m wide major cross streets and the 18m wide standard cross streets represent the local scale. Broadway is the exception to the grid.



Street hierarchy

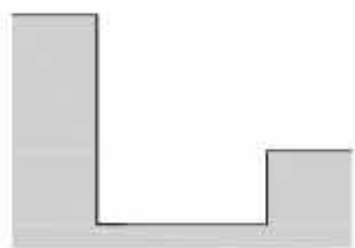
A: Avenues 30m
B: Major cross streets 30m
C: Standard cross streets 18m

Street types



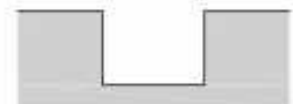
Avenue 30m

33% Pedestrian space
67% Vehicular space
Building height/Street width prop.:
Front plane: 1.5V/1H



Major cross street 30m

40% Pedestrian space
60% Vehicular space
height/width prop.: 1.2V/1H

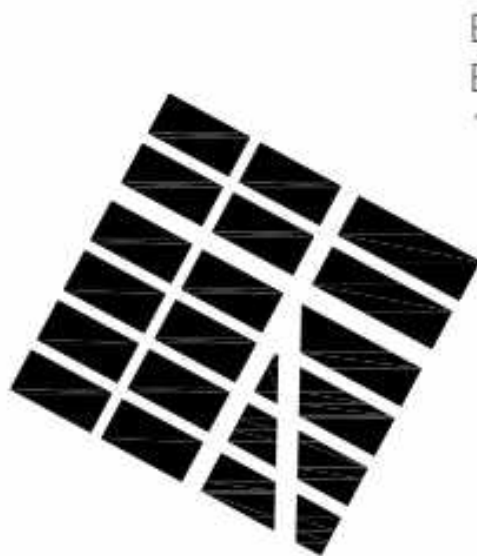


Standard street 18m

45% Pedestrian space
55% Vehicular space
height/width prop.: 0.75V/1H

— Pedestrian
— Vehicular

The block



Block width: 60m
Block length: 280m, 244m,
189m, 125m, 198m

Built up/public space:

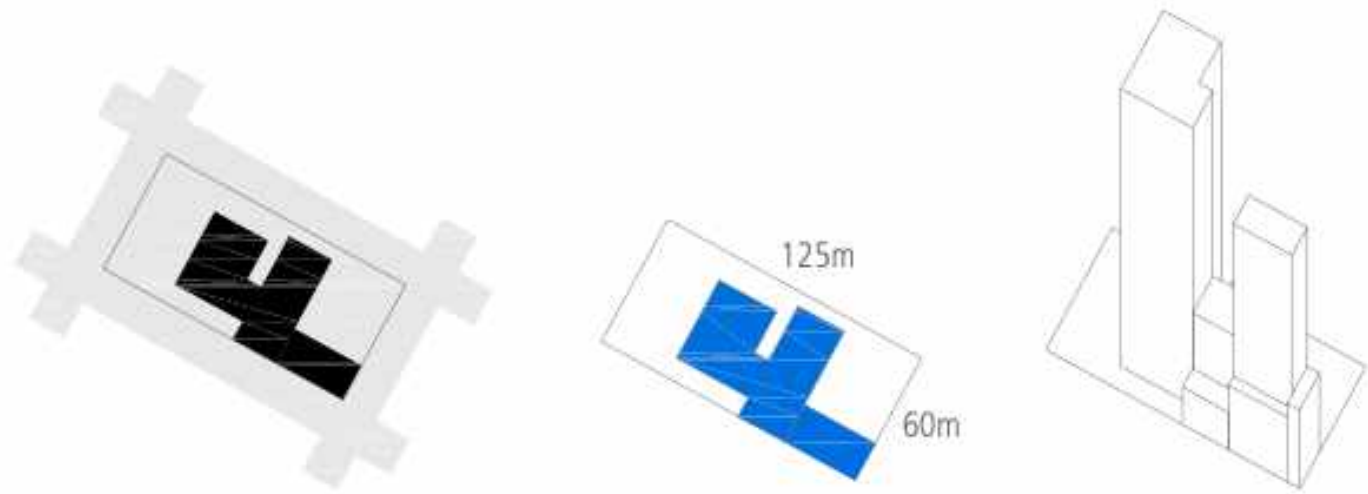
■ Built up area
■ Public space - Streets

Uses:

■ Residential, single family
■ Residential, multi-family
■ Services
■ Industry
--- GF commercial

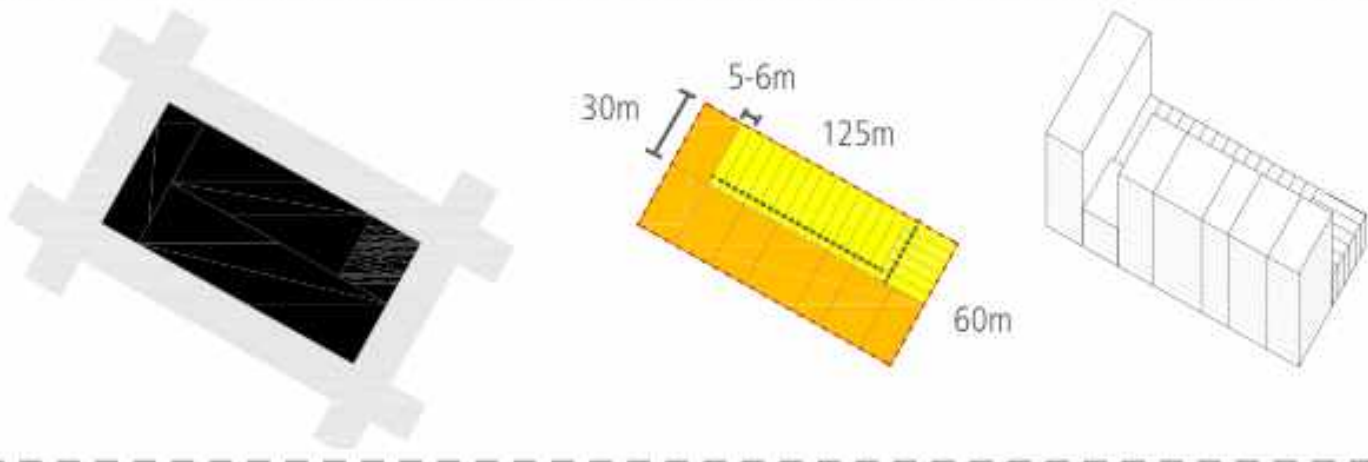
Business block

FAR: 10m²/m²
Land coverage: 40%
Average plot size: 7500m²



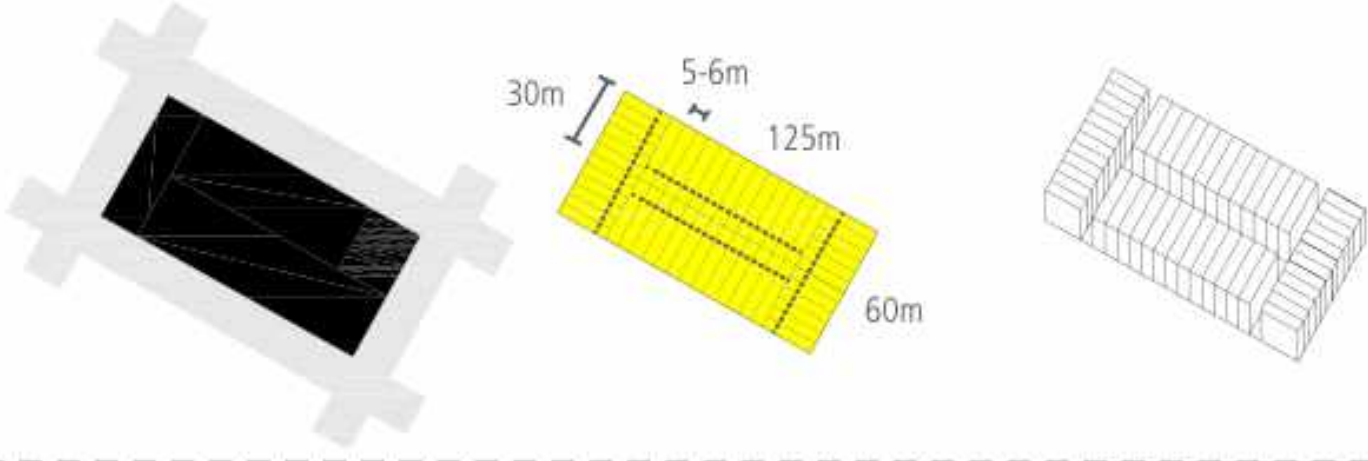
Mixed residential block

FAR: 7m²/m²
Land coverage: 90%
Average plot sizes: 150-600m²



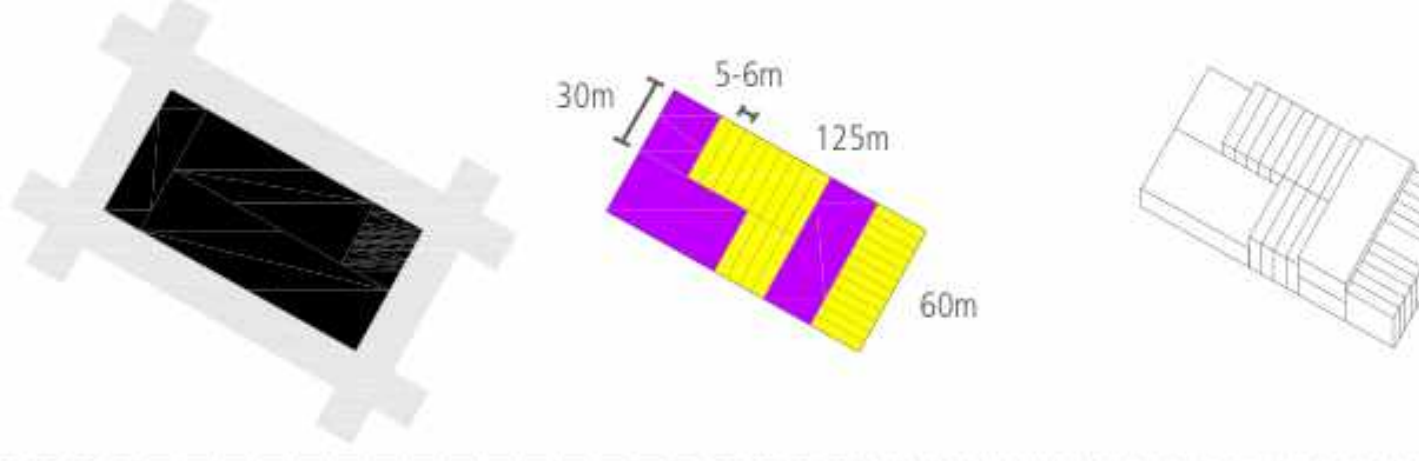
Residential block

FAR: 3.25m²/m²
Land coverage: 80%
Average plot size: 150m²



Industrial and residential block

FAR: 3m²/m²
Land coverage: 90%
Average plot sizes: 150-1500m²



Comparative analysis

Surface of extensions and existing city at time of extension:

- Existing city at time of extension
- Extension limit (built area)
- Extension limit (metropolitan/total plan area)

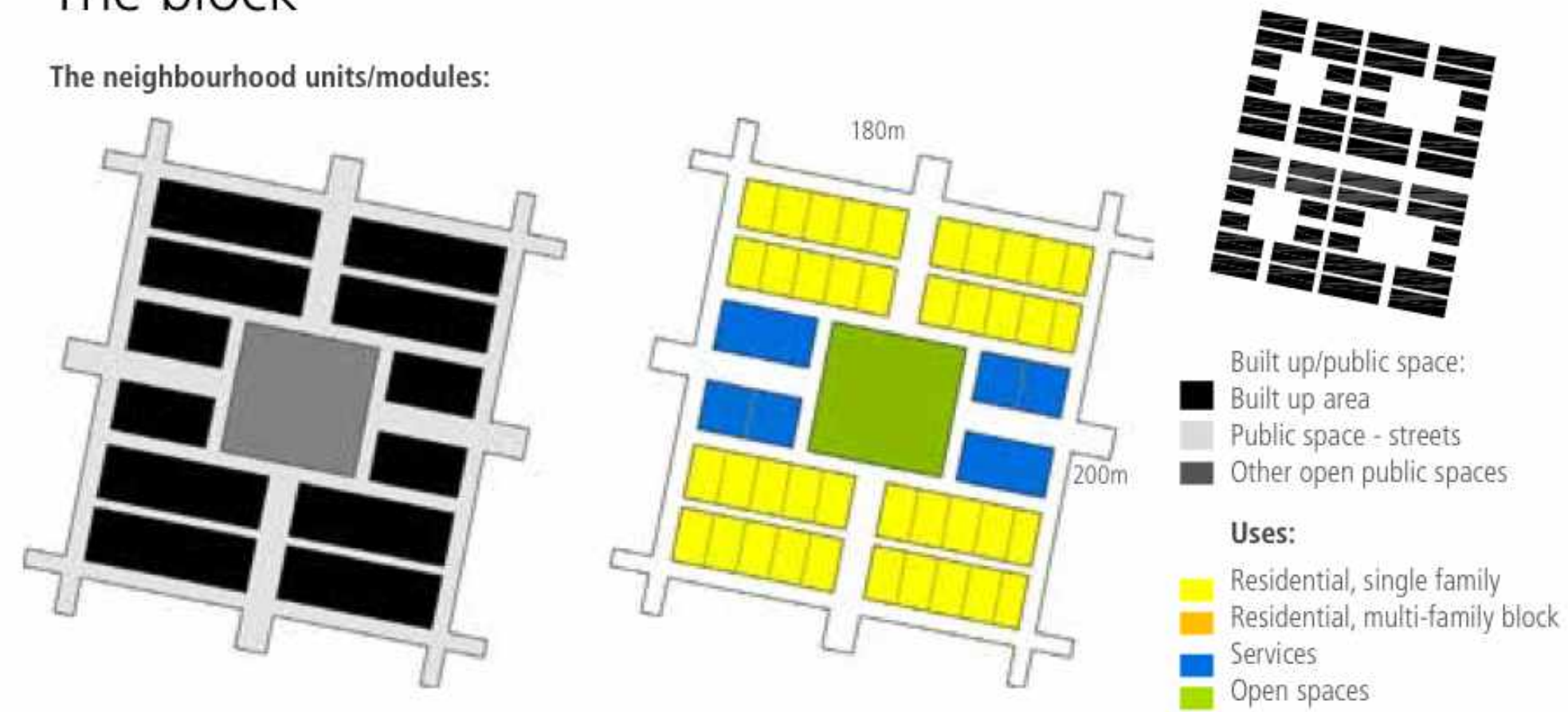


Block and street sizes and orientation:

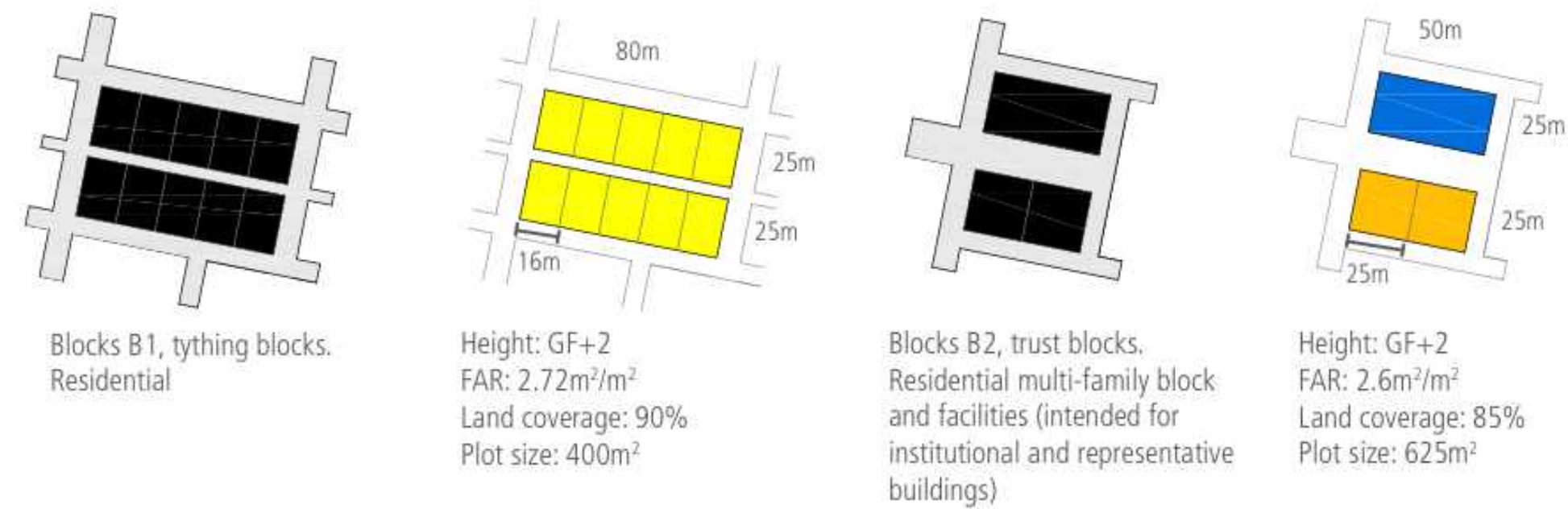


The block

The neighbourhood units/modules:

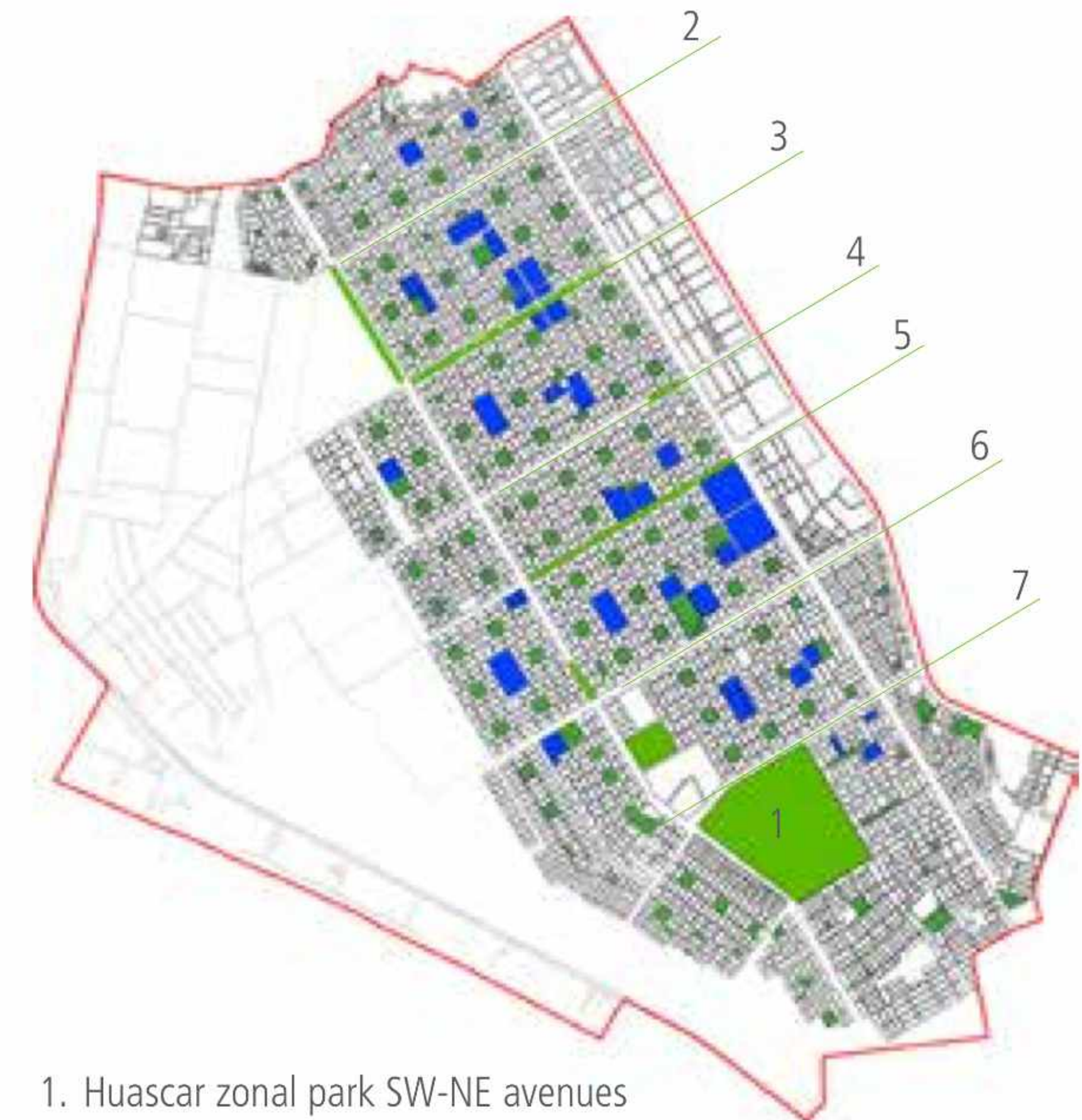
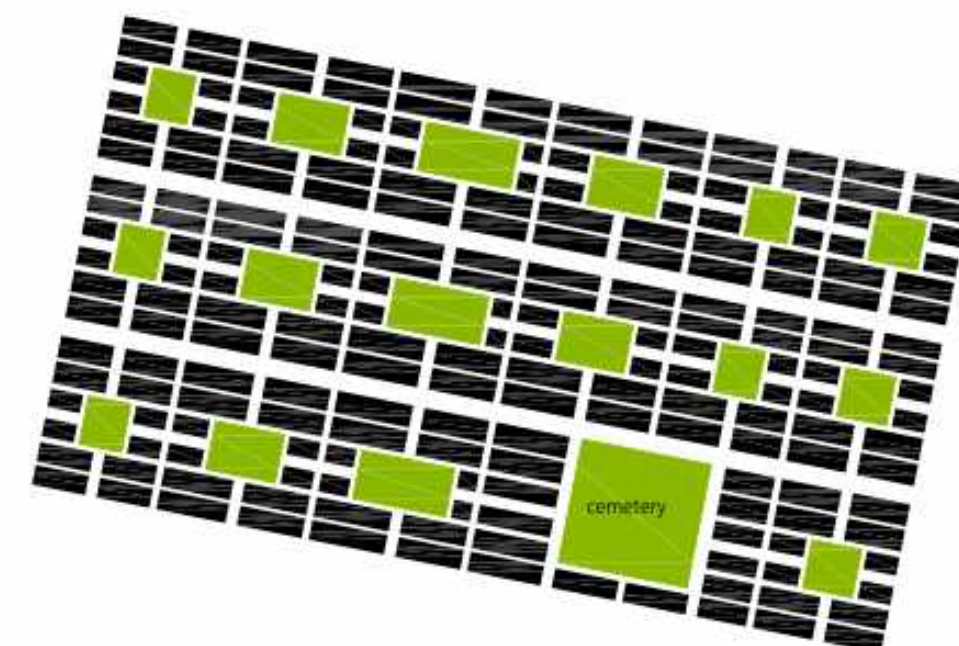


Neighbourhood/basic blocks:



Open spaces & facilities

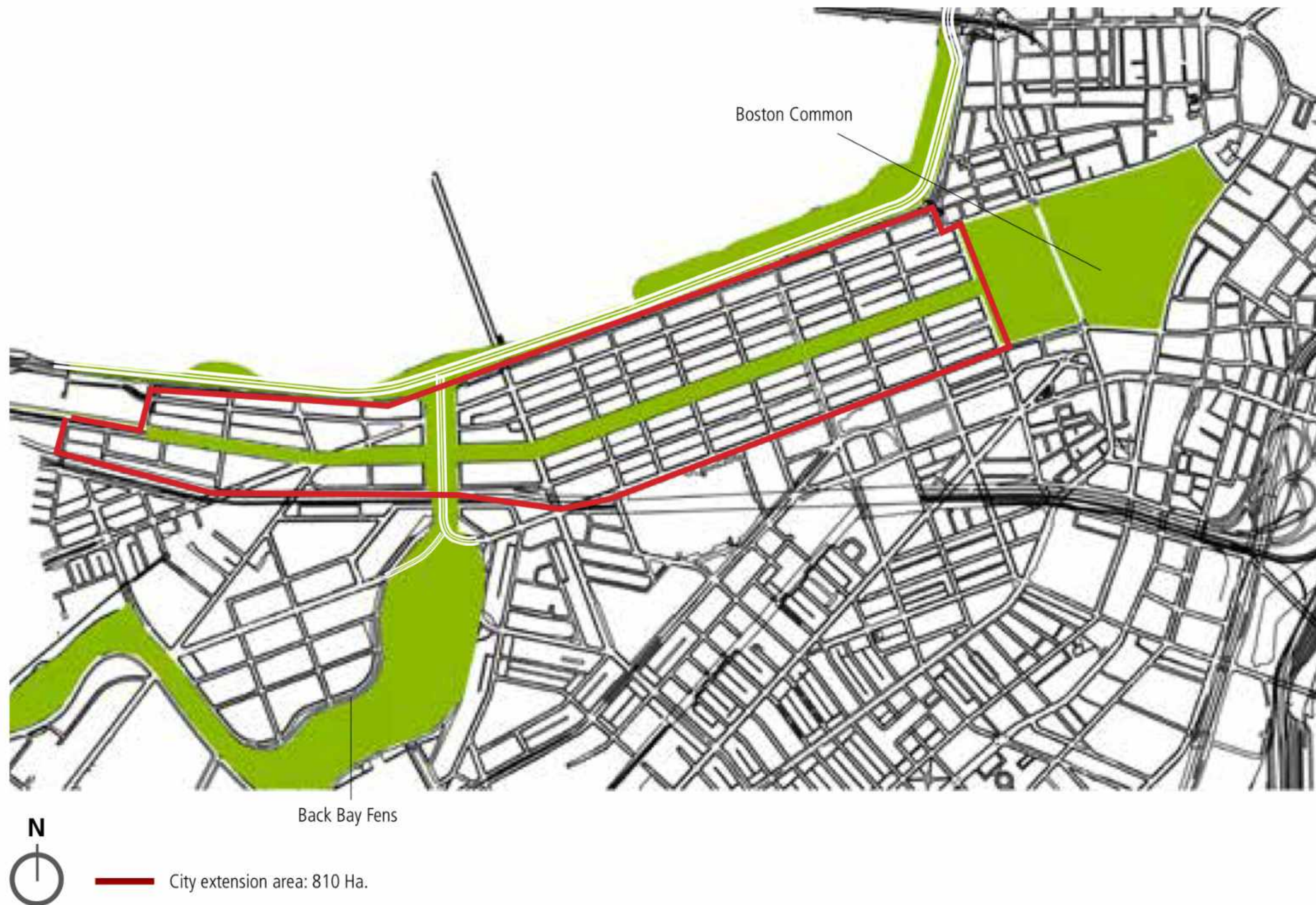
The plan of Savannah neighbourhood units composed of eight building blocks surrounding a central local square. The square, the core of the unit, served originally as town meeting area and a center of business. Facilities such as markets or churches were grouped around the square, in blocks of different sizes and shapes, increasing the activity of the public space.



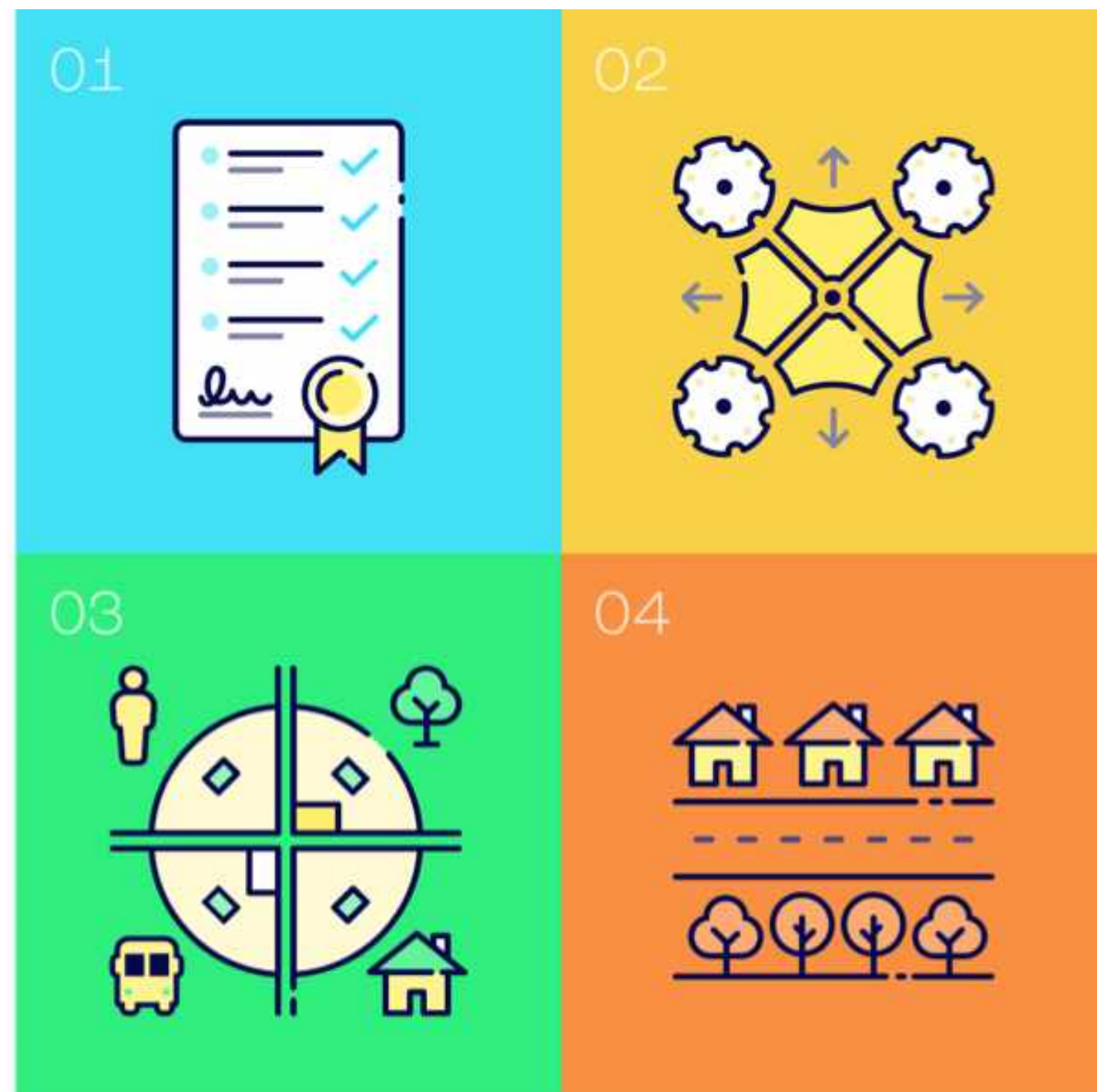
1. Huascar zonal park SW-NE avenues with central open spaces:
2. Av 1 de Mayo
3. Av el Sol
4. Av Juan Velasco Alvarado
5. Av Cesa Vallejo
6. Av Jose Carlos Mariategui
7. Av 200 millas

Facilities
 Open spaces

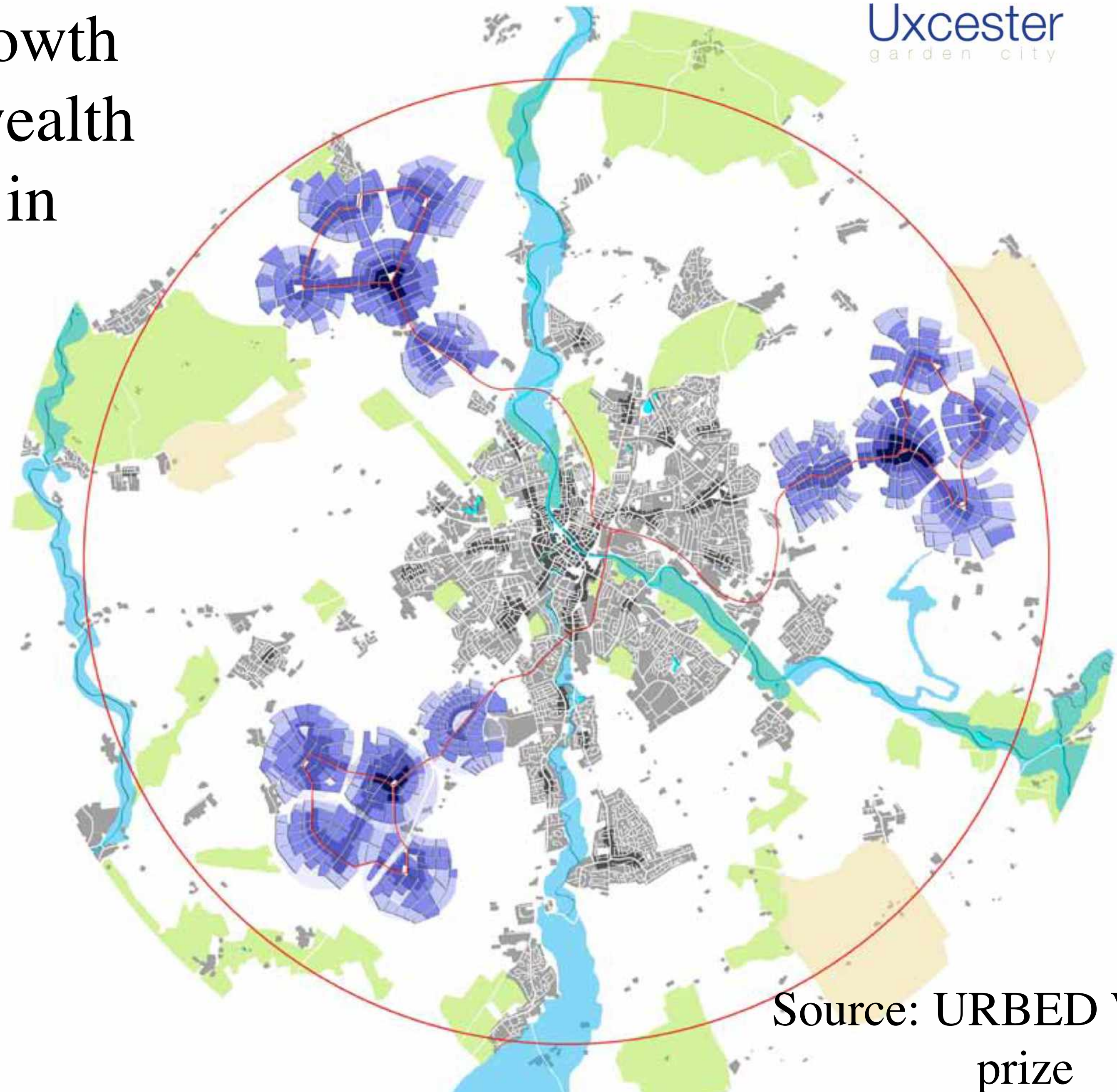
The grid & the open space structure



More than 50% of urban growth
will occur in the Commonwealth
with more than 50% of that in
Secondary Cities



Rapid Planning Toolkit



Source: URBED Wolfson
prize

Rapid Urban Planning process – first make it a political priority!

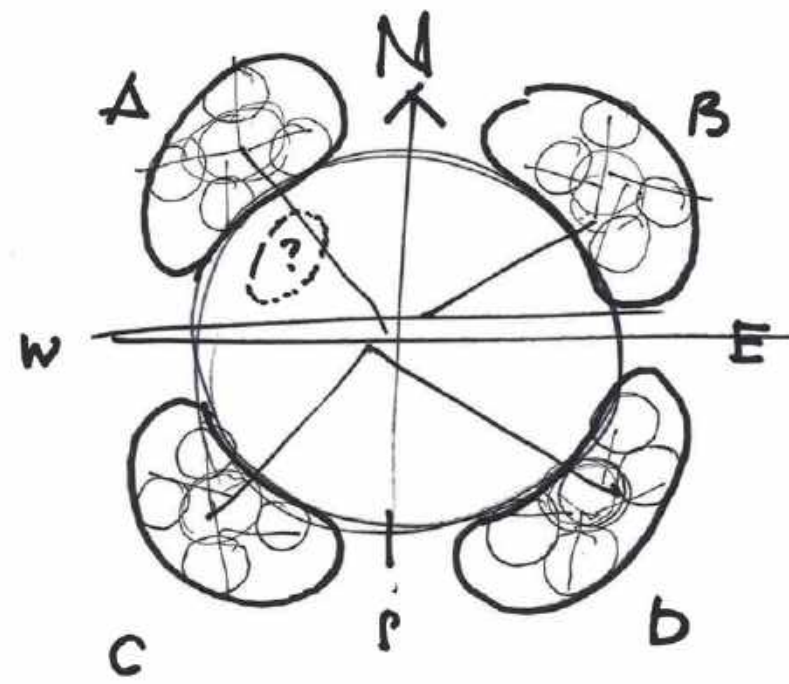
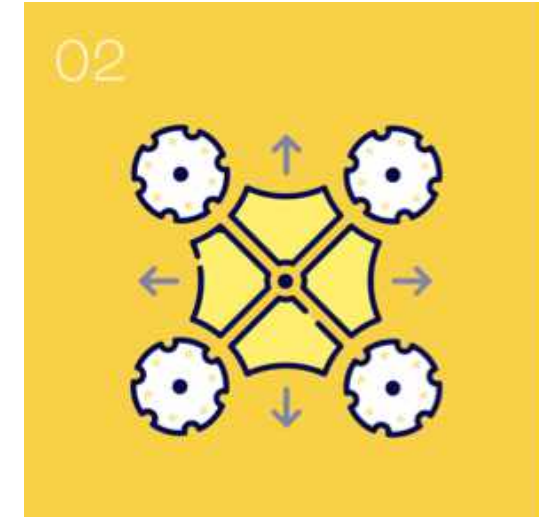
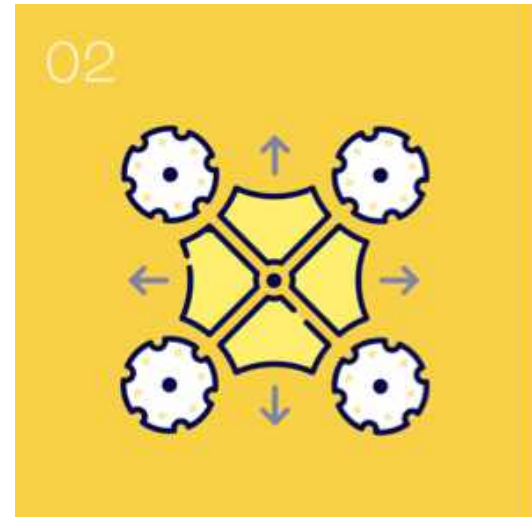
- Mayors and local politicians like simple and short term
- Spatial urban planning is often complex and long term
- Rapid planning engages local communities
- Rapid planning gets stakes in the ground quickly
- Rapid planning is politically attractive and effective!

Step 1 Rapid Urban Planning process – first make it a political priority!

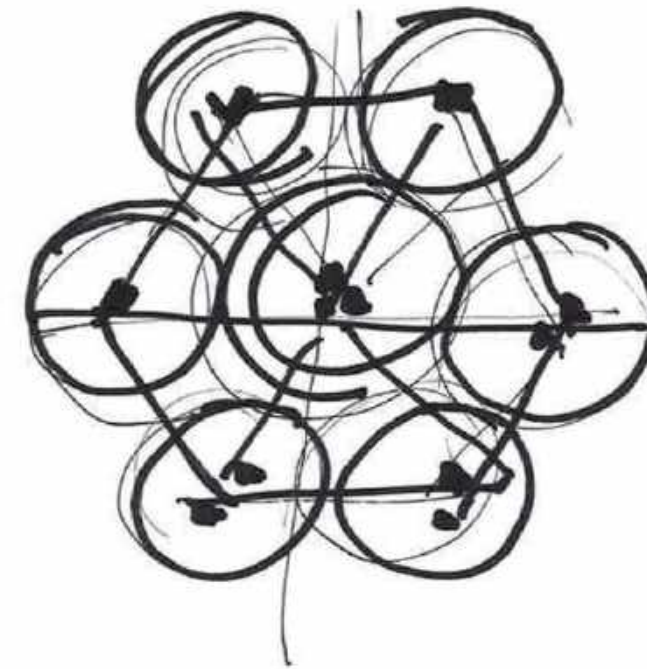
- Write a charter for your rapidly growing city
- Communicate to citizens what spatial planning does and why it's important
- Show its impacts on health and prosperity now and in the future (SDG's)
- Describe the impacts of not planning



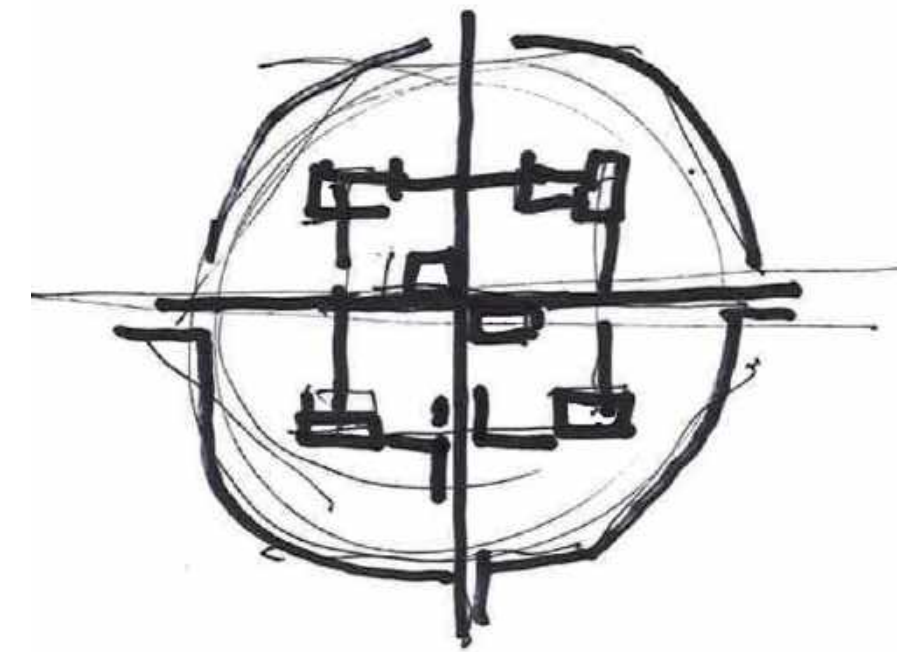
Rapid Urban Planning Process



Growth Area
Options



Walkable
Neighbourhoods

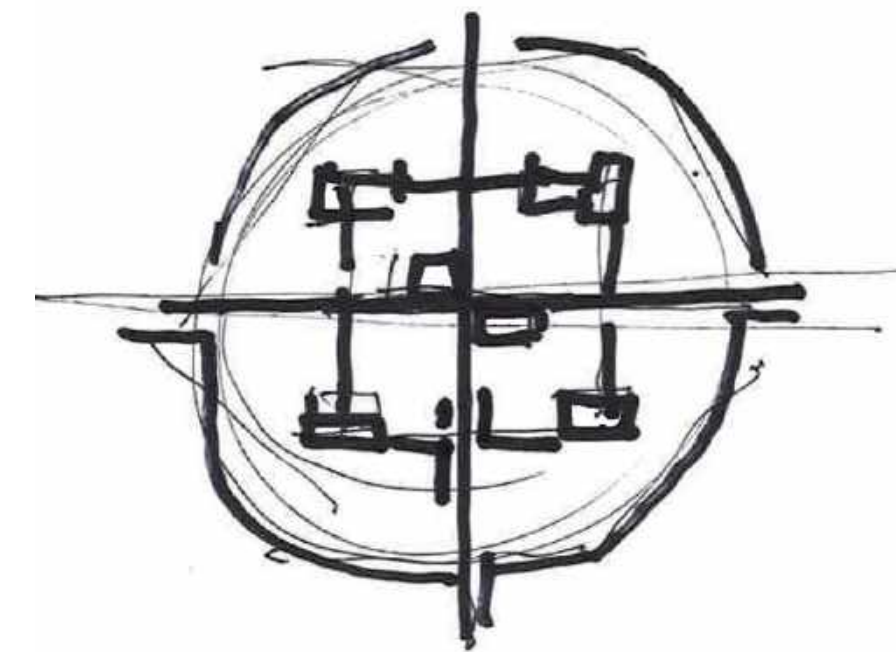
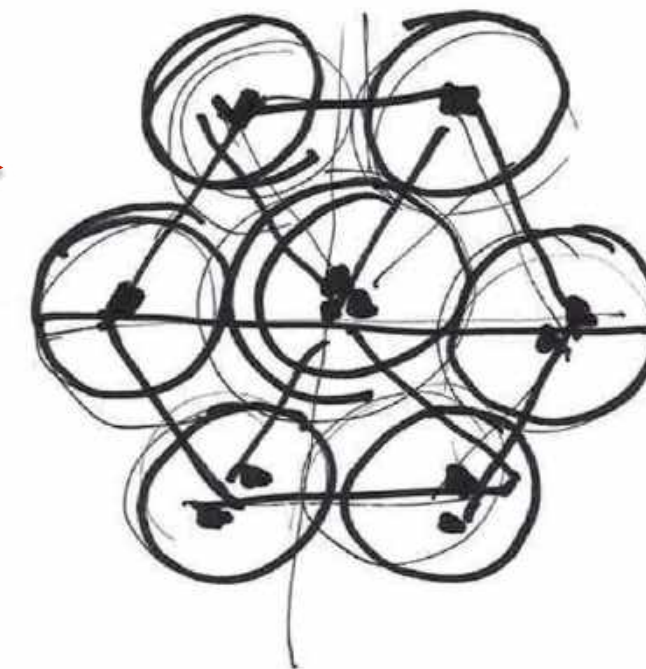
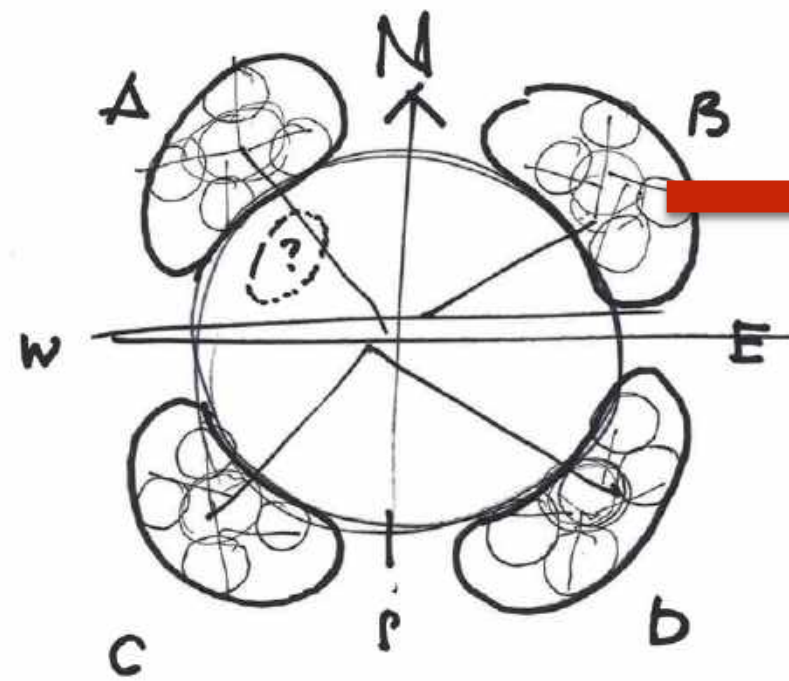
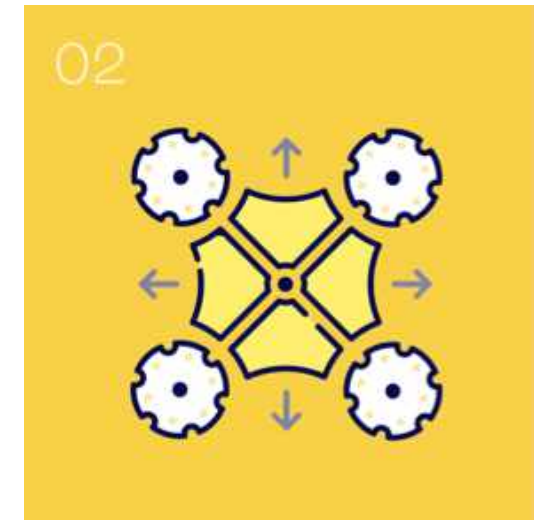
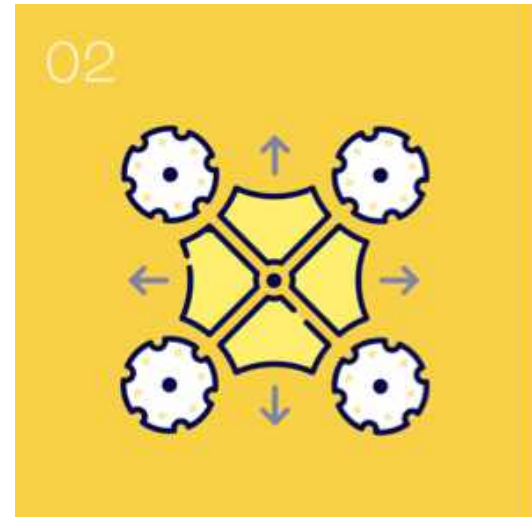


Neighbourhood Quarters



Building Types
Demonstration

Rapid Urban Planning Process



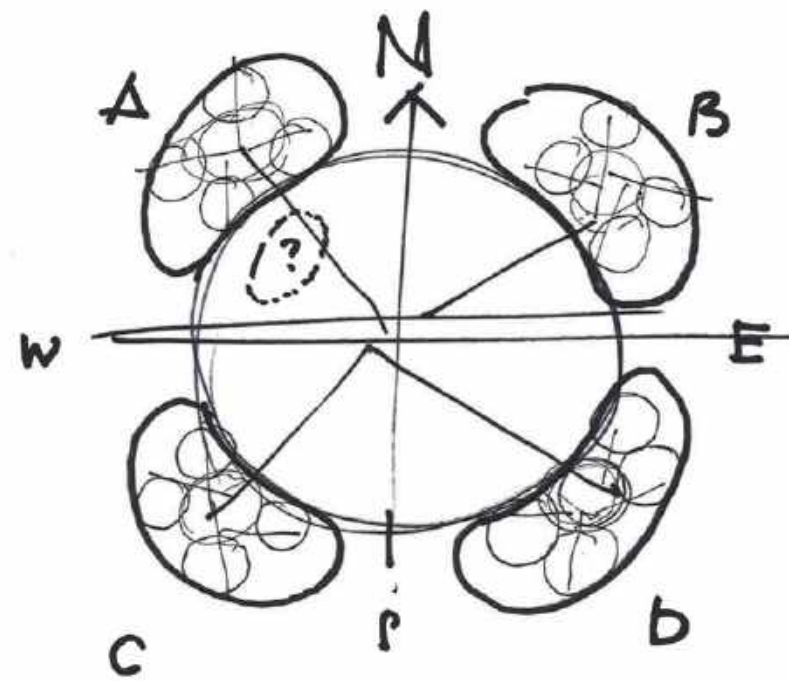
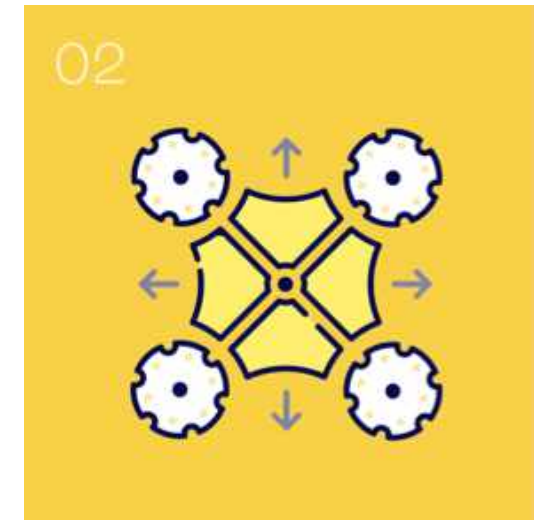
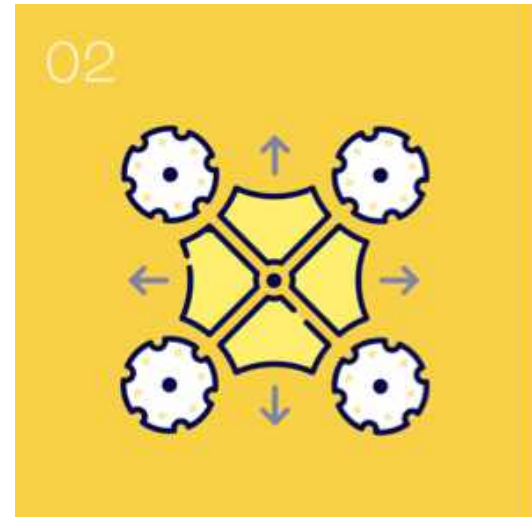
Growth Area
Options

Walkable
Neighbourhoods

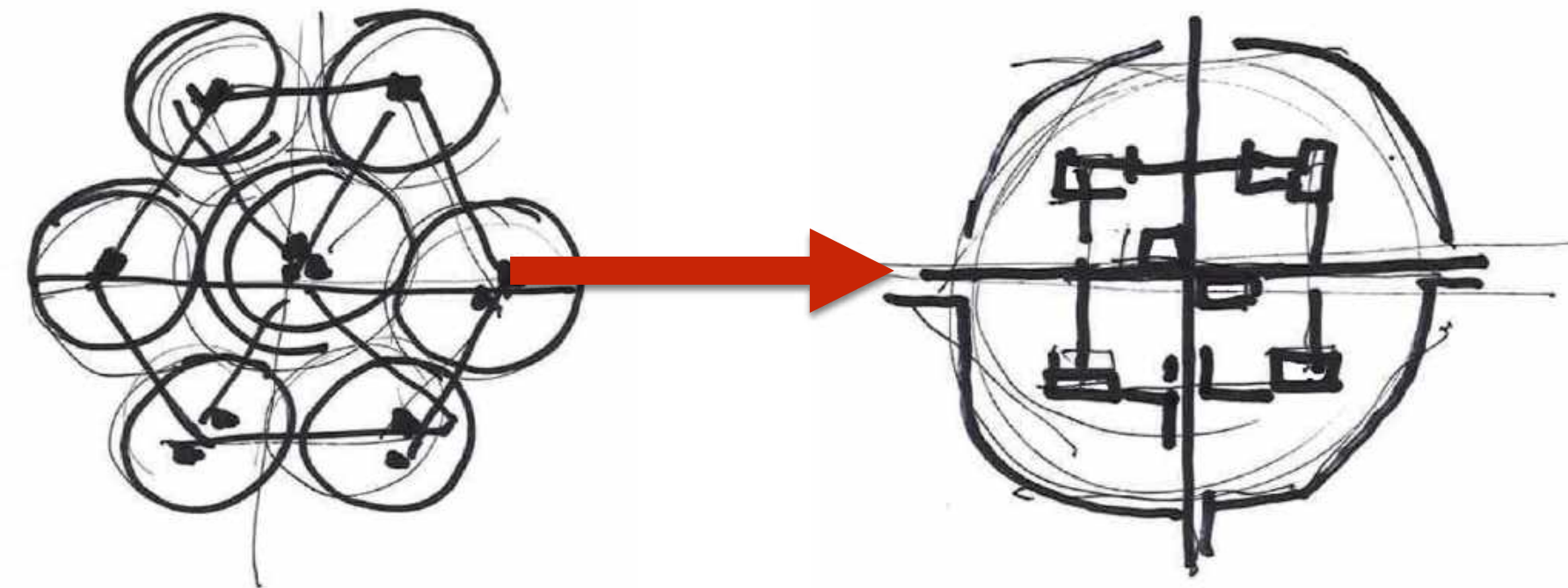
Neighbourhood Quarters

Building Types
Demonstration

Rapid Urban Planning Process



Growth Area
Options



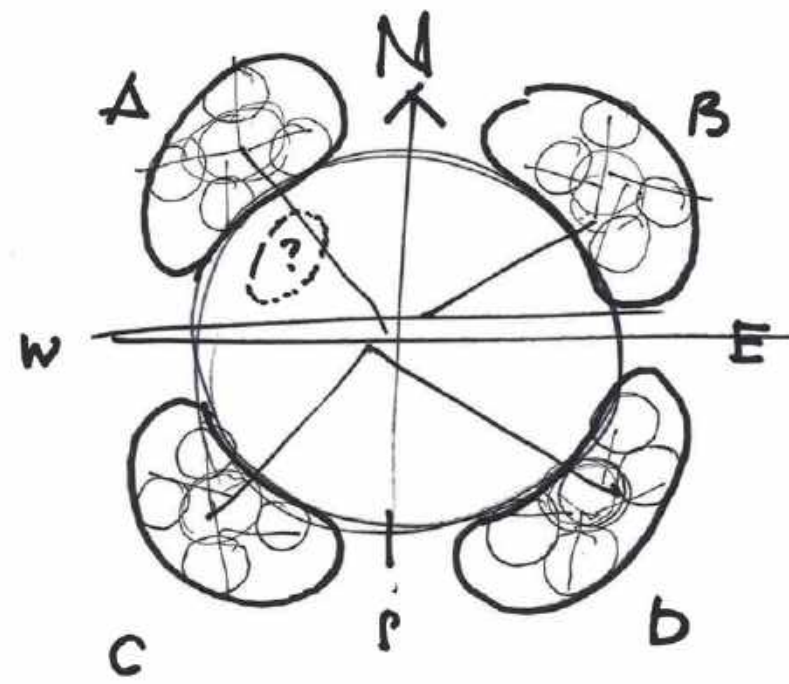
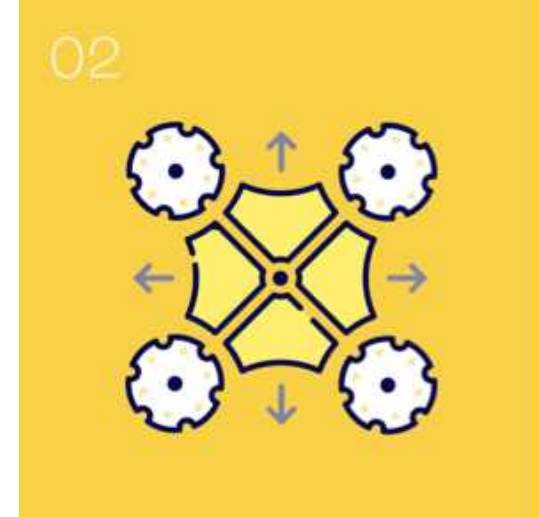
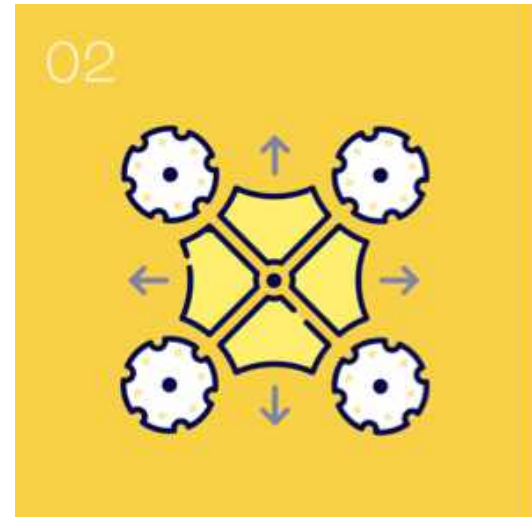
Walkable
Neighbourhoods

Neighbourhood Quarters

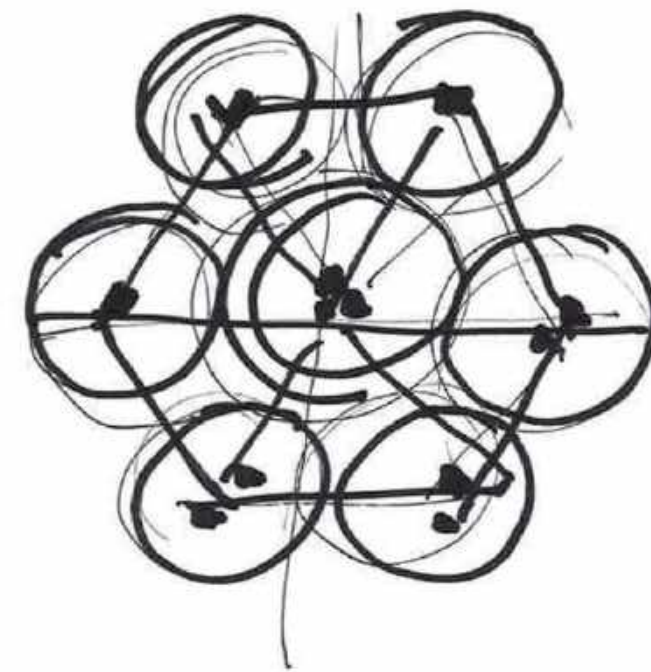


Building Types
Demonstration

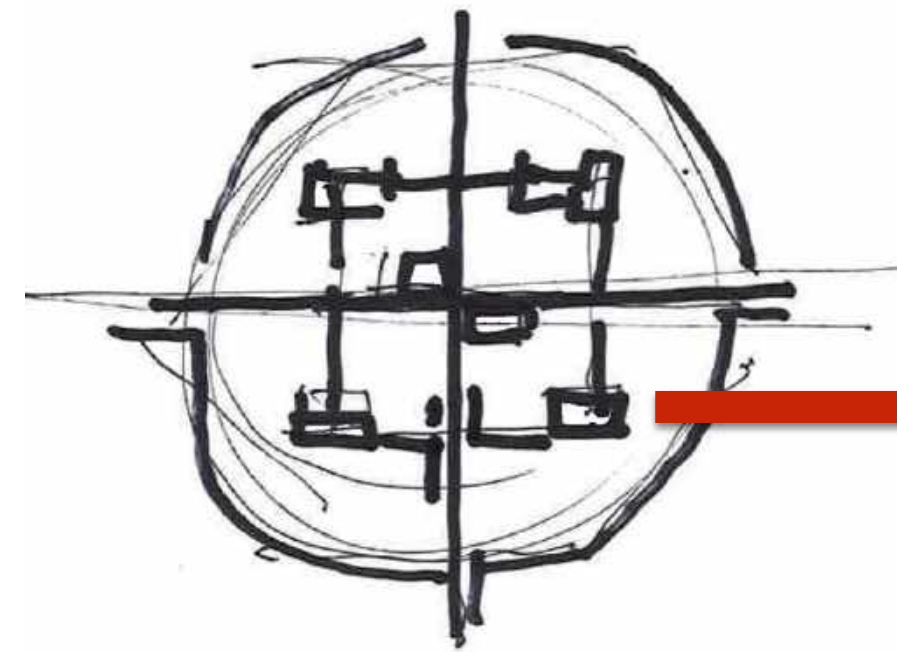
Rapid Urban Planning Process



Growth Area
Options



Walkable
Neighbourhoods

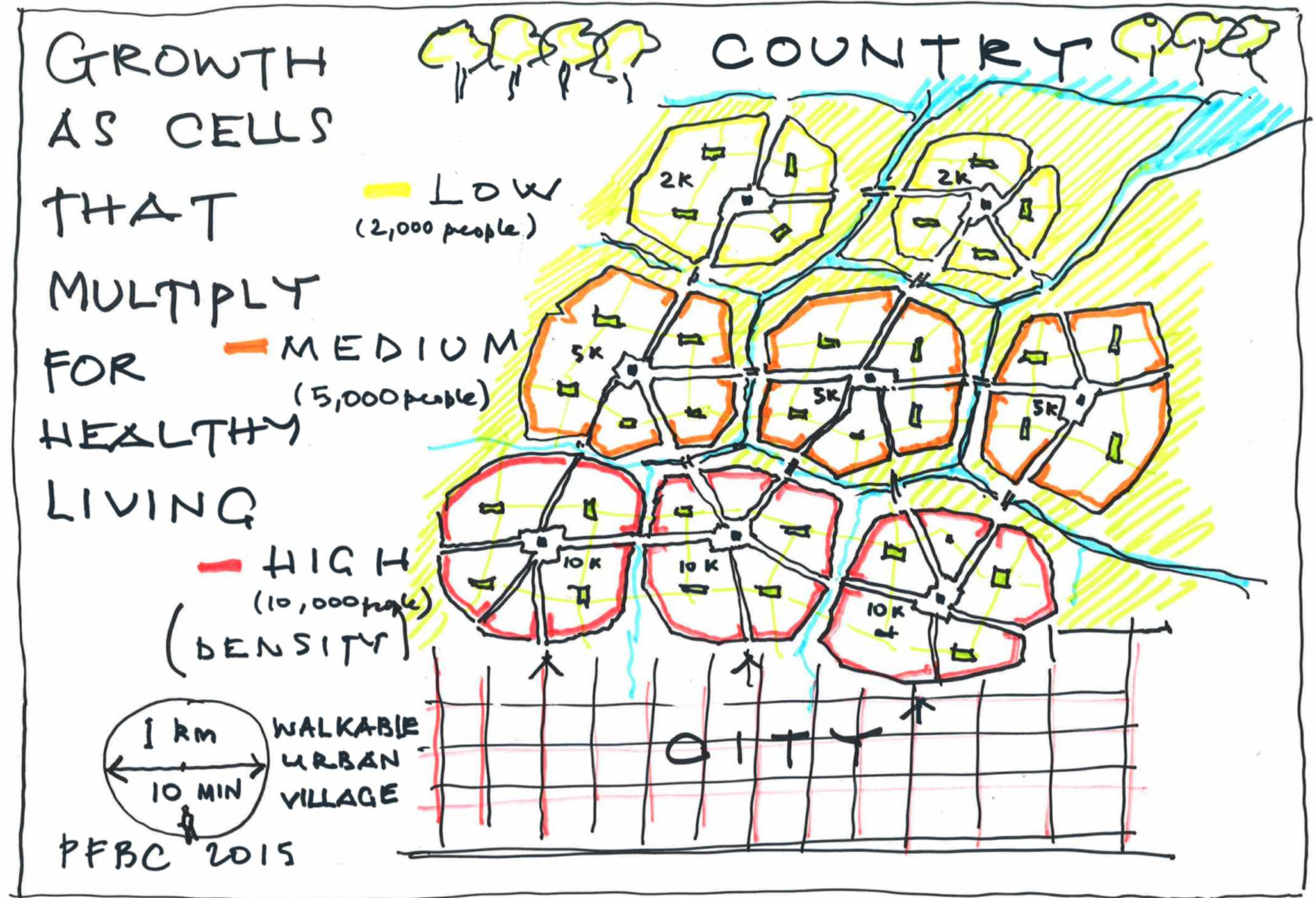


Neighbourhood Quarters

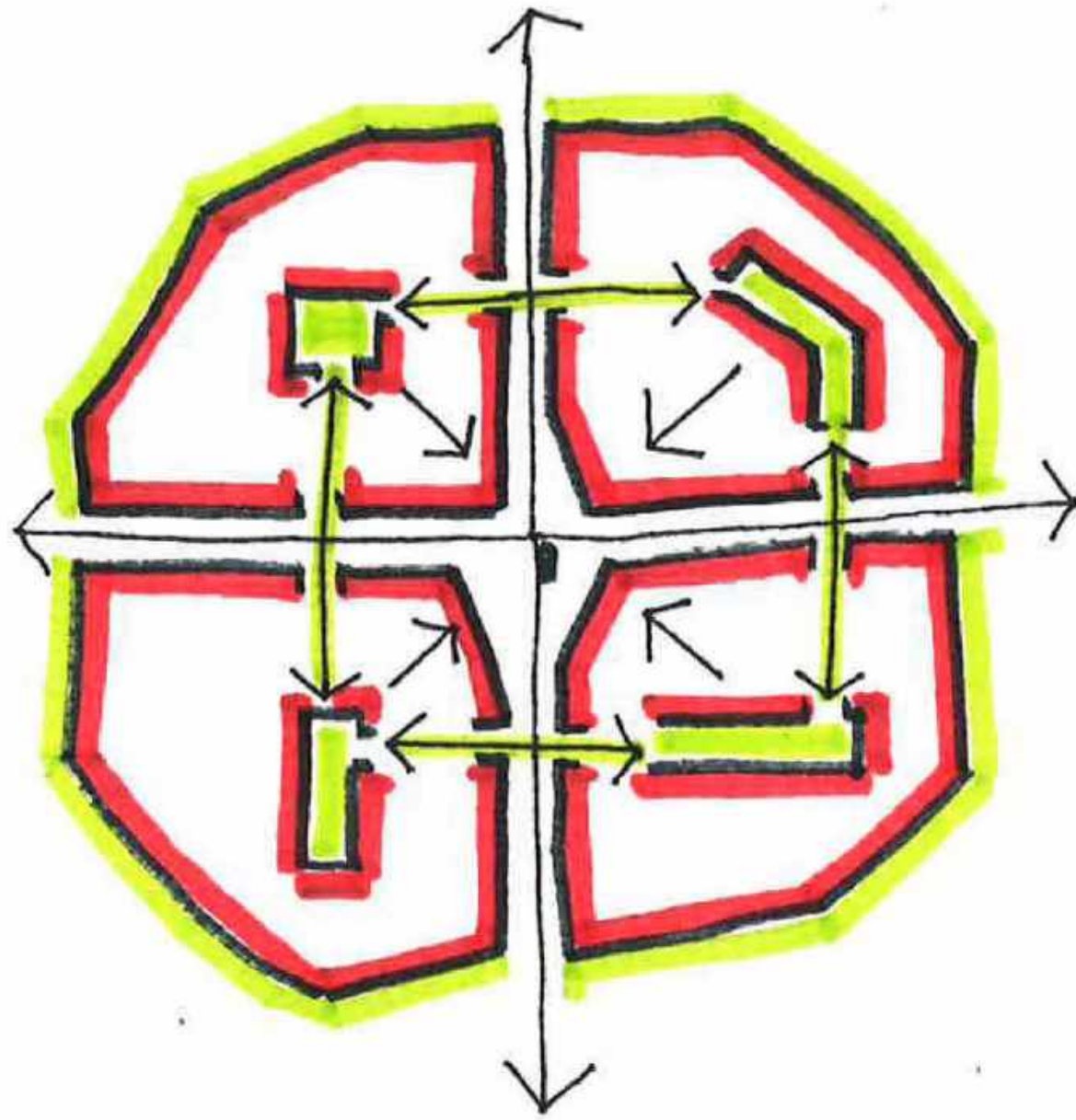


Building Types
Demonstration

Urban extensions: urban to rural

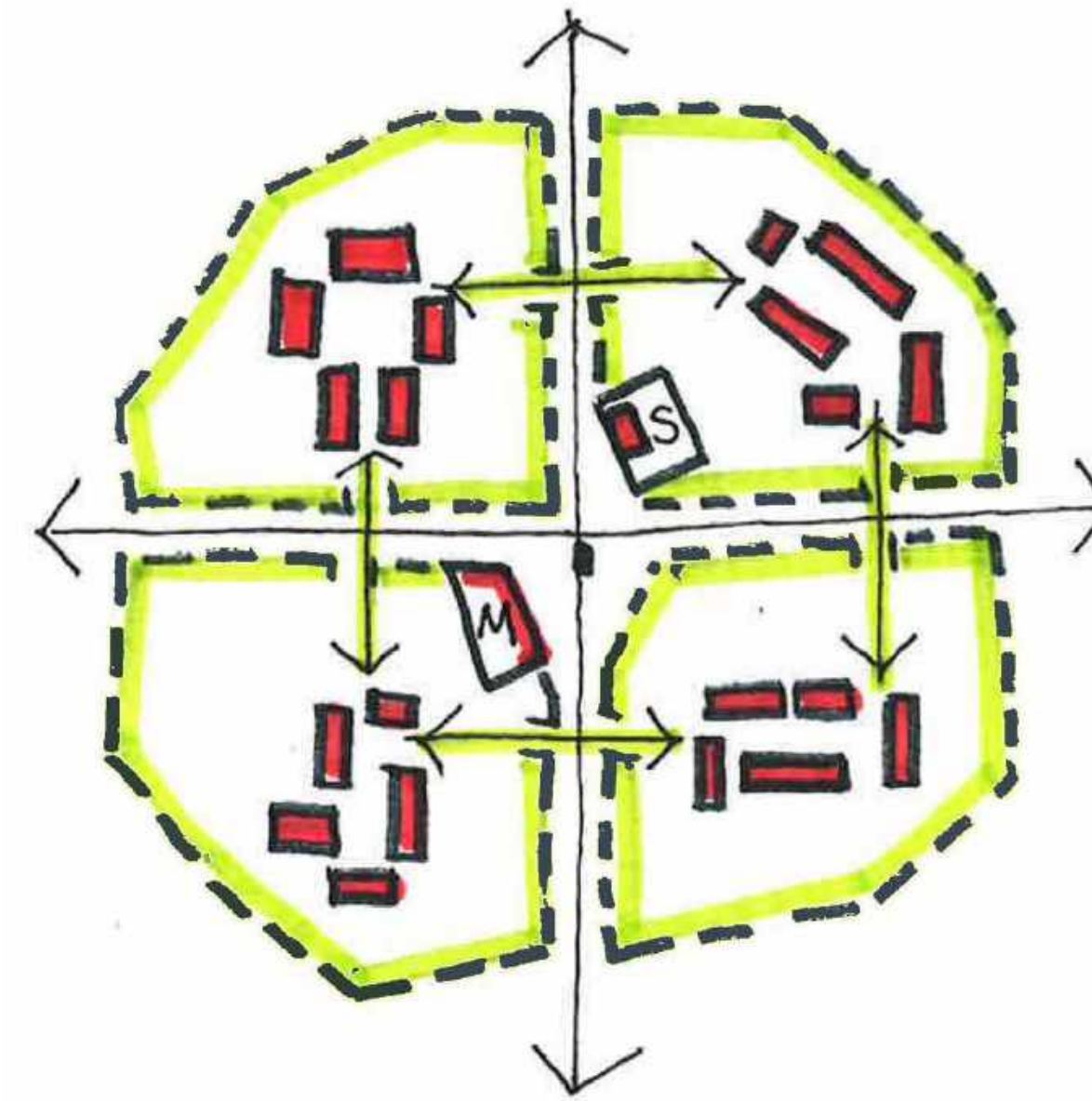


Protection and regulation: street widths, block size and uses



A NEIGHBOURHOOD =
4 QUARTERS

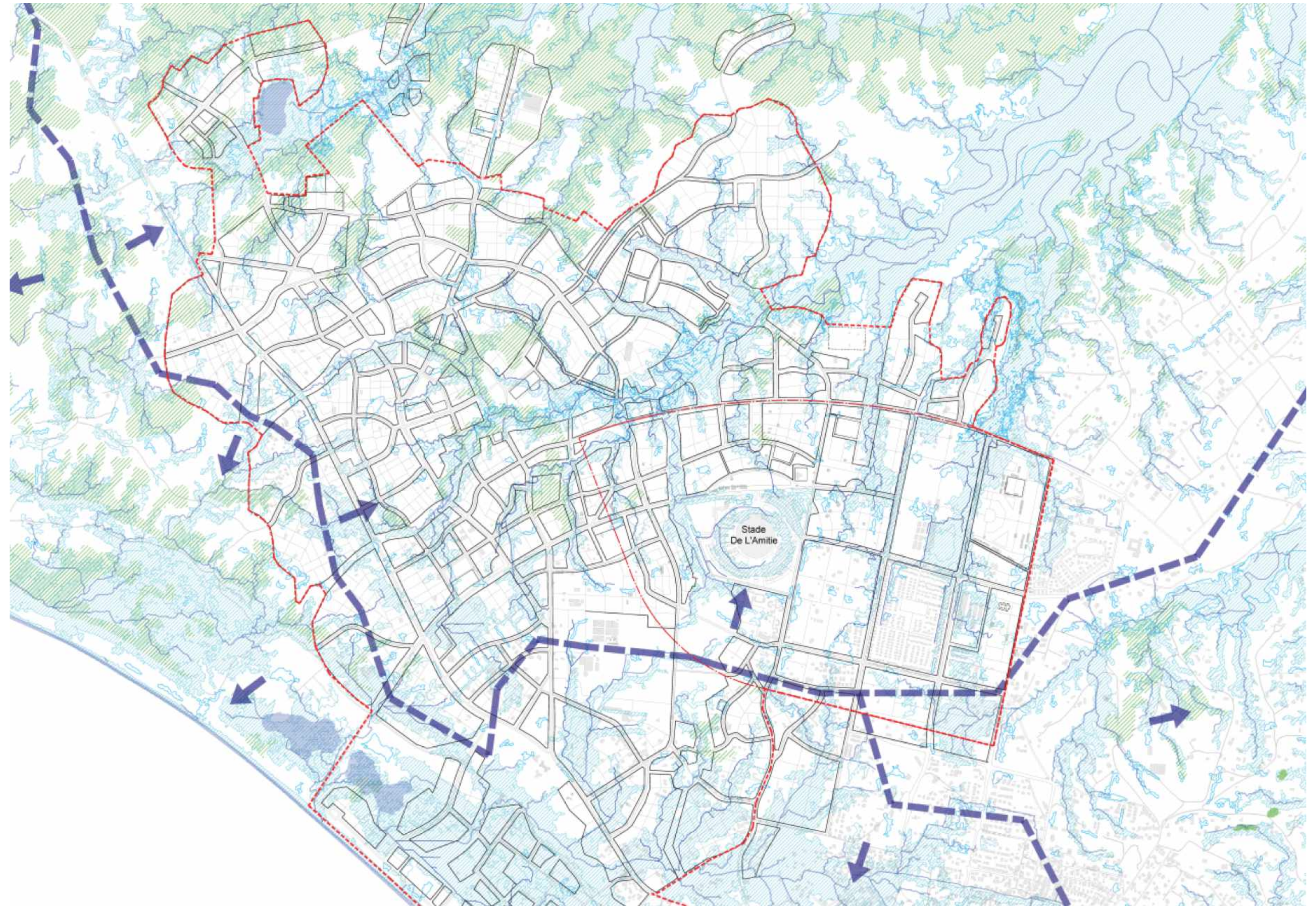
$20 \text{ HA} \times 4 = 80 \text{ HA}$
10 - 30 HA RANGE



CREATE GREEN SQUARE
IN EACH QUARTER +
LOCAL REGULATION
CENTRE AND SCHOOL

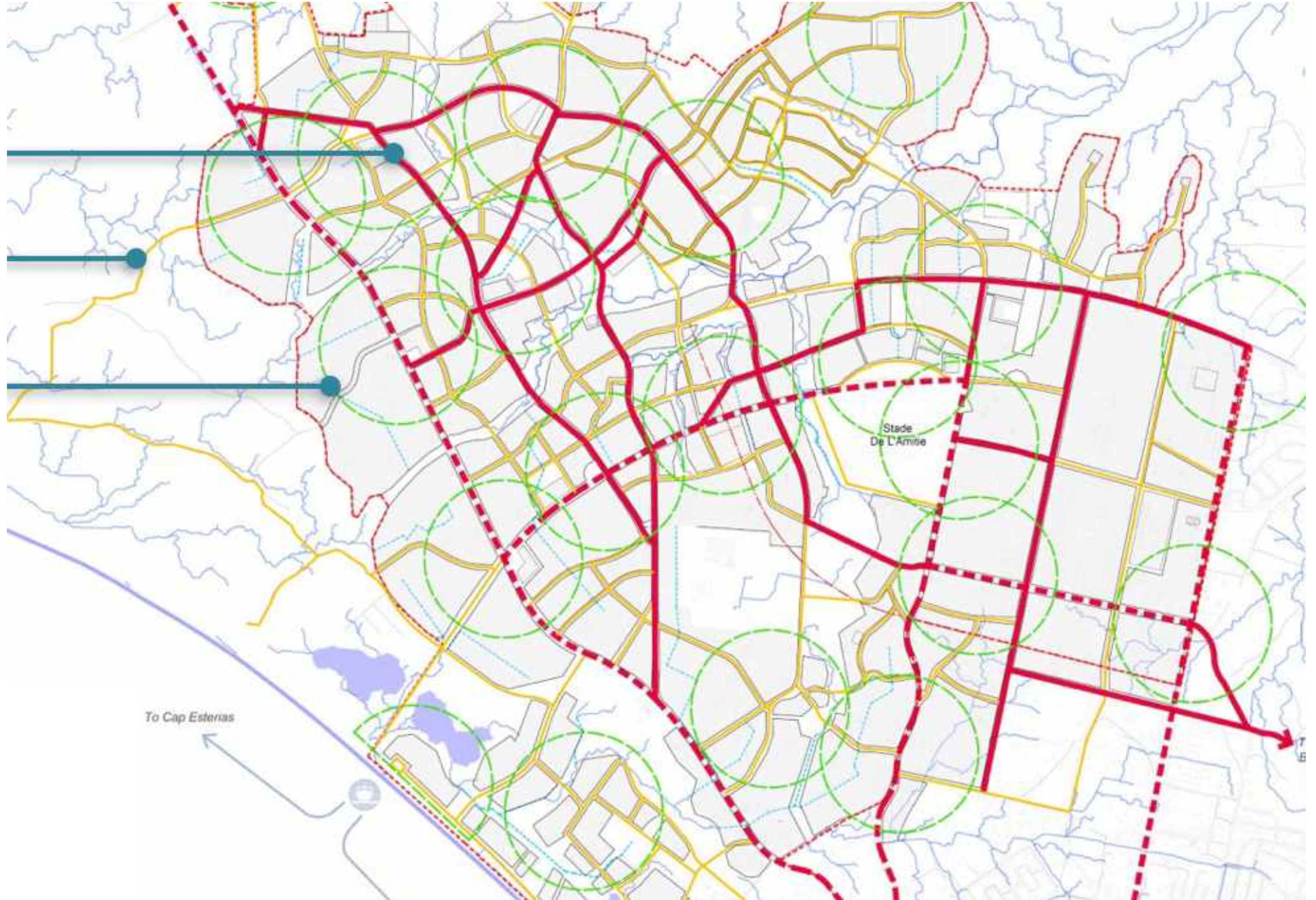
Urban extension to Libreville, Gabon.

Map the key
constraints such as
water/flood zones,
sensitive ecology,
existing settlements
and routes etc.



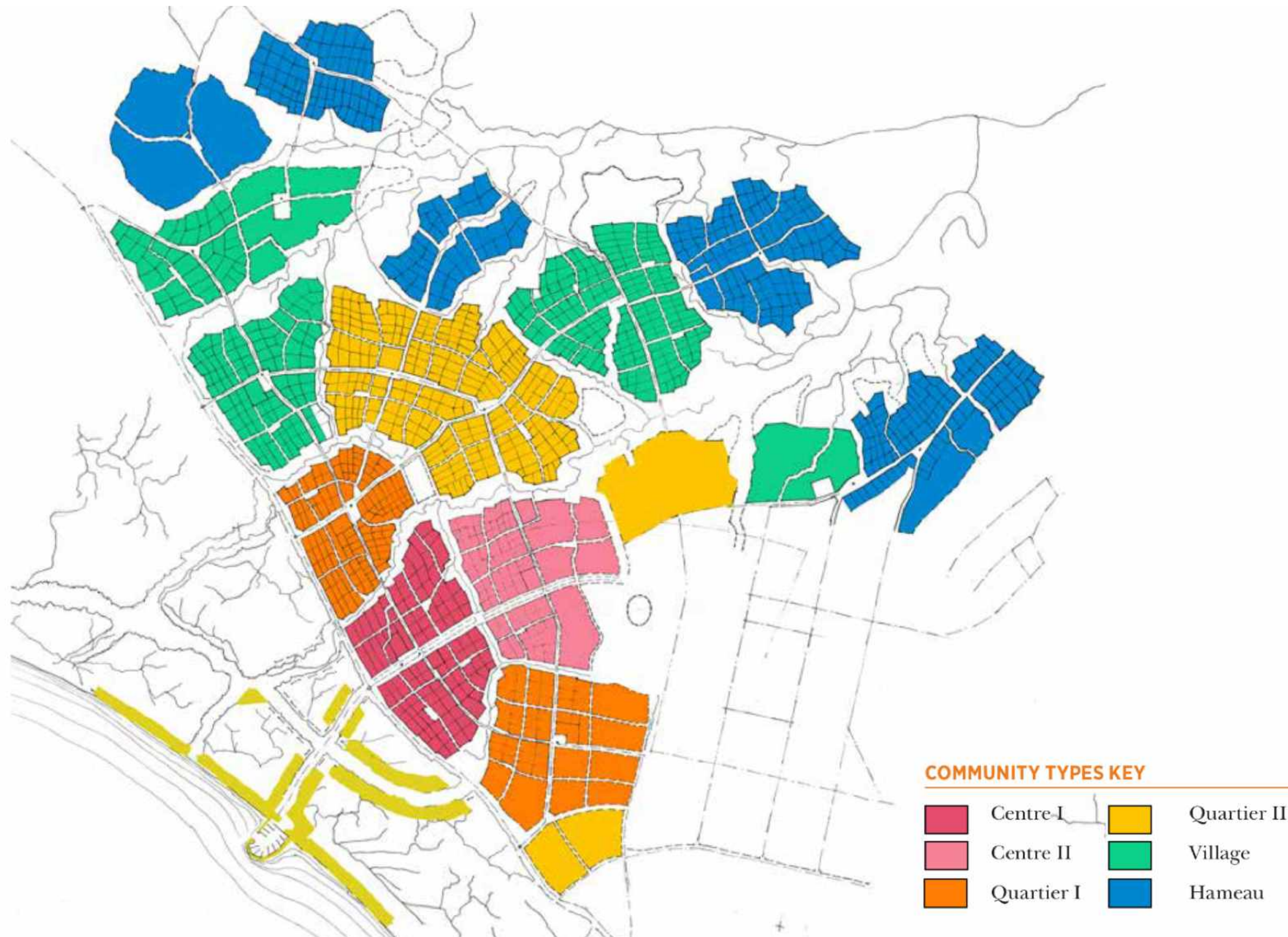
New structure

Primary and
secondary routes
with walkable
neighbourhoods



Agree the 'bare bones'
key fixes plan which
needs staking out
and protecting





Regulations - density grading from high to low/urban to rural (10-2,000 people)