

# Composition [#2]

Thursday, April 19<sup>th</sup>, 2012

Andrea Di Giovanni

## Contents (of two lectures)

Thursday, April 12<sup>th</sup>, 2012

1. What does composition mean?
2. City's changes
3. Compositional concepts: a technical reading
4. References

Thursday, April 19<sup>th</sup>, 2012

5. Comparison and Achievements
6. New Towns designed in the East
7. References application: retrofitting spontaneous outcropping Cities
8. Retrofitting programs for insurgent outcropping Western Cities

## Lecture references

- Gabellini P. (2001), *Tecniche urbanistiche*, Carocci, Roma.
- Di Giovanni A. (2010), *Spazi comuni. Progetto urbanistico e vita in pubblico nella città contemporanea*, Carocci, Roma.
- Kriken J.L. (2010), *City Building. Nine Planning Principles for the Twenty-First Century*, Princeton Architectural Press, New York.
- Keeton R. ed. (2011), *Rising in the East*, SUN, Amsterdam.
- Wolfrum S. and Nerdinger W. eds. (2008), *Multiple City. Urban Concept 1908-2008*, Jovis, Berlin.
- Dunham-Jones E. and Williamson J. (2009), *Retrofitting suburbia. Urban design solutions for redesigning suburbs*, John Wiley & Sons, New York.
- Duany A., Plater-Zyberk E., Speck J. (2000), *Suburban Nation. The Rise of Sprawl and the Decline of the American Dream*, North Point Press, New York.

## 5. Comparison and Achievements

## Some main agreed points

- 1.) **Ideal/standardized dimension** for the whole settlement and/or for some specific parts and/or for the specific urban elements.
- 2.) Usefulness and versatility of the **orthogonal grid**.
- 3.) **Soil subdivision** modalities into blocks and plots (different shapes and dimensions).
- 4.) **Functional definition** of settlement parts (specialization vs. multiple uses).
- 5.) **Hierarchical** organization of the **street grid**.
- 6.) Attention for **public transport system** and for its integration with the street grid.
- 7.) **Open space** overall extension and specific articulation often related to design and displacement of public facilities.

# Facilities organization: concentration vs. diffusion

## City Centre

*Garden City*: public facilities are placed in the **settlement centre** (main public facilities) and **along the Grand Avenue** (local facilities).

*Ville Radieuse*: main urban facilities are placed in the **administrative core** (the northern part) of the city, while social services and recreational spaces are arranged inside the blocks within the green **between buildings** (close to the houses).

## Proximity

*Cité Linéaire Industrielle*: facilities are **close to or inside huge residential buildings**.

*Ensanche de Barcelona*: public facilities take **one or more modules** of the urban grid with defined frequency and distance related to their function. It is possible to recognize two principles: **hierarchy** and **proximity**.

## Civic centre

*Greater London Plan*: within New Towns public facilities are placed into the neighbourhood core realizing a **civic centre**; schools are arranged freely **within wide green spaces**; sport and leisure facilities are placed **outside** the town.

*Amsterdam Algemeen Uitbreidingsplan*: public buildings are grouped and arranged in order to realize specific **civic centres**.

*Broadacre City*: facilities of different kind are placed within some **exceptional blocks** or **at the bottom of the highest towers**.

# Density of population

*Broadacre City*: **5-7** inhabitants/hectare.

*Ciudad Lineal*: 10 units/hectare (measured value), considering 3-4 inhabitants/family (for single-family houses), the density would be approximately **30-40** inhabitants/hectare.

*Garden City*: **60** inhabitants/hectare referring to the urban core and **1** inhabitants/hectare within the agricultural belt.

*Greater London Plan*: **72-120** inhabitants/hectare is the range expected for the New Satellite Towns within the outer ring.

*Amsterdam Algemeen Uitbreidingsplan*: considering the neighbourhood of Sloterveer (one of the largest) 11.000 houses are designed onto 260 hectares (for approximately 35.000 inhabitants in relation to the average size of households in that period – 3.37 members per family –) with an average density of 40 units/hectare approximately **135** inhabitants/hectare.

*Ensanche de Barcelona*: **250** inhabitants/hectare.

*Cité Linéaire Industrielle*: **50** inhabitants/hectare in the case of isolated houses on a plot (garden city model) or **400** inhabitants/hectare in the case of the Unité d'habitation (a kind of vertical garden city).

*Großstadt*: **715** inhabitants/hectare.

*Ville Radieuse*: **1.000** inhabitants/hectare.

**Built area** (in relation to the surface of the whole settlement)

*Großstadt*: the coverage ratio is approximately **1/1** (the built space substantially coincides with the block's surface).

*Cité Industrielle*: the built space can't exceed **50%** of the whole urban surface.

*Ensanche de Barcelona*: the built space can be at maximum **1/3** of the area of each block.

*Ciudad Lineal*: the surface covered by the building is at maximum **1/5** of the entire plot surface.

*Ville Radieuse*: the coverage ratio is **12%** (only 1/8 of the urban surface is built).



## Dimensions and characteristics of blocks and plots

*Cité Industrielle*: the blocks are standardized and their dimension are **30x150** meters (4.500 square meters), the plot dimension can vary according to the basic module of **15x15** meters (225 square meters).

*Ensanche de Barcelona*: the block dimension don't varies and it is **113x113** meters (12.370 square meters).

*Ciudad Lineal*: the block is rectangular in shape and its dimension is **80-100x200** meters (16-20.000 square meters): the plot standard module is **20x20** meters (400 square meters).

*Garden City*: blocks are sector (with variable size) of a circular ring; within different blocks the recurrent dimension of plots is **6x30/40** meters (180-240 square meters).

*Greater London Plan*: blocks are **irregular** in shape and sizes.

*Amsterdam Algemeen Uitbreidingsplan*: block dimension can vary according to a defined **ratio for sides length (2:1)**.

*Großstadt*: the blocks are rectangular and narrow and the dimension is **100x600** meters (60.000 square meters).

*Ville Radieuse*: the block is square and the defined dimension is **400x400** meters (160.000 square meters); within the blocks there are no plots.

*Broadacre City*: the minimum plot size is **one acre** (about 4.000 square meters).

*Cité Linéaire Industrielle*: there are **neither blocks nor plots**.

## Building typologies: low, medium, tall houses

*Ciudad Lineal*: **single-family houses** on a plot (urban villas).

*Garden City*: **single-family houses** on a plot and **terraced houses** (cottage).

*Greater London Plan*: **single-family houses** and **terraced houses** spread within open green spaces and sometimes **low bar buildings** surrounding the civic centre.

*Broadacre City*: **single-family houses** on a plot (sometimes grouped) and multifunctional **towers** of 15-20 storeys.

*Cité Industrielle*: **urban villas** of one or two floors and **collective houses** (city centre).

*Ensanche de Barcelona*: **collective buildings** of maximum 4 storeys (the height is 16 m) arranged along the perimeter of the blocks (open block).

*Amsterdam Algemeen Uitbreidingsplan*: isolated **bar buildings** of 2, 4, 8 storey at maximum within open blocks and 12 storeys **towers**.

*Cité Linéaire Industrielle*: a new building typology (a huge collective building named "**Unité d'Habitat**") is conceived like a "tool for living".

*Ville Radieuse*: the new building typology provided is the "**Redents**" (a huge bar buildings of 11 floors with 90° bends placed on stilts).

*Großstadt*: 20 storey **complex buildings** made of two building types overlapped (block building for offices at the bottom and tall residential bar buildings on the top).

## **Rules for blocks and plots layout** (building and open space displacement)

*Ensanche de Barcelona*: at least **one side of the block is not built** in order to guarantee light and air penetration.

*Ciudad Lineal*: buildings are set **5 mt rearward** from the road and placed in the middle of the plot.

*Broadacre City*: **free displacement** within huge plots.

*Großstadt*: buildings are **oriented along the road network** and both – buildings and road network – are oriented **according to the best sunlight exposure**.

*Cité Industrielle*: buildings are **oriented along the road network** and both – buildings and road network – are oriented according to the **best sunlight exposure**.

*Amsterdam Algemeen Uitbreidingsplan*: buildings are **oriented according to the best sunlight and wind exposure** (together with the road network) and placed in any case on the **blocks edges**.

*Greater London Plan*: **buildings are set rearward** from the road (realizing semi-public spaces), bar buildings are **oriented according to the best sunlight and wind exposure**.

*Cité Linéaire Industrielle*: building are placed **within a huge green collective open space** ("death of the road") and **faced according to the best exposure**.

*Ville Radieuse*: buildings ("Redents") are laid out within huge blocks in an **orthogonal** way (defining building depth according to sunlight and wind exposure).

## Public and private open space

Broadacre City: open spaces are **mainly private** and set-out within huge residential plots.

*Amsterdam Algemeen Uitbreidingsplan*: there are **no private open spaces**; public spaces are set-out **within the blocks**, or close to **civic centres**.

*Cité Linéaire Industrielle*: public open green spaces are **widespread** and suitable for several collective uses; there are **no private open spaces**.

*Ville Radieuse*: public open green spaces are widespread within huge blocks and **between the Redents**; here there are **no private open spaces**.

*Großstadt*: public open spaces coincides with **street spaces**, here there are **no private open spaces**.

*Ensanche de Barcelona*: open spaces for public uses are placed along the **roads** and at **crossroads**, and in **the middle of open residential blocks**.

*Ciudad Lineal*: public spaces are along the **road**; wide open spaces within the blocks are completely private.

*Garden City*: **public and private green open spaces spread** within the whole city. They constitute the **green "heart"** of the city centre. A huge **green-belt** surround the settlement (it limits the growth and preserve the countryside).

*Greater London Plan*: in the **civic centre** several public buildings (with porches are arranged along the perimeter) shape several paved public spaces; plazas and pedestrian pathways are integrated with a **huge public park system** and with spread **green spaces within residential blocks** (producing a great continuity of public spaces).

## **Achievements for contemporary project** (from great references of the past)

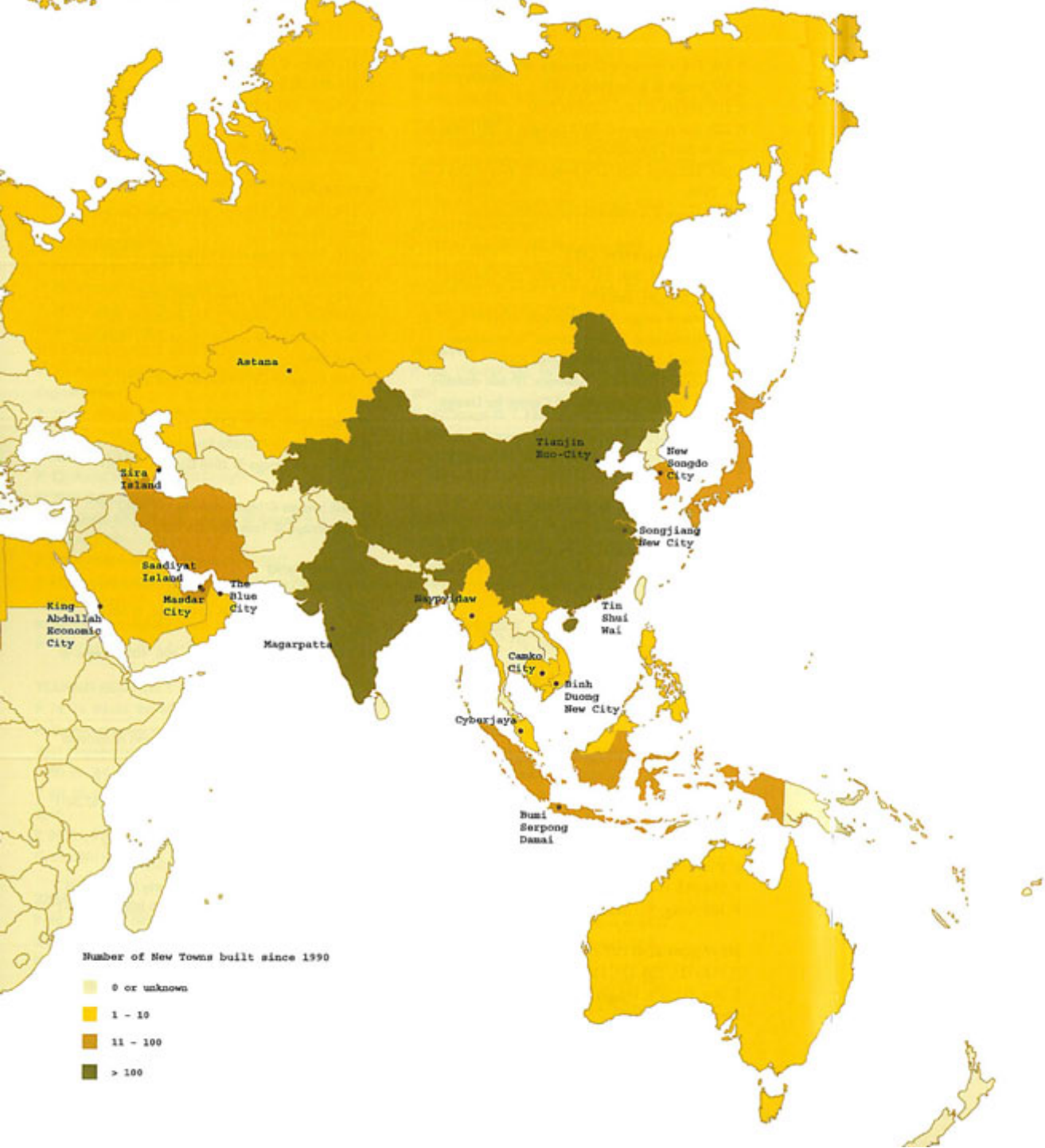
1. Prevent the **abnormal growth** of original settlements in all directions.
2. Define a specific **rule for settlement increasing** and/or for parts reorganization.
3. Identify and organize specific **relationships between urban parts**.
4. Give **value to public space**.
5. Take into account **urban uses** (and practices) and their compatibility.
6. Consider geographical, morphological and climatic **characteristics of the area**, paying attention to the existing presences.

# Nine Planning Principles for the Twenty-First Century

Kriken J.L. (2010), *City Building. Nine Planning Principles for the Twenty-First Century*, Princeton Architectural Press, New York.

1. **Sustainability.** Committing to an environmental ethic
2. **Accessibility.** Facilitating ease of movement
3. **Diversity.** Maintaining variety and choices
4. **Open spaces.** Regenerating natural systems to make cities green
5. **Compatibility.** Maintaining harmony and balance
6. **Incentives.** Renewing declining cities/Rebuilding brownfields
7. **Adaptability.** Facilitating “wholeness” and positive change
8. **Density.** Designing compact cities with appropriate transit
9. **Identity.** Creating/preserving a unique and memorable sense of place

## 6. New Town Designed in the East



Number of New Towns built since 1990

- 0 or unknown
- 1 - 10
- 11 - 100
- > 100



CAMKO CITY

ASTANA

ZIRA ISLAND

SAADIYAT ISLAND

MASDAR CITY

BINH DUONG NEW CITY

KING ABDULLAH ECONOMIC CITY

THE BLUE CITY

TIANJIN ECO-CITY

NAYPYIDAW

MAGARPATTA

BUMI SERPONG DAMAI

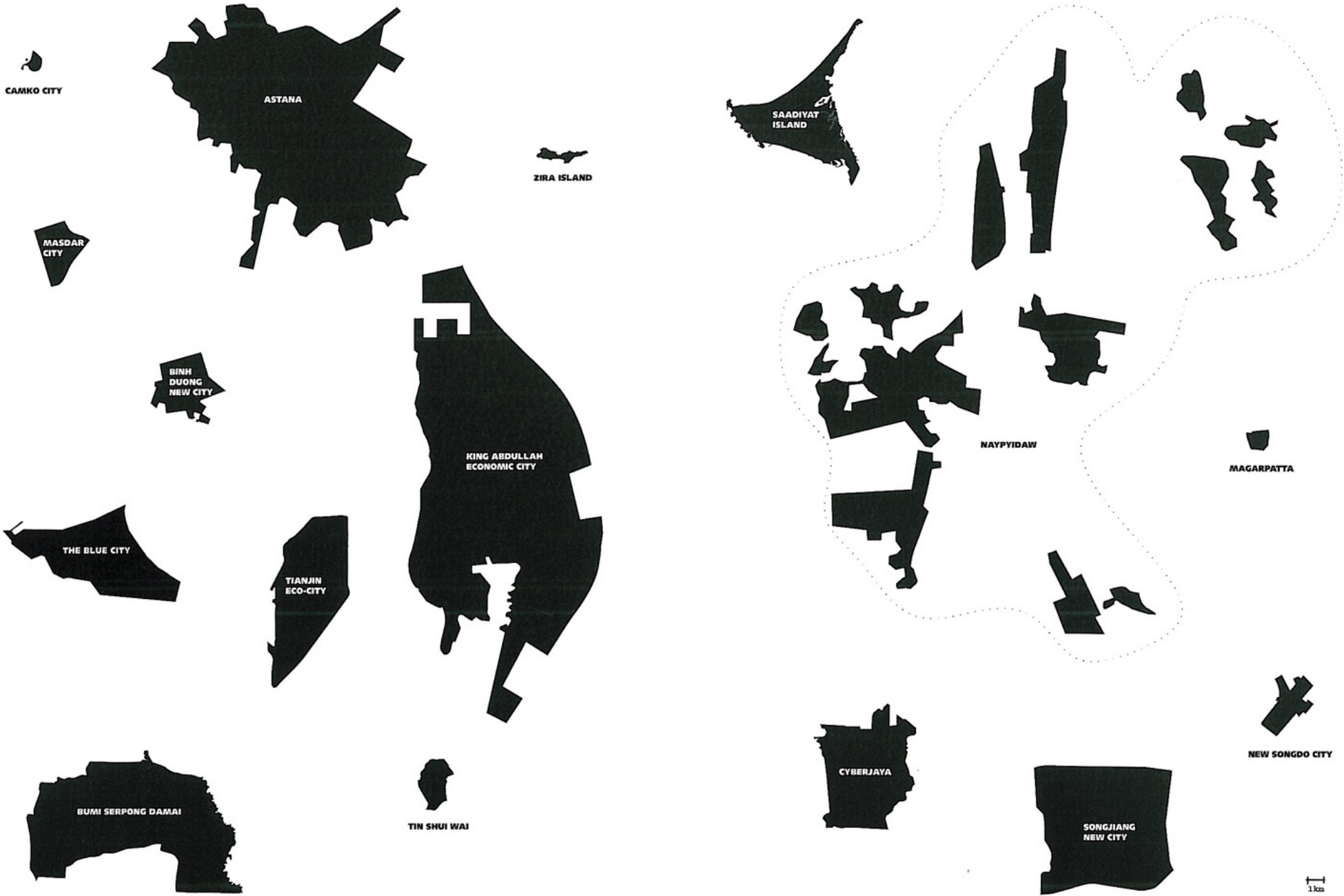
TIN SHUI WAI

CYBERJAYA

NEW SONGDO CITY

SONGJIANG NEW CITY

1km



## Masdar City (United Arab Emirates)

**Client:** Masdar-Abu Dhabi Future Energy Company (ADFEC),  
Mubadala Development Company.

**Designers:** Fosters & Partners (master plan) with others.

**Date:** 2006-2020.

**Status:** Under construction.

**Expected residents:** 40.000.

**Expected commuters:** 50.000 daily.



ARABIAN GULF

Dubai ↗

Saadiyat Island

Lulu Island

Sowwah Island

Yas Island

Central Abu Dhabi

F1 Circuit

Raha Beach

Abu Dhabi International Airport

Khalifa City

**MASDAR CITY**

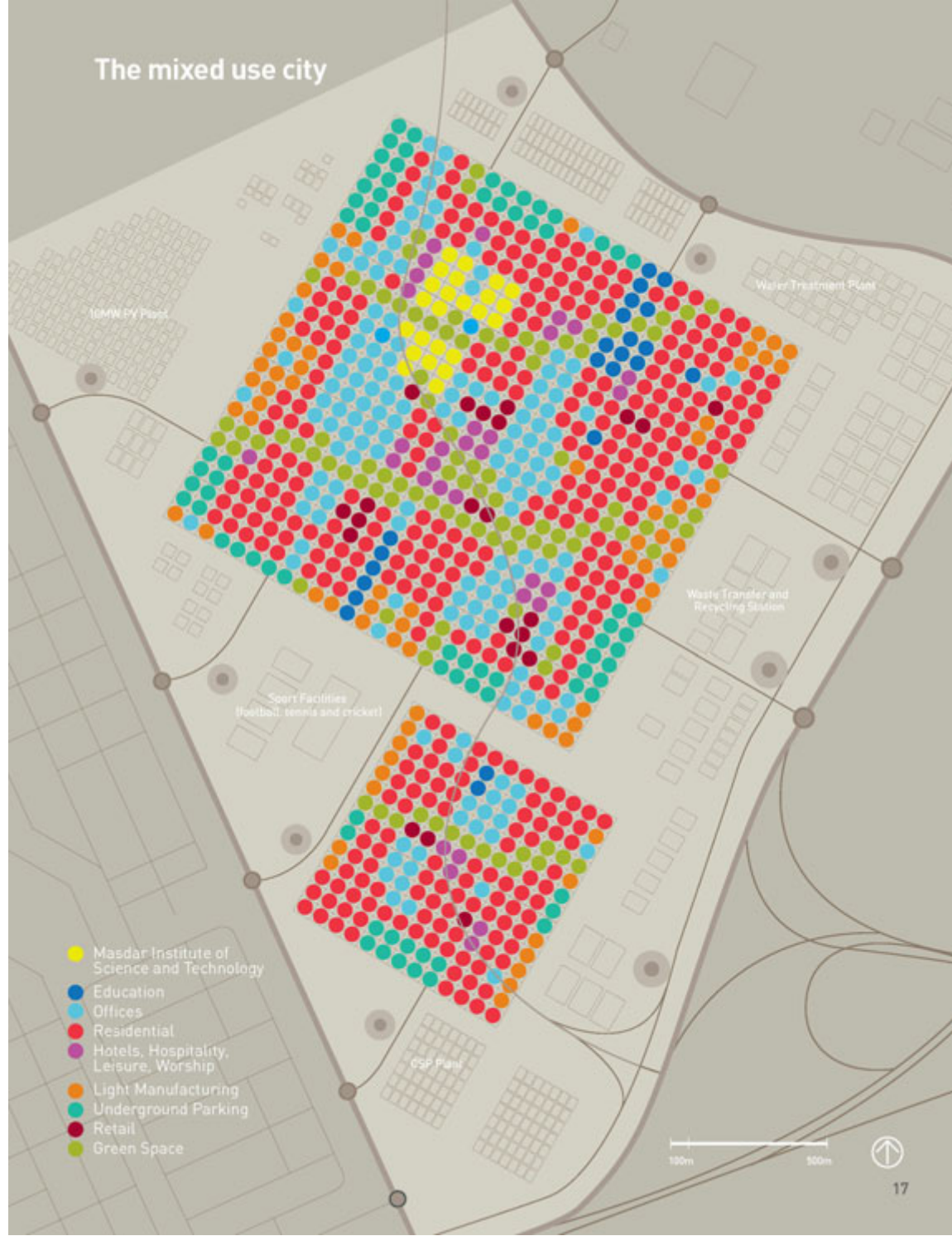
Al Ain →

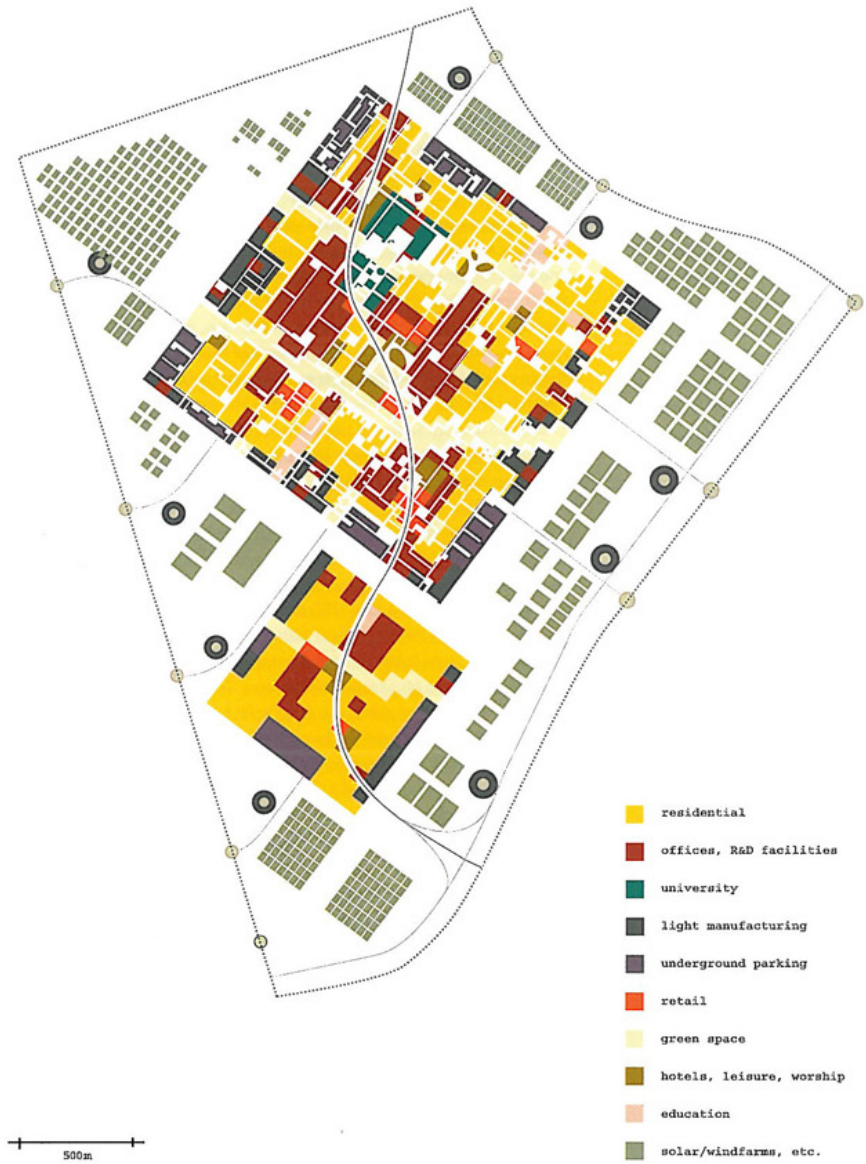
Oman ↘

1km 10km



# The mixed use city











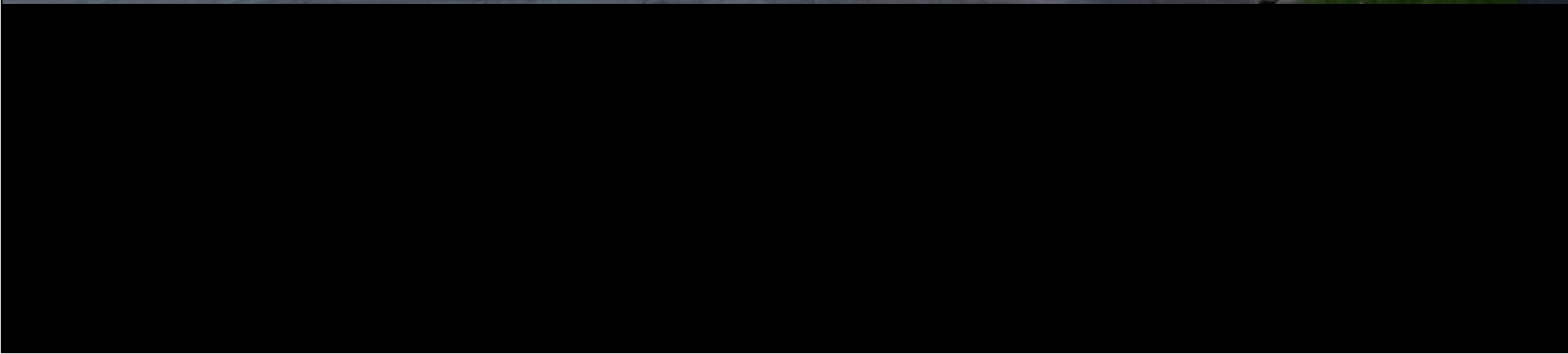
MASDAR CITY

مدينة مصدر





























MASDAR CITY



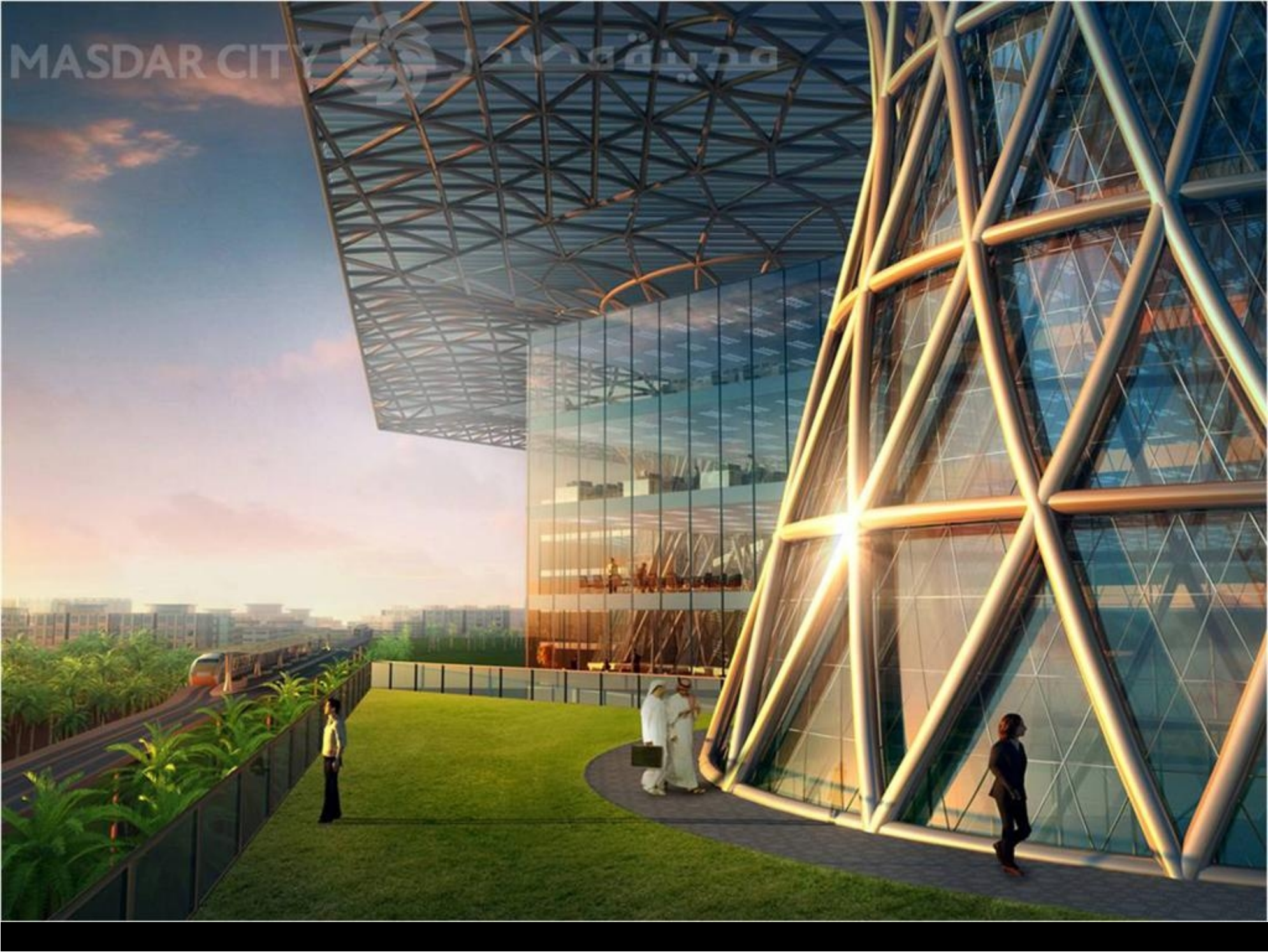
مدينة مصدر





MASDAR CITY

مدينة مصدر



MASDAR CITY



مدينة مصدر











Energy Usage - 43%  
Solar Power - 78%  
Temperature - 23°C  
Humidity - 30%  
Local Time - 3:05 pm







AREA IN OPEN DEVELOPMENT  
PREFERABLY 160 ACRES ••  
IN ANY CASE IT SHOULD  
HOUSE ENOUGH PEOPLE TO  
REQUIRE ONE ELEMENTARY  
SCHOOL • EXACT SHAPE  
NOT ESSENTIAL BUT BEST  
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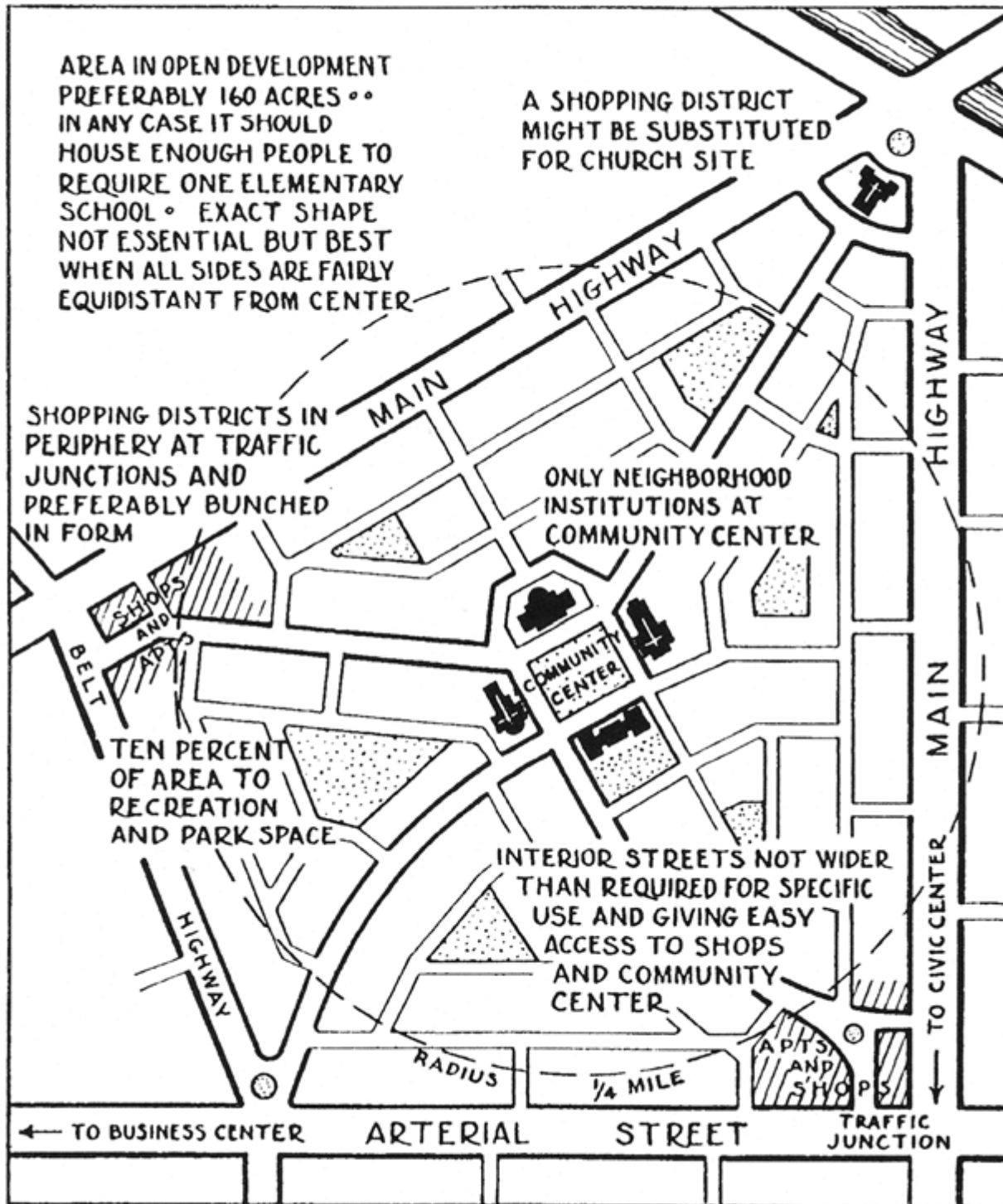
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ACCESS TO SHOPS  
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← TO BUSINESS CENTER

ARTERIAL

STREET

TRAFFIC  
JUNCTION



# Saadiyat (United Arab Emirates)

**Designers:** Gensler with Buro Happold (masterplan).

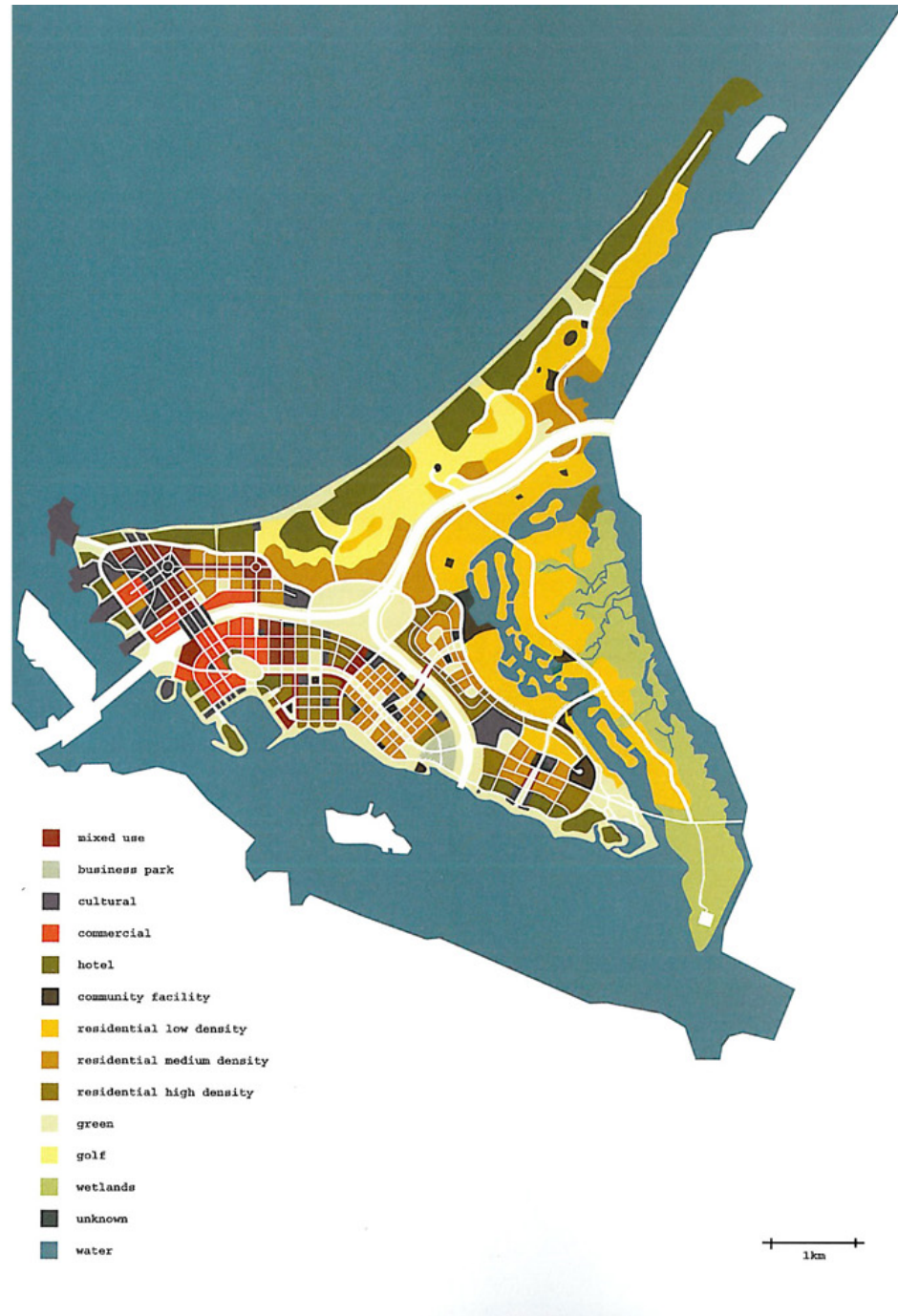
**Date:** 2004-2020.

**Status:** Under construction.

**Expected residents:** 160.000.

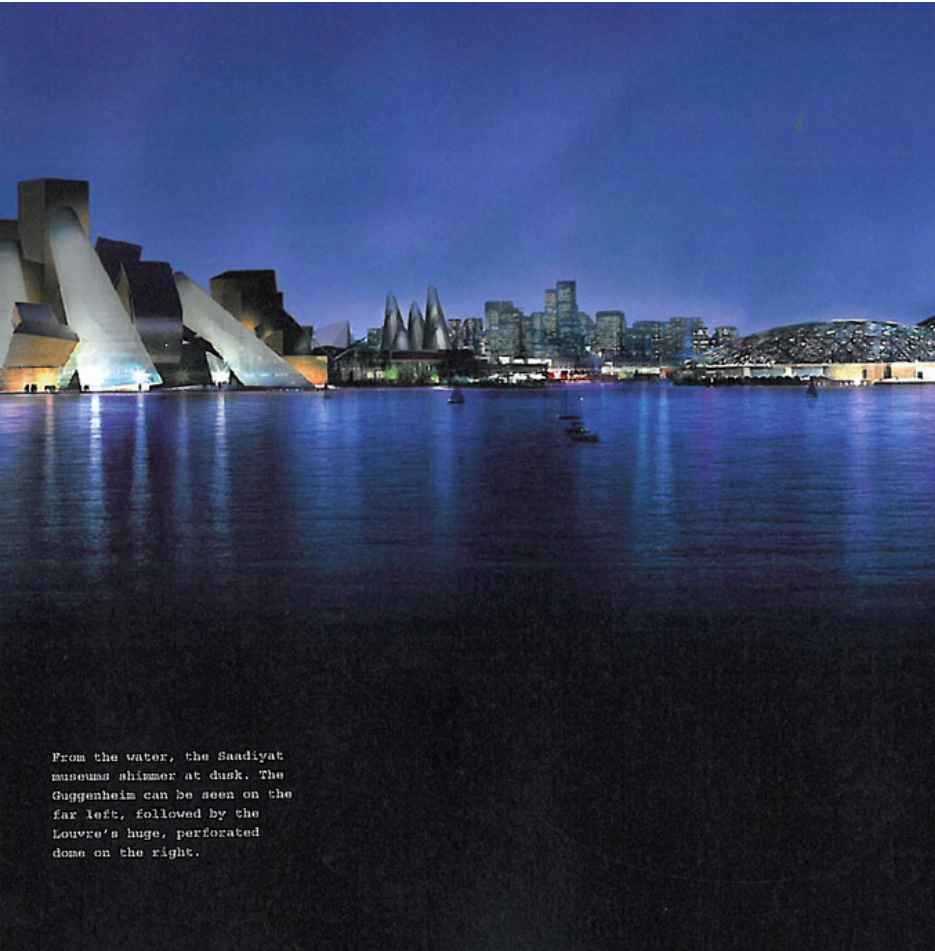
**Cost:** \$ 27 billion.







Saadiyat Island, looking south towards the cultural district.



From the water, the Saadiyat museums shimmer at dusk. The Guggenheim can be seen on the far left, followed by the Louvre's huge, perforated dome on the right.



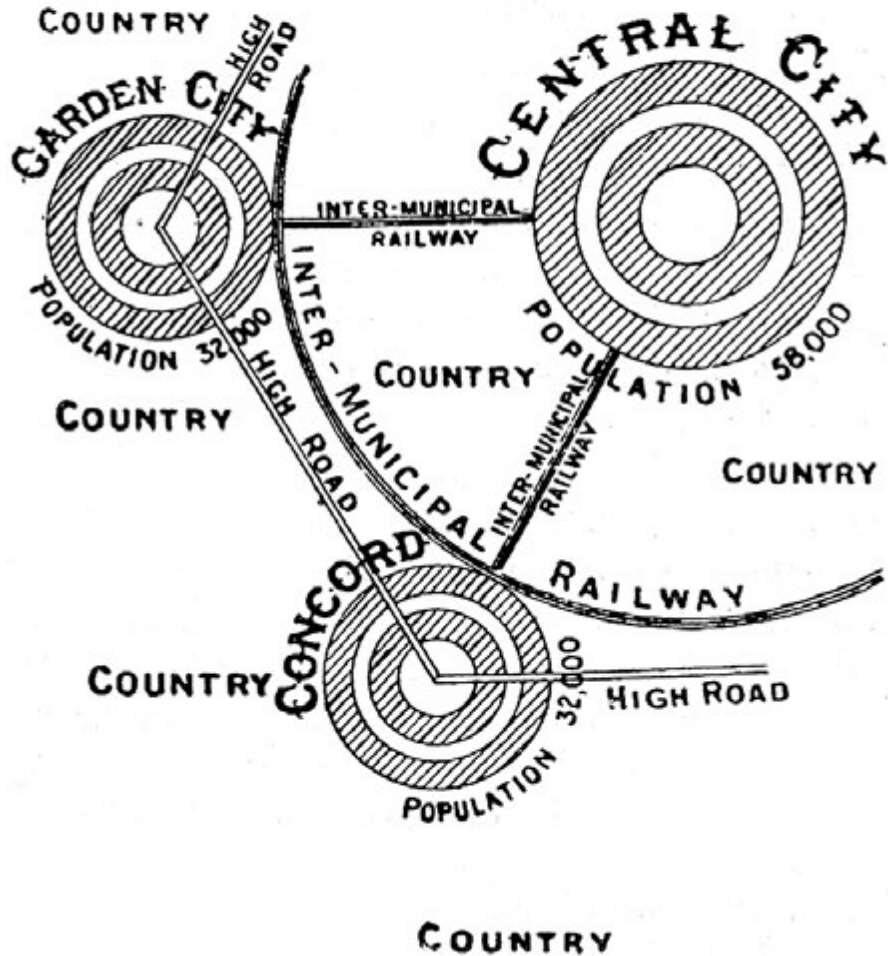
Foster + Partners' design for the Zayed National Museum is inspired by the feathers of Sheikh Zayed's beloved falcons.



N<sup>o</sup> 5.

# DIAGRAM

ILLUSTRATING CORRECT PRINCIPLE  
OF A CITY'S GROWTH - OPEN COUNTRY  
EVER NEAR AT HAND. AND RAPID  
COMMUNICATION BETWEEN OFF-SHOOTS.



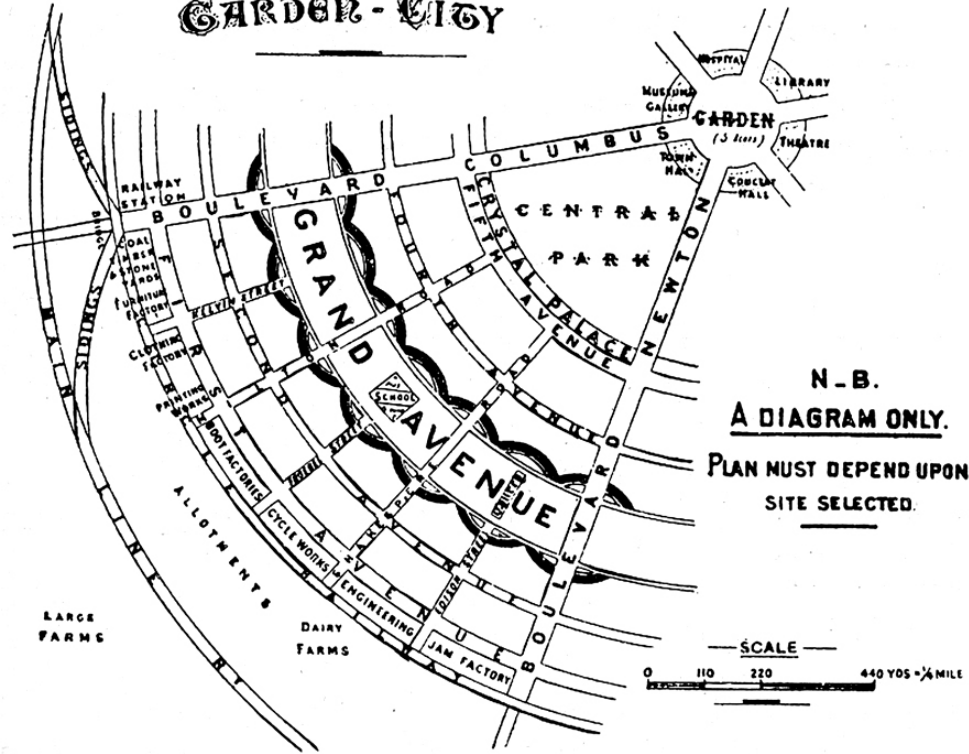
COUNTRY

Corretto principio di espansione delle città.

WARD AND CENTRE

# GARDEN-CITY

N<sup>o</sup> 3.



N-B.  
A DIAGRAM ONLY.  
PLAN MUST DEPEND UPON  
SITE SELECTED.

Diagramma - Il progetto è funzione dell'area prescelta.

# Tianjin Eco-city (People's Republic of China)

**Client:** PRC and Singapore National Government; Sino-Singapore Tianjin Eco-City Investments and Development Co., Ltd. (SSTEC).

**Designers:** China Academy of Urban Planning and Design; The Tianjin Urban Planning and Design Institute; Singapore Planning Team led by the Urban Redevelopment Authority of Singapore.

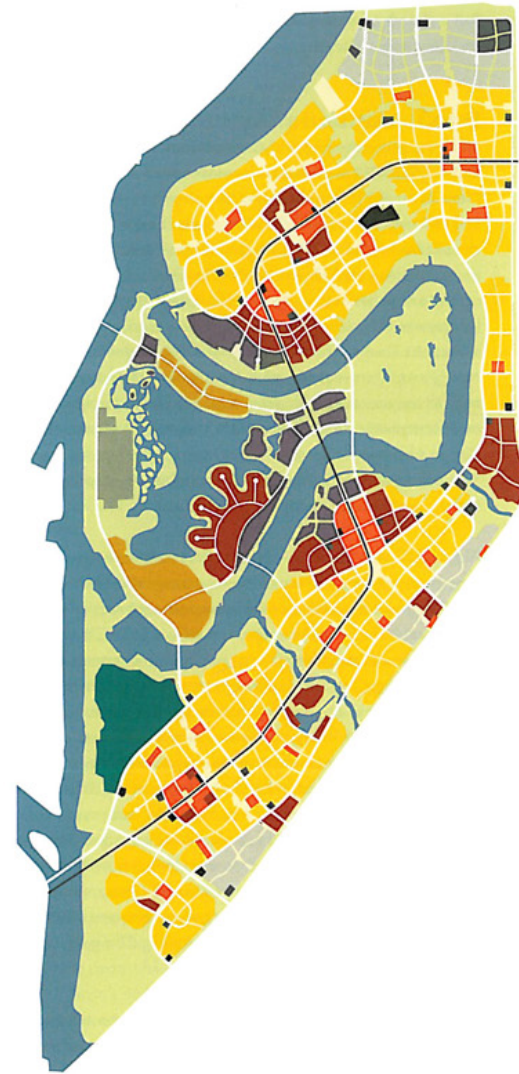
**Date:** framework agreement 2007; groundbreaking 2009; expected completion 2018-2023.

**Status:** Under construction.

**Expected residents:** 350.000.

**Size:** 30 Km<sup>2</sup>.

**Cost:** \$ 22 billion.



- residential, villas
- residential
- administrative office
- commercial
- cultural / recreational
- medical
- university
- industry
- city infrastructure
- mixed use
- public green
- ecological green
- city rail line
- car park
- unknown

1km

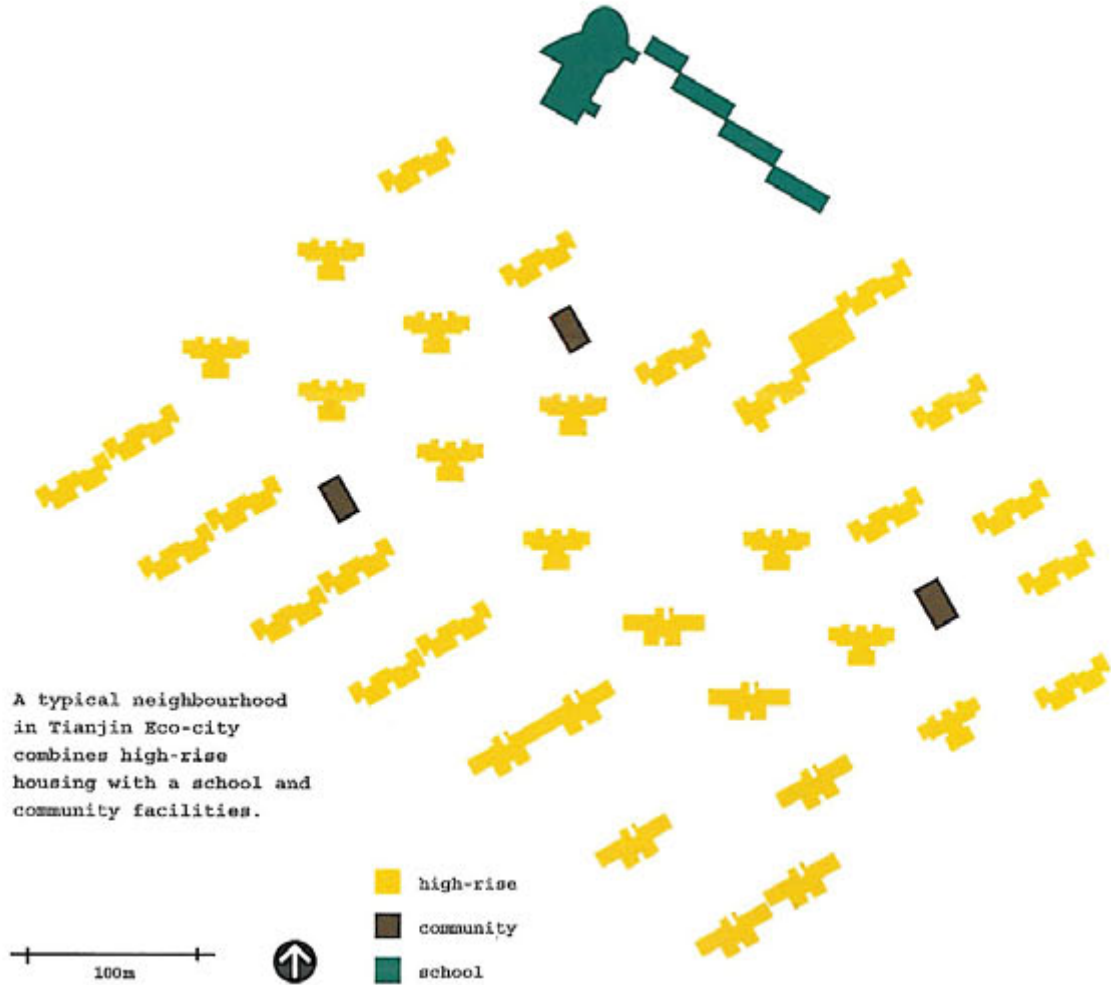
The view from a residential tower: greenery is everywhere in this eco-city, even climbing the facades.







Seasons Park is one of the first residential developments under construction in Tianjin Eco-city. The project is being developed by Keppel Land Corp.





**用地平衡表**

项目	单位	数值	百分比
规划总用地	m <sup>2</sup>	127205.7	
一居住区用地	m <sup>2</sup>	100286.7	100.00%
1住宅用地	m <sup>2</sup>	62374.7	62.20%
2公共服务设施用地	m <sup>2</sup>	10700	10.67%
[1]教育	m <sup>2</sup>	0	
[2]医疗卫生	m <sup>2</sup>	96	
[3]文化体育	m <sup>2</sup>	140	
[4]社区服务	m <sup>2</sup>	884	
[5]行政管理	m <sup>2</sup>	700	
[6]商业金融	m <sup>2</sup>	900	
[7]市政公用	m <sup>2</sup>	1100	
[8]展示中心	m <sup>2</sup>	6900	
3道路用地	m <sup>2</sup>	8912	8.89%
4绿地用地	m <sup>2</sup>	18300	
[1]公共绿地	m <sup>2</sup>	7800	7.78%
[2]附属绿地	m <sup>2</sup>	10500	10.47%
二其他用地	m <sup>2</sup>	26919	
1城市道路用地	m <sup>2</sup>	15826	
2公共绿地	m <sup>2</sup>	11093	

**技术经济指标表**

项目	单位	数值
总建筑面积	m <sup>2</sup>	187938
其中		
1地上建筑面积	m <sup>2</sup>	139276
[1]规划住宅建筑面积	m <sup>2</sup>	133884
[2]规划公建建筑面积	m <sup>2</sup>	5592
2地下建筑面积	m <sup>2</sup>	48662
住宅建筑密度	m <sup>2</sup> /m <sup>2</sup>	2.1
住宅建筑净密度	%	10.87%
建筑高度	m	74.5
人口毛密度	人/hm <sup>2</sup>	326
居住户数	户	1167
其中		
60-90m <sup>2</sup>	户	477
90-150m <sup>2</sup>	户	690
居住人数	人	3268
户均人口	人/户	2.8
建筑密度	%	10.40%
容积率		1.4
人均绿地	m <sup>2</sup>	2.39
绿地率	%	44.17%
机动车停车位	辆	1024
其中		
1地上停车位	辆	0
2地下停车位	辆	1024
非机动车停车位	辆	1894

The Shimao neighborhood shows the organization of high-rise towers on a city block. The majority of housing is oriented on the north-south axis, a characteristic of the Chinese 'feng shui'.

彩色总平面图

AREA IN OPEN DEVELOPMENT  
PREFERABLY 160 ACRES ••  
IN ANY CASE IT SHOULD  
HOUSE ENOUGH PEOPLE TO  
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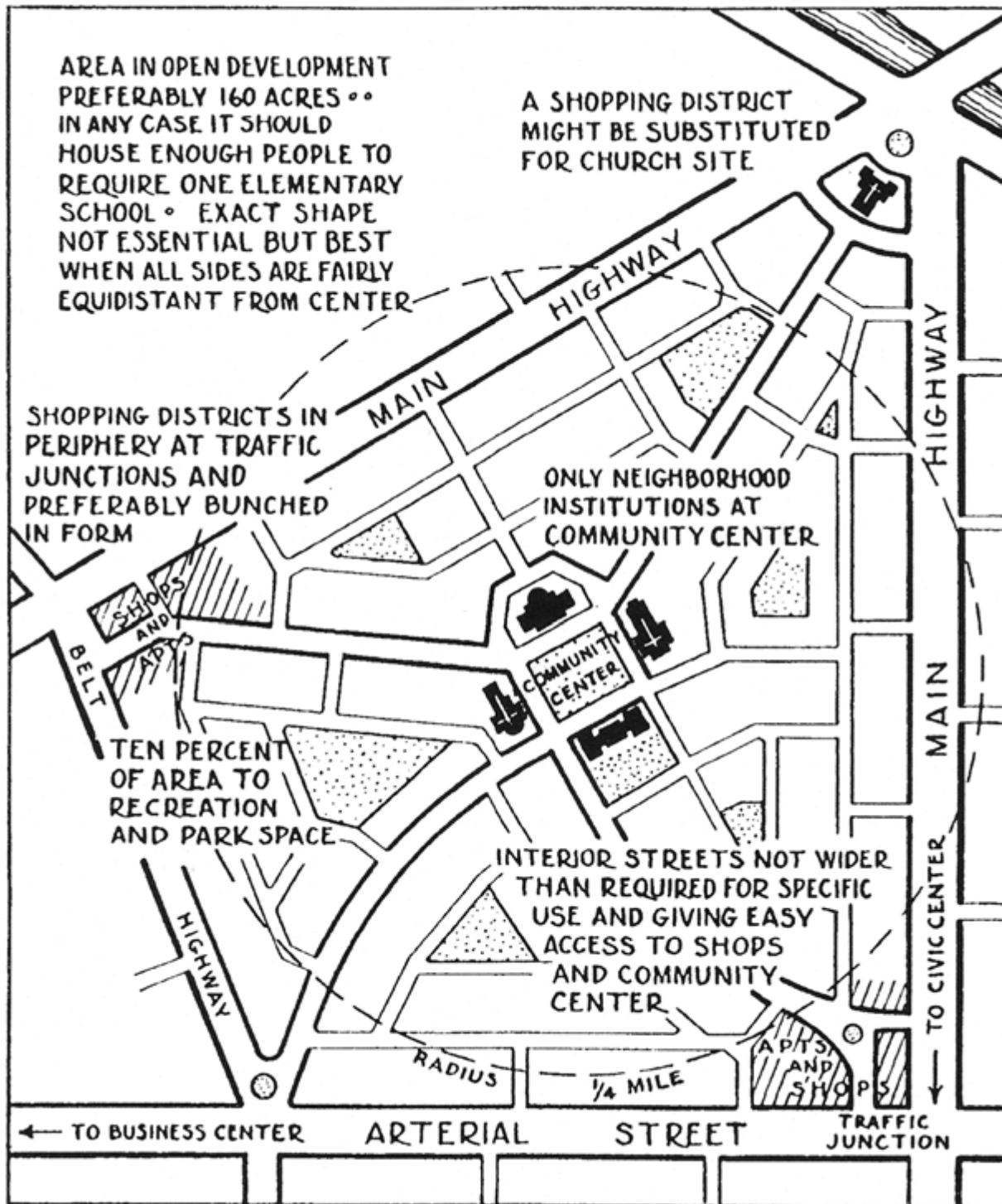
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← TO BUSINESS CENTER

ARTERIAL STREET

TRAFFIC  
JUNCTION





# Naypyidaw (Myanmar)

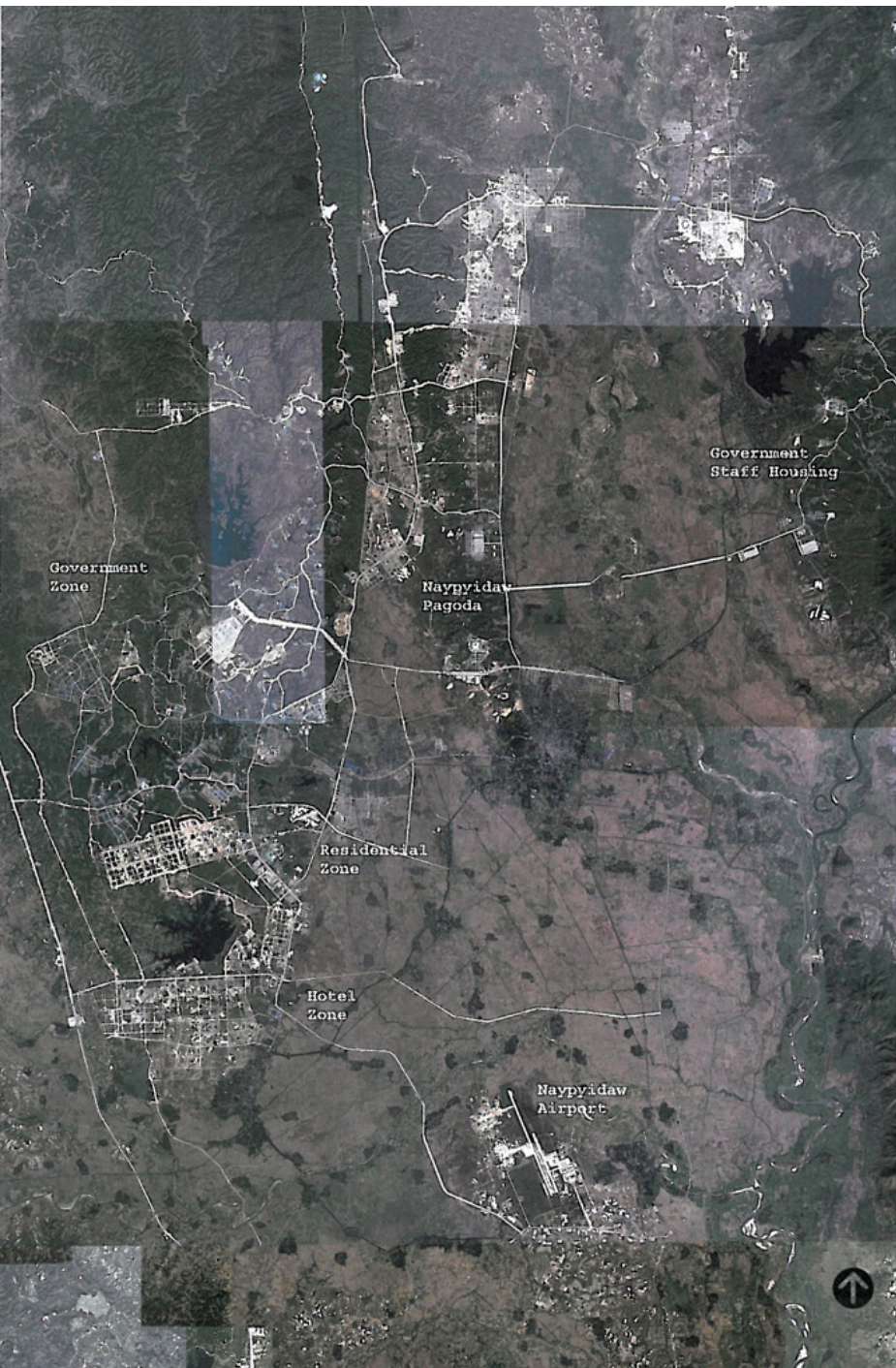
**Client:** Burmese Junta.

**Designers:** unknown.

**Date:** 2002-2012.

**Status:** Under construction.

**Expected residents:** 925.000.



General Than Shwe reviews a guard of honor in Naypyidaw from his specially outfitted convertible, 2009.









Ill-equipped workers dig a ditch beside new storefronts.



Color-coded residential towers indicate the employment of their inhabitants. Blue-roofed buildings house Ministry of Health employees, while green roofs mean the residents work for the Ministry of Agriculture. Military officials live behind electronic gates in villas on the other side of the city.

# Astana (Kazakhstan)

**Client:** Government of Kazakhstan.

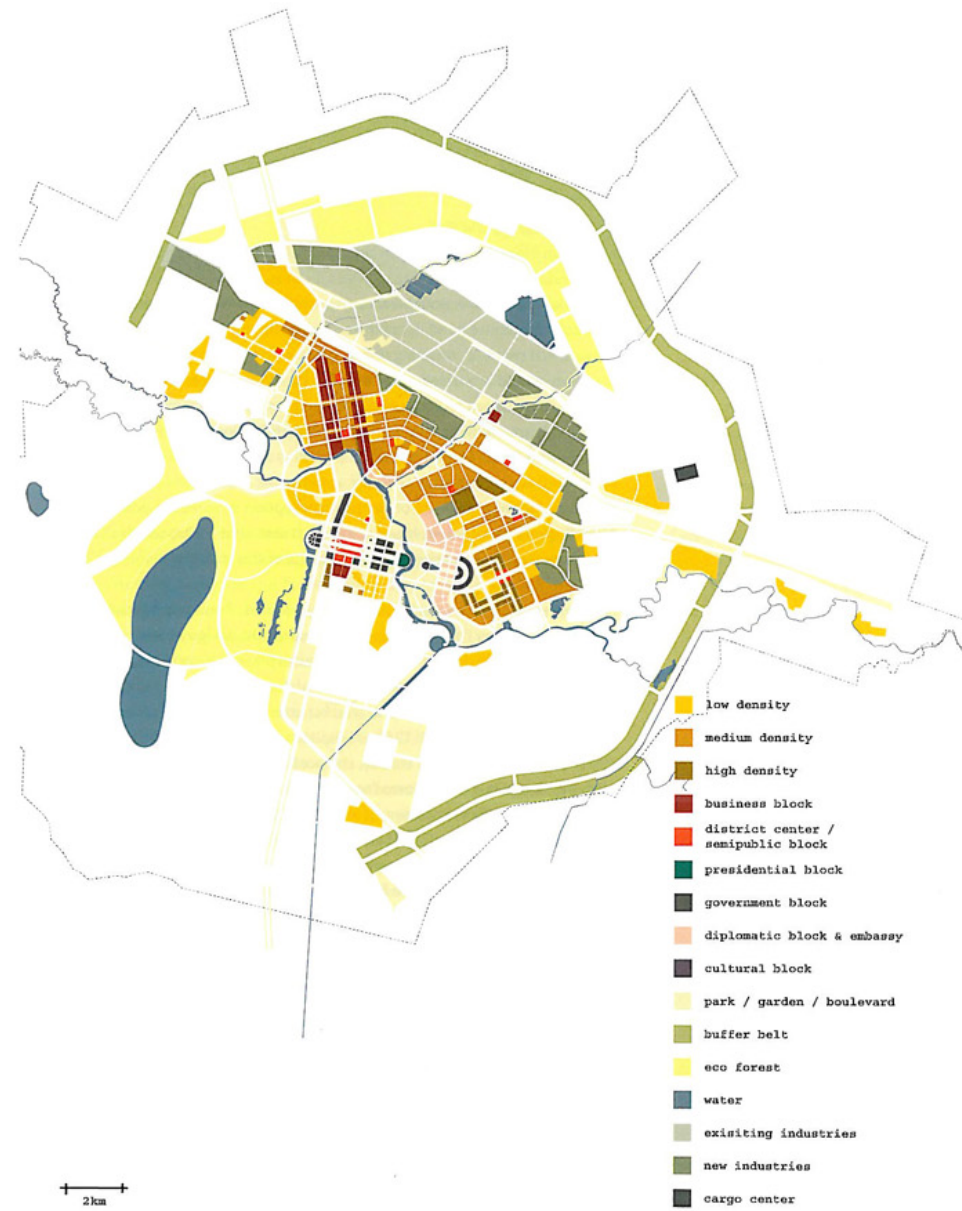
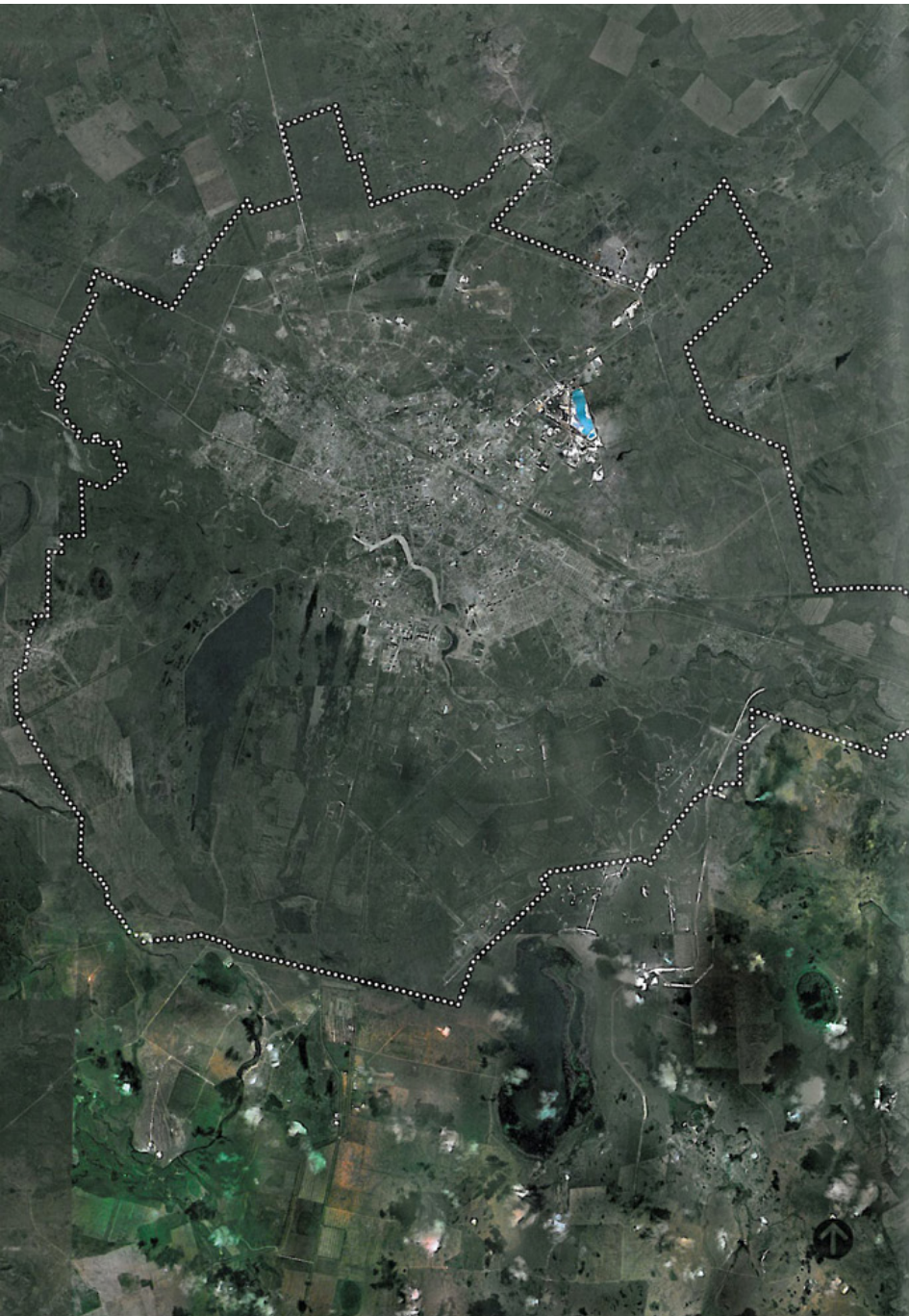
**Designers:** Kisho Kurokawa.

**Date:** 1997-2007.

**Status:** Completed.

**Current residents:** 690.000 (2010).

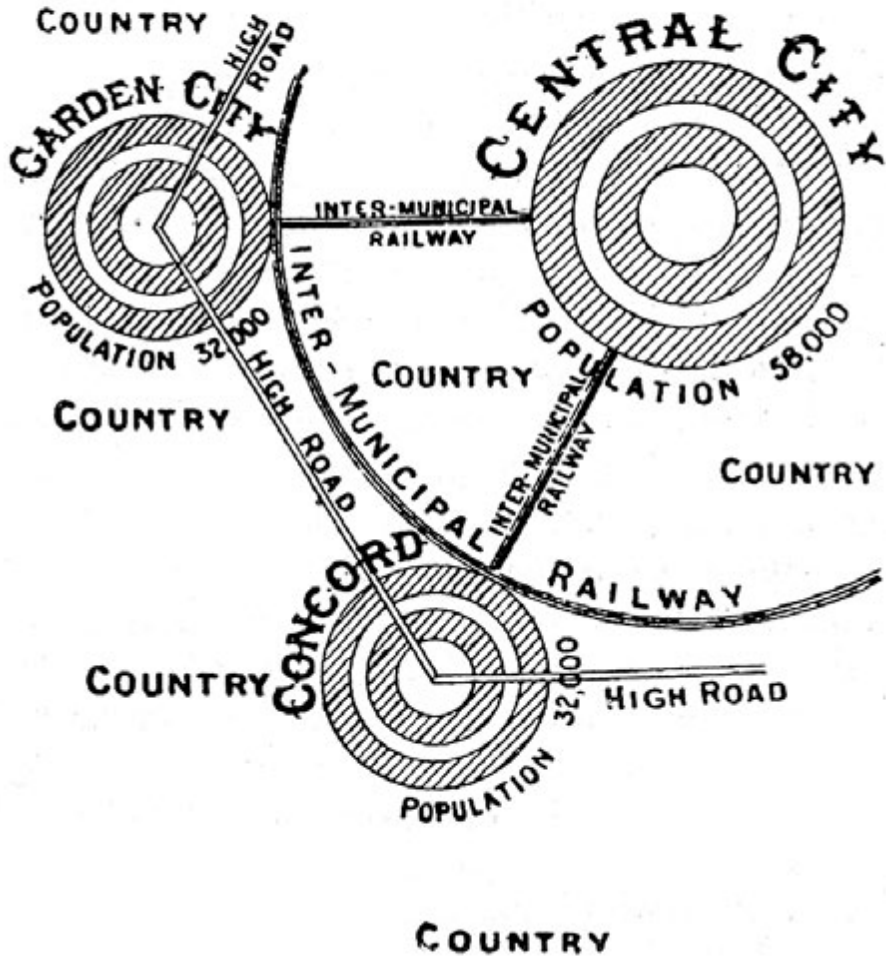
**Cost:** unknown.



N<sup>o</sup> 5.

# DIAGRAM

ILLUSTRATING CORRECT PRINCIPLE OF A CITY'S GROWTH - OPEN COUNTRY EVER NEAR AT HAND, AND RAPID COMMUNICATION BETWEEN OFF-SHOOTS.

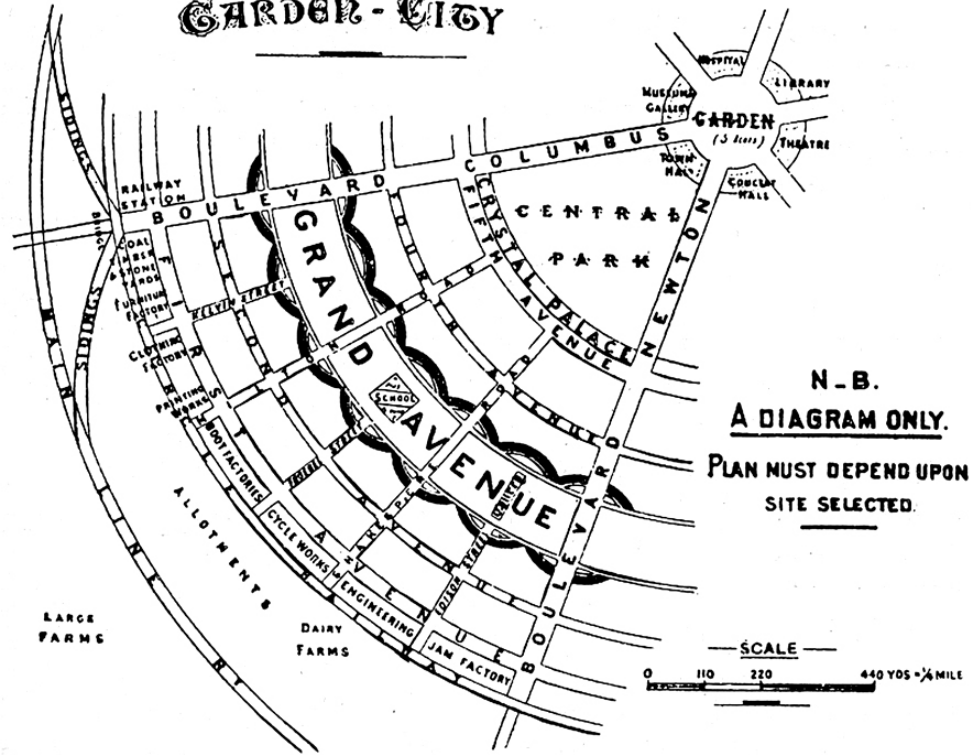


Corretto principio di espansione delle città.

WARD AND CENTRE

# GARDEN-CITY

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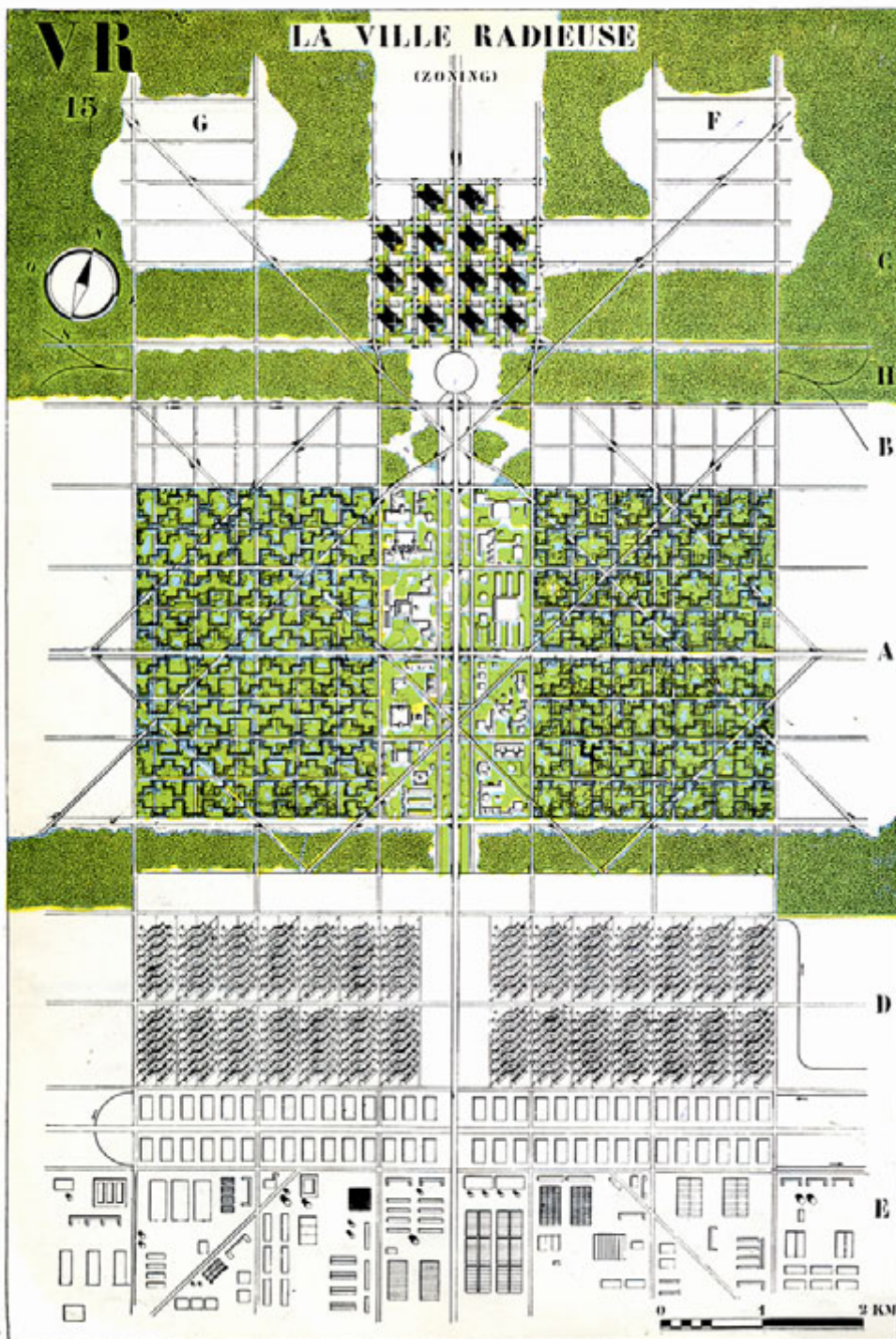
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A DIAGRAM ONLY.  
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Diagramma - Il progetto è funzione dell'area prescelta.

VR  
15

# LA VILLE RADIEUSE

(ZONING)



Villes satellites, par ex.:  
siège du gouvernement  
ou centre des études so-  
ciales, etc.

La cité d'affaires:

La gare et l'aérogare.

Les hôtels.  
Les ambassades.

L'habitation.

Les manufactures.

Les entrepôts généraux.

L'industrie lourde.

## The Blue City (Oman)

**Client:** Al Sawadi Investment & Tourism Company (ASIT).

**Designers:** Fosters & Partners.

**Date:** 2006-2020.

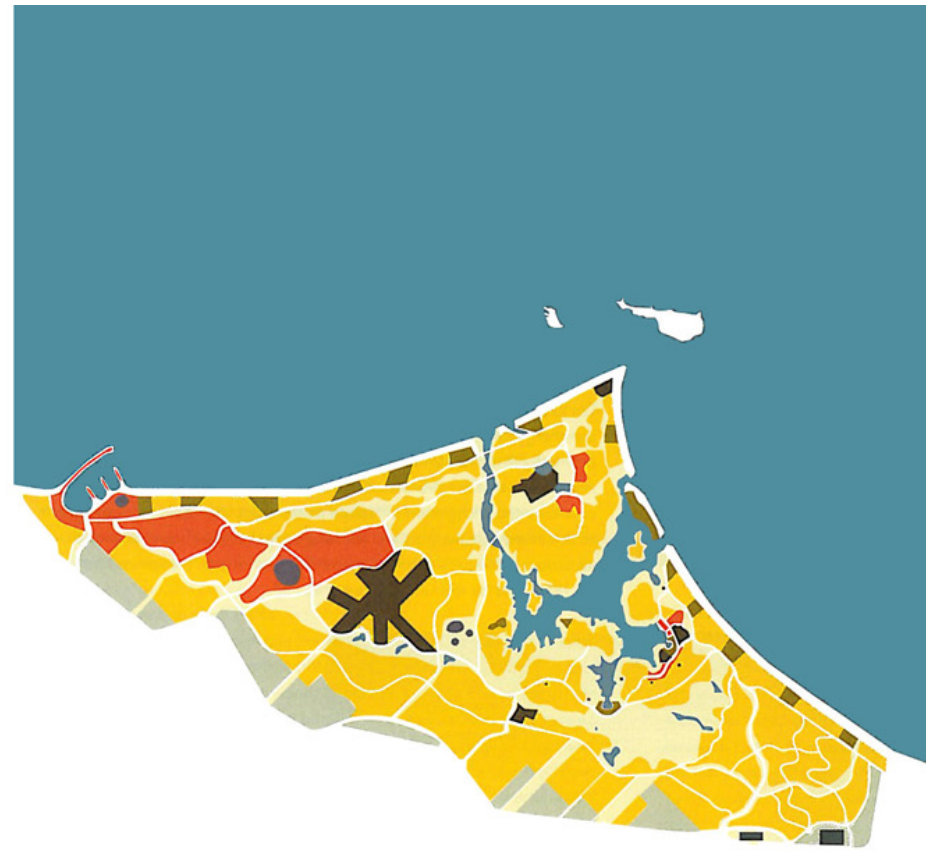
**Status:** Under construction, but heavily delayed.

**Expected residents:** 200.000.

**Expected commuters:** xxx.

**Size:** 34 Km<sup>2</sup>.

**Cost:** \$ 20 billion.



- water
- green areas
- sports
- public amenities
- hotels
- urban core
- residential
- light industry
- utilities

## Camko City (Cambodia)

**Client:** South Korea's Shinhan Bank.

**Designers:** World City Co. Ltd.

**Date:** 2005-2018.

**Status:** Under construction.

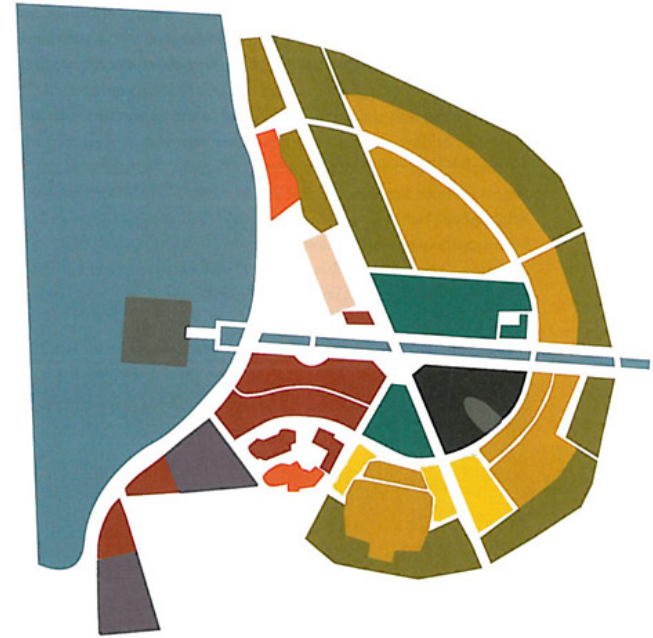
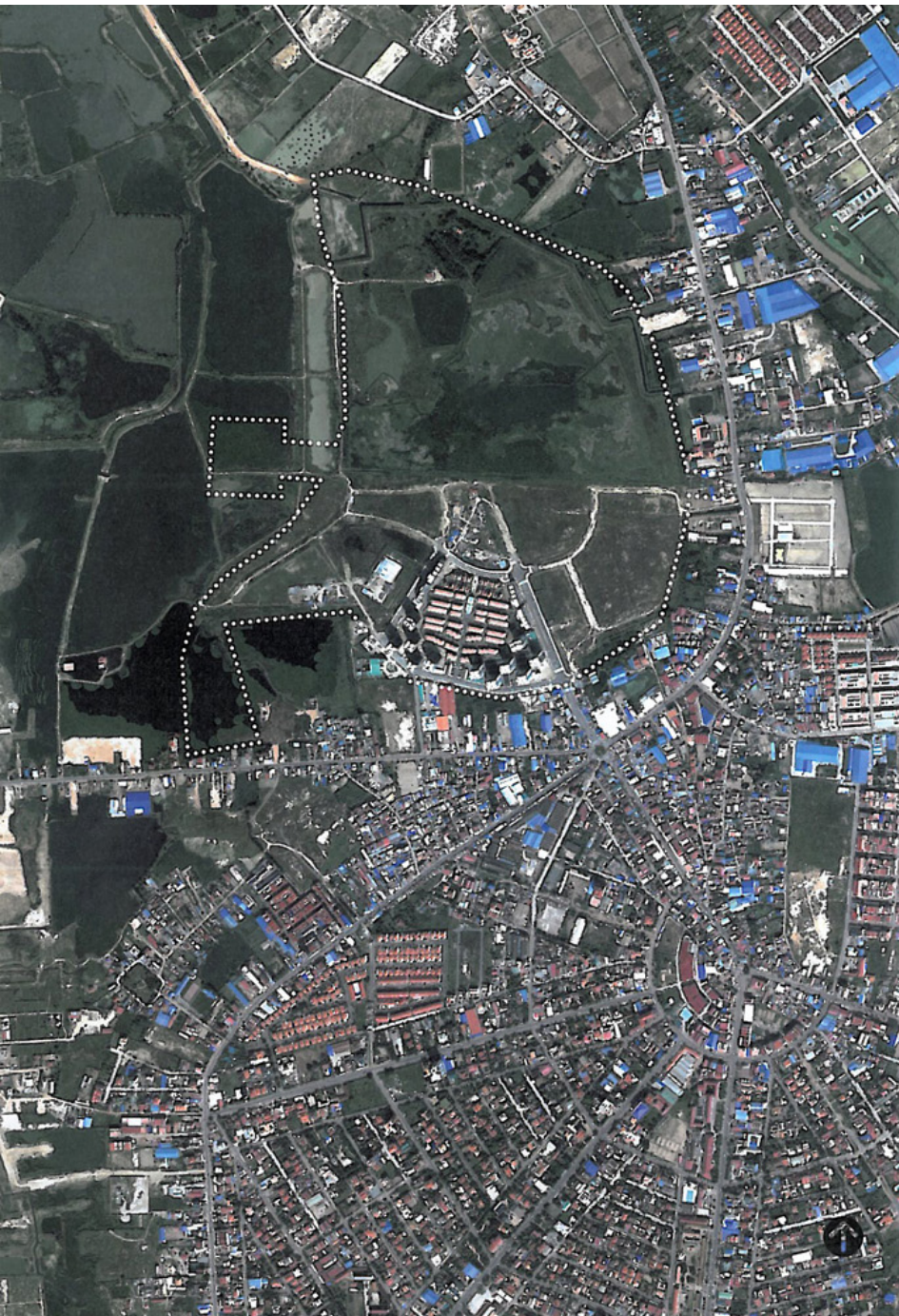
**Expected residents:** 35.000.

**Expected commuters:** xxx.

**Size:** 1,2 Km<sup>2</sup>.

**Cost:** \$ 2 billion.





- office
- convention center
- government complex
- medical center
- hotel
- high-rise condominium
- mid-rise condominium
- town house
- retail
- mixed use
- public school / technical college / international school

200m

## Binh Duong New City (Vietnam)

**Client:** Becamex IDC.

**Designers:** Cendes International and National University of Singapore.

**Date:** 2005-2020.

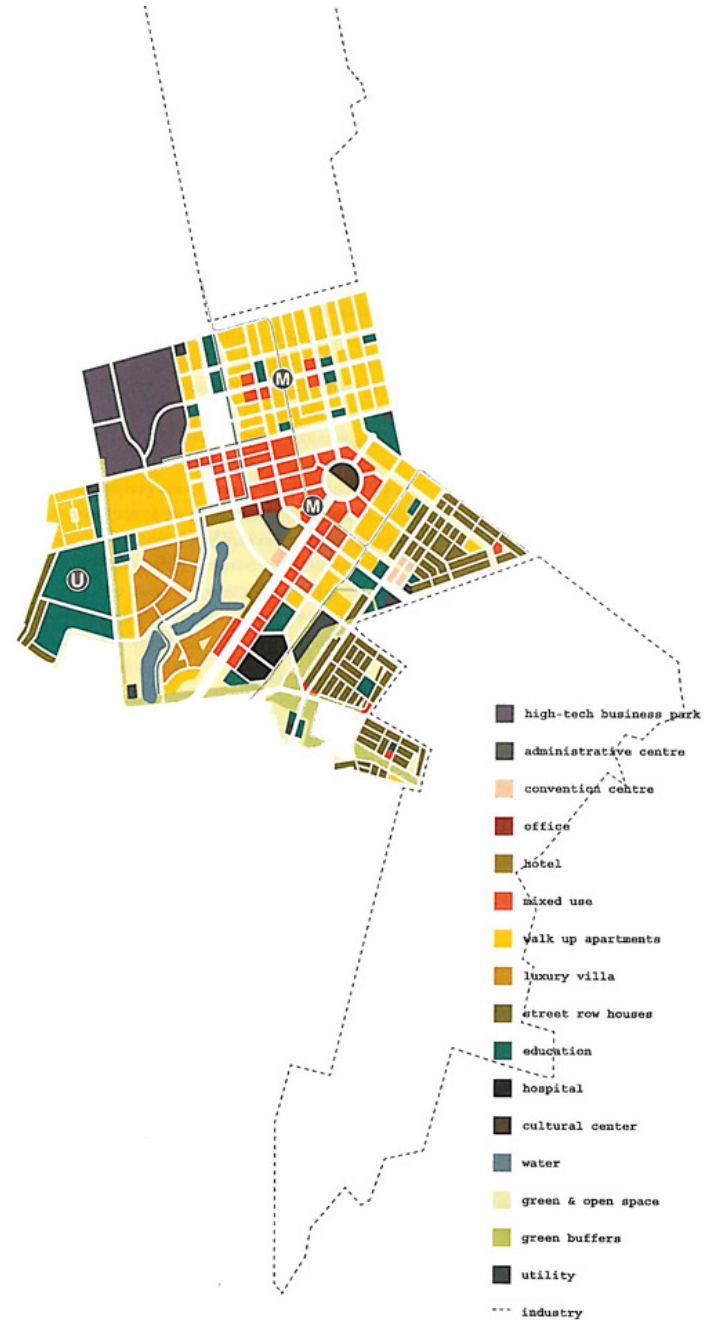
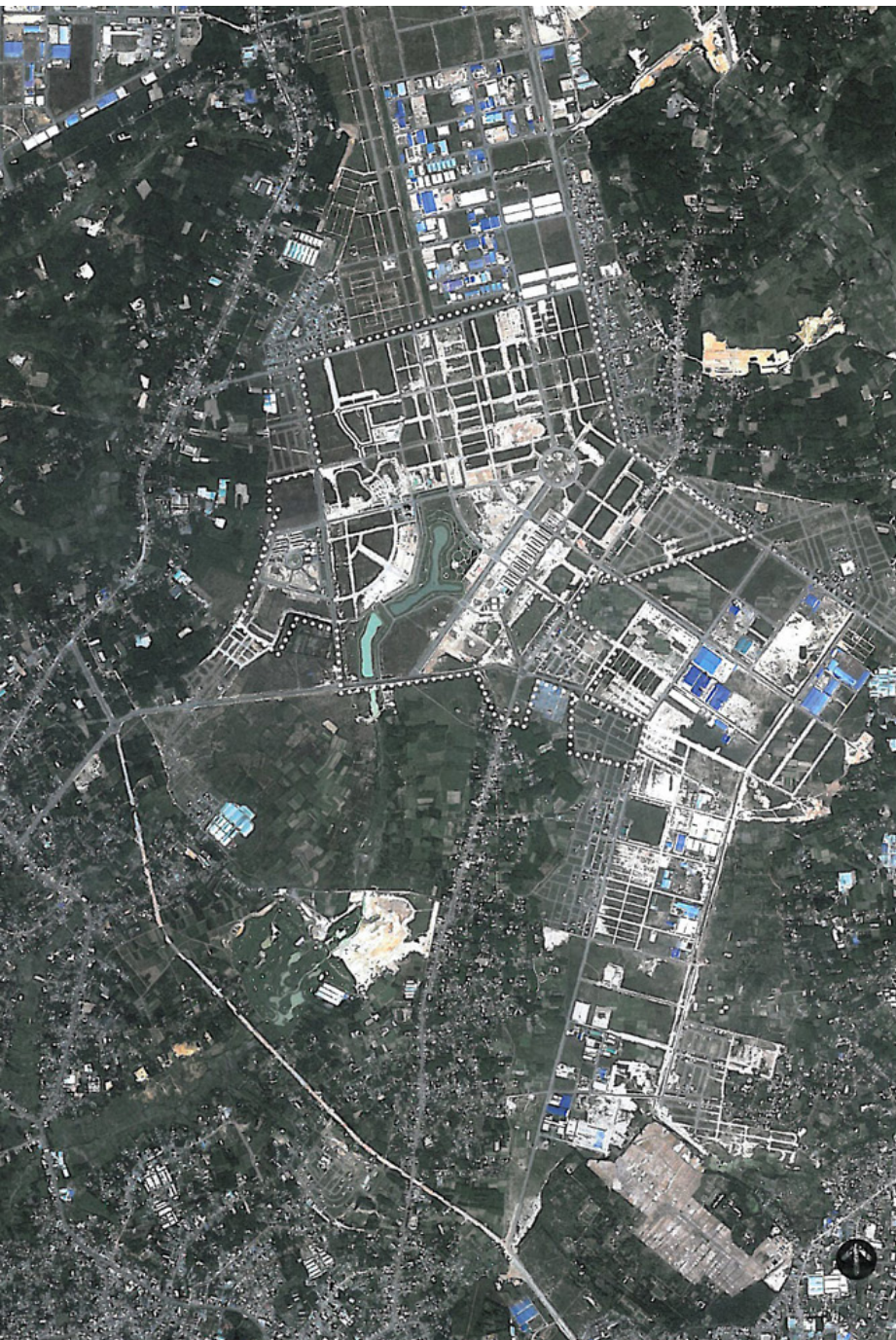
**Status:** Under construction.

**Expected residents:** 125.000.

**Expected commuters:** 400.000.

**Size:** 10 Km<sup>2</sup>.

**Cost:** \$ 1--15 billion.



# King Abdullah Economic City (Saudi Arabia)

**Client:** Saudi Arabia General Investment Authority (SAGIA).

**Designers:** SOM, with WATG, Parsons International Ltd. and RSP.

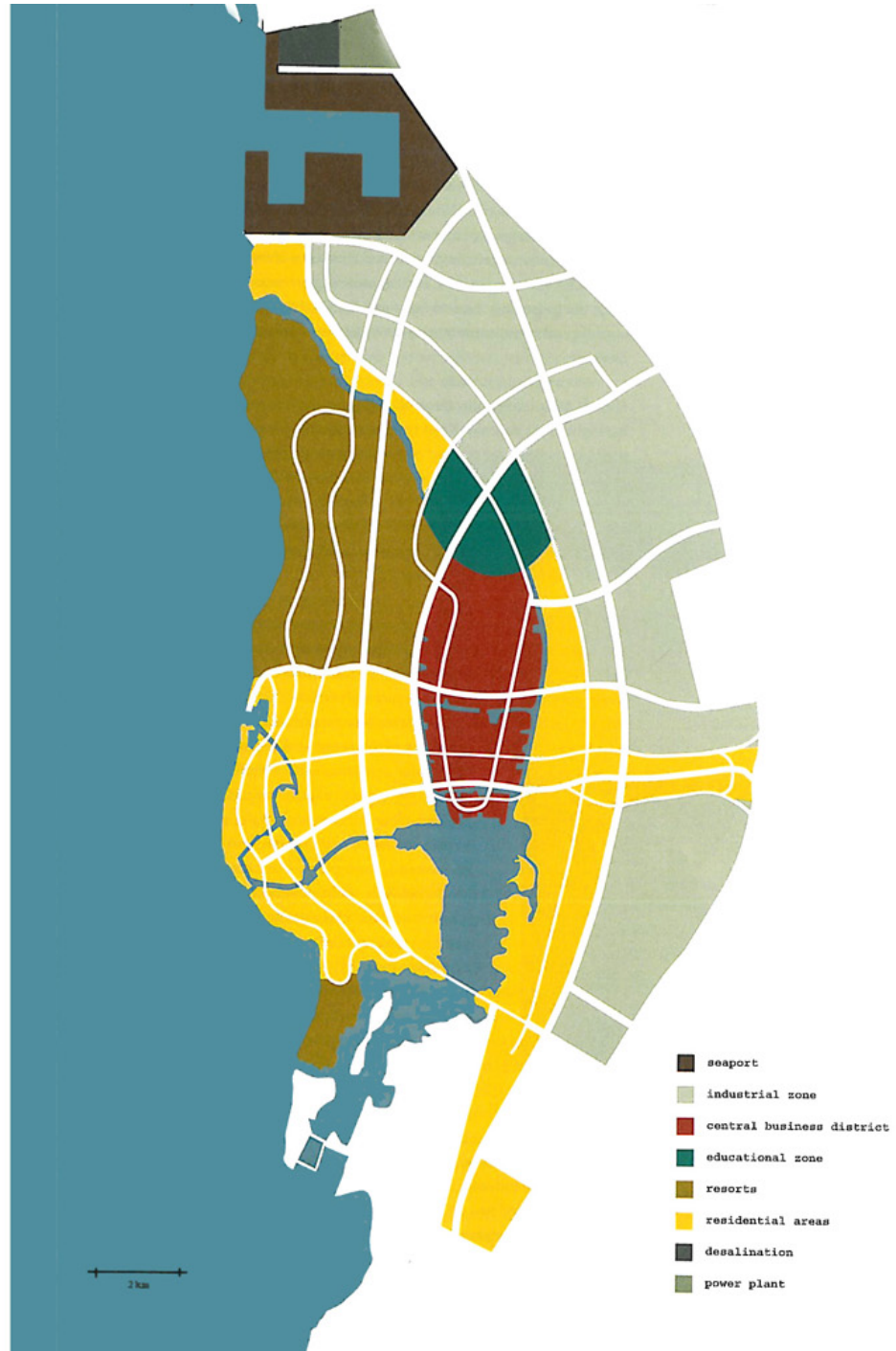
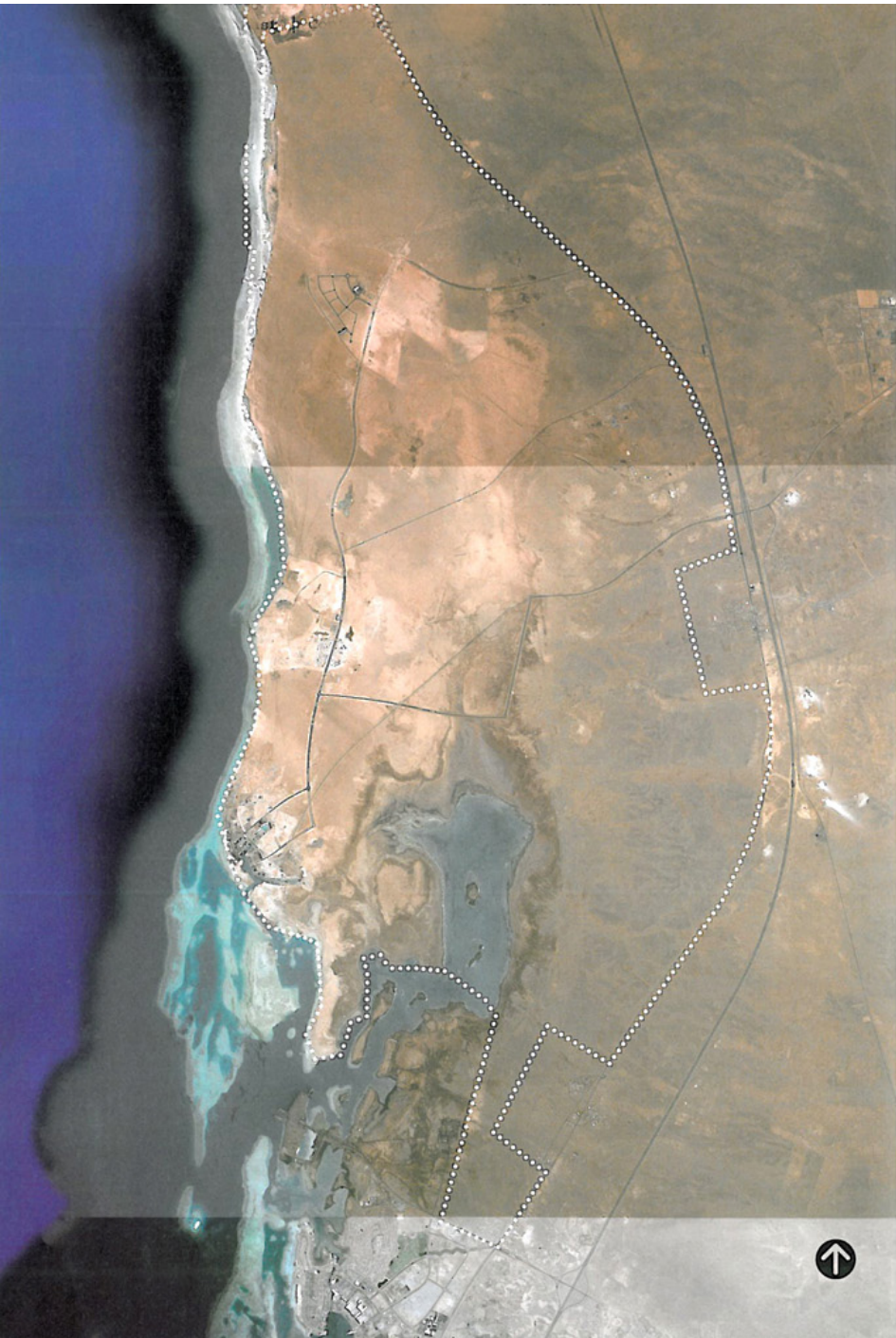
**Date:** 2006-2025.

**Status:** Under construction.

**Expected residents:** unknown.

**Size:** 168 Km<sup>2</sup>.

**Cost:** \$ 53 billion.



## Magarpatta (India)

**Client:** Magarpatta Township Development and Construction Company Ltd.

**Designers:** Hafeez Contractor.

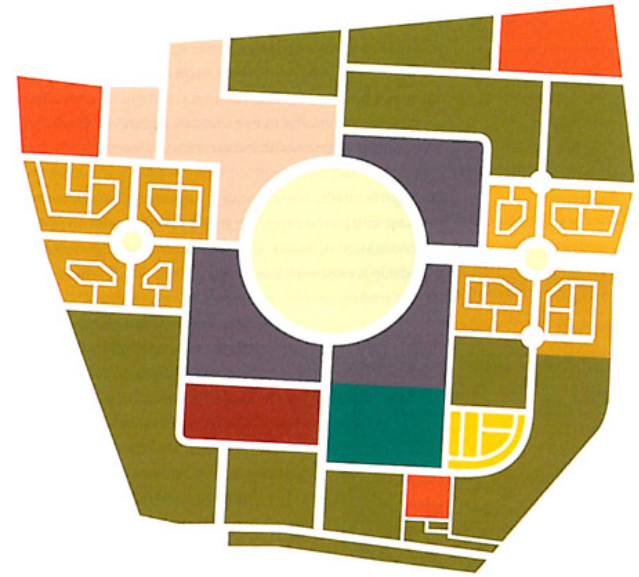
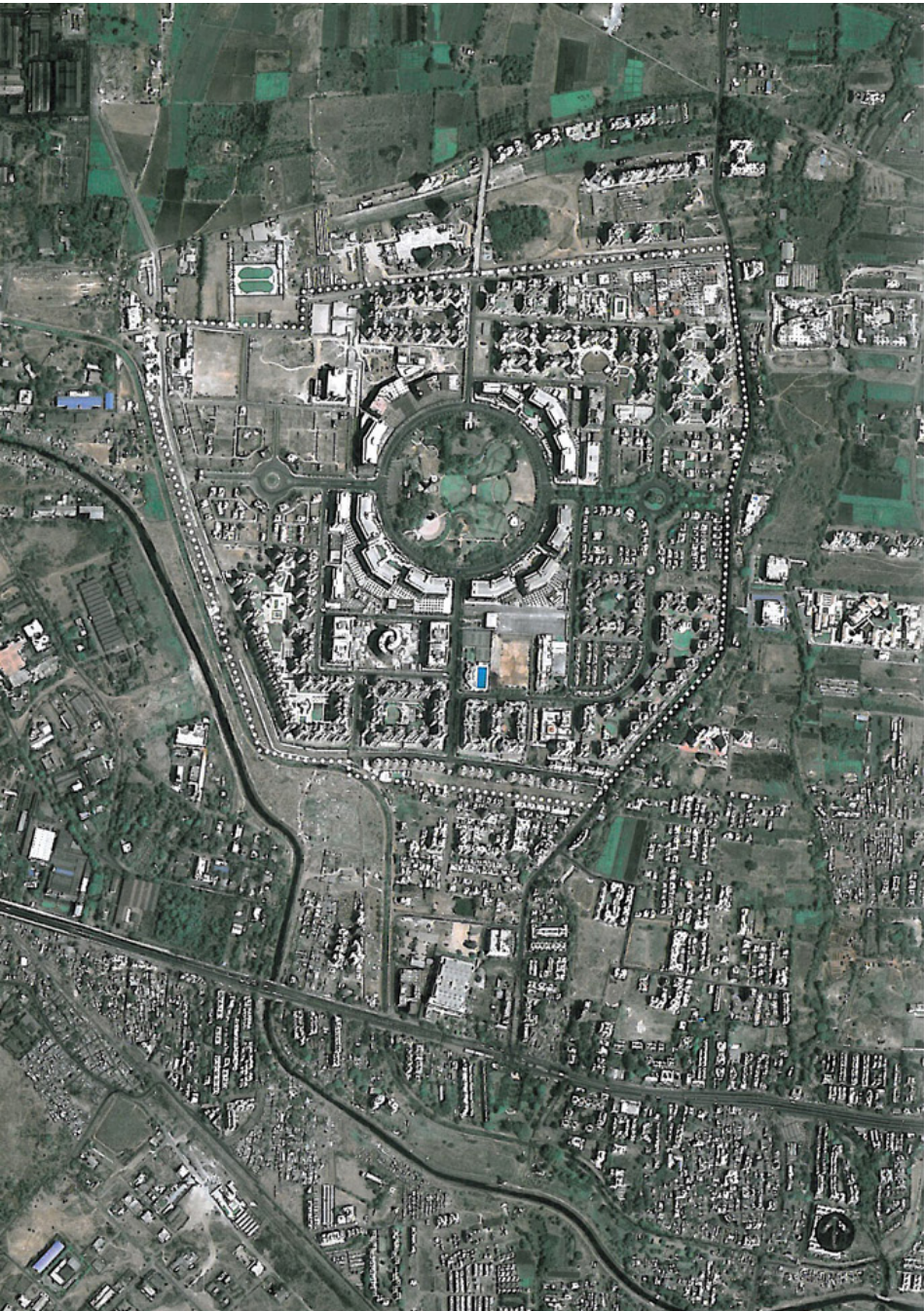
**Date:** 2000-2010.

**Status:** Constructed.

**Expected residents:** 35.000.

**Size:** 1,6 Km<sup>2</sup>.

**Cost:** \$ 183 million.



- SEZ
- cyber city
- office
- villas
- row houses
- apartments
- retail
- education
- green

200m

WARD AND CENTRE  
**GARDEN - CITY**

N<sup>o</sup> 3.

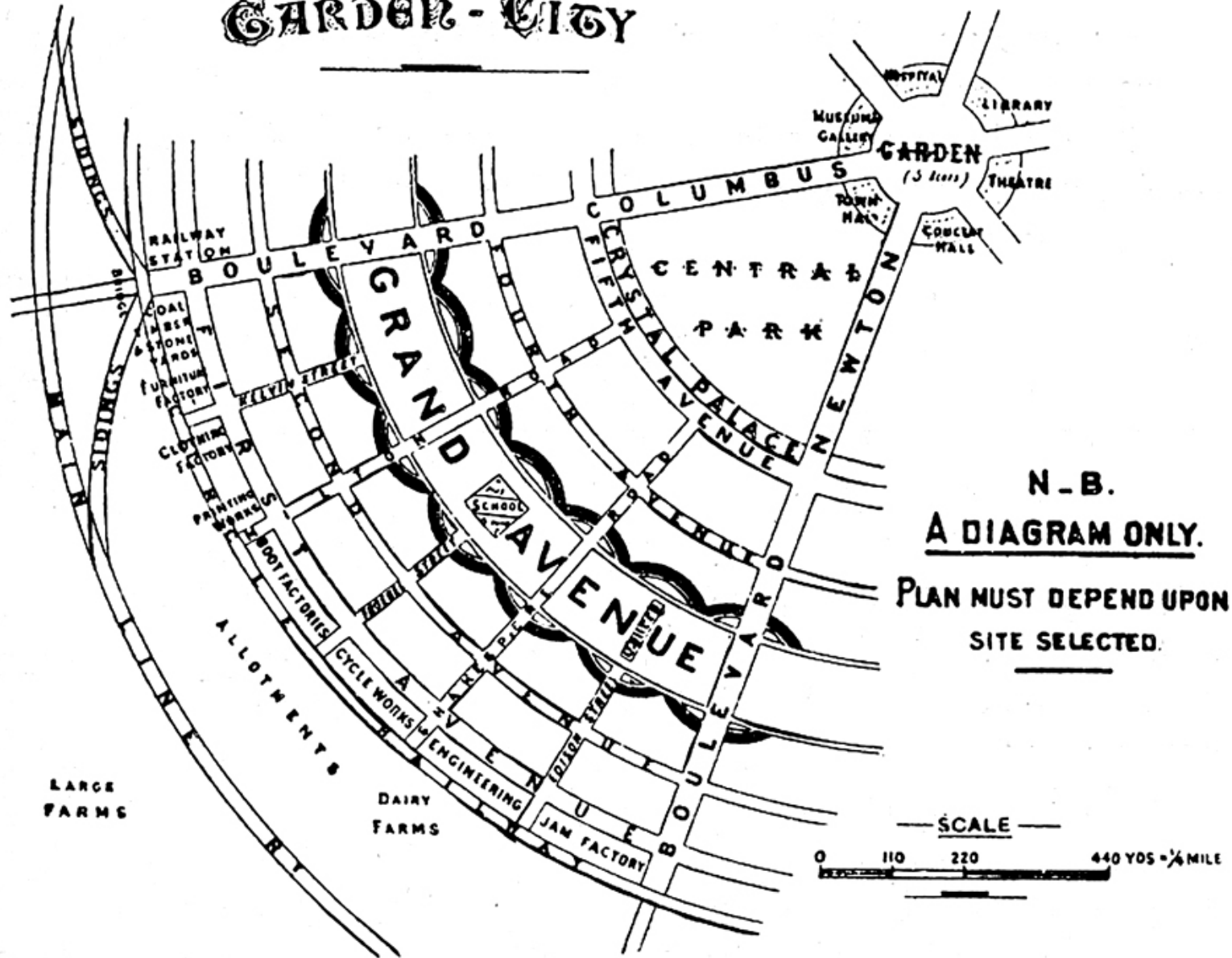


Diagramma - Il progetto è funzione dell'area prescelta.



## New Songdo City (South Korea)

**Client:** Gale International and Korea's POSCO E&C with the City of Incheon.

**Designers:** OMA (1996); KPF (2001-2015).

**Date:** 1996-2015.

**Status:** Under construction.

**Expected residents:** 65.000.

**Expected commuters:** 300-400.000.

**Size:** 6 Km<sup>2</sup>.

**Cost:** \$ 35 billion.

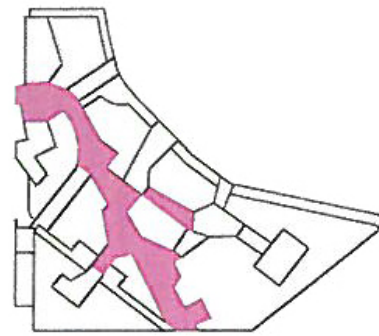


500m

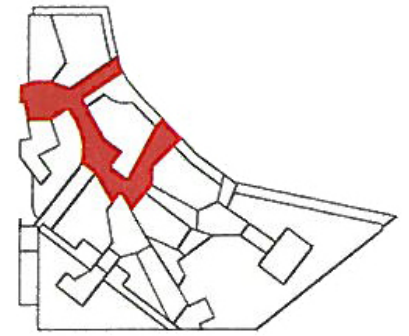
- office space
- commercial
- residential
- green space / public use
- golf course & park



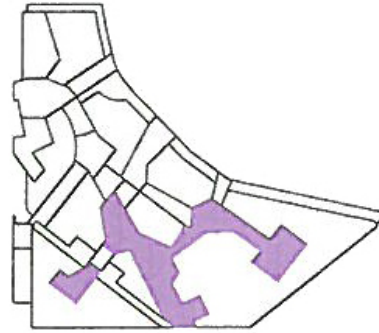
OMA's original masterplan for New Songdo City, 1996.



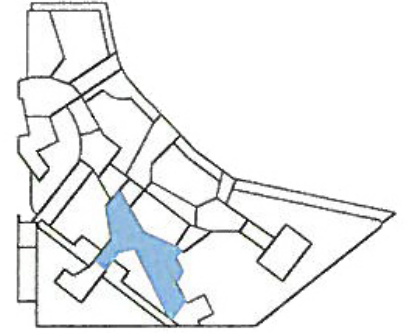
media valley



CBD



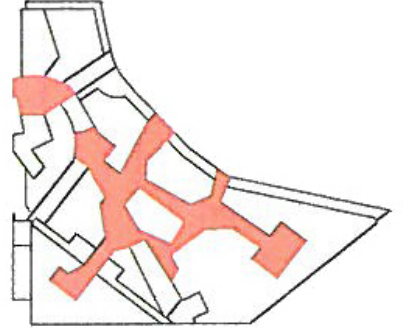
R & D



education



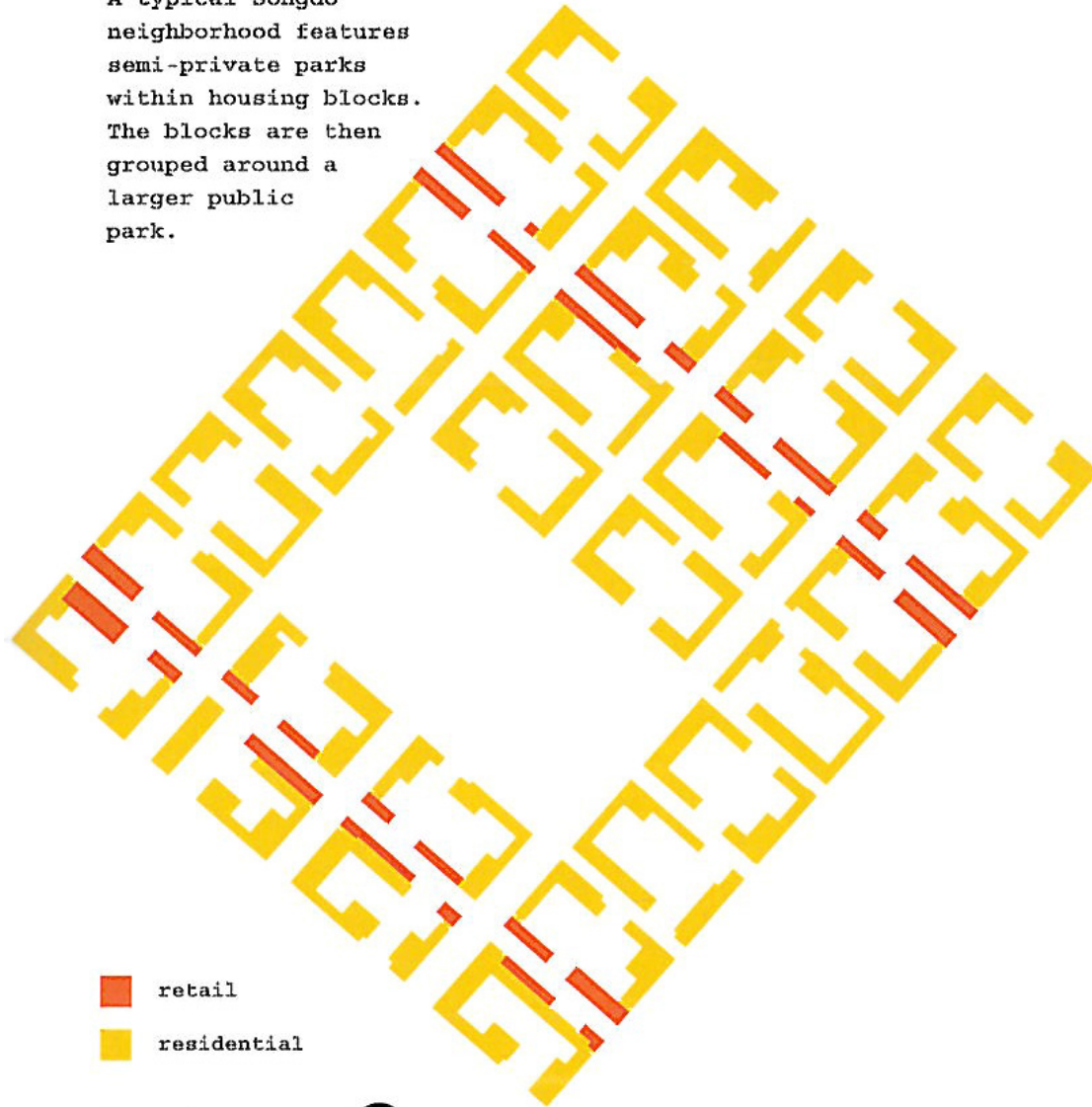
residential



retail

Programmatic bands were interlaced to create OMA's plan.

A typical Songdo neighborhood features semi-private parks within housing blocks. The blocks are then grouped around a larger public park.



■ retail  
■ residential

100m



AREA IN OPEN DEVELOPMENT  
PREFERABLY 160 ACRES ••  
IN ANY CASE IT SHOULD  
HOUSE ENOUGH PEOPLE TO  
REQUIRE ONE ELEMENTARY  
SCHOOL • EXACT SHAPE  
NOT ESSENTIAL BUT BEST  
WHEN ALL SIDES ARE FAIRLY  
EQUIDISTANT FROM CENTER

A SHOPPING DISTRICT  
MIGHT BE SUBSTITUTED  
FOR CHURCH SITE

SHOPPING DISTRICTS IN  
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JUNCTIONS AND  
PREFERABLY BUNCHED  
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INSTITUTIONS AT  
COMMUNITY CENTER

TEN PERCENT  
OF AREA TO  
RECREATION  
AND PARK SPACE

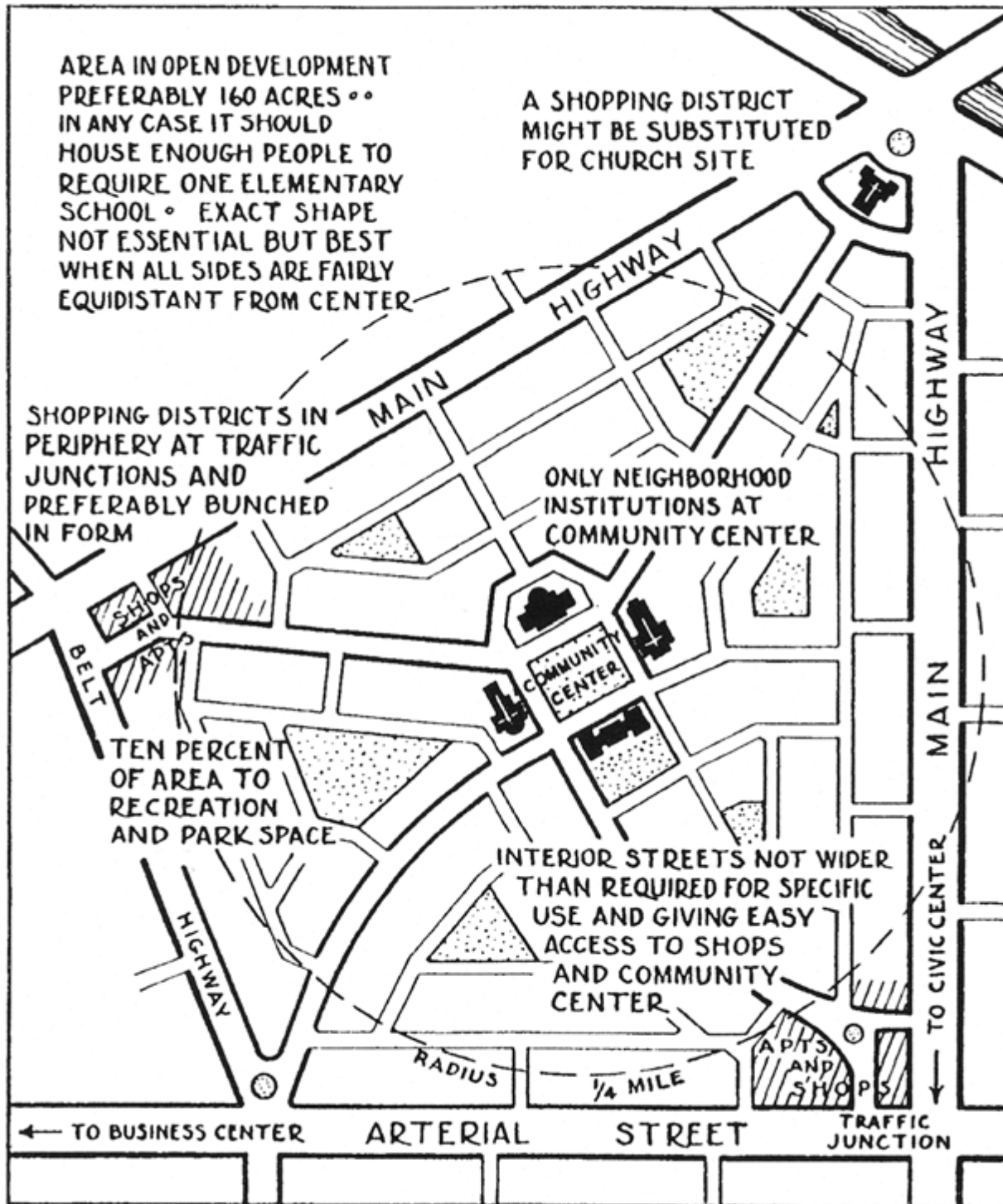
INTERIOR STREETS NOT WIDER  
THAN REQUIRED FOR SPECIFIC  
USE AND GIVING EASY  
ACCESS TO SHOPS  
AND COMMUNITY  
CENTER

← TO BUSINESS CENTER

ARTERIAL

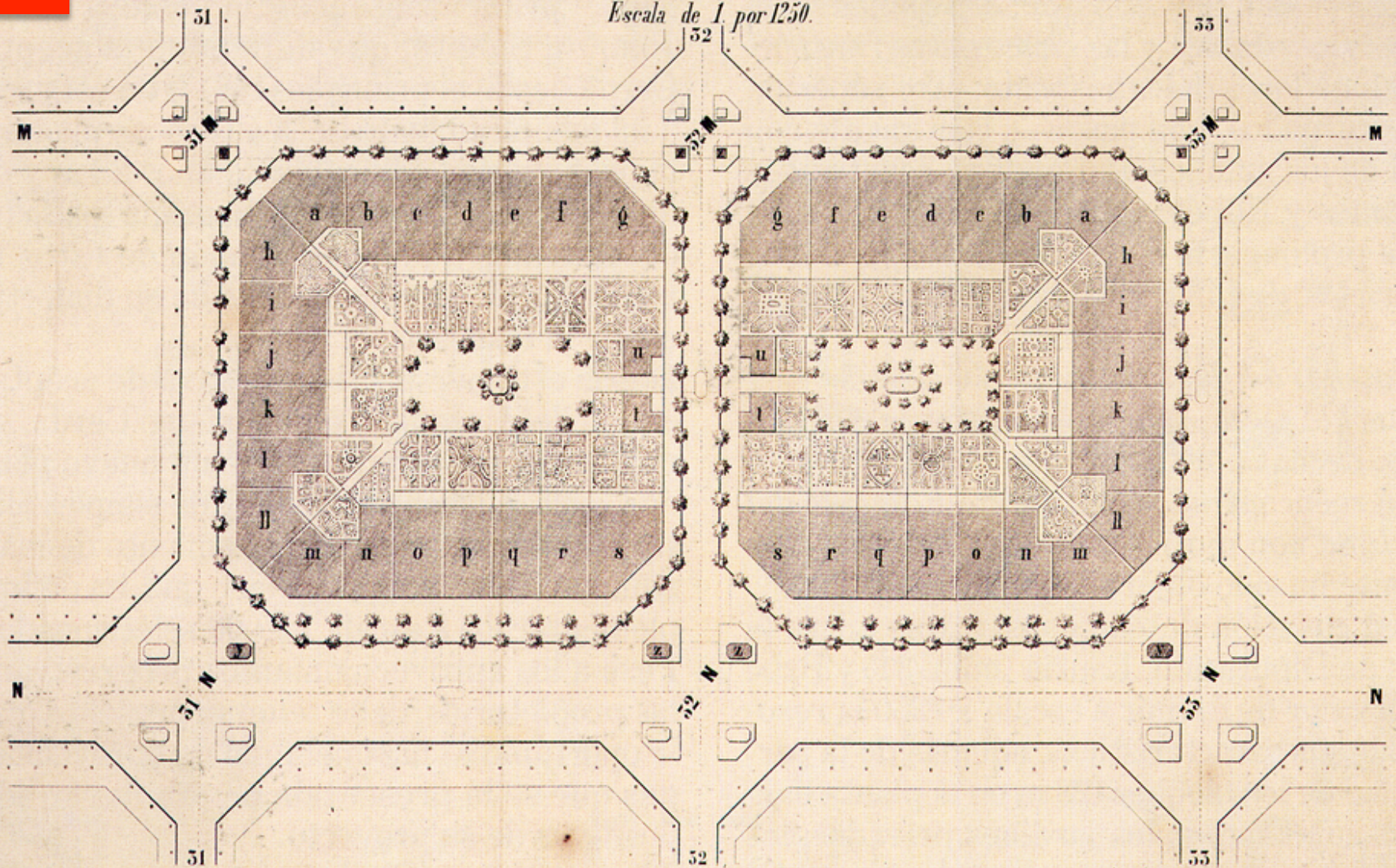
STREET

TRAFFIC  
JUNCTION

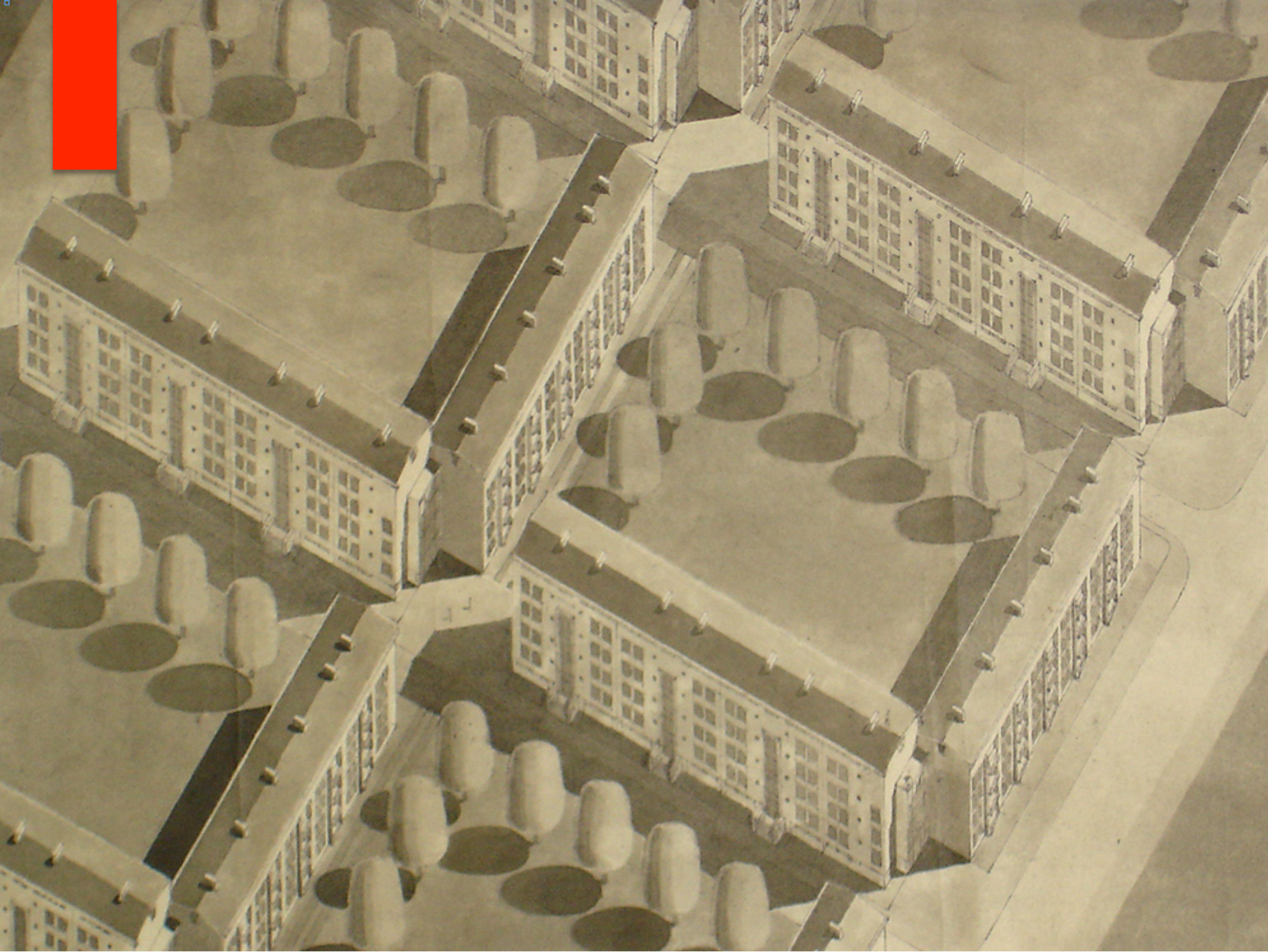


PLANOS GEOMÉTRICOS DE LA PLANTA DE LAS MANZANAS 51<sup>N</sup> 52 Y 52<sup>N</sup> 55 QUE TIENE EN CONSTRUCCION LA SOCIEDAD  
**FOMENTO del ENSANCHE de BARCELONA**

*Escala de 1. por 1250.*



Propuesta de dos manzanas de la sociedad El Fomento del Ensanche proyectada por Cerdà (A.H.C.B.)



## Cyberjaya (Malaysia)

**Client:** unknown.

**Designers:** unknown.

**Date:** 1997-ongoing.

**Status:** Under construction.

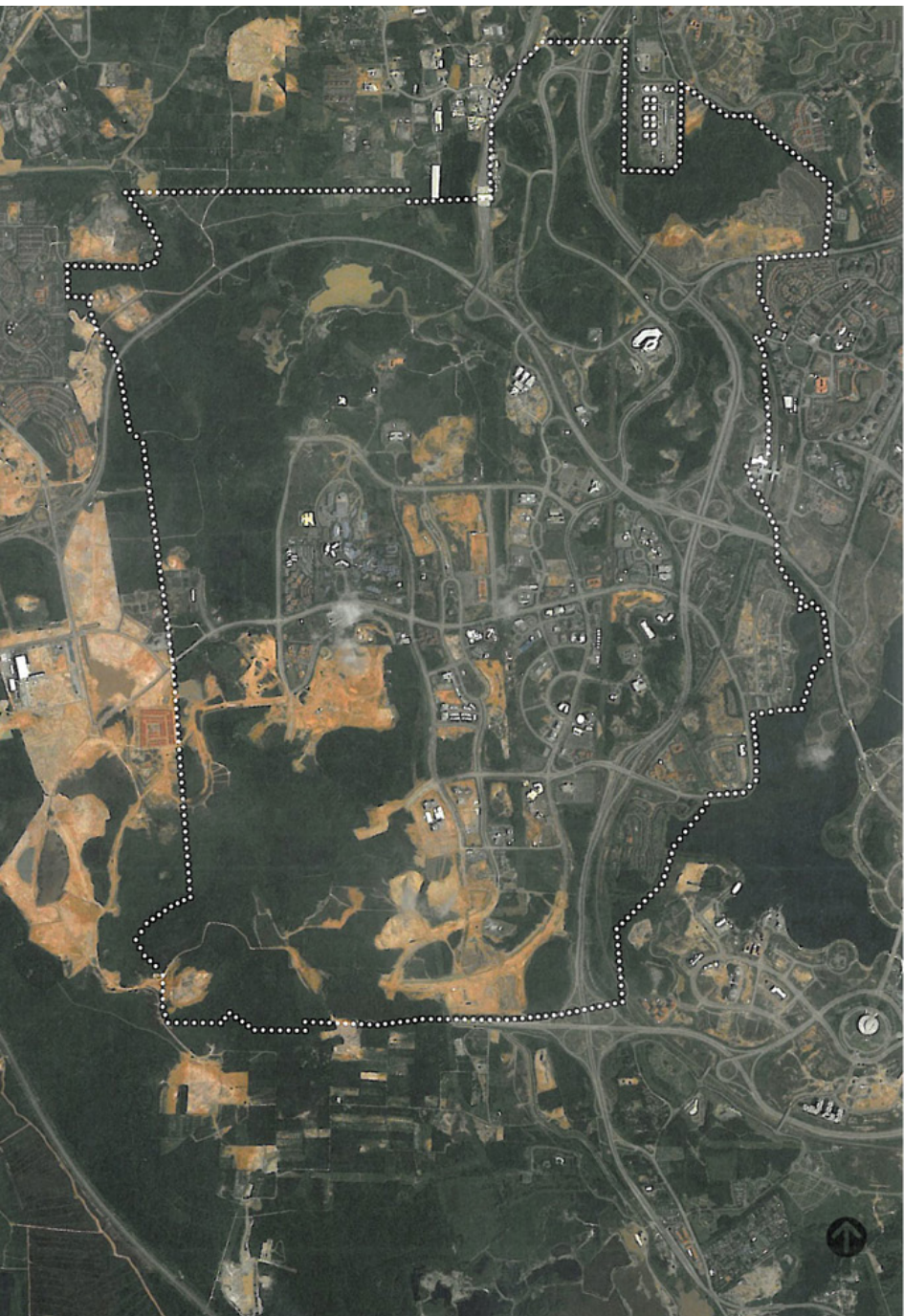
**Current residents:** 10.000.

**Expected commuters:** 27.000 daily.

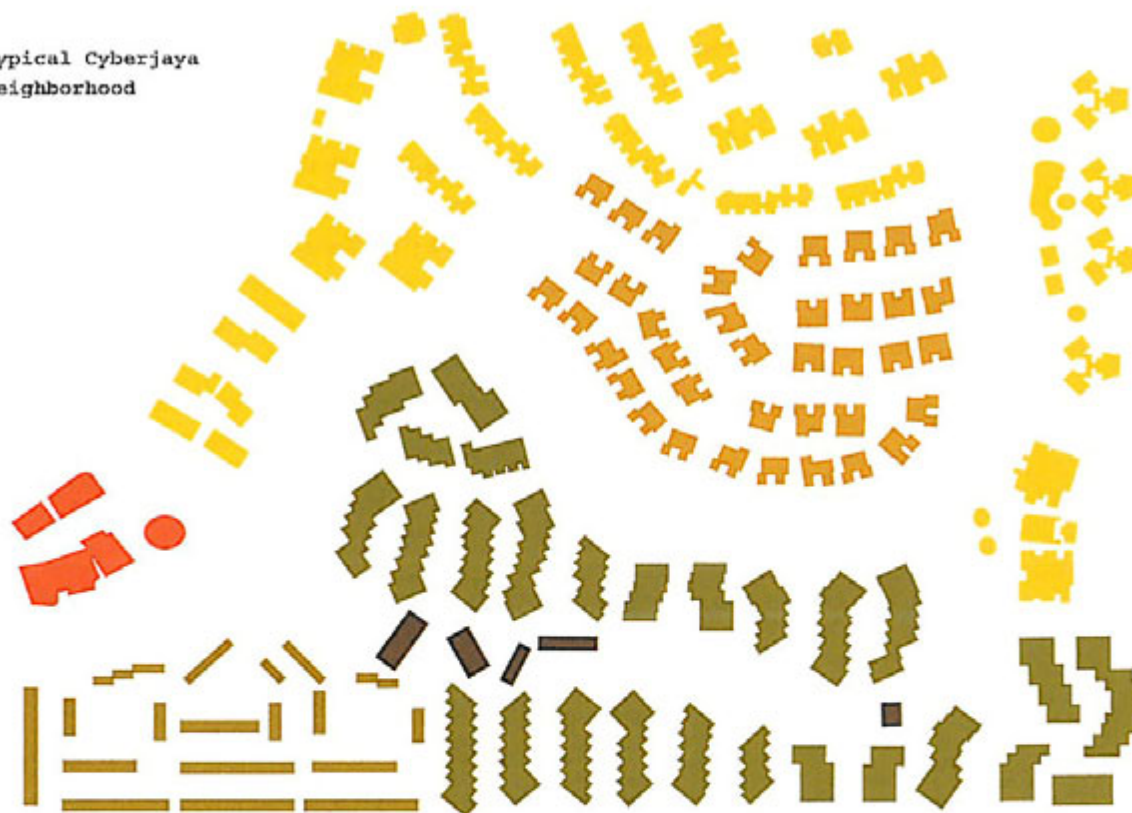
**Size:** 29 Km<sup>2</sup>.

**Cost:** \$ 20 billion.





Typical Cyberjaya neighborhood



- twin villas
- future development
- row housing
- townhouses
- retail
- community

100m



AREA IN OPEN DEVELOPMENT  
PREFERABLY 160 ACRES ••  
IN ANY CASE IT SHOULD  
HOUSE ENOUGH PEOPLE TO  
REQUIRE ONE ELEMENTARY  
SCHOOL • EXACT SHAPE  
NOT ESSENTIAL BUT BEST  
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ACCESS TO SHOPS  
AND COMMUNITY  
CENTER

← TO BUSINESS CENTER

ARTERIAL STREET

TRAFFIC  
JUNCTION



# Songjiang New City (People's Republic of China)

**Client:** Shanghai Songjiang New City Construction and Development Co. Ltd.

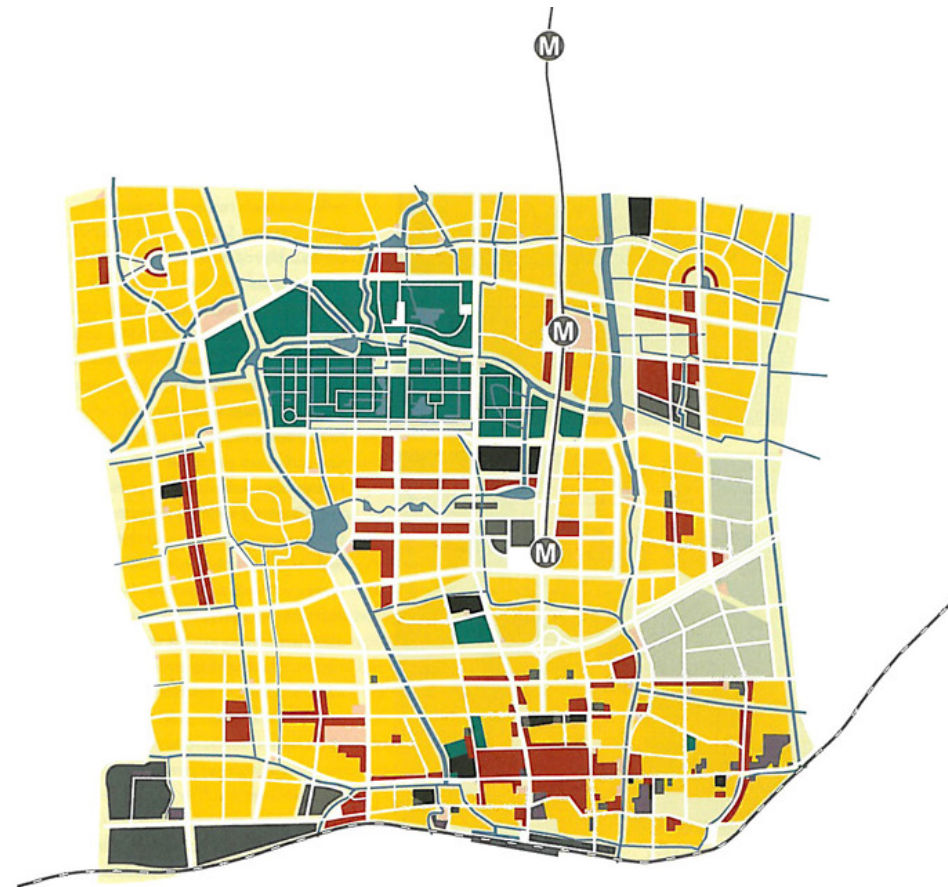
**Designers:** WS Atkins (Thames Town and Songjiang New District).

**Date:** 2001-2012.

**Status:** Thames Town was completed in 2005, parts of Songjiang remain under construction.

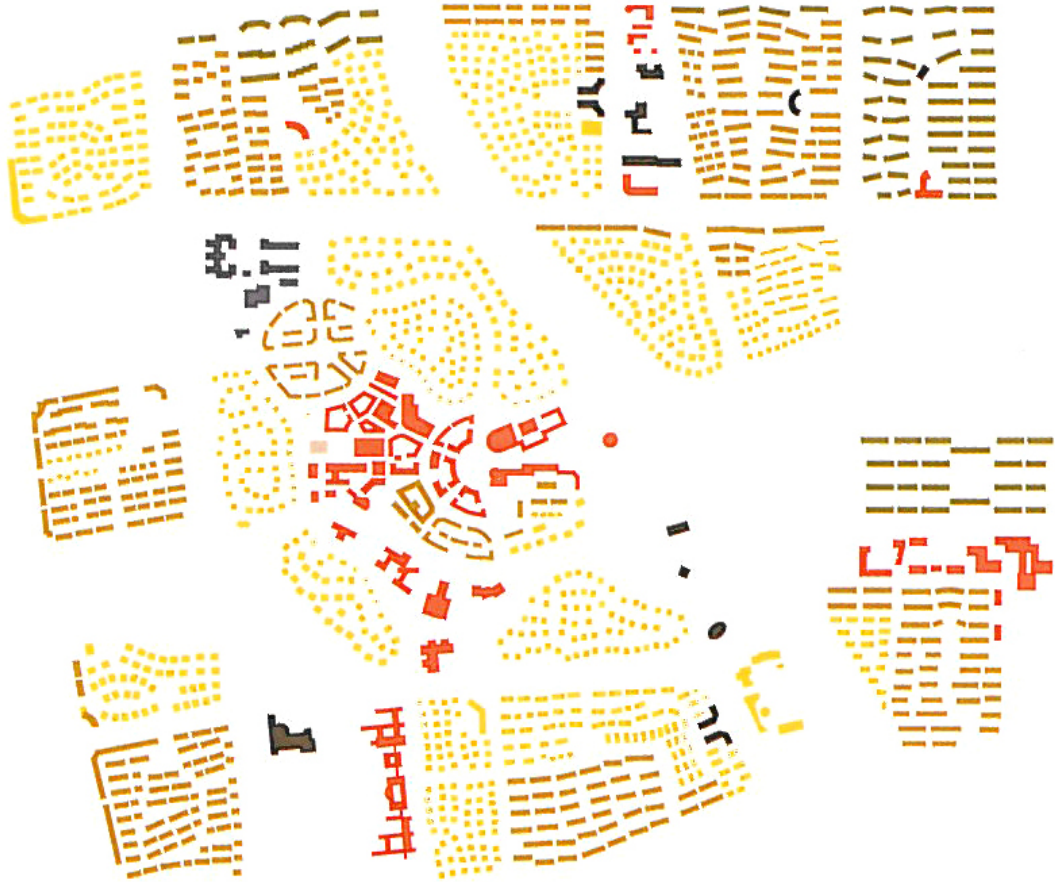
**Expected residents:** 1.000.000.

**Size:** 36 Km<sup>2</sup>.



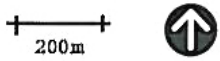
- government offices
- commercial & business
- hospital
- education & research
- residential
- industrial
- warehouses
- municipal utilities
- green
- special uses
- water

1km



Thames Town with surrounding neighborhoods

- high-rise
- mid-rise
- villas
- mixed use
- religious
- cultural
- community



# ONGAR

A NEW SATELLITE  
TOWN OF 60,000  
POPULATION

-  EXISTING BUILDINGS
-  HOUSES GARDENS & FLATS
-  SCHOOLS
-  SHOPS & COMMERCIAL BLDGS
-  PUBLIC BUILDINGS
-  INDUSTRY
-  PUBLIC OPEN SPACE AND SCHOOL PLAYING FIELDS
-  CAR PARKS AND GARAGES
-  RAILWAYS AND STATIONS
-  CONTOURS AT 20' INTERVALS

POPULATION IN EACH NEIGHBOURHOOD--

No. 1	10000	No. 4	11750
No. 2	11500	No. 5	8600
No. 3	9400	No. 6	8200

IN OLD ONGAR & ELSEWHERE -- 550  
TOTAL 60,000

NET RESIDENTIAL DENSITY 30 PERS. PER ACRE

THE PLANNING OF THIS COMMUNITY  
FOLLOWS THE STANDARDS SUGGESTED IN  
CHAPTER 8, EXCEPT FOR AN EXTRA 300  
ACRES OF OPEN SPACE (IN THE RIVER  
VALLEYS) WHICH BRINGS THE TOTAL UP TO  
APPROX. 15 ACRES PER THOUSAND PEOPLE



# Pujiang New Town (People's Republic of China)

**Client:** unknown.

**Designers:** Gregotti Associati Internatinal.

**Date:** 2001-2010.

**Status:** Completed.

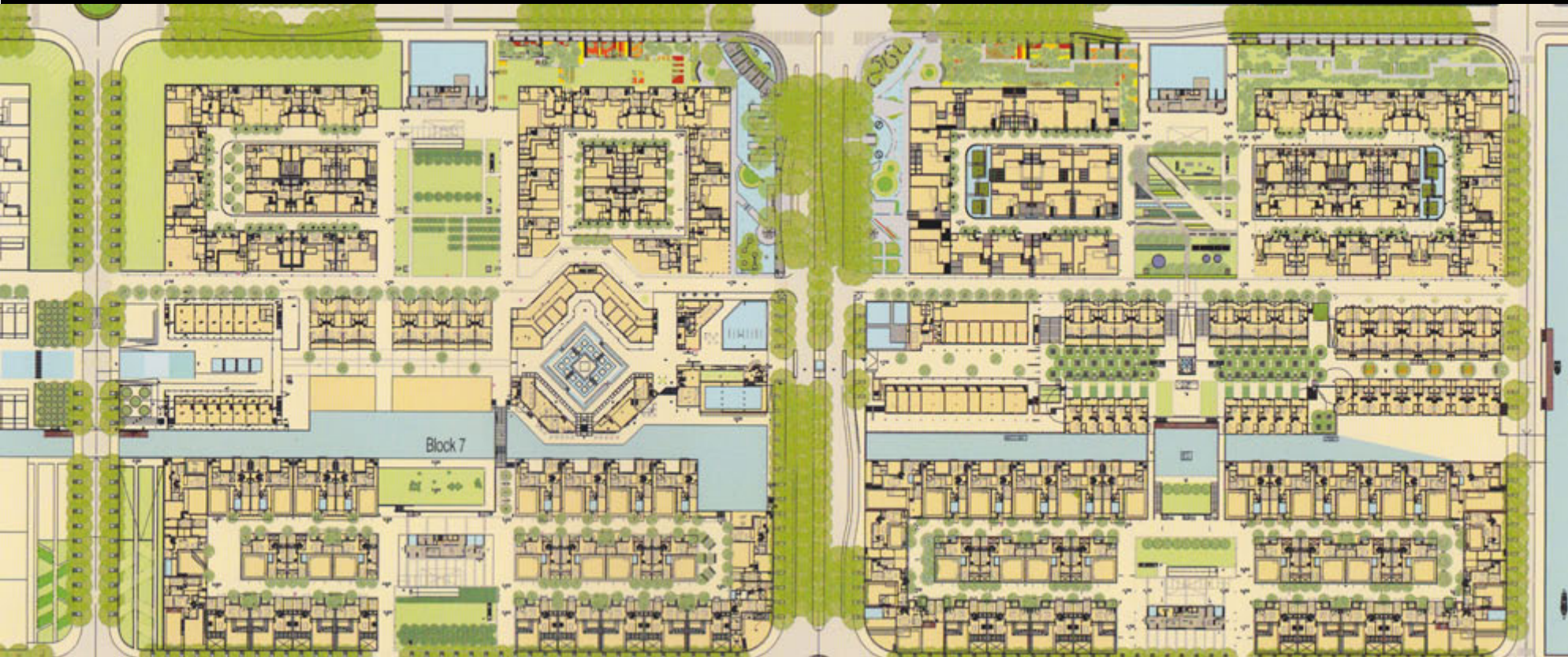
**Current residents:** 80.000.

Pujiang New Town, “città italiana” di 80.000 abitanti, si inserisce nel programma di assetto policentrico di Shanghai.

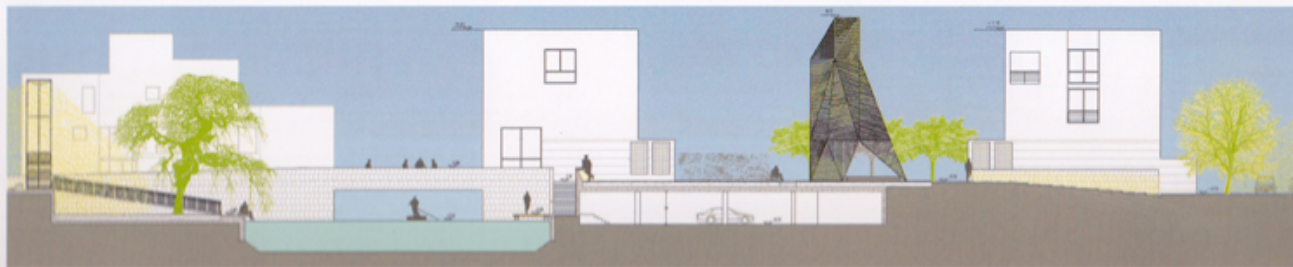












# Tin Shui Wai (Hong Kong)

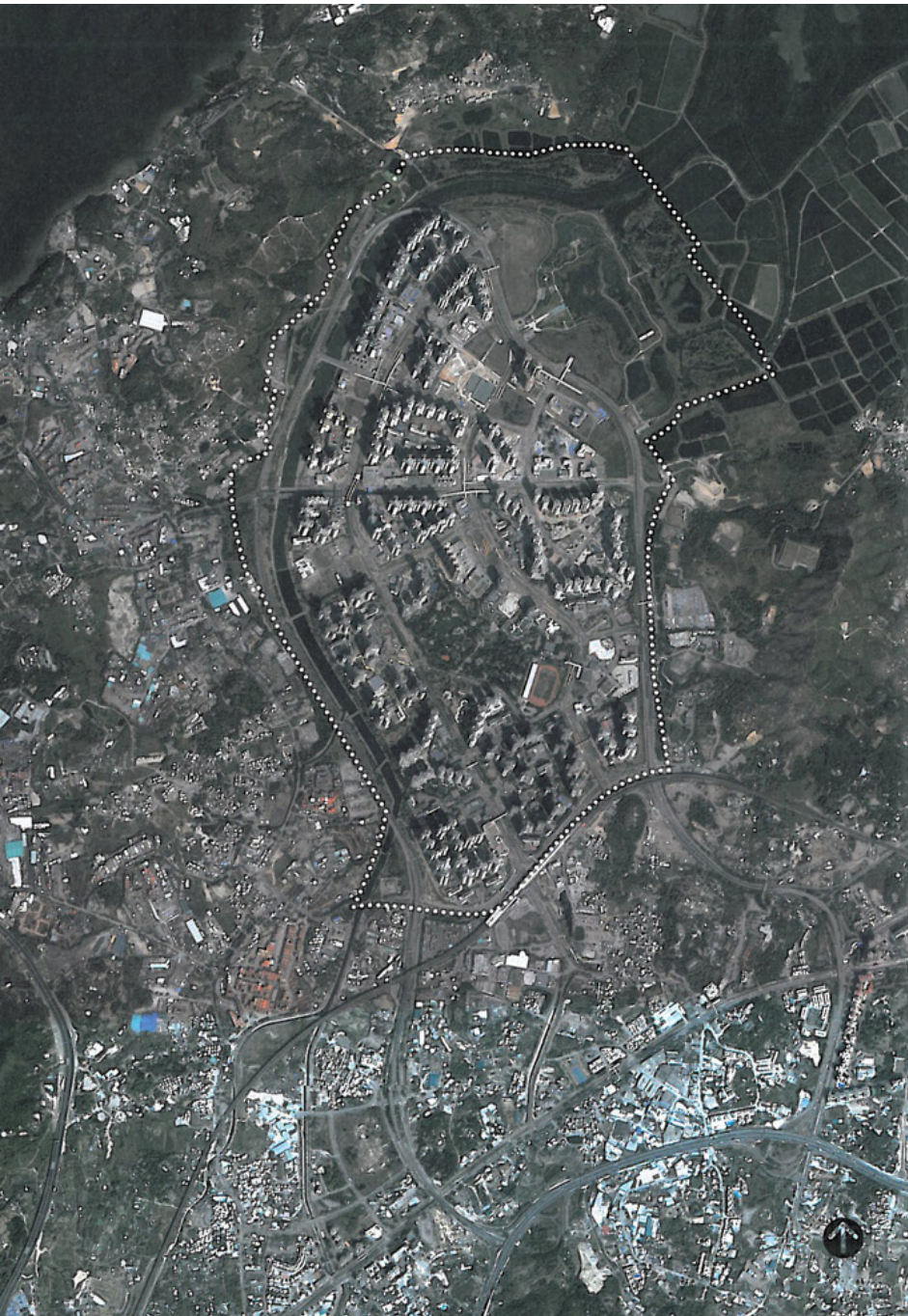
**Client:** Hong Kong Government.

**Designers:** Hong Kong Housing Authority (HKHA).

**Date:** 1990-2006.

**Status:** Completed.

**Current residents:** 289.800.



## Bumi Serpong Damai (Indonesia)

**Client:** unknown.

**Designers:** Dioxiadis & Associates, Pacific Consultant International, Japan City Planning Inc., Nihon Architects Engineers and Consultants Inc.

**Date:** 1994-ongoing.

**Status:** Under construction.

**Current residents:** 100.000.

**Size:** 60 Km<sup>2</sup>.





- water
- golf
- administrative centre
- education / university
- green space & park
- low-rise residential
- planned residential
- community
- nature reserve
- industry
- existing communities
- office
- mixed use
- other
- intermodal station
- hotel

1km

AREA IN OPEN DEVELOPMENT  
PREFERABLY 160 ACRES ••  
IN ANY CASE IT SHOULD  
HOUSE ENOUGH PEOPLE TO  
REQUIRE ONE ELEMENTARY  
SCHOOL • EXACT SHAPE  
NOT ESSENTIAL BUT BEST  
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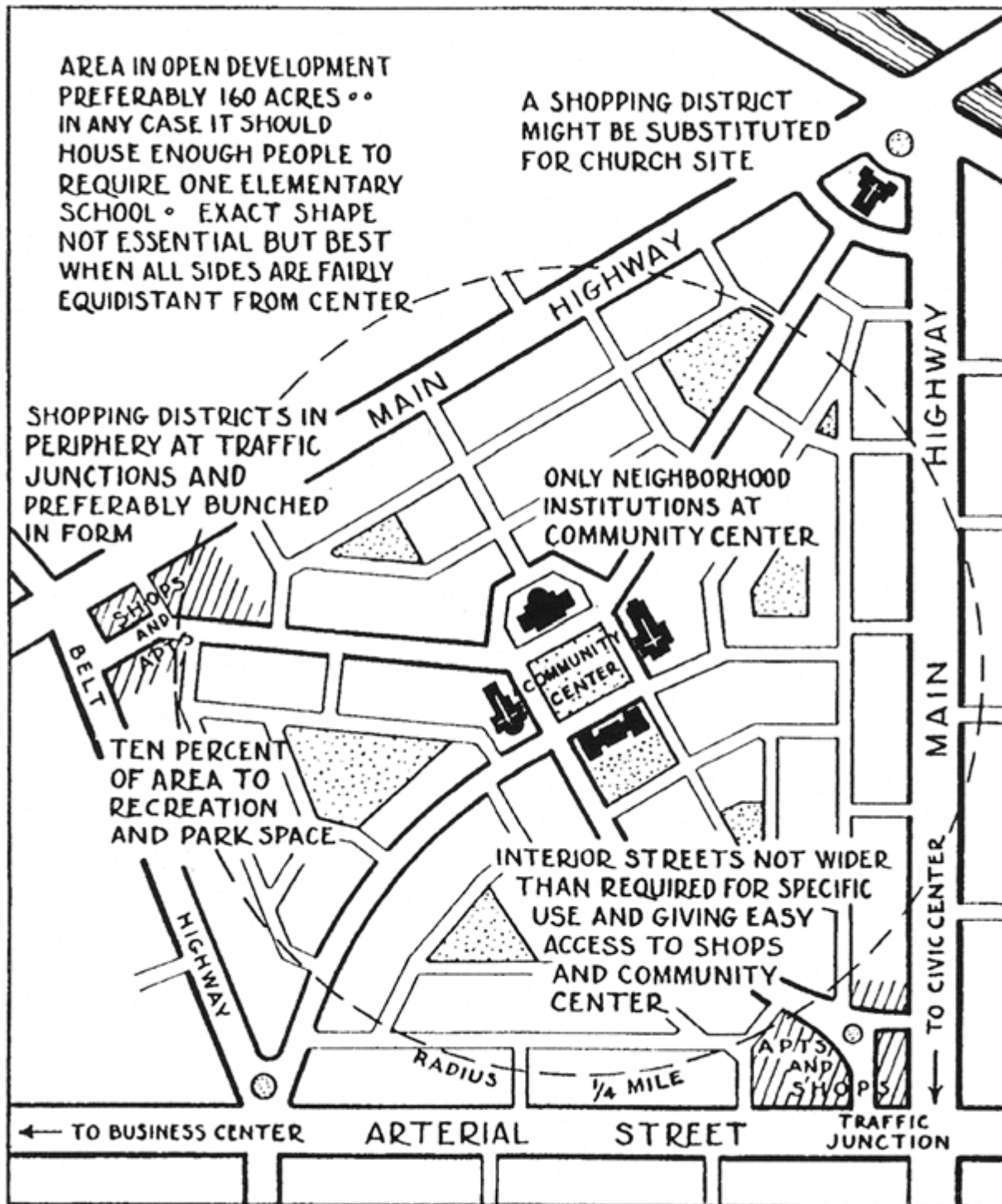
A SHOPPING DISTRICT  
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SHOPPING DISTRICTS IN  
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ACCESS TO SHOPS  
AND COMMUNITY  
CENTER



← TO BUSINESS CENTER

ARTERIAL STREET

TRAFFIC  
JUNCTION

HIGHWAY

MAIN

TO CIVIC CENTER

RADIUS

1/4 MILE

SHOPS  
AND  
APTS

APTS  
AND  
SHOPS

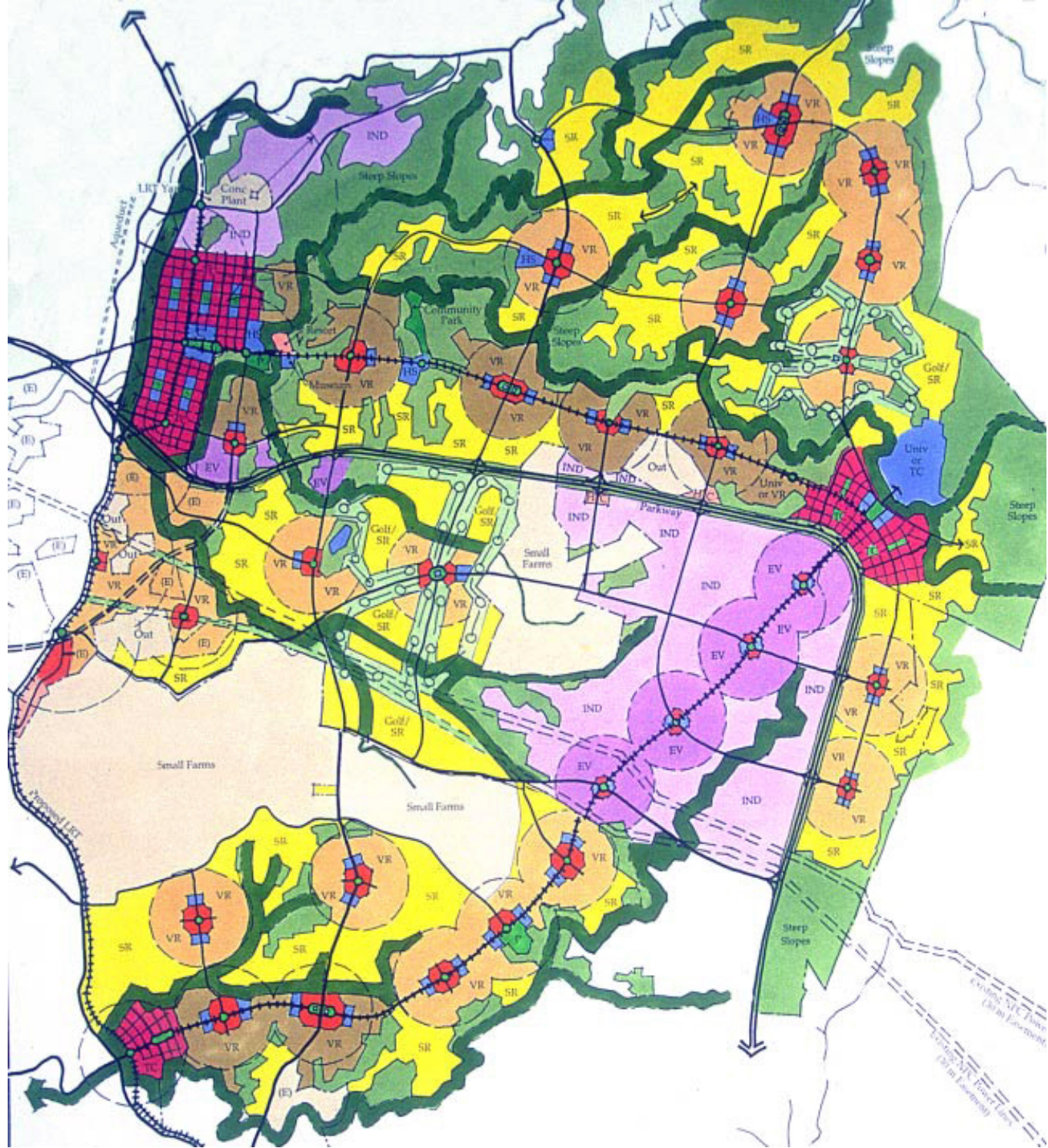
COMMUNITY  
CENTER

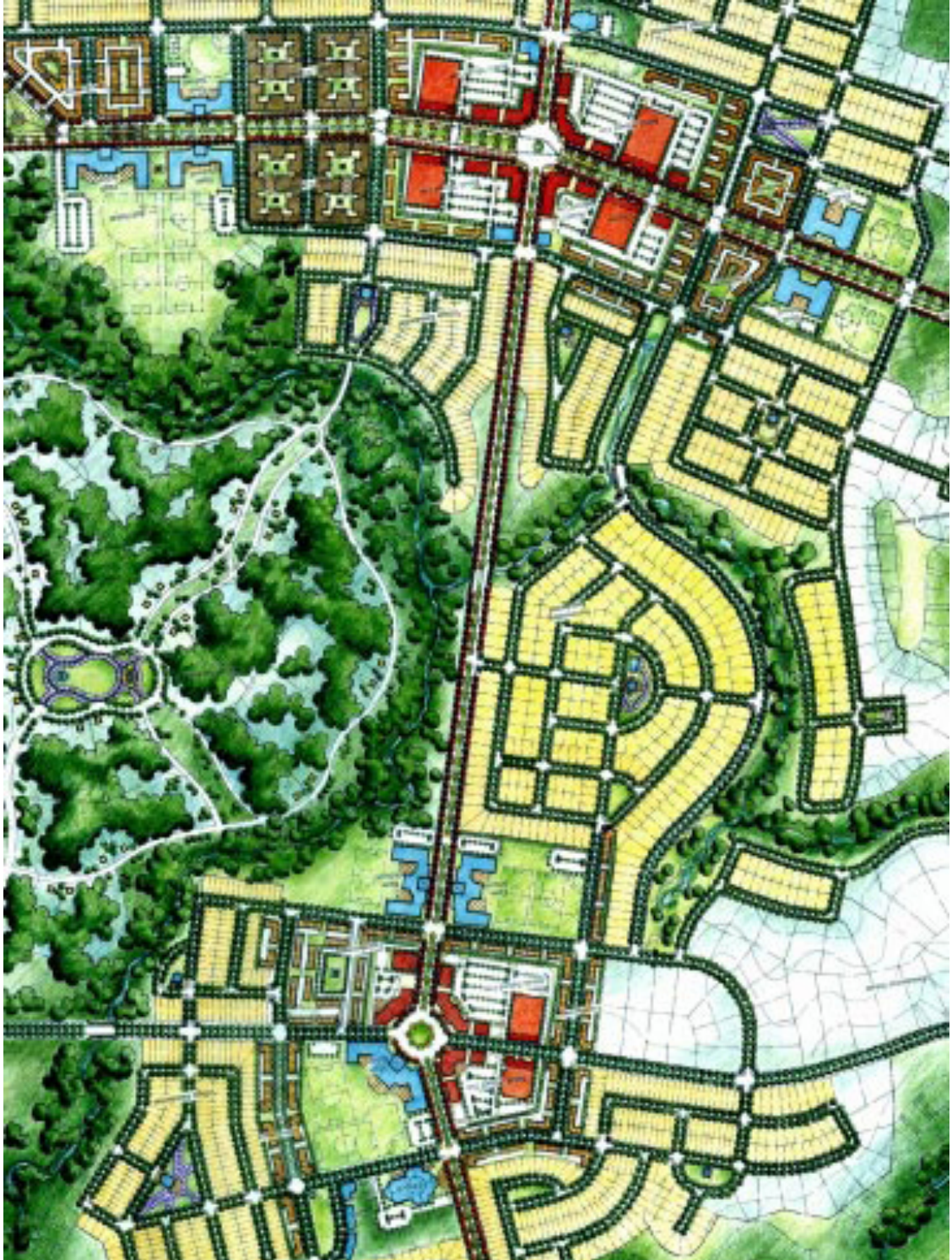
## Green City (Philippines)

**Designers:** Cathorpe Associates.

Il progetto prevede una nuova città di 500.000 abitanti nell'area metropolitana di Manila.

Il modello insediativo proposto prevede un assetto policentrico fondato su un sistema di "villaggi residenziali" di carattere estensivo, ognuno dei quali dotato di un centro compatto strutturato intorno a spazi collettivi, e "centri città" di maggiore densità e pronunciata immagine urbana, contenenti i servizi di scala urbana e le funzioni pregiate.







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← TO BUSINESS CENTER

ARTERIAL STREET

TRAFFIC  
JUNCTION

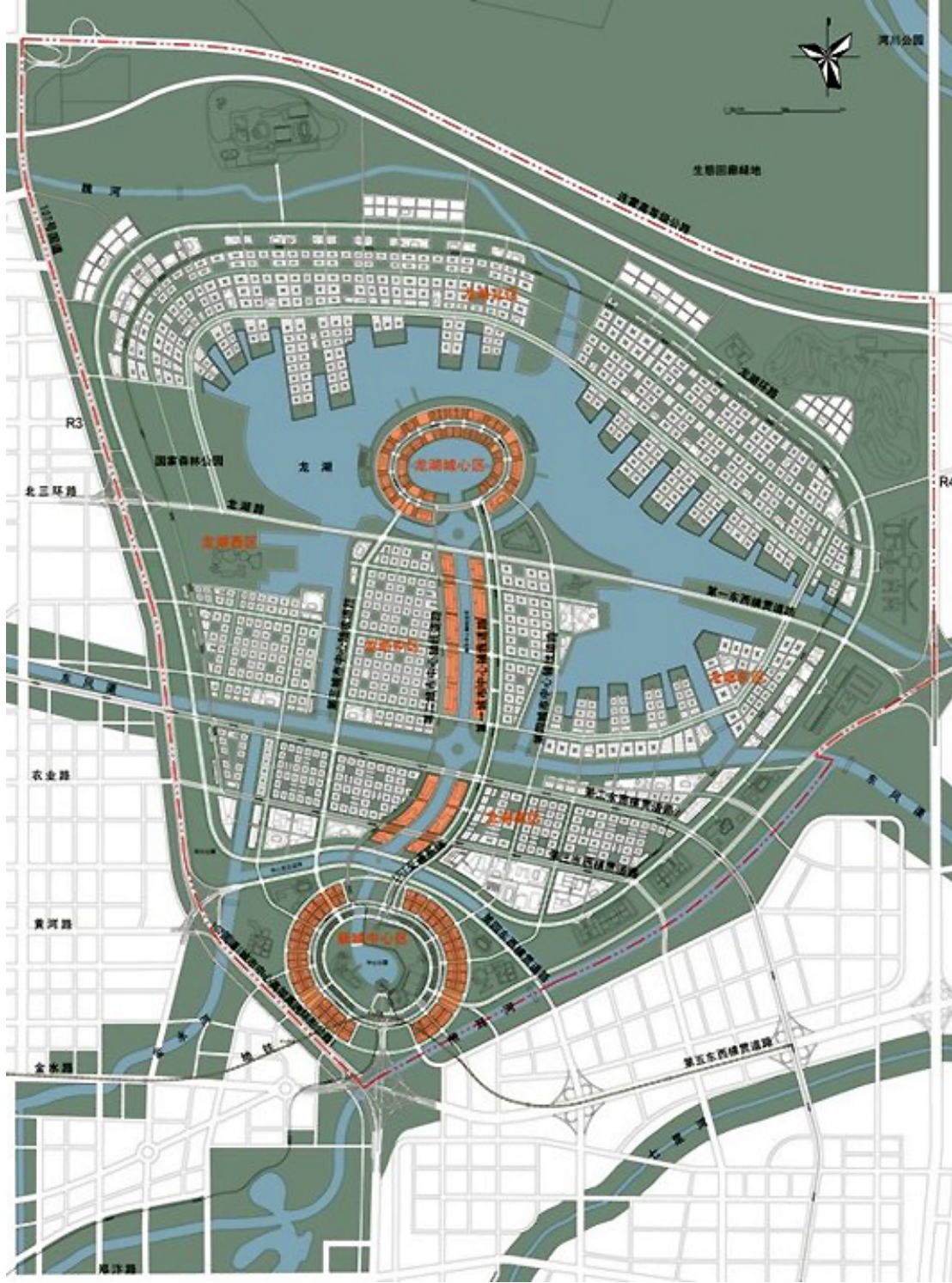


# Zengzhou New City (People's Republic of China)

**Designers:** Kisho Kurokawa.

The Zhengdong New City of 1.5 million people was designed with the aim of creating a new-loop city, a “Ring City” for the CBD of the Zhengdong district (5040ha). The design of the ring road was based on the themes of metabolism and symbiosis of metabolism movement of 1960. Ring city is a cell cluster without center, in other words, it is a city of no center, and was designed to blend in with the ring high-rise-building zone. The center is void (park) and clearly categorized in five areas depending on their function and form a municipal park, an educational forest, a riverside park, traffic playground and a central park (Lakeside).







# Zengzhou Avenue (People's Republic of China)

**Designers:** Broadway Malyan.

The purpose is to transform the approach route and urban centre of this major mainland city of 2.2 million inhabitants, in preparation for a programme of urban expansion to allow the city to double in size over the next 15 years.

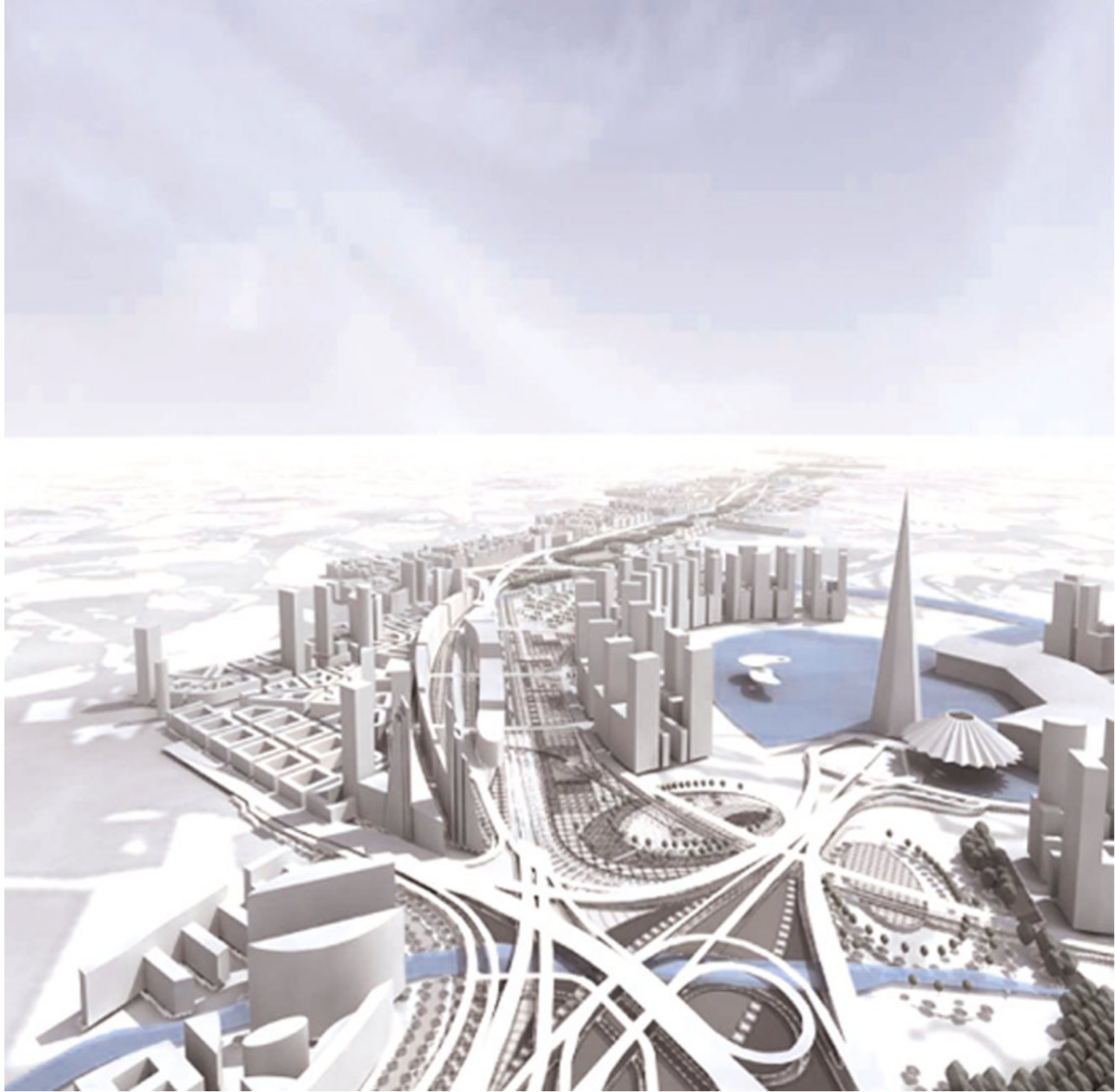
A new city is planned to be built around a 100 mt wide urban boulevard avenue linking the airport to the City and the Yellow River beyond.

A 32 km long, 1000 mt wide swathe of urban development was designed.

The scheme's concept sought to utilise the City's rivers and waterways for transport and as attractive settings for the buildings and parks.

A new tourist canal route was devised to allow visitors to tour the city and travel by boat to the Yellow River.





# Wanzhuang Eco-city of agriculture

(People's Republic of China)

**Designers:** Arup.







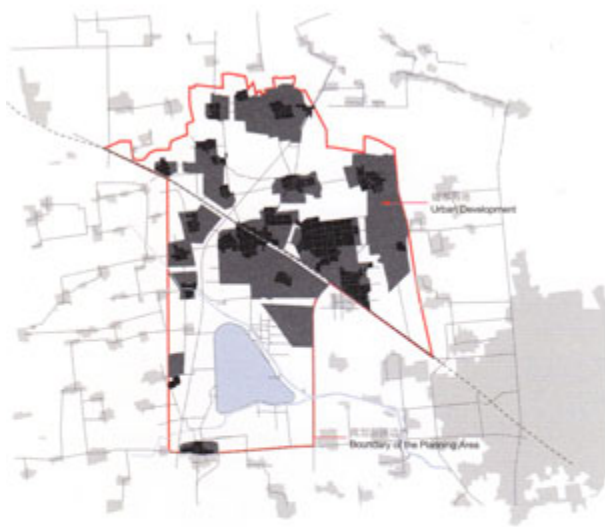








常规规划用地 (现有规划)  
BUSINESS-AS-USUAL DEVELOPMENT  
(EXISTING PLAN)



生态城占地  
ECO-CITY DEVELOPMENT

Electricity,  
Gas, and Heat

Waste  
Management System

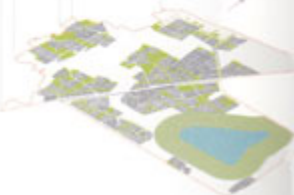
Transportation  
Network

Logistics Circuit

Potable  
Water Works

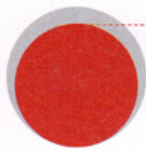
Non-potable  
Water Works

Sewage Works



Integrated Infrastructural System

**Sustainable Industries**



95% of the jobs created and/or offered will be associated with low-impact or sustainable industries

**Energy Production and Use**

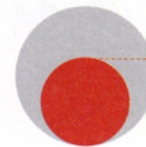
Electricity demand



Wanzhuang is designed to source 100% of its electricity from renewable sources

North China electricity grid network obtains 7% of its electricity from renewable sources

Typical baseline building energy demand



Typical baseline building energy demand  
57% Reduction in estimated demand

**Water Management**

Expected potable water consumption  
(for industrial, residential and commercial purposes/  
excluding agricultural)

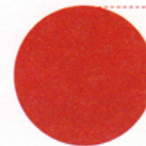


100% B.a.U. expected demand

69% Expected eco-city demand

water consumption

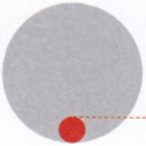
Agricultural water consumption  
(percentage of agricultural water demand met by non-potable sources)



100%

**Waste Management**

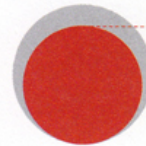
Waste recovery  
(Recycled, reused, composted, or turned into energy)



Total waste produced to landfill

3% of waste to landfill

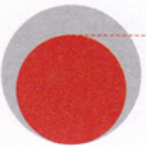
Local waste recovery  
(within project area)



Total waste diverted from landfill  
82% of waste generated recovered

**Transport and Accessibility**

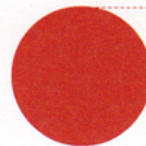
Modal share  
(Car, public transport, cycle, walking)



Total trips

74% of trips using non-car modes (public transport, cycle, walking)

Dwellings within 3 to 5 minutes of cycle paths or bus stops



100%

# Jätkäsaari Low2No Competition project (Helsinki, Finland)



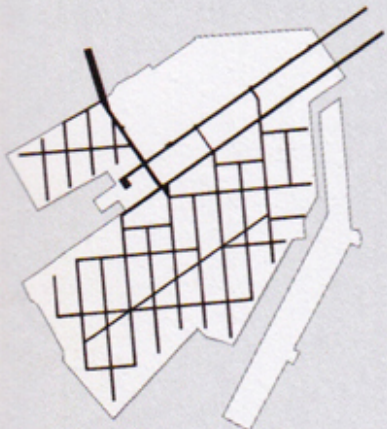


SOIL CANAL

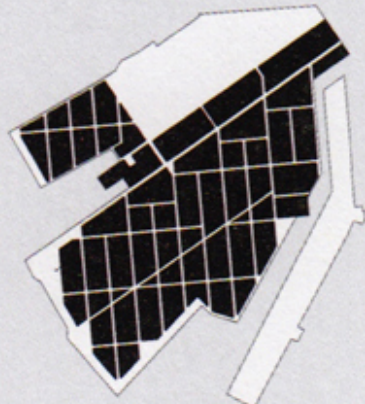
4.5m

8.5m

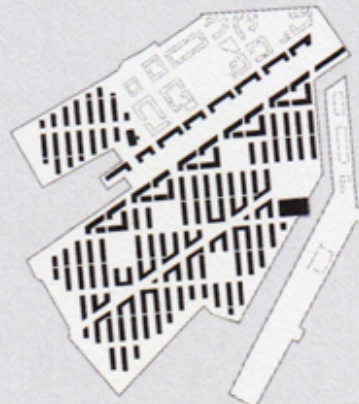




street network



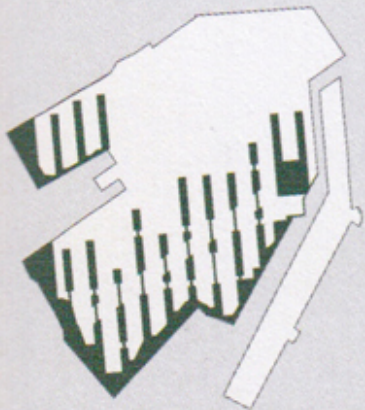
block plan



building network



civic spaces



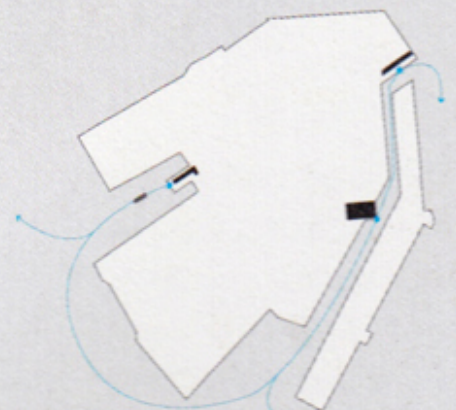
performative landscape



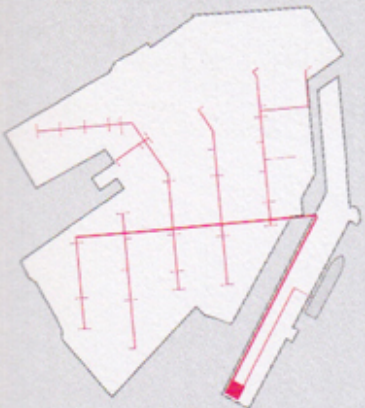
tram (two lines)



parking



marine transport



wood gas



rooftop photovoltaics

# Basingstoke East (Great Britain)

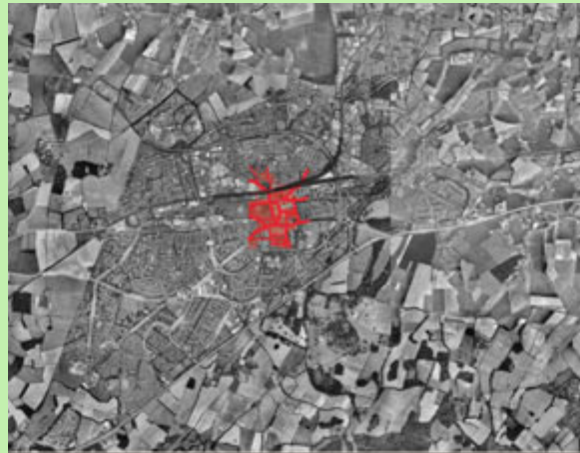
**Designers:** Broadway Malyan.

Stage I. Vision & Masterplan

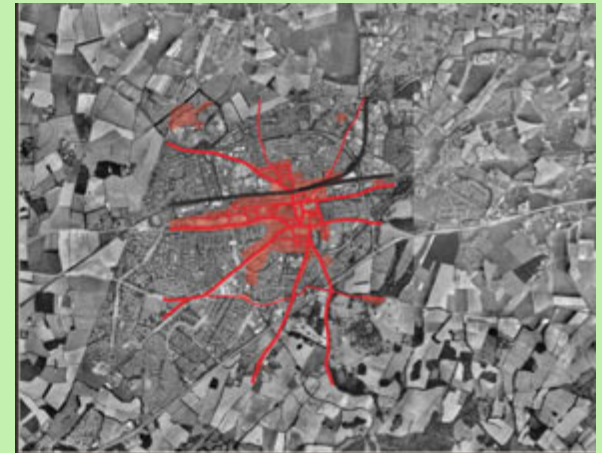
Stage II. Phase 1 Design Framework



1851. Population: 4000



1884. Population: 7000



1933. Population: 14.000



1868. Population: 26.000



1985. Population: 75.000



2002. Population: 152.000

Urban form evolution

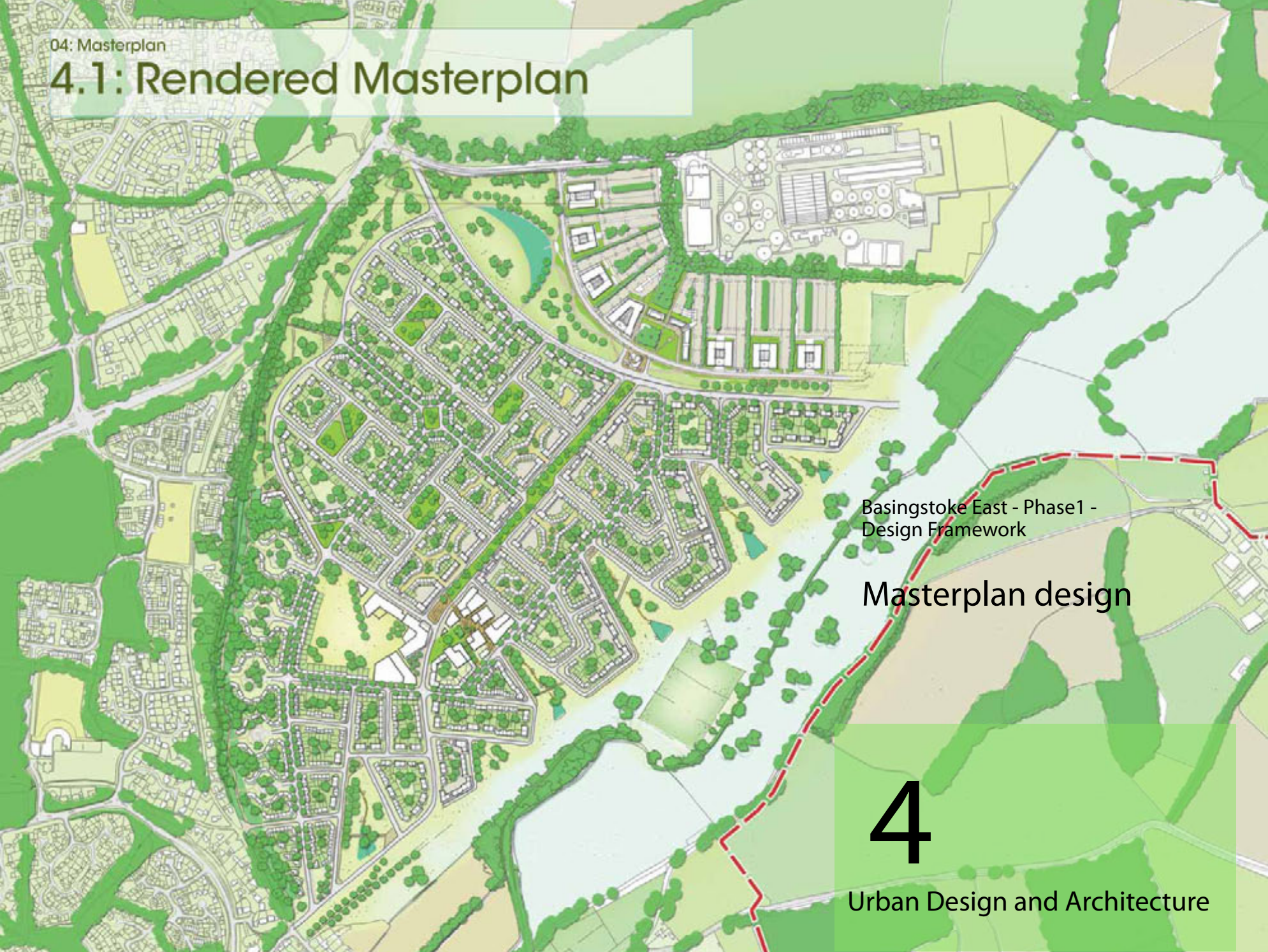
# 4

2007+  
Basingstoke East Vision & Mplan  
In addition to a number of minor landfill sites, sites allocated in the 1996 - 2011 Adopted Local Plan include:  
An extension to the north of Chineham both sides of the railway line  
An area to the north of Lime Park development  
An area east of Buckskin to the west of Old Keble  
The proposed Loddon Village site is illustrated to the east of Basingstoke  
- 2008+  
- 170,000 population

4  
Urban Design and Architecture



# 4.1: Rendered Masterplan



Basingstoke East - Phase 1 -  
Design Framework

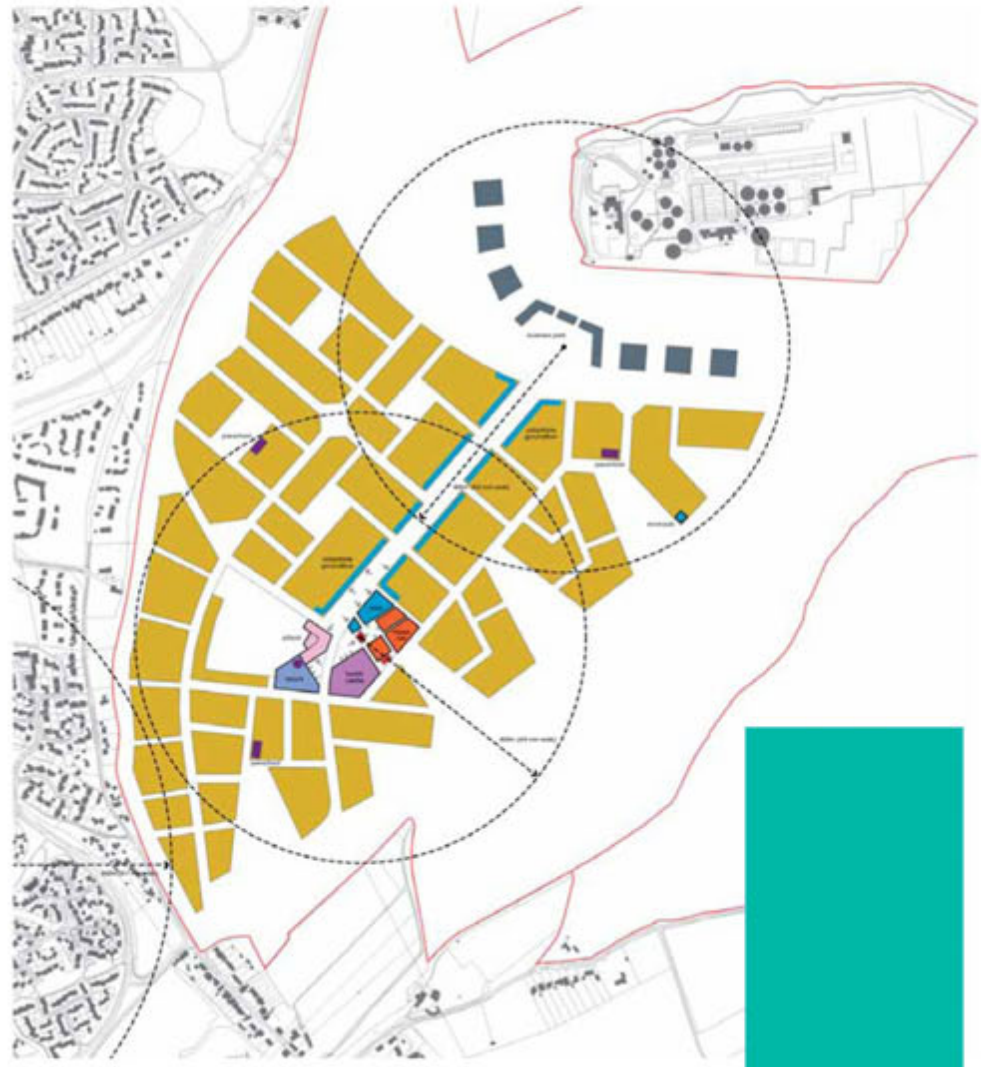
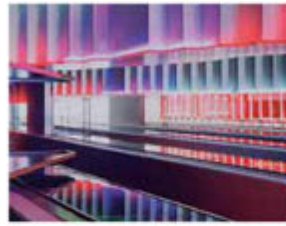
Masterplan design

# 4

Urban Design and Architecture

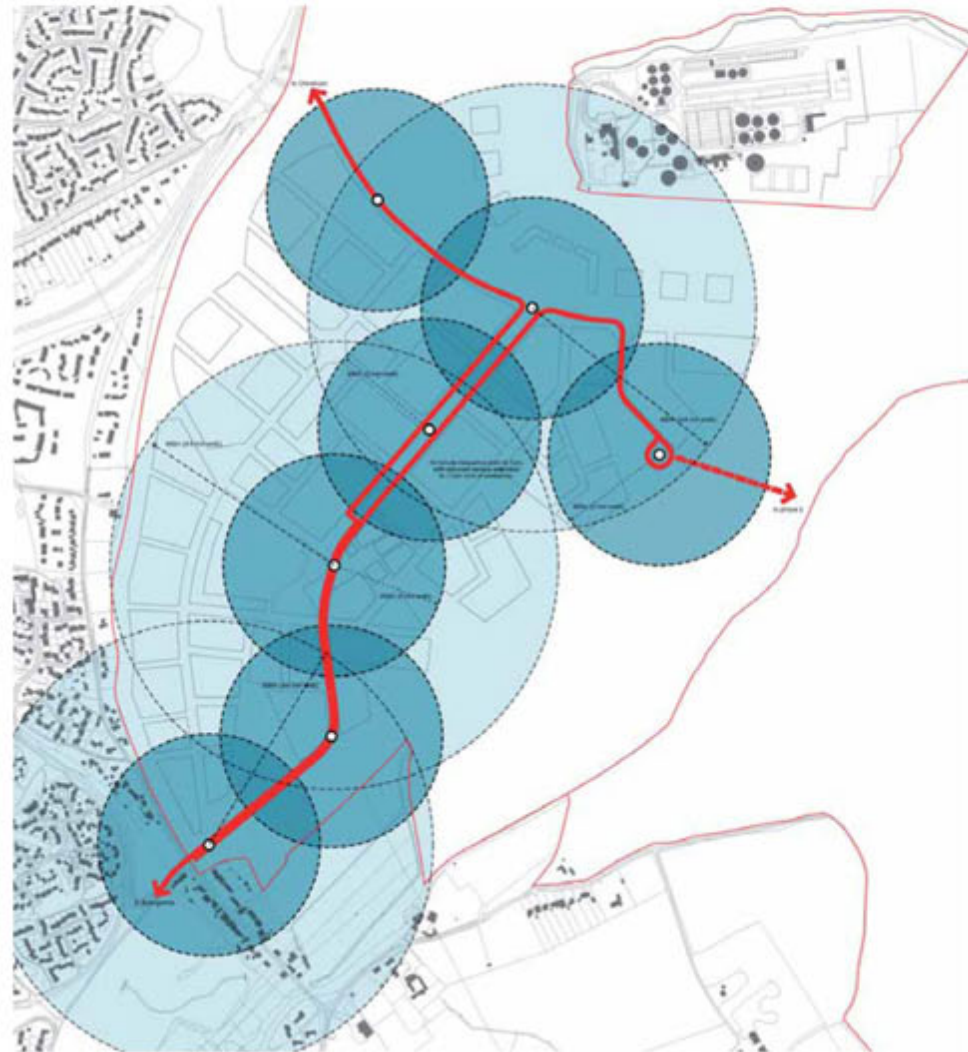
## Land use

- 3 Centres of activity
- Create a community core
- Distribute local facilities within walkable distance



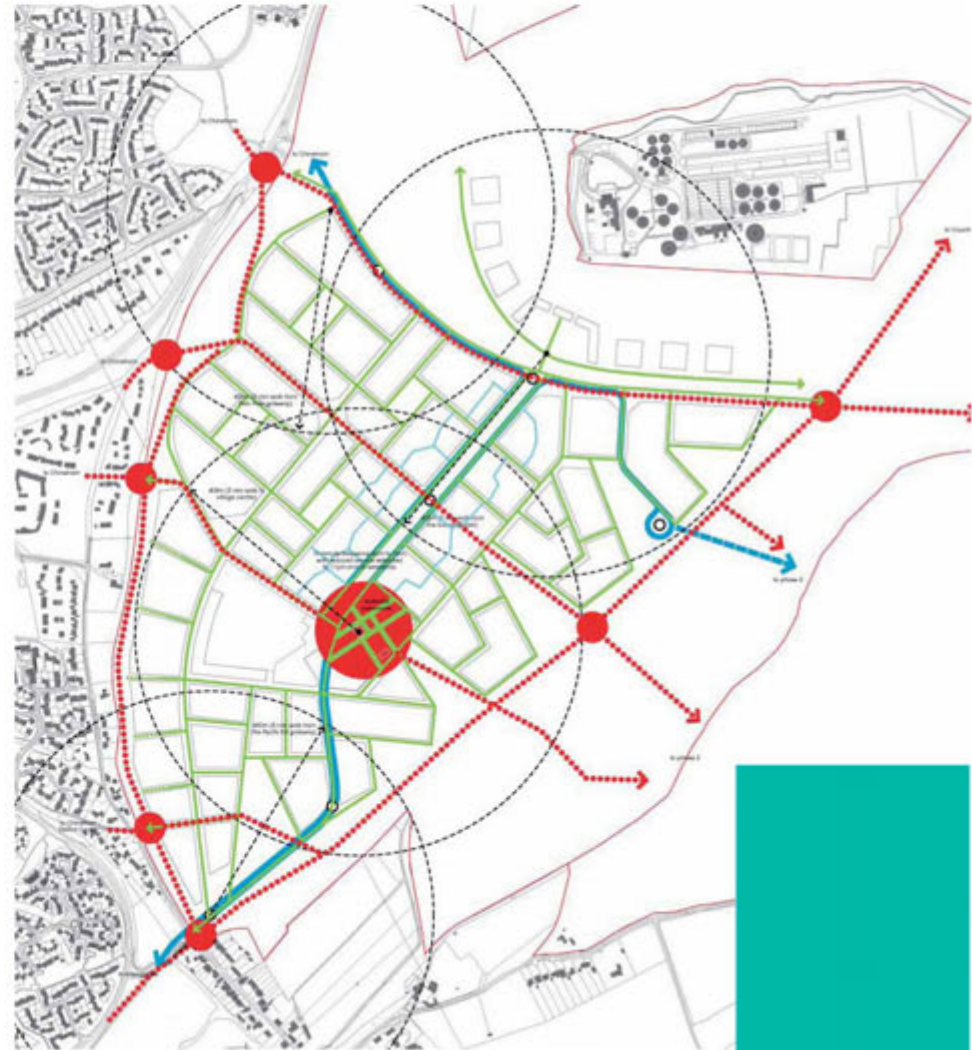
## Public Transport

- 200m from bus stop
- High frequency bus
- Higher density close to bus stop
- 400m cover the entire community



## Ped & Cycle movements

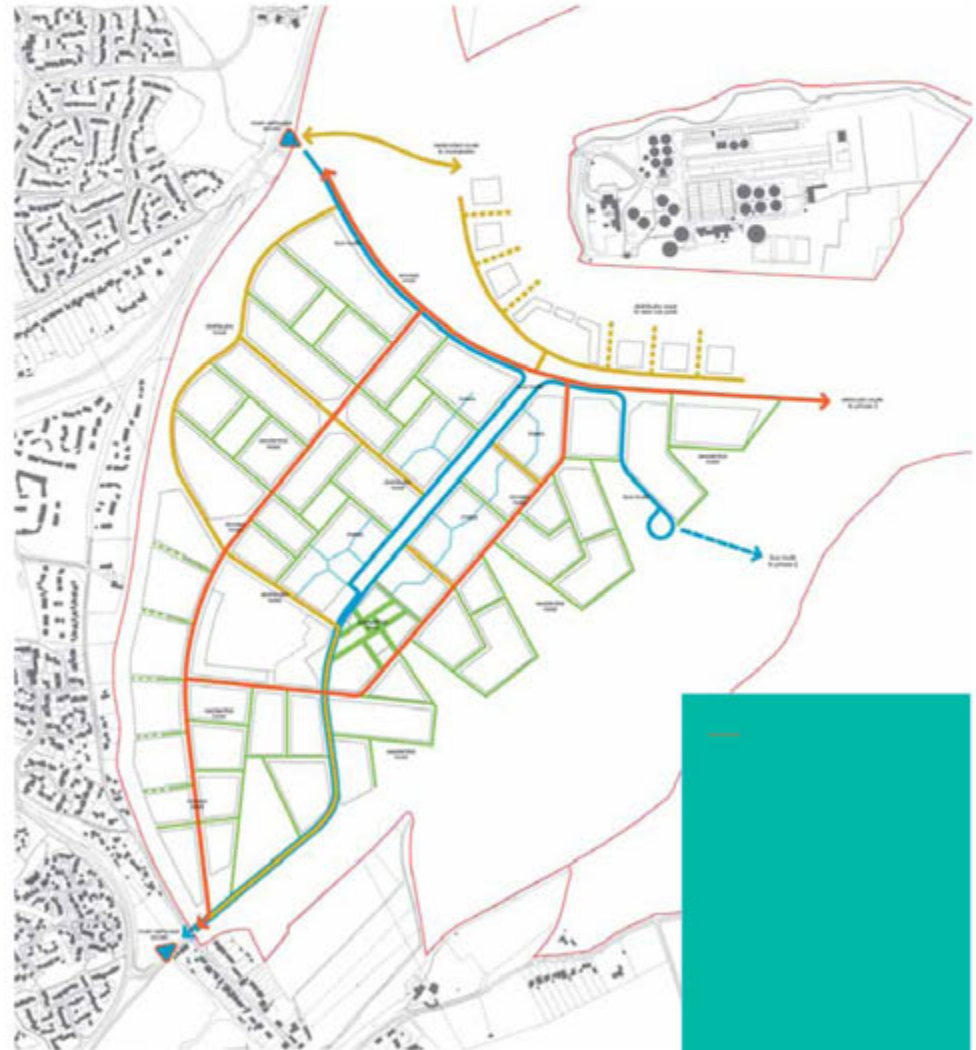
- Connecting places
- Sharing surface across development
- Community Core 400m
- Link to existing communities
- Access to country park





## Road Hierarchy

- Existing access to site
- Links to Phase 2
- Primary routes
- Secondary routes
- Residential roads
- Dedicated bus route



## Public space hierarchy

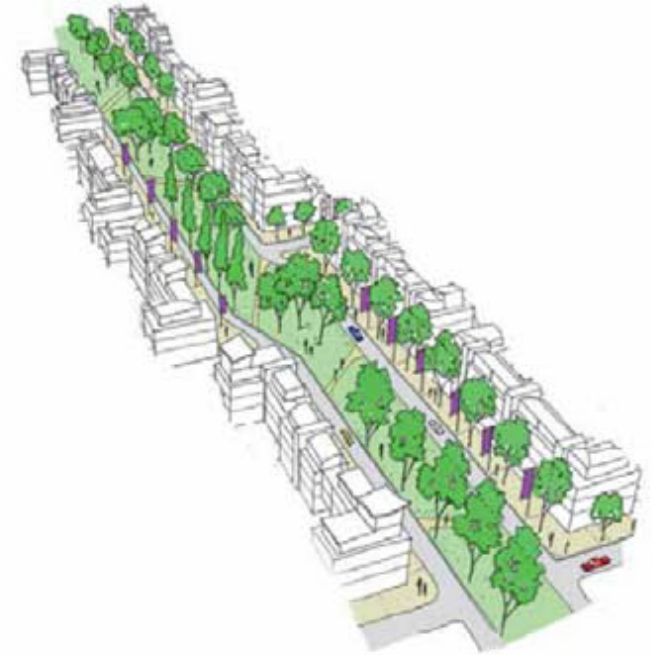
- Spaces define character areas
- Access to public spaces
- Provide meeting places for the community
- Create variety of spaces
- Connecting places with roads
- Public spaces define entrances to new development



## Public Space typologies

### Boulevards:

- A grand public space gesture
- A central defining space for the development
- A linking space between the different activates



### Squares:

- Neighbourhood scale community spaces
- Formal green space with play areas and public gardens
- Located within broken grid street patterns to encourage a sense ownership



## Public Space typologies

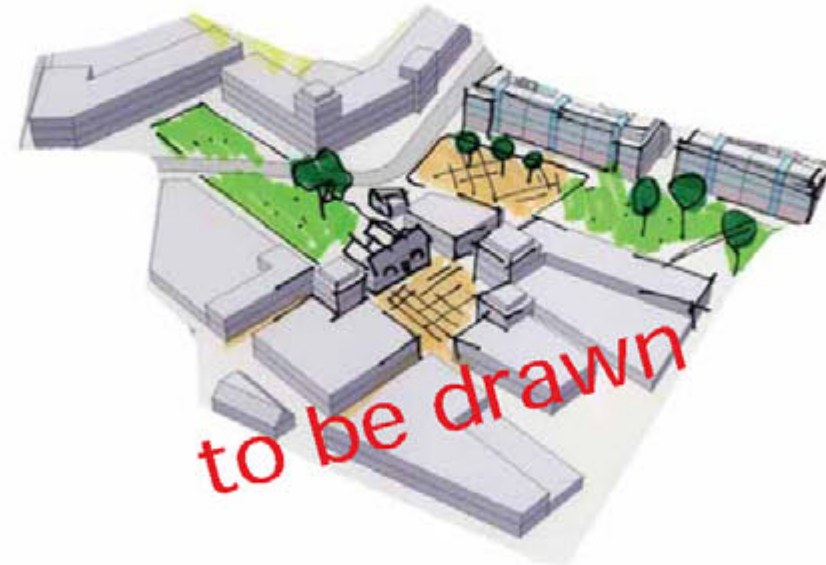
### Green Fingers:

- Transitional spaces between the urban environment and the open country side.
- Adventure play areas and exercise equipment
- Swales for SUD's run through the spaces and create a country feel



### Town Square:

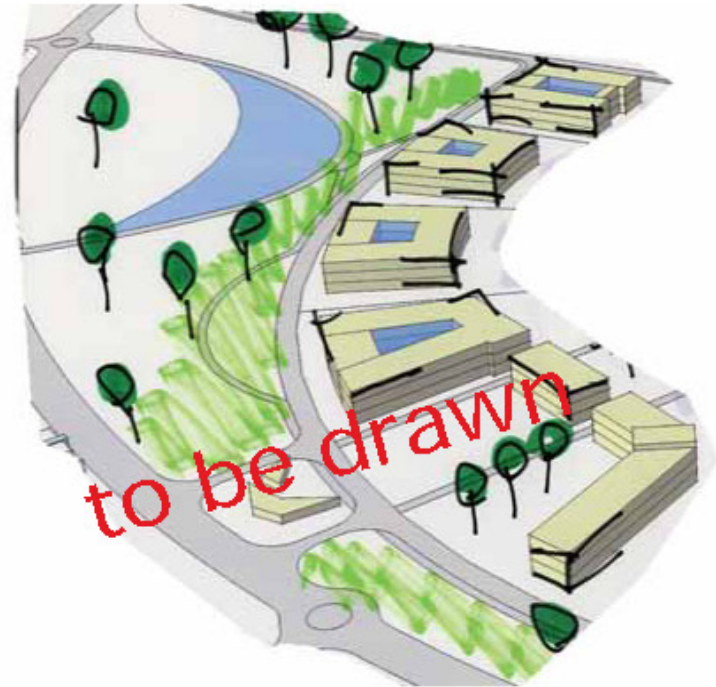
- Urban hard spaces as a focus for retail and community activity
- One square in front of the school for milling crowds
- One enclosed square framed on one side by the existing listed building



## Public Space typologies

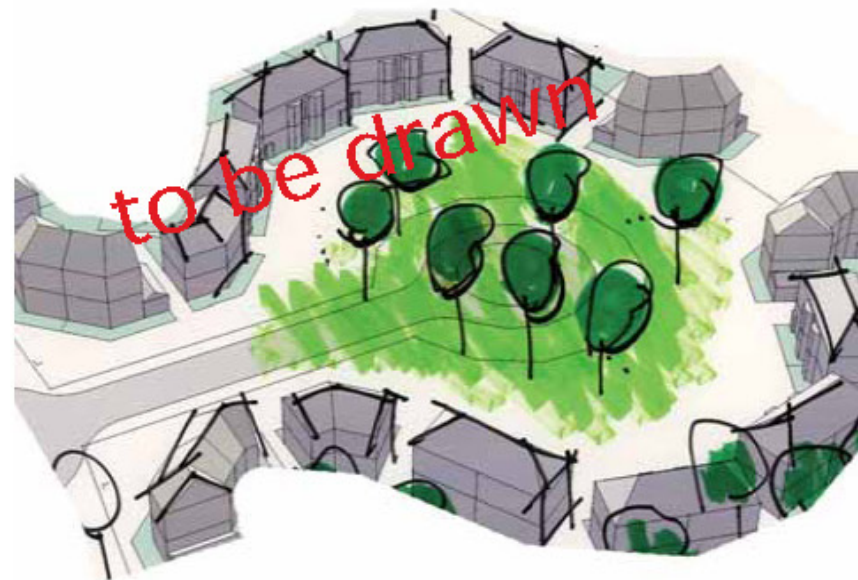
### Urban Parks:

- Open green space framed by development linking different areas of the development together
- Recreation uses and playing fields
- Celebrating as well as preserving the park pale.



### Hamlets:

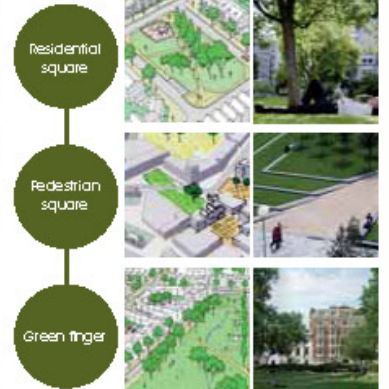
- Circular green spaces framed by clusters of no more than 12 houses
- Public Spaces created to be owned by the households that frame them



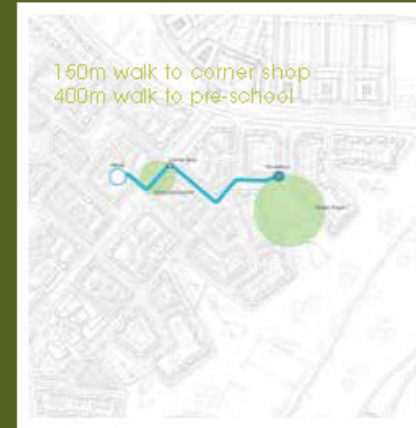
## Sequence of spaces

- Create interest walkable neighbourhood
- Incentivate use of alternative no-carbon consumption transport

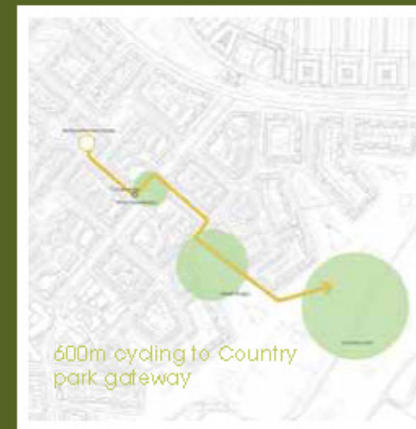
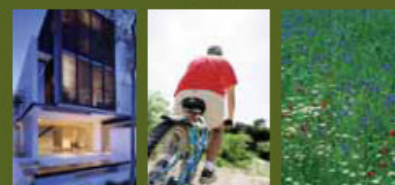
### Going to work...



### Taking Joe to pre-school...



### Enjoying cycling to Coutry park...



# 4

## 7. References application: retrofitting spontaneous outcropping Cities

Nardò (Lecce)





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Image © 2012 TerraMetrics  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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Image © 2012 TerraMetrics  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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Lugano (Switzerland)











# Pianiga (Venezia)



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Image © 2012 GeoEye  
Image © 2012 European Space Imaging  
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Squared Section of 3,2 km for each side: the whole surface is 1.024 hectares.  
1.400 families lives there with a density of 5/7 inhabitants/hectare.



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Image © 2012 DigitalGlobe

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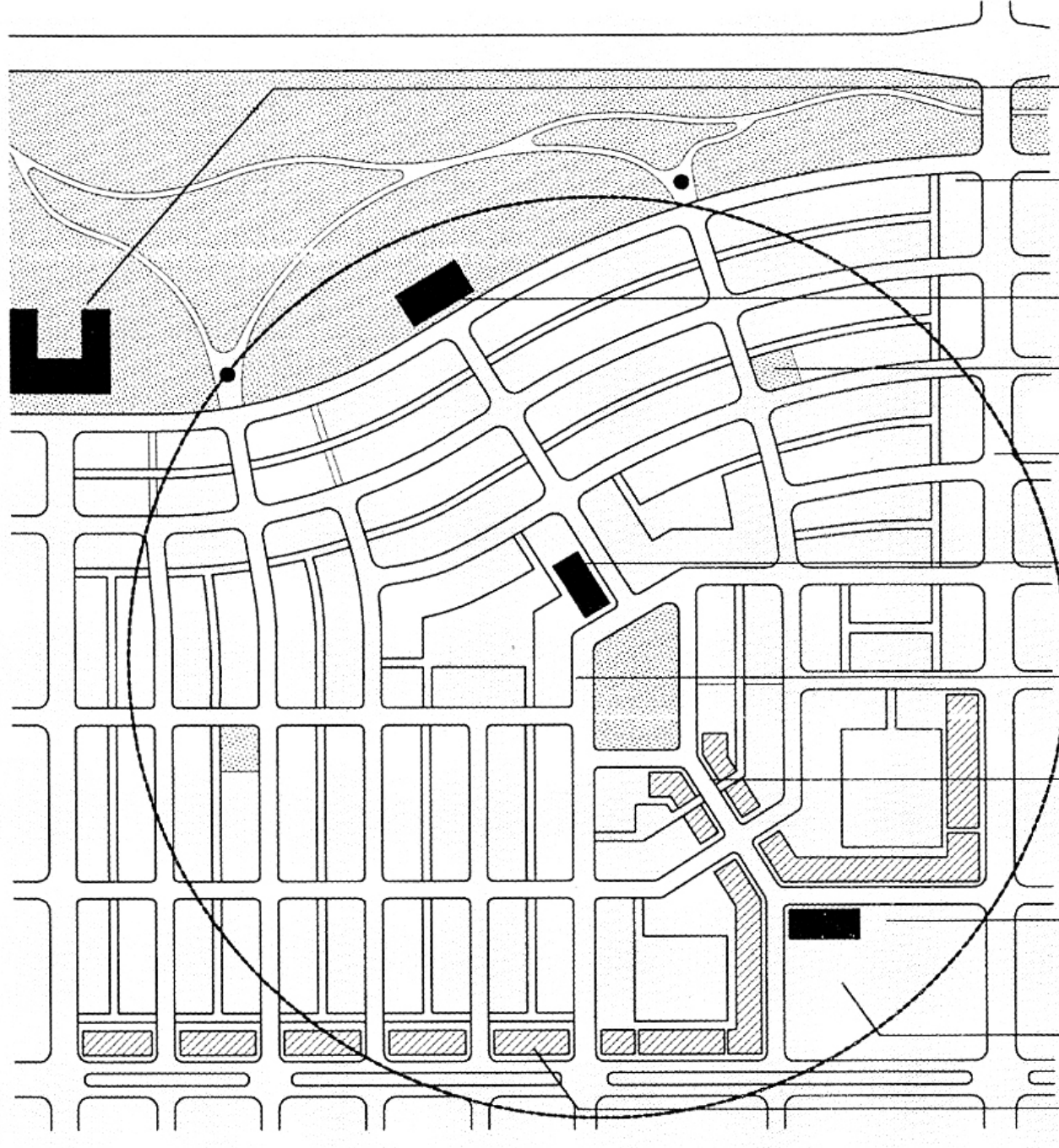
The minimum plot size is 1 acre (4.046,87 sqm for a plot conventional dimension of 63x63 mt).



## 8. Retrofitting programs for insurgent outcropping Western Cities

# Some application of “The Neighbourhood Unit”

(Clarence Perry, New York 1927)



**School to be shared by adjacent neighborhood**

**Short face of residential blocks**

**Club**

**Playground in each quadrant**

**Roads connect across edges wherever possible**

**Neighborhood shops & institutions at center**

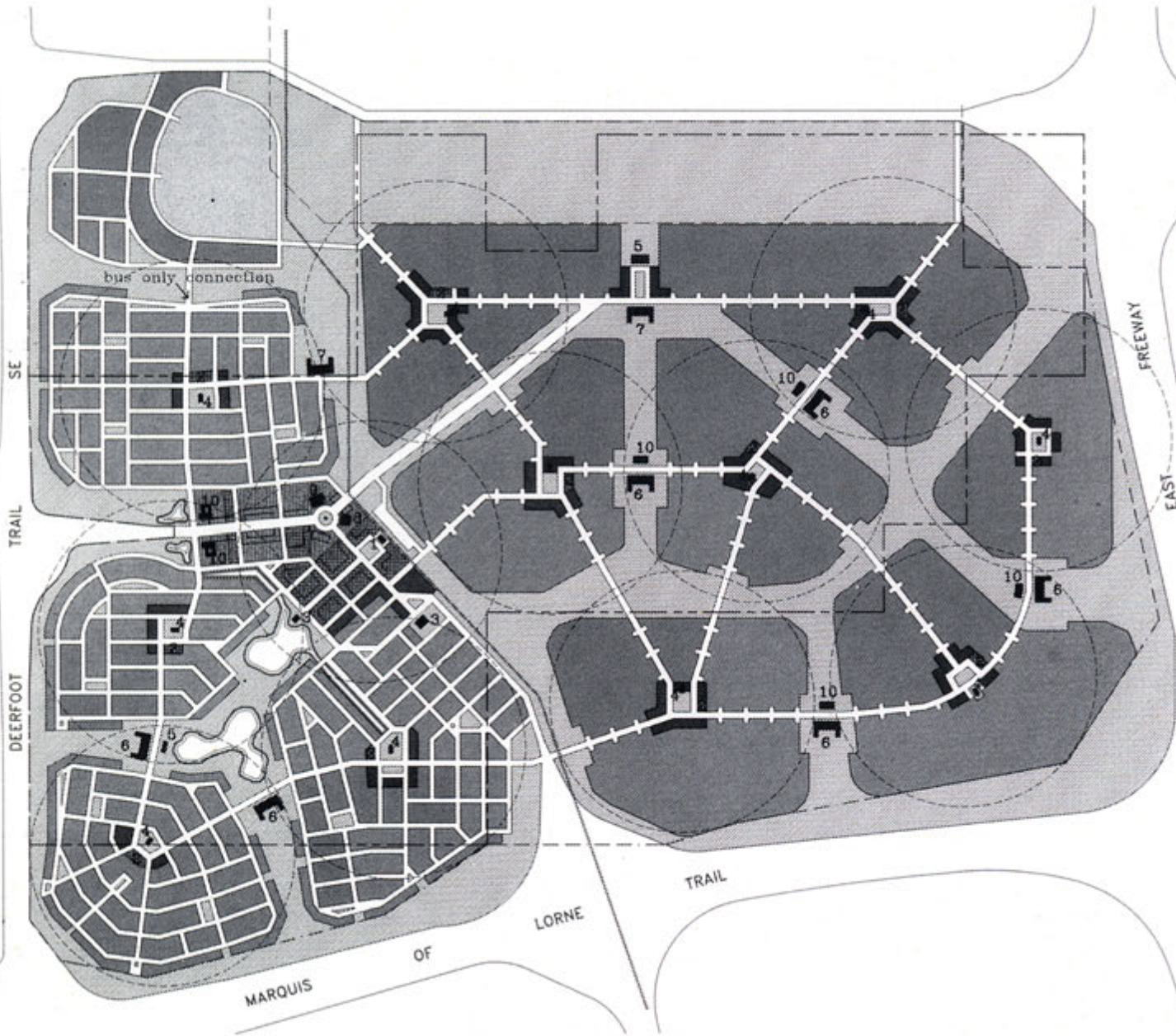
**Bus stops at center**

**Mixed use streets anchored by retail at 100% corners**

**Regional institutions at the edge**

**Parking lot designed as plaza**

**Workshops and offices along edges**

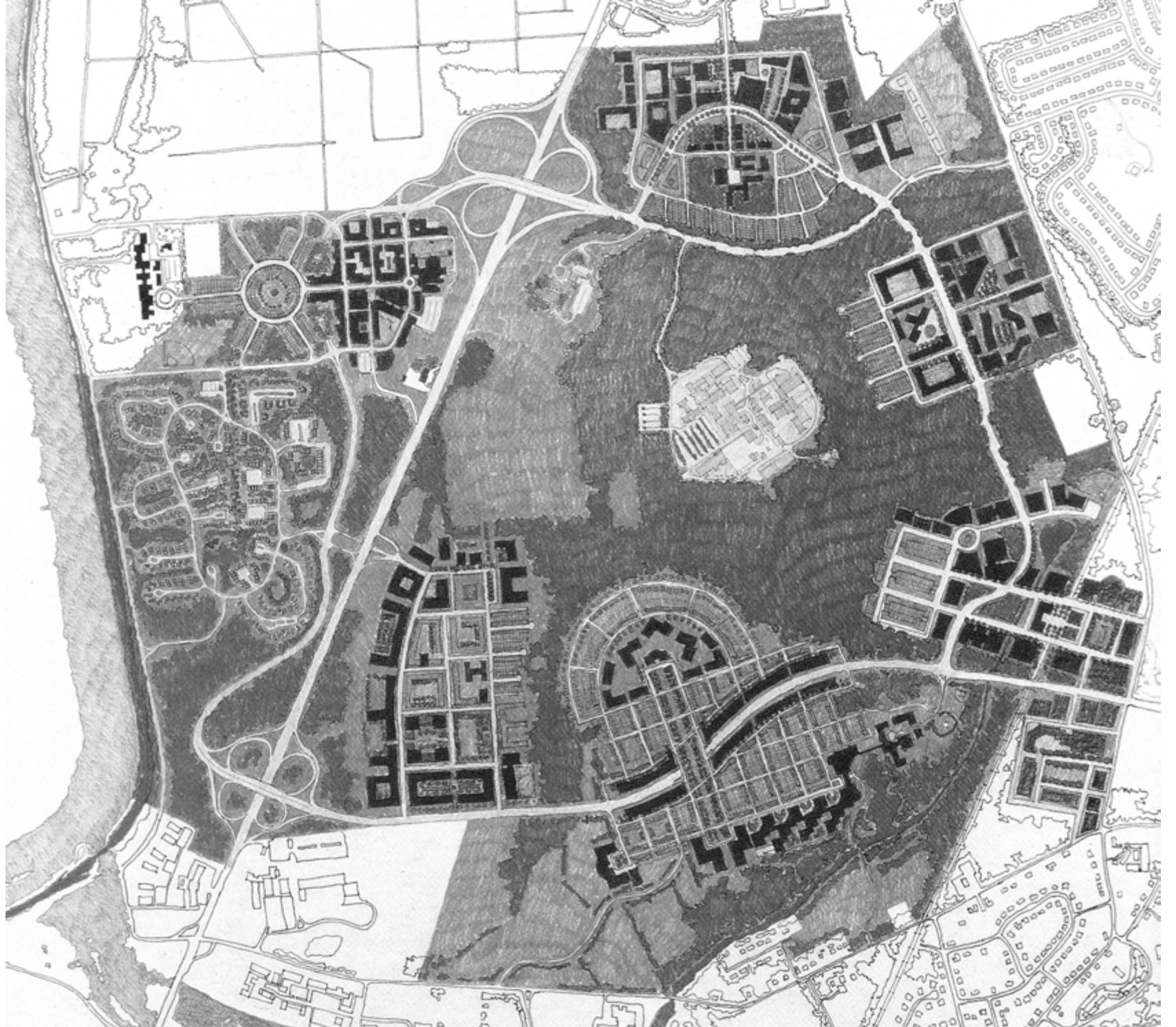


### Legend

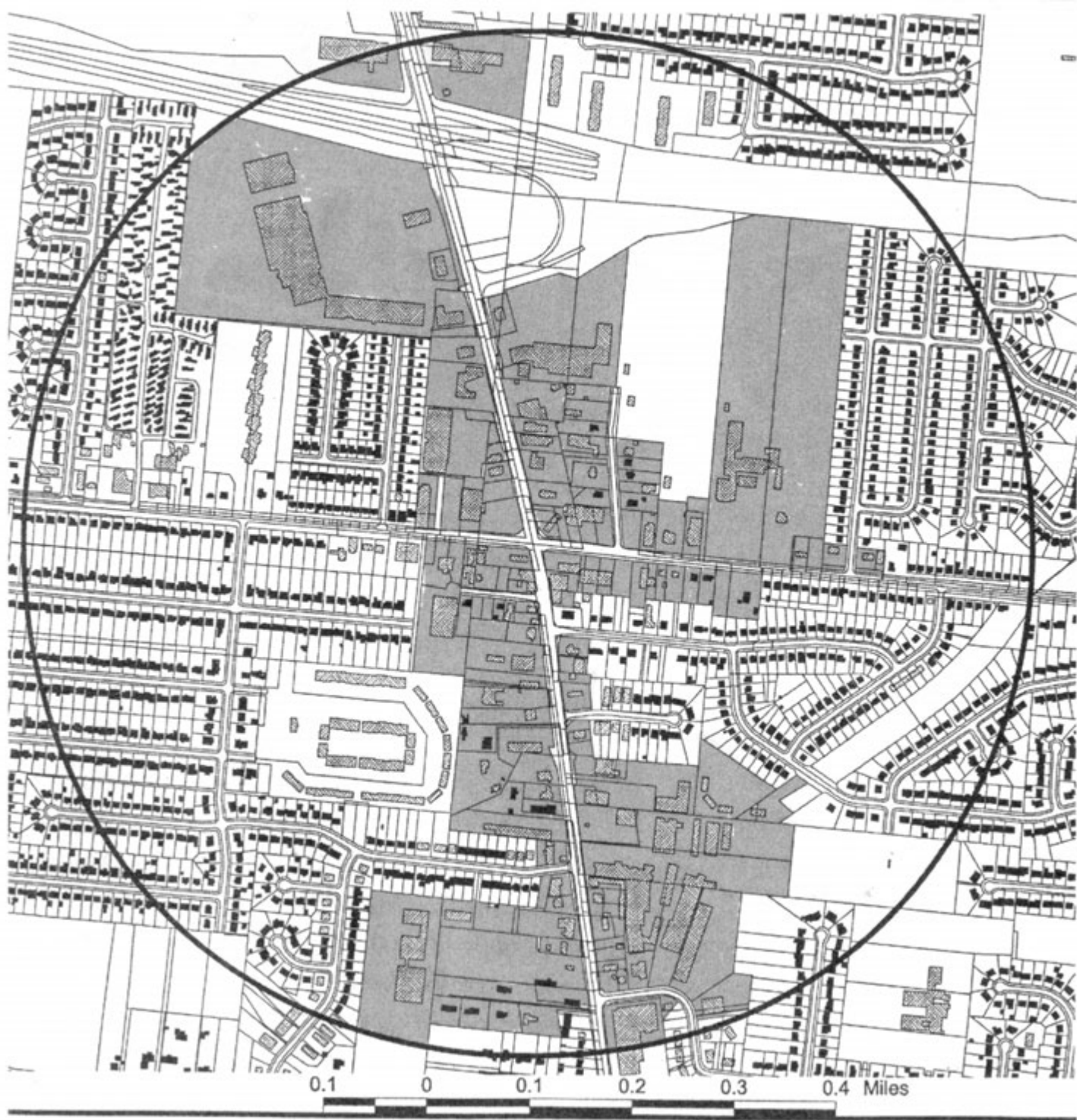
- GREENBELT RECREATIONAL
- PUBLIC SERVICE 
  - 1 Light Rail Station
  - 2 Bus Stop
  - 3 Town Hall/Public Building
  - 4 Neighborhood Centre/Monumen
  - 5 Club/Community Building
  - 6 Elementary School
  - 7 Junior High School
  - 8 Fire Station
  - 9 Police Station
  - 10 Churches/Child Care Centre/Other Public Service
- RESIDENTIAL
- RESIDENTIAL MIXED USE
- RETAIL
- BUSINESS/OFFICE
- REGIONAL CENTRE

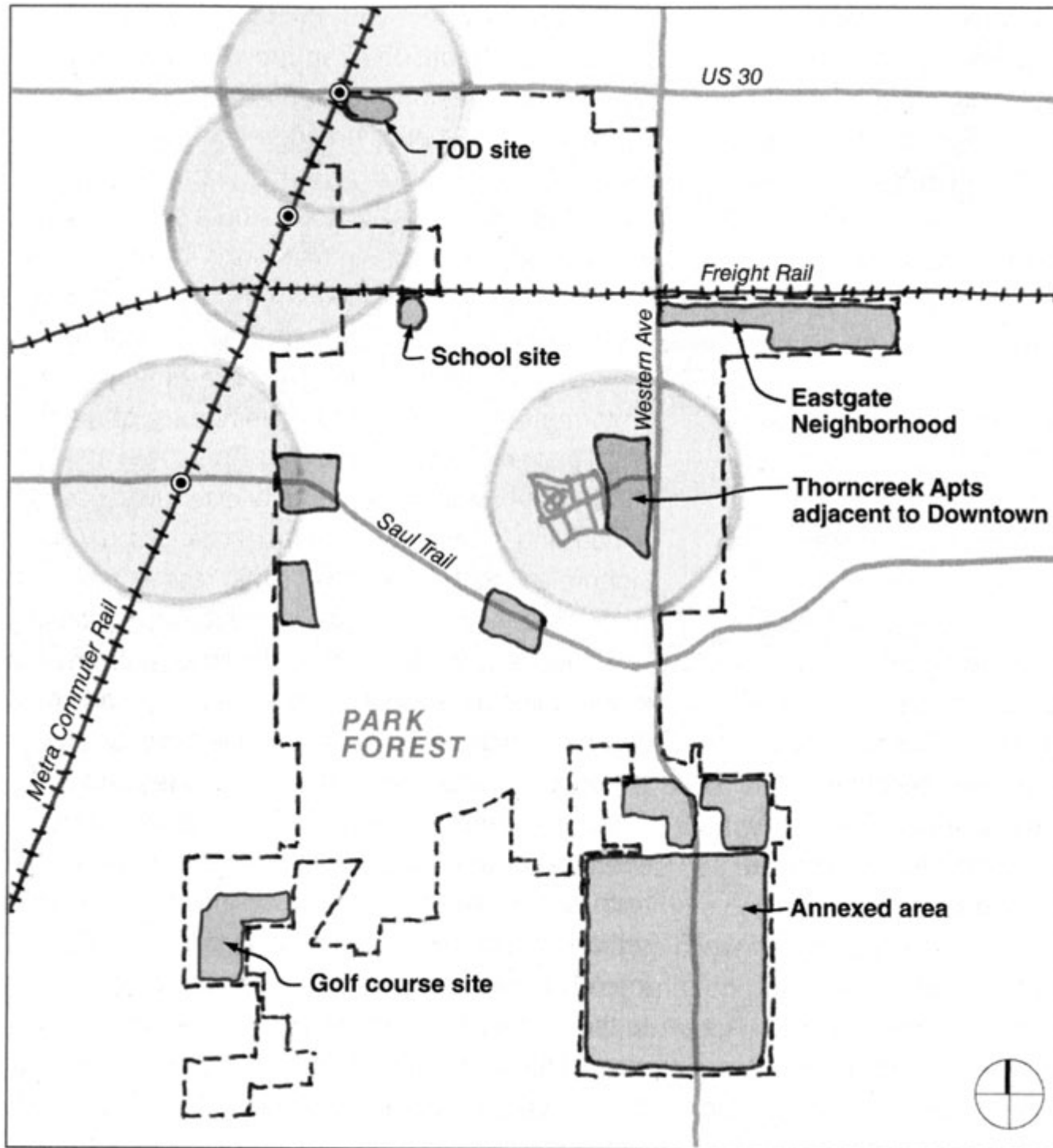


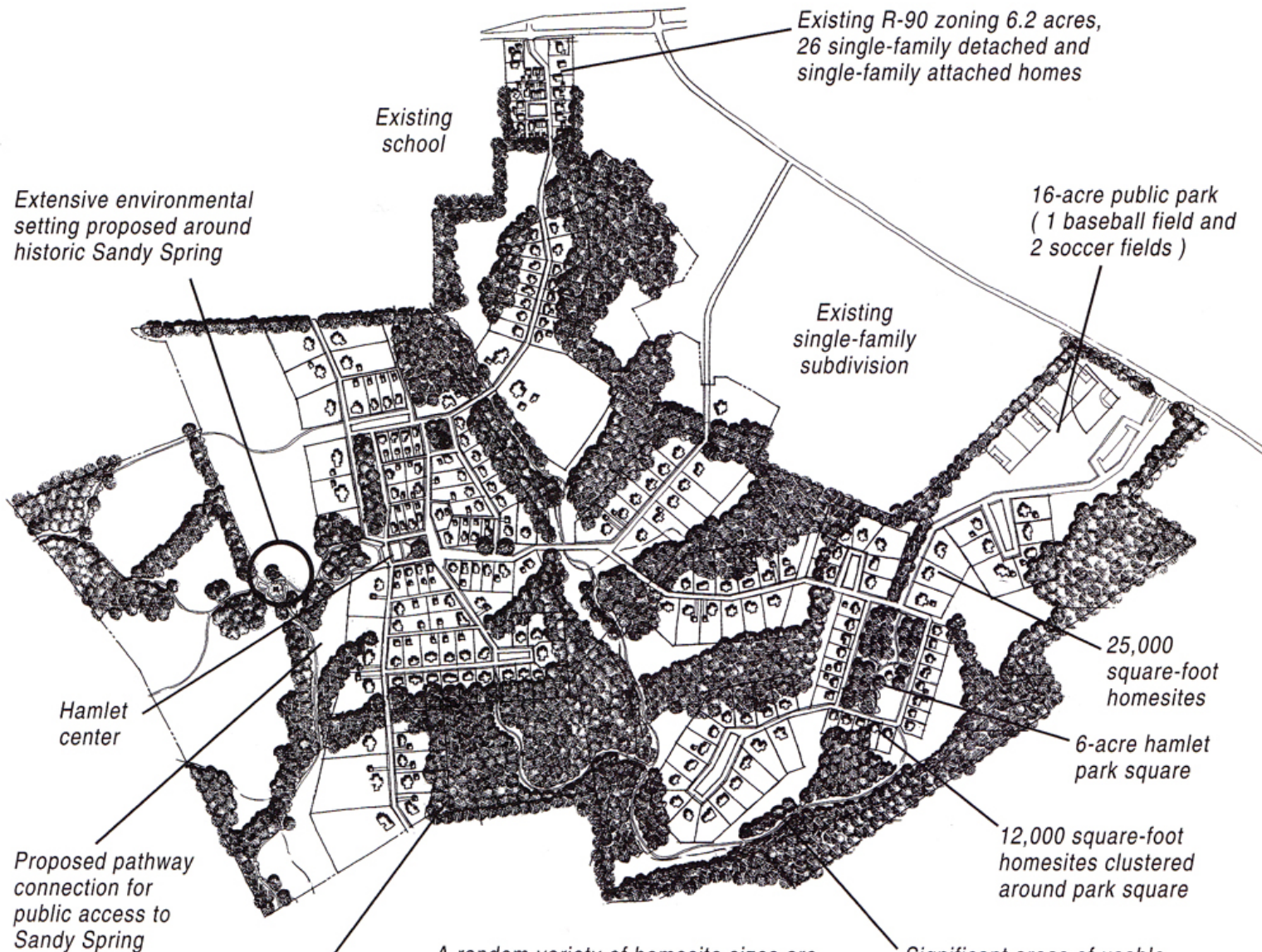
5 MINUTE WALK  
 0 450m  
 Scale: 1:5000











A random variety of homesite sizes are proposed:

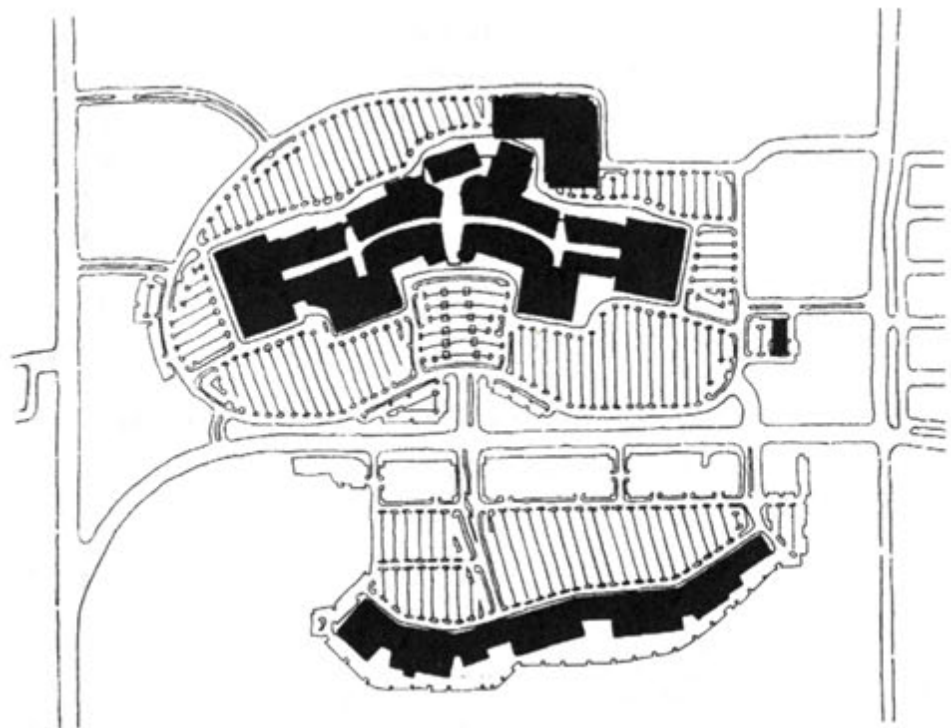
- 10,000 square feet minimum, mainly located at the hamlet center
- 20,000 square feet
- 30,000 square feet
- 1 acre
- 2 acre
- One over 6 acres

Significant areas of usable open space are provided over 64% of the site

## Broadway Plaza (San Francisco)

Diagramma progettuale della società DPZ per la riorganizzazione degli spazi adiacenti ad un grande centro commerciale (in attività) negli Stati Uniti.

L'intervento traduce una strategia di rafforzamento di questa centralità urbana insorgente e prevede l'inserimento di spazi ed attività di servizio molteplici e complementari a quelle già presenti nel contenitore commerciale principale, nonché la conseguente riorganizzazione delle aree di parcheggio.

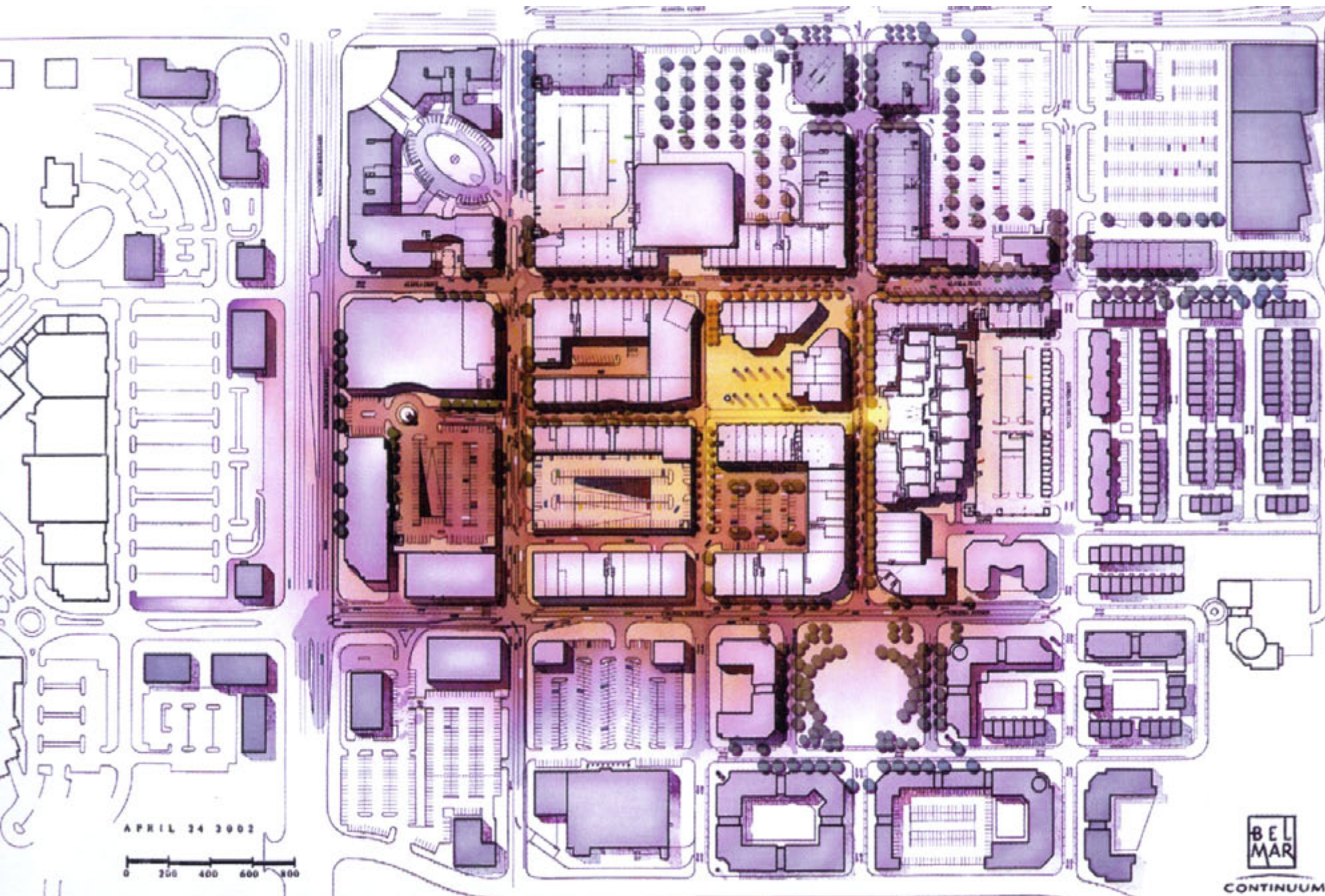


## Belmar (Lakewood, Colorado)

Laddove si riconoscano segnali incipienti di crisi, la rifunzionalizzazione di alcune grandi strutture commerciali può divenire occasione per interventi più radicali di ricomposizione urbanistica volti a costruire nuove forme di centralità nel territorio.

Nel recente progetto per Belmar (Lakewood, Colorado) di Elkus/Manfredi Architects e Civitas Inc. la dismissione di un grande mall commerciale diviene occasione per realizzare un nuovo centro urbano: vengono ridefiniti i rapporti fra edifici e spazi aperti, ricreando un diverso paesaggio urbano in grado di consentire la pedonalità diffusa e la possibilità di svolgere molteplici e diverse attività.





APRIL 34 3002





## Westwood Station (Westwood, Massachusetts)

La dismissione di insediamenti industriali di consistenti dimensioni può costituire un'occasione interessante per organizzare la ricomposizione di un territorio.

Nel progetto di Elkus/Manfredi Architects per la riconversione dell'area di Westwood Station (Westwood, Massachusetts) la presenza dell'infrastruttura viene assunta come condizione essenziale per la realizzazione di una nuova centralità urbana a servizio degli insediamenti residenziali circostanti.

Servizi ed attrezzature di interesse collettivo, attività commerciali, uffici, attrezzature sportive e ricettive, aree di parcheggio (oltre ad alcune nuove residenze) costituiscono le dotazioni necessarie alla formazione del nuovo centro, in cui lo spazio aperto garantisce la possibilità di svolgimento delle diverse pratiche pedonali e la stazione ferroviaria consente un'accessibilità estesa anche a territori ed insediamenti non immediatamente contermini.



**Master  
Plan**

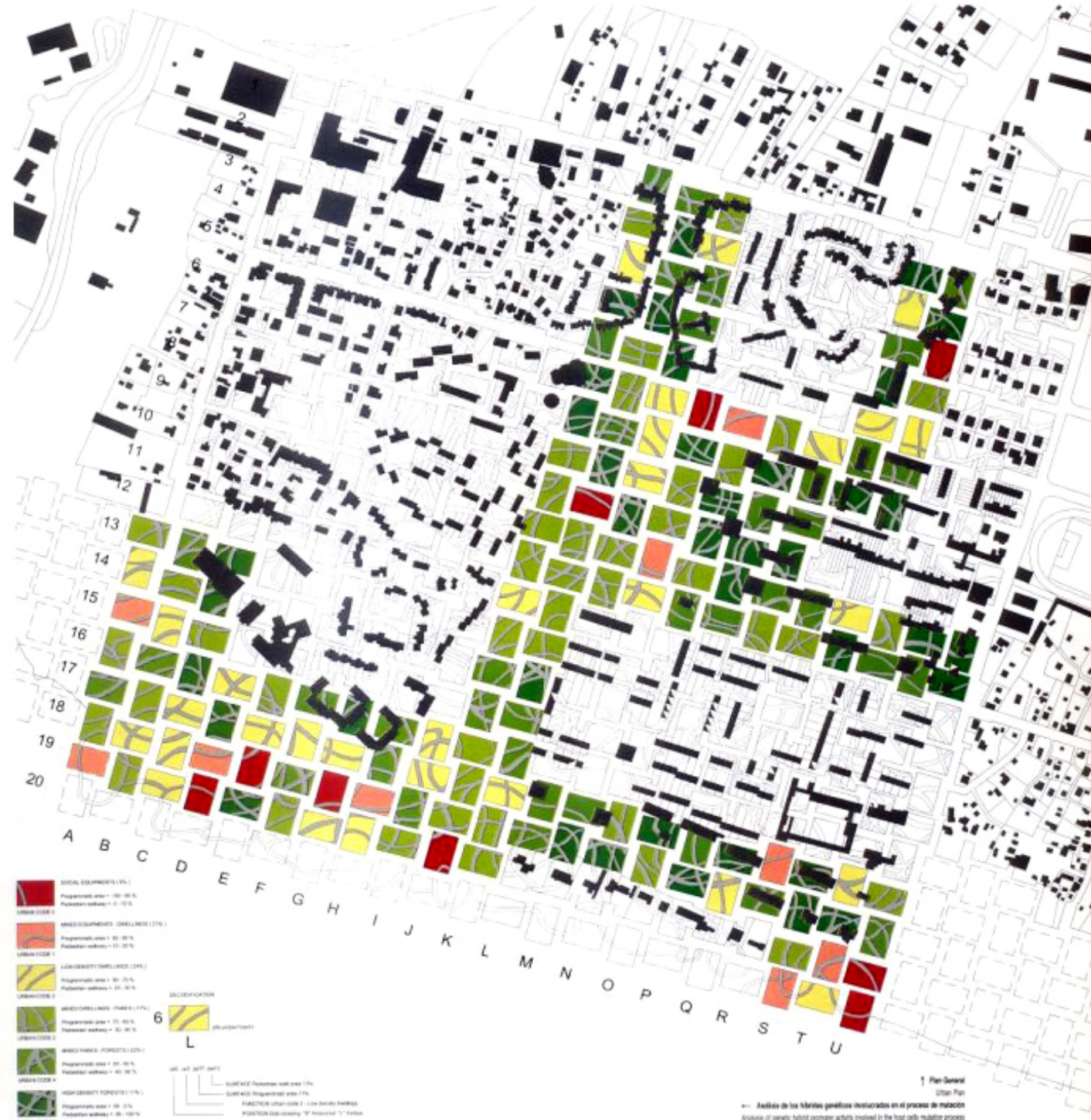
- Retail
- Residential
- Residential Above Retail
- Office
- Hotel
- Fitness
- Public
- Utility
- Garage

# Mashpee Commons (Mashpee, Massachusetts)



# Urban Genetics in Saint Denis

(Edoardo Arroyo, 1999)



1 Plan General  
Urban Plan

— Análisis de las técnicas generativas ilustradas en el proceso de selección  
Analysis of generative hybrid promoter activity involved in the final calls selection process