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Faculty of Science and Technology
Department of Architecture

COURSE BOOKLET

Introduction to Urban Planning Theories 2

Initiation à la Théorie de l'Urbanisme 2

Urban Planning Bachelor / Year 1 / Semester 2

Academic Year 2025–2026

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1. Official Syllabus Extract and Structuring Note

This section reproduces the official extract from the training programme (canevas de l'offre de formation), accompanied by an English translation and explanatory comments on the pedagogical choices made in implementing this course.

Institution and programme

Institution	Université Abdelhamid Ibn Badis de Mostaganem
Faculty	Faculty of Science and Technology
Department	Department of Architecture
Domain / Speciality	Architecture, Urban Planning and City Professions (AUMV) / Urban Planning

Course objectives (official syllabus - translated)

The purpose of this course - Introduction to Urban Planning Theories 2 - is to deepen students' understanding of urbanisation dynamics, models of territorial and spatial planning, and the tools and strategies of urban planning. It draws primarily on the Algerian context while systematically incorporating international comparative examples to develop a global perspective.

Pedagogical structuring note

The English translation above is not a simple transcription: it incorporates a reformulation oriented towards the didactics of urban planning, in line with the competency frameworks of the Urban Planning Bachelor (LMD system).

It has been designed for use in a bilingual context or in scientific publications addressed to an international readership.

The official French title (Initiation à la Théorie de l'Urbanisme 2) is retained on the cover page for institutional traceability.

Syllabus content vs. pedagogical implementation

The table below maps each item of the official syllabus to the actual pedagogical decisions that shaped the course design.

Official Content (syllabus)	English Heading	Pedagogical Decision
Contemporary challenges of urbanisation	Contemporary Challenges of Urbanisation	Retained in full. Lecture 1 (session 1). Systematically anchored in the Algerian context. Concept boxes + international examples.
Urbanisation and planning - structures and scales	Urbanisation and Planning - Scales and Structures	Lecture 2 (sessions 2–3). Heavy chapter split into 2 sessions. Integrates Algerian instruments (SNAT, PAW, PDAU, POS).
[Intercalated - outside syllabus]	[Intercalated session]	RECREATIONAL SESSION: Comparative recognition game of urban structures via Google Earth (session 4). Goals: scale mastery, urban fabric typologies, conurbations.
Planning tools / sustainable urbanism / strategic planning	Issues & Challenges of Strategic Urban Planning	Lecture 3 (sessions 5–6). 'Foreign planning strategies' dissolved into international examples across all lectures rather than isolated.
[Special - outside syllabus]	[Special session]	REFERENCE SESSION: Detailed comparative study of Chandigarh and Brasilia (session 7). Historical, political, social, urbanistic and architectural dimensions. Visual support.
Urban mobility / public space / heritage space / urban resilience	The City in Motion + The City Through Time	Very dense point split into 2 distinct lectures. Lecture 4 (sessions 8–9): Mobility + Public Space. Lecture 5 (sessions 10–11): Heritage + Resilience.
The status of the urban planner	Professional Status of the Urban Planner	Woven into the Introduction to the Discipline and the conclusion of each lecture. Treated as a narrative thread rather than an isolated chapter.

2. Introduction to the Discipline of Urban Planning

Urban planning is a scientific, technical and political discipline concerned with the organisation and planning of inhabited space at all scales - from the individual dwelling to the metropolis, from the neighbourhood to the national territory. Born in response to the crises of the industrial city in the nineteenth century - insalubrity, overcrowding, absence of services - urban planning has progressively established itself as an autonomous field, at the intersection of architecture, geography, economics, sociology and political science.

The discipline rests on a fundamental tension: between description and prescription, between understanding the urban phenomenon as it is and producing visions of what it should be. This tension runs through each of the theories we will encounter - from Le Corbusier's utopias, to Jane Jacobs's critiques, to the resilient approaches that structure contemporary planning.

The urban planner: a mediator of territorial complexity

The urban planner is not an architect working at large scale, nor a practising geographer, nor a territorial administrator. As Lacaze (1995) describes, they are a 'mediator of urban complexity': a professional capable of articulating multiple disciplinary knowledges, of engaging with actors whose interests diverge (State, local authorities, developers, inhabitants, civil society), and of translating a long-term vision into concrete acts and regulations.

In Algeria, the profession of urban planner is governed by Law No. 90-29 of 1 December 1990 on spatial planning and urbanism, supplemented by Executive Decree No. 91-175 of 28 May 1991. The legislative framework distinguishes regulatory instruments (PDAU, POS) from programming instruments (SNAT, PAW). The urban planner operates at all these scales, from the design of national schemes to the drafting of neighbourhood regulations.

Planning tools

Urban planning practice mobilises a range of complementary tools. Regulatory instruments (PDAU - Master Plan, POS - Land Use Plan) define building rights and zoning that are legally binding on third parties. Strategic instruments (SNAT - National Spatial Planning Scheme, PAW - Wilaya Development Plan) set the major development orientations at national and regional scale. Analytical tools (territorial diagnosis, GIS, surveys) enable understanding of the territory before intervening. Finally, consultation and participation tools (public inquiries, participatory workshops, digital models) guarantee the democratic legitimacy of planning choices.

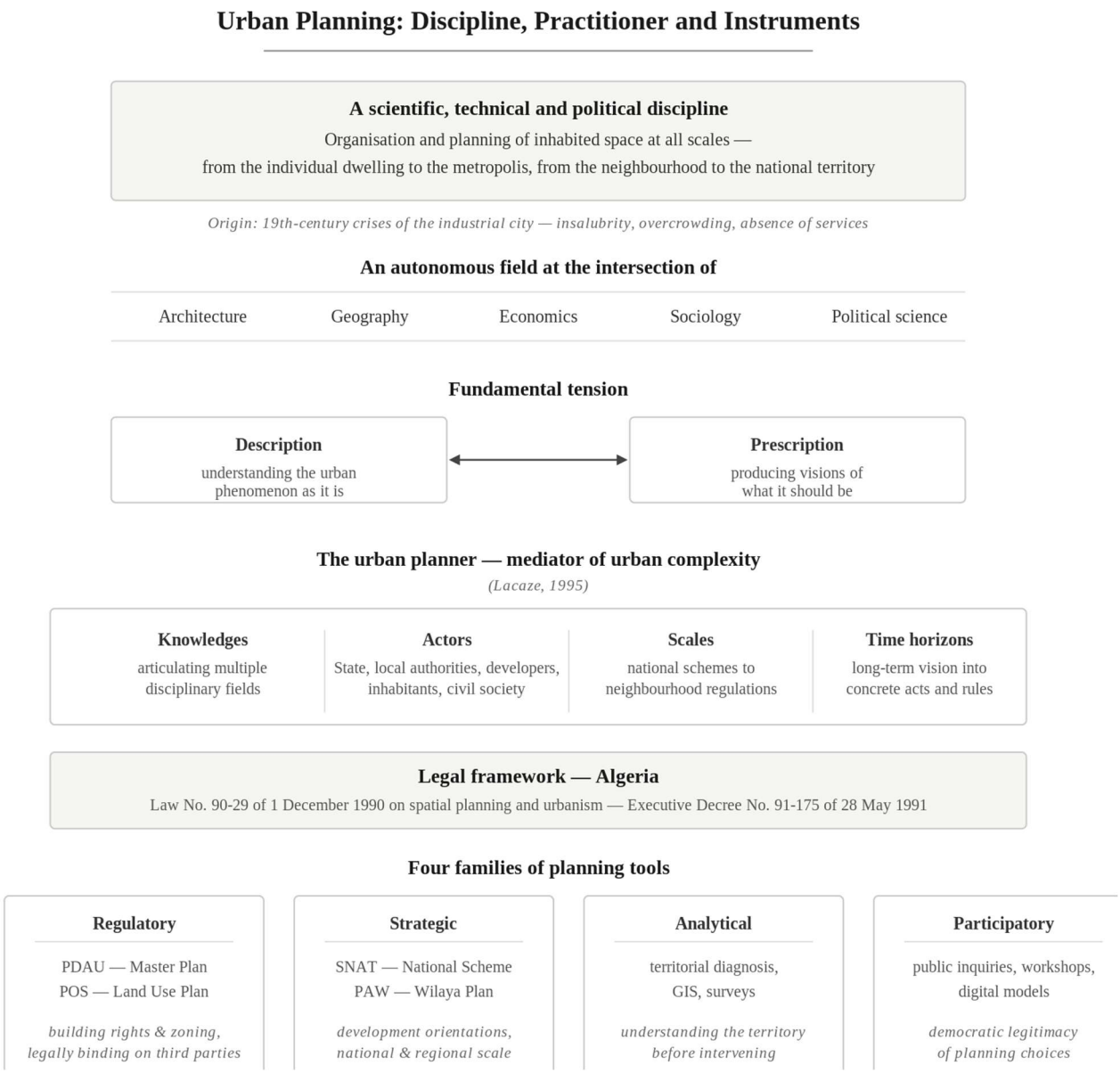


Figure 1 : Synthesis

Key references

- Choay, F. (1965). L'Urbanisme, utopie et réalité. Paris: Seuil. - Founding work of urban planning theory history.
- Jacobs, J. (1961). The Death and Life of Great American Cities. Random House. - Major critique of functionalist modernism.
- Saidouni, M. (2001). Éléments d'introduction à l'urbanisme: histoire, méthodologie, réglementation. Alger: Casbah. - Essential Algerian reference.
- Merlin, P. & Choay, F. (dir.) (2015). Dictionnaire de l'urbanisme et de l'aménagement. Paris: PUF. - Comprehensive disciplinary dictionary.
- Hall, P. & Tewdwr-Jones, M. (2019). Urban and Regional Planning. Routledge (6th ed.). - Standard international planning textbook.
- Farhi, A. Le phénomène urbain: ses causes et ses conséquences. Université de Biskra. - Urban phenomenon in the Algerian context.

3. Introduction to the Course

Continuity with Semester 1

This course - Introduction to Urban Planning Theories 2 - builds directly on the Semester 1 module. Whereas Semester 1 established the epistemological and historical foundations of the discipline (birth of modern urban planning, founding figures, first theoretical models), Semester 2 moves towards greater generality and complexity: the aim is now to understand how these theories translate into operational tools, urban policies and planning strategies, in light of contemporary challenges.

The progression is deliberately spiral: concepts introduced in Semester 1 (zoning, the modern city, planning) will be revisited with greater depth and critical distance. New concepts (resilience, heritage, sustainable mobility, public spaces) will enrich the student's conceptual toolkit.

Chapters and key concepts

The course unfolds across 13 sessions organised around five thematic chapters:

No.	Theme	Key concepts covered
1	**Contemporary Challenges of Urbanisation**	Urban transition, metropolisation, conurbation, sprawl, informal housing, segregation, climate change
2	**Urbanisation and Planning - Scales and Structures**	SNAT, PAW, PDAU, POS, multi-level governance, zoning, FAR, GCR, density
3	**Issues and Challenges of Strategic Urban Planning**	Rational vs strategic planning, sustainable development, 3 pillars, participation, Cergy Workshops, post-disaster reconstruction
4	**Urban Mobility and Public Space**	Multimodality, BRT, soft mobility, 15-minute city, genius loci, tactical urbanism
5	**Urban Heritage and Resilience**	Urban palimpsest, UNESCO, heritage protection, 4 resilience components, nature-based solutions

Link with the design studio (atelier)

This theoretical course has an organic connection with the urban design studio, where students are expected to put into practice their mastery of theoretical knowledge. Every concept covered in the course - from zoning to resilience, from urban fabric analysis to multi-level governance - finds its application in territorial diagnosis, zoning and urban programming exercises conducted in the studio. This course/studio complementarity is at the heart of the LMD pedagogy: the course provides the conceptual tools, the studio tests their validity and complexity in contact with real situations.

4. Didactic Note and Pedagogical Strategy

Why an explicit didactic strategy?

Urban planning theories are widely regarded as difficult to teach through the lecture format alone. Several reasons account for this. First, the nature of the discipline itself: urban planning is a knowledge-in-action field that only acquires meaning when related to concrete spaces, real actors and tangible stakes. Second, the profile of first-year students: they arrive with a visual and spatial culture still under construction, limited familiarity with specialised vocabulary, and often reductive mental representations of the city.

Research in the didactics of the social sciences (Astolfi & Develay, 1989; Audigier, 2000) has shown that conceptualisation is not achieved by the accumulation of definitions but by confrontation between experience, example and abstraction. This finding underpins the pedagogical choices presented below.

The four pillars of the pedagogical strategy

1. Synthetic lectures with boxed concepts

Each lecture is structured around a limited number of foundational concepts, materialised through visually distinct boxes (coloured background, differentiated typography). This layout is not decorative: it corresponds to an established didactic practice known as 'chunking' (Miller, 1956; Sweller, 1988 on cognitive load theory), which consists of grouping information into coherent units to facilitate memory encoding. The box acts as a visual anchor allowing the student to quickly retrieve the concept during revision.

2. Abundance of examples - national and international

Every concept is systematically illustrated with at least one Algerian example and one international example. The Algerian anchoring responds to the imperative of contextualisation: the student must be able to connect theory to their immediate environment (Mostaganem, Oran, Algiers, Constantine). The international example opens comparison, prevents disciplinary ethnocentrism, and prepares students for reading international academic publications. This dual exemplification is grounded in comparative pedagogy as defined by Marc-Antoine Jullien de Paris as early as 1817: 'to compare is to learn to see differently'.

3. Recreational sessions of comparative spatial analysis

Between Lectures 2 and 3, a session was devoted to a collective exploration of urban structures via Google Earth and satellite imagery. The device adopted - a recognition game using Algerian and world cities presented at different scales (micro, meso, macro) - is rooted in the tradition of 'serious games' (Prensky, 2001) and the gamification of higher education (Kapp, 2012). The objective is not entertainment in itself but active acquisition: by having to identify a city, the student simultaneously mobilises and consolidates their knowledge of urban scale, fabric typologies (organic, orthogonal, radio-concentric), conurbations and peripheral extensions. The group dynamic (surprise, debate, error and correction) favours deep memorisation, described by Craik & Lockhart (1972) as 'elaborative encoding'.

4. Reference cities session: Chandigarh and Brasilia

Between Lectures 3 and 4, a session is devoted to the detailed and visually documented study of two globally iconic cities in urban planning: Chandigarh (India, Le Corbusier, 1952) and Brasilia (Brazil, Lúcio Costa & Oscar Niemeyer, 1960). These two cases crystallise all the theoretical tensions of the course: modernism vs. urban life, rational planning vs. social needs, tabula rasa urbanism vs. inherited fabrics. Their combined study - across historical, political, social, urbanistic and architectural dimensions - allows convergence of the notions addressed in previous lectures

while anticipating the resilience lecture (Brasilia today suffers from its own contradictions). Pedagogically, this session responds to the 'pivot case' principle developed in the Harvard Business School case method and transposed to architecture education by Schön (1983) in The Reflective Practitioner.

Algerian contextualisation: a didactic imperative

The entire course is systematically anchored in the Algerian context. This anchoring does not stem from disciplinary patriotism but from a documented pedagogical requirement: cognitive science research has established that learning is all the more durable when new knowledge can be articulated to existing schemas (Ausubel, 1963: meaningful learning theory). Students are - at least superficially - familiar with Mostaganem, Oran, the Casbah of Algiers, the PDAU of their municipality; starting from these nearby realities to move towards theoretical abstractions or distant examples is a rigorously grounded inductive approach.

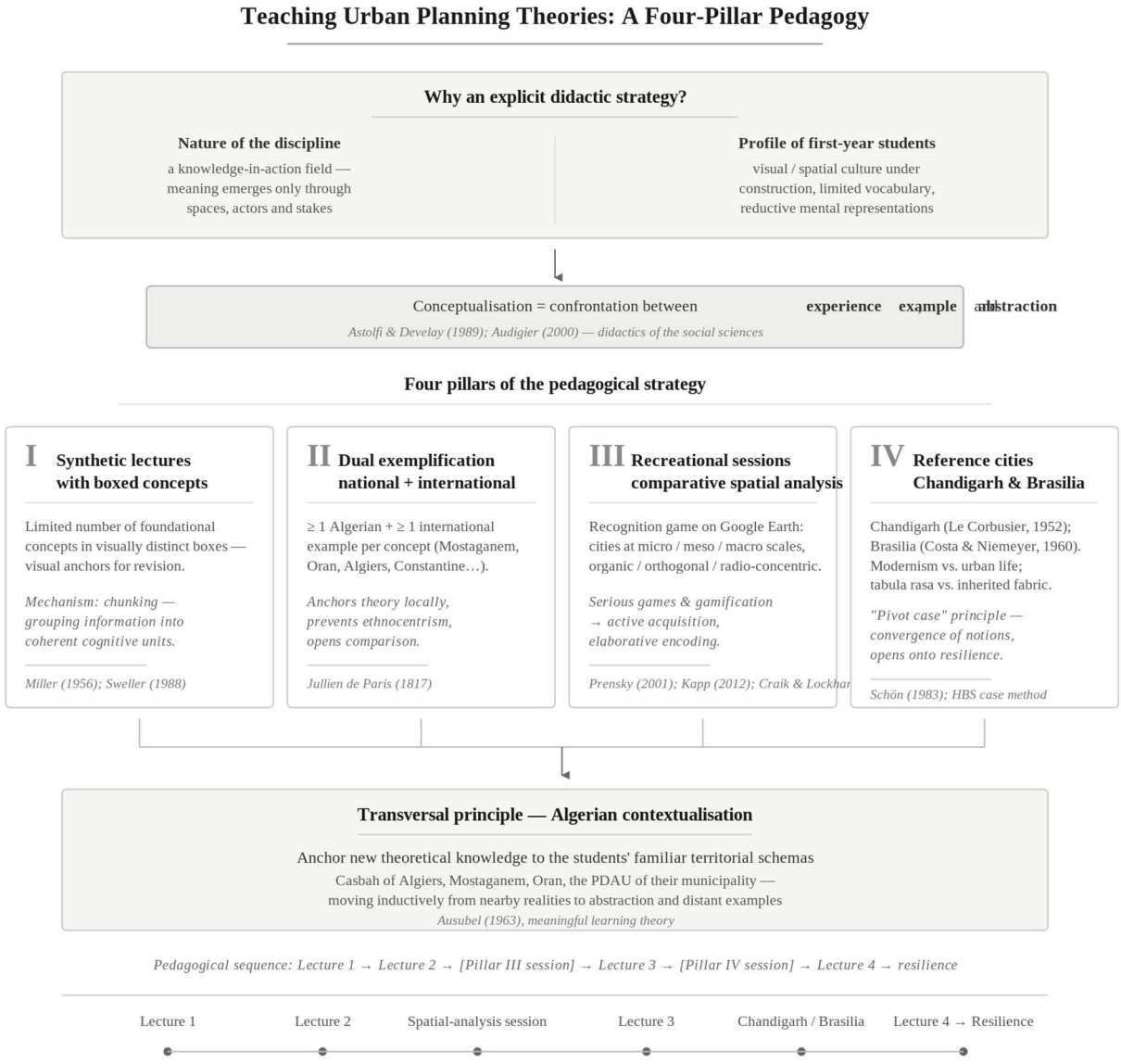


Figure 2 : Didactic strategy

References in didactics and educational sciences

Astolfi, J.-P. & Develay, M. (1989). La didactique des sciences. Paris: PUF.

Audigier, F. (2000). Les contenus de l'enseignement en sciences humaines et sociales. Geneva: FPSE.

Ausubel, D.P. (1963). The Psychology of Meaningful Verbal Learning. New York: Grune & Stratton.

Craik, F.I.M. & Lockhart, R.S. (1972). Levels of processing: A framework for memory research. JVLVB, 11(6), 671–684.

Kapp, K.M. (2012). The Gamification of Learning and Instruction. San Francisco: Pfeiffer.

Miller, G.A. (1956). The magical number seven, plus or minus two. Psychological Review, 63(2), 81–97.

Prensky, M. (2001). Digital Game-Based Learning. New York: McGraw-Hill.

Schön, D.A. (1983). The Reflective Practitioner. New York: Basic Books.

Sweller, J. (1988). Cognitive load during problem solving. Cognitive Science, 12, 257–285.

5. Course Schedule - 13 Sessions

The table below presents the detailed organisation of the 13 sessions of the semester, with chapters, key concepts and pedagogical type for each session.

S.	Chapter	Session Theme	Concepts & Content	Type
1	**Ch. 1 Contemporary Challenges**	Contemporary Challenges of Urbanisation - Algeria and the World	Urban transition, metropolisation, sprawl, informal housing, segregation, climate change	Enriched lecture
2	**Ch. 2 Urbanisation & Planning (1/2)**	Scales of Territorial Planning (Part 1) - National to Regional	SNAT, PAW, national/regional scale, multi-level governance, SRADDET (France), SRAT (Morocco)	Enriched lecture
3	**Ch. 2 Urbanisation & Planning (2/2)**	Scales of Territorial Planning (Part 2) - Local tools & indicators	PDAU, POS, zoning, FAR/GCR, density, plan elaboration process, actors, Algerian system challenges	Enriched lecture
4	**RECREATIONAL SESSION**	Urban Structure Recognition Game (Google Earth, satellite imagery - Algerian & world cities)	Micro/meso/macro scales, organic/orthogonal/radio-concentric fabrics, conurbations, ZHun, extensions	Active learning game
5	**Ch. 3 Strategic Planning (1/2)**	Issues of Strategic Urban Planning (Part 1) - Doctrines and sustainability	Historical evolution (Antiquity → modernism), Jane Jacobs, 3 sustainability pillars, sustainable urbanism	Enriched lecture
6	**Ch. 3 Strategic Planning (2/2)**	Issues of Strategic Urban Planning (Part 2) - Governance, participation, adaptation	Operational frameworks, political leadership, territorial engineering, Cergy Workshops, incremental urbanism, adaptive planning	Enriched lecture
7	**REFERENCE SESSION**	Chandigarh & Brasilia - Two Iconic Cities of Modernist Urban Planning (visual case study)	Historical & political context, urban morphology, modernist zoning, social balance sheet, critiques, contemporary legacy	Visual case study
8	**Ch. 4 Mobility & Public Space (1/2)**	The City in Motion (Part 1) - Urban Mobility	Multimodality, intermodality, BRT, soft mobility, mass motorisation, cities of the Global South, TransMilenio, Algiers metro	Enriched lecture
9	**Ch. 4 Mobility & Public Space (2/2)**	The City in Motion (Part 2) - Public Space and Social Cohesion	Genius loci, public space typologies, quality, requalification, tactical urbanism, natural surveillance (Jacobs), Constantine, Tunis	Enriched lecture
10	**Ch. 5 Heritage & Resilience (1/2)**	The City Through Time (Part 1) - Urban Heritage	Urban palimpsest, heritage concept evolution, protection instruments (UNESCO, conservation areas), Casbah of Algiers, Timgad	Enriched lecture
11	**Ch. 5 Heritage & Resilience (2/2)**	The City Through Time (Part 2) - Urban Resilience	4 resilience components, major risks, nature-based solutions, Tlemcen bioclimatic medina, Bam, Pelourinho Digital Twin, Rotterdam	Enriched lecture
12	**Interdisciplinary Synthesis**	Systemic Approach to the City - Links between mobility, public space, heritage and resilience	Integrated synthesis table, cross-case studies, key notions review, course/studio link	Active synthesis
13	**Review & Exam Prep**	General Revision - Complex questions, exam methodology	All semester concepts - sample questions, answer strategies, recap mind map	Revision / Q&A

6. Contemporary Challenges of Urbanisation

LECTURE 1 - Session 1

Contemporary Challenges of Urbanisation

Algerian Context - Urban Planning Bachelor Year 1

Urbanisation is one of the most structuring phenomena of our era. With more than 75% of its population living in urban areas in 2023, Algeria provides an exemplary field for observing the urbanisation dynamics of the Global South. This lecture explores contemporary challenges through key data, fundamental concepts and comparative examples.

I. Urbanisation Dynamics in Algeria

1.1 Accelerated Urban Transition

A few essential figures to contextualise the phenomenon:

Indicator	Algeria (2023)	Comparative reference
Urbanisation rate	**~75%**	30% in 1962 - ×2.5 in 60 years
Urban population	**≈ 33 million**	4th most urbanised country in the Maghreb
Annual urban growth	**2.5% on average**	Comparable to sub-Saharan Africa
Urban concentration	**15 wilayas = 70% of urban population**	Structural coastal concentration

Key Concept - Urbanisation: process and phenomenon

Urbanisation combines two simultaneous dimensions:

- (1) A demographic process: increase in the population living in urban areas.
- (2) A spatial process: extension of built-up surfaces and transformation of land use.

It is accompanied by economic transformations (tertiarisation), social changes (new lifestyles) and cultural shifts.

In Algeria, urbanisation accelerated after independence through the combined effect of massive rural exodus, directed industrialisation, and natural demographic growth.

1.2 Metropolisation and Urban Hierarchy

Algerian urban space is structured around four dominant metropolises that concentrate the majority of higher-order functions:

- Algiers: national metropolis - from 900,000 inhabitants (1966) to more than 3.5 million in the current agglomeration.
- Oran, Constantine, Annaba: regional metropolises articulating the national territory.
- Expanding medium-sized cities: Batna, Sétif, Tlemcen, Béjaïa, Mostaganem.
- North/South imbalance: 65% of the population concentrated on 4% of the territory (coastal strip).

> **FRANCE - Parisian metropolisation**
>
> The Île-de-France region illustrates extreme metropolisation: 12 million inhabitants (18% of the French population) on 2% of the territory, concentrating 31% of national GDP and 40% of large company headquarters.
>
> This hyper-concentration generates major territorial inequalities. The Grand Paris project (2016) attempts to address this with 200 km of new metro lines and 68 stations, aiming to rebalance metropolitan development.
>
> Relevance for Algeria: the Algers agglomeration exhibits similar hyper-concentration dynamics, raising comparable governance questions.

1.3 New Territorial Configurations

- New cities: Sidi Abdellah, Boughezoul, Hassi Messaoud - state responses to coastal pressure.
- Conurbations: fusion of urban spaces (Algiers–Boumerdès, Oran–Aïn Témouchent).
- Peri-urbanisation: uncontrolled sprawl consuming agricultural land around major cities.

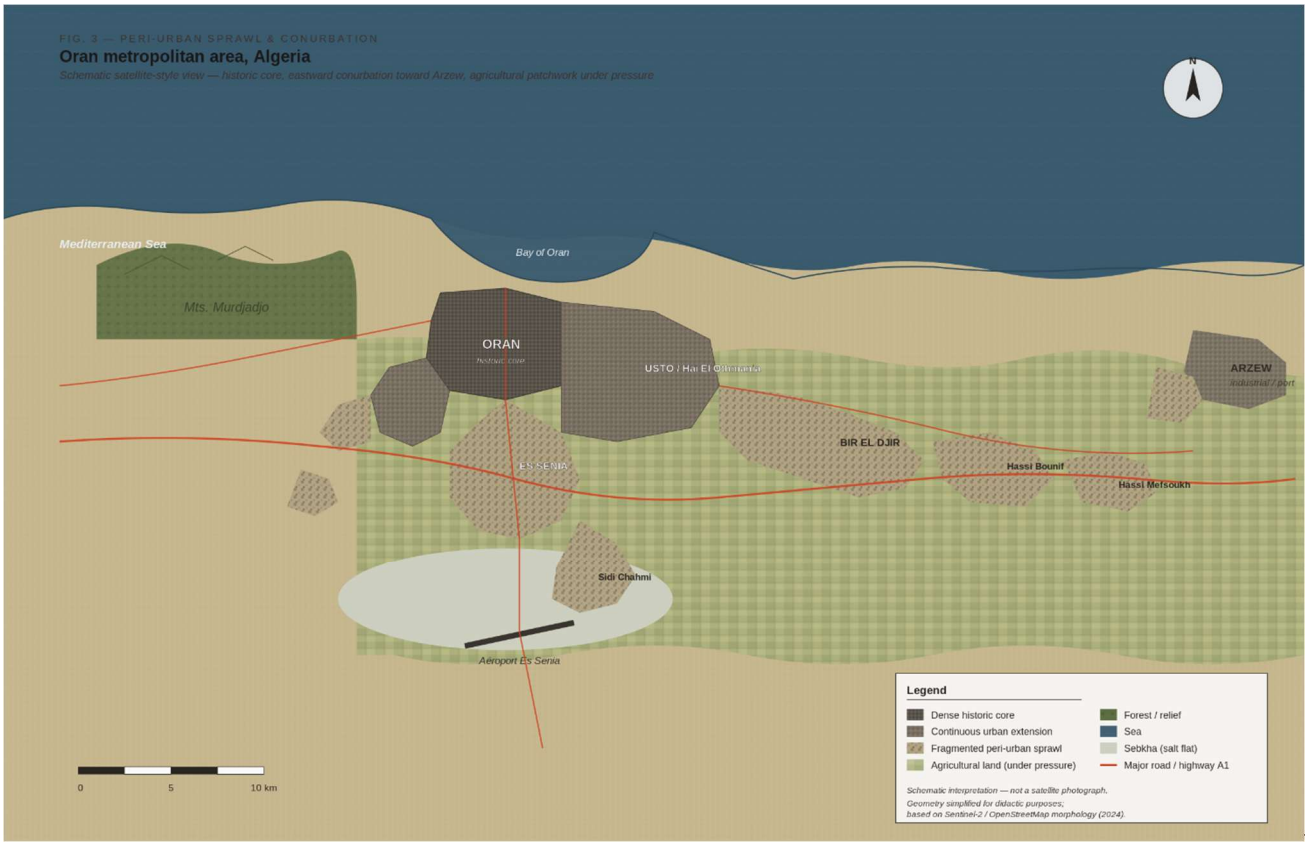


Figure 3 : Image showing conurbation or peri-urban sprawl around an Algerian city (Oran)

II. Morphological and Spatial Challenges

2.1 Urban Sprawl and Land Consumption

Urban sprawl is one of the major challenges of contemporary Algerian urbanism, manifesting through:

- Loss of agricultural land: estimated at 40,000 ha/year.
- Territorial fragmentation: coexistence of formal housing zones, informal settlements and diffuse peri-urban areas.
- Variable densities: dense centres (200–300 inh./ha) vs. loose peripheries (30–50 inh./ha).

CHINA - Fighting urban sprawl

China has implemented a strict 'red line' policy protecting 120 million hectares of agricultural land deemed essential for food security - any urbanisation on these lands is prohibited.

In parallel, cities are encouraged to densify vertically and develop satellite cities connected by high-speed rail. Shanghai has built 15 peripheral new towns of 500,000 inhabitants each, connected to the centre in 30–45 minutes.

The Algerian challenge is comparable: preserving the fertile Tell plains while channelling urban growth towards the high plateaus and new cities.

2.2 Informal Housing

Informal housing represents 20–30% of the housing stock in certain Algerian cities. It results from the mismatch between housing supply and demand, administrative delays and the high cost of legal land.

Key Concept - Informal housing: definitions and typology

Informal housing covers several distinct realities:

- Bidonvilles (barakat): illegal precarious constructions using salvage materials.
- Spontaneous housing: solid unauthorised constructions, built incrementally.
- Irregular constructions: not complying with urban planning rules (absent building permit, unapproved POS).

In Algeria, treatment of informal housing combines demolition–rehousing and regularisation (FNPOS, precarious housing absorption programmes).

Public programmes (AADL, LSP, LPA, LPL) have provided quantitative responses with varying results across wilayas.

2.3 Heritage and Historic Centres

Algeria's medinas, kasbahs and colonial fabrics are under multiple pressures: physical degradation, population departure, regulatory constraints and lack of financing for restoration. The tension between preservation and modernisation is particularly acute in cities like Constantine, Tlemcen and Algiers.

MOROCCO - Rehabilitation of the Fez Medina

The medina of Fez (UNESCO 1981) benefited from a 15-year rehabilitation programme combining: restoration of major monuments, infrastructure improvement (water, sanitation), rehabilitation of 27 foundouks transformed into craft workshops, and creation of an electric transport system adapted to narrow alleys.

The project cost €300 million (World Bank, Moroccan State, international cooperation) and stabilised the population (156,000 inhabitants) while developing cultural tourism.

Lesson for Algeria: heritage rehabilitation requires long-term financing mechanisms and active resident involvement - not just regulatory protection.

III. Socio-Economic Issues

3.1 The Housing Crisis

Algeria faces a housing deficit estimated at 1.5–2 million units. The average occupancy rate reaches 5–6 people per dwelling in some areas, and access to ownership absorbs 60–70% of household income.

BRAZIL - Segregation in São Paulo

São Paulo embodies extreme urban segregation: favelas (1.5 million inhabitants) neighbour ultra-secure condominios fechados with 4-metre walls and private helipads. Life expectancy varies by 25 years between neighbourhoods.

Since 2013, the municipality has experimented with ZEIS (Special Zones of Social Interest) imposing 40–60% social housing in new projects in central neighbourhoods to promote residential diversity.

Algerian parallel: ZHun (zones d'habitat urbain nouvelles) have sometimes reproduced social homogeneity without functional or social mix - a lesson on the limits of large-scale public housing programmes.

IV. Environmental and Climate Challenges

Algeria is particularly exposed to the effects of climate change: seismic risk (Boumerdès 2003: 2,300 deaths), chronic drought in the high plateaus and south, peri-urban flooding, and forest fires. Sustainable urbanism will need to integrate these parameters from the design stage of planning documents.

V. Governance and Planning Issues

5.1 Governance Challenges in Algeria

The Algerian urban governance system faces several structural challenges:

- Persistent centralism: municipalities have limited autonomy in managing their territory.
- Weak local technical capacities: insufficient urban planning skills in communes.
- Deficient inter-institutional coordination: multiplicity of actors without unified leadership.
- Formal citizen participation: public inquiries poorly invested by residents.
- Insufficient municipal budgets to finance quality urban planning studies.

COLOMBIA - TransMilenio of Bogotá

Bogotá (8 million inhabitants) revolutionised its mobility with TransMilenio (2000), a Bus Rapid Transit (BRT) system of 380 km of dedicated corridors carrying 45,000 passengers/hour per direction.

The project involved exemplary multi-stakeholder governance: Alcaldía, transport agencies, private operators and neighbourhood associations.

Result: 2.4 million users/day, 40% reduction in CO_2 emissions, 32% decrease in travel time - replicated in 180 cities worldwide.

Lesson: the success of a major urban project depends as much on the quality of its governance as on its technical design.

VI. Perspectives and Transitions

21st-century urbanism is built around the sustainable city - a concept that will be deepened in subsequent lectures. A prospective example:

UAE - Masdar City: the zero-carbon city

Masdar City (Abu Dhabi) is an experimental city of 50,000 inhabitants aiming for carbon neutrality: 100% renewable energies, automated electric transport, bioclimatic architecture (traditional wind towers), recycling of 90% of waste.

Cost: $22 billion for 6 km². Critique: an elitist project not replicable at large scale - but a laboratory for transferable technologies.

Pedagogical interest: illustrates both the possibilities and the limits of the sustainable city paradigm.

Summary - Priority challenges of Lecture 1

- Control urban sprawl and land consumption.
- Resolve the housing crisis and absorb informal settlements.
- Improve mobility and public transport.
- Preserve resources (water, agricultural land, heritage).
- Strengthen governance and operational planning.
- These five challenges structure the entire semester programme and will be addressed in each subsequent lecture.

7. Urbanisation and Planning

LECTURE 2 - Sessions 2 and 3

Urbanisation and Planning

Structures and Scales of Territorial and Spatial Planning - Algerian Context

Urban and territorial planning constitutes a set of tools, processes and intervention scales enabling the organisation of spatial development of cities and territories. In Algeria, this system is rooted in a centralised planning tradition inherited from the post-independence period, while evolving towards more participatory and sustainable approaches.

Key Concept - Territorial planning

Territorial planning is a decision-making process that aims to organise land use and spatial development at different scales (national, regional, local).

It integrates economic, social, environmental and cultural dimensions.

It differs from operational urbanism through its strategic and long-term vision.

In Algeria, it rests on a legislative corpus grounded in Law 90-29 of 1 December 1990 on spatial planning and urbanism.

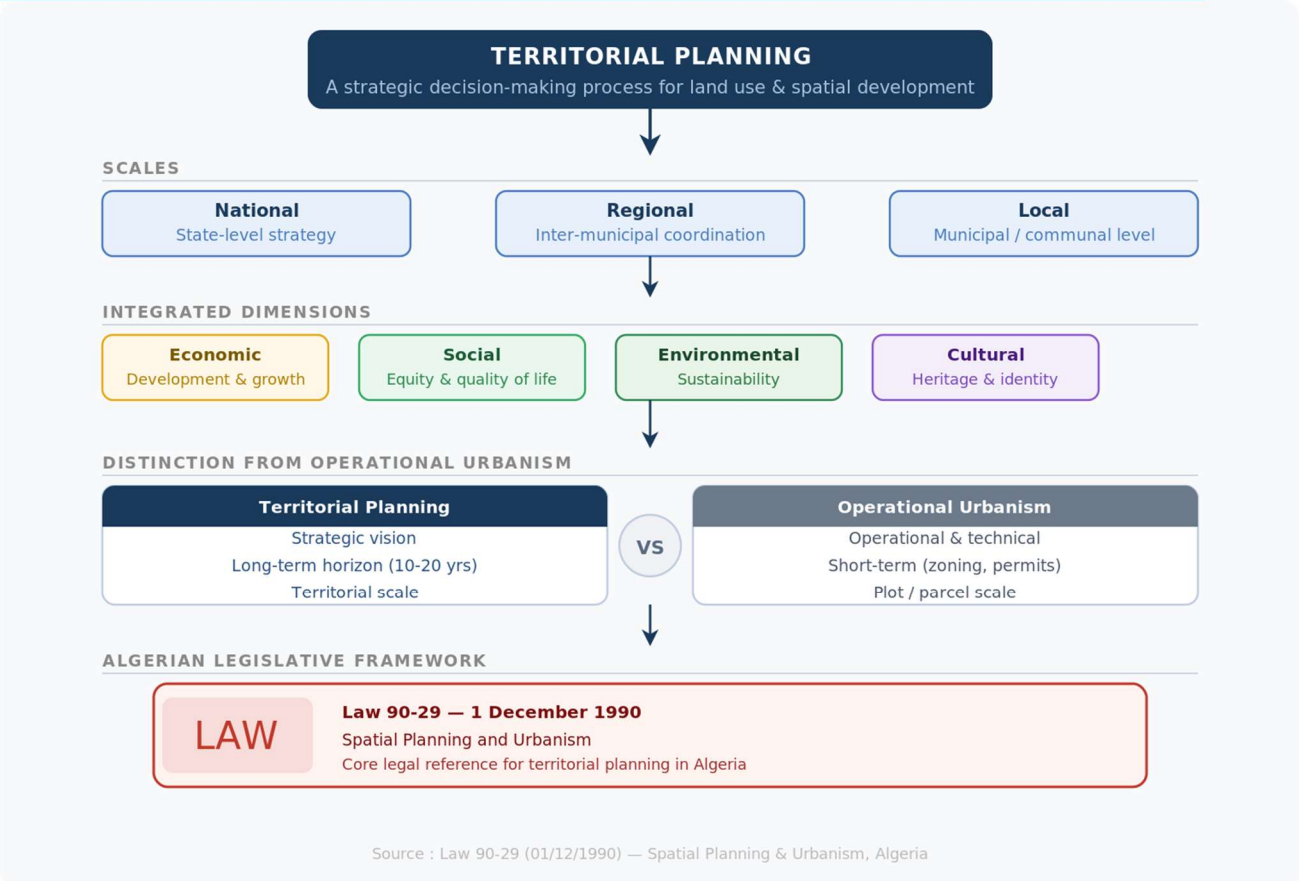


Figure 4 : Components and Framework of Territorial Planning in Algeria (Law 90-29 of 1 December 1990)

I. Scales of Territorial Planning

Territorial planning is organised according to a hierarchy of nested scales, from the national to the local level. Each scale addresses specific issues and mobilises appropriate instruments.

1.1 National Scale - Strategic Territorial Vision

At the national scale, planning defines the major territorial development orientations, macro-regional balances and structuring infrastructures. In Algeria, this scale is embodied by the SNAT (Schéma National d'Aménagement du Territoire) 2030.

- Time horizon: 20–25 years
- Objectives: territorial balance, activity distribution, resource protection
- Themes: development corridors, new cities, protected zones
- Algerian instrument: SNAT 2030 (adopted 2010, Official Journal No. 61)

The Algerian SNAT 2030 - Content and guidelines

The SNAT 2030 structures Algerian territory around 4 guidelines:

1. Create conditions for sustainable development.
2. Implement territorial equity.
3. Create conditions for attractiveness and competitiveness of territories.
4. Achieve a balanced and hierarchical territorial network.

It identifies 5 programme-spaces: the Tell space, High Plateaus, South, coastal space, and steppe zones.

The SNAT articulates sectoral policies (water, transport, energy, housing) within an integrated spatial vision.

FRANCE - The SRADDET (Regional Spatial Planning Scheme)

In France, the SRADDET (since 2015) is the planning tool at the regional scale. It merges several sectoral schemes (climate, biodiversity, waste, transport) into an integrated vision for 2030–2050.

Example: the Auvergne-Rhône-Alpes SRADDET structures its territory around 3 ambitions (attractiveness, climate, cohesion) and 42 objectives legally binding on local urban planning documents.

Algerian relevance: this model illustrates how to articulate sectoral policy and regional spatial vision - a challenge the Algerian system has yet to fully resolve.

1.2 Regional / Wilaya Scale - Coordination and Programming

The wilaya scale ensures the implementation of national orientations and coordination between municipalities. It constitutes the level for programming facilities and structuring infrastructures.

- Time horizon: 10–15 years
- Algerian instrument: PAW (Plan d'Aménagement de Wilaya - Wilaya Development Plan)
- Objectives: inter-municipal coherence, programming of structuring facilities
- Content: urban framework, activity zones, major projects

MOROCCO - The Regional Spatial Planning Scheme (SRAT)

In Morocco, the SRATs define the territorial development vision at the scale of 12 regions.

The SRAT of the Casablanca-Settat region (2015–2030) proposes a polycentric urban system with 3 secondary poles and a network of medium-sized cities, structured around 5 strategic axes: strengthening the metropolitan pole, territorial rebalancing, natural resource preservation, improving connectivity, and human capital development.

This model is particularly instructive for Algerian wilayas seeking to structure their territory beyond their chef-lieu.

1.3 Local Scale - Operational Planning: PDAU and POS

The local scale (municipality or group of municipalities) is that of operational planning, which translates strategic orientations into applicable urban planning rules and defines building rights, zoning and easements.

Feature	PDAU - Master Plan	POS - Land Use Plan
Scale	Municipality or group of municipalities	Neighbourhood or urban sector
Time horizon	10–15 years	5–10 years
Nature	Prescriptive (major orientations)	Normative (precise rules, legally binding)
Main content	Macro zoning, structuring networks, areas to protect, urban framework	FAR, GCR, heights, setbacks, architectural aspects, construction types
Legal status	Guidance document, approved by APW	Legally binding on third parties; building permit mandatory

Key Concept - PDAU vs POS: complementarity

The PDAU defines the general development orientation (macro zoning, structuring networks, areas to protect) while the POS specifies building rules parcel by parcel.

The PDAU is prescriptive (major orientations); the POS is normative (precise rules). A PDAU can cover one or several municipalities; a POS divides municipal territory into homogeneous sectors.

In Algeria, the POS is mandatory to make land buildable - without an approved POS, no building permit can be issued.

Key problem: as of 2023, more than 60% of Algerian municipalities still lack an approved PDAU, severely constraining formal urban development.

GERMANY - Two-level planning: FNP and B-Plan

In Germany, local planning is organised in two complementary levels. The Flächennutzungsplan (FNP, preparatory land use plan) defines major land uses without binding legal value. The Bebauungsplan (B-Plan) sets legally binding construction rules parcel by parcel.

The B-Plan precisely defines: authorised construction type, maximum ground coverage, number of floors, alignments, green spaces.

This system guarantees very strong legal security for investors and residents.

Analogy with Algeria: FNP ≈ PDAU / B-Plan ≈ POS - but with a decentralised approval procedure and much shorter timelines.

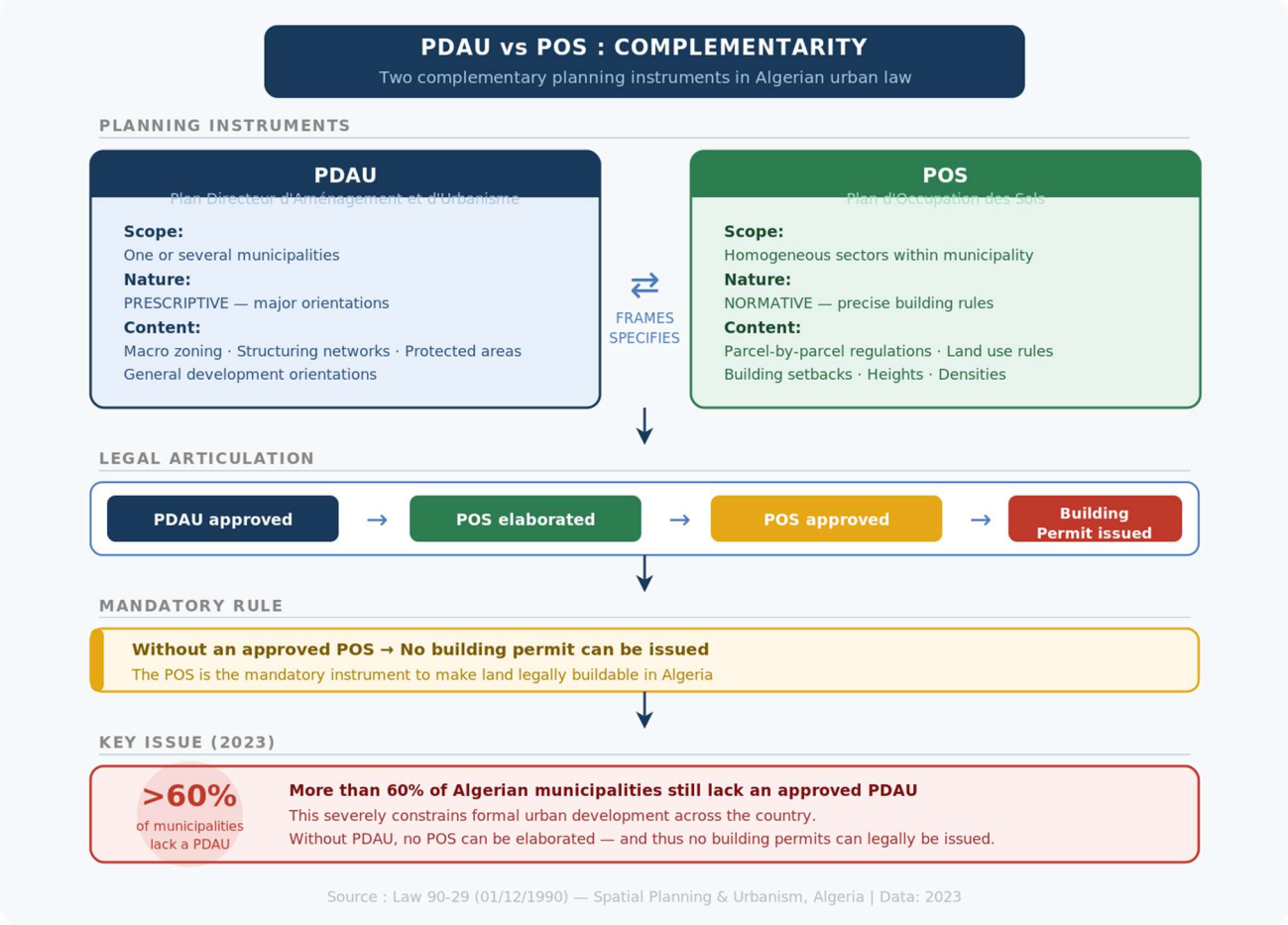


Figure 5 : PDAU and POS: Complementary Urban Planning Instruments and Their Legal Articulation in Algeria (Law 90-29, 1990)

II. Planning Structures and Processes

2.1 Planning Actors

Urban and territorial planning mobilises a multitude of actors with sometimes divergent roles and interests:

- The Central State: defines national policies, develops the SNAT, approves planning documents.
- Local authorities (wilayas, municipalities): contracting authorities for urban plans, ensure local implementation.
- Consulting firms: technically develop documents (diagnosis, proposals, regulations).
- Civil society: associations, residents, businesses - participation in public inquiries.
- Developers and investors: economic actors who influence development choices through their projects.

> **Key Concept - Multi-level governance**
>
> Multi-level governance is a model where decisions result from negotiations and adjustments between different territorial levels.
>
> It opposes the traditional top-down hierarchical approach where the central State imposes its choices.
>
> It involves subsidiarity mechanisms (decisions made at the most relevant level) and participation procedures.
>
> In Algeria, a genuine shift to multi-level governance requires effective decentralisation of powers and budgetary resources to local authorities.

2.2 The Plan Development Process

The development of an urban planning document (PDAU or POS) generally follows a six-phase process:

Phase	Stage	Content
1	**Territorial diagnosis**	Analysis of existing conditions: demography, economy, environment, mobility, heritage.
2	**Issues and orientations**	Problem identification, strategic vision definition.
3	**Development project**	Zoning, facility programming, project location.
4	**Regulation**	Drafting urban planning rules: coefficients (FAR/GCR), heights, easements.
5	**Consultation and public inquiry**	Consultation of residents, associations and institutional actors (mandatory in Algeria).
6	**Approval**	Validation by the Wilaya People's Assembly (APW) or the Ministry depending on level.

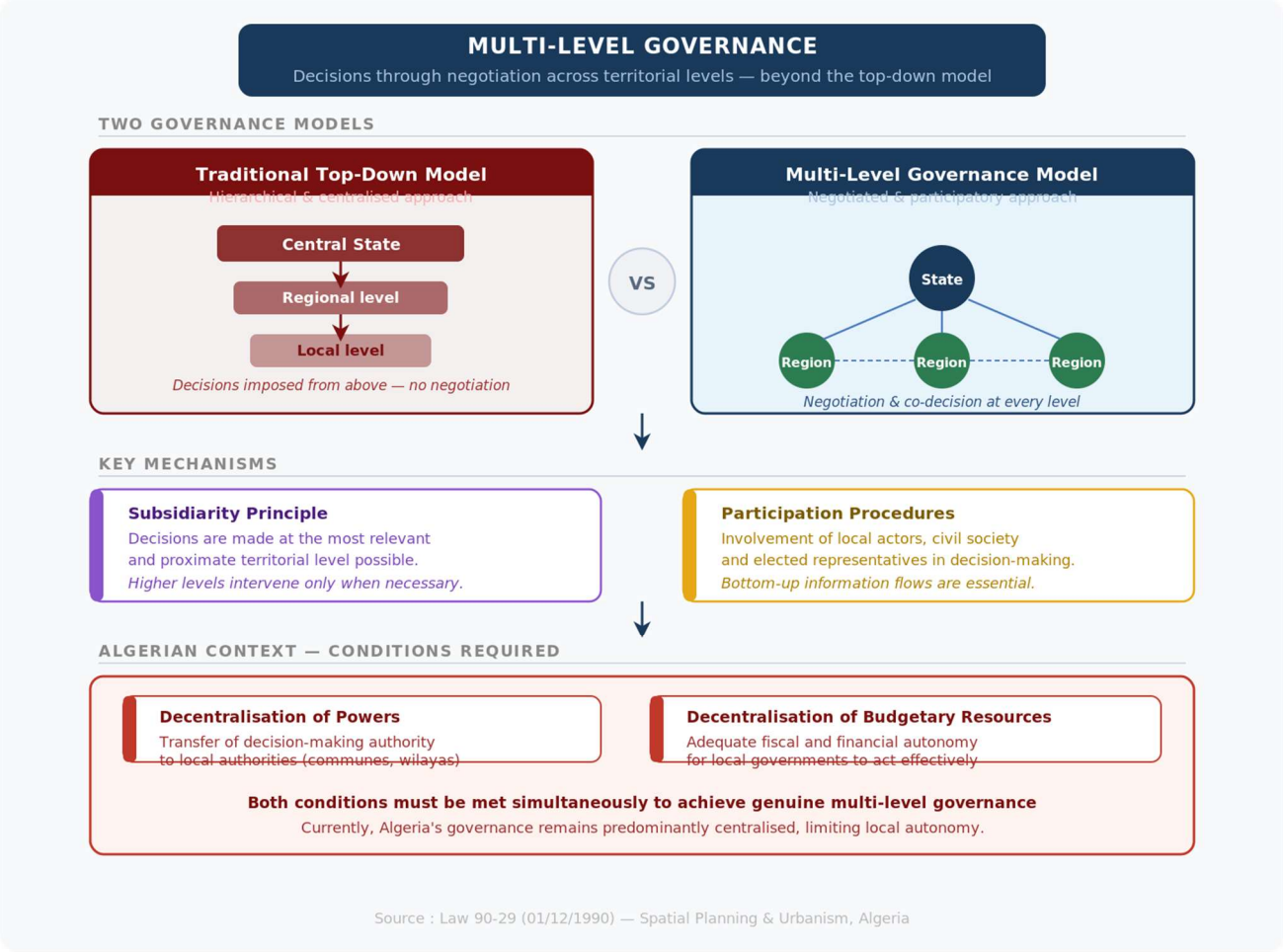


Figure 6 : Multi-Level Governance: Principles, Mechanisms, and Conditions for Implementation in Algeria

UNITED KINGDOM - The plan-led system

The UK uses a flexible planning system called 'plan-led system'. Local Plans (equivalent to the PDAU) define the development strategy over 15 years but remain indicative.

Each building permit application is evaluated case by case, allowing contextual adjustments.

The procedure includes a mandatory public consultation phase of at least 6 weeks, with the possibility of appeal to an independent Planning Inspector.

The flexibility is a strength but can create legal uncertainty - unlike the Algerian system, which is more rigid but more legally secure.

III. Content of Urban Planning Documents

3.1 Constituent elements

An urban planning document generally includes four essential components:

- Presentation report: territorial diagnosis, SWOT analysis, justification of choices.
- Sustainable Development and Planning Project (PADD): strategic vision, major orientations, qualitative objectives.
- Graphic documents: zoning plans, structure schemes, facility location maps.
- Regulations: general provisions, rules per zone (FAR, GCR, heights, architectural aspects).

Key Concept - Zoning: principle and typology

Zoning consists of dividing the territory into homogeneous zones subject to specific urban planning rules.

Typical Algerian and international classification:

• Urban zones (U): already urbanised and equipped with networks.

• Zones to be urbanised (AU): programmed urban extension.

• Agricultural zones (A): agricultural land to protect from urbanisation.

• Natural zones (N): natural spaces, forests, risk zones.

Each zone subdivides (Ua, Ub, Uc...) according to density, dominant function or heritage.

Critique: zoning can create spatial ruptures and lacks flexibility - hence the emergence of alternative concepts (mixed-use, flexible zoning, project-based urbanism).

3.2 Urban Planning Indicators and Coefficients

Urban plans use quantitative indicators to regulate construction and control density:

Indicator	Definition	Example
FAR - Floor Area Ratio (COS)	Ratio between buildable floor area and land area.	FAR = 1.5 → 1.5 m² of floor per m² of land
GCR - Ground Coverage Ratio (CES)	Ratio between built ground area and land area.	GCR = 0.4 → 40% ground coverage authorised
Residential density	Number of dwellings per hectare.	50 dw/ha in detached housing, 150 dw/ha in apartments
Maximum height	In metres or number of floors.	G+4 (ground floor + 4 upper floors)
Setbacks	Minimum distances from parcel boundaries and roads.	3 m setback from the public road

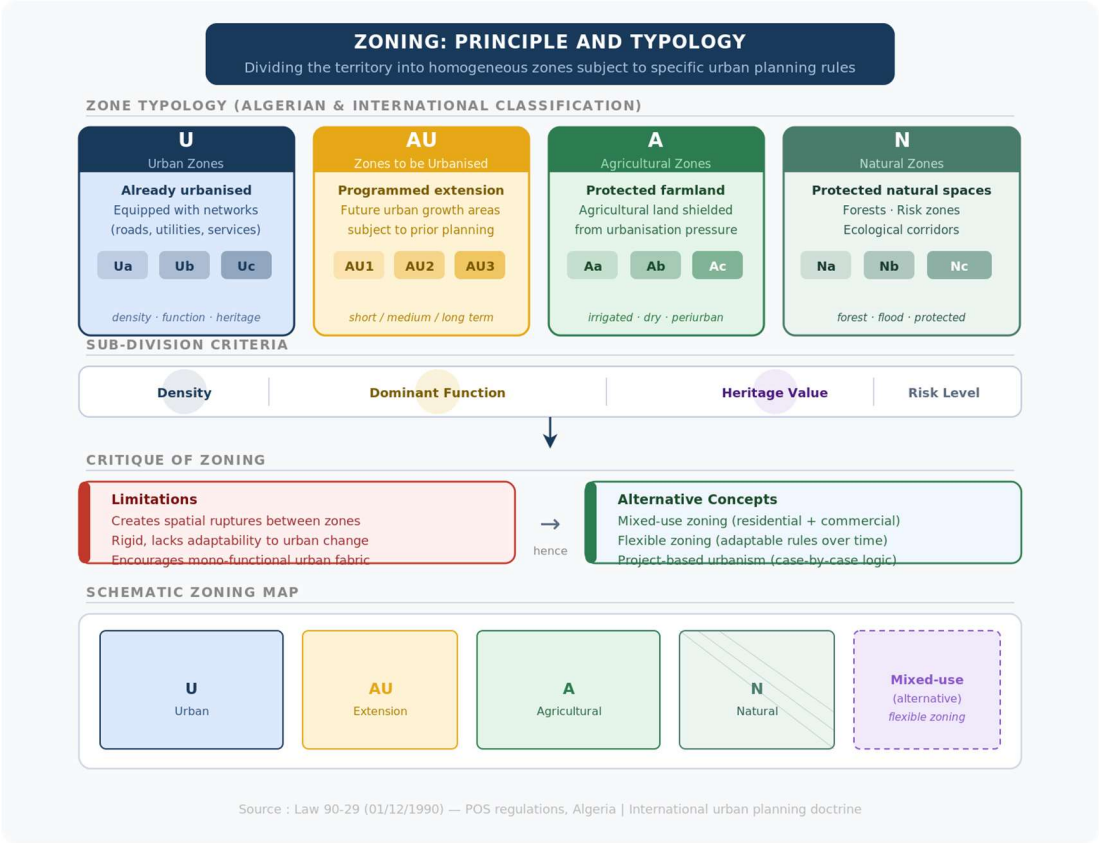


Figure 7 : Zoning: Principle, Zone Typology, Sub-division Criteria, and Critique of the Model

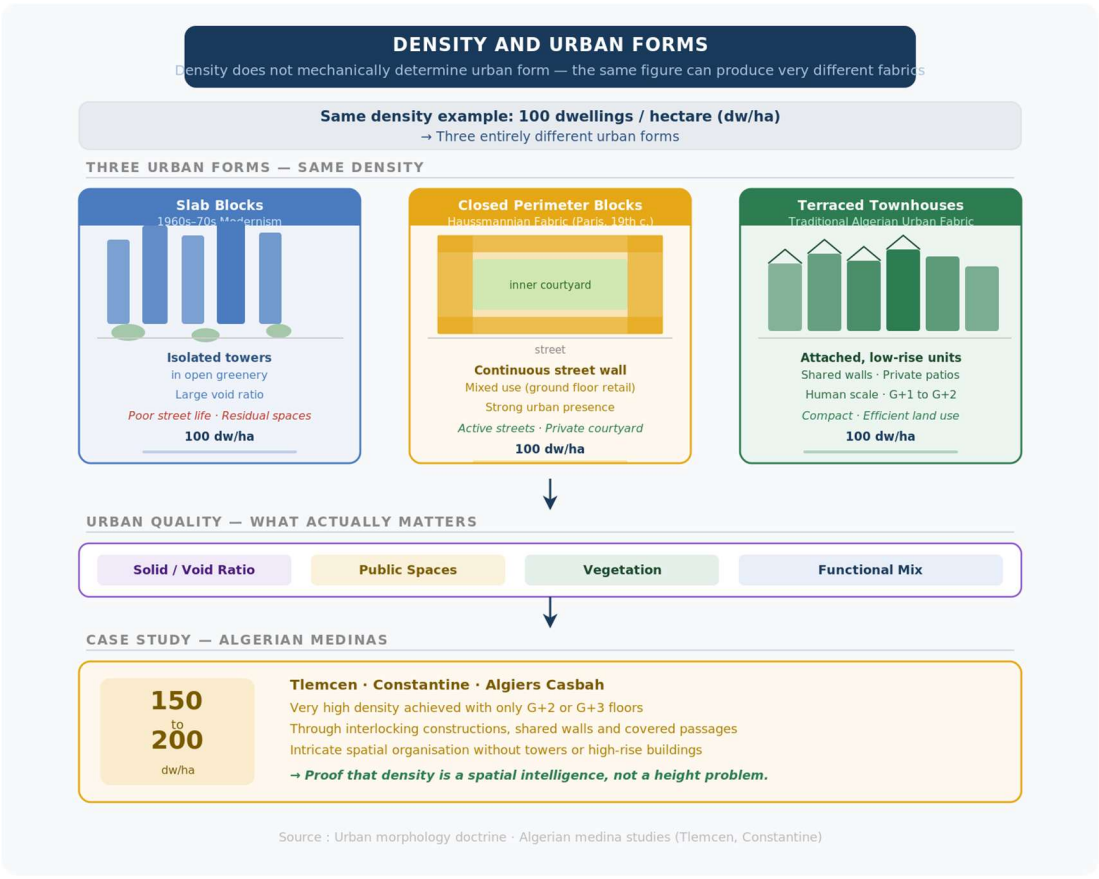


Figure 8 : Density and Urban Forms: Same Density Index, Contrasted Spatial Configurations, and the Case of Algerian Medinas

Key Concept - Density and urban forms

Density does not mechanically determine urban form. The same density (e.g. 100 dw/ha) can produce very different forms:

- Slab blocks isolated in greenery (1960s–70s modernism).
- Closed blocks of Haussmannian fabric (Paris, 19th century).
- Terraced townhouses (traditional Algerian urban fabric).

Urban quality depends less on absolute density than on how it is organised: solid/void ratio, public spaces, vegetation, functional mix.

Algerian medinas (Tlemcen, Constantine) achieve densities of 150–200 dw/ha with heights of only G+2 or G+3, through interlocking constructions.

IV. Contemporary Challenges and Evolution of the Algerian System

The Algerian planning system faces several structural challenges that limit its effectiveness:

- Low implementation rate: only 30–40% of approved POS are actually implemented.
- Excessive elaboration timelines: 5–7 years on average for a PDAU, creating a gap with urban realities.
- Lack of coordination: overlapping of several documents (SNAT, PAW, PDAU, POS) without clear articulation.
- Limited technical capacities: insufficient urban planning skills in municipalities.
- Informal urbanisation: 20–30% of housing escapes planning instruments.

Reform pathways for the Algerian system (identified by sector professionals)

1. Hierarchical simplification: merge PAW and PDAU to avoid redundancies.
2. Timeline reduction: accelerated procedures, decentralised approval.
3. Capacity building: continuous training of municipal planners, creation of inter-municipal technical centres.
4. Real participation: upstream consultation workshops, digital information platforms.
5. Flexibility: allow simplified revisions to adapt plans to evolving conditions.
6. Monitoring and evaluation: establish observatories to measure the effective implementation of plans.

BARCELONA (Spain) - Metropolitan strategic planning

Barcelona is a pioneer of strategic planning in Europe. Since 1990, the city has developed 10-year metropolitan strategic plans - not as regulatory documents, but as roadmaps shared by all actors (local authorities, businesses, universities, civil society).

The 2030 Metropolitan Strategic Plan defines 5 axes and 100 concrete projects, enabling the major urban transformation of the Olympic waterfront and the 22@bcn technology district.

Lesson for Algeria: the strength of a plan depends less on its binding character than on the actors' adherence to a shared vision.

Link with the design studio

- This lecture provides the conceptual framework necessary for studio work.
- Students will rely on knowledge of planning instruments (SNAT, PAW, PDAU, POS) to understand the regulatory context of their projects, identify appropriate scales of intervention, and formulate development proposals consistent with existing documents.
- The studio will be an opportunity to manipulate these tools concretely through territorial diagnosis, zoning and urban programming exercises.

8. Urban Structure Recognition Game

RECREATIONAL SESSION - Session 4

Urban Structure Recognition Game

Between Lectures 2 and 3 - Active Learning Through Image and Play

This session deliberately adopts a pedagogical approach that differs from the lecture format. It draws on the practices of 'serious games' (Prensky, 2001) and the gamification of higher education (Kapp, 2012) to consolidate, through active exploration, the concepts introduced in Lectures 1 and 2.

Learning Objectives

By the end of this session, the student will be able to:

- Read an urban structure from a satellite image or aerial view.
- Identify the scale of an urban view (micro, meso, macro) without distance references.
- Distinguish the main typologies of urban fabric (orthogonal, organic, radio-concentric, linear).
- Recognise characteristic urban configurations (conurbation, peripheral extension, ZHun, medina, colonial centre, informal settlement).
- Compare Algerian and world urban structures and draw lessons on modes of city production.

Session Design - The Recognition Game

Phase 1 - Blind recognition (30 min)

Satellite images or aerial views are projected without any indication of city name, country or scale. Students, working in groups, must:

- Identify the approximate scale of the view (neighbourhood, city, agglomeration).
- Describe the visible urban structure (street form, plot pattern, density, presence of green spaces or water).
- Propose a hypothesis about the geographical and cultural context of the city.
- Formulate observations about the mode of production of this space (planned? organic? hybrid?).

Phase 2 - Identification and comparative analysis (30 min)

Each city is revealed. The instructor comments on the observed structures by mobilising the concepts covered in previous lectures. A collective discussion compares the Algerian and world cities presented.

Urban Structure Typologies - Reference Guide

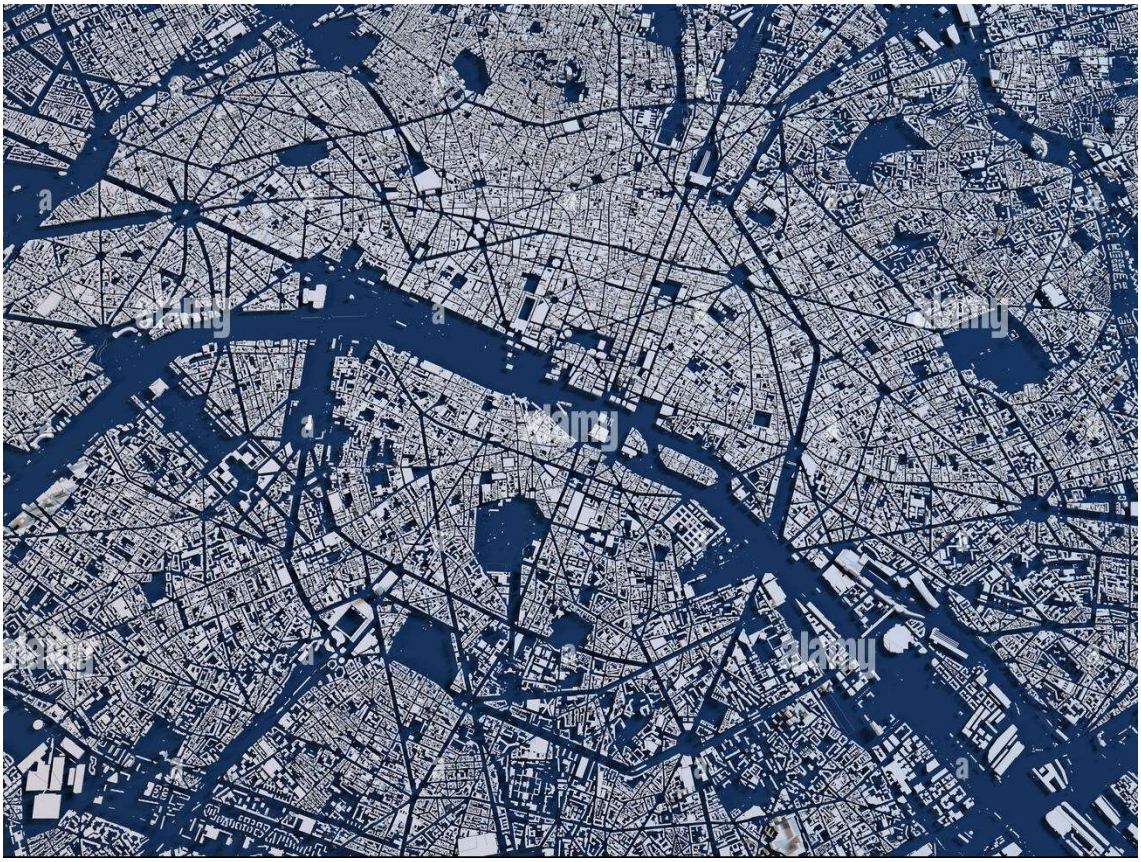
Main fabric typologies

Typology	Characteristics	Examples
Orthogonal grid	Regular rectangular street grid, perpendicular blocks, uniform plots.	Roman colonies (Timgad), colonial extensions (Oran, Algiers), American cities, Chandigarh
Organic / Irregular	Winding streets following topography or paths, irregular plots, variable densities.	Algerian medinas, historic European centres, informal settlements
Radio-concentric	Streets radiating from a central point, connected by circular rings.	Paris (Haussmann), Moscow, some German city centres
Linear / Ribbon	Development strung along a transport axis (road, railway).	Saharan oasis cities, coastal tourist urbanisation
Superblocks	Large blocks containing public space, pedestrian and car circulation separated.	ZHun (zones d'habitat urbain nouvelles), modernist housing estates, Brasilia superquadras

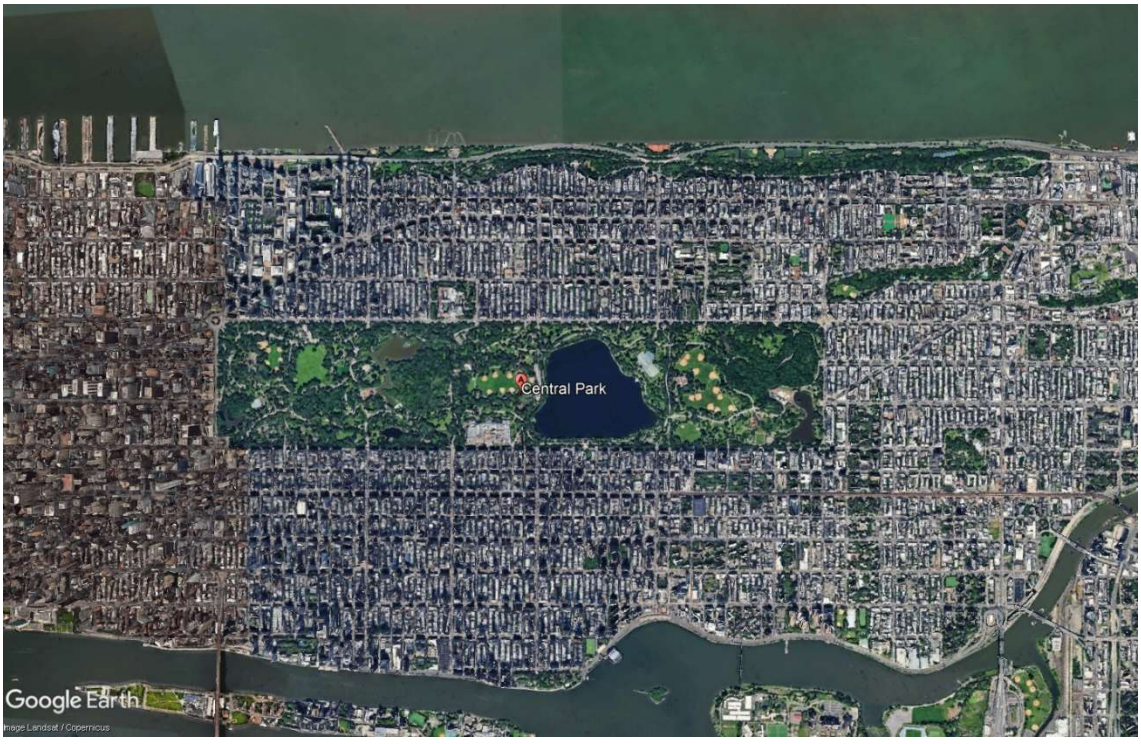
Reading Scale - From the Building to the Territory

Scale	What is visible	Key indicators to read
Micro (1:500–1:5,000)	Individual buildings, plots, streets, building-street relationship.	Plot size and shape, alignment, setbacks, ground floor use
Meso (1:5,000–1:50,000)	Neighbourhood, district, urban fabric.	Block morphology, street hierarchy, public spaces, density variations
Macro (1:50,000+)	City, agglomeration, conurbation.	Global shape, main infrastructure axes, centre/periphery differentiation, urban-rural interface

Image Slots - Cities for Comparison



Paris - France



Central Park, New York - USA

Mostaganem - Algeria

Barcelona - Spain

Ghardaia - Algeria

New town of Ali Mendjeli, Constantine – Algérie

Socialist village, Fenaïa Ilmaten – Algeria

Firenze – Italy

Daltenga - Burkina Faso

Figure 9 : Series of images representing different urban fabrics and serving as a basis for an identification game.

Pedagogical note - Why this session?

Research in cognitive science shows that identifying an image and defending a hypothesis activates what Craik & Lockhart (1972) call 'elaborative encoding' - deep memory processing that produces far more durable learning than passive listening.

The element of surprise (a student wrongly identifies Mostaganem as a European city) generates a memorable emotional event that anchors the learning of scale, fabric and urban structure in long-term memory.

This session also prepares students for the design studio, where reading satellite imagery and urban maps is a core skill.

9. Issues and Challenges of Strategic Urban Planning

LECTURE 3 - Sessions 5 and 6

Issues and Challenges of Strategic Urban Planning

Algerian Context - Urban Planning Bachelor Year 1

By 2030, humanity will cross a defining threshold: 60% of the world's population will reside in urban areas. This massive and irreversible dynamic is concentrated 95% in developing countries, propelling the urban system to the heart of global survival issues. Faced with this wave, the absence of planning is not simply a technical deficiency - it is a trajectory towards systemic spatial segregation and an unsustainable ecological footprint.

Key Concept - What is Strategic Urban Planning (SUP)?

Strategic Urban Planning (SUP) is a paradigm shift that transcends two historical approaches:

- (1) 'Classical' planning urbanism - often rigid in a regulatory framework, unable to follow real local dynamics.
- (2) 'Sectoral' project urbanism - a fragmented approach multiplying isolated interventions without overall coherence.

SUP is defined by three characteristics: a long-term prospective vision (at least 10 years), multi-stakeholder mobilisation (co-construction involving public, private, civil society actors), and an iterative process accepting adjustment to uncertainties.

Figure 10 : Strategic Urban Planning (SUP): A Paradigm Shift and Its Three Defining Characteristics

I. Historical Evolution of Planning Doctrines

Urban planning is a discipline of constant response to societal mutations. Each historical period has produced a spatialization of order, hygiene or productivity, leading today to the imperative of ecological resilience.

1.1 From Antiquity to the Renaissance: order and aesthetics

- Antiquity: Hippodamian grid plan (orthogonal structure, forums, monumental infrastructure).
- Renaissance / Baroque: humanist ideal, symmetry, grand perspectives and royal axes.
- Objectives: order, functional efficiency, expression of political power.

> **ALGERIA - Timgad (ancient Thamugas) - The Hippodamian plan in North Africa**
>
> Timgad (Batna province), inscribed on the UNESCO World Heritage List since 1982, is one of the best-preserved examples of Roman urban planning in North Africa.
>
> Its perfect orthogonal grid (cardo and decumanus), Arch of Trajan, baths and forums illustrate the planning principles of Antiquity.

For Algerian urban planning students, Timgad is an open-air laboratory: one can directly read the hierarchy of public spaces, local construction techniques and climate adaptations (orientation, shaded porticoes, thermal mass).

1.2 Industrial Revolution: hygiene and rationality

- Context: extreme insalubrity of industrial cities (cholera, tuberculosis epidemics).
- Haussmann in Paris: boulevards and sewers - urban sanitation through large-scale surgery.
- Tony Garnier: Industrial City (1904) - strict functional zoning separating housing from industry.
- Objective: productive rationality and public hygiene.

Key Concept - Functional zoning

Functional zoning consists of strictly separating different urban functions (housing, industry, commerce, leisure) into dedicated zones.

Initiated by Tony Garnier in his 'Industrial City' (1904), this principle aimed to protect residents from industrial nuisances.

It would be radicalised by the 20th-century modern movement with major urban consequences - mono-functionality, car dependency, destruction of street life.

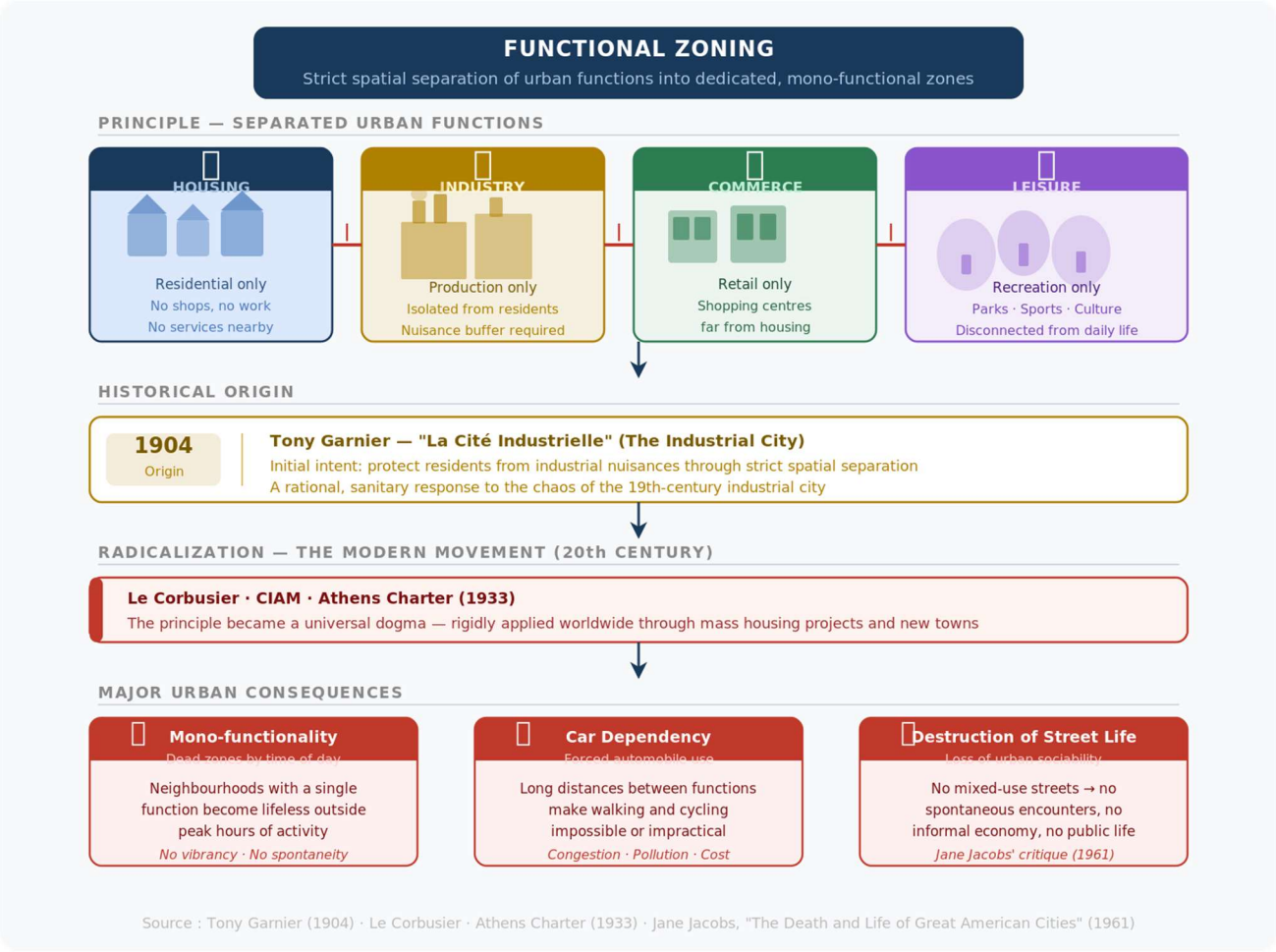


Figure 11 : Functional Zoning: Principle, Historical Origin (Garnier, 1904), and Major Urban Consequences of its Radicalization

1.3 The 20th Century: modernism and the Athens Charter

- Le Corbusier and the 'Radiant City' (1933): towers in greenery, machine-city.
- Athens Charter (1933): strict separation of 4 urban functions - dwelling, working, recreation, circulation.
- Car priority, high-rise construction, large housing estates.
- Consequences: dehumanisation, mono-functionality, total car dependency.

BRAZIL - Brasília: applied modernist urbanism

Brasília, the new capital inaugurated in 1960, embodies the apex of modernism. Designed by Lúcio Costa and Oscar Niemeyer, the city rigorously applies the Athens Charter: strict functional zoning (residential, administrative, commercial sectors), superquadras (housing blocks isolated in greenery), absolute car priority.

Result: a spectacular showcase city but devoid of spontaneous urban life, with total car dependency (no street life, extreme distances, social segregation between the planned centre and unplanned peripheral settlements).

This case will be developed in full detail in the Reference Session (Session 7).

1.4 The Critical Turn: Jane Jacobs and mixed use

The mid-20th century saw the collapse of modernist dogma. Jane Jacobs, in 'The Death and Life of Great American Cities' (1961), opposed functionalism with an organic approach:

- Critique of zoning: mono-functionality = urban death, empty streets, social insecurity.
- Valorisation of streets as spaces of life and social interaction.
- Importance of controlled density and functional diversity.
- Human scale and 'natural surveillance' (eyes on the street) for urban safety.

Key Concept - Functional mix

Functional mix refers to the coexistence in the same neighbourhood of different urban functions: housing, shops, offices, services, facilities.

It promotes urban vitality (presence at all hours), reduces travel (proximity work–home), creates social bonds (encounters in public space), and ensures security through 'natural surveillance'.

This principle has become central in contemporary sustainable urbanism, opposing the strict zoning of modernism.

Algerian medinas are exemplary models of functional mix: craft workshops, residences, religious spaces and markets coexist in a dense, walkable fabric.

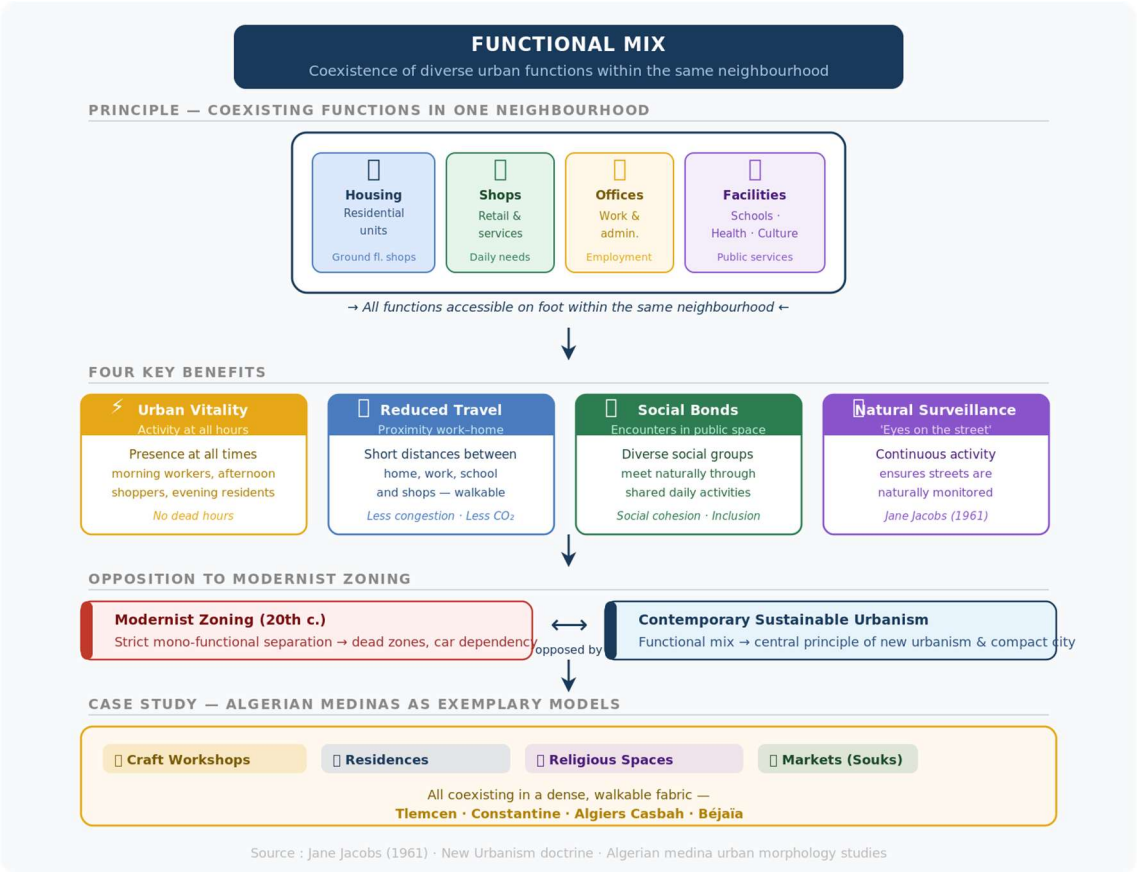


Figure 12 : Functional Mix: Principle, Benefits, Opposition to Modernist Zoning, and the Case of Algerian Medinas

II. The Three Pillars of Urban Sustainability

Sustainability cannot be a cosmetic adjuvant; it is the very ontology of urban resilience. The urban planner must articulate three interdependent dimensions to stabilise the urban system.

2.1 Environmental Dimension: towards the ecological city

- Fight against urban sprawl: densification, urban renewal, land recycling.
- Promotion of soft and collective transport: reducing car dependency.
- Intensive greening: climate adaptation, urban heat island management.
- Integrated water management: retention, infiltration, reuse.
- Protection of ecological corridors and urban biodiversity.

> **SINGAPORE - Tropical 'City in a Garden' and water management**
>
> Singapore, a city-state of 5.7 million inhabitants on 728 km², has transformed its spatial constraint into an ecological asset.
>
> The 'City in a Garden' strategy imposes 30% greening on all new construction (green roofs, facades). Integrated water management recovers 100% of rainwater in park-reservoirs, recycles wastewater (NEWater provides 40% of drinking water).
>
> Result: 30% reduction in urban temperature, 47% green area despite extreme density (8,000 inh/km²), water autonomy facing climate change.

2.2 Economic Dimension: the productive and resilient city

- Economic diversification: avoid mono-industry, strengthen shock resilience.
- Support for local innovation and SMEs.
- Territorial attractiveness: infrastructure, quality of life, training.
- Circular economy: waste valorisation, short circuits, resource reuse.

> **COLOMBIA - Medellín: economic transformation through social innovation**
>
> Medellín, former world capital of drug trafficking (homicide rate of 381/100,000 inh. in 1991), achieved a spectacular transformation through strategic planning.
>
> Three levers: (1) Social innovation - Park-Libraries in disadvantaged neighbourhoods, becoming business incubators; (2) Inclusive mobility - Metrocable connecting favelas to metro, reducing travel time from 2h to 20 min; (3) Economic diversification - textile-fashion cluster, biotech hub.
>
> Result: homicide rate divided by 20, creation of 150,000 jobs in 10 years, UN prize for most innovative city (2013).

2.3 Social Dimension: equity and inclusion

- Equity of access to essential services: health, education, transport.
- Affordable housing and social mix: avoid residential segregation.
- Citizen participation: co-construction of projects, participatory budgets.

- Urban security: lighting, design promoting natural surveillance.
- Universal accessibility: consideration for people with reduced mobility.

Key Concept - Territorial equalization

Territorial equalization aims to reduce inequalities between territories by redistributing resources from wealthy areas to less favoured areas.

It can be financial (state grants, inter-municipal equalization funds) or functional (equitable distribution of structuring facilities).

In urban planning, it ensures that public investments do not reinforce existing imbalances but create a fairer, more cohesive city.

In Algeria, territorial equity is a constitutional objective (Art. 18 of the revised Constitution) but remains difficult to achieve in practice given the concentration of investment in the north.

III. Operational Frameworks of Strategic Planning

3.1 Planning instruments: from global to local

- Supra-local scale: regional or metropolitan master plans.
- Local scale: municipal or inter-municipal urban plans.
- Operational urban projects: concerted development zones, eco-districts.
- Sectoral tools: mobility plans, commercial schemes, climate plans.

Key Concept - The urban project

The urban project is the missing link between strategic planning (overall long-term vision) and development operations (concrete realisations).

It defines for a given perimeter (neighbourhood, centrality) a coherent programme integrating housing, facilities, public spaces and economic activities.

Its strength: articulating spatial scales (from the building to the territory), temporal scales (phasing over 10–15 years) and actor scales (public, private, residents).

It allows experimenting with global strategy at the scale of an urban fragment before generalisation.

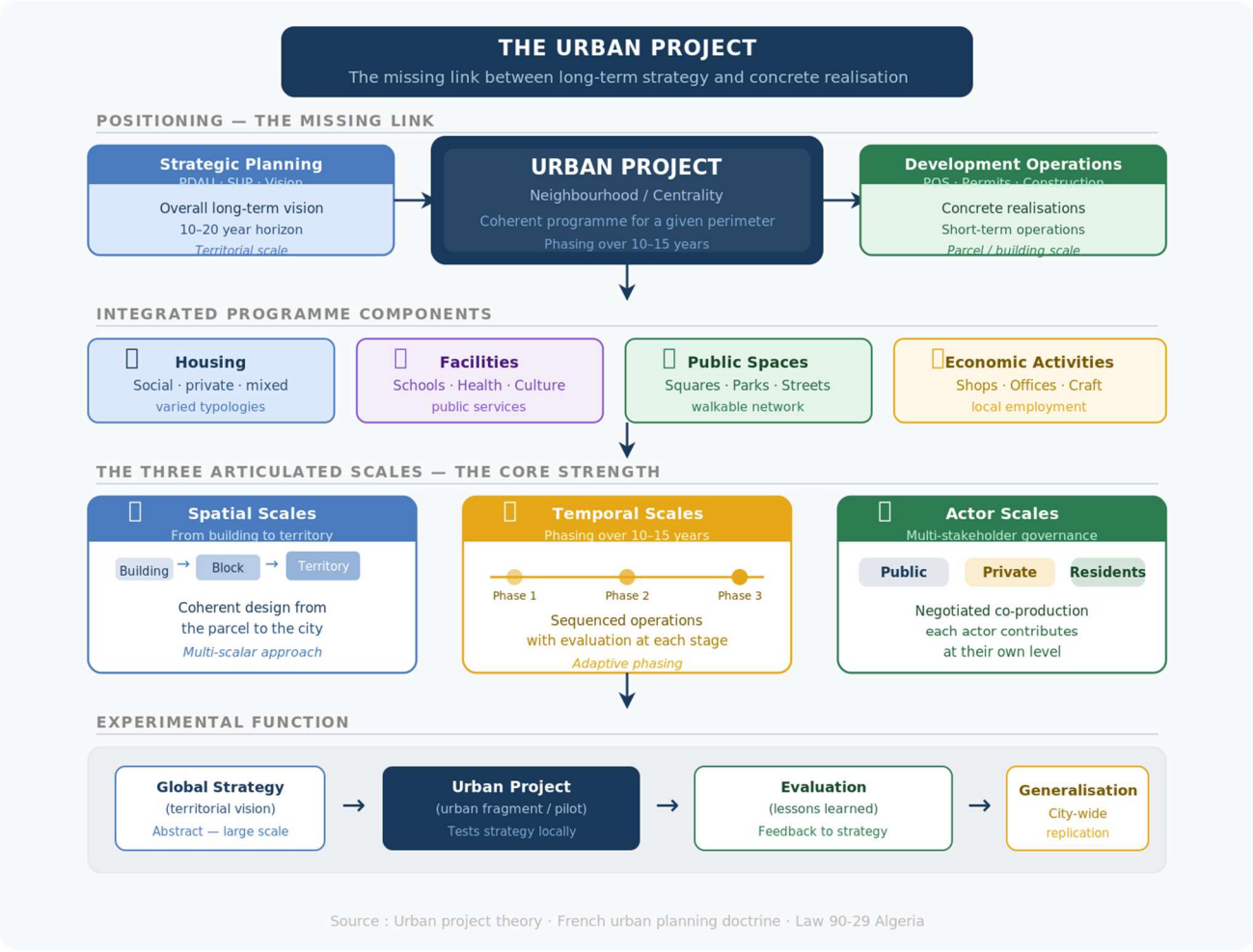


Figure 13 : The Urban Project: Missing Link Between Strategic Planning and Development Operations, and Its Three Articulated Scales

3.2 Governance, participation and territorial engineering

- Political leadership: local executive support - mayor, agglomeration president.
- Steering bodies: technical and political committees associating all actors.
- Mobilised expertise: consulting firms, universities, urban planning agencies.
- Democratic legitimacy: validation by elected assemblies.
- Financing: own resources, state transfers, international cooperation, public-private partnerships.

USA - Cergy International Urban Design Workshops

The Cergy Workshops have developed a unique strategic planning methodology tested in 40 countries, including Algiers (2008).

Principle: bring in 3–4 international multidisciplinary teams (architects, planners, sociologists, economists) working in parallel for 3–4 weeks on the same territory. Each team produces a prospective scenario.

Key contribution: the 'disinterested international perspective' - these experts have no financial or political interest locally, so they can ask taboo questions and challenge evidences.

Algiers application: facing the blockage between the central State (wanting an international metropolis) and the municipality (fearing identity loss), the Workshops proposed 'Mediterranean heritage metropolis' - leading to the Algiers 2029 strategic plan.

IV. Contemporary Challenges of Strategic Planning

4.1 Institutional and governance challenges

- Institutional fragmentation: multiplicity of actors without coordination.
- Political instability: orientation changes at each electoral cycle.
- Excessive centralisation: weak local authority autonomy.
- Lack of continuity: discontinuity between planning and implementation.

Key Concept - The planning paradox

The planning paradox lies in the tension between the need for a long-term vision (10–20 years) and the short political horizon of elected officials (4–6 years).

How can a mayor commit to projects whose completion they won't see and which will perhaps benefit their political successor?

Partial solutions: inscribe planning in supra-municipal bodies less subject to electoral cycles; create autonomous technical agencies; involve civil society as a safeguard of continuity.

4.2 Towards planning adapted to local contexts

Facing the limits of imported models, a new generation of urban planners advocates 'situated' planning, starting from local realities rather than universal models.

Key Concept - Incremental urbanism

Incremental urbanism recognises that the city is made by progressive accumulation of micro-interventions rather than grand projects.

In low-resource contexts, instead of waiting for means for a complete plan never realised, better to: identify minimal high-impact interventions (road clearance, water point, lighting); realise them progressively; capitalise on resident initiatives.

This approach joins Jaime Lerner's 'urban acupuncture': well-thought punctual interventions can trigger large-scale transformations.

Reference: Hamdi, N. (2004). Small Change: About the Art of Practice and the Limits of Planning in Cities. Earthscan.

NETHERLANDS - Rotterdam: adaptive planning for climate change

Rotterdam, a port city of 650,000 inhabitants below sea level, has developed exemplary adaptive planning facing flood risk. The Rotterdam Climate Proof Programme abandons the logic of absolute protection (ever higher dikes) for a multi-scenario adaptive approach.

Strategy: floating constructions (Nesselande district), squares transformable into retention basins, green roof-terraces, annual plan revision according to new climate data.

Major innovation: abandonment of the plan as a fixed document in favour of an 'adaptive pathway' - a decision tree with identified tipping points.

Result: water storage capacity multiplied by 5, 60% reduction in flood risk, preserved urban attractiveness.

Key lessons for the Algerian context

- Need for a long-term strategic vision beyond short political cycles.
- Crucial importance of multi-level governance and institutional coordination.
- Valorisation of local skills and strengthening of municipal technical capacities.
- Systematic integration of citizen participation in all planning phases.
- Adaptation of planning tools to Algerian realities - not copying foreign models.
- Articulation between strategic planning and operational urban projects.
- Consideration of the three pillars of sustainability (environmental, economic, social) from the design stage.

10. Chandigarh and Brasilia

REFERENCE SESSION - Session 7

Chandigarh and Brasilia

Two Iconic Cities of Modernist Urban Planning - Visual Case Study

These two cities, designed and built in the space of a decade (Chandigarh 1950–1965; Brasilia 1956–1960), represent the most ambitious and contested experiment in the application of modernist urbanism to the creation of new capitals. Their study allows all the theoretical tensions of the course to converge in a single rich object: rational planning vs. social needs, tabula rasa vs. inherited fabrics, formal design vs. lived urbanism.

Figure 14 : Comparative aerial views: Chandigarh (Up) and Brasilia (Down) - satellite images at comparable scale

Part I - Chandigarh (India, 1952)

Historical and political context

The creation of Chandigarh is inseparable from the partition of India in 1947. The former capital of Punjab - Lahore - found itself in Pakistan. Newly independent India urgently needed a new capital for the Indian part of Punjab. Prime Minister Jawaharlal Nehru saw the project as an opportunity to embody the ambitions of a modern, progressive nation.

- Commissioned in 1950 to Albert Mayer (American planner) - who withdrew after his partner's death.
- Project transferred to Le Corbusier in 1951, assisted by Maxwell Fry, Jane Drew and his cousin Pierre Jeanneret.
- Site: a flat agricultural plain at the foot of the Shiwalik Hills, Punjab.
- Construction: 1952–1965 (Phase 1); still expanding today (Phase 2, 3...).
- Nehru described it as 'a new city, symbolic of India's freedom from the shackles of tradition'.

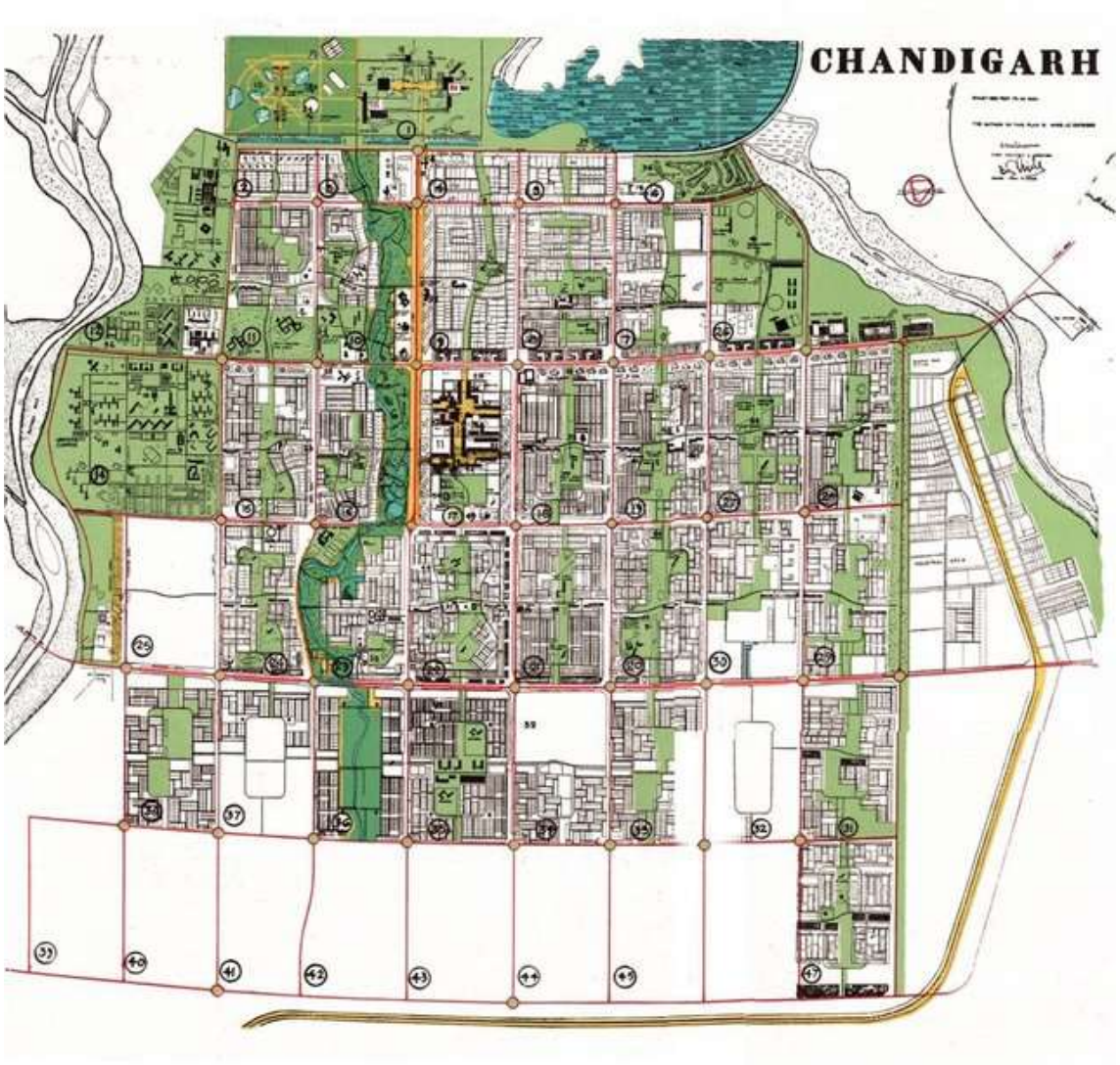


Figure 15 : Chandigarh master plan (sector grid)

Urban morphology and planning principles

Le Corbusier conceived Chandigarh as a 'human body' - an organic metaphor applied to an orthogonal plan:

Urban element	Corbusian metaphor	Planning reality
Capitol Complex (Sector 1)	Head - brain of the city	Secretariat, High Court, Legislative Assembly - designed by Le Corbusier personally
City Centre (Sector 17)	Heart - commercial and civic core	Central plaza, banks, shops, cultural facilities - pedestrian heart
V1–V7 Road hierarchy	Arteries and veins - circulation system	7-level road hierarchy from national highways to pedestrian paths within sectors
Sectors (800m × 1200m)	Organs - self-sufficient units	Each sector contains schools, health facilities, shops and residential zones
Sukhna Lake	Lungs - leisure and green space	Artificial lake and promenade - major public space of the city

Figure 16 : Chandigarh: Sector 17 central plaza + V7 pedestrian path within a sector

Architectural landmarks

- Capitol Complex: Secretariat (254 m long), Vidhan Sabha (Legislative Assembly with hyperbolic paraboloid shell roof), High Court (Le Corbusier's brise-soleil system).
- Open Hand Monument: Le Corbusier's symbol - 'open to give, open to receive' - 26 m high, rotating with the wind.

- Sector 17 plaza: rare modernist public space that actually works - active, shaded, human-scaled.
- Pierre Jeanneret's residential architecture: simpler, more climatically adapted than Corbusian icons.

Figure 17 : Capitol Complex: Vidhan Sabha + High Court + Open Hand Monument

Social and urban balance sheet

Critical Assessment - Chandigarh after 70 years

Successes: one of India's wealthiest cities (per capita income), high quality of life, well-maintained infrastructure, low density and abundant greenery, internationally acclaimed architectural heritage.

Problems: designed for 500,000 inhabitants - now has 1.1 million within its planned area and 2.5 million in the wider agglomeration, with massive informal extensions in sectors not designed by Le Corbusier.

Social contradiction: the luxury flats of Sector 1–2 house senior civil servants; the original agricultural labourers were displaced and now live in informal settlements on the periphery.

Car dependency: the V1–V7 hierarchy was designed before mass motorisation - today, car dominance makes Sukhna Lake Road a raceway rather than a promenade.

Lesson: even the most carefully designed modernist city cannot control its growth and social composition once disconnected from participatory processes.

Part II - Brasilia (Brazil, 1960)

Historical and political context

The creation of Brasilia is one of the most audacious acts of state urban planning in the 20th century. The idea of moving the Brazilian capital from the coast (Rio de Janeiro) to the interior was a century-old project - but it was President Juscelino Kubitschek (1956–1961) who turned it into a forced-march reality, condensing the construction of a city of 500,000 inhabitants into four years.

- 1956: Kubitschek launches the project under his motto '50 years in 5' - modernisation at all costs.
- International competition won by urban planner Lúcio Costa's pilot plan and architect Oscar Niemeyer's buildings.

- Site: Central Plateau (Planalto Central), 1,000 km from Rio - deliberately continental.
- Construction: 1956–1960 - thousands of workers (candangos) from the Northeast lived in shanty camps.
- Inauguration: 21 April 1960 - a UNESCO World Heritage Site since 1987.

Figure 18 : Brasilia: aerial view of the Monumental Axis + residential superquadras

Urban morphology: the pilot plan (Plano Piloto)

Lúcio Costa's winning plan is famous for its bird/aeroplane / dragonfly shape - though Costa himself described it simply as the intersection of two axes:

Urban element	Description and urban planning significance
Monumental Axis (E–W)	The formal/civic spine: Presidential Palace, National Congress (twin towers + dome and bowl), Supreme Court, Ministries. Designed for the State and its representation - vast, impressive, windswept, empty.
Residential Axis (N–S)	The living spine: superquadras - housing blocks of 6 floors on pilotis, set in landscaped greenery, separated from each other and from traffic. Uniform 'democratic' design regardless of floor - in theory.
Superquadras	Self-contained residential units of ±250 x 250 m. Each contains its own primary school, local shops, church. Planned for social mix - in practice colonised by the middle class. No street life.
Setor Commercial Sul/Norte	Dedicated commercial strips - the only places with genuine urban activity at ground level.
Lake Paranoá	Artificial lake created by damming - frames the city, provides leisure and upper-class residential zones.

Architectural and urban landmarks

- National Congress: twin 28-floor towers flanked by a dome (Senate) and a bowl (Chamber of Deputies) - Niemeyer's most iconic composition.
- Presidential Palace of the Dawn (Palácio da Alvorada): curved colonnade reflected in water - symbol of Brasilia.
- Cathedral of Brasilia: hyperboloid structure with 16 concrete fins, underground entrance - dramatic spatial experience.
- Foreign Ministries (Itamaraty Palace): floating volumes over a water garden - praised by architectural critics.

Figure 19 : Brasilia: National Congress (Oscar Niemeyer) + Monumental Axis aerial view

Social and urban balance sheet

Critical Assessment - Brasilia after 65 years

Successes: recognised architectural and urban heritage (UNESCO 1987), symbol of Brazilian modernity, genuine administrative capital, international tourism destination.

Structural problem - the 'candangos' paradox: the workers who built Brasilia were never allowed to live in it. Expelled to satellite cities (Ceilândia, Taguatinga - 50 km away), they form the majority of the agglomeration (3.1 million out of 4.8 million total) while the Plano Piloto houses only 220,000 people.

Urban failure: the superquadras have no street life. The car is indispensable for any movement. The separation of functions (Athens Charter) was applied so rigorously that there is no urban life in the European sense - no cafes on corners, no spontaneous encounters, no mixed-use streets.

Inequality crystallised in space: the Plano Piloto is one of Brazil's wealthiest areas; the satellite cities are among the most deprived - segregation inscribed in the very founding act of the city.

Resilience paradox: Brasilia, designed to be a model, has produced the very problems it was supposed to solve - inequality, car dependency, lack of civic life.

Comparative Synthesis - Chandigarh and Brasilia

Dimension	Chandigarh	Brasilia
Date	1952 (built 1952–65)	1960 (built 1956–60)
Country	India (Punjab)	Brazil (Federal District)
Lead designer	Le Corbusier (urban plan + Capitol)	Lúcio Costa (plan) + Oscar Niemeyer (buildings)
Surface / Population	114 km² / 1.1M (planned area)	5,802 km² GDF / 4.8M (agglomeration)
Urban model	Sector grid - organic body metaphor	Two-axis plan - aeroplane / bird silhouette
Planning doctrine	CIAM / Athens Charter (adapted)	CIAM / Athens Charter (pure)
Housing type	Sectors with varied typologies (Jeanneret)	Superquadras - uniform 6-floor blocks on pilotis
Car / pedestrian	V1–V7 hierarchy - some pedestrian paths	Total car dependency - no walkable streets
Urban life at ground floor	Limited but present in Sector 17	Very limited - designed against it
Social outcome	Wealthy city; informal periphery excluded	Planned city for 220k; 4.6M in satellite cities

Dimension	Chandigarh	Brasilia
Heritage status	UNESCO pending	UNESCO 1987
Main lesson	Even good design cannot control growth and exclusion	Applying a doctrine too rigorously produces its antithesis

Why study these two cities?

- They crystallise all the theoretical tensions of this course in a single object.
- They demonstrate that the best-intentioned planning can generate social exclusion when it ignores participatory processes.
- They illustrate the gap between the designed city and the lived city - between plan and practice.
- They prepare the ground for Lectures 4 and 5 (mobility, public space, heritage, resilience): both cities suffer from the very problems those lectures address.
- They are the most widely studied cases in international urban planning literature - familiarity with them is a professional asset.

11. The City in Motion: Urban Mobility and Public Space

LECTURE 4 - Sessions 8 and 9

The City in Motion: Urban Mobility and Public Space

Algerian Context - Urban Planning Bachelor Year 1

A city that stands still is a city in decline. The flows of movement, encounters and exchanges in public space are the pulse of urban life. This lecture explores two fundamental and inseparable dimensions: mobility - how inhabitants move around - and public space - where they meet and interact. These two concepts are deeply intertwined: pedestrianising a street simultaneously acts on mobility (reducing car use) and public space (creating a place for life).

I. Urban Mobility

Mobility is a city's capacity to enable the movement of its inhabitants, goods and information. It structures the entire urban fabric: wherever people move, neighbourhoods, shops and public facilities emerge.

1.1 Definition and Key Concepts

- Mass motorisation: the predominant use of the private car - associated with urban sprawl, congestion and pollution.
- Active (soft) mobility: non-motorised travel - primarily walking and cycling - essential levers for revitalising city centres.

Key Concept - Multimodality and Intermodality

Multimodality refers to the possibility for a traveller to use several modes of transport within a single journey (e.g. walking → bus → tram → walking).

Intermodality is the optimised form: different modes are coordinated through well-designed interchange hubs allowing rapid and comfortable transfers.

A unified ticketing system (single travel card) and synchronised timetables are the practical tools of intermodality.

Goal: make public transport as convenient as the private car.

Figure 20 : Multimodazlity and Intermodality

1.2 Mobility Challenges in Algerian Cities

- Urban sprawl and jobs-housing mismatch: cities expanding outward mechanically increase travel distances.
- Rapid mass motorisation: driven by market liberalisation and consumer credit, leading to generalised congestion.
- Inadequate public transport supply: institutional provision struggles to keep pace with urban growth.
- Informal transport: collective taxis and minibuses compensate for the absence of formal services but complicate coordination.
- Fragmented governance: over-centralisation and dispersal of responsibility across multiple institutions.

ALGERIA - Algiers - A Structured Network Under Construction

Algiers is one of the few African capitals to have invested massively in structured public transport: the metro (inaugurated 2011), the tram (inaugurated 2013, extended to Aïn Naadja and Bab Ezzouar), and the urban cable car.

These investments aim to provide credible alternatives to the private car in a metropolis of over 4 million inhabitants facing chronic congestion.

The challenge remains tariff and spatial integration between these modern lines and the traditional bus and minibus network, which still accounts for 70% of daily journeys.

Figure 21 : Algiers mobility

1.3 International Lessons in Successful Mobility Policies

TURKEY - Istanbul: Large-Scale Multimodal Integration

Istanbul, a metropolis of 15 million inhabitants spanning two continents, has developed an exceptional multimodal system combining metro, tram, suburban rail, Bosphorus ferries, and a single travel card (Istanbulkart).

Its Bus Rapid Transit system - the Metrobüs, a 52-km dedicated corridor - carries 800,000 passengers per day, one of the highest-performing BRT systems in the world.

Success conditions: a fully dedicated lane (no mixing with general traffic), high frequency (every 3 minutes at peak hours), and integrated ticketing with the rest of the network.

COLOMBIA - Bogotá: TransMilenio and the Ciclovía

Bogotá's TransMilenio (launched 2000) is a 113-km BRT network carrying 2.2 million passengers per day, reducing journey times by 32%.

The Ciclovía, active every Sunday since 1974, closes 120 km of streets to cars for cyclists and pedestrians - 2 million Bogotanos use it each week.

Results: 40% reduction in CO_2 emissions in relevant corridors, 30% increase in commercial footfall.

Key lesson: sustainable mobility policy requires both good public transport AND public space requalification - they are inseparable.

1.4 Towards Sustainable Mobility: the 15-Minute City

Key Concept - The 15-Minute City

The 15-minute city (Carlos Moreno, 2016) is the principle of structuring territory so that all essential amenities and services are accessible within 15 minutes on foot or by bicycle.

It is a central principle of sustainable urban planning, directly opposing the zoning logic of modernism.

It requires: mixed-use zoning, neighbourhood-level services (school, health, commerce, employment), quality cycling and pedestrian infrastructure.

In Algeria, this concept resonates strongly with the traditional structure of medinas - self-sufficient, walkable, mixed - and stands in sharp contrast with the mono-functional ZHun peripheries.

- 'No parking, no business' myth debunked: data shows pedestrians and cyclists visit city centres more frequently and spend more on average than drivers.
- Spatial efficiency of soft modes: on a width of 3.5 m, 10,000 pedestrians/hour can move vs. only 1,000 cars - active mobility is 10 times more space-efficient.
- Limited Traffic Zones (LTZ): restricting access to certain neighbourhoods to residents and essential services only.

II. Public Space

Public space is the stage on which the collective life of a city unfolds. It is simultaneously a right (freedom of movement) and a common good (a space shared by all). Its quality directly determines urban quality of life, social cohesion and the sense of security.

2.1 Definition and Typologies

Public space encompasses very diverse spaces:

- Circulation spaces: streets, boulevards, pavements, cycle paths.
- Gathering spaces: squares, forecourts, parks, public gardens.
- Natural spaces within the city: riverbanks, parks, green corridors.
- Intermediate spaces: covered passages, arcades, commercial underpasses.

Key Concept - The Genius Loci (Spirit of Place)

Theorised by Norwegian architect Christian Norberg-Schulz, the 'genius loci' refers to the particular atmosphere and unique identity of a space.

For an urban planner, understanding the genius loci before intervening means: reading the historical strata (ancient street patterns, local materials, orientations), analysing the topography (views, shade, prevailing winds), and observing the spontaneous uses of inhabitants.

Designing 'with' the place rather than 'against' it is a fundamental principle of contemporary urban planning.

It is what distinguishes a successful public space from a generic, identity-free environment.

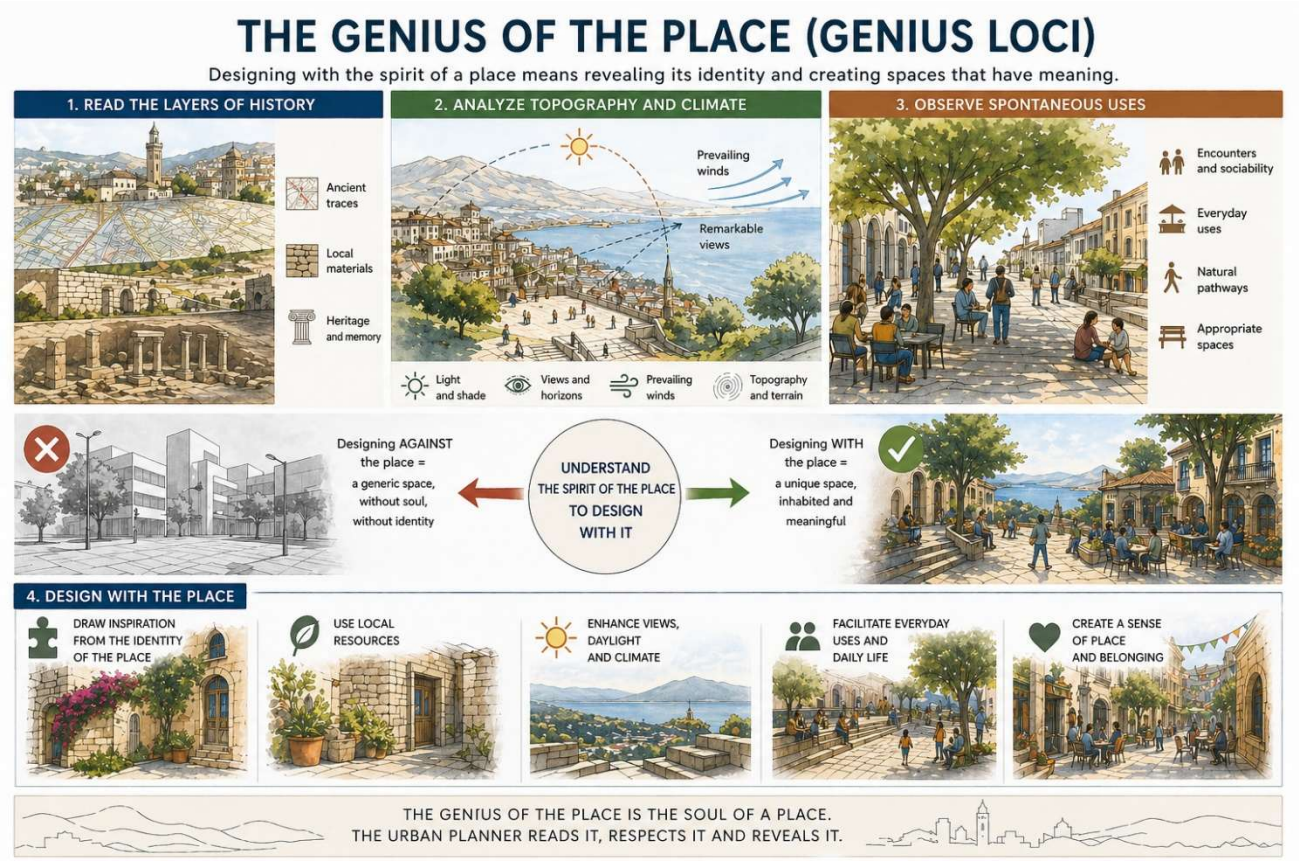


Figure 22 : The Genius Loci

2.2 Principles of a High-Quality Public Space

- Universal accessibility: ensuring access for all, including people with reduced mobility, while promoting diversity of uses and users.
- Contextual reading: building on urban morphology, topography, views and perspectives.
- Permeable and local materials: favouring permeable surfaces and natural local materials to address climate challenges.
- Sobriety and legibility: limiting superfluous street furniture to preserve spatial clarity.
- Greening and water features: integrating trees, gardens and fountains to combat urban heat islands.
- Co-construction with inhabitants: projects designed with users achieve far higher rates of appropriation.

Key Concept - Tactical Urbanism

Tactical urbanism refers to light, temporary, low-cost interventions aimed at testing new uses before making them permanent.

Wooden chairs placed on a pavement, a provisionally painted cycle lane, planters delimiting a temporary pedestrian zone - actions that allow real user behaviour to be observed and permanent investments to be justified by proof of concept.

Developed in New York by Mike Lydon, this approach is particularly well-suited to resource-constrained contexts - it produces visible results at low cost before any major investment.

Several Algerian city centres (Constantine, Oran) have experimented with temporary pedestrianisation - a form of tactical urbanism.

2.3 Algerian and International Examples

ALGERIA - Constantine - Place de la Brèche: Symbolic Heart

Place de la Brèche (Place des Martyrs) is the symbolic heart of Constantine. Long traversed by motor traffic, it has been the subject of successive interventions aimed at restoring its pedestrian character.

Its exceptional position - at the entrance to the medina suspended above the gorges of the Rhumel - makes it a remarkable case study: the public space here is simultaneously a functional crossroads, a heritage viewpoint and a powerful identity marker.

Its requalification illustrates the classic tension, very present in Algerian cities, between the needs of car circulation and the reconquest of quality of life.

Figure 23 : Constantine - Place de la brèche

TUNISIA - Tunis Medina: Centuries-Old Public Spaces

Tunis's Medina (UNESCO) has an exceptional density of 17,802 inhabitants/km². Its public spaces - souks, narrow pedestrian streets, shaded squares, covered passages - have remained functionally relevant for ten centuries.

Their success lies in natural bioclimatic design: narrow streets creating shade, thermal mass of stone walls, interior courtyards ensuring natural ventilation.

Fundamental lesson: the best solutions for urban comfort are often the oldest - and the Algerian medinas offer the same bioclimatic wisdom.

Conclusion - Mobility and Public Space: One Single Challenge

- Mobility and public space are not two separate topics: they are two sides of the same reality.
- The quality of a street is measured by what it offers to those who walk along it, not by the speed at which one can cross it by car.
- Reducing the place of the car is not a punishment - it is a liberation of space for other uses.
- Integrated multimodality (public transport + soft modes) is the only durable answer to congestion.
- A high-quality public space is the primary driver of social cohesion and urban safety.
- Designing a public space means first reading its genius loci before projecting anything.
- The bioclimatic solutions of Algerian medinas are models for 21st-century sustainable urban planning.

12. The City Through Time: Urban Heritage and Resilience

LECTURE 5 - Sessions 10 and 11

The City Through Time: Urban Heritage and Resilience

Algerian Context - Urban Planning Bachelor Year 1

While Lecture 4 explored the city in space - how inhabitants move and gather - Lecture 5 explores the city through time: how it preserves the memory of past generations (heritage) and how it prepares itself for the trials ahead (resilience). These two dimensions are the twin pillars of a city's sustainability. A city without heritage is a city without identity. A city without resilience is a fragile city.

I. Urban Heritage

Urban heritage encompasses everything that past generations have transmitted and to which society attaches sufficient value to justify its preservation for the future. It is not limited to isolated historic monuments: it includes urban ensembles, historic public spaces, constructive know-how, and even intangible cultural practices.

1.1 The Evolution of the Heritage Concept

- From the isolated monument to the urban ensemble: interest has shifted from exceptional individual buildings to historic neighbourhoods as a whole.
- From tangible to intangible heritage: craft knowledge, cultural practices, recipes, languages and collective memories are now recognised as heritage in their own right.
- From illustrious past to ordinary everyday life: vernacular architecture, weekly markets and cemeteries now form part of the heritage field.

Key Concept - The Urban Palimpsest

In palaeography, a palimpsest is a parchment from which the text has been scraped to write a new one, but on which traces of the old text remain legible.

By analogy, the city is a palimpsest: each era builds upon the traces of the previous one.

The medieval streets of a medina often follow ancient Berber paths thousands of years old. The colonial buildings of Oran and Algiers were constructed over Ottoman and Hispano-Moorish fabric. The new Algerian extensions of the 1970s–1990s articulate themselves on the colonial street grid.

Reading the urban palimpsest means understanding the strata of history in order to project the future without erasing them.

1.2 Instruments of Protection and Enhancement

- UNESCO World Heritage Sites: the World Heritage Convention (1972) requires jointly developed management plans. Algeria has seven inscribed sites: Timgad, Djémila, Casbah of Algiers, Tassili n'Ajjer, Beni Hammad Fort, M'Zab Valley, Tipasa.
- Conservation areas (Zones de protection du patrimoine architectural, urbain et paysager - ZPPAUP): regulatory perimeters imposing strict architectural rules within historic centres.
- Safeguard plans (Plans de sauvegarde): planning documents specific to historic centres, defining permitted interventions and restoration priorities.
- Digital tools: Digital Twins and Geographic Information Systems (GIS) allow real-time monitoring of monument condition and simulation of restoration scenarios.

ALGERIA - Casbah of Algiers - World Heritage Under Pressure

The Casbah of Algiers, inscribed on the UNESCO World Heritage List since 1992, faces a multidimensional crisis.

Founded in the 10th century and transformed under the Ottoman Regency (16th–19th centuries), it once housed 50,000 inhabitants within an urban fabric of exceptional coherence.

Today: building deterioration (regular collapses), exodus of wealthier populations to suburbs, inadequacy of technical networks, and the weight of heritage regulations create a vicious circle - deterioration leads to population departure, which accelerates deterioration.

The Casbah is an emblematic case study of the difficulty of reconciling heritage preservation, improvement of living conditions and maintenance of social diversity in a resource-constrained context.

Figure 24 : Casbah - Algiers

ALGERIA - Timgad - Roman Heritage as Identity and Pedagogical Resource

The ancient city of Timgad (Batna province), UNESCO 1982, is one of the best-preserved examples of Roman urban planning in North Africa.

Its perfect grid plan (Hippodamian), Arch of Trajan, baths and forums illustrate the planning principles of Antiquity studied in Lecture 3.

For Algerian urban planning students, Timgad is an open-air laboratory: the hierarchy of public spaces, local constructive techniques and climate adaptations can be read directly.

The tourist development of Timgad generates significant revenue for the Batna region - illustrating the direct link between well-managed heritage and local economic development.

Figure 25 : Ancient city of Timgad (Batna province) - Algeria

1.3 Heritage and Development: A Permanent Tension

Two opposing pitfalls threaten historic cities, and the urban planner must navigate between them:

- Museification: turning the historic centre into a frozen tourist showcase at the expense of residents' liveability. Risk of residential desertification and gentrification.
- Tabula rasa: demolishing the old in the name of modernity. An irreversible loss of identity, collective memory and centuries-old bioclimatic assets.

Contemporary urban planning proposes a middle way: regenerative urbanism, which uses the existing fabric as a resource and raw material for contemporary creation - neither imitating the past nor erasing it.

II. Urban Resilience

Resilience is a concept borrowed from ecology and psychology. Applied to the city, it refers to the capacity of an urban system to absorb a major disturbance - natural disaster, economic crisis, epidemic, conflict - and to restore, or adapt, its essential functions after that shock.

2.1 Definition and Dimensions

Key Concept - The Four Components of Urban Resilience

1. Absorption - Maintaining essential functions during the shock itself. Example: a transport network with alternative routes.
2. Adaptation - Adjusting urban components to face progressive changes. Example: raising port levees in response to rising sea levels.
3. Transformation ('Bounce forward') - Using the crisis to evolve towards a better state. Example: Bam rebuilt with reinforced seismic standards.
4. Mitigation - Reducing the intensity of risk causes at source. Example: massive urban greening to limit heat islands.

Urban resilience does not necessarily aim at returning to the exact state before the crisis - it can be an opportunity to evolve towards a more desirable state.

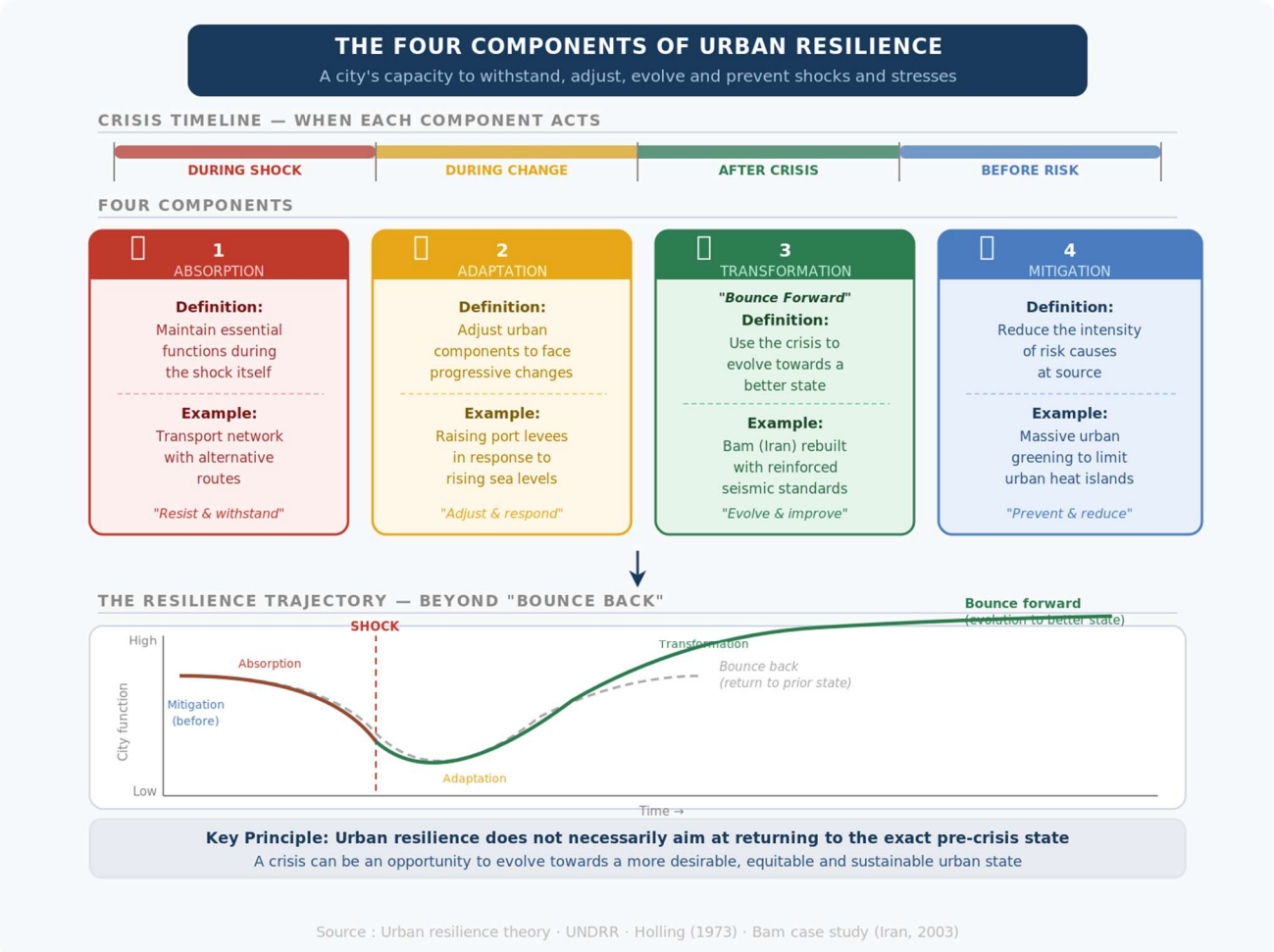


Figure 26 : The Four Components of Urban Resilience: Absorption, Adaptation, Transformation and Mitigation

2.2 Major Risks and the Algerian Context

- Climate and natural risks: earthquakes (Boumerdès 2003: 2,300 deaths, 10,000 injured), floods, heatwaves, droughts, forest fires - all amplified by climate change.
- Health risks: epidemics - COVID-19 brutally revealed the vulnerabilities of dense spaces ill-adapted to physical distancing.
- Socio-economic risks: economic shocks, mass unemployment, growing urban inequalities.
- Heritage risks: physical degradation of sites, overtourism pressure, gentrification.

ALGERIA - Tlemcen Medina - Centuries-Old Bioclimatic Resilience

The medina of Tlemcen offers a particularly instructive local example of bioclimatic resilience.

Its narrow streets, oriented according to sun and prevailing winds, create natural shade that keeps ambient temperatures 5–8°C below those of wide, sun-exposed streets - without any technology.

Its courtyard houses provide natural ventilation and thermal mass, maintaining coolness at night without air conditioning.

Traditional cisterns allowed decentralised, autonomous management of rainwater.

These solutions, developed over centuries of adaptation to the semi-arid climate, are now being rediscovered and relabelled by contemporary urban planners as 'nature-based solutions'.

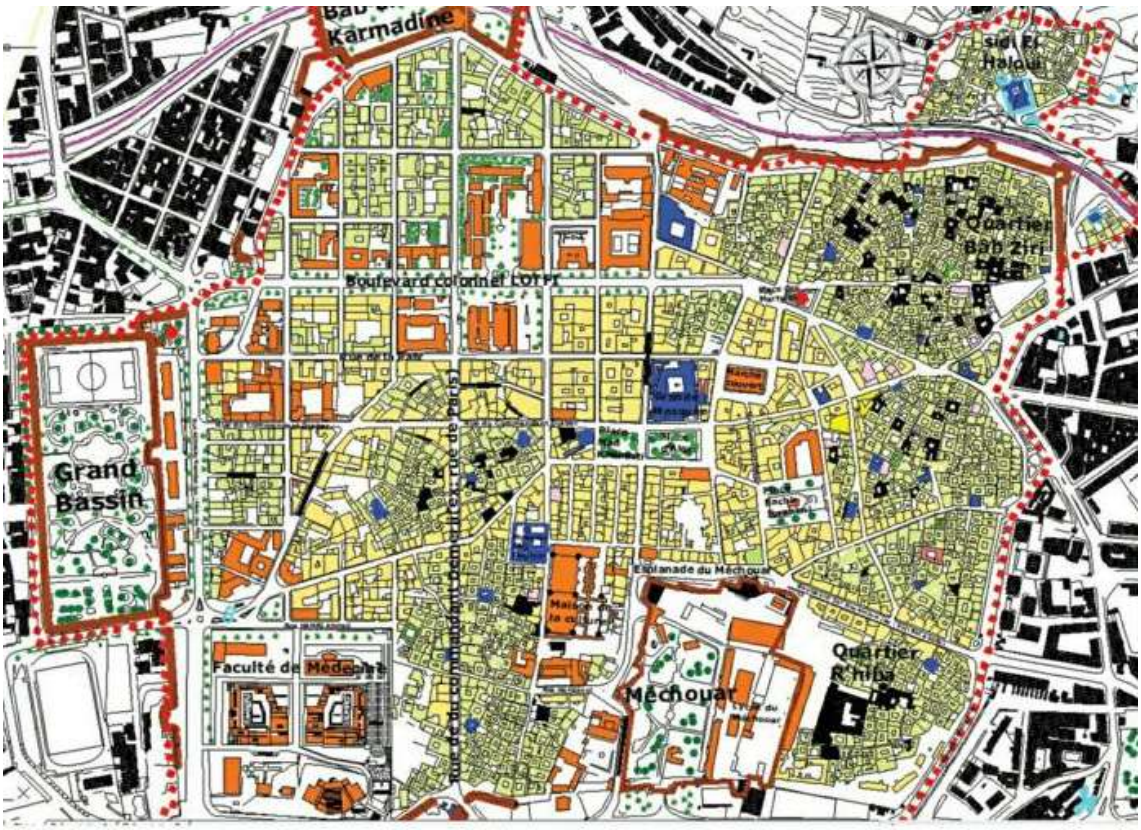


Figure 27 : Medina of Tlemcen - Algeria

2.3 Integrating Resilience into Urban Planning

- Functional mix: a mixed-use neighbourhood remains more autonomous during a crisis - the 15-minute city principle.
- Network redundancy: providing alternative transport routes, energy sources and water reserves makes the system less vulnerable.
- Nature-based solutions: urban greening, permeable surfaces, ecological corridors, green roofs - less costly and more durable than heavy engineering.
- Integration of local knowledge: traditional constructive and spatial practices often contain centuries-old responses to local climatic risks.

IRAN - Bam: Resilience Through Heritage After Disaster

The devastating earthquake of 26 December 2003 destroyed 70% of the citadel of Arg-e Bam, one of the world's largest adobe structures, over 2,000 years old.

The reconstruction, supported by UNESCO and numerous countries, has become a global symbol of heritage resilience.

Key insight: the citadel being the primary economic driver (tourism) and symbolic anchor of the entire region, its restoration was inseparable from the social and economic reconstruction of the city - heritage preceded and conditioned residential reconstruction.

Result 20 years later: Arg-e Bam re-inscribed on the UNESCO World Heritage List, Bam has rebuilt a tourism economy.

Lesson: heritage can be an engine of post-disaster reconstruction, not merely a constraint.

BRAZIL - Salvador de Bahia: Digital Resilience of the Pelourinho

The historic neighbourhood of the Pelourinho in Salvador is experimenting with heritage resilience through Digital Twins - 3D models connected in real time to IoT sensors embedded in structures.

This allows: monitoring of monuments' structural condition, early detection of cracks, simulation of heat island impacts, and real-time management of tourist flows.

Results: 25% reduction in maintenance costs, response three times faster to incidents.

It demonstrates how digital technologies can strengthen heritage resilience even in budget-constrained contexts, replacing reactive interventions with preventive maintenance.

III. Cross-Cutting Links: Towards a Systemic Approach

The four dimensions studied in Lectures 4 and 5 - mobility, public space, heritage, and resilience - form a system in which each element acts on the others. Sustainable urban planning consists precisely in activating these synergies rather than managing each dimension separately.

3.1 Heritage and Resilience: A Centuries-Old Resource

- Bioclimatic resilience: historic fabric (medinas, casbah) offers centuries-old natural climate adaptation solutions that new construction seeks to recover.
- Symbolic and social resilience: heritage reinforces collective identity - a crucial factor for civic mobilisation after disasters.
- Circular economy: reusing existing built fabric reduces resource waste and the carbon footprint of construction.

3.2 Synthesis Table: Integrated Urban Projects

City	Project / Strategy	Dimensions	Key Result
Algiers (Algeria)	Metro + Tram (Lecture 4)	Mobility + Public Space	Reduced central congestion
Tlemcen (Algeria)	Bioclimatic medina	Heritage + Resilience	Natural comfort −5 to 8°C
Casbah of Algiers	UNESCO restoration challenge	Heritage + Social Resilience	Ongoing national challenge
Constantine (Algeria)	Place de la Brèche requalification	Mobility + Public Space + Heritage	Pedestrian reconquest
Bogotá (Colombia)	TransMilenio + Ciclovía	Mobility + Public Space	−40% CO_2, +30% commerce
Tunis (Tunisia)	Medina regeneration	Heritage + Public Space + Resilience	UNESCO + active urban life
Bam (Iran)	Citadel reconstruction	Heritage + Post-disaster Resilience	UNESCO re-listed 20 yrs later
Salvador (Brazil)	Pelourinho Digital Twin	Heritage + Digital Resilience	−25% maintenance costs
Rotterdam (Netherlands)	Climate Proof Programme	Resilience + Sustainable Planning	×5 water storage capacity

General Conclusion - Key Takeaways (Lectures 4 + 5)

- Sustainable mobility is a driver of urban revitalisation, not a threat to commerce.
- High-quality public space is the primary driver of social cohesion and safety.
- Heritage is not an obstacle to development: it is a bioclimatic, economic and identity resource.
- Resilience is built into design from the start, not added after the disaster.
- The four dimensions form a system: treating them separately means missing essential synergies.
- Algerian medinas (Tlemcen, Constantine, Casbah of Algiers) teach 21st-century sustainable urbanism.
- The urban planner's role: mediator between inhabitants, elected officials, technical services and economic actors - systemic thinker, reader of historical strata, advocate for balance.

ABSTRACT

This course notes document “Introduction to Urban Planning Theories 2“ constitutes the theoretical support for the second-semester module taught in the Urban Planning programme at the Université Abdelhamid Ibn Badis of Mostaganem. Building on the epistemological and historical foundations established in Semester 1, this volume deepens the analysis of urbanisation dynamics, territorial and spatial planning models, and urban planning tools and strategies. Five thematic chapters structure the content: contemporary challenges of urbanisation (metropolitan transitions, sprawl, informality, climate change); planning scales and structures, with particular attention to Algerian regulatory instruments (SNAT, PAW, PDAU, POS); issues and challenges of strategic urban planning (sustainable development, participation, post-disaster reconstruction); urban mobility and public space (multimodality, the 15-minute city, tactical urbanism); and urban heritage and resilience (palimpsest, nature-based solutions). The Algerian context is systematically mobilised as a primary frame of reference, enriched by comparative international examples. The pedagogical approach rests on four pillars: structured lectures built around concept boxes (chunking); systematic dual exemplification (national and international); a recreational session of comparative spatial analysis via satellite imagery; and a reference session devoted to Chandigarh and Brasilia as pivot cases crystallising the major theoretical tensions of the course.

RESUME

Ce document de cours « *Introduction aux Théories de l'Urbanisme 2* » constitue le support théorique du module du second semestre dispensé en licence d’Urbanisme à l'Université Abdelhamid Ibn Badis de Mostaganem. Dans la continuité des fondements épistémologiques et historiques établis au premier semestre, ce volume approfondit l'analyse des dynamiques d'urbanisation, des modèles d'aménagement territorial et spatial, ainsi que des outils et stratégies de planification urbaine. Cinq chapitres thématiques en structurent le contenu : les défis contemporains de l'urbanisation (transitions métropolitaines, étalement urbain, habitat informel, changement climatique) ; les échelles et structures de l'urbanisation et de l'aménagement, avec une attention particulière aux instruments réglementaires algériens (SNAT, PAW, PDAU, POS) ; les enjeux du planning stratégique (développement durable, participation, reconstruction post-catastrophe) ; la mobilité urbaine et l'espace public (multimodalité, ville du quart d'heure, urbanisme tactique) ; enfin, le patrimoine urbain et la résilience (palimpseste, solutions fondées sur la nature). Le contexte algérien est systématiquement mobilisé comme cadre de référence premier, enrichi d'exemples comparatifs internationaux. La stratégie pédagogique repose sur quatre piliers : des cours synthétiques structurés par des encadrés conceptuels (chunking) ; une double exemplification nationale et internationale ; une séance récréative d'analyse spatiale comparative par imagerie satellitaire ; et une séance de référence consacrée à Chandigarh et Brasilia comme cas pivots cristallisant les tensions théoriques majeures du cours.

ملخص

يُشكِّل هذا الكتيبُ الجامعي » مدخل إلى نظريات التعمير 2 « الدعامةَ النظريةَ لمقياس الفصل الثاني في ليسانس لتعمير بجامعة عبد الحميد ابن باديس بمستغانم. استكمالاً للأسس الإبستيمولوجية والتاريخية التي أُرسيت في الفصل الأول، يُعمِّق هذا المجلدُ تحليلَ ديناميكيات التحضر ونماذج التهيئة الإقليمية والمكانية، فضلاً عن أدوات التخطيط الحضري واستراتيجياته. يتوزع المحتوى على خمسة فصول موضوعاتية: التحديات المعاصرة للتحضر (الانتقال المتروبولي، الامتداد العمراني، السكن غير الرسمي، التغير المناخي)؛ ومستويات وهياكل التخطيط الحضري مع ،؛ وإشكاليات التخطيط الاستراتيجي (التنمية المستدامة، المشاركة(SNAT, PAW, PDAU, POS) التركيز على الأدوات التنظيمية الجزائرية إعادة الإعمار ما بعد الكوارث)؛ والتنقل الحضري والفضاء العام (التعددية الوسائطية، مدينة الربع ساعة، التعمير التكتيكي)؛ وأخيراً التراث ،الحضري والمرونة العمرانية (الطبوغرافيا التاريخية، الحلول القائمة على الطبيعة). يُوظَّف السياقُ الجزائري بصفة منهجية إطاراً مرجعياً أساسياً ؛(chunking) مدعوماً بأمثلة مقارنة دولية. ترتكز الاستراتيجية البيداغوجية على أربعة ركائز: محاضرات تركيبية مبنية على مربعات مفاهيمية وتمثيل مزدوج وطني ودولي منهجي؛ وجلسة ترفيهية لتحليل المجال الحضري عبر التصوير الفضائي؛ وجلسة مرجعية مكرَّسة لمدينتَي شانديغار .وبرازيليا بوصفهما حالتَين محوريتَين تُجسِّدان أبرز التوترات النظرية للمقياس