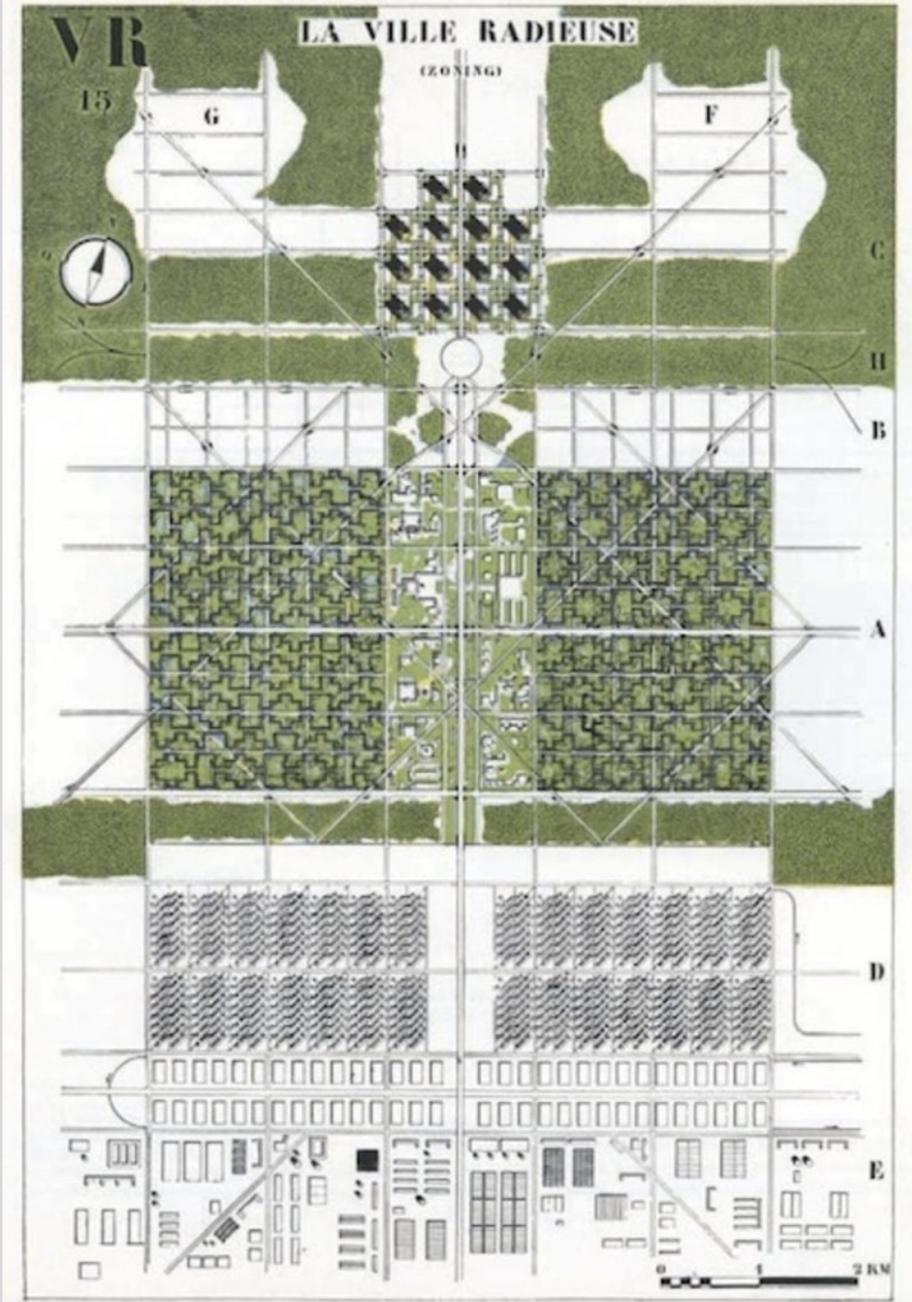


# Urban Design tools and master planning

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Vilnius Gediminas Technical University – Vilnius Tech

# Urban Planning



# What is town planning?

The **art** and **science** of organizing *land use*, *built structures* and *communication routes* to provide best possible degree of *economy*, *beauty* and *convenience* in terms of the available resources and time.

Image: [cabe.org.uk](http://cabe.org.uk)



# Why town planning is needed?

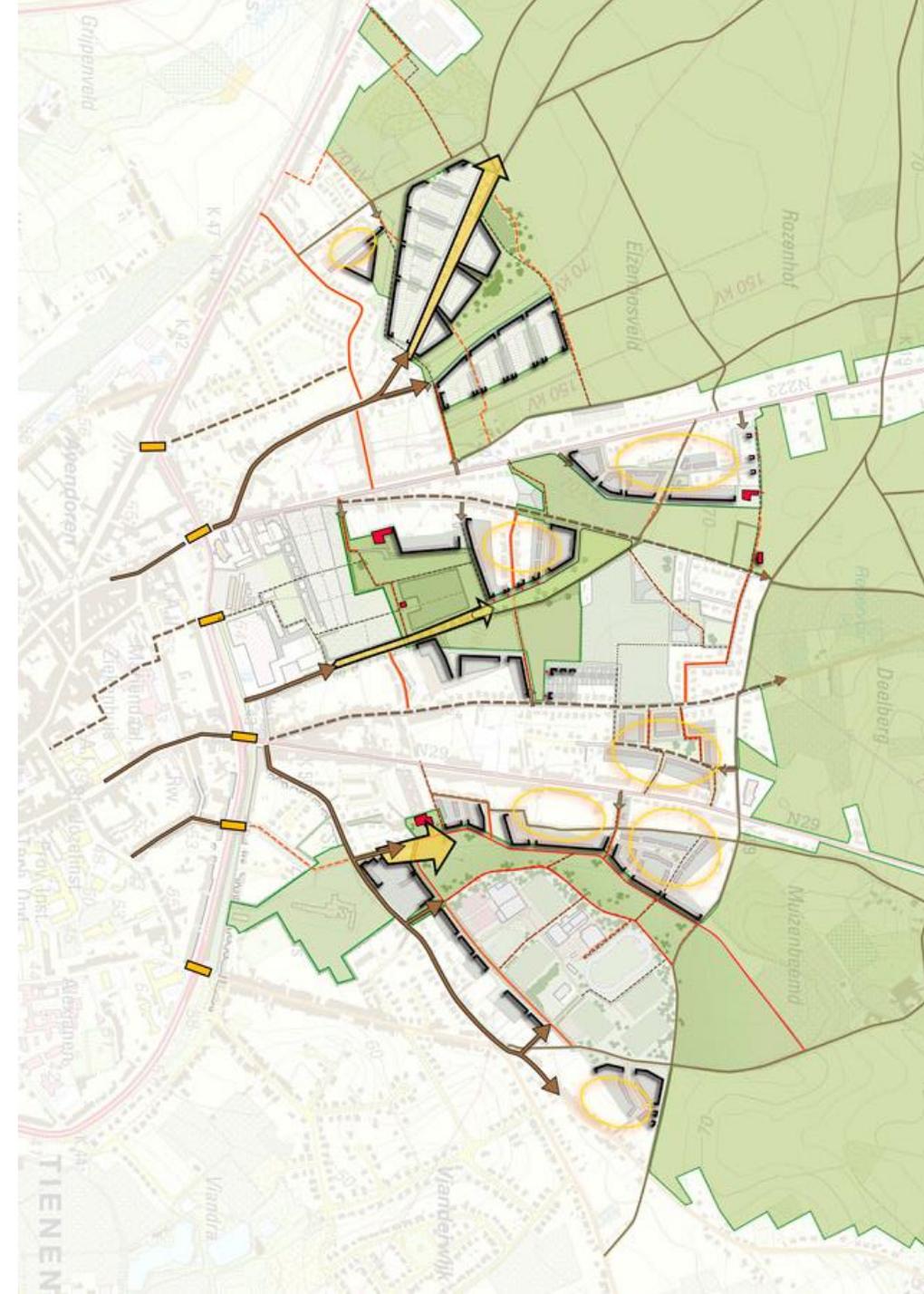
- Increasing/decreasing urbanization
- Growing/declining population
- Better use of resources
- Social inequality
- Managerial challenges
  - Lack of innovations
  - Lack of coordination
  - Unsustainable development
  - Poor management
- Social, economic and environmental challenges
  - Urban security
  - Public health and safety
  - Financial crises
  - Climate change
  - Environmental degradation
  - Social change



# Aims of town planning

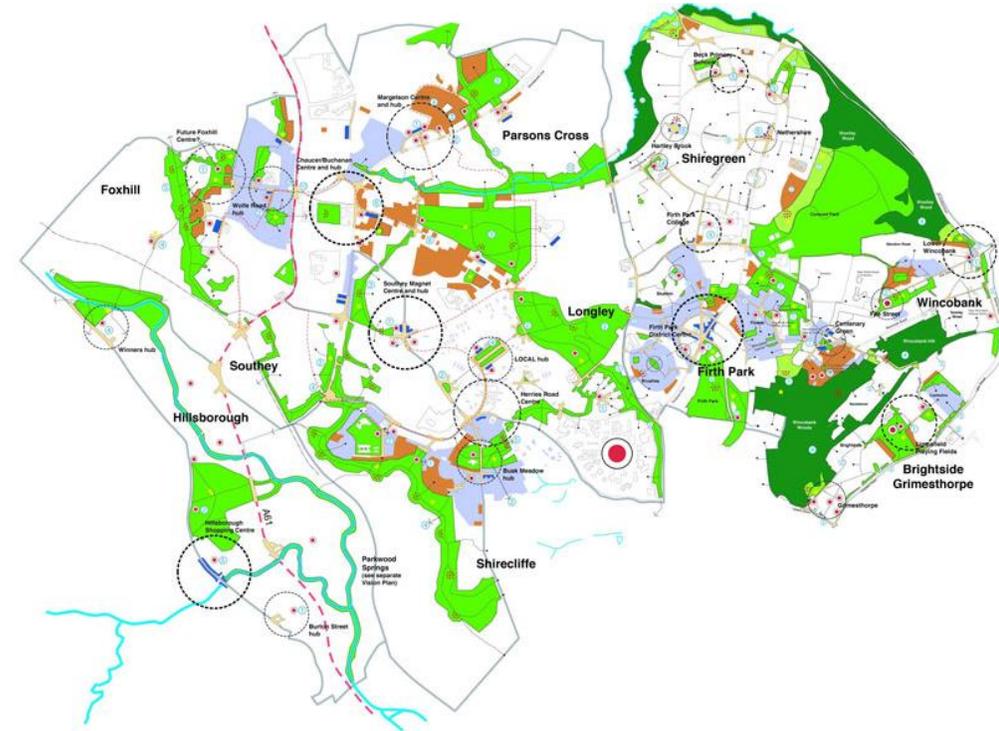
- Long-term *guidelines* for *town development*
- Physical *improvement* of *built environment*
- Preservation of *environmental* and *cultural resources*
- Fulfillment of *social* and *economic needs* of town population
- Reduction of *poverty* and *inequality*
- Assurance of *healthy, aesthetically pleasing, convenient, comfortable* and *secure living environment*

Image: palmbout.nl



# Purposes of town plan

- Identify *housing needs* and recommend measures to meet them.
- Identify *transportation needs* and propose alternative systems and modes to meet them.
- Identify *open-space, preservation areas* and present mechanisms to protect/use these areas.
- Identify priority *investment areas* and recommend measures to *stimulate local development*.
- Identify *area-specific strategies* and recommend place-specific measures.



Source: Steiner, Butler (2007)

Image: cabe.org.uk

# Content of city /town masterplan

- Land use
- Built structures (arrangement of buildings, urban blocks, etc.)
- Open urban and green spaces
- Transportation and communication routes
- Utility networks, etc.

Image: florence-expo.com



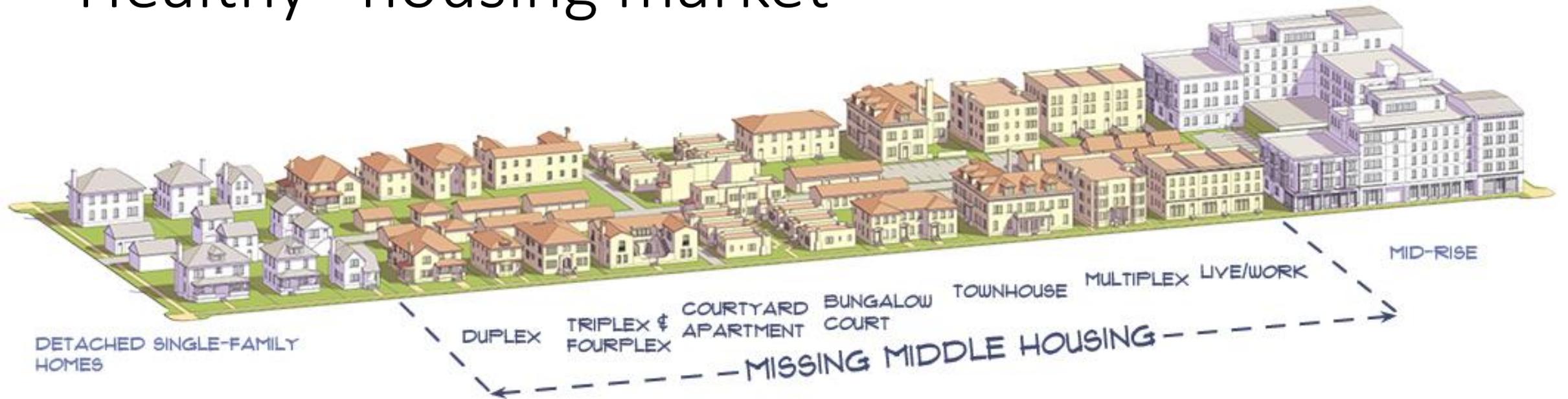
# Master Planning Issues to cover



# Urban problems/constrains/issues

- Evolution of cities/towns + Values and problems of urban fabric
  - Deformations of urban fabric
- Population projections
- Economic projections
  - Economic indicators (number of jobs; diversity of economic base, etc.)
  - Economic effects (land-use allocation; transportation, etc.)

# “Healthy” housing market



1. Tenure forms (rent, ownership, etc.)
2. Affordability (cheap accommodation, luxurious accommodation, etc.)
3. Diversity of types (detached, single-family homes, apartment houses, etc. )

Source: Steiner, Butler (2007)

Image: [missingmiddlehousing.com](http://missingmiddlehousing.com)

# Housing conditions

## Housing indicators:

- demographic structure of population;
- population density (pers./ha);
- housing saturation (sq.m/pers.);
- average household size (pers.);
- housing structure:
  - by age;
  - by amenities;
  - by tenure form.

# Housing needs

## Groups with special housing needs:

- homeless or at risk of homelessness;
- disadvantaged persons and families;
- elderly persons;
- youth and young families;
- large families;
- single-parent households;
- persons with disabilities, etc.

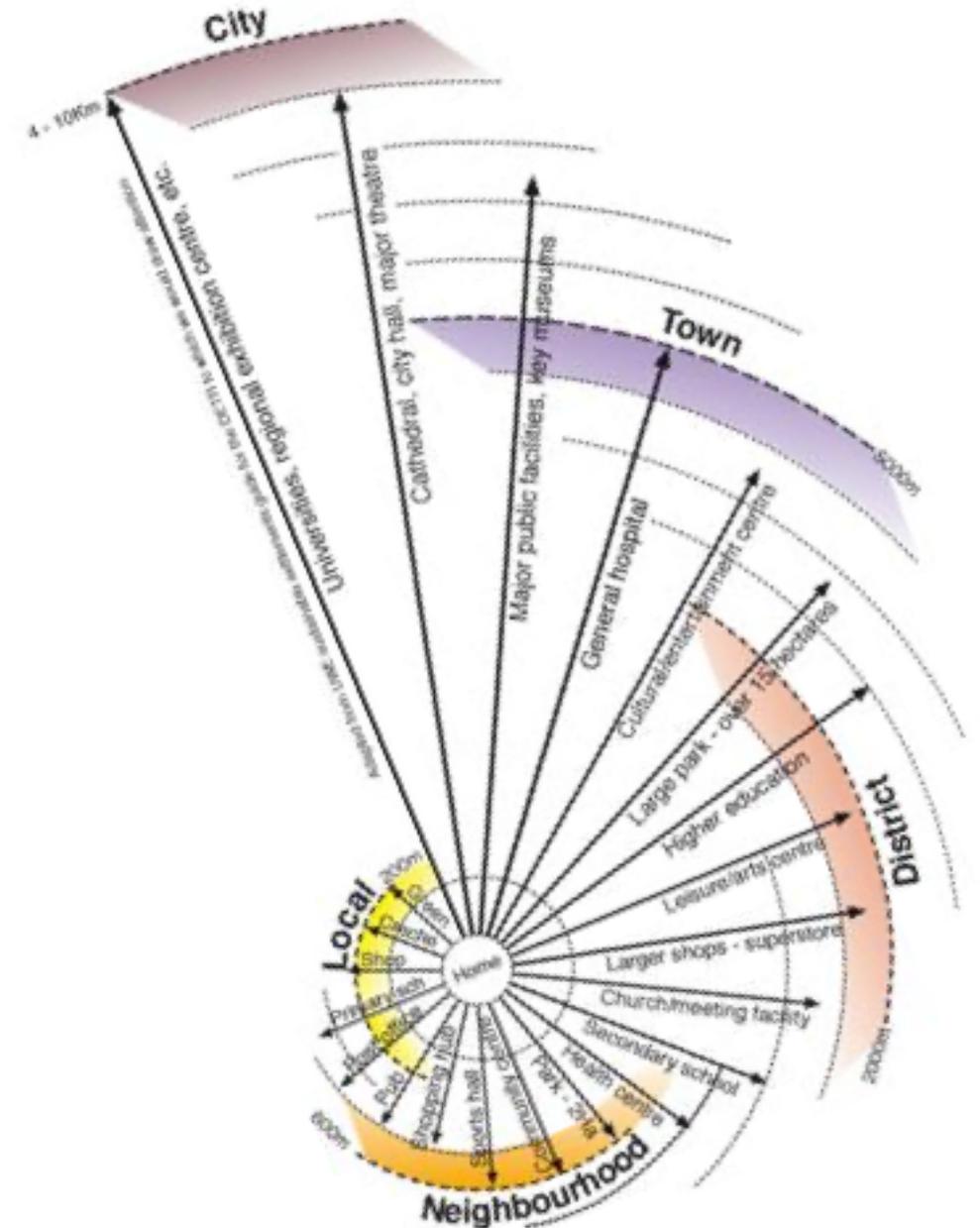
# Social infrastructure

Social infrastructure – the network of **public objects** (buildings and sites) that accommodate and provide **social services**, such as culture, education, health, sports, recreation, tourism, religion, etc.

## Planning of social infrastructure

Factors influencing distribution of social infrastructure:

- visitor flows;
- number of visitors;
- accessibility;
- place attractiveness;
- population and job density;
- income level;
- legal regulations, etc.



# Development of city/town/local center

## Main tasks:

- representativeness and attractiveness;
- functional diversity and vitality;
- balance of jobs and residents;
- efficient land-use;
- network of urban public spaces and green areas;
- sustainable mobility.

## Specialized tasks:

- protection and sustainable use of cultural heritage, etc.



# Value of green spaces

- **Protective** – protecting from adverse weather conditions, industrial and transport pollution and noise, etc.
- **Microclimatic** – creating and maintaining a favorable microclimate in urban areas.
- **Aesthetic** – creating harmony of natural and anthropogenic elements within urban landscape, breaking urban fabric into manageable parts, etc.
- **Visual** – highlighting, separating (isolating) urban places and spaces.
- **Ecological** – conserving natural areas and supporting habitats, etc.
- **Recreational** – providing opportunities for various forms and types of recreation, etc.
- **Regulative** – controlling the physical expansion of urban areas, limiting density of built structures, etc.

# Principles of Urban Design



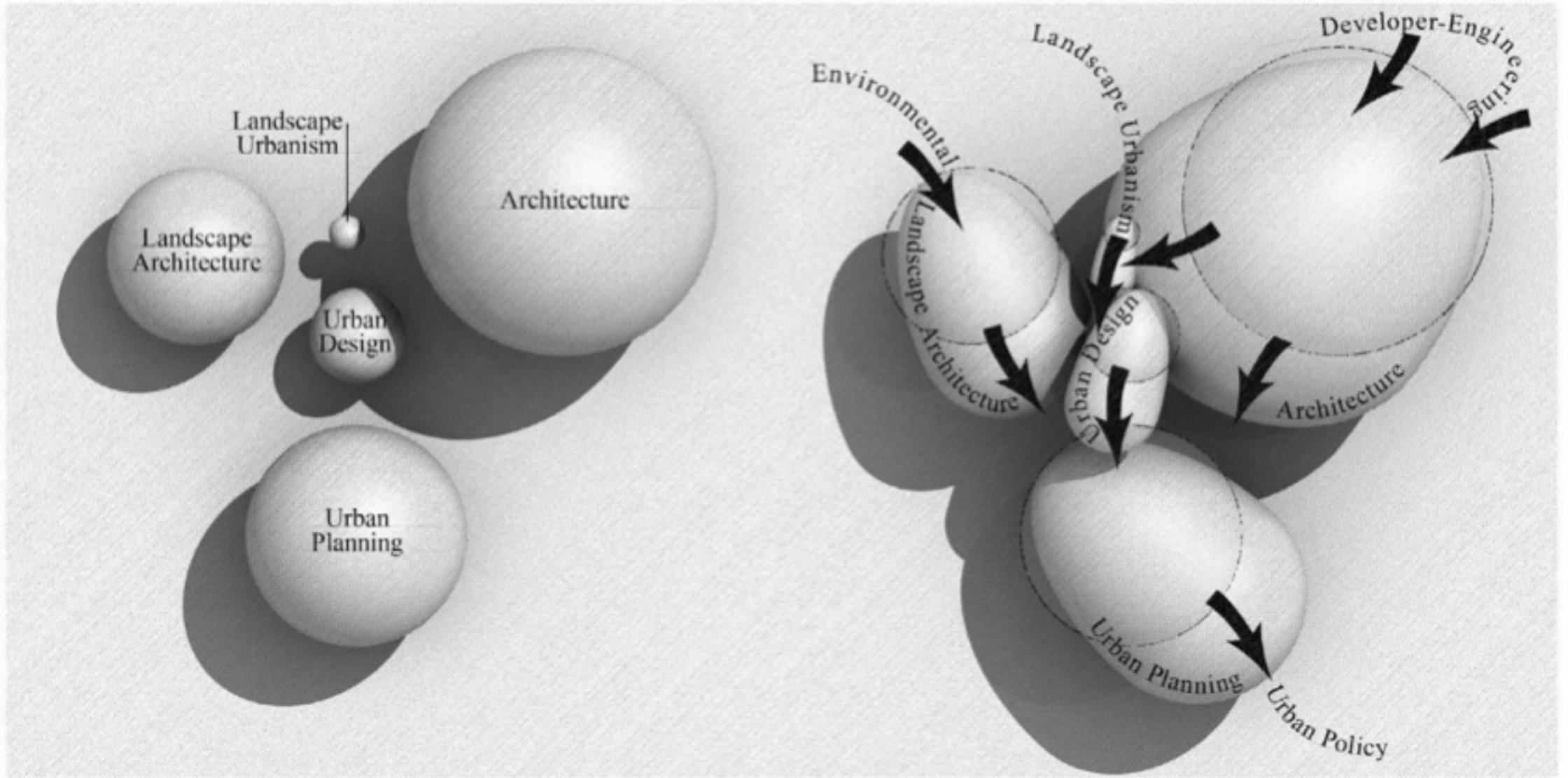


Image: Kullmann (2018)



# What is a principle?

An expression of the quality of a final design.

Why I like principles

They establish a **comprehensive agenda** – you must consider all of the issues.

They **do not deny the complexity of issues and outcomes.**

They **link to areas of research** and knowledge.

They are **not prescriptive about outcomes** like standards.

<b>Maslow's hierarchy of human needs</b>	<b>Some design considerations</b>
<i>Physiological</i> food, shelter, health	<ul style="list-style-type: none"><li>• adequate accommodation, utilities and services</li><li>• comfort</li><li>• ecologically sound and stable</li></ul>
<i>Safety and security</i> protection from danger, pollution; privacy	<ul style="list-style-type: none"><li>• road safety</li><li>• surveillance</li><li>• privacy</li><li>• accessibility/permeability/robustness</li></ul>
<i>Affiliation</i> belonging, community	<ul style="list-style-type: none"><li>• community facilities</li><li>• a sense of identity/place</li><li>• legibility, visual appropriateness</li></ul>
<i>Esteem</i> status and recognition	<ul style="list-style-type: none"><li>• ownership</li><li>• individuality, belonging</li></ul>
<i>Self-actualisation</i> creativity	<ul style="list-style-type: none"><li>• opportunities for personalisation and participation in design</li><li>• variety</li></ul>
<i>Cognitive/aesthetic</i> intellectual and sensual stimulation	<ul style="list-style-type: none"><li>• cultural/recreational opportunities</li><li>• quality townscape and landscape, richness</li></ul>

BENTLEY ALCOCK MURRAIN MCGLYNN SMITH

# RESPONSIVE ENVIRONMENTS



A MANUAL FOR DESIGNERS

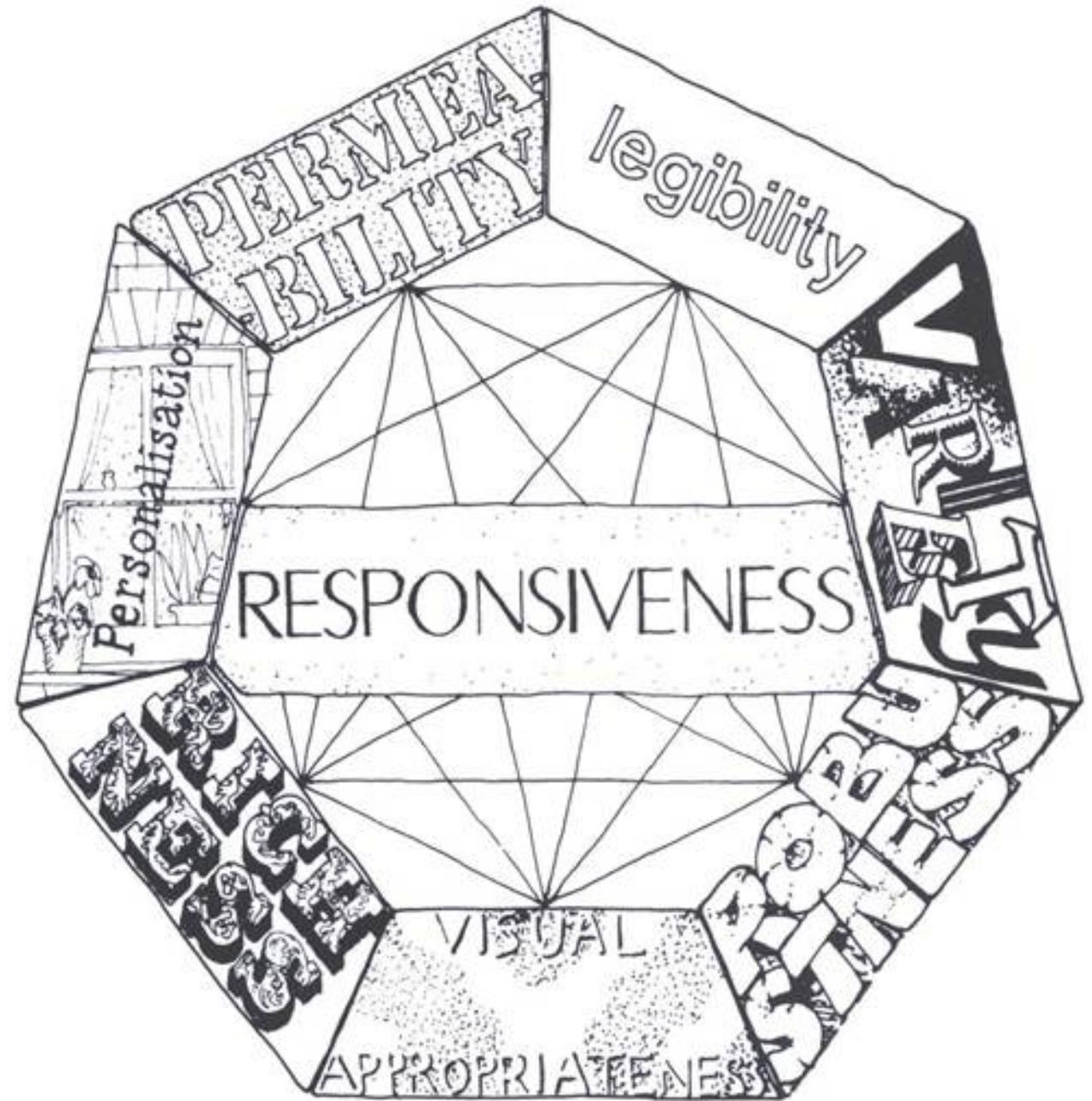
## How does design affect choice?

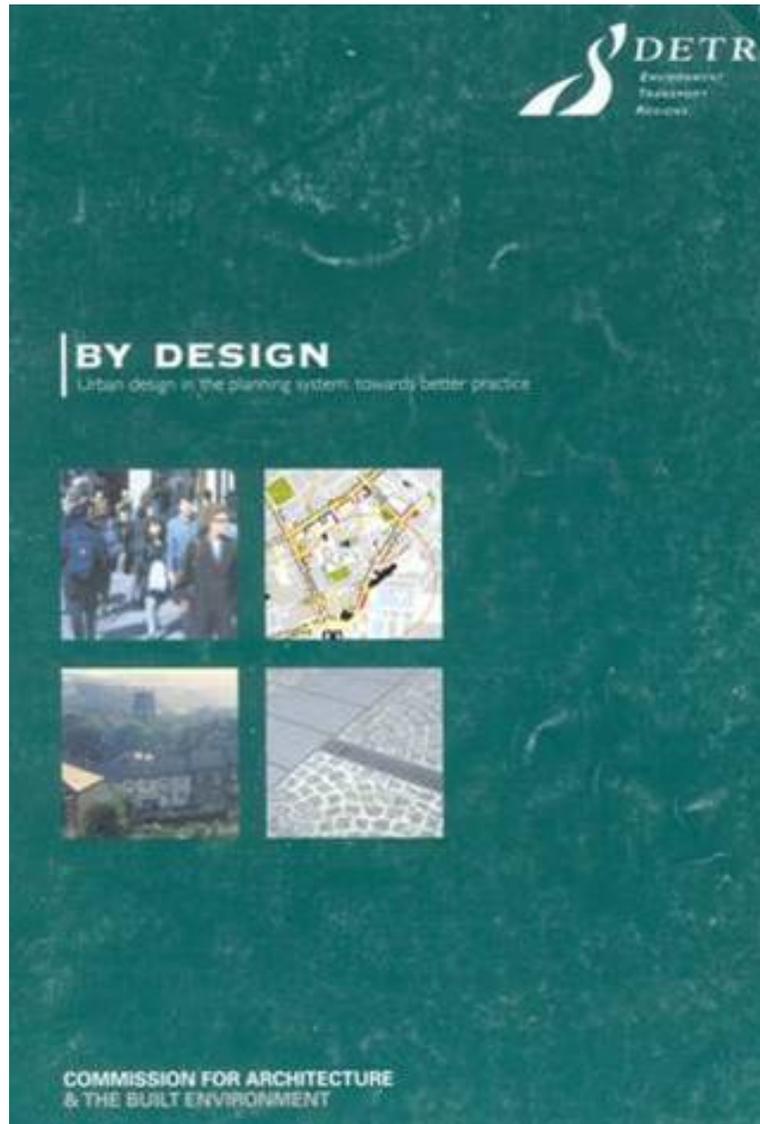
The design of a place affects the choices people can make, at many levels:

- it affects *where people can go*, and where they cannot: the quality we shall call *permeability*.
- it affects the *range of uses* available to people: the quality we shall call *variety*
- it affects how easily people can *understand* what opportunities it offers: the quality we shall call *legibility*.
- it affects the degree to which people can use a given place for *different* purposes: the quality we shall call *robustness*.
- it affects whether the detailed *appearance* of the place makes people *aware* of the choices available: the quality we shall call *visual appropriateness*.
- it affects people's *choice of sensory experiences*: the quality we shall call *richness*.
- it affects the extent to which people can put their *own stamp* on a place: we shall call this *personalisation*.

According to Responsive Environments  
a good design will deal with all  
of these issues well

These are now considered  
dated, but they remain  
influential in the UK





By Design (1990)  
What we should be trying to achieve –  
UK Government

#### **CHARACTER**

*A place with its own identity*

To promote character in townscape and landscape by responding to and reinforcing locally distinctive patterns of development, landscape and culture.

#### **CONTINUITY AND ENCLOSURE**

*A place where public and private spaces are clearly distinguished*

To promote the continuity of street frontages and the enclosure of space by development which clearly defines private and public areas.

#### **QUALITY OF THE PUBLIC REALM**

*A place with attractive and successful outdoor areas*

To promote public spaces and routes that are attractive, safe, uncluttered and work effectively for all in society, including disabled and elderly people.

#### **EASE OF MOVEMENT**

*A place that is easy to get to and move through*

To promote accessibility and local permeability by making places that connect with each other and are easy to move through, putting people before traffic and integrating land uses and transport.

#### **LEGIBILITY**

*A place that has a clear image and is easy to understand*

To promote legibility through development that provides recognisable routes, intersections and landmarks to help people find their way around.

#### **ADAPTABILITY**

*A place that can change easily*

To promote adaptability through development that can respond to changing social, technological and economic conditions.

#### **DIVERSITY**

*A place with variety and choice*

To promote diversity and choice through a mix of compatible developments and uses that work together to create viable places that respond to local needs.

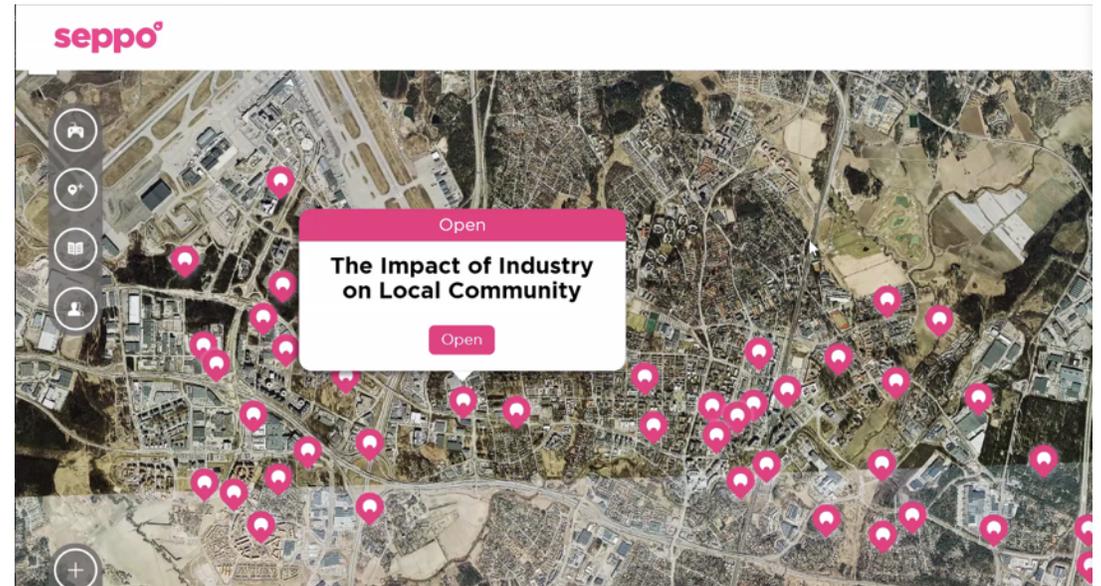
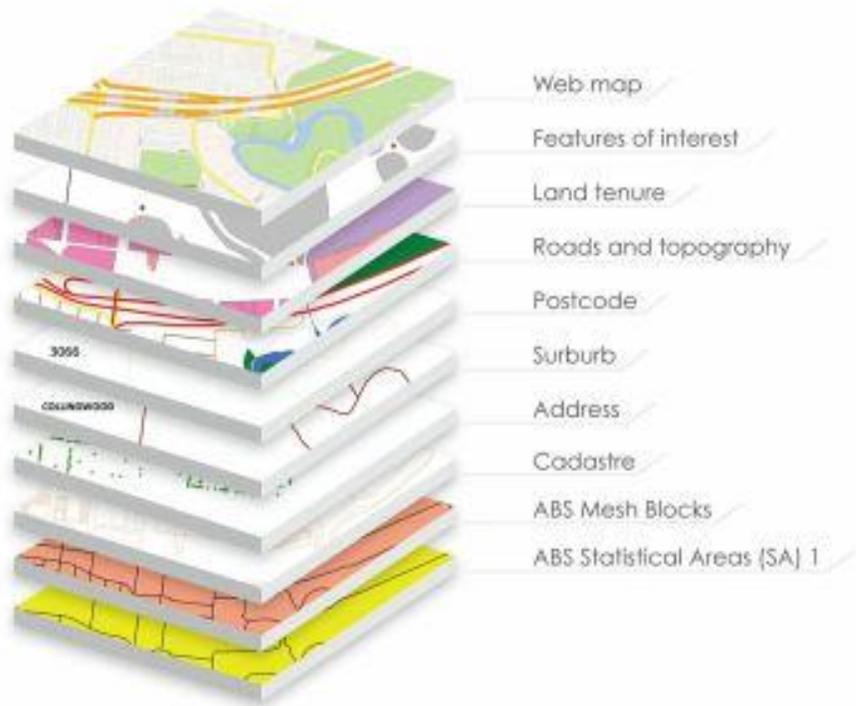
# From Urban Data Collection to Urban Design

We must break our analysis and design down into connected layers of thought:

- Topics 3+3
- Scale
- Tools of solution (design/planning proposal)
- Other

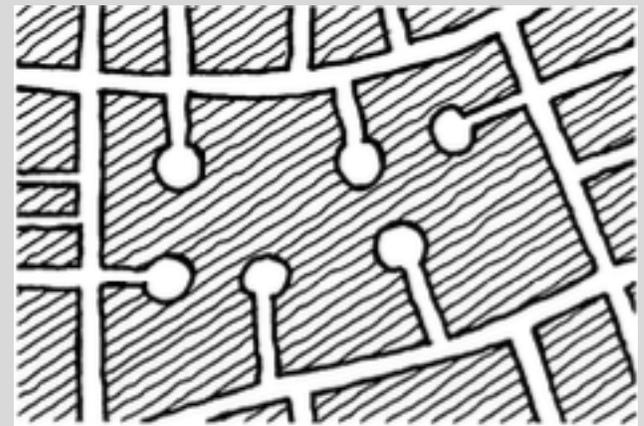
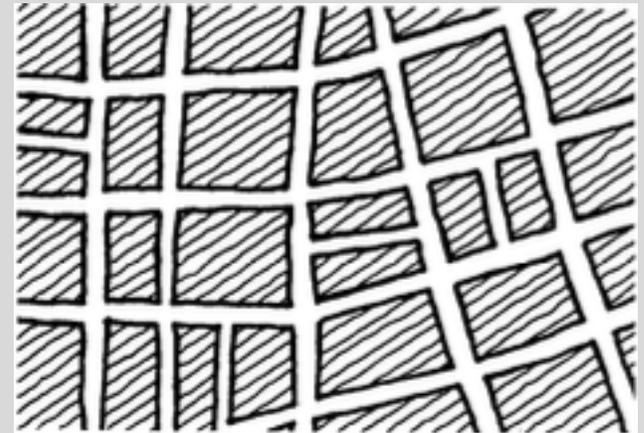


© ASF-UK Photo taken by Isis Nunez Ferrera, in Nairobi, Kenya 2011

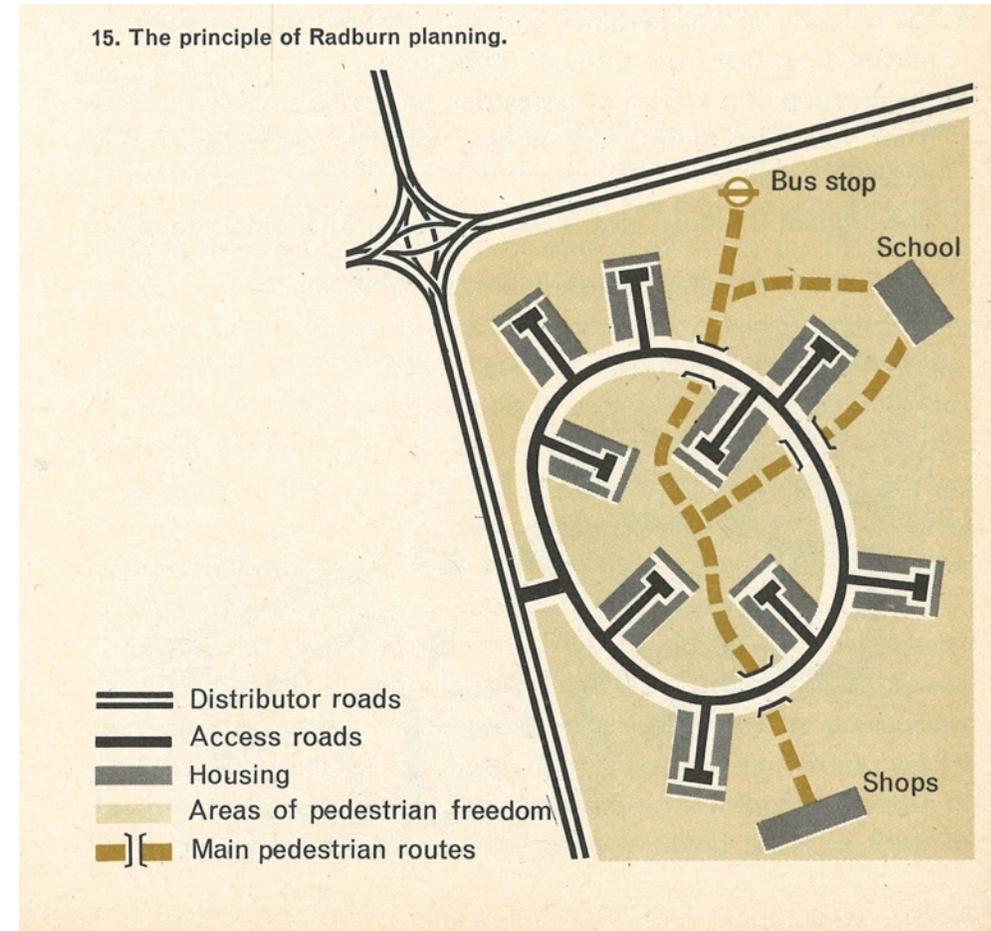
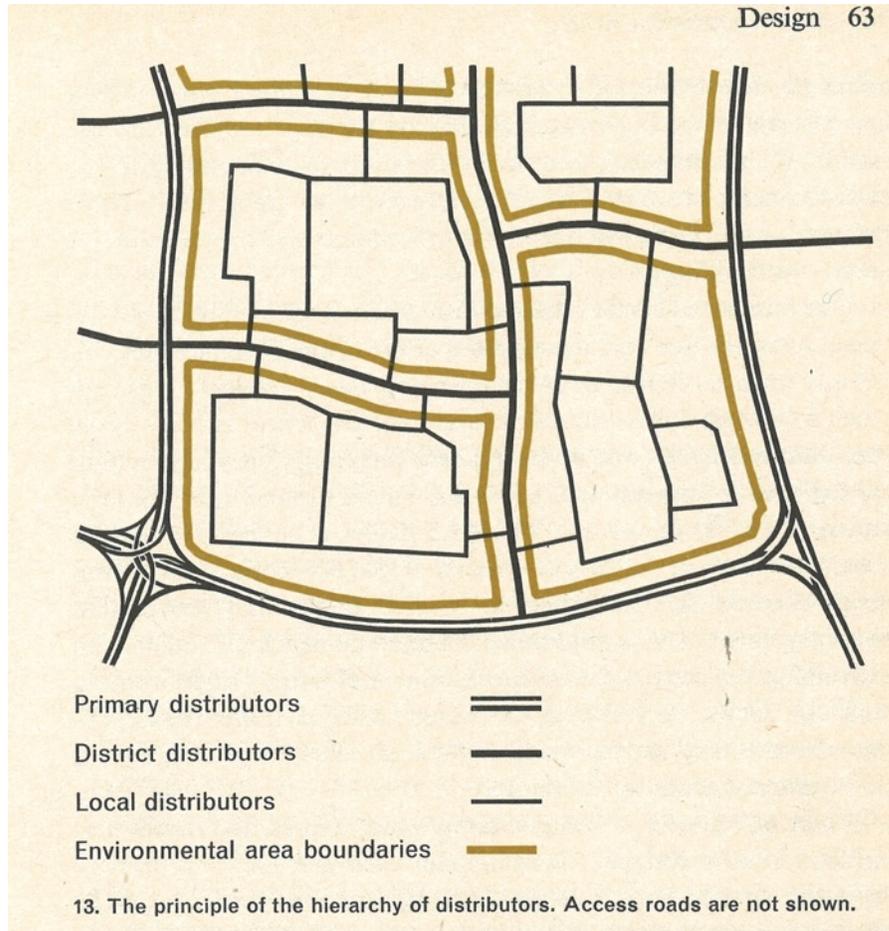


# Permeability

Designing movement, connectivity,  
permeability and streets



- **Permeability and connectivity** – design of networks to allow choice of routes for all forms of movement. Short and direct routes for pedestrians and cyclists. Highway design safety. Management of relationship between modes. Managing impact of traffic to support places

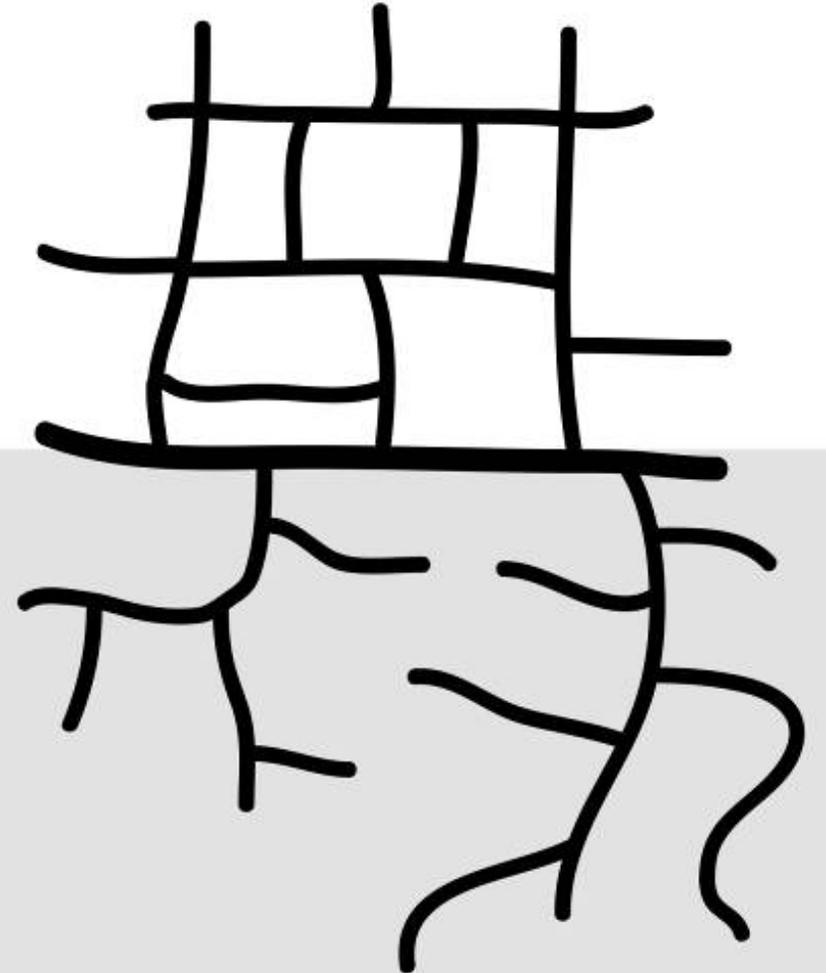


# Permeable layouts support walking and cycling



Disabled people  
Children  
Others Walking  
Cycling  
Ambulance/Fire  
Public Transport  
Other vehicles

More permeable

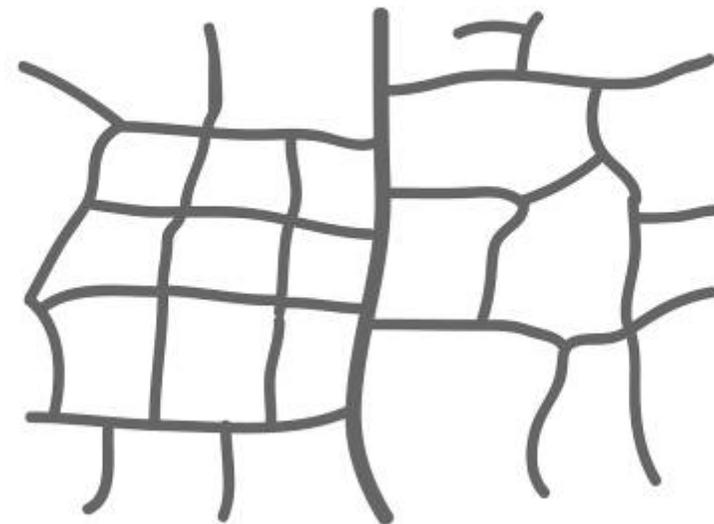


Less permeable

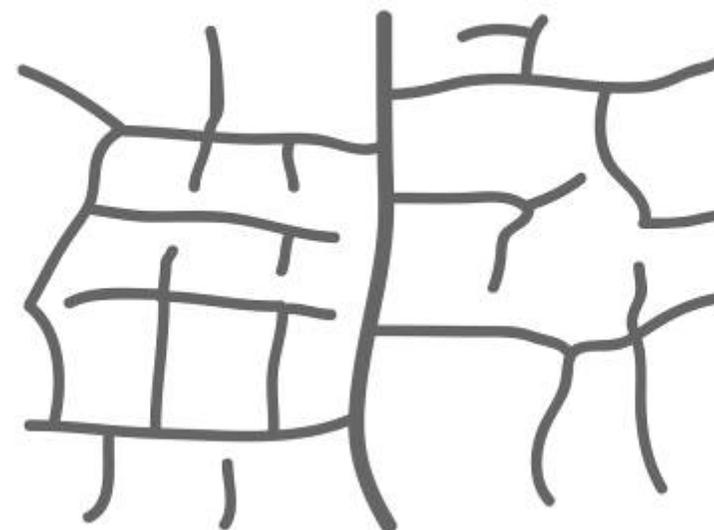
Networks for walking and cycling can be placed over those for vehicles



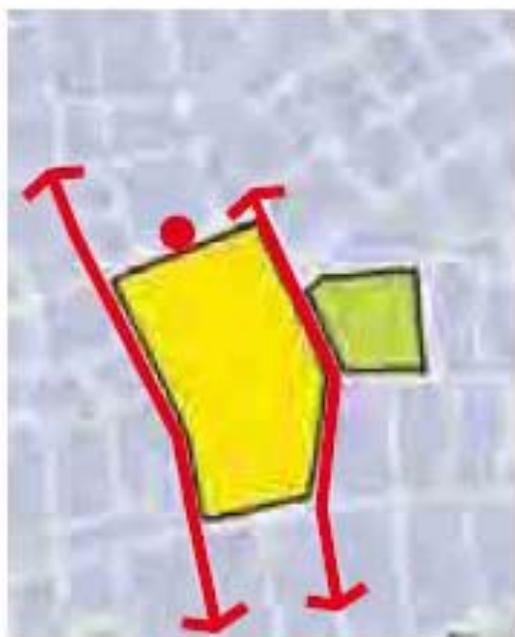
Pedestrian and cyclist network



Vehicular network



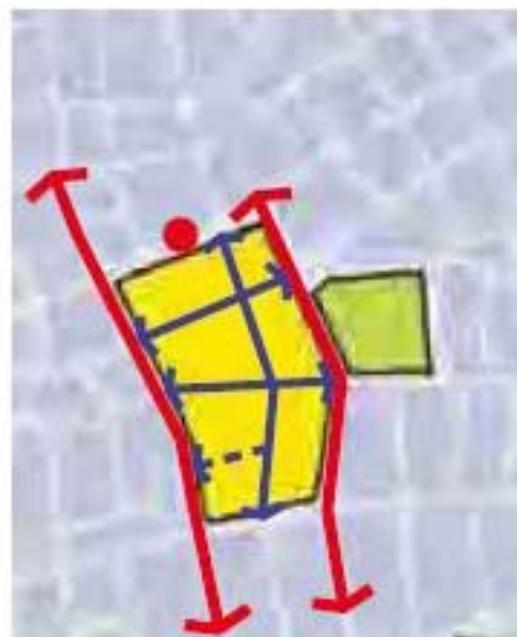
● Bus stop    ⇄ Principal routes    ⇄ Internal streets



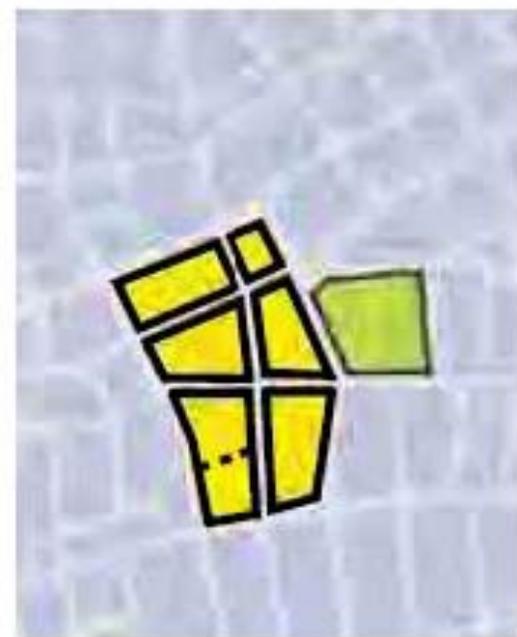
Consider how best the site can be connected with nearby main routes and public transport facilities.



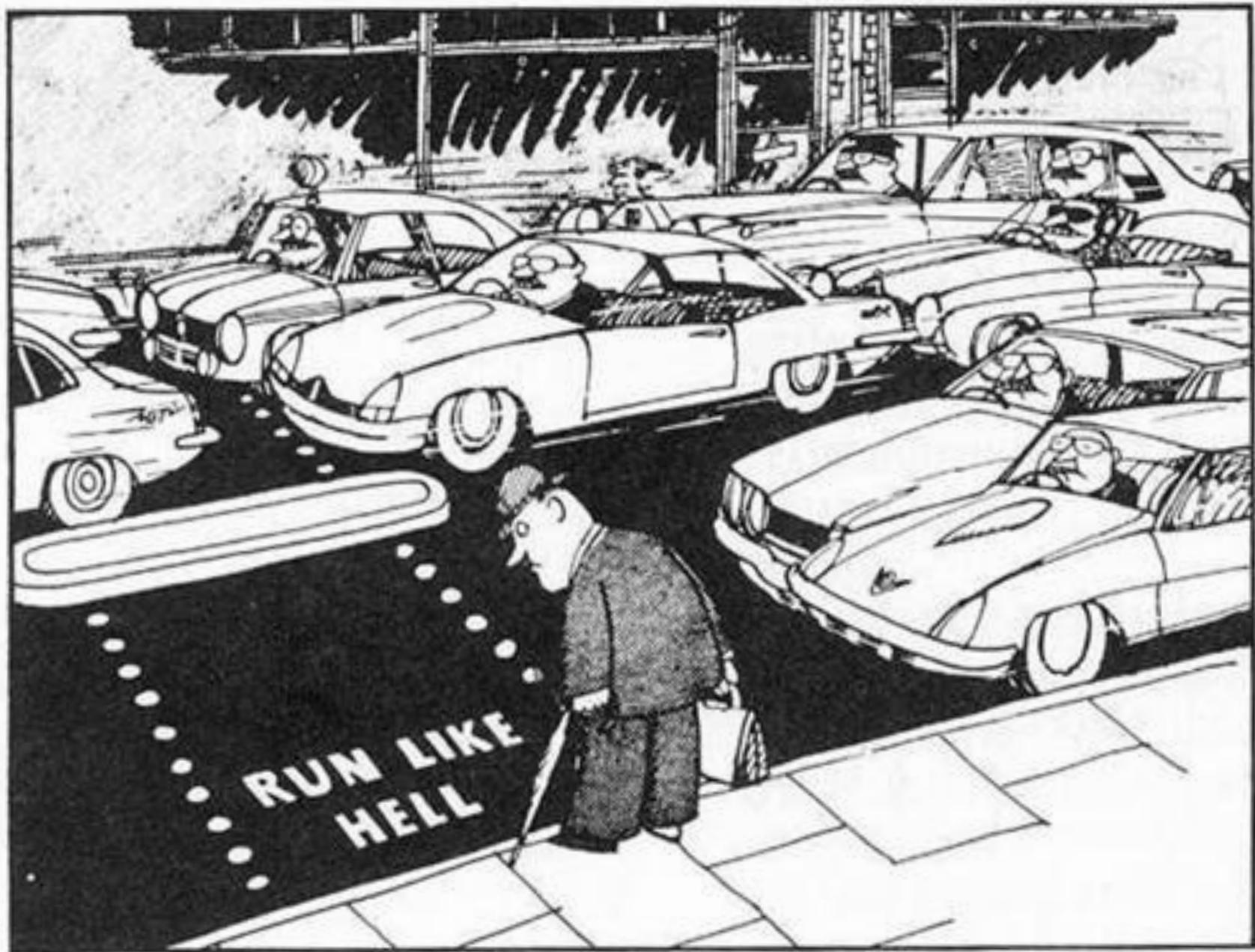
The typical cul-de-sac response creates an introverted layout which fails to integrate with its surroundings.



A more pedestrian friendly approach that integrates with the surrounding community. It links existing and proposed streets and provides direct routes to bus stops.

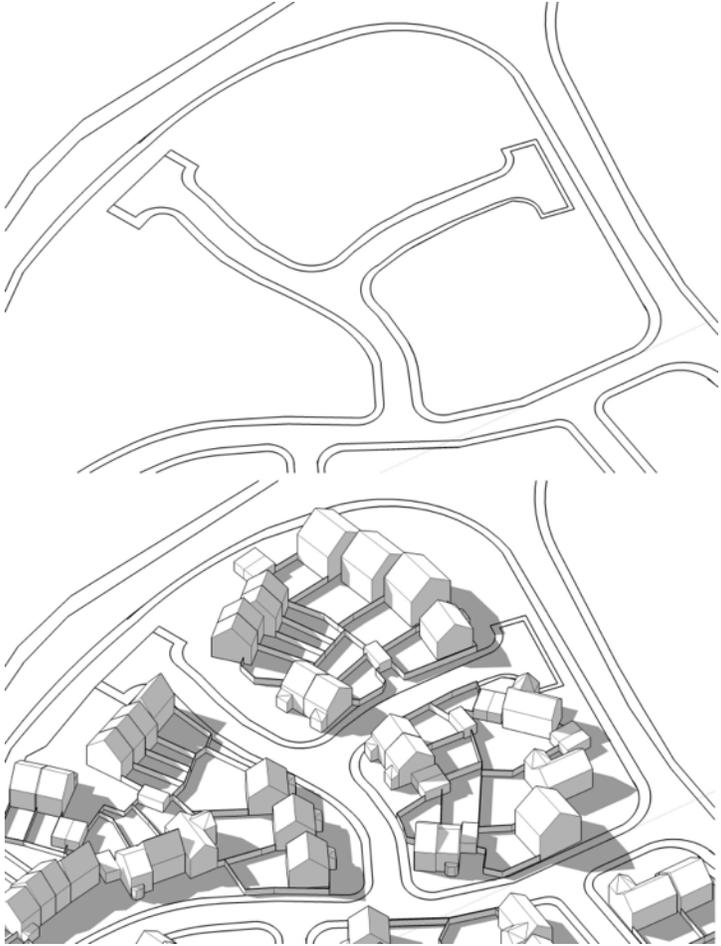


This street pattern then forms the basis for perimeter blocks which ensure that buildings contribute positively to the public realm.

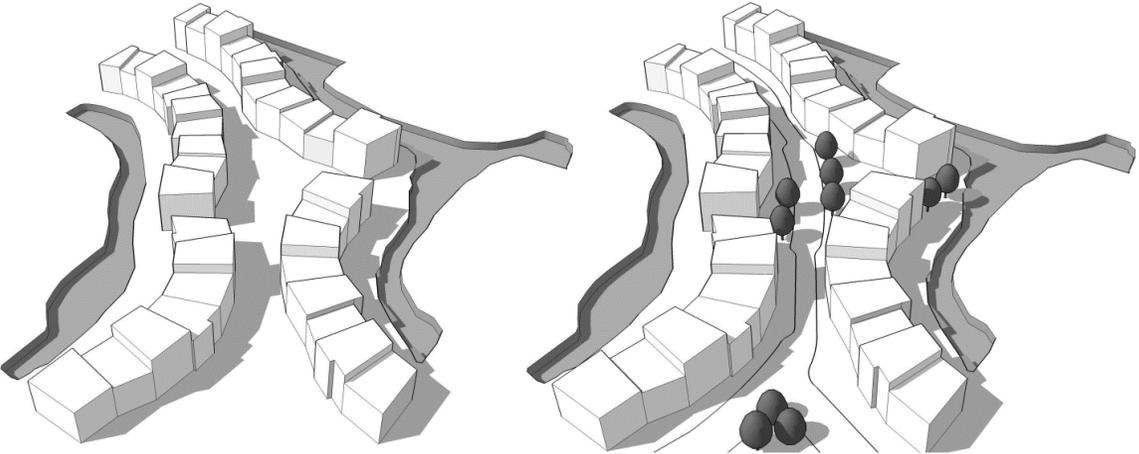


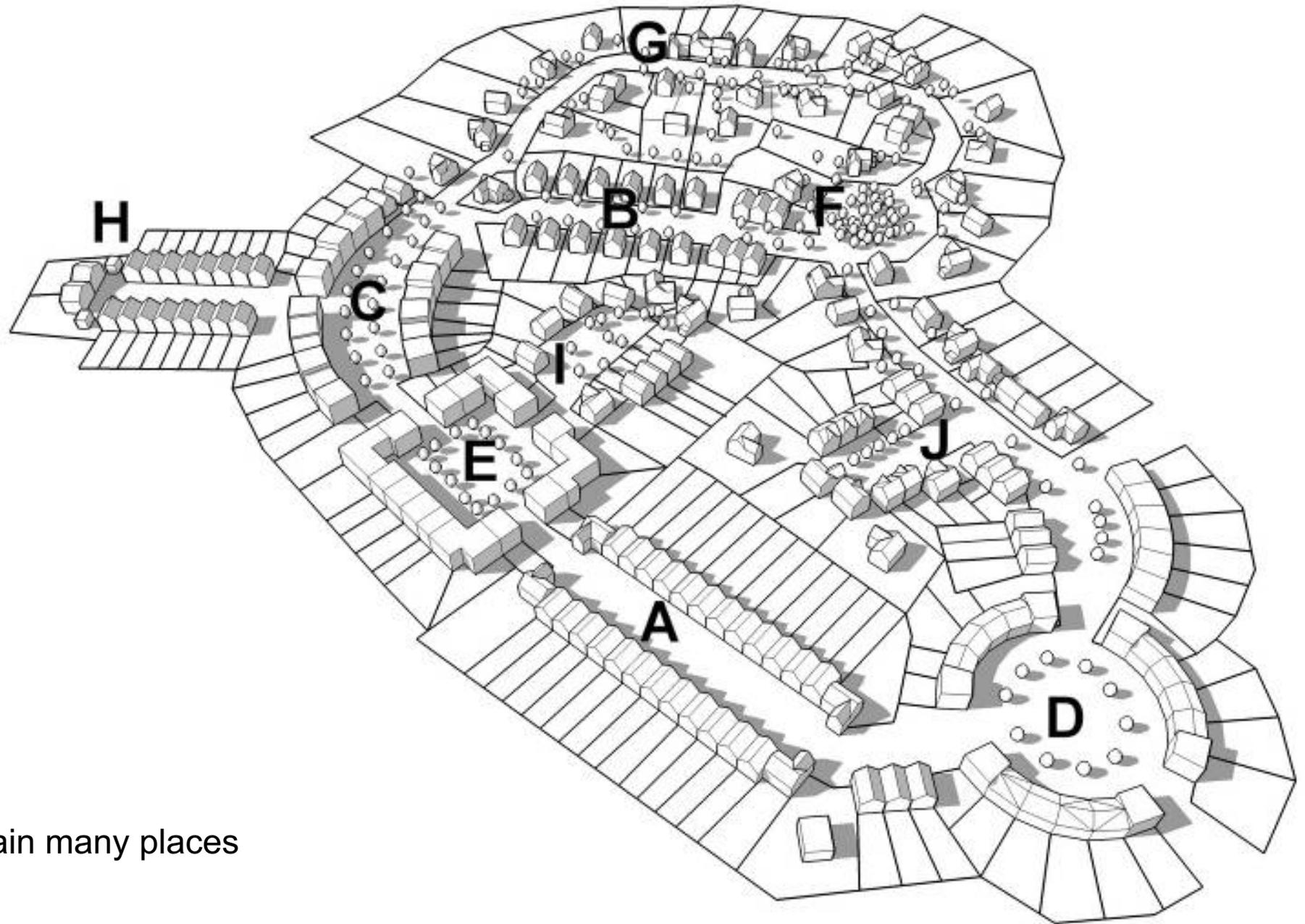
Edward MacLachlan.

Sometimes the road is designed first, and the place is then dominated by the character of the road



Design the place first and then put in the road

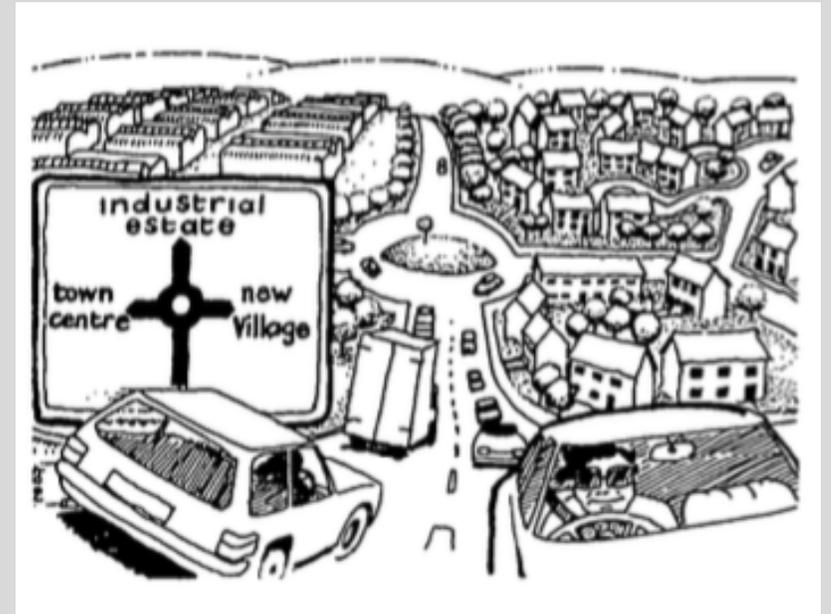




Great cities contain many places



# Variety

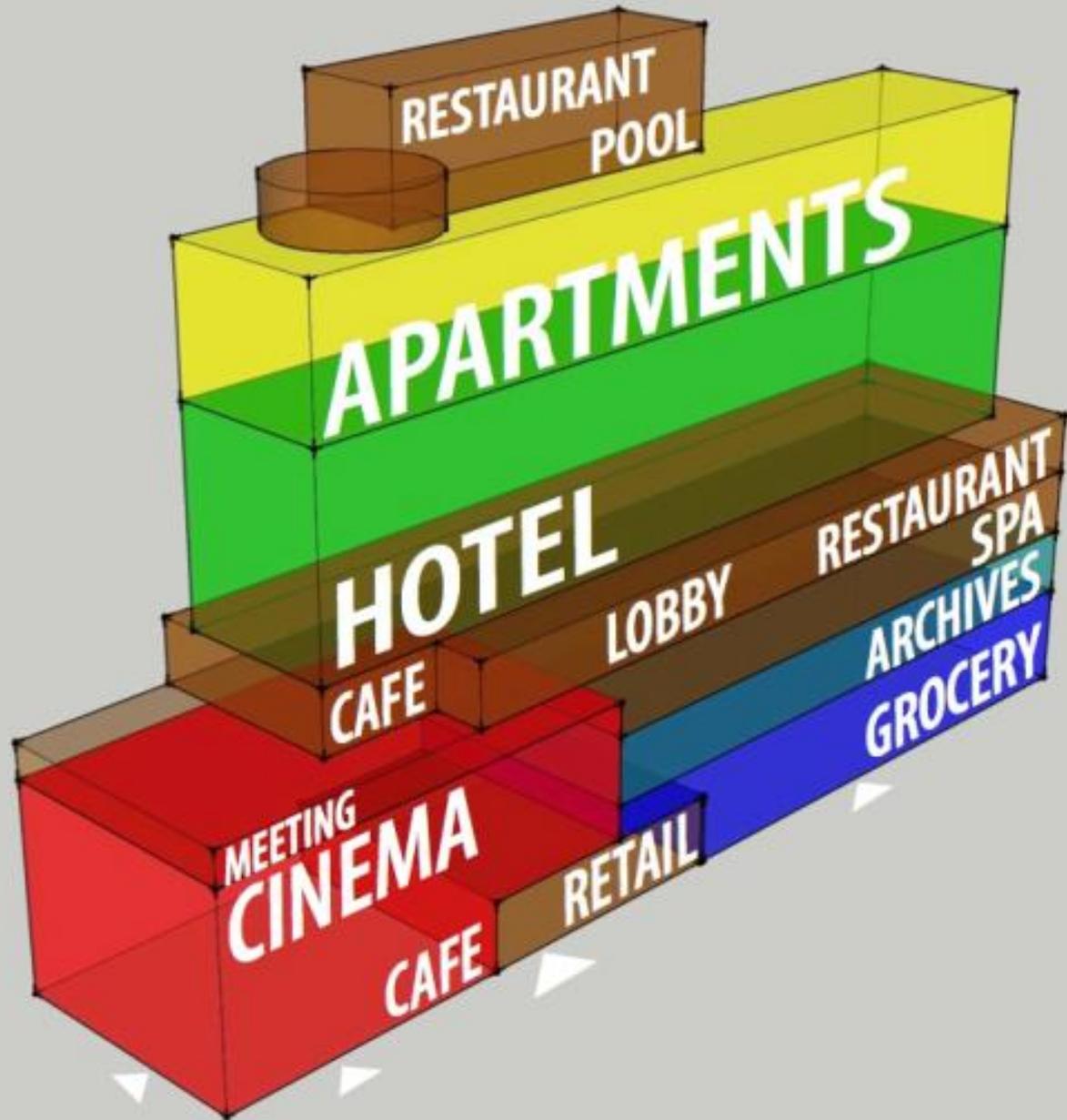






Horizontal mix

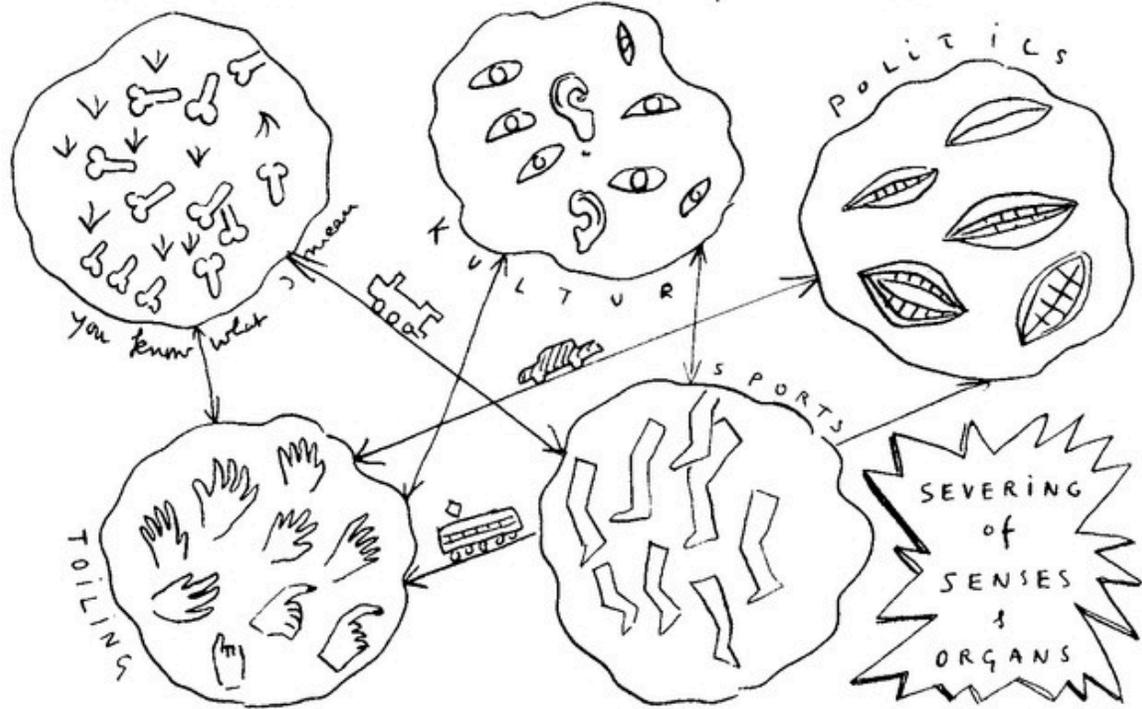
20 Restaurant | Nightclub  
 Pool  
 19 Apartments  
 18 Apartments  
 17 Apartments  
 16 Apartments  
 15 Hotel  
 14 Hotel  
 12 Hotel  
 11 Hotel  
 10 Hotel  
 9 Hotel  
 M Office  
 8 Café  
 Hotel Lobby  
 Restaurant  
 7 Meeting | Conference  
 Spa | Fitness  
 6 Cinema  
 Spa | Fitness  
 5 Cinema  
 Modern Archives  
 4 Cinema  
 Modern Archives  
 3 Cinema  
 Grocery  
 2 Cinema  
 Grocery  
 1 Cinema  
 Café  
 Entrance  
 Coffeeshop | Newstand  
 Hat Shop  
 Grocery  
 B Storage  
 Mechanical  
 SB Loading



Vertical mix

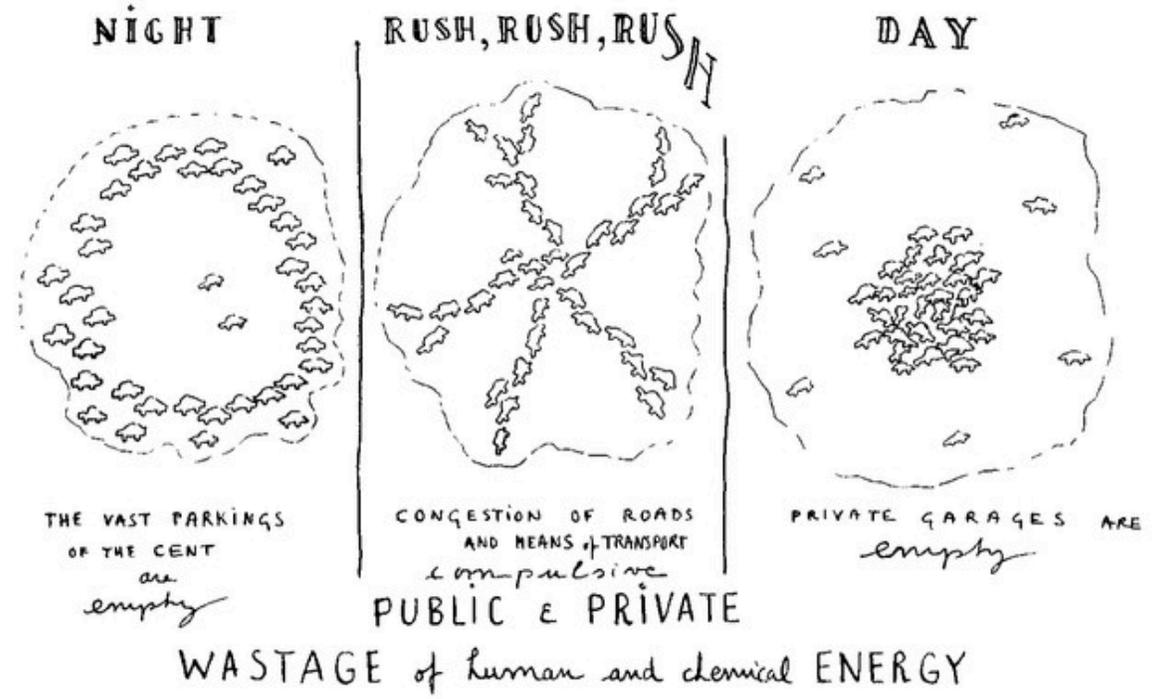
# ZONING of the BODY

FUNCTIONAL SEGREGATION → DECOMPOSITION of the SENSIBLE WORLD



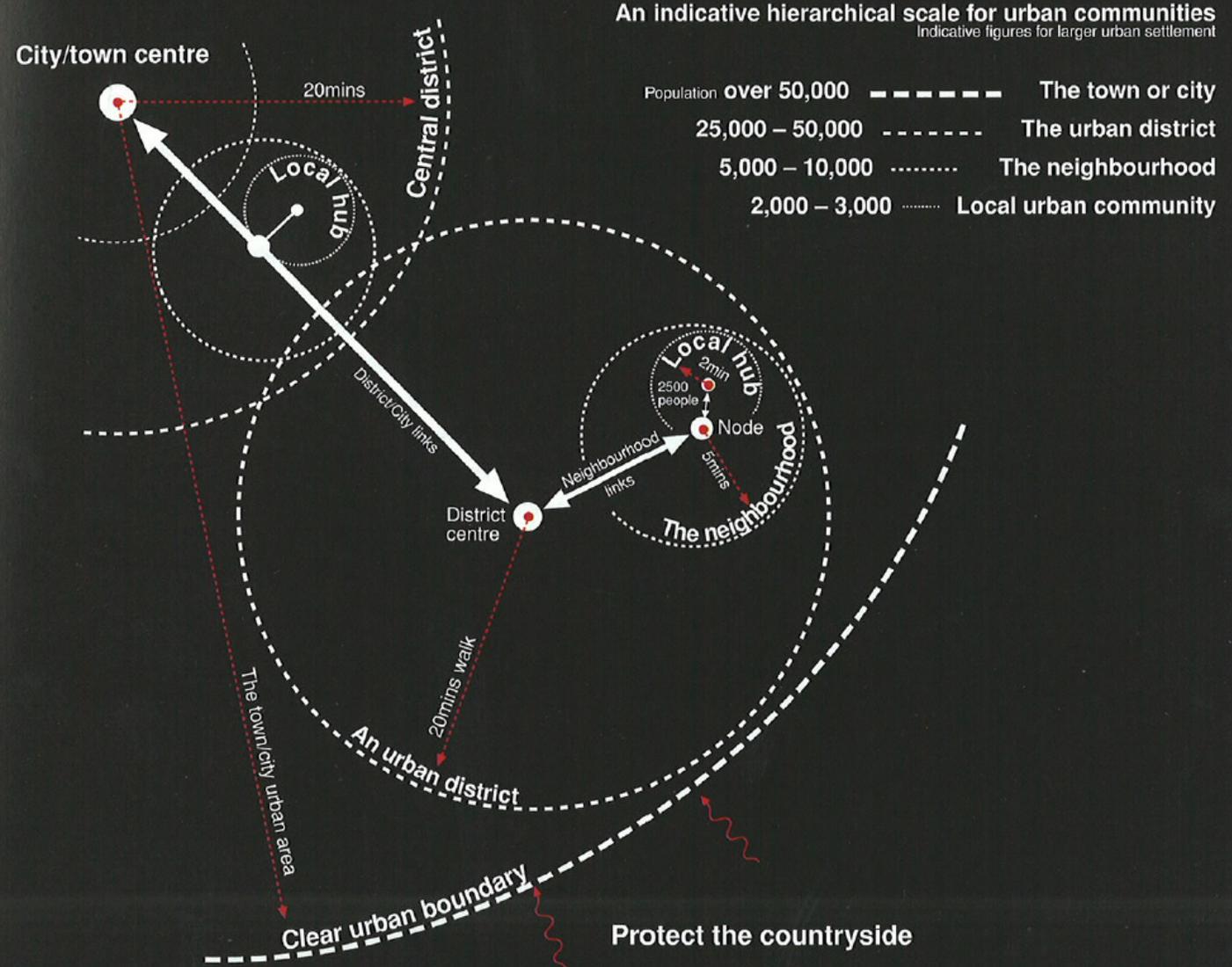
# MOTORIZED ~ TRAFFIC

THE EFFECTS OF FUNCTIONAL ZONING



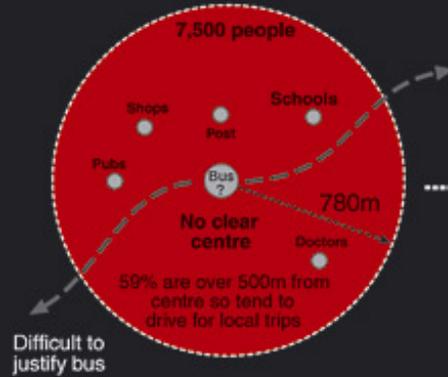
# Neighbourhood design

## Interconnectedness Hierarchy



## Population to support good neighbourhood facilities

Gross development density of 50 people per hectare



Large land take  
Dispersed facilities - no centre  
Bus may not be viable

Important urban neighbourhood facilities and their reasonable support population

Primary School	2500-4000
Doctor	2500-3000
Corner Shop	2000-5000
Public House	5000-7000
Group of shops	5000-10000
Post Office	5000-10000

About 7,500 might people support a viable local hub of facilities

Source: UWE for the DETR - from Coombs, Farthing and Winter Greater London Council and Milton Keynes Dev Corp

7,500 reflects above figures and is supported by "new deal for communities"

## Good public transport needs adequate density

Gross development density of 100 people per hectare



Reduced land take  
Clear central facilities  
Bus should be viable

A density of 100 p/ha is the density necessary to support a good bus service, given a socially mixed population

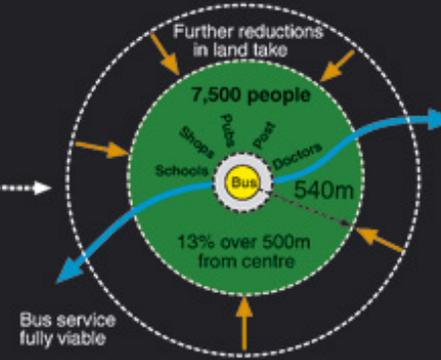
(White 1976, Addenbrooke 1981 and UWE 95)

## Local social facilities better public linkages

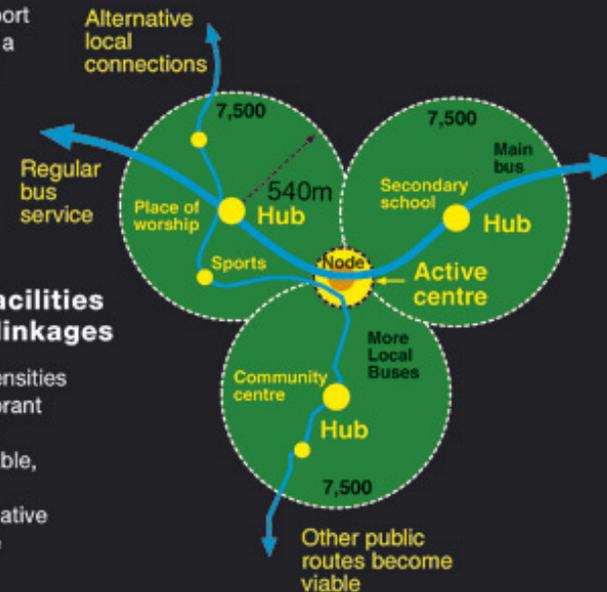
At more compact densities centres are more vibrant  
Key additional local facilities become viable, fall within walking distances and alternative public local links are

## Everyone should be able to walk to their local centre

Gross development density of 150 people per hectare



Everyone can walk  
Usage of local facilities increases  
Bus routes are more regular



- **Building scale** (dwelling, office, shop - for changing life style and diversity)
- **Home place scale** (street, home, zone, block - for active streets, community interaction)
- **Neighborhood scale** (local area, locality, etc. - local facilities with attractive walking routes)
- **District / Small town scale** (Town , quarter – good public transport and cycle access to centre)
- **City scale** (City region, functional bioregion – with good linkage to the city and beyond)

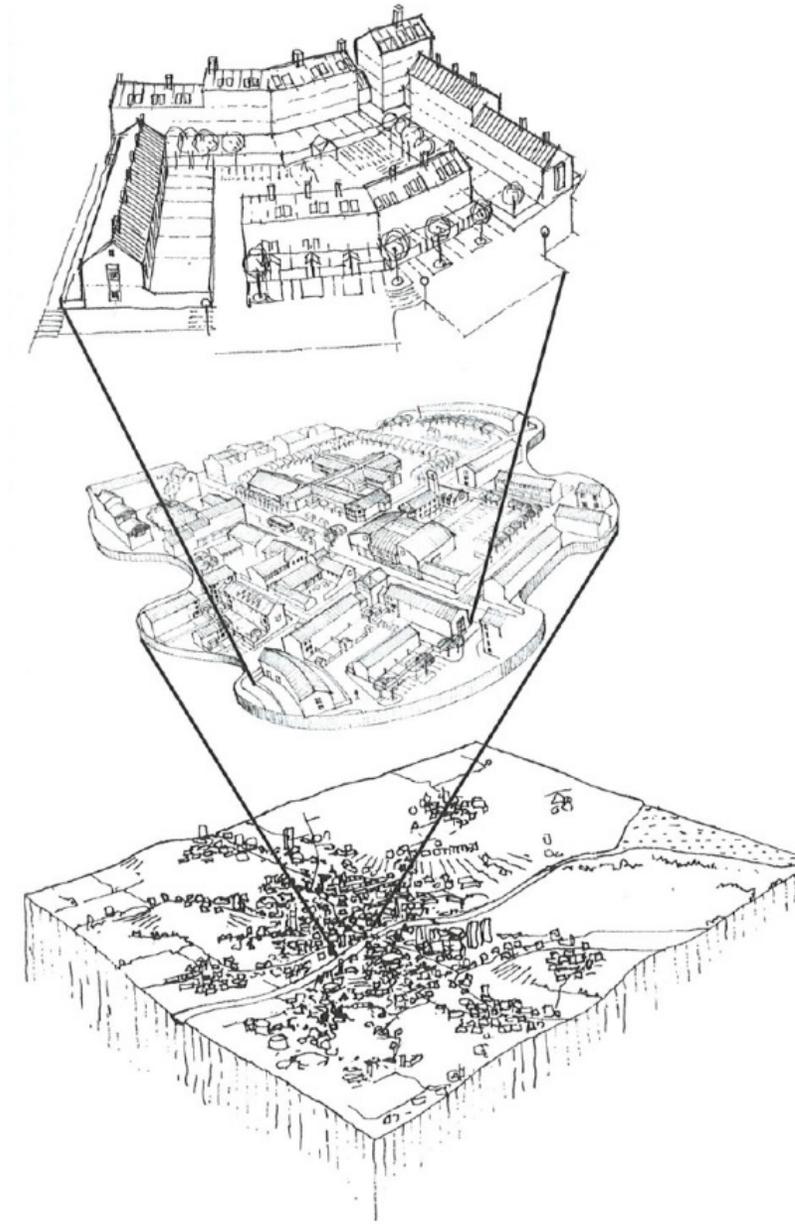
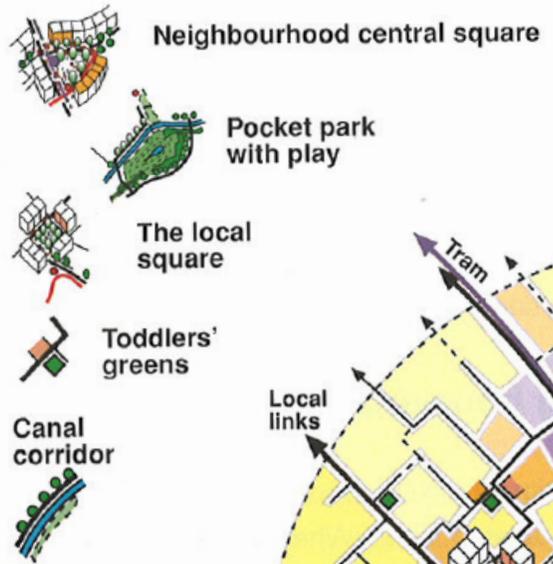
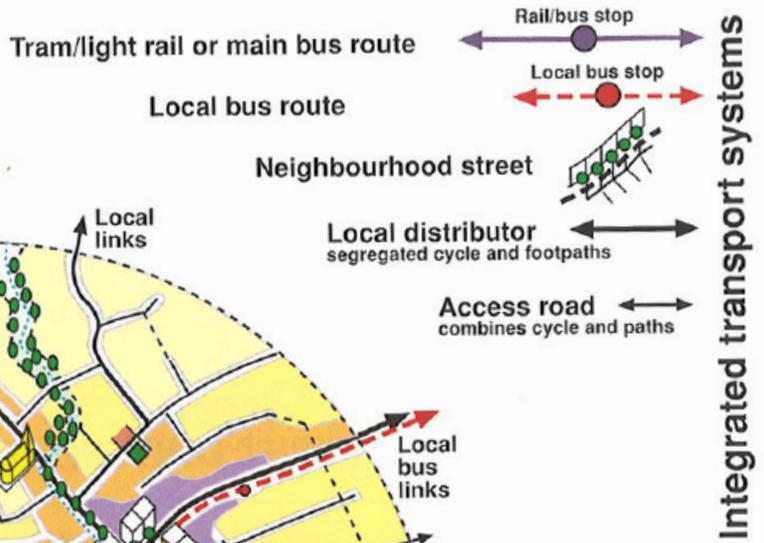
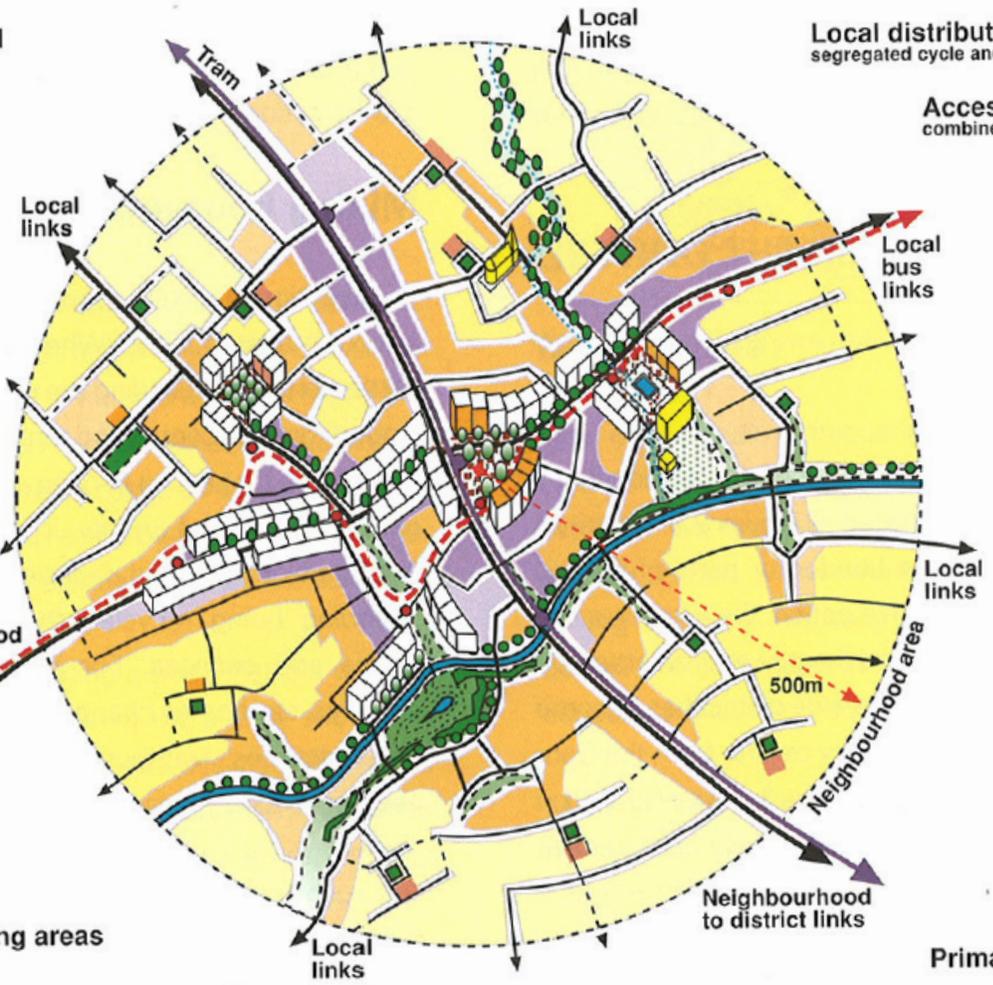
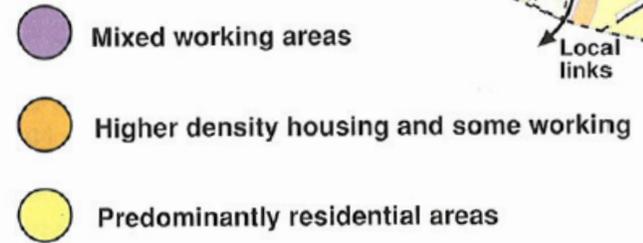


Figure 1.20  
Nested scales: district/small town,  
neighbourhood and home place

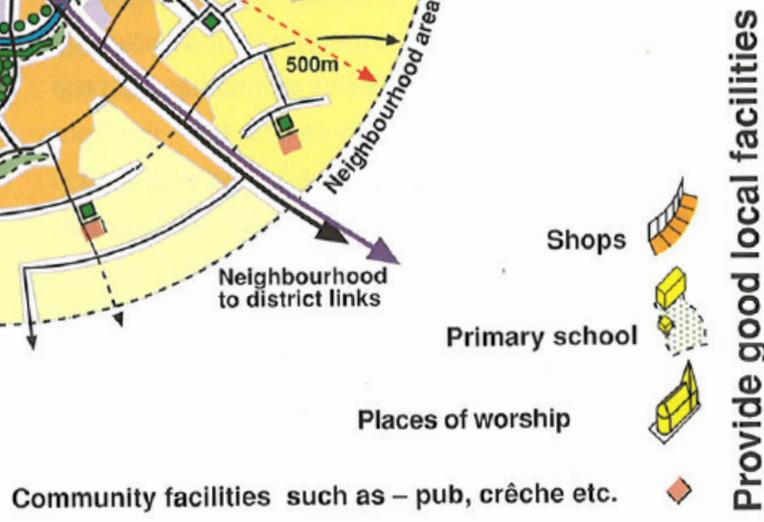
**An hierarchy of open space**



**A vibrant mix of uses**

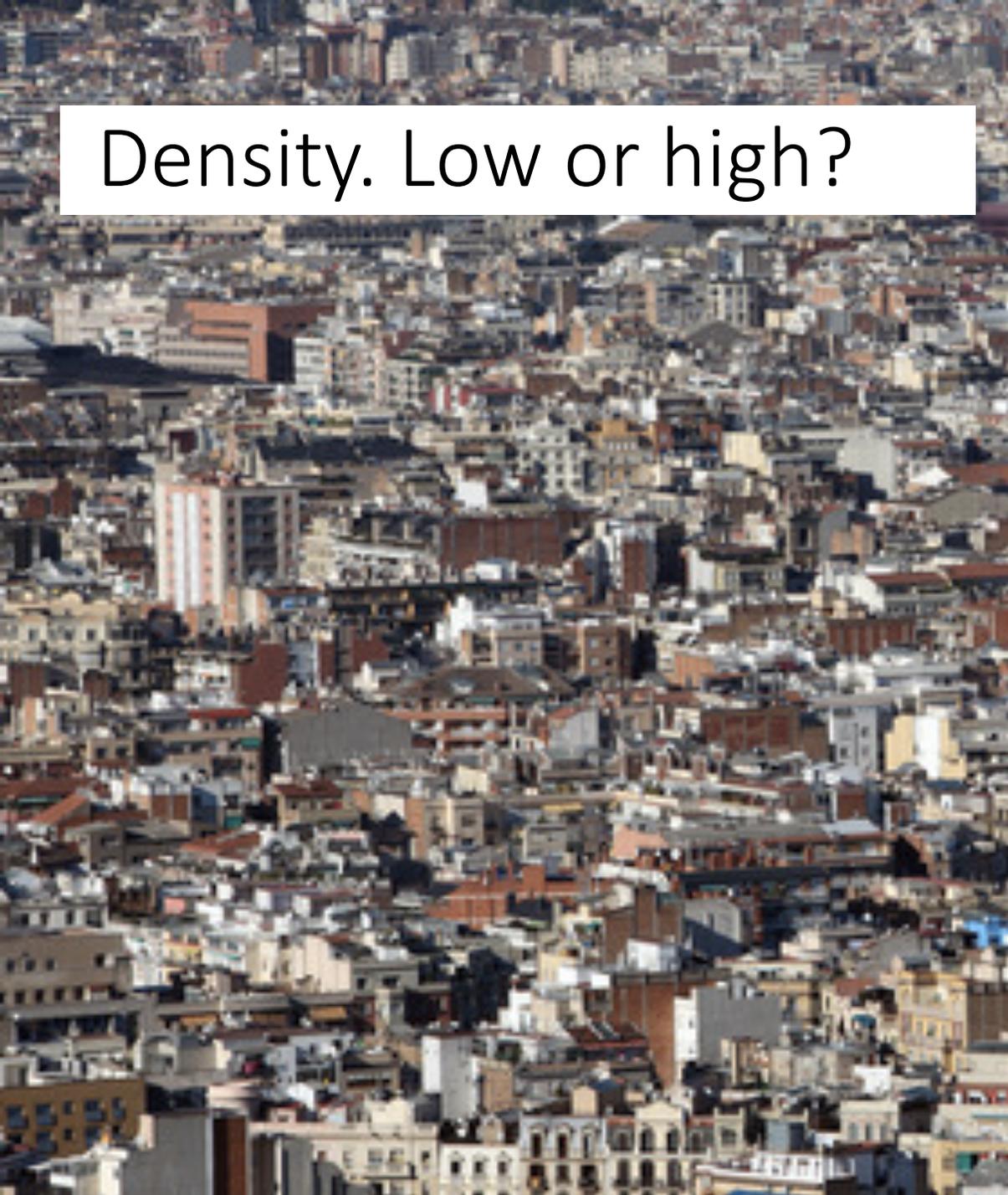


**Integrated transport systems**

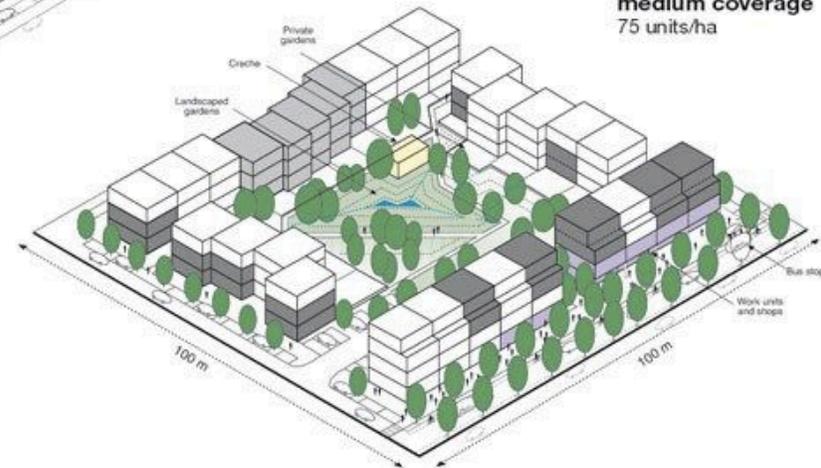
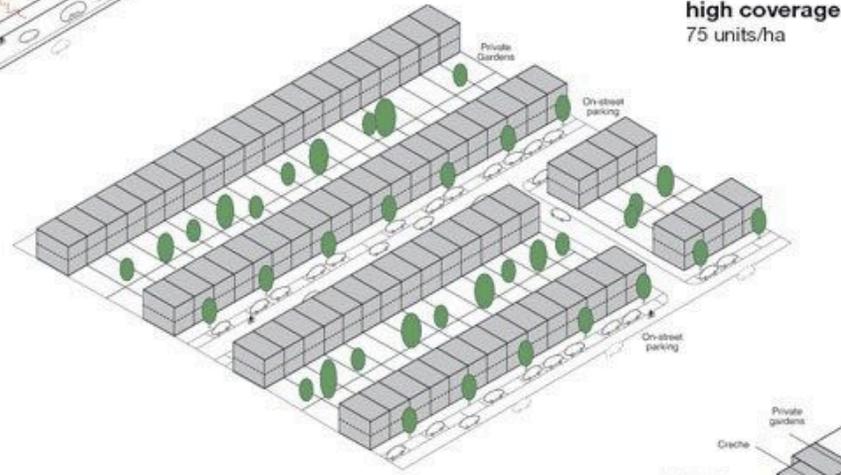
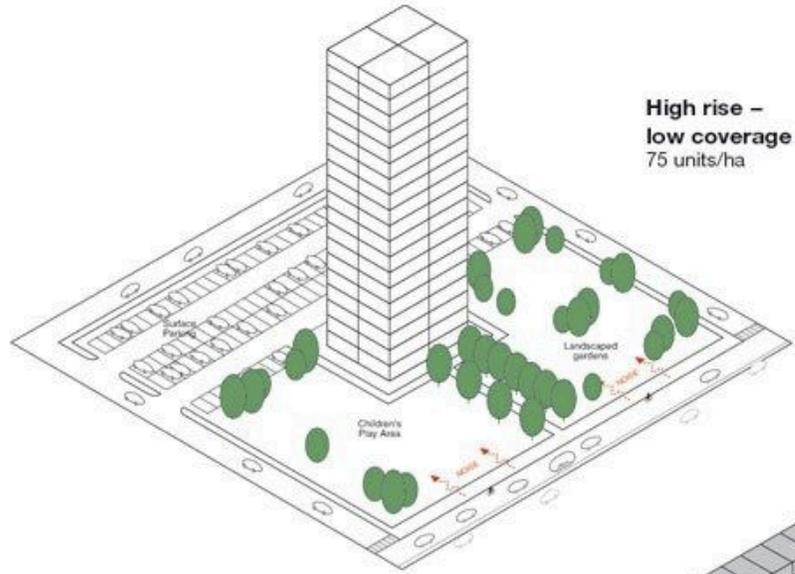


**Provide good local facilities**

Density. Low or high?



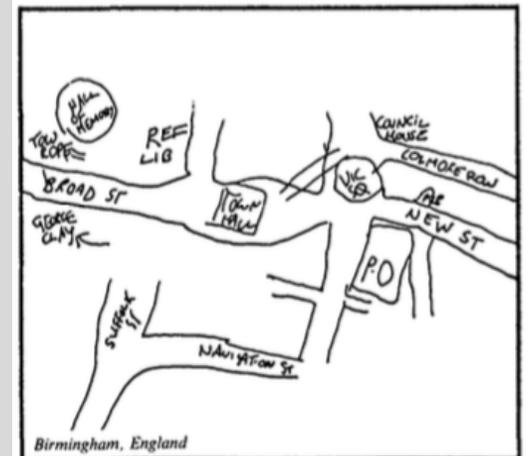
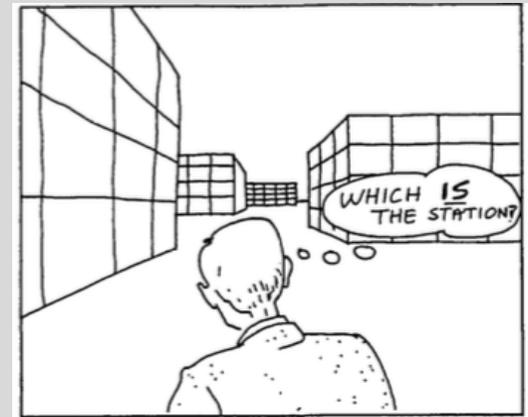
85 units per hectare



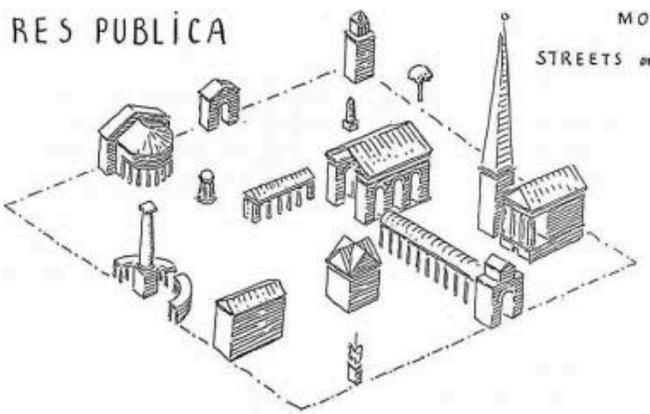
**Key**  
Target a mix of activities  
Include a variety of house types

- Community facilities
- Shops and workspaces
- Maisonettes
- Houses
- Apartments

# Legibility



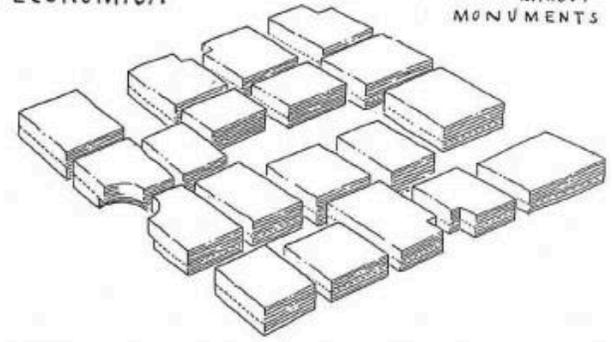
RES PUBLICA



MONUMENTS  
WITHOUT  
STREETS or SQUARES

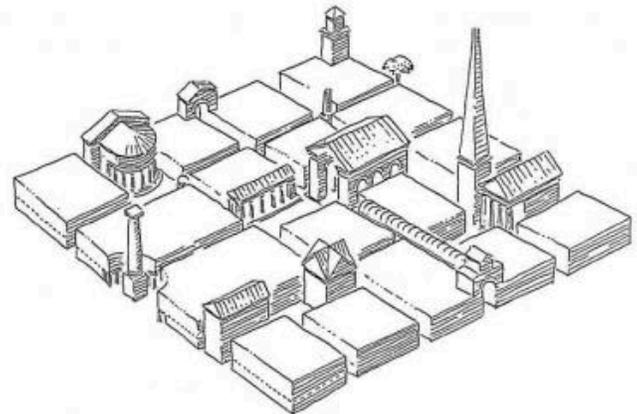
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RES ECONOMICA



STREETS and SQUARES  
WITHOUT  
MONUMENTS

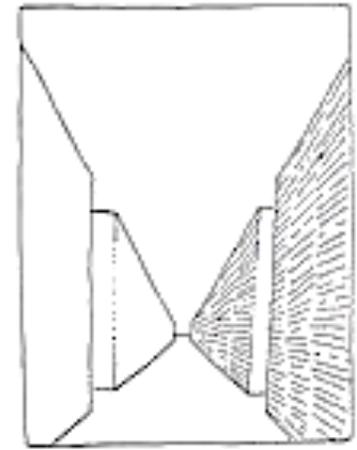
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CIVITAS

LK 83

THE  
TRUE  
CITY



VN-FOCUSED

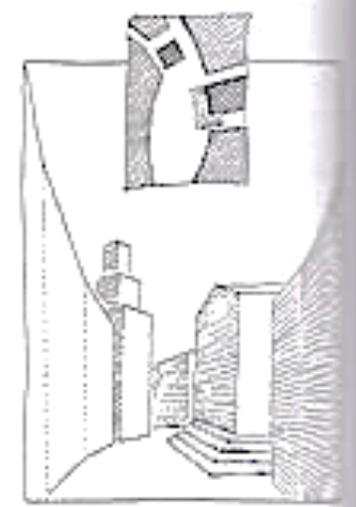
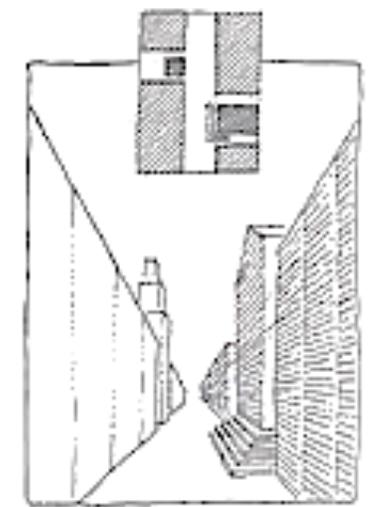


FOCUSED

STREET

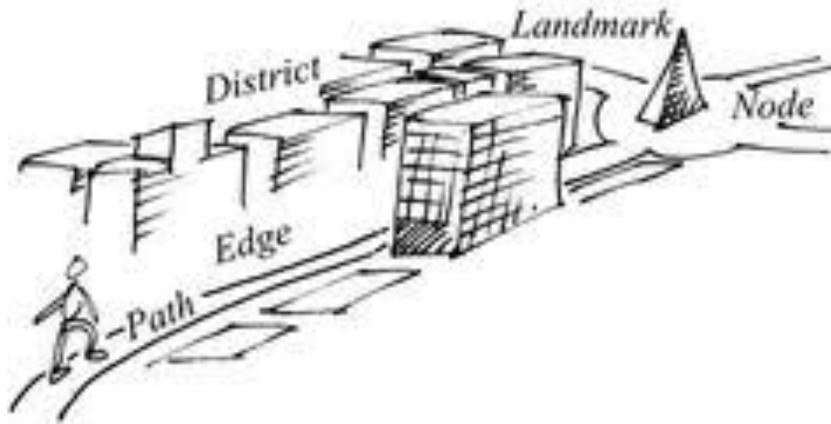
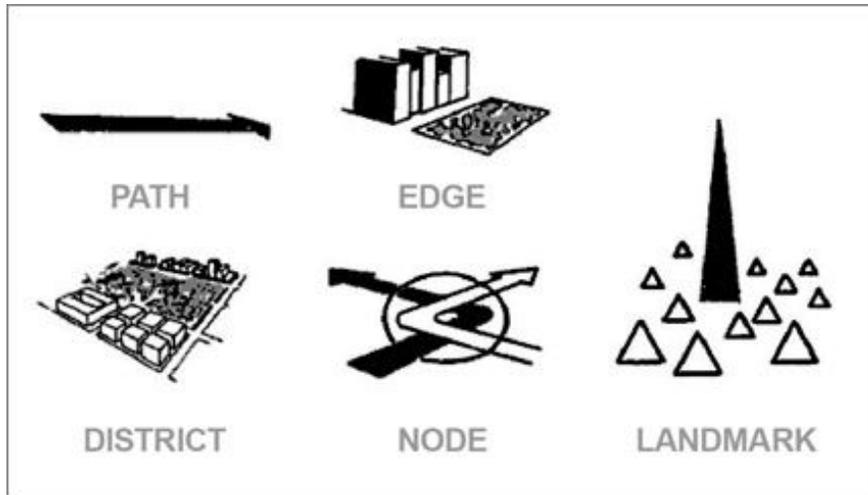
As CORRIDOR

As PLACE



Helping people find their way around

Making a place legible



Kevin Lynch:

# THE IMAGE OF THE CITY

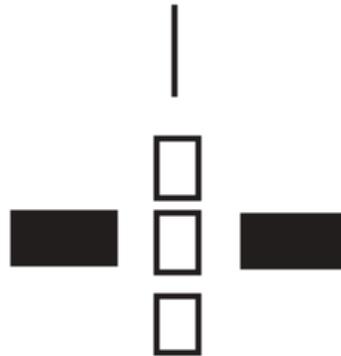


## PATHS



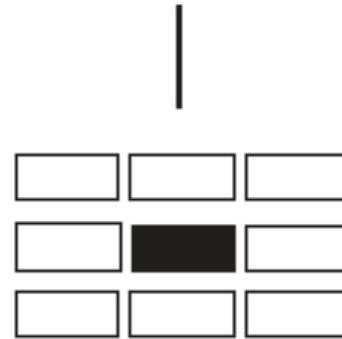
- Streets,
  - Rail lines,
  - Trails.
- Berlin's Kurfürstendamm; Champs-Élysées in Paris

## NODE



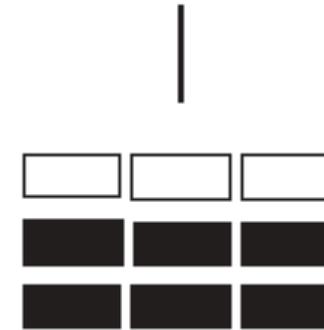
- Strategic meeting points,
  - Squares,
  - Junctions or
  - Train stations.
- Dam in Amsterdam ;  
Plaza Mayor in Madrid.

## LANDMARK



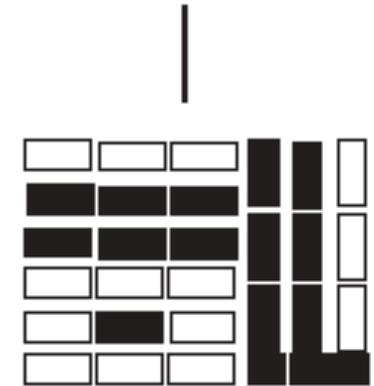
- Physical objects serve as public reference points,
- Bilbao's Guggenheim Museum  
Malmö's Turning Torso

## EDGE



- Clear transition zones and linear boundaries, waterfronts
- Green zones

## DISTRICT

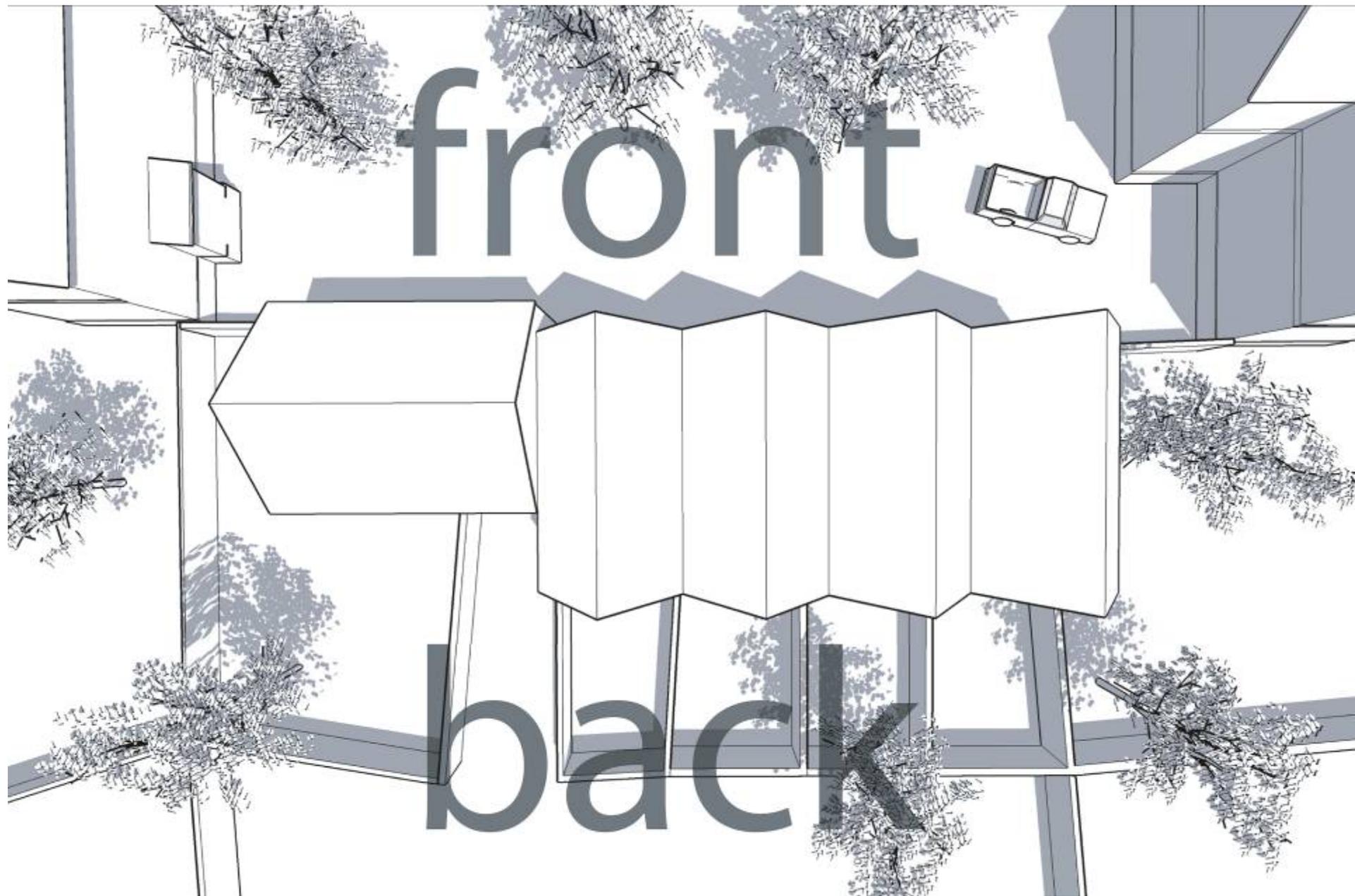


- Quarters,
  - Neighbourhoods
  - Other sections of the city with distinctive character,
- London's Soho ;  
Toronto's Chinatown;  
Little Italy



# Robustness



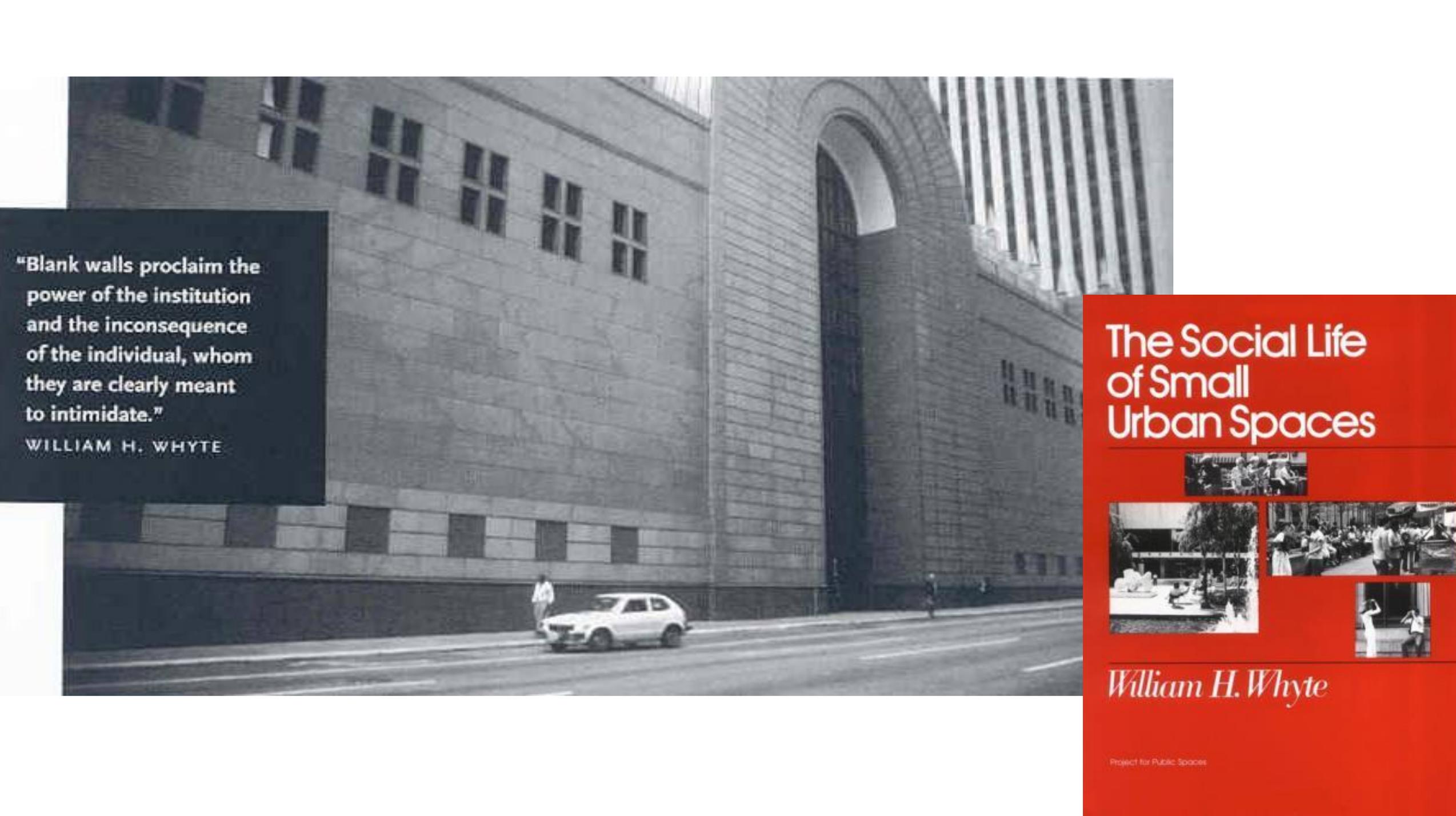


Frontage puts "eyes on the street" and investment in facades and streetscape



When streets don't have frontage they become "**dead space**"





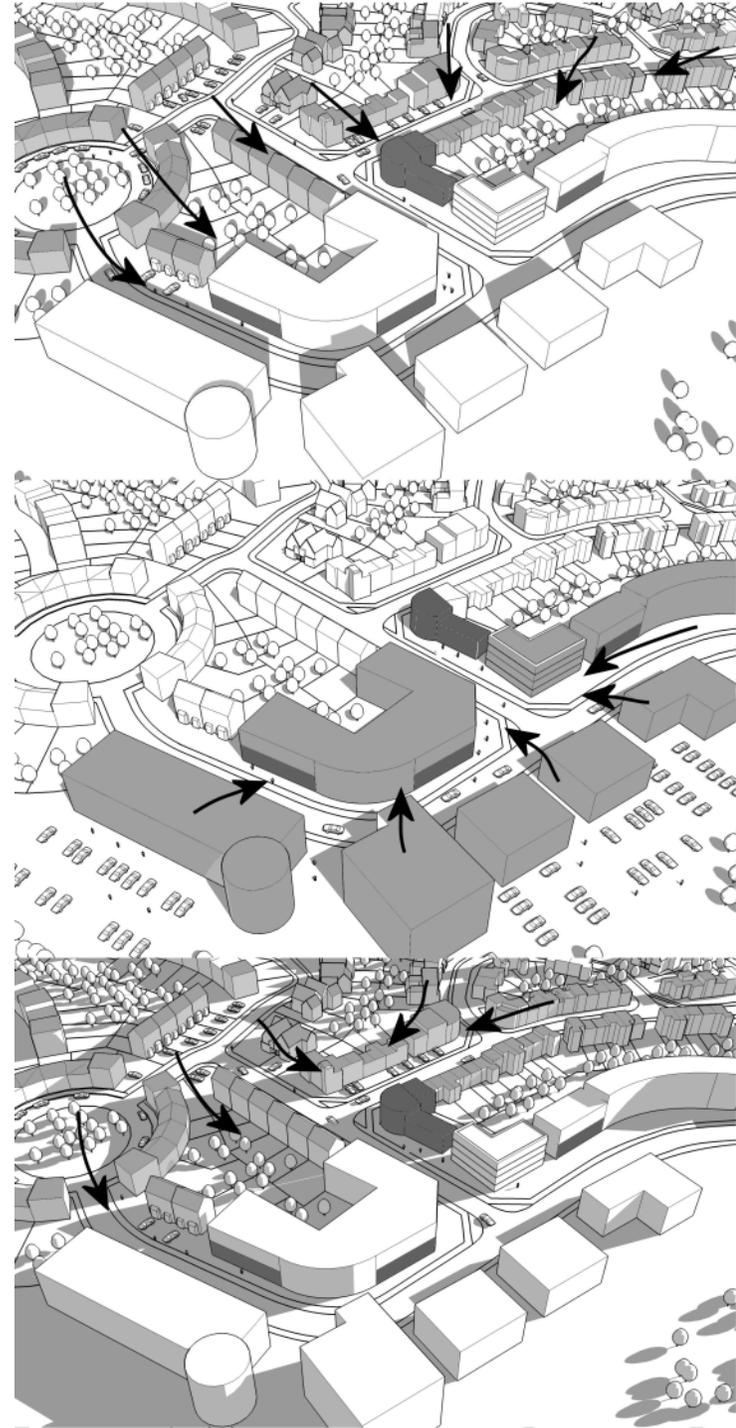
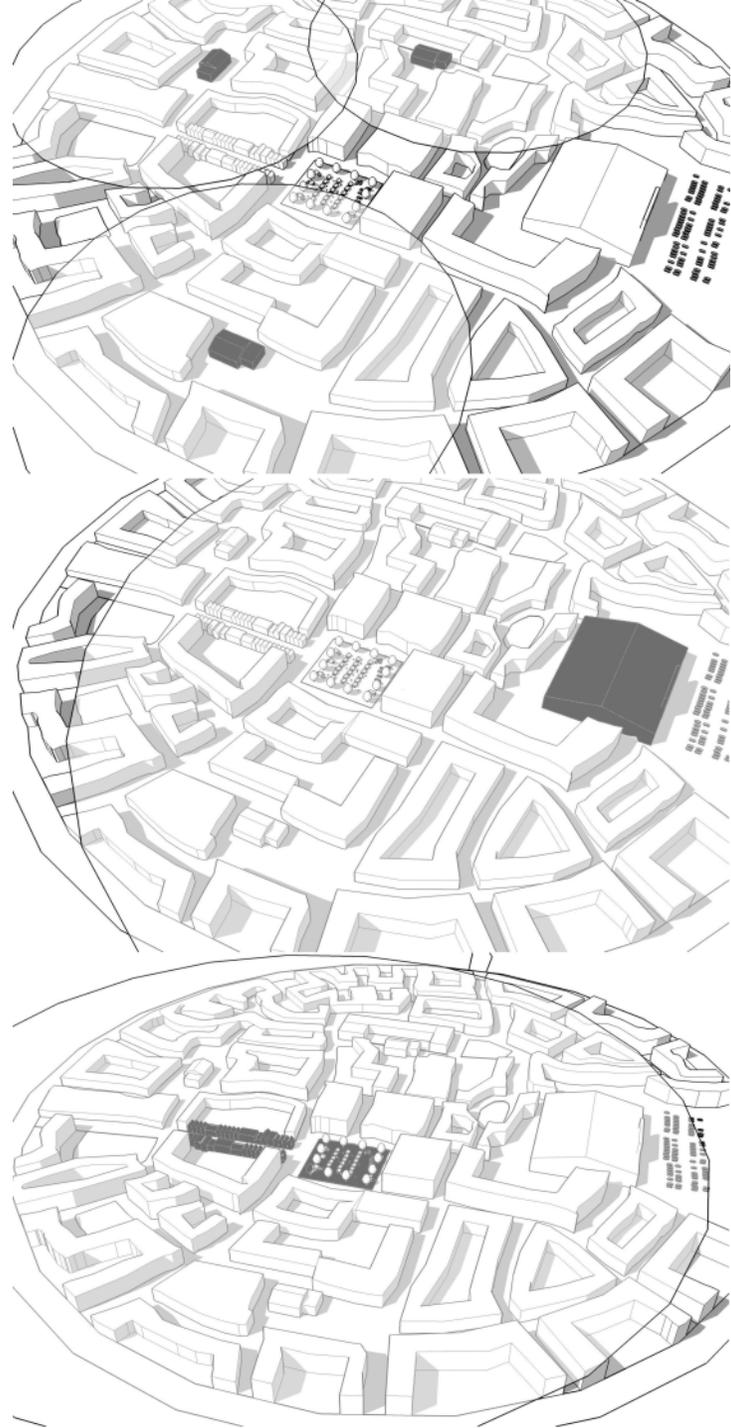
“Blank walls proclaim the power of the institution and the inconsequence of the individual, whom they are clearly meant to intimidate.”

WILLIAM H. WHYTE

## The Social Life of Small Urban Spaces



*William H. Whyte*

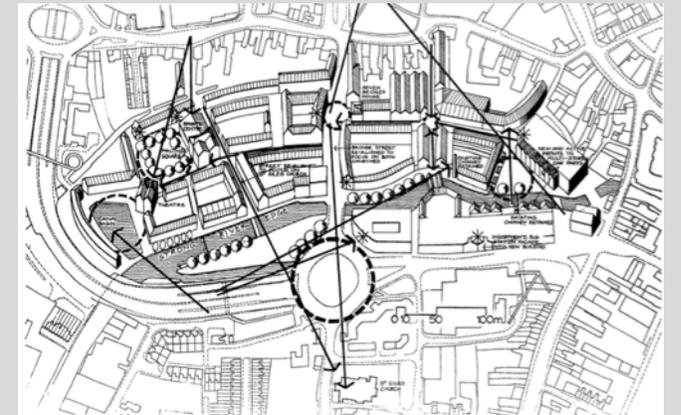
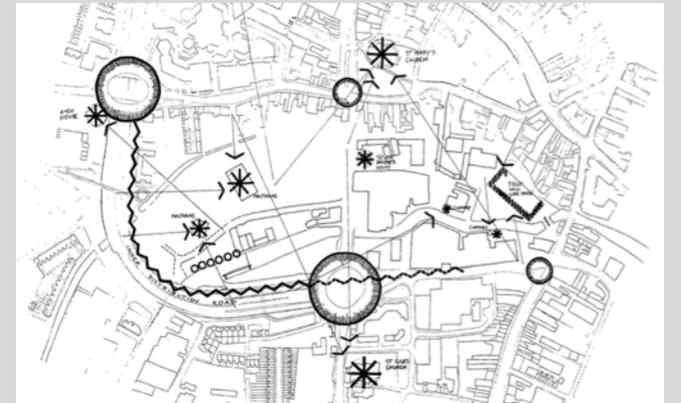
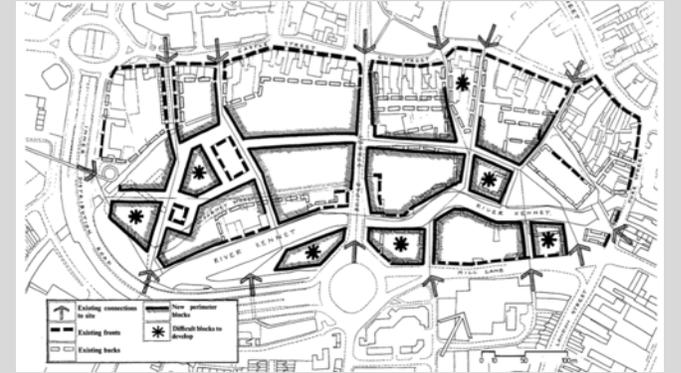


Morning

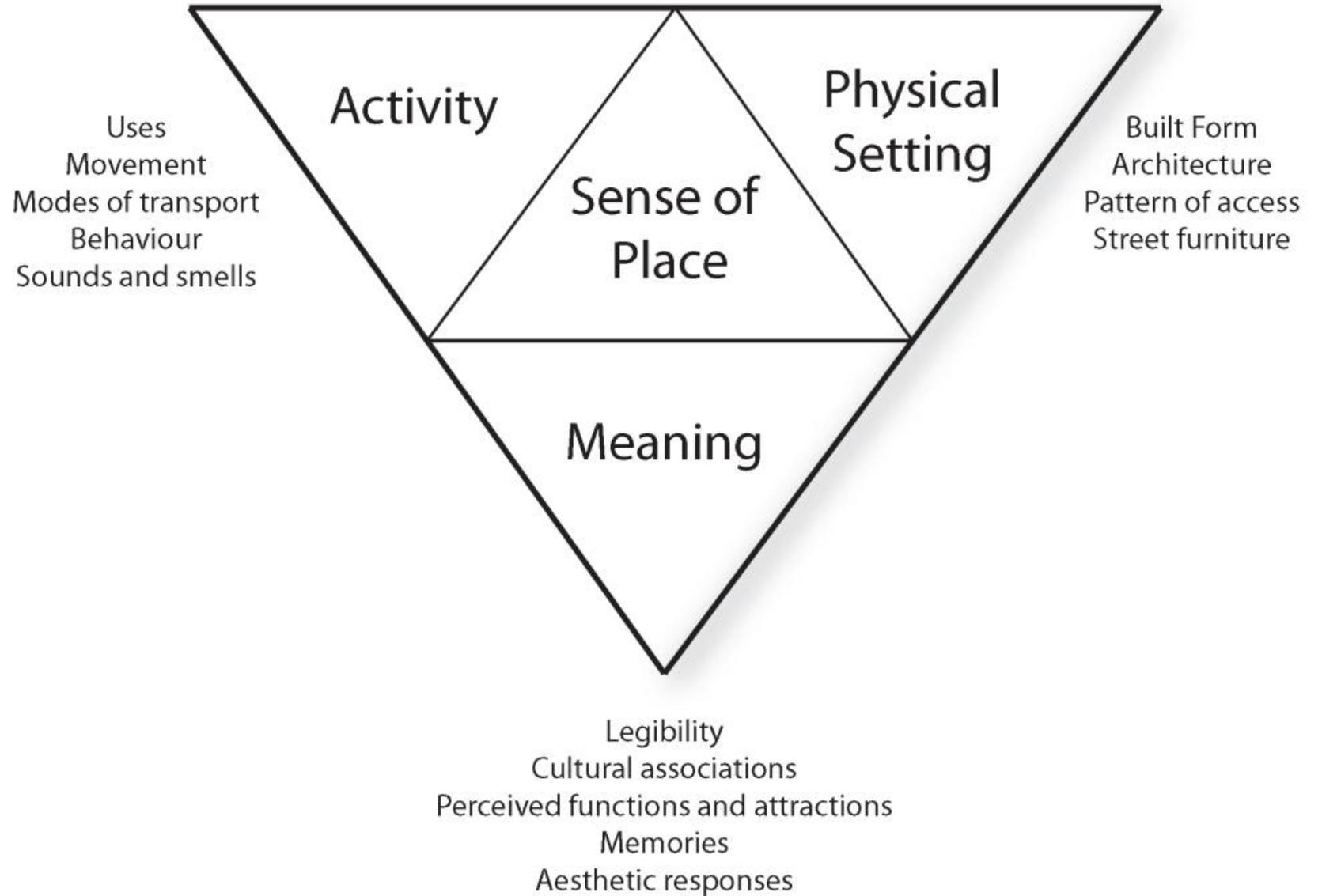
Daytime

Evening

# Putting it all together



Sense of Place:  
place making  
The urban  
designer  
creates **places**



Think about  
distinctive  
character of  
the space





Avoid designing  
placelessness





The scale of places is very important  
And should focus on the needs of people

Scale at the centre of Brasilia

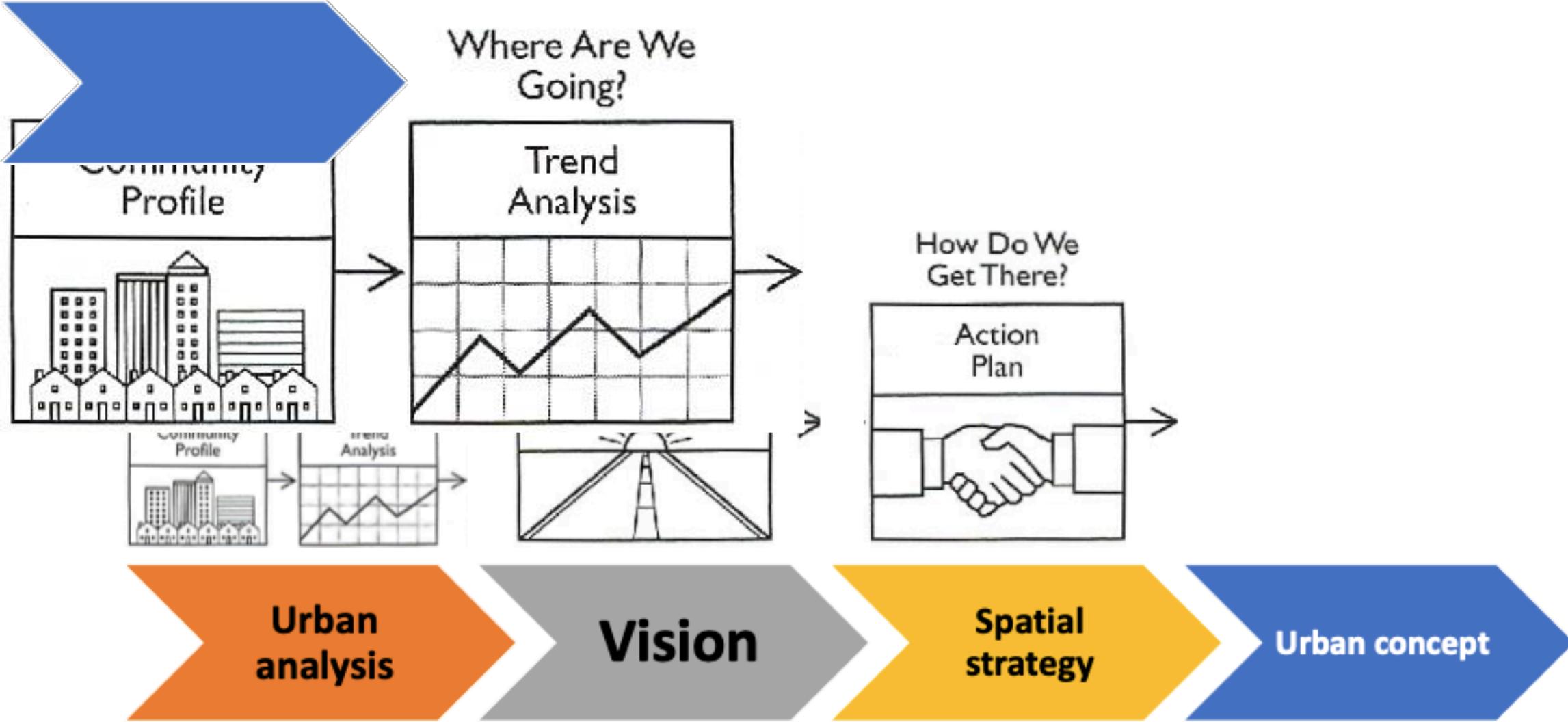


Thank you.  
Question?

10 MIN COFFEE BREAK?

# Urban Design/Planning Masterplan

Proposals



# Three new types of guidance at different scales

- ***Strategies***: often city or town centre-wide, often public realm or movement focused, selective interventions linked into a coherent whole.
- **Masterplans: often comprehensive redevelopment, neighbourhood or new district scale, can be required of developers of larger scale/long term projects.**
- ***Design or Development Briefs***: can be used in conjunction with the above or on their own. Site specific design advice for important, complex or controversial sites.

**Masterplans** are only required where the **scale of change** is **significant** and the **area subject to change** is more than a few buildings.

# Creating successful masterplans

A guide for clients



# Masterplans can

- help shape the ***three-dimensional physical form*** that responds to ***local economic*** and ***social dynamics***
- help identify the ***potential of an area*** or site for ***development***
- unlock previously ***under-developed land***
- engage the ***local community*** in thinking about their role in a development or regeneration process
- help ***build consensus*** about the future of an area and identify priorities for action
- increase ***land values***, and make schemes viable

# Masterplans can

- attract ***private sector investment*** and identify public and private sector aspirations and roles
- ***giving clarity*** to the roles and responsibility of organisations involved in development or regeneration
- helping ***promote an area*** and market its development or regeneration
- helping to ***stitch new development seamlessly*** into an existing community and heritage
- Encourage ***political leadership***
- celebrate the natural assets of a place, for example the landscape, topography and ecology.

# Urban designer's produce: Policies and strategies

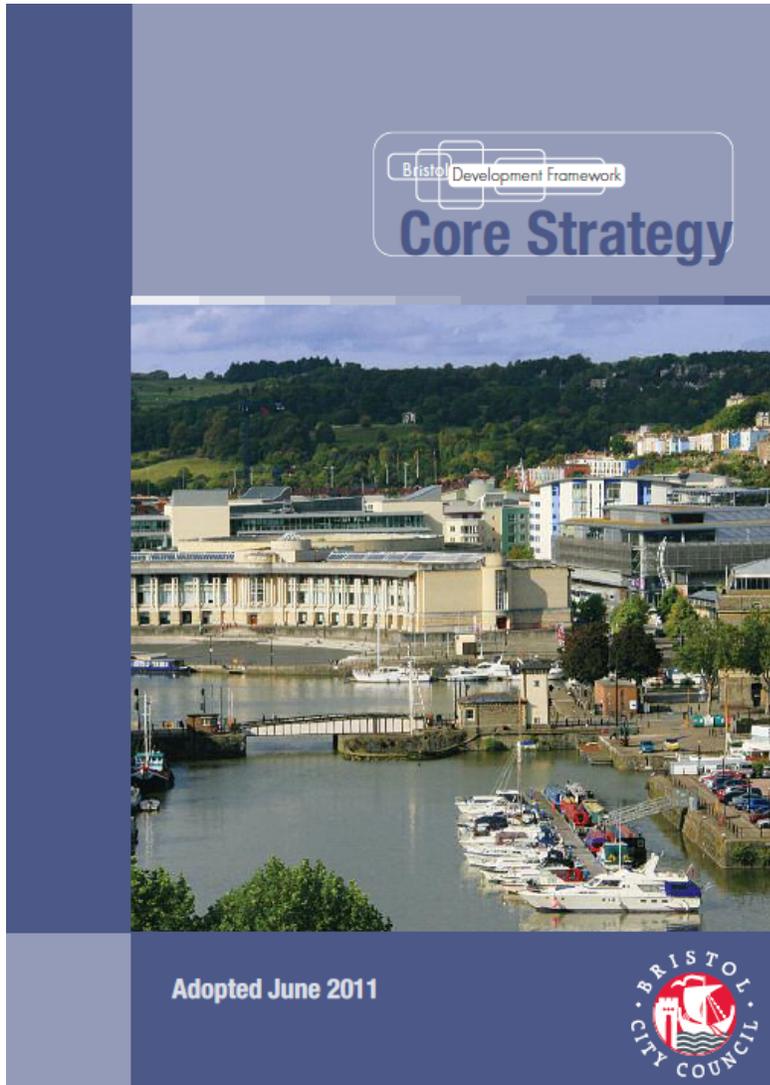
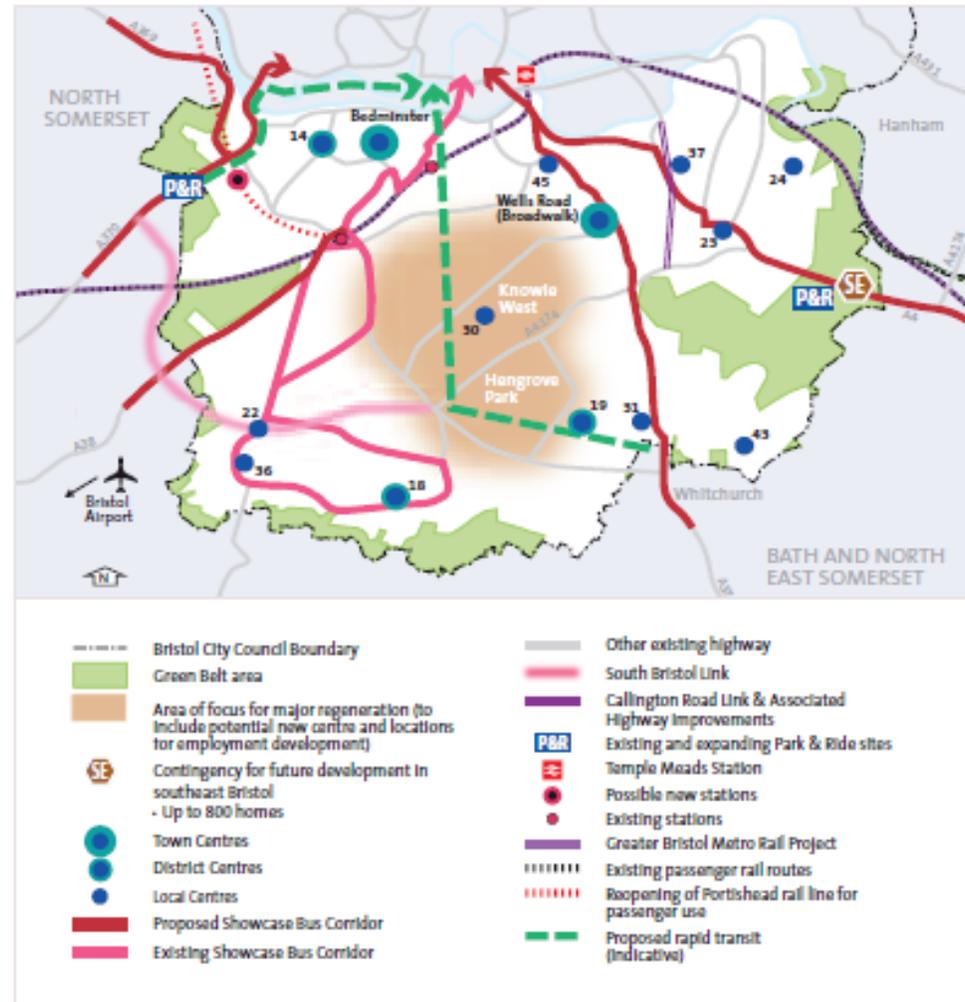


Diagram 4.1.1: South Bristol Key Diagram



# Urban designer's produce: Masterplans



**Creating  
successful  
masterplans**

A guide for clients



# Urban designer's produce: design codes:



- Key:
- Key grouping
  - Bus Stop
  - ★ Secondary accent or marker buildings
  - ★ Primary landmark building
  - Medium to higher density
  - Low to medium density
  - Lowest density
  - 5 Block number
  - Avenue
  - Main Street
  - Urban street
  - Tertiary street
  - Community street/homezone
  - Green lane
  - Mews



# Urban designer's produce: studies of character to protect historic areas

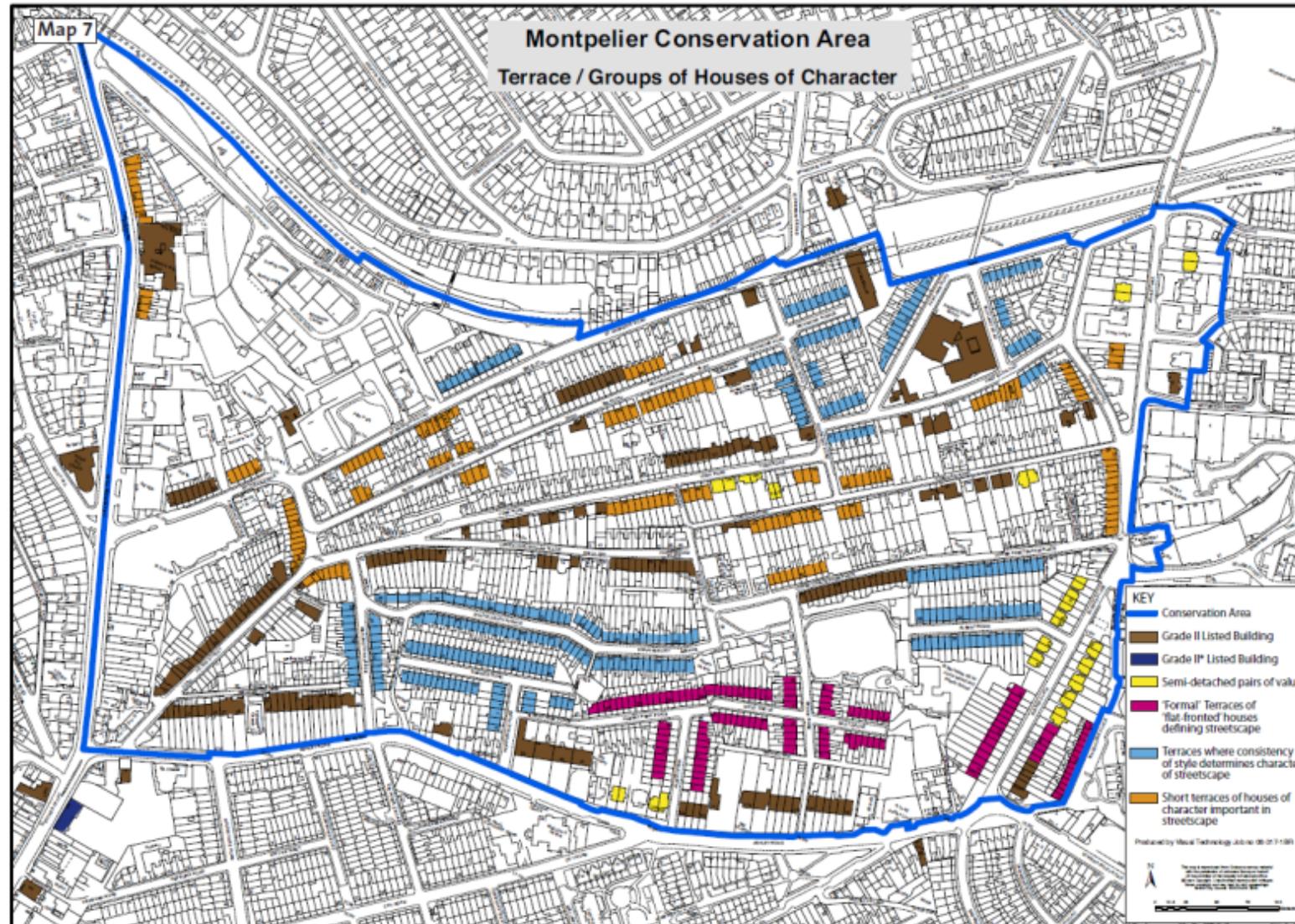


Figure 38: Traditional letter box, Richmond Road



Figure 40: Traditional shopfront of The Bristolian, Picton Street



Figure 39: Air Raid Warden sign, outside no. 13 Wellington Avenue

7.5.10 Montpelier has a fine collection of original and traditional shopfronts throughout the Conservation Area. Picton Street, a purpose-built shopping street, contains an array of individual shopfronts which have retained a number of their traditional features even where the shops themselves have been converted to residential. Elsewhere are clusters of shopfronts that appear as groups, unified by a continual entablature or fascia depth. In addition a number of individual shopfronts, though few of these are still in commercial use.

Local Townscape Details are shown on Map 8

# Urban designer's produce: design guidance

## The Essex Design Guide for Residential and Mixed Use Areas

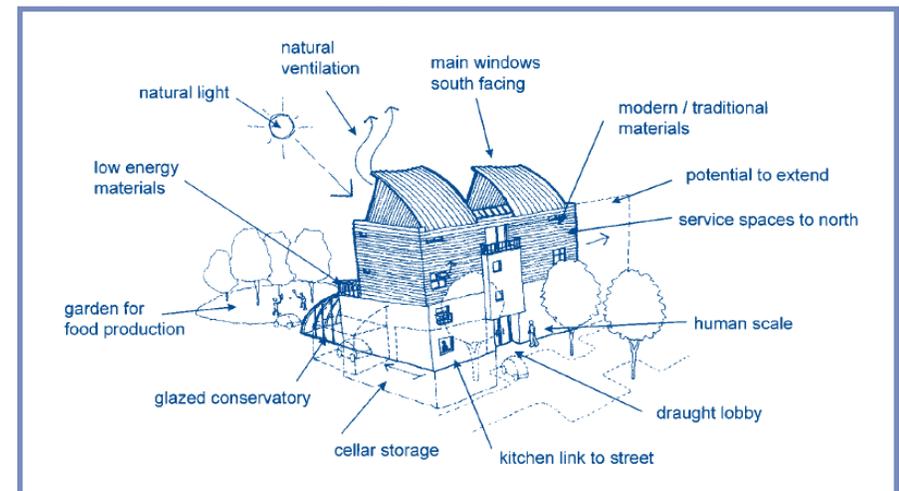


Essex Planning Officers Association



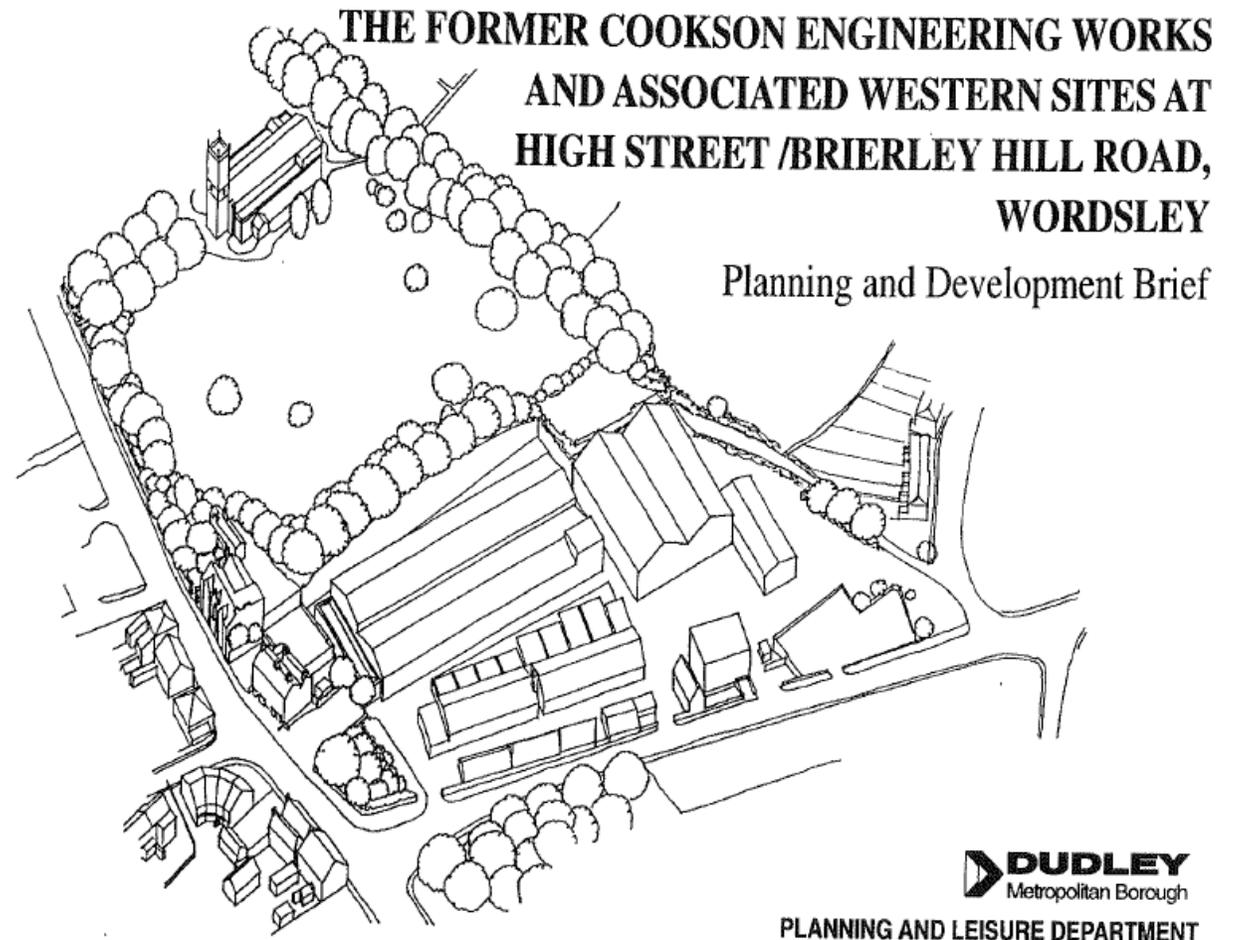
Conserve natural resources and minimise pollution in the layout, construction and ongoing use of development

*Principle 9.1: The environmental sustainability of all construction materials should be considered*



9.1 sustainable building features

# Urban designer's produce: briefs for particular sites and environmental improvements



# Masterplan

- Site boundary
- Residential development
- Local Centre (Mixed Use Retail / Commercial / Residential) (Subject to separate Design Brief)
- Employment development (B1 Uses)
- Employment development (B1, B2 & B8 Uses)
- Employment / Mixed Use
- Amenity Hub (Exact siting to be determined at reserved matters stage)
- School with school ground
- Site for possible hotel (Subject to separate Design Brief)
- Listed buildings
- Future Development Site Potential (Not subject of this application, subject to further consideration and separate applications)
- Squares
- Link road
- Tree Lined Avenue
- Bus only route
- Public Open Space
- Potential MUGA
- Existing hedgerow
- Existing trees
- Proposed tree planting
- Buffer Zone to SPD
- Attenuation
- New drainage channel



FIGURE 6.1: MASTERPLAN

# Land use



FIGURE 6.4: LAND USE STRATEGY

FIGURE 6.5: EMPLOYMENT DIAGRAM



- Employment
- Mixed Use
- Hotel
- Home Employment

Employment

FIGURE 6.6: FACILITIES DIAGRAM



- Mixed Use Local Centre
- Mixed Use
- School
- Amenity Hub
- Linking Squares
- Link Desire Lines

Facilities

FIGURE 6.7: OPEN SPACE DIAGRAM



- Landscaping and Open Space
- Highwood Road Corridor

Landscape and open spaces



# Types of street

- Site boundary
- Access Boulevard
- Boulevard
- Main thoroughfare
- Main Street
- Secondary Street
- Side Street
- Lane
- Strategic Link Road
- Highway Road



1957 - 68F

FIGURE 6.17: SPACE TYPOLOGIES AND MOVEMENT

# Pedestrian and cycle routes

- Site Boundary
- Off Road (Prohibited) Cycle Route
- On Road Cycle Route
- Crossing Point



FIGURE 6.14: PEDESTRIAN AND CYCLE MOVEMENT PLAN

# Bus route

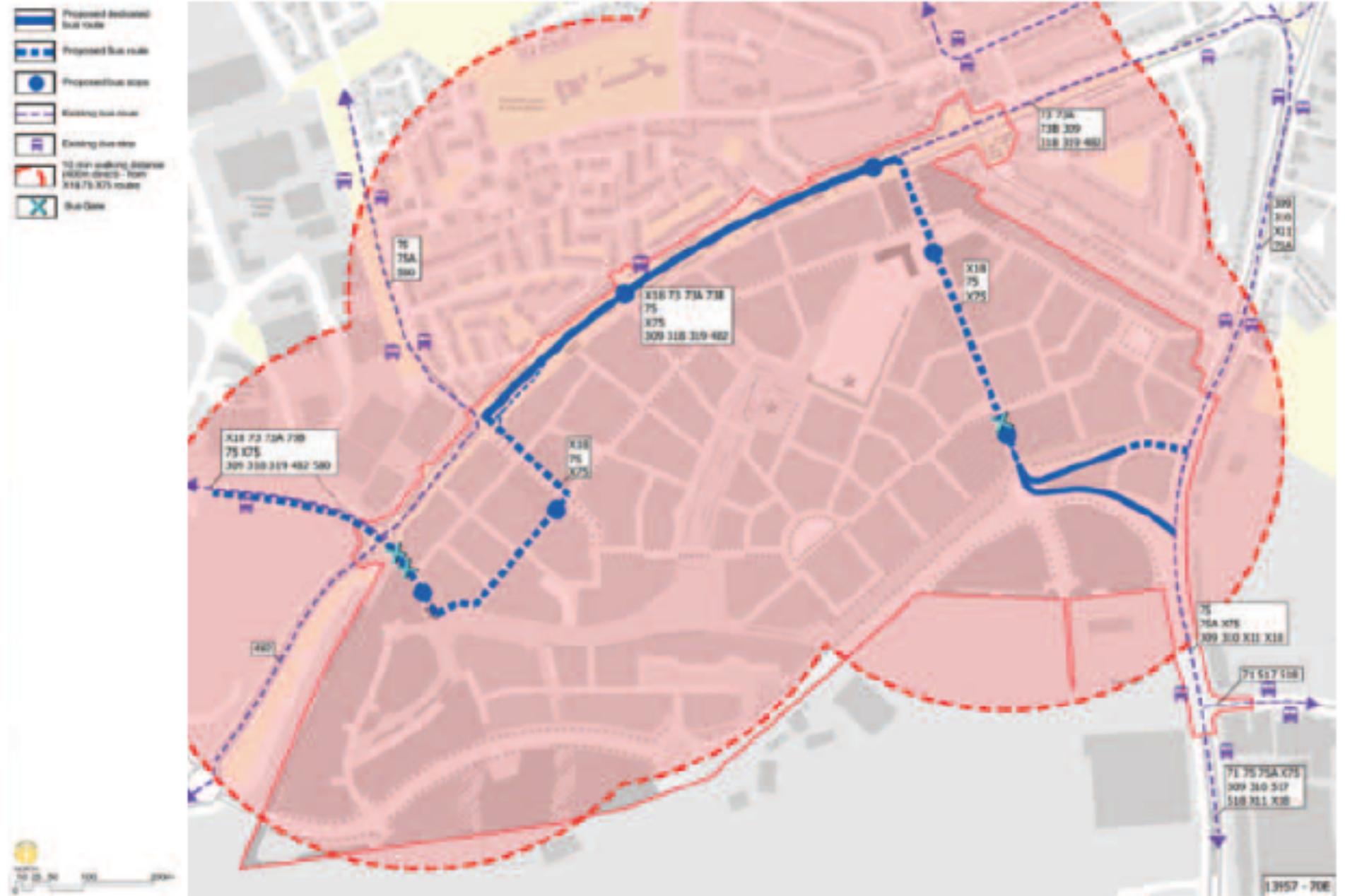


FIGURE 6.15: PUBLIC TRANSPORT PLAN

# Densities

- Application site boundary
- Predominantly higher Density (60-70 units/ha)
- Predominantly High Density (30-60 units/ha)
- Predominantly Medium High Density (40-60 units/ha)
- Employment
- Potential Location for Park / Public House
- Open Space and Landscape



FIGURE 6.6: RESIDENTIAL DENSITY

# Building heights



### Notes:

- The above is an indication of maximum building heights to eaves
- Heights will vary slightly according to specific location
- Based on average storey heights of 4m (employment) and 3.3m (residential)



FIGURE 6.9: BUILDING HEIGHTS



# Types of open space



FIGURE 6.25: LANDSCAPE AND OPEN SPACE

# Urban Task Force: what makes a successful masterplan?

- **Visionary**—raise aspirations and achieve consensus
- **Deliverable**---clear means of implementation
- Fully **integrated into the planning system** while allowing new uses and market opportunities
- **Flexible** —provide a basis for negotiation and dispute resolution
- The result of a **participatory process** allowing all stakeholders to express their needs and priorities

# Tick box: 7 principles for building better cities

**PRESERVE** - Preserve natural ecologies, agrarian landscapes and cultural heritage sites.

**MIX** - Create mixed-use and mixed-income neighborhoods.

**WALK** - Design walkable street and human scale neighbourhoods.

**BIKE** - Prioritize bicycle networks and auto-free streets.

**CONNECT** - Increase density of road network, limit block size.

**RIDE** - Develop high quality transit and affordable BRT (Bus Rapid Transit).

**FOCUS** - Match density and mix to transit capacity.

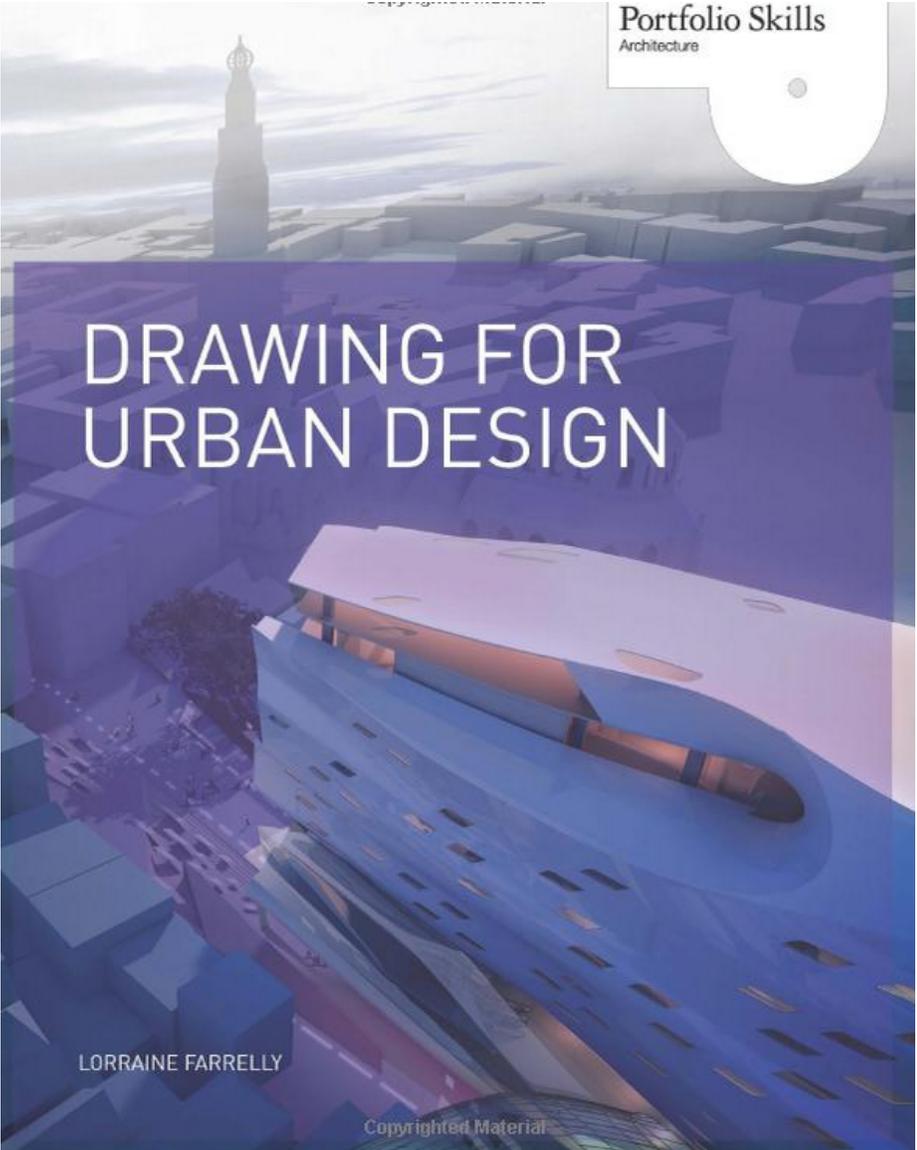
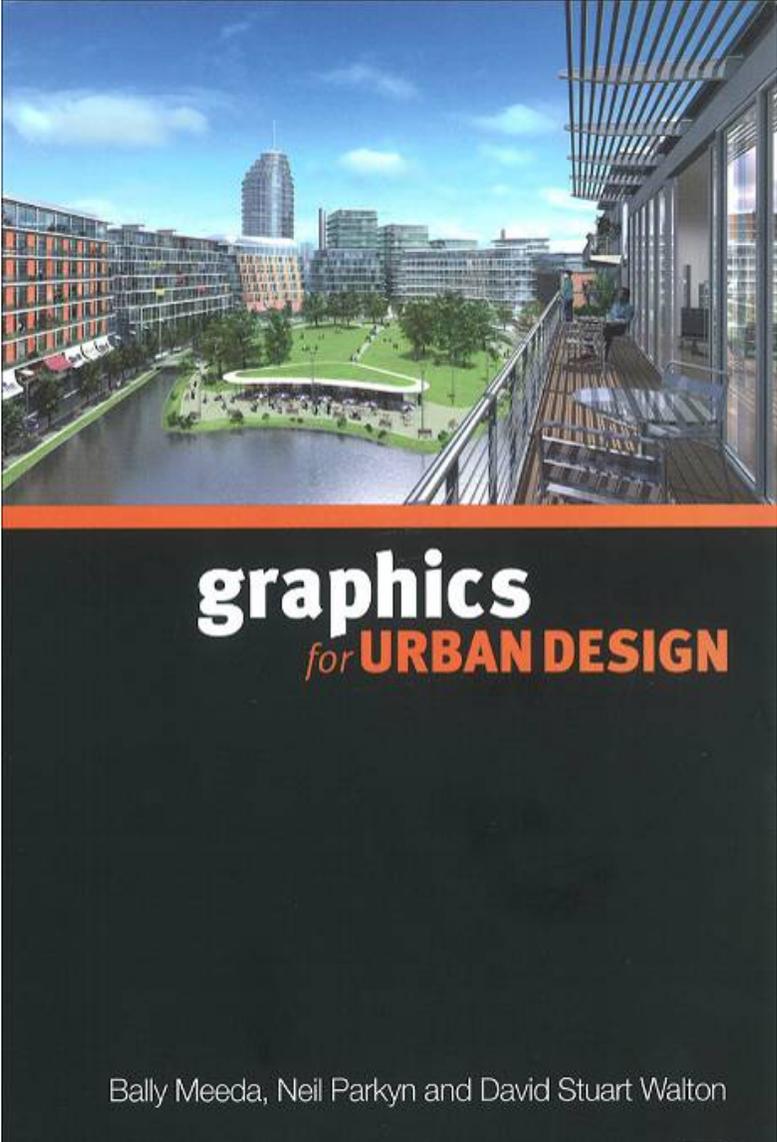
## Critique:

### **"A critique of Masterplanning as a technique for introducing urban design quality into British Cities" Dr Bob Giddings and Bill Hopwood**

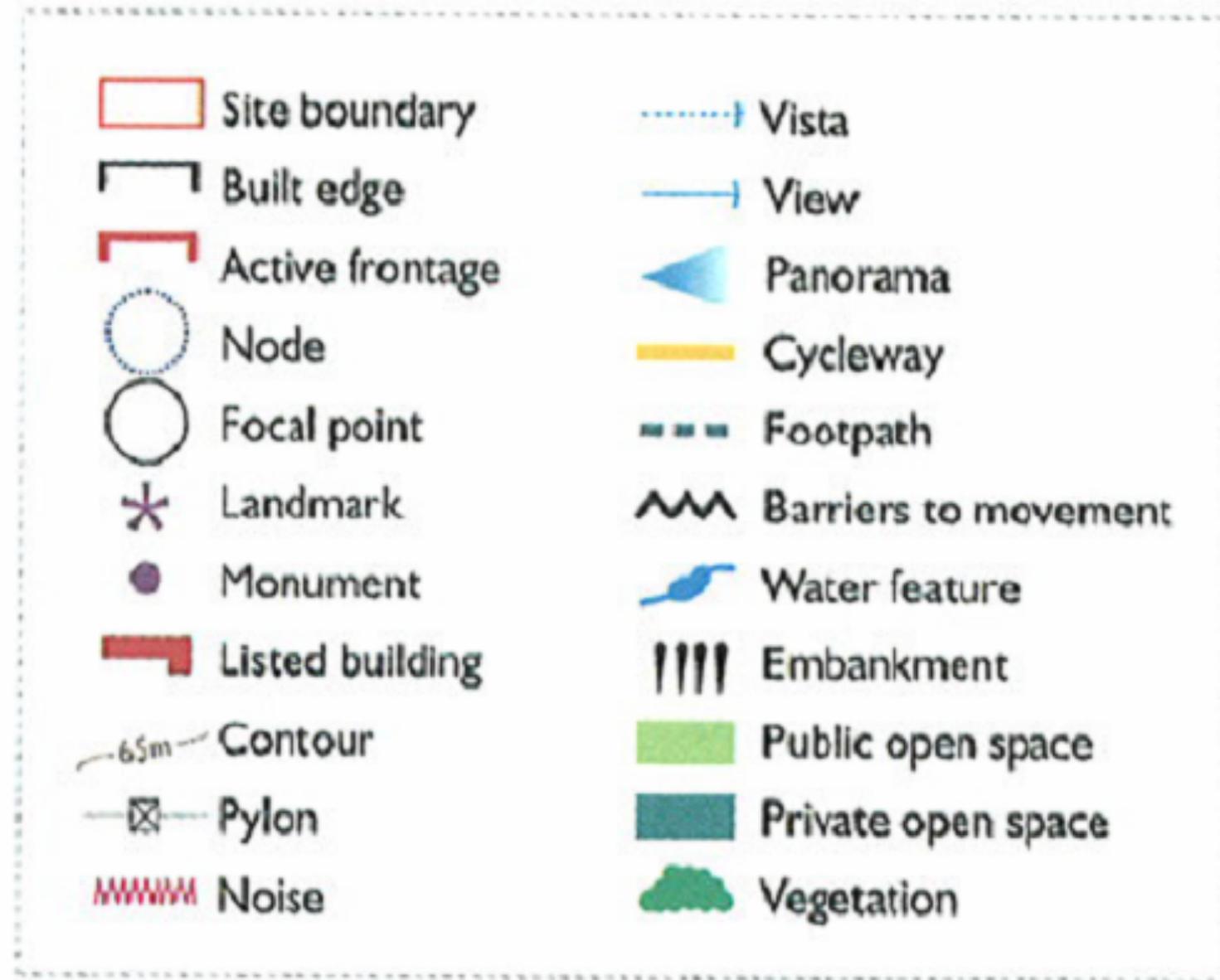
- top-down approach by experts, often clearing out existing activities, creating large single use areas of private or ambiguous ownership.
- It promotes the scheme as a product.
- Focusing on the visual.
- Offers no more than a seductive illusion of urban design.
- Not taken seriously: "Clients require masterplans run for down inner-city areas which have become the soulless repository of thousands of cars. For the price of just one of those cars, and – more often than not – in only a few weeks, you are expected to redesign a city."

# Urban Design graphics

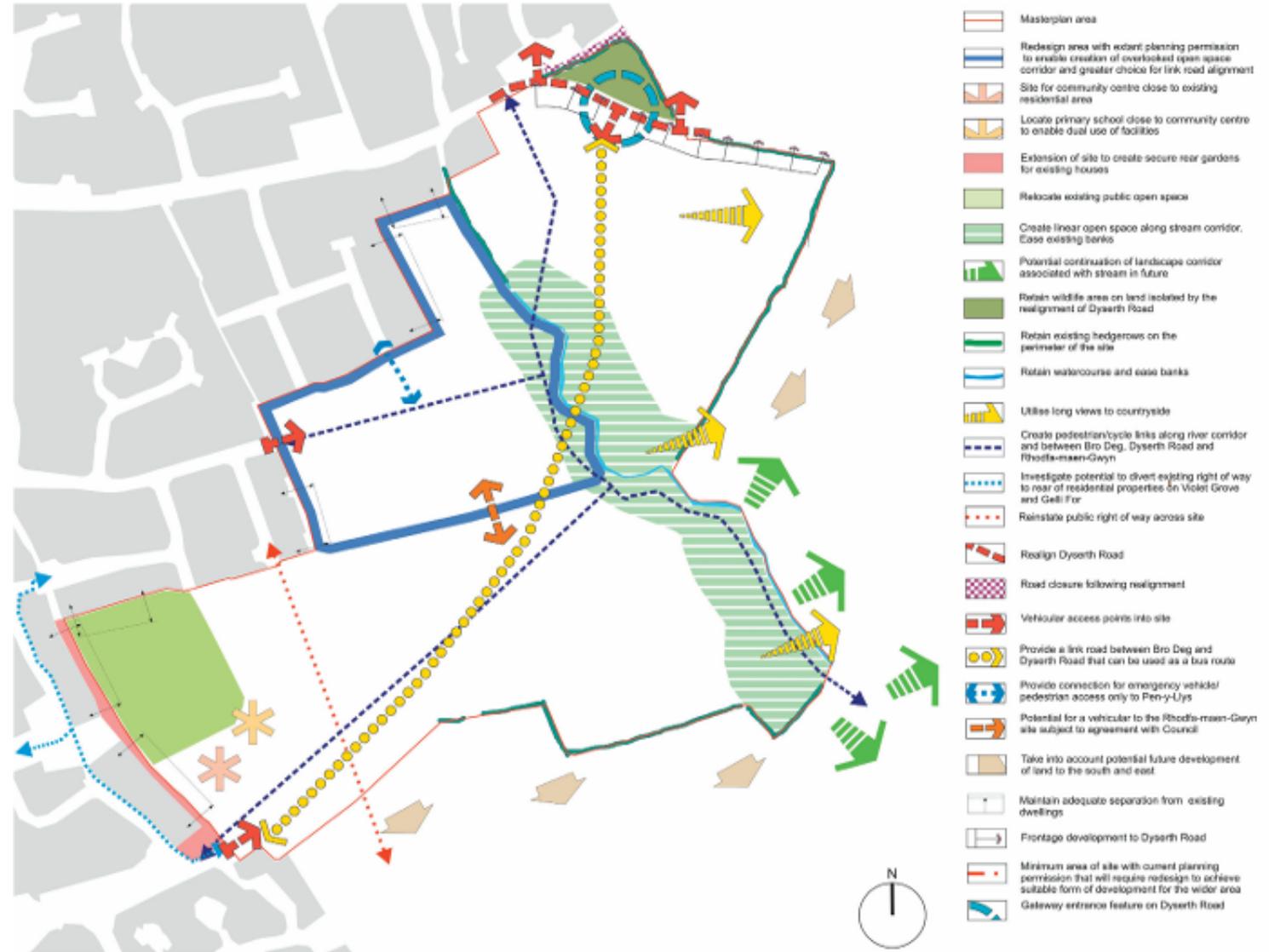
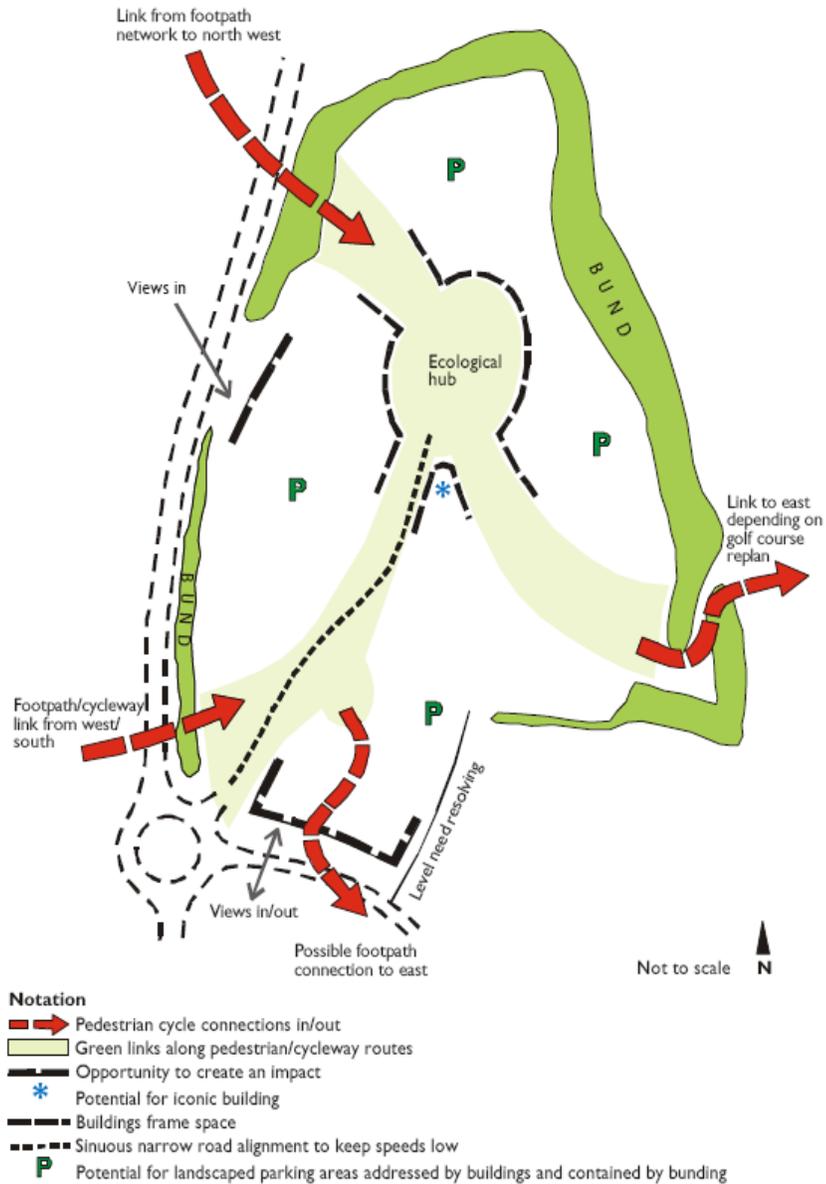
Drawing and thinking about urban design



You need to develop notations for the things we need to be thinking about



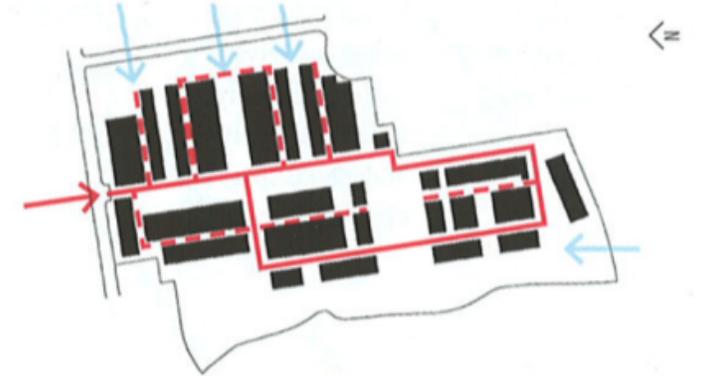
# Opportunities and constraints diagram



# Use diagrams to explain the design dimensions of a scheme

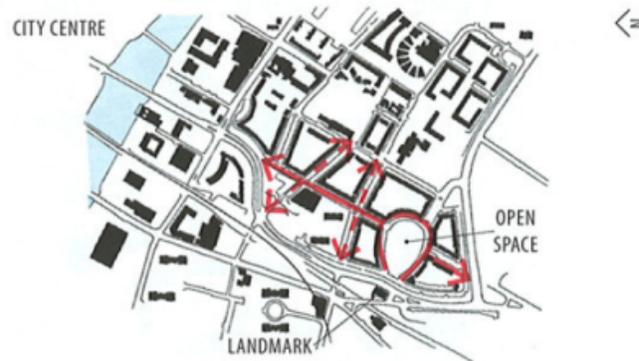
Movement  
(Accordia, Cambridge,  
see page 88)

- Primary street
- - - Secondary street
- ➔ Entrance
- ➔ Pedestrian and cycle access



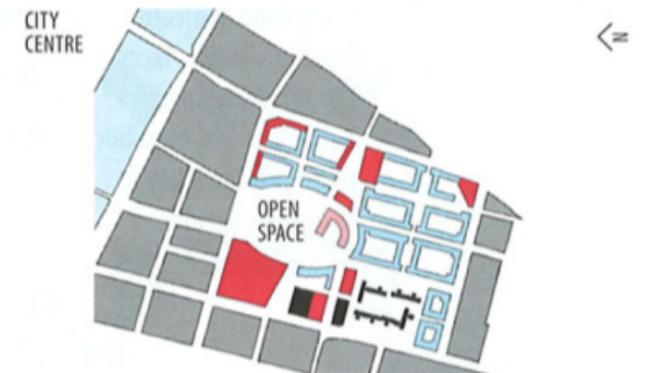
Concept  
(Crown Street  
regeneration area,  
see page 44)

- Central spine and  
neighbourhood heart
- - - Neighbourhood links



Proposed ground  
floor uses  
(Laurieston, Glasgow)

- School
- Commercial
- Residential
- Existing buildings
- Existing street blocks outside  
the masterplan area



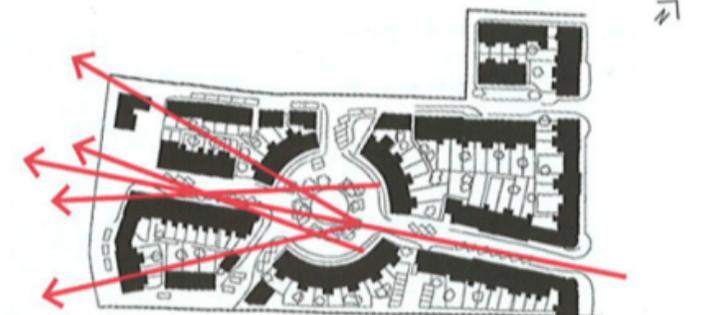
Microclimate  
(the BO 01 waterfront  
development, Malmo, Sweden)

- ➔ Prevailing winds
- Tall buildings as wind break
- - - Staggered streets prevent wind tunnelling
- Sheltered public space

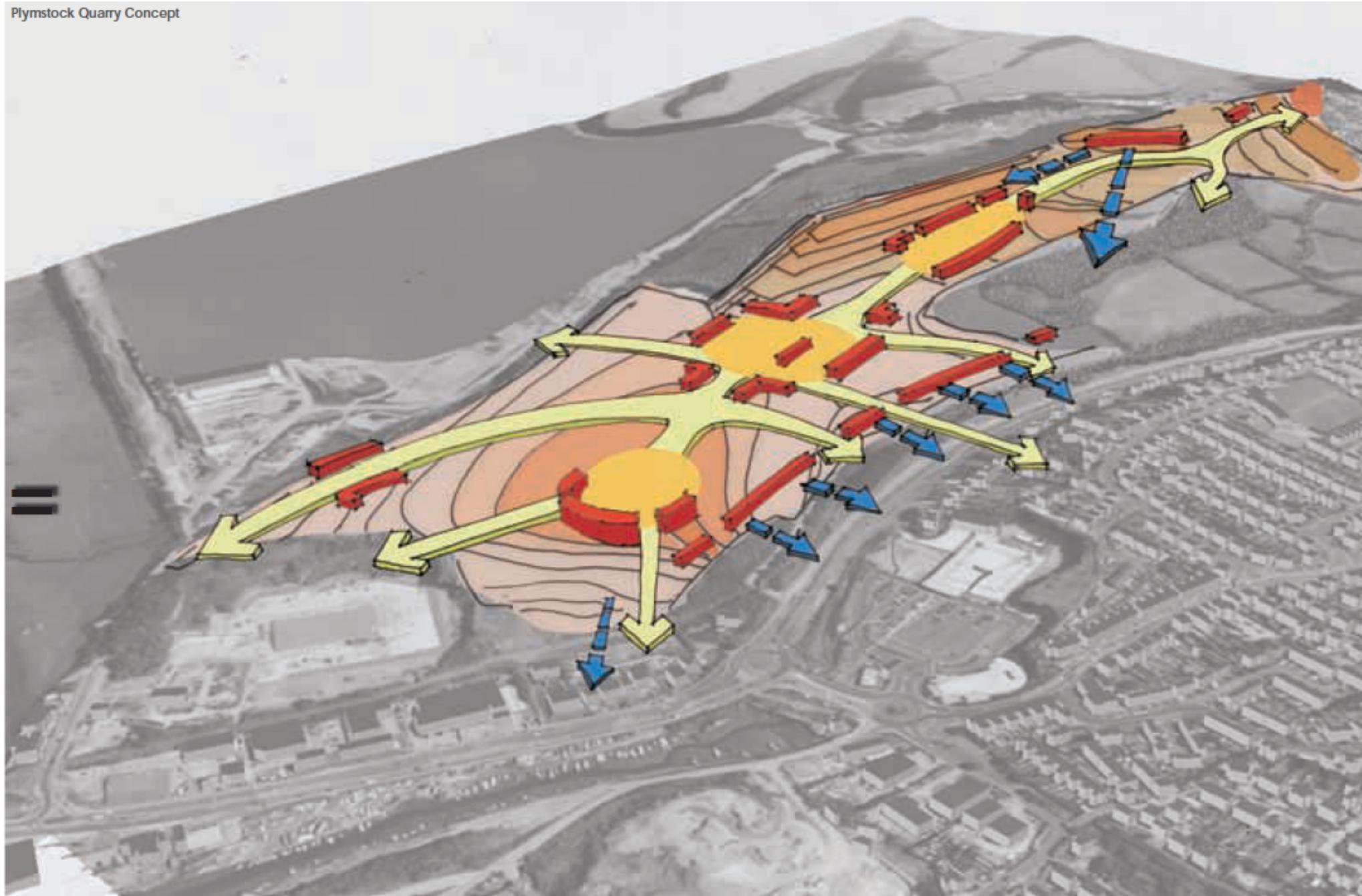


Views  
(Gun Wharf, Plymouth,  
see page 50)

- Views



Plymstock Quarry Concept

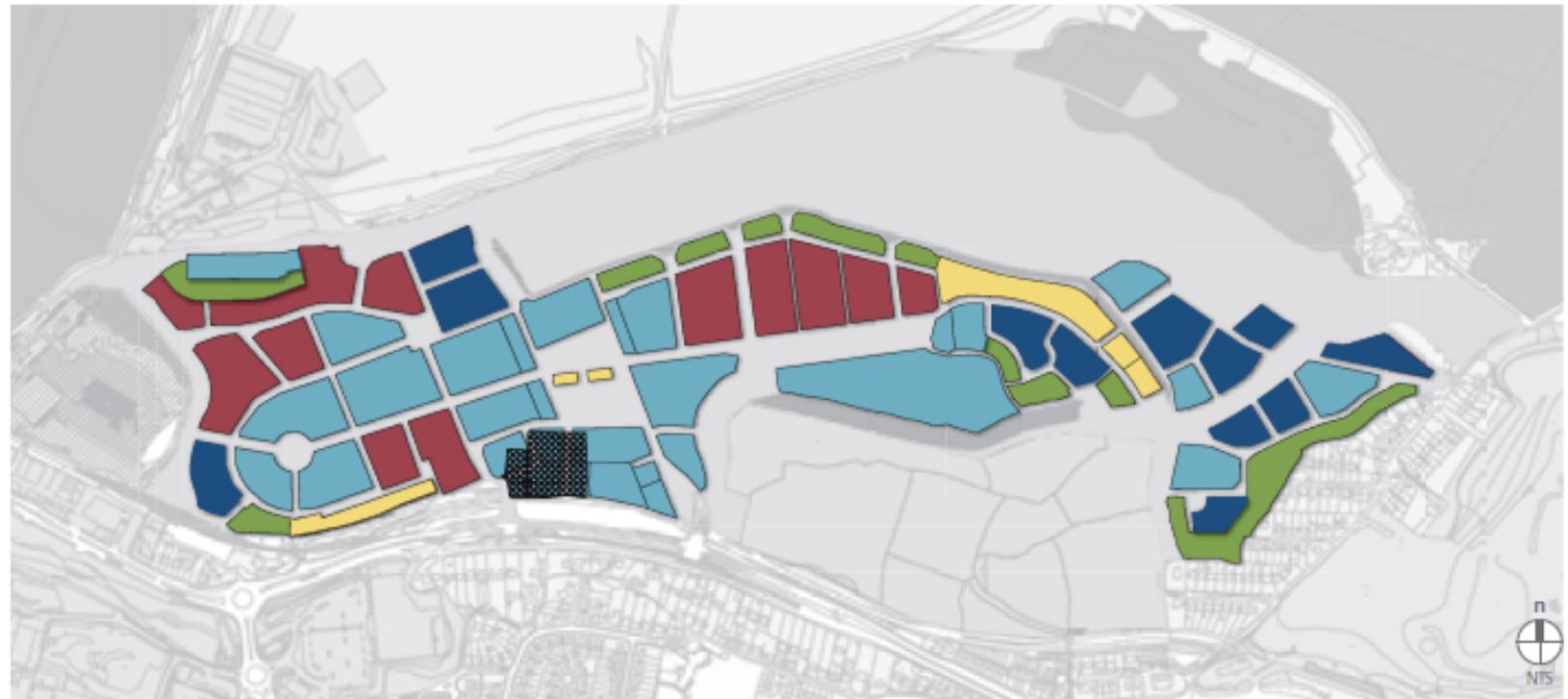


# Future uses concept



# Types of block structure

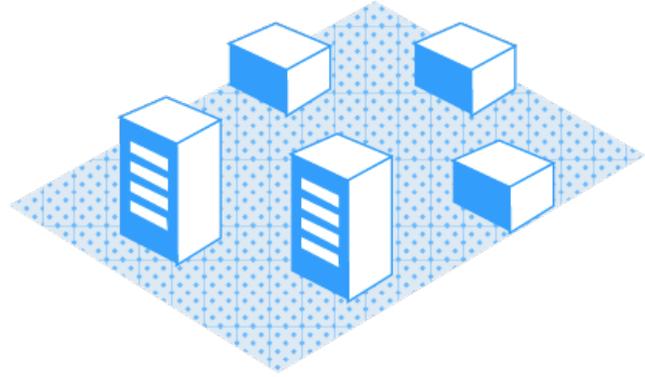
- Parking tends to be on plot with driveways and garaging.



Block Structures Parameters Plan

Thank you.  
Question?

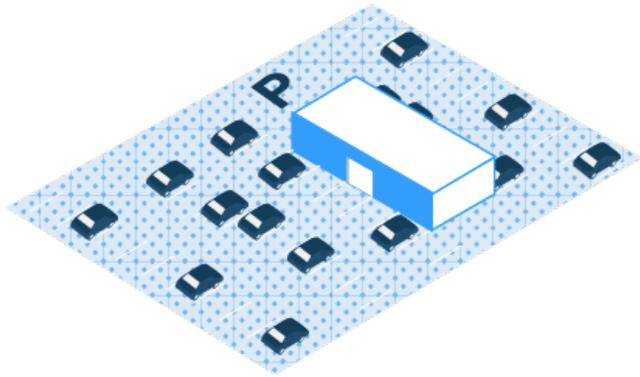
# Urban sprawl repair principles



From separated units and clusters



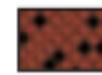
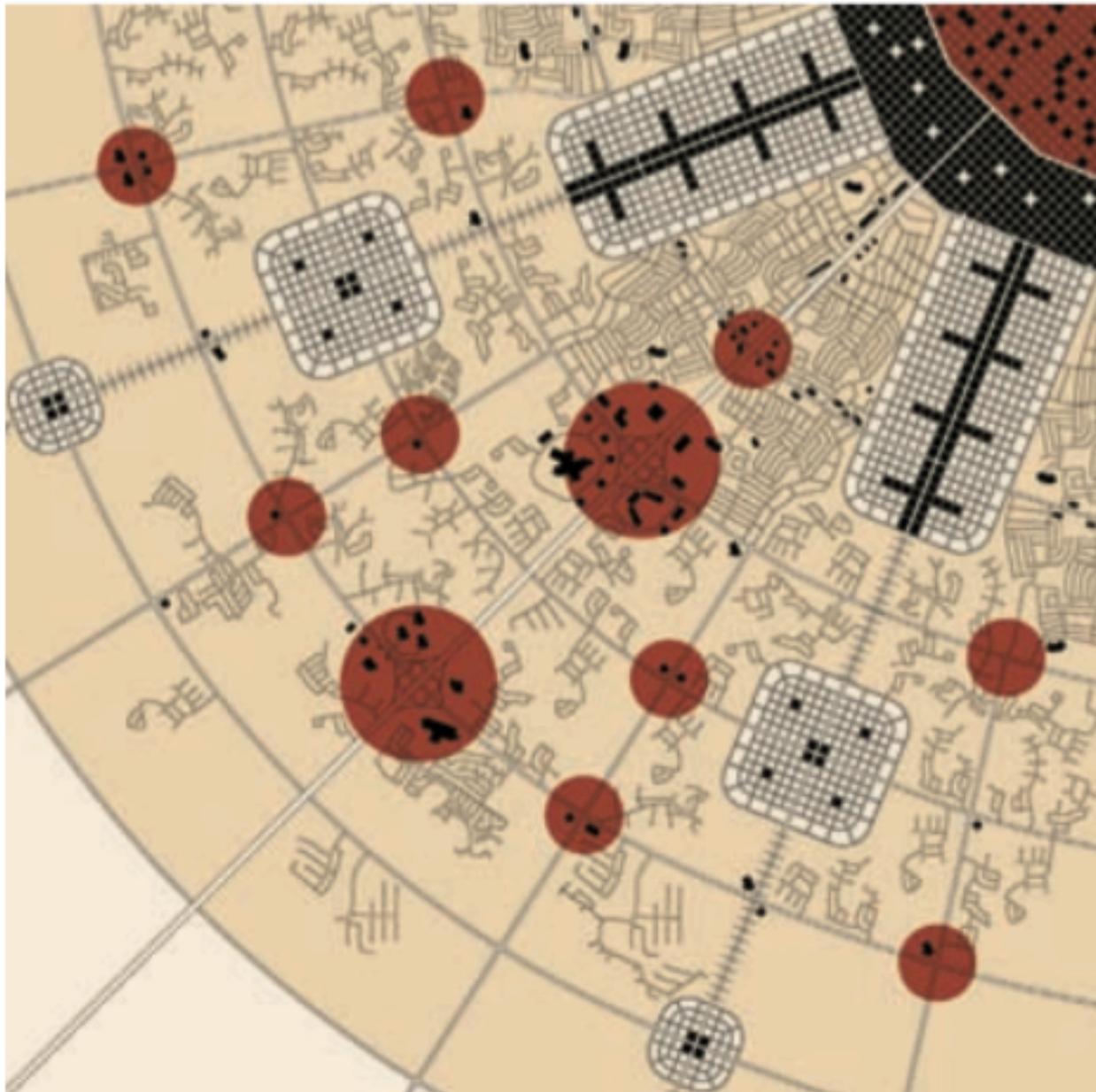
to mixed functions and character



From a windswept 'car' place



to a smaller and pleasant 'people' place



Repair in urban core



Communities for preservation and emulation



Sprawl development



Sprawl repair targets

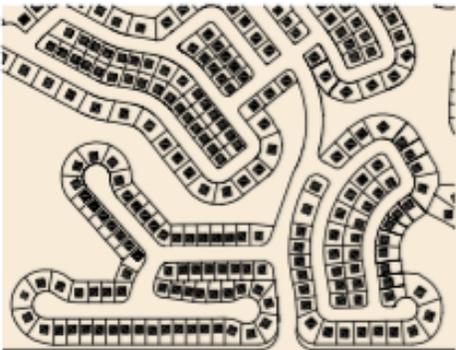


Sprawl as is or devolution

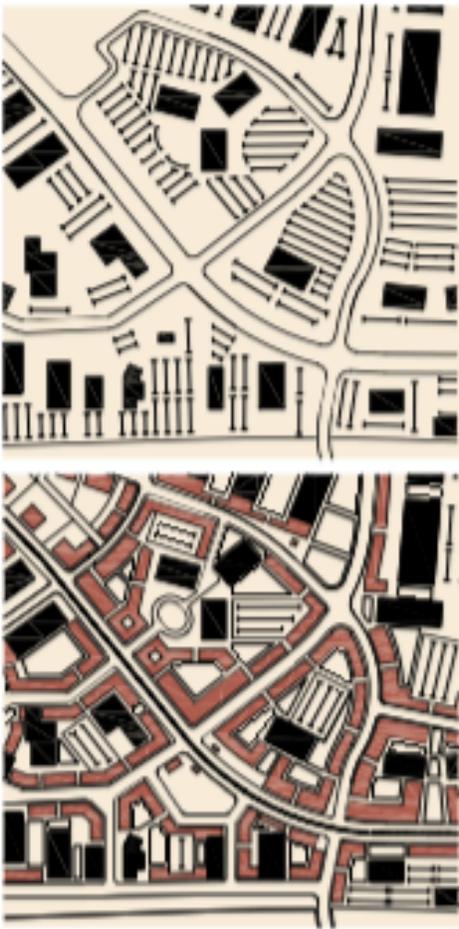


Undeveloped land

## SINGLE-FAMILY SUBDIVISION

TRANSFORMATION	CATEGORIES	BEFORE	AFTER	IMPROVEMENT OF URBAN INDICATORS
	Site acreage, acres	58	58	1.00
	Total built area, <sup>1</sup> sq. ft.	1,900,000	2,700,000	1.4
	Total building footprint, <sup>2</sup> sq. ft.	380,000	530,000	1.4
	Total building area, <sup>3</sup> sq. ft.	880,000	1,900,000	2.2
	Total occupant load, occupants	4,400	8,400	1.9
	Occupant density, occupants per acre	77	144	1.9
	Parking area per capita, sq. ft. per occupant	75	65	0.9
	Thoroughfare area per capita, sq. ft. per occupant	157	73	0.5
Thoroughfare length per capita, ft. per occupant	1.2	0.8	0.6	

## BUSINESS PARK

TRANSFORMATION	CATEGORIES	BEFORE	AFTER	IMPROVEMENT OF URBAN INDICATORS
	Site acreage, acres	126	126	1.0
	Total built area, <sup>1</sup> sq. ft.	3,490,000	6,780,000	1.9
	Total building footprint, <sup>2</sup> sq. ft.	530,000	1,610,000	3.0
	Total building area, <sup>3</sup> sq. ft.	1,450,000	5,440,000	3.8
	Total occupant load, occupants	15,000	29,000	2.0
	Occupant density, occupants per acre	115	235	2.0
	Parking area per capita, sq. ft. per occupant	88	57	0.6
	Thoroughfare area per capita, sq. ft. per occupant	52	33	0.6
	Thoroughfare length per capita, ft. per occupant	0.7	0.5	0.7

## SHOPPING MALL

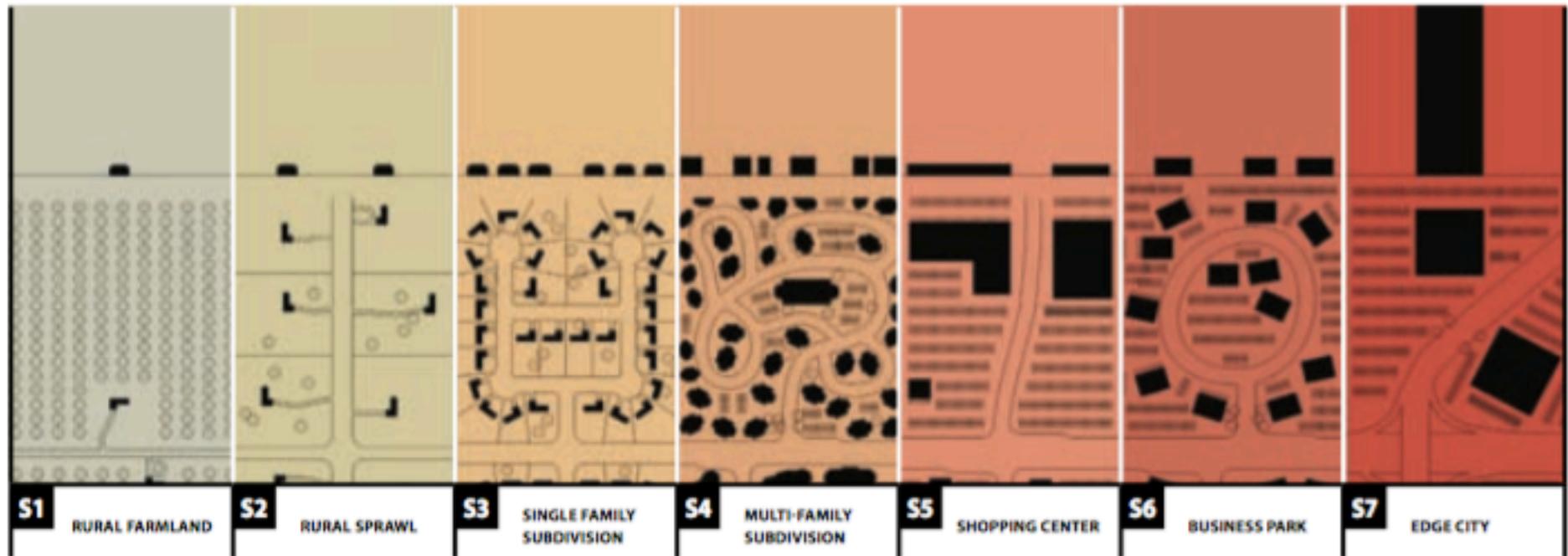
TRANSFORMATION	CATEGORIES	BEFORE	AFTER	IMPROVEMENT OF URBAN INDICATORS
	Site acreage, acres	230	230	1.00
	Total built area, <sup>1</sup> sq. ft.	5,150,000	14,500,000	2.8
	Total building footprint, <sup>2</sup> sq. ft.	1,290,000	3,770,000	2.9
	Total building area, <sup>3</sup> sq. ft.	1,770,000	11,500,000	6.5
	Total occupant load, occupants	19,000	50,000	2.6
	Occupant density, occupants per acre	84	216	2.6
	Parking area per capita, sq. ft. per occupant	77	66	0.9
	Thoroughfare area per capita, sq. ft. per occupant	100	55	0.6
	Thoroughfare length per capita, ft. per occupant	1.00	0.4	0.4



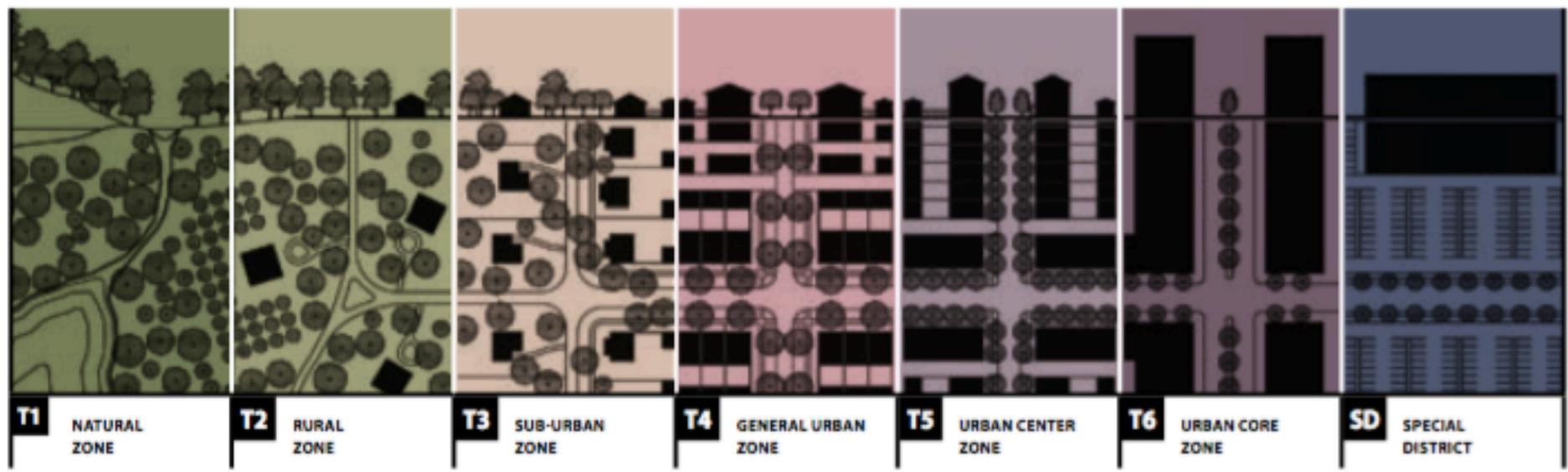
2-8. Neighborhood model



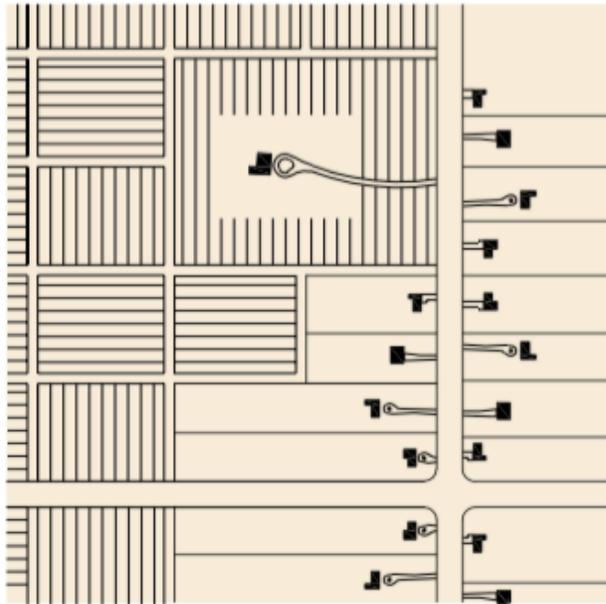
2-9. Sprawl model



*Drawing by Dan Zack*



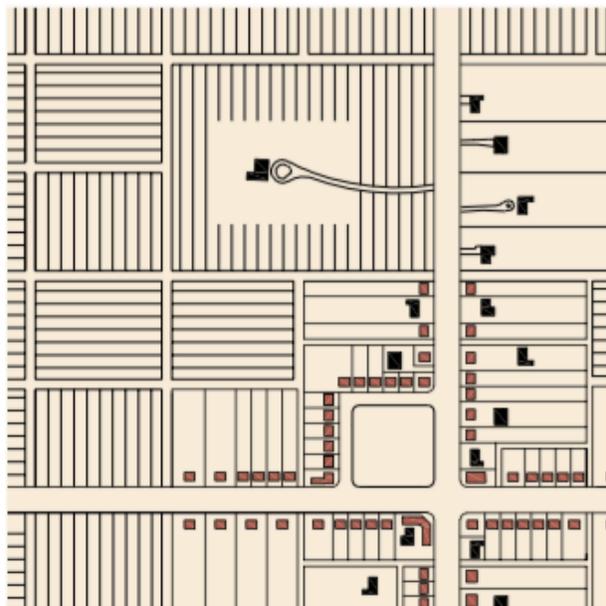
2-15. Comparison of the Transect in sprawl and in traditional urbanism, showing the lack of direct correlation between the two



4-5. Existing rural sprawl

The transformation of rural sprawl into a hamlet is achieved through the repair technique of re-platting and clustering. The black footprints in figure 4-5 are existing buildings, and the red in figure 4-6 are proposed buildings.

Existing buildings



4-6. Rural sprawl repaired into a hamlet

Out of 16 existing parcels, nine are subdivided into smaller lots, while only two houses need to be purchased and removed to achieve this new arrangement into a hamlet. Fifty-two new units are added, making the total number 66. This density will be able to support a hamlet (a clustered rural development with limited commercial uses) that later can grow into a village (a freestanding, complete neighborhood providing the basic daily needs).

Proposed buildings

Existing buildings





4-22. Existing single-family subdivision enclave

Figure 4-22 shows the existing condition of a portion of the residential enclave and figure 4-23 is its proposed transformation into a diverse and balanced neighborhood, which will become the center for other suburban enclaves adjacent to the subdivision. The existing structures are shown in black, the new infill in red.

Existing buildings



4-23. Subdivision repaired into a neighborhood center

Increasing density significantly, combined with other actions at the larger regional context, is required to make transit viable for this area. Houses that are removed are replaced with denser building types such as townhouses, live-work units, and those that will accommodate apartments or offices above shops. The precise location and number of these infill buildings will depend on the local market projections for both the residential and commercial uses. The intention of this repair is not only to transform the development into a neighborhood, but also to provide amenities and create a center for the surrounding developments.

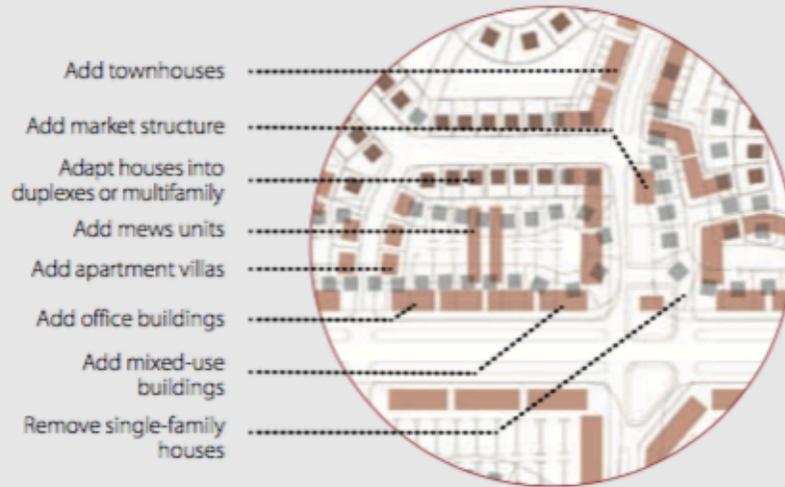
Proposed buildings

Existing buildings

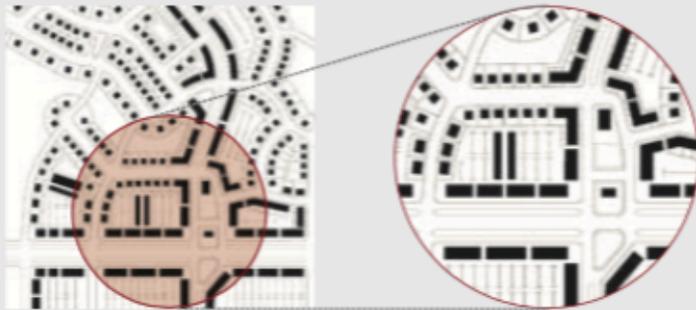
**Deficiency:** Single building type and use



**Remedial Techniques:**  
Introduce new building types and mix of uses: retail, office, and civic



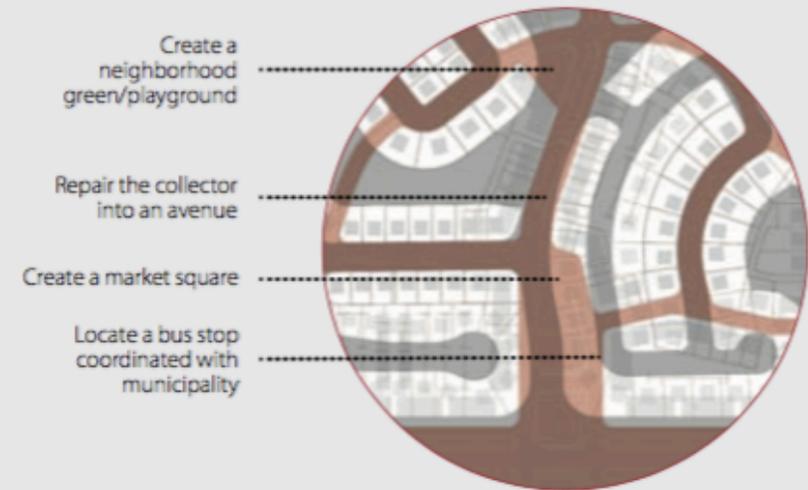
**Outcome:** Variety of building types and mix of uses to support neighborhood center



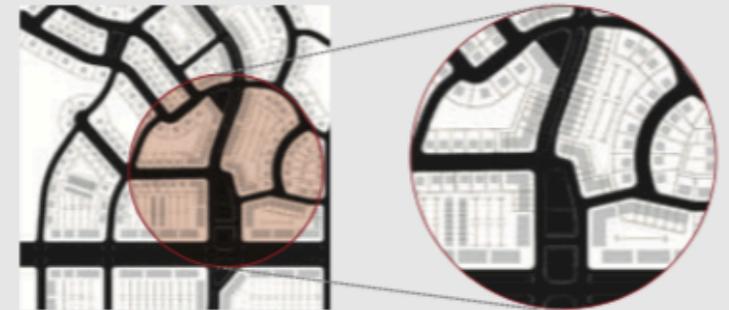
**Deficiency:** Residual open space



**Remedial Techniques:** Define open and civic space

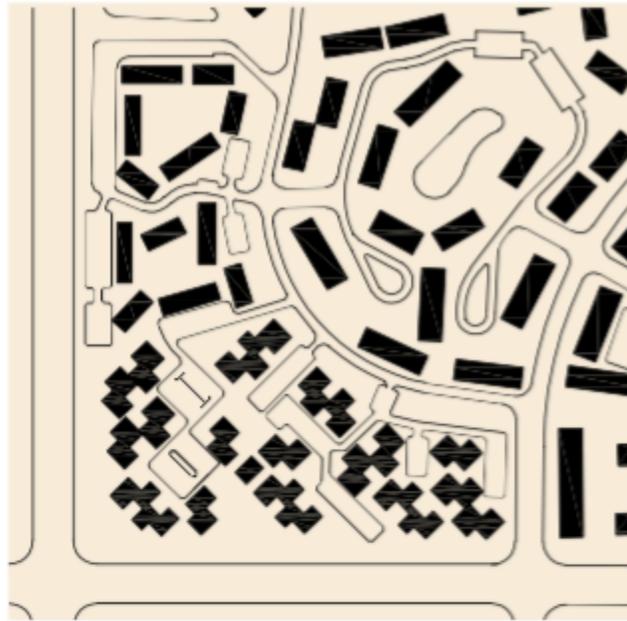


**Outcome:** Hierarchy and spatial definition of public realm





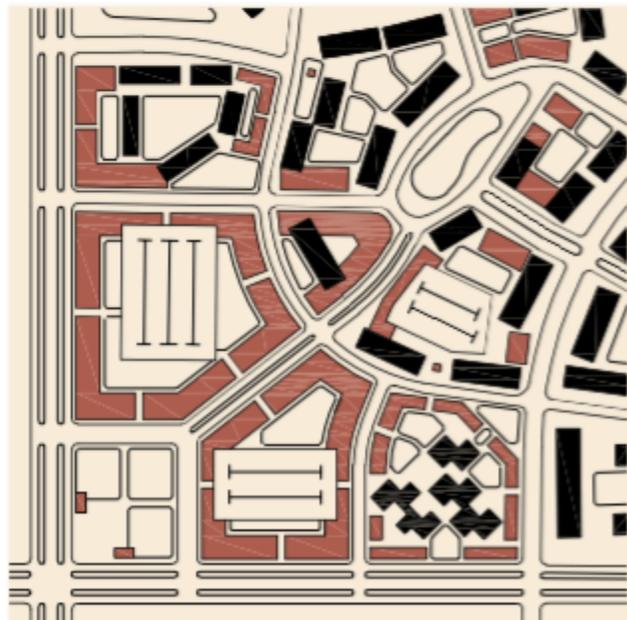




4-42. Existing multifamily subdivision

Figures 4-42 and 4-43 show a typical multifamily subdivision before and after repair. Its transformation into a mixed-use and transit-ready town center requires a radical intervention.

Existing buildings



4-43. Multifamily subdivision repaired into a town center

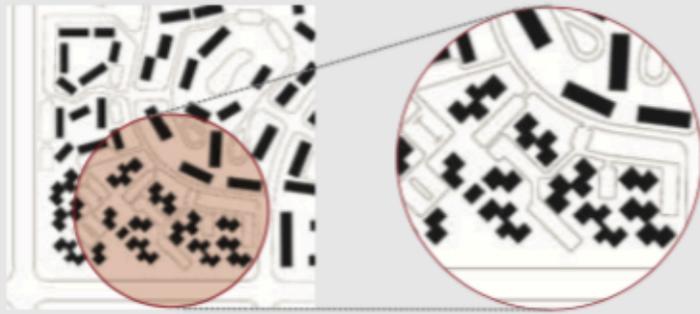
The overall urban structure of the subdivision is reorganized. A new square is formed at the intersection of the bordering arterial roads, and a main street is created, leading from the square to the existing lake, which becomes a public amenity. Four- and five-story buildings are added (new buildings are shown in red, existing in black) to support mixed uses.

Proposed buildings

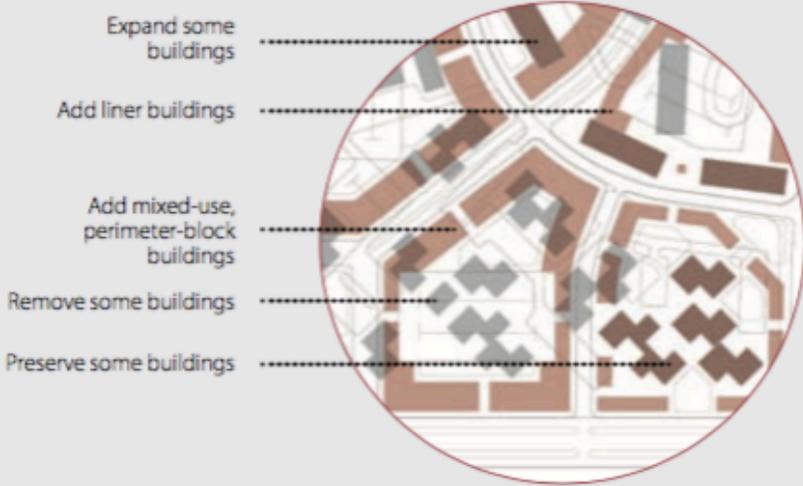
Existing buildings



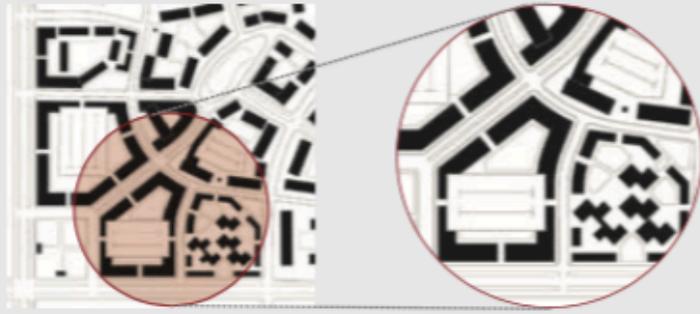
**Deficiency:** Single building type and use



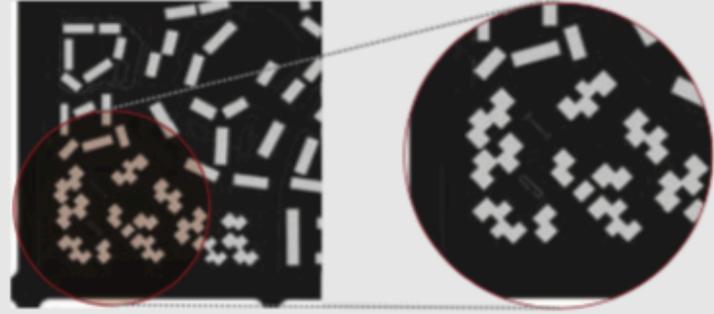
**Remedial Techniques:** Introduce new building types and mix of uses: residential, retail, office, lodging, and civic



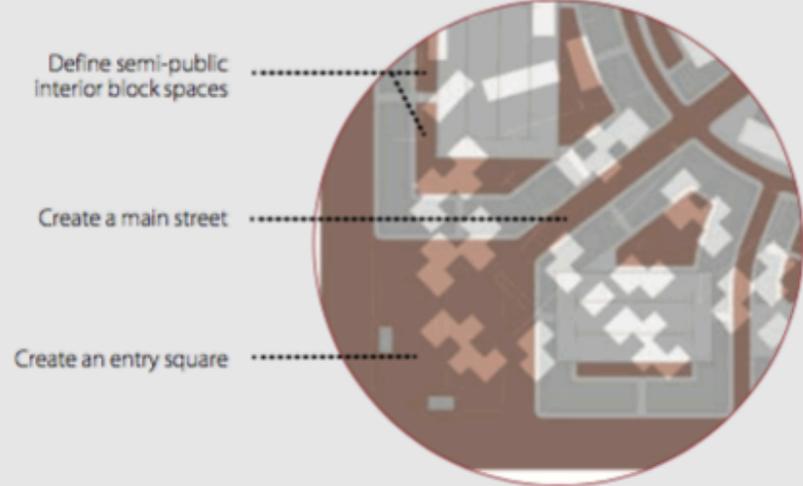
**Outcome:** Variety of building types and mix of uses to support a town center



**Deficiency:** Residual open space



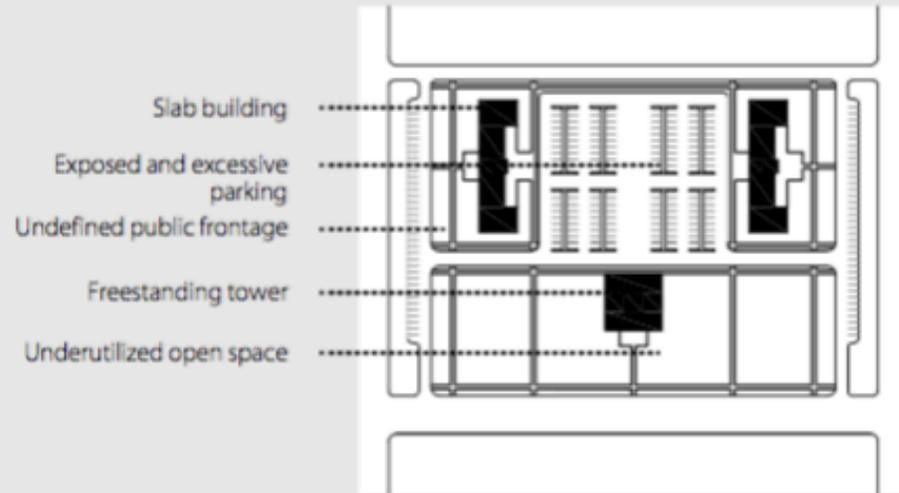
**Remedial Techniques:** Define open and civic spaces



**Outcome:** Hierarchy and spatial definition of public realm



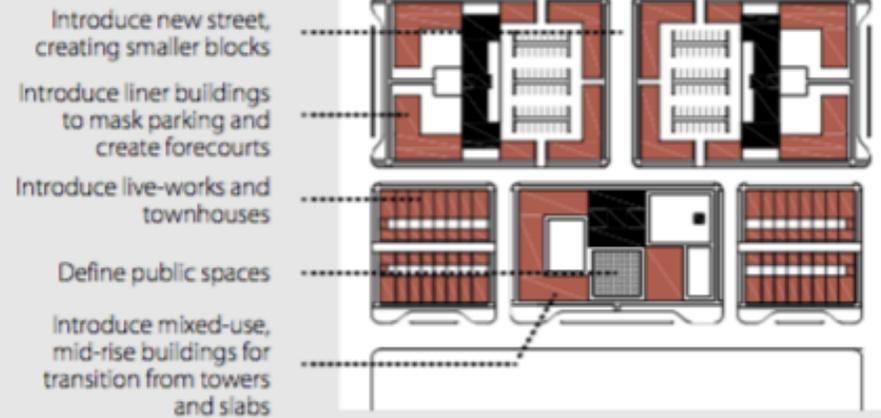
**Deficiency:** Oversized megablock



6-3. Existing slab and tower block

**Outcome:** Walkable urban fabric

**Remedial Techniques:**



6-4. Repaired block with townhouses and mixed-use buildings

**Deficiency:** Single building type and use. Suburban houses; oversized lots; 14 dwellings at 3.5 units per acre

Single building type

Deep setbacks

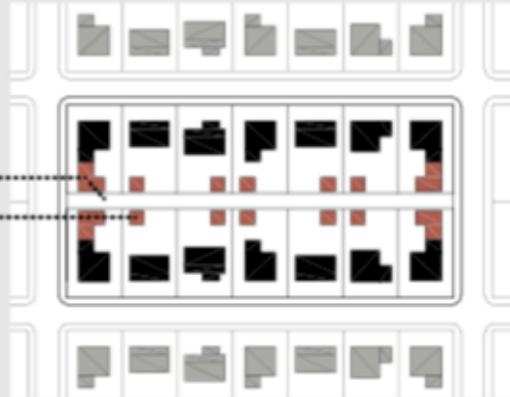


**Phase One:** Alleys and outbuildings along cross-block alley; 28 dwellings at 7 units per acre

**Remedial Techniques:**

Introduce alley

Introduce outbuildings



**Phase Two:** Outbuildings along alley and corner stores; 38 dwellings at 9.5 units per acre

Infill with backbuildings

Transform corner units into corner stores or live-work units



6-17. Existing condition: Typical suburban residential block

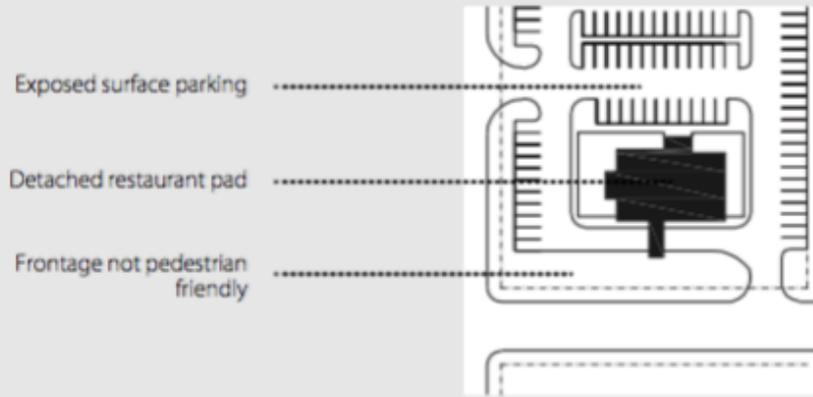


6-18. Phase One: New alleys and outbuildings



6-19. Phase Two: Backbuildings

**Deficiency:** Car-oriented building type



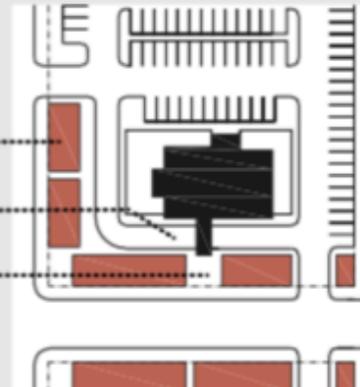
**Outcome One:** Liner buildings

**Remedial Techniques:**

Add liners along frontages

Keep drive-through

Keep an opening for visibility from street

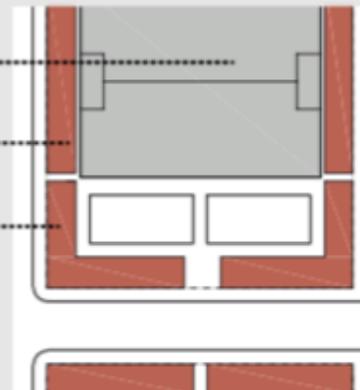


**Outcome Two:** Dense redevelopment

Replace surface parking lot with a parking structure

Add liner buildings to mask parking structure

Replace drive-through with perimeter mixed-use block



7-11. Suburban drive-through



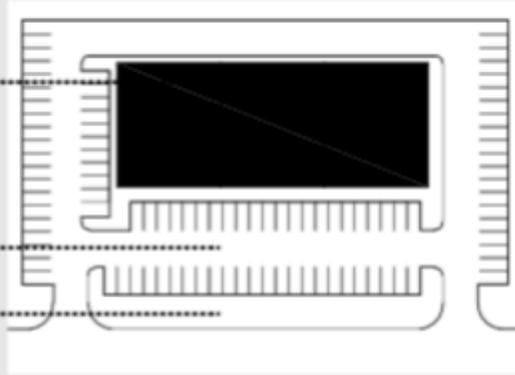
7-12. Liner buildings on a main street

**Deficiency:** Car-oriented building type

Stand-alone, single-use structure

Excessive surface parking

Poor public frontage



**Outcome One:** Building reuse and additions

**Remedial Techniques:**

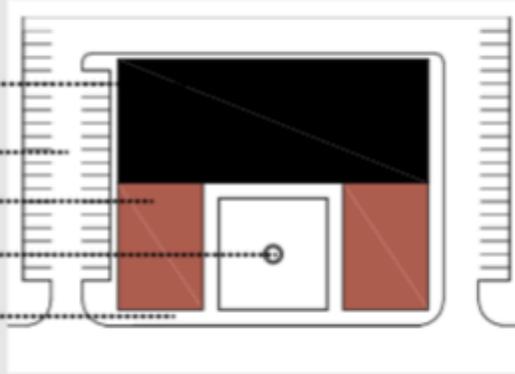
Adapt building for a new use

Reorganize parking

Add side wings

Create a public courtyard for outdoor sitting

Introduce sidewalks and on-street parking



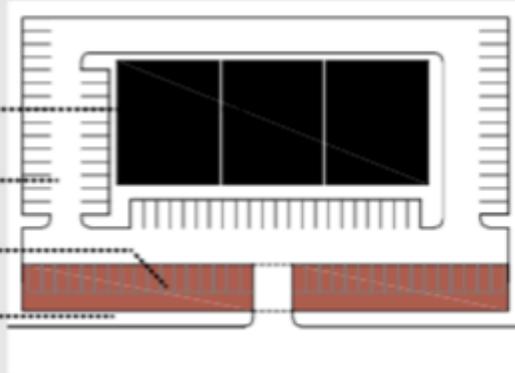
**Outcome Two:** Building reuse and new liner buildings

Divide the building to house multiple businesses

Reorganize parking

Introduce liners along the front

Introduce sidewalks and parallel parking



7-17. Existing strip center



7-18. Conversion into a recycling center

Thank you.  
Question?