URBAN SH/FT

THE LOST ART OF CITY-MAKING
WHY NEIGHBOURHOODS MATTER AGAIN?

SERGE SALAT
Urban Morphology and Complex Systems Institute

China City Academy 2025
Green and Thriving Neighbourhoods:

www.shiftcities.org

SECTION 1:Why Neighbourhoods Matter for Sustainable Urban Form

Neighbourhoods are the scale where urban form becomes transformative—linking climate, equity, infrastructure, and economic performance through integrated spatial strategies.

Hammarby Sjöstad. Source : Creative commons.

THE LOST ART OF CITY-MAKING
Why Neighbourhoods Matter Again

French Dream Town, Hangzhou. Design: XTU (Southern Part), Serge Salat Architect (Northern Part).

- In an age of climate breakdown and rapid urban growth, we are rediscovering something we had almost forgotten: that cities are made of places, and places are made of form. Among them, the neighbourhood stands out—not as a nostalgic idea, but as a scale of practical transformation.

- This masterclass reflects on a critical question: how can integrated design at the neighbourhood level unlock deep sustainability transitions across climate, economy, ecology, and equity?

URBAN SH/FT

Urban Form is the Foundation of Urban Sustainability

- **Urban form governs long-term emissions, infrastructure costs, economic productivity, and access to opportunity. It is the structure through which cities deliver—or miss—their sustainability goals.**

- **Spatial planning** is the strategic process of shaping the physical structure of cities through coordinated decisions on land use, infrastructure, mobility, environment, and investment.

- **Urban form** refers to the resulting spatial configuration: how dense, how mixed, how connected, and how accessible cities are.

- According to the IPCC (WGIII, Chapter 12), **urban form and infrastructure together account for over 50% of global urban emissions**, primarily through their influence on mobility, energy demand, and land consumption.

Energy use and emissions vary dramatically at the block and plot levels around Madison Square, illustrating how micro-scale differences in urban form—such as building height, use, and street orientation—significantly shape energy demand and climate impacts.
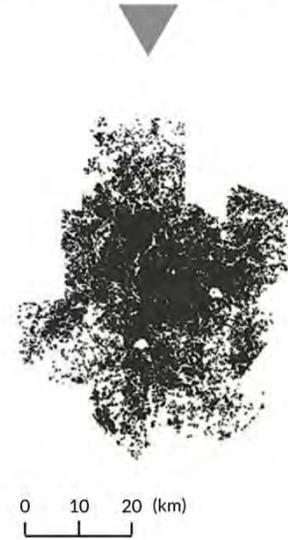
URBAN SH/FT

The Urban Crisis Is Not Only Environmental It Is Spatial

- Urban emissions, energy use, exclusion, and inefficiency are not incidental. They are designed into the physical form of our cities.

- Once fixed, urban form locks in infrastructure costs, travel distances, and exposure to risk—often for decades.

- According to the IPCC, **over 50% of urban emissions stem from urban form and infrastructure**—through their impact on mobility, land consumption, and building energy demand.

- The problem is not just what we build, but how and where we build it.

ATLANTA'S BUILT-UP AREA

BARCELONA'S BUILT-UP AREA

0   10   20 (km)

0   10   20 (km)

	ATLANTA		BARCELONA
POPULATION:	**5.25 MILLION**	POPULATION:	5.33 MILLION
URBAN AREA: TRANSPORT	4,280 KM²	URBAN AREA: TRANSPORT	162 KM²
CARBON EMISSIONS: TONNES CO₂ PER PERSON (PUBLIC + PRIVATE TRANSPORT)	7.5	CARBON EMISSIONS: TONNES CO₂ PER PERSON (PUBLIC + PRIVATE TRANSPORT)	0.7

Atlanta is 27 less dense than Barcelona and emits 10.7 times more CO_2/people/year

- The impact of sprawl on transportation energy consumption is about 10 times higher than the impact of GDP
- Road length per capita is 40 times higher and water network cost /capita is 13.5 times higher in Atlanta than in Barcelona
- The average GVA per km2 of built up area is 15 times higher in Barcelona than in Atlanta [5]

URBAN SH/FT

Form Determines Long-Term Outcomes

The way we compose the city shapes:

•**Emissions**: Compact, connected cities emit 2–3× less CO_2 per capita

•**Costs**: In Chongqing, integrated spatial planning reduced projected infrastructure costs by **30%** and avoided **200 km²** of greenfield expansion

•**Access**: Travel distances shortened by **30%**, and walkable access to jobs improved by **40%** for low-income groups

•**Resilience**: Spatially coherent cities adapt better to heat, flooding, and shocks

Urban form is not a neutral backdrop—it is the scaffolding of sustainability.

Current super-blocks

Small blocks

URBAN SH/FT

Integration Aligns Policies, Investments, and Form

- Integrated spatial planning coordinates land use, mobility, infrastructure, and environment under a common spatial vision. It ensures policies and investments across levels of government reinforce one another in space.

- Integrated spatial planning means aligning *what* is built, *where*, *when*, and *how*.

- In Chongqing, scenario modeling showed that integrated planning reduced projected infrastructure costs by **30%**, while raising economic density and public transport accessibility.

- In Melaka, aligning spatial strategy with actual demand could reduce unproductive land use by **34%**, avoiding infrastructure oversupply.

- These benefits are only possible when plans, investments, and institutions work in spatial synchrony.

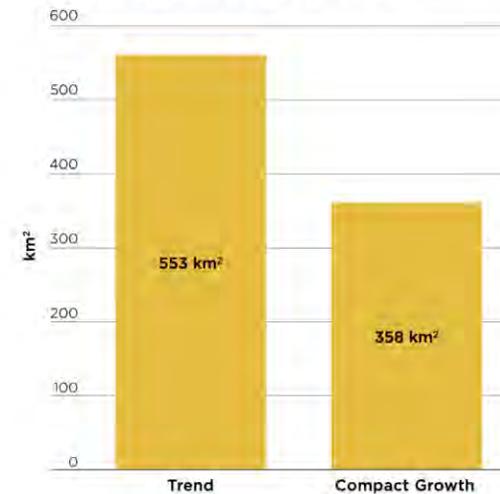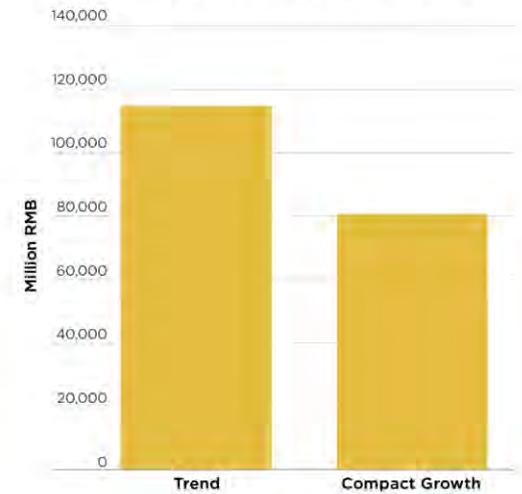FIGURE 30 — New Greenfield Land Consumption

FIGURE 31 — Cumulative Infrastructure Costs to 2035

Chongqing – Infrastructure Cost and Land Consumption Comparison between Trend and Compact Scenarios
*Fig. 30:* Greenfield land savings of **61%**
Fig. 31: Infrastructure cost per capita reduced by **30%**
This dual chart clearly demonstrates how integrated spatial planning can deliver environmental and fiscal benefits in parallel.

URBAN SH/FT

Spatial Planning Delivers Four Interlinked Goals

- Integrated planning must be clearly linked to the goals cities seek to achieve.

- Spatial strategies must translate into gains for people, planet, and prosperity.

Figure 9. Relation between the Four Outcome Dimensions and Two Enabling Dimensions
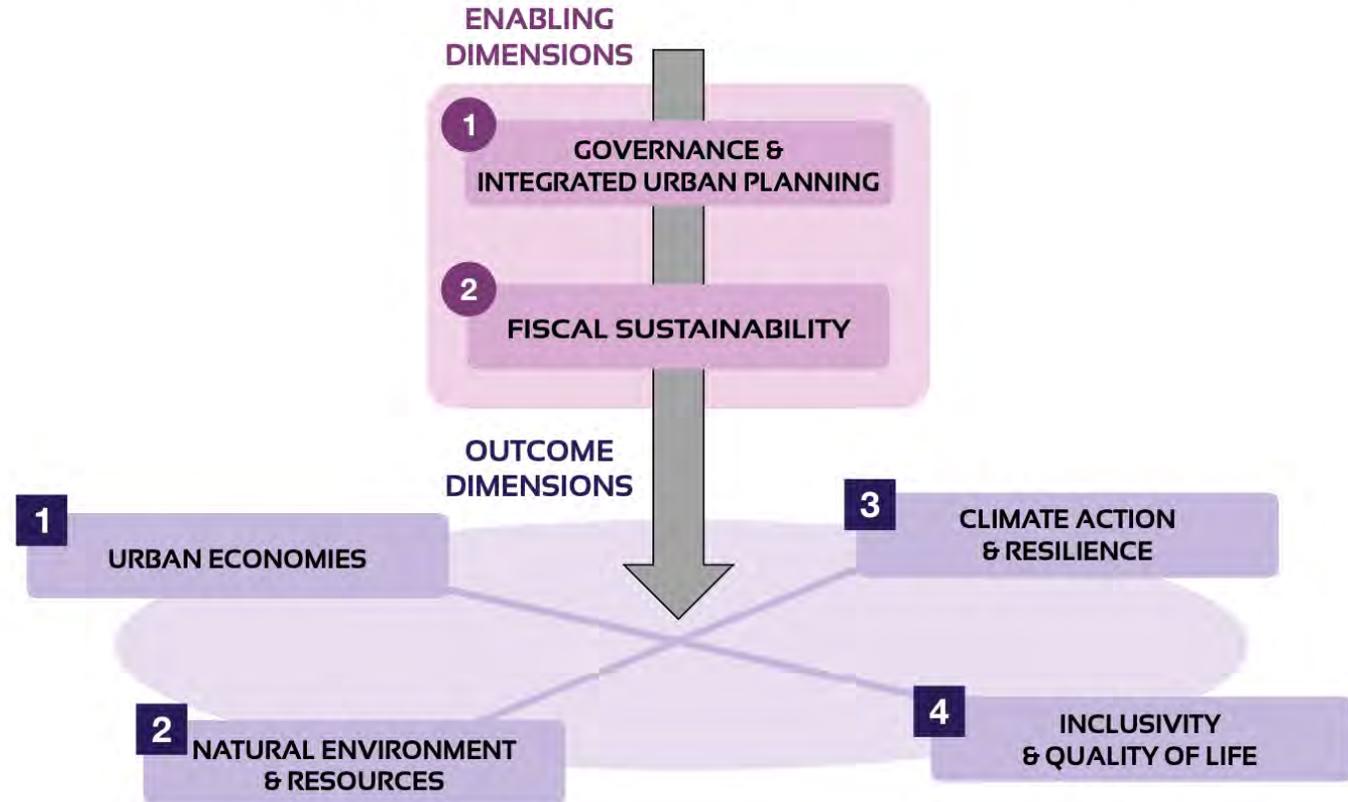
This graphic presents the four outcome areas—urban economies, environment, climate resilience, and inclusion—that spatial planning must address together.

The Form of the City Drives Its Environmental and Economic Performance

Quantified Benefits of Chongqing's Compact Urban Form
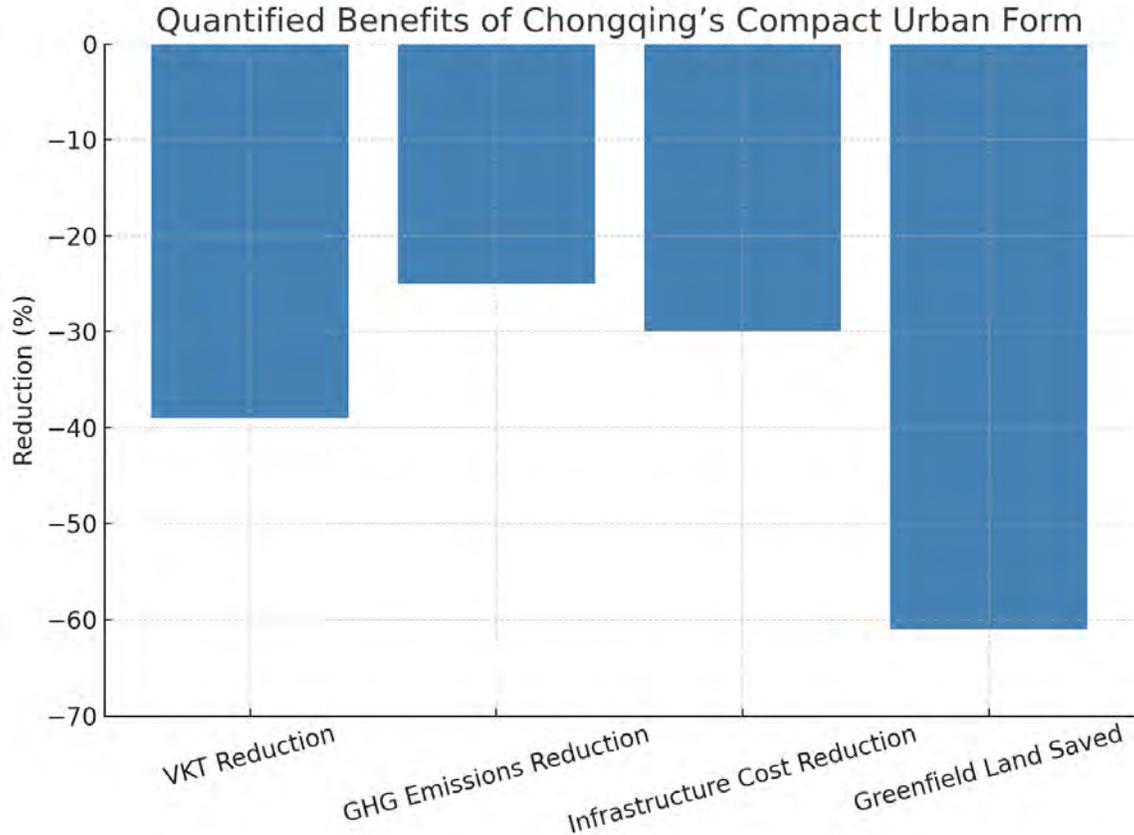
Compact urban form delivers systemic benefits across sectors.
Compared to the trend scenario, Chongqing's integrated spatial strategy reduces vehicle travel, emissions, infrastructure costs, and land consumption—demonstrating how density, connectivity, and coordinated planning can unlock multiple sustainability outcomes simultaneously.

- Urban form determines how cities perform. Density, land use mix, and connectivity together shape emissions, infrastructure costs, mobility, and access. Compact, integrated cities consistently outperform fragmented ones across sustainability metrics.
- **Supporting data points:**
- In Chongqing, the **compact growth scenario** compared to the trend scenario results in:
  - **25% lower GHG emissions**
  - **24% lower infrastructure costs**
  - **30% shorter travel distances**
  - **61% less greenfield land consumed**
- These gains result not from more investment, but from better spatial logic.

URBAN SH/FT

SECTION 2: PLANNING AND DESIGNING GREEN AND THRIVING NEIGHBOURHOODS

Hammarby Sjöstad, Sweden. Source: Creative Commons

SECTION 2A: Embedding Neighbourhoods in Multiscale Urban Strategies

Neighbourhood transformation is most effective when aligned with regional structure, citywide systems, and micro-scale design—linking policies across scales to maximize impact.

French Dream Town, Hangzhou, Architect: Serge Salat

Planning Across All Scales: The Guangzhou Strategy

Guangzhou shows how NbS can be deployed at every spatial scale—from region to street—to cool the city, absorb stormwater, and create healthy public spaces.

- **What to plan**: A multi-scalar strategy integrating nature-based solutions into regional corridors, zoning plans, neighborhood design, and street-level details

- **How to plan it**:
  - At **regional scale**: Protect ecological corridors to guide growth and airflow
  - At **city scale**: Embed NbS zones into land use plans for cooling and flood resilience
  - At **neighbourhood scale**: Use bioswales, greenways, and water plazas to shape microclimates
  - At **street scale**: Design green, shaded, and permeable public spaces as everyday infrastructure

- **Why it works**: Lowers surface temperatures by 2°C, improves drainage and biodiversity, and creates inclusive, comfortable, climate-resilient public spaces
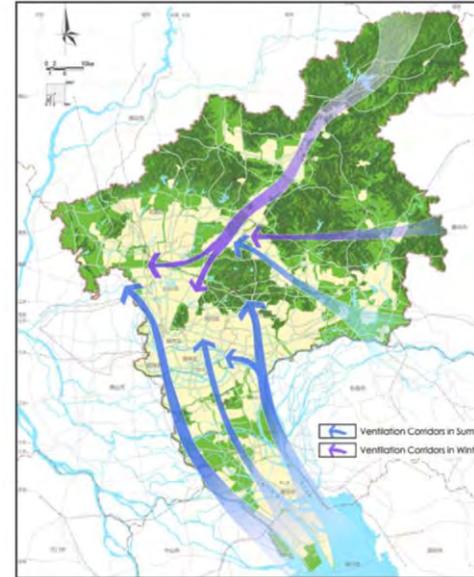

Guangzhou's multiscale ventilation strategy—from regional wind corridors to local breezeways—enhances airflow, cools urban areas, and builds resilience in fast-growing zones like Knowledge Green Valley.

12

URBAN SH/FT

Metropolitan Scale: Linking Transit and Climate Through Spatial Structure

- At the regional scale, the goal is to contain sprawl and direct growth into compact, transit-served urban centers while protecting ecological and ventilation systems.

- In Guangzhou, ventilation corridors and regional green buffers are used to regulate airflow, reduce heat risk, and guide urban expansion.

- Aligning these ecological flows with transport networks enables spatial structures that reduce emissions, preserve biodiversity, and increase resilience.
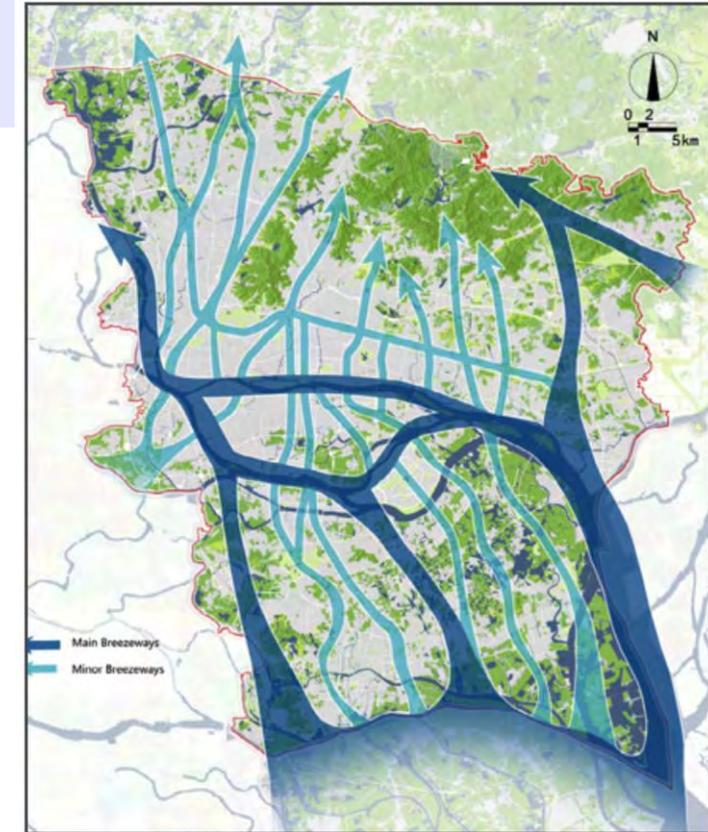

Guangzhou's spatial ventilation corridor plan integrates natural wind flows and ecological buffers into regional spatial structure, reinforcing both climate resilience and transit-oriented development. The six major ventilation corridors run along the mountains and rivers parallel to the wind direction. The central area will benefit from five major breezeways and 22 minor breezeways.

URBAN SH/FT

City Scale: Coordinating Density, Transit, and Risk Management

Planning Density with Transit and Ecosystems: The Singapore Model

Singapore demonstrates how citywide plans can integrate density, transit, and ecosystem protection. Its Concept and Master Plans channel growth to rail corridors, preserve green and coastal assets, and align infrastructure with resilience goals.

- **What to plan**: A city structure linking dense development with transit, protecting ecosystems, and promoting infill/brownfield reuse

- **How to plan it**: Align zoning, mobility, flood control, and green space around compact polycentric nodes

- **Why it works**: Cuts emissions, improves equity, preserves nature, and sustains economic performance

.
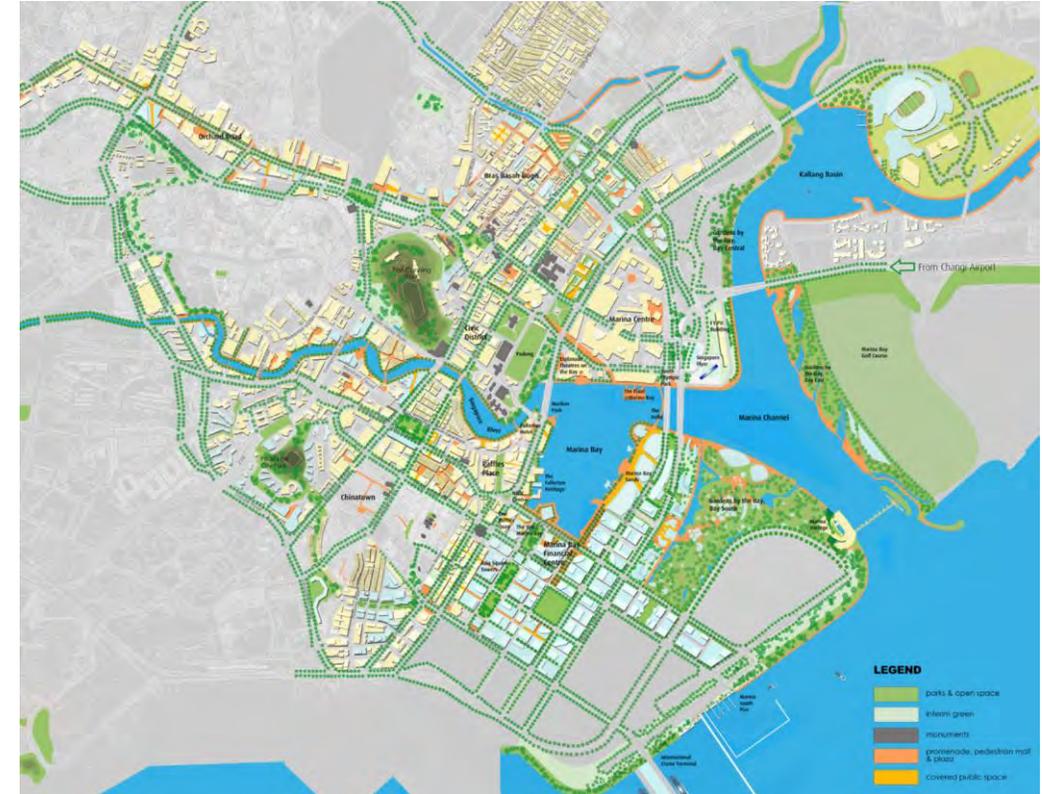
Singapore's Master Plan spatially links density, metro infrastructure, and ecosystem buffers. Coordinated land use and transport planning have enabled the city to accommodate rapid growth while maintaining green space coverage at 47% and achieving one of the world's lowest per capita transport emissions among developed cities.

URBAN SH/FT

Neighborhood Scale: Delivering Livability Through Complete Communities

Stockholm's Hammarby Sjöstad shows how neighbourhood-scale planning can transform brownfields into low-carbon, liveable communities. Infrastructure, land use, and services were integrated into a closed-loop eco-cycle supporting walkability, inclusion, and sustainability.

- **What to plan**: Compact, mixed-use, walkable districts with green infrastructure and connected public space

- **How to plan it**: Co-design land use and utilities around access, equity, and emissions goals within a complete community framework

- **Why it works**: Cuts emissions, boosts resilience, fosters inclusion, and sustains a vibrant local economy
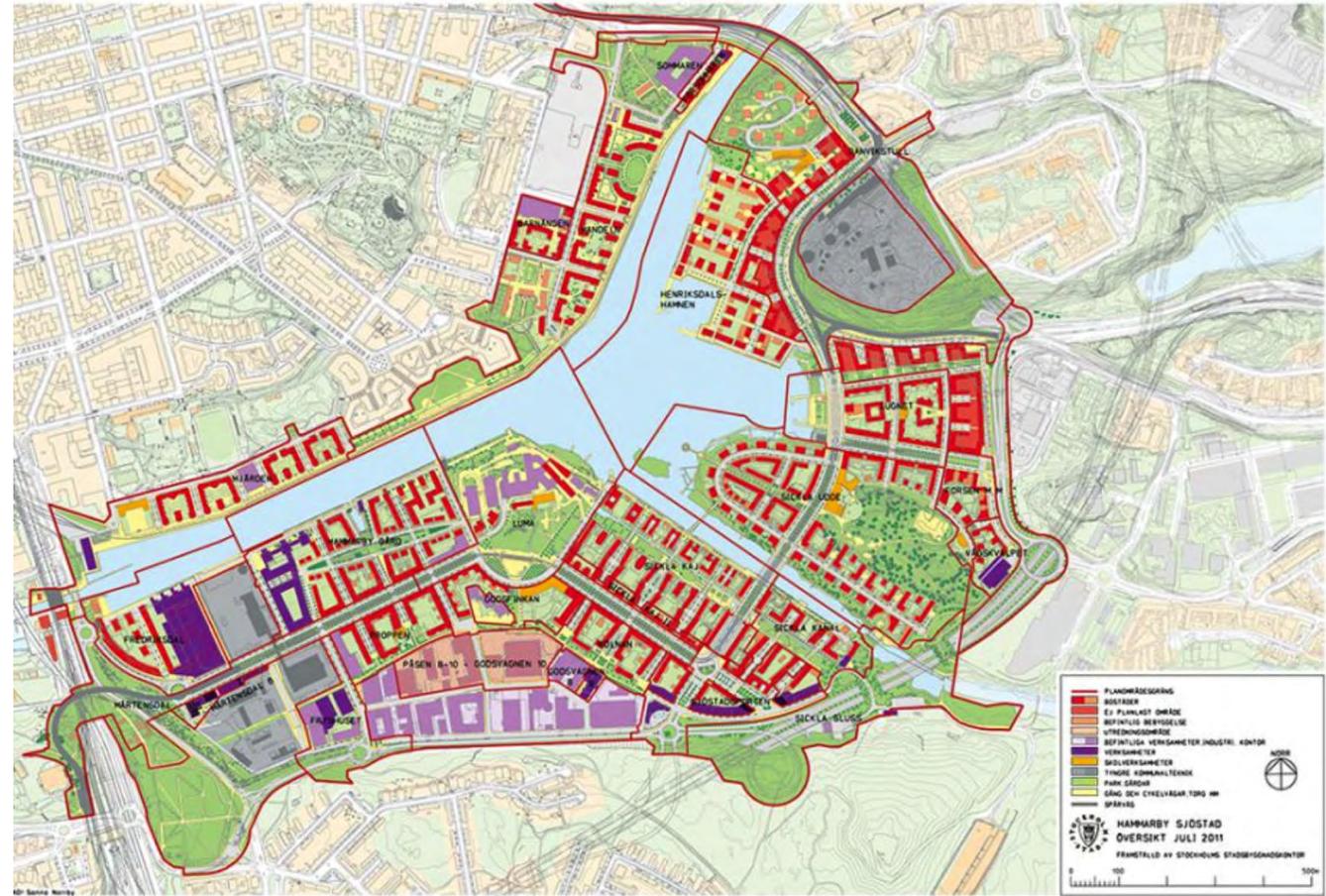
Hammarby sjöstad Master Plan

URBAN SH/FT

15

Micro-Scale: Streets, Public Spaces and Urban Blocks as Green Infrastructure

Designing Public Space as Urban Metabolism: Lessons from Hammarby Sjöstad

In Hammarby Sjöstad, streets and frontages form a living green infrastructure—integrating trees, bioswales, shaded seating, and permeable surfaces. Public space becomes climate infrastructure, linking mobility, water, and biodiversity into a coherent system.

- **What to plan**: A connected network of shaded, permeable, biodiverse public spaces woven into everyday mobility

- **How to plan it**: Integrate landscape, water, and climate functions into street and frontage design—not as beautification but as essential infrastructure

- **Why it works**: Enhances resilience, supports walkability, and embeds ecological function into the form of the city

Hammarby Sjöstad demonstrates how integrated neighborhood planning—linking land use, transit, green systems, and utilities—can halve energy use and car trips while creating vibrant, inclusive urban life.

URBAN SH/FT

SECTION 2B: Designing Neighbourhood Form and Identity

How spatial structure—centres, edges, paths, and landmarks—creates clarity, rhythm, and a strong sense of place.

*Brussels. Source: Creative Commons.*

WHAT IS A LEGIBLE NEIGHBOURHOOD STRUCTURE?

Designing Legible and Connected Neighbourhoods
Neighbourhoods gain identity and clarity when their structure is both inwardly coherent and outwardly connected. Boundaries, landmarks, and clear routes help residents feel a sense of place—while also integrating them into the broader city.

- **What to plan**: Neighbourhoods with a clear inside-outside structure, defined edges, local centers, and strong links to the wider city

- **How to plan it**: Use spatial hierarchy—limits, nodes, paths—to shape scales of belonging, and design clear connections to urban corridors and public transit

- **Why it works**: Enhances local identity and social cohesion, improves wayfinding, and supports urban integration and accessibility
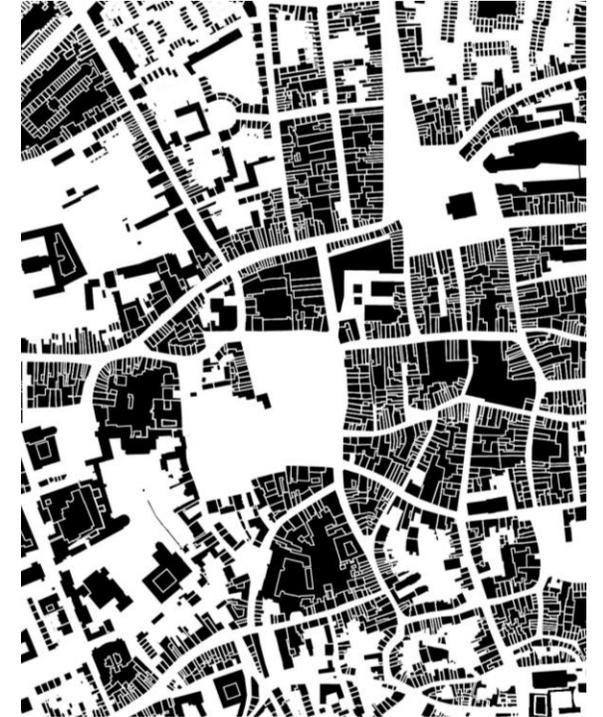
Maastricht neighbourhoods with a legible structure and image are essential to give their inhabitants a sense of belonging to a community.
Source: Urban Morphology Institute

URBAN SH/FT

Creating a Sense of Place Through Urban Structure

French Dream Town developed in Hangzhou.
Design: Serge Salat, Northern Part; Anouk Legendre, XTU Southern Part. The design is inspired by Feng Shui, a harmony between human culture and nature with water, mountains, clouds and architecture elements. Source: Optiva Darna.

A vibrant place emerges when key spatial elements are designed to work together—forming a coherent, memorable, and people-centered environment.

What to plan: A harmonious structure where landscape, movement, blocks, streets, buildings, and open spaces are interrelated and mutually reinforcing

How to plan it:

Use **landscape** as a natural frame and identity anchor

Align **movement lines** with key destinations and sightlines

Organize **blocks and streets** for permeability and human scale

Shape **buildings and frontages** to activate public space

Design **open spaces** as connectors, not leftovers

Why it works: Builds spatial identity and legibility, encourages walkability and interaction, and fosters a distinctive local character

URBAN SH/FT

Structuring Neighbourhoods with a Clear Centre and Boundary

Stockholm Gamla Stan. A 4.62 km² district with a well-defined edge and centre. Source: Arild Vågen.

The palace and the city from the riverbanks. Source: Françoise Labbé.

Map of Stockholm, a city shaped by water and topography. Source: Urban Morphology Institute

A well-structured neighbourhood combines a vibrant centre with clearly defined edges, shaping both community life and spatial identity.

What to plan: A focal centre at the heart of daily life, and boundaries that give the neighbourhood legibility and form

How to plan it:

Design the **centre** at key movement crossroads, anchored by shared facilities, shops, and public spaces

Define the **boundary** using natural features, main streets, or edge developments to create a sense of enclosure and transition

Why it works: Strengthens place identity, supports orientation and belonging, and enhances both social and spatial cohesion

URBAN SH/FT

Creating Rhythm and Orientation Through Urban Sequences

© The Hebrew University of Jerusalem & The Jewish National & University Library

Brussels in 1617, Civitates orbis terrarum. The city is defined by its canal edge, with curved paths converging towards the central node, the Grand Place, and includes urban agriculture and green blocks developed around their perimeter. Source: Historic cities

A neighbourhood becomes legible and memorable when its spaces form a sequence of paths, nodes, and landmarks that guide movement and perception.

What to plan: A structured urban image defined by clear edges, pathways, focal points, and visual anchors

How to plan it:

Structure space with nodes at key intersections and public hubs

Define edges to signal transitions between areas

Trace clear paths that align with daily routines and views

Place landmarks—buildings, trees, artworks—to anchor orientation and identity

Why it works: Supports wayfinding and rhythm, reinforces place attachment, and builds a distinctive urban character

URBAN SH/FT

Shaping the Urban Image: Nodes, Paths, Edges, and Landmarks

Grand Place, Brussels, flower carpet, 2016. Source: Creative Commons.

Right: Brussels in 1617, Civitates orbis terrarium.
Source: Historic cities

Legible and memorable cities emerge when four spatial elements—nodes, paths, edges, and landmarks—are clearly defined and thoughtfully connected.

What to plan:

Nodes: Key public spaces at intersections and activity hubs

Paths: Legible and continuous movement corridors with strong origins and destinations

Edges: Meaningful boundaries that organize space and mediate transitions

Landmarks: Visually distinctive elements that anchor identity and orientation

How to plan it:

Place **nodes** at convergences of movement, with social or civic functions

Design **paths** for clarity, comfort, and continuity across scales

Treat **edges** as spatial frames—sometimes connectors, sometimes separators

Use **landmarks** to articulate hierarchy, guide movement, and express character

Why it works: Builds spatial legibility, enhances wayfinding, and creates a layered, memorable urban experience that fosters belonging.

22

URBAN SH/FT

SECTION 2C: Designing Density for Human-Scale Urbanism

Smart density is not just about numbers—it's about form, grain, function, and greenery. This section explores how to plan compact neighbourhoods that feel liveable, walkable, and resilient.

River District Neighbourhood, Vancouver, British Columbia, Canada.
Source: PWL Partnership Landscape Architects Inc.

23

Designing Density for Climate and Livability

LANDSCAPE

Weaving nature at microscale in the urban fabric in French Dream Town, Hangzhou.
Source: Anouk Legendre, XTU Architect.

Density only works when paired with climate-adaptive urban form, human-scale design, and functional diversity.

What to plan: Smart, structured density—walkable grids, shaded blocks, and mixed-use neighbourhoods

How to plan it:

Avoid isolated vertical towers and superblocks

Organize density around transit, small blocks, and active public spaces

Ensure climatic responsiveness through shade, ventilation, and greenery

Why it works: Prevents heat stress and congestion, improves livability, and enables density to deliver its full sustainability potential

URBAN SH/FT

Planning for Sustainable Density: People, Services, and Green Space

Sustainable density is not a number—it's the careful mix of people, places, and nature that makes neighbourhoods both vibrant and liveable.

What to plan: Dense, mixed-use neighbourhoods with jobs, services, and generous green spaces
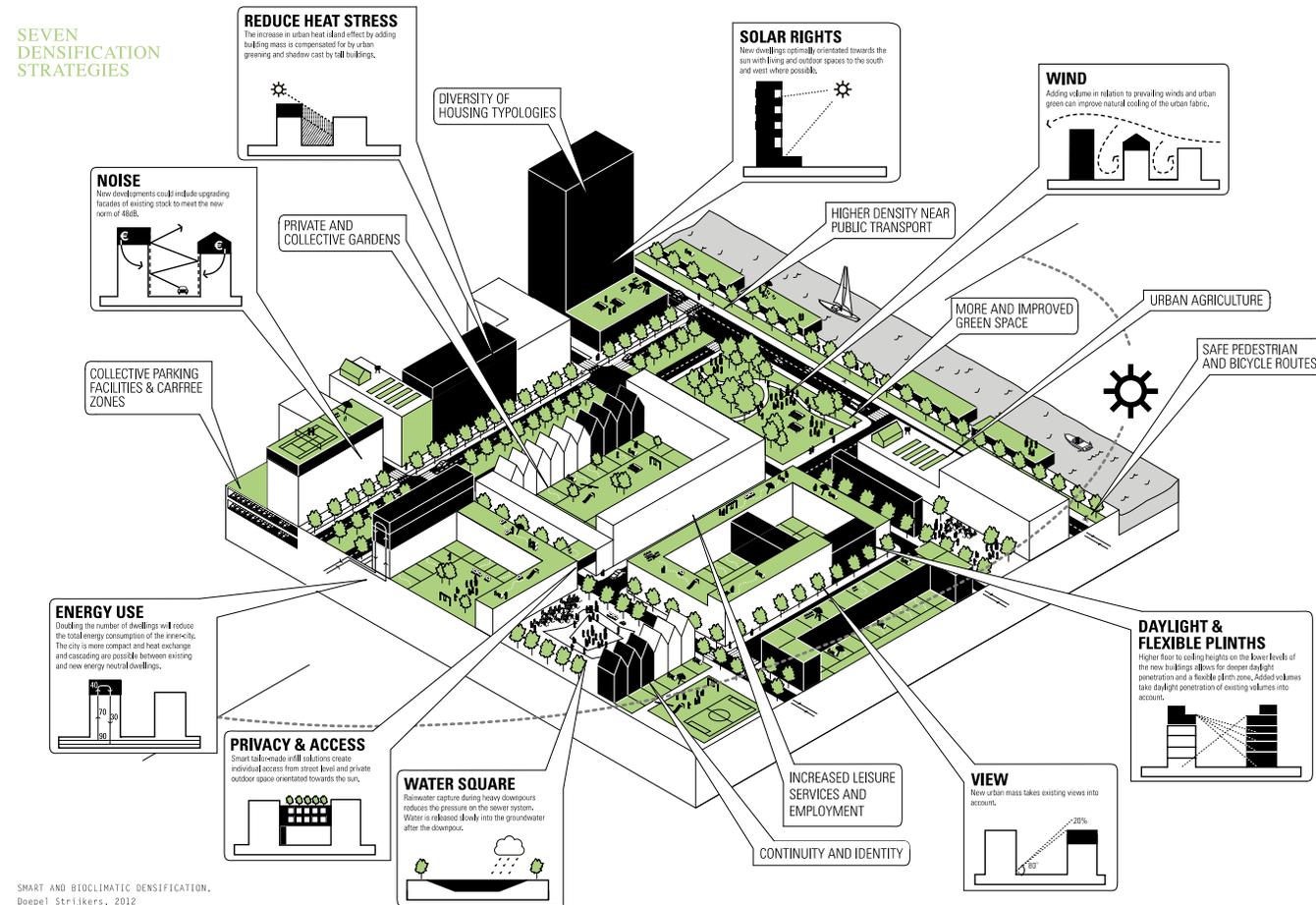
How to plan it:

- Balance housing with employment, schools, shops, and healthcare
- Integrate green spaces at multiple scales—from courtyards to parks
- Ensure that most daily needs are within a 15-minute walk from homes

Why it works: Encourages walking and social interaction, reduces emissions, improves well-being, and supports inclusive, climate-adaptive growth

An interwoven strategy. Overview of the potential for densification, diversification, and green intensification in Rotterdam by 2040.
Source: Tillie et al. 2012.

Designing Fine-Grained Urban Fabric for Liveability and Access

Urban quality depends not just on density, but on the scale and diversity of its built form. Fine grain means more variety, walkability, and opportunity.

What to plan: Small blocks with 20–50 buildings per 1–2 hectares, supporting fine-grained density of around 12,000 people per km²

How to plan it:

Avoid large parcels and superblocks

Promote small plots, multiple developers, and active frontages

Cluster services and destinations within walking distance

Why it works: Enhances walkability, fosters diverse ownership and access, increases resilience, and supports human-scale urbanism

Zurich
5,846 people/km²
Source: Creative Commons

Brussels
12,210 people/km²
Source: Jean-Pol Grandmont.

London Kensington and Chelsea
12,884 people/km².
Source: Françoise Labbé.

Copenhagen Vesterbro
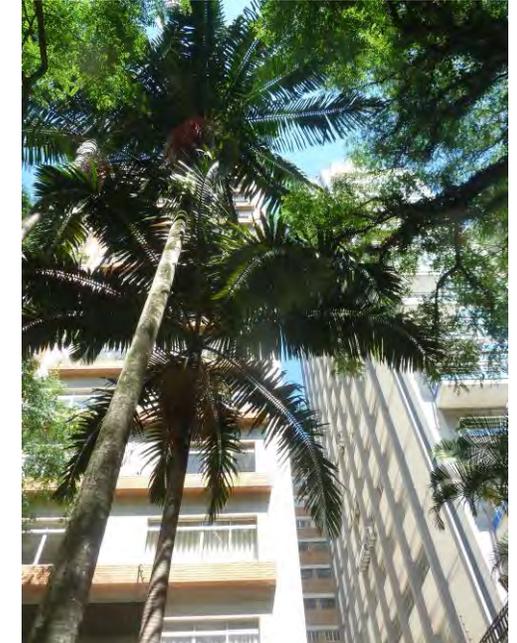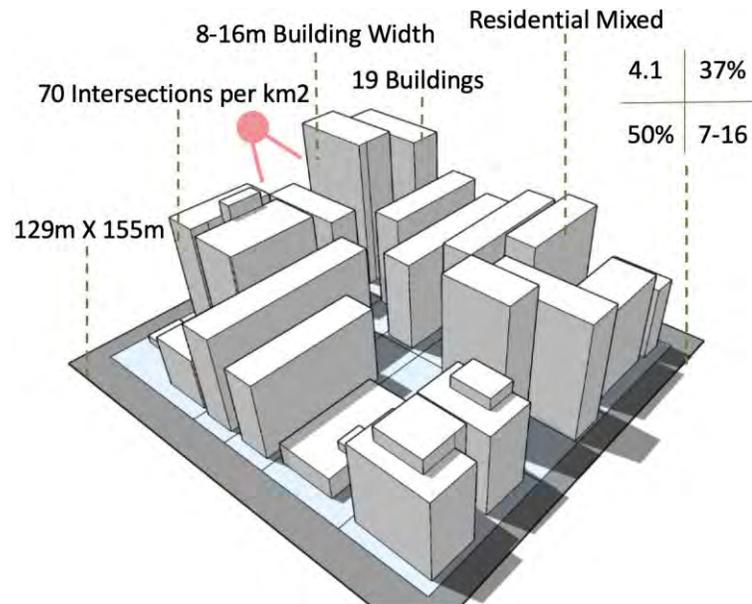*13,688 people/km²*
Source: Leif Jørgensen.

Amsterdam Centrum
13,748 people/km²
Source: Creative Commons

Sao Paulo Higienópolis
20,000 people/km².
Source: Serge Salat

URBAN SH/FT

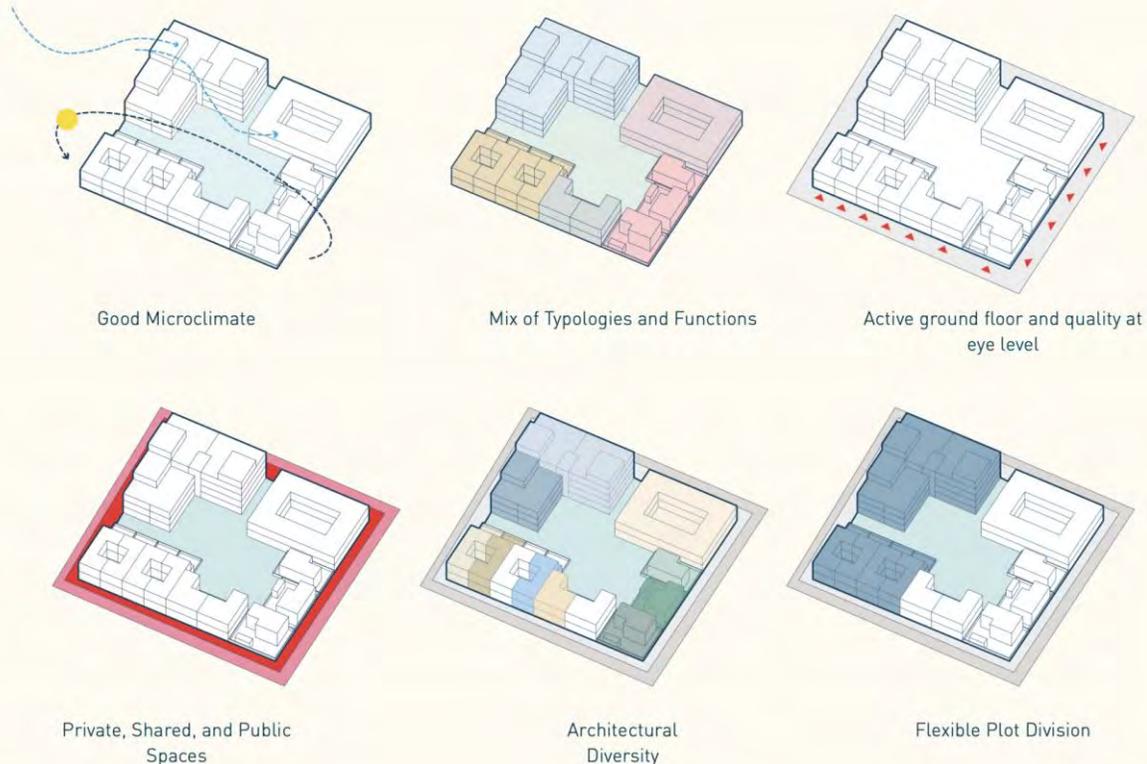# Higienópolis: Fine-Grained Density with Climate-Responsive Form

Fine grain density in Higienópolis, Sao Paulo, Brazil. The fine grain is created by 10 buildings per ha aligned along the edges of vibrant and people friendly narrow streets. Source: Serge Salat.

The Higienópolis neighbourhood in São Paulo exemplifies how fine-grained urbanism can combine livability and climate performance.

It blends heritage houses with slender high-rises that enable cross-ventilation, and layers green spaces at all scales—from lush tropical parks to narrow planted strips between buildings.

- Heritage houses and thin and slim tall buildings, allowing cross ventilation.
- Various pocket green spaces at all scales from a lush tropical park to strips of green spaces between buildings.

Design Principles for Fine-Grain Density

Good Microclimate

Mix of Typologies and Functions

Active ground floor and quality at eye level

Private, Shared, and Public Spaces

Architectural Diversity

Flexible Plot Division

Fine-grain planning balances compactness with livability by blending built form, greenery, and human-scale design.

It involves:

Interweaving small-scale buildings with private, shared, and public green space

Mixing functions and housing typologies

Composing with mid-rise, climate-responsive forms

Designing diverse shapes for streets, buildings, and public spaces

Dividing plots flexibly to allow gradual and inclusive development

Activating ground floors to enhance street life

This approach optimizes land use while keeping density visually and experientially light.

Guiding principles of combining building typologies. Huechuraba, district, Santiago, Chile Source: Gehl architects.

URBAN SH/FT