

ARQUITECTURAS

Edificación, tipología y densidad

ARCHITECTURES

Buildings, typology and density

Departamento de Urbanística y Ordenación del Territorio Universidad de Granada

Department of Urban and Spatial Planning University of Granada

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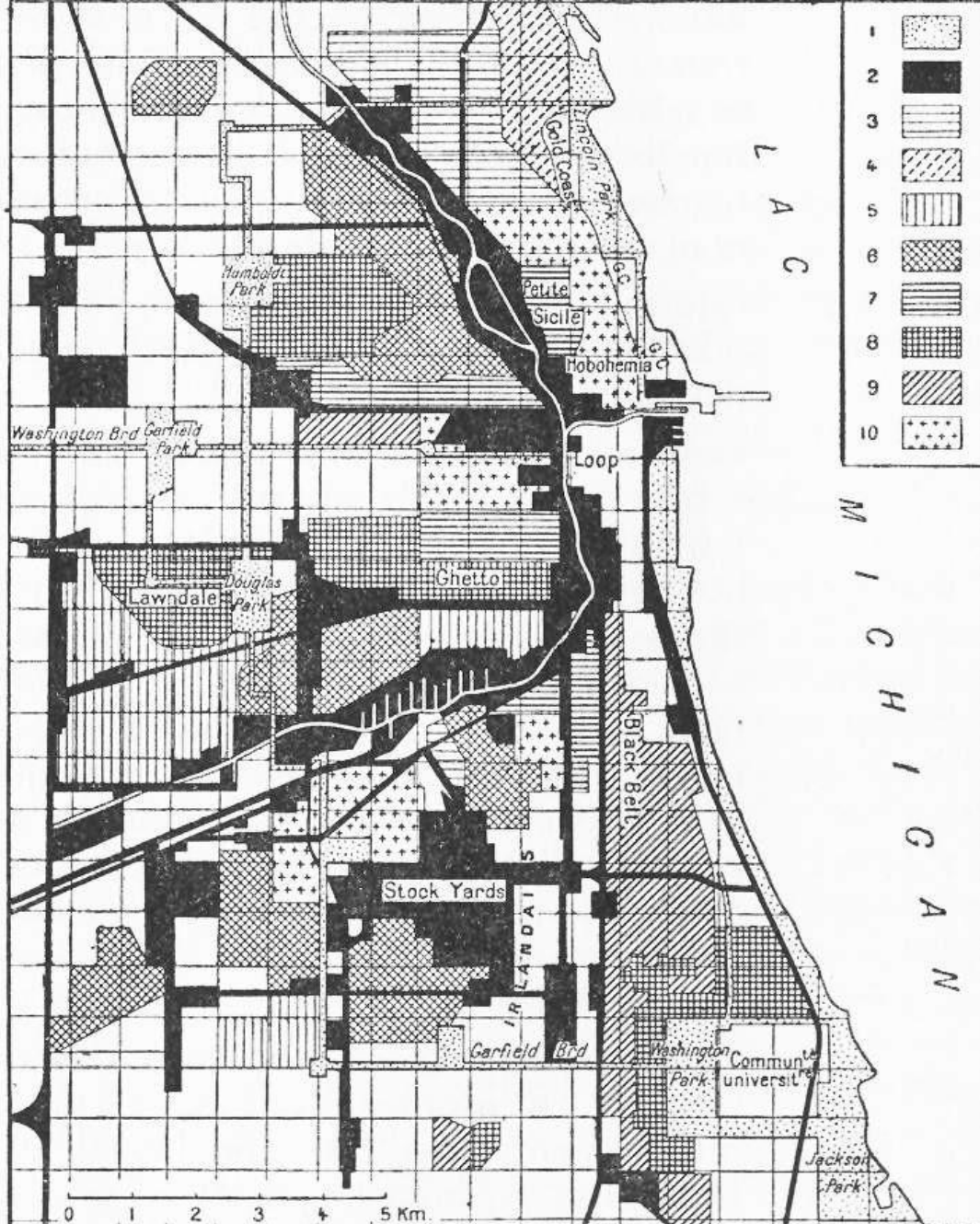
George Brecht, *Valoche*, 1975.

Ciudad = cosas urbanas

SOLÁ- MORALES, Manuel (2008): De cosas Urbanas. Barcelona: GG

City = a matter of things

SOLÁ- MORALES, Manuel (2008): A Matter of Things. Barcelona: GG

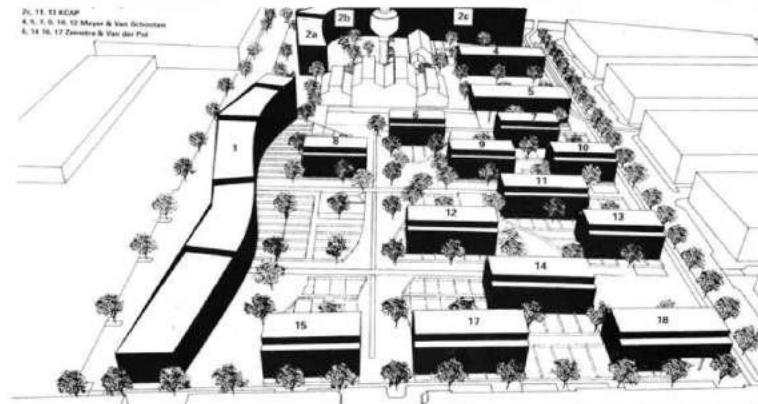
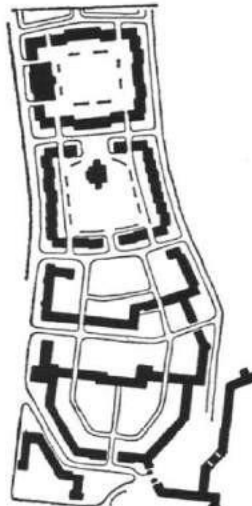
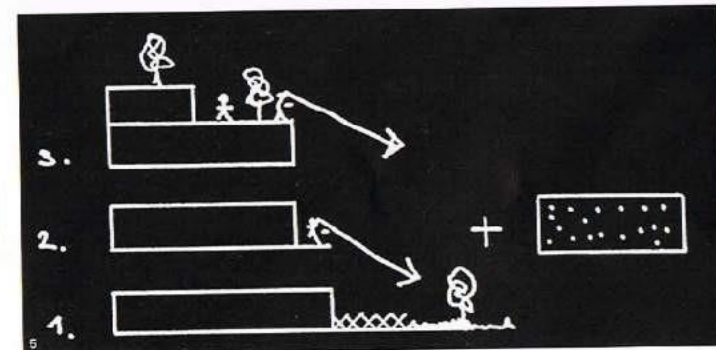
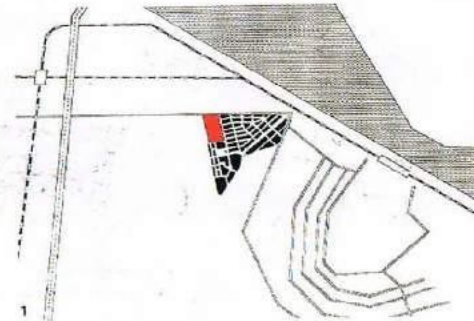
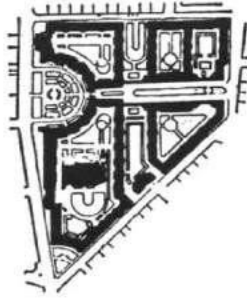
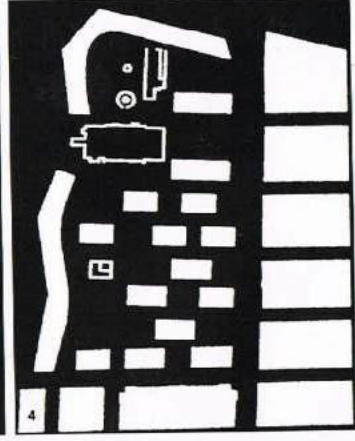
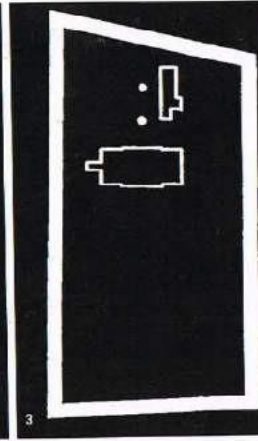
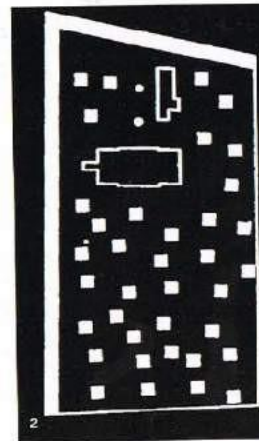


CHABOT, George: "Las ciudades" "Les Villes" (1952)

Fuente | [Source](#): BENÉVOLO, Leonardo

**Complejo residencial
GWL en Amsterdam**
Residential community
GWL in Amsterdam

KCAP



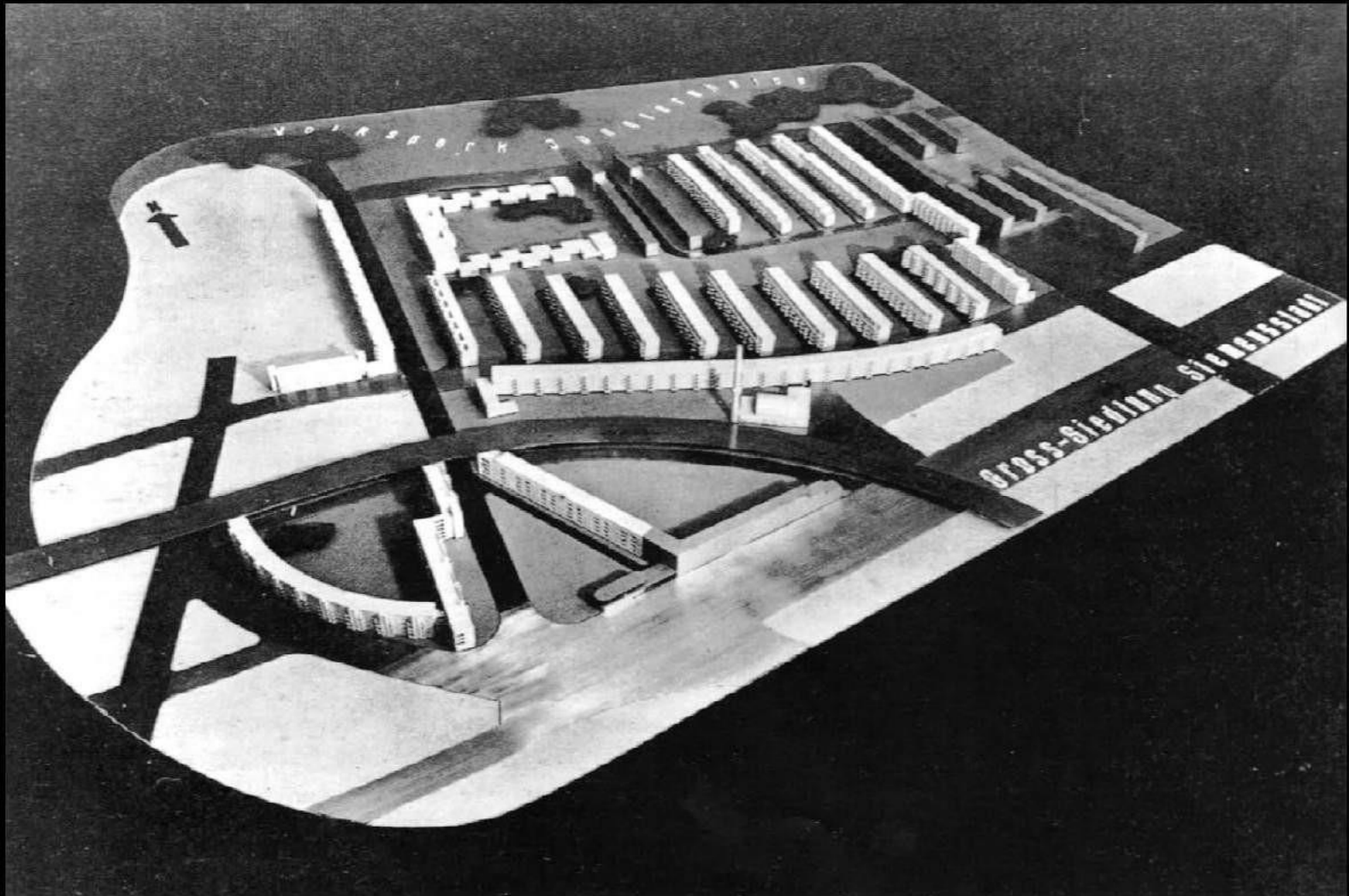
Inside = Hoffes modernas vs Hoffes contemporáneas

Inside = Modern Hoffes vs. contemporary Hoffes

Fuentes | Sources:

AYMONINO, C (1976): La vivienda racional. Barcelona: GG

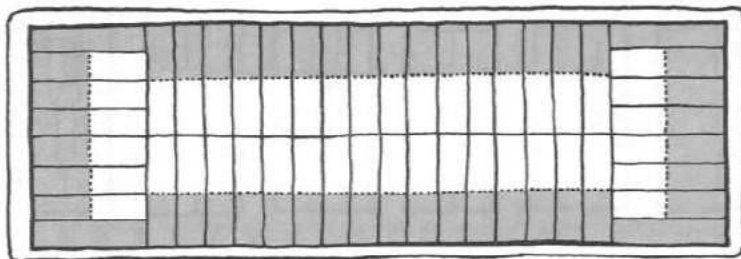
Revista A+T. Density (2002)



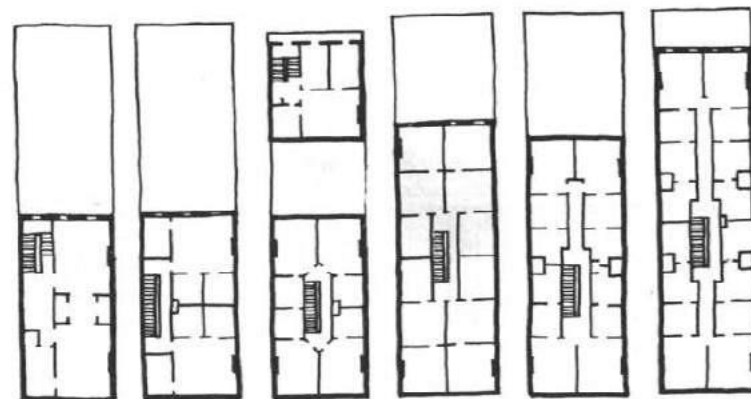
Outside. Alternativas a la ciudad industrial de principios del s. XIX: Siedlungen

Outside. Alternatives to the Industrial City of the Early 19th Century: Siedlungen

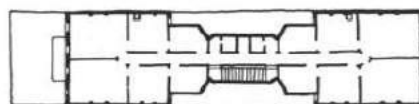
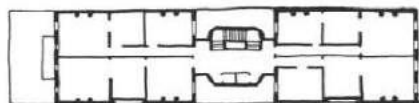
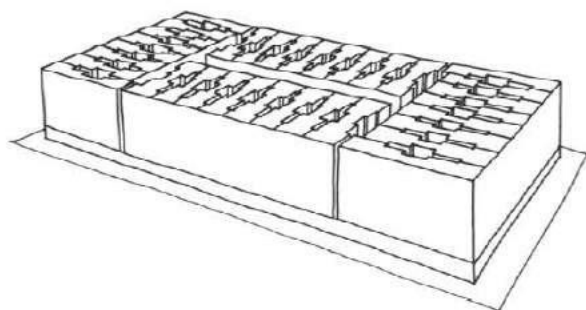
Fuente | Source: MARTÍ, C. (2000): Las formas de la residencia en la ciudad moderna. Barcelona: UPC



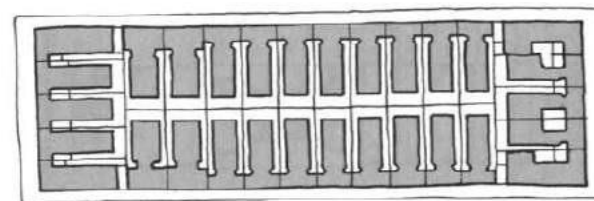
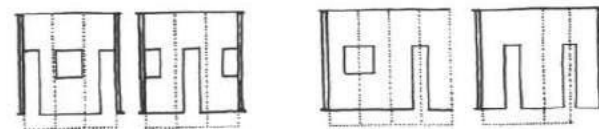
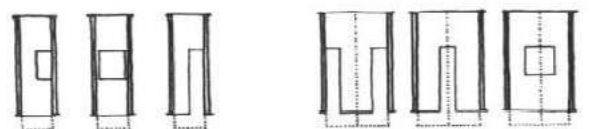
La manzana de 1811



Los *tenements* anteriores a la *Old Law* de 1879



La *Old Law* de 1879



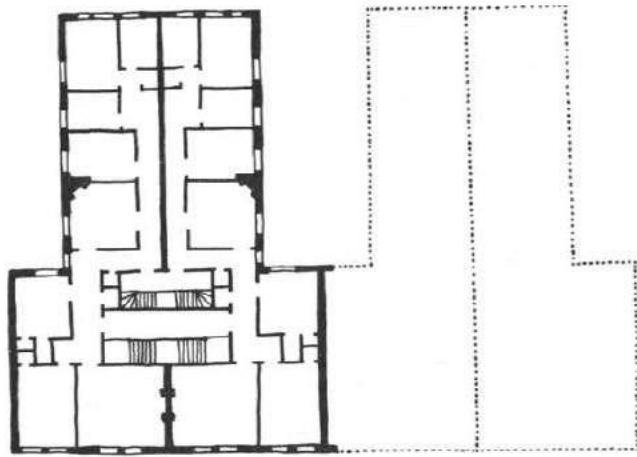
La *New Law* de 1901

Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)

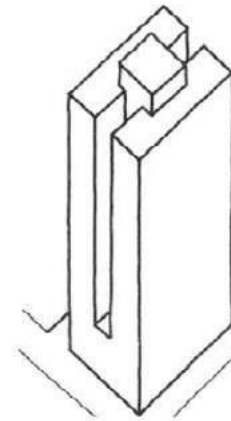
Density forms and urban regulation (the case of Manhattan)

Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza

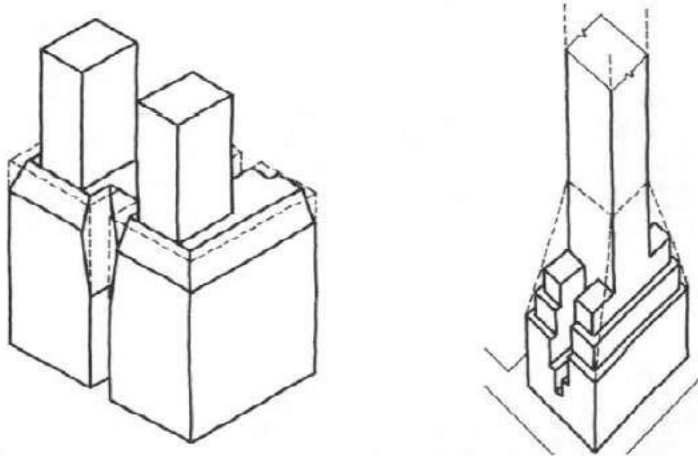




Los apartamentos burgueses de 1880-1916
 The bourgeois flats of 1880-1916.



Los edificios de oficinas anteriores a la
 ordenanza de 1916
 Office buildings before the 1916 Zoning Law.



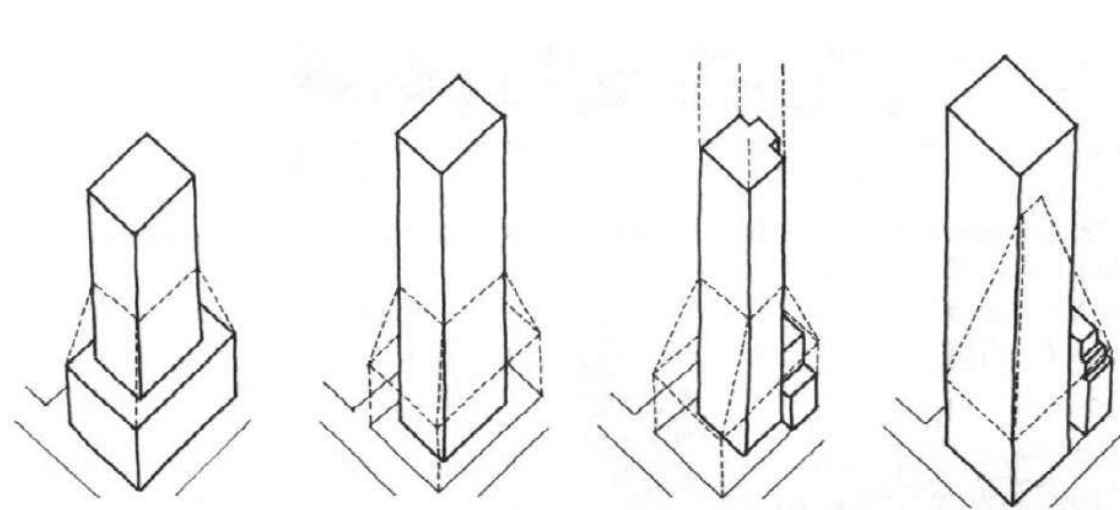
La ordenanza de edificación de 1916
 The 1916 Zoning Law.



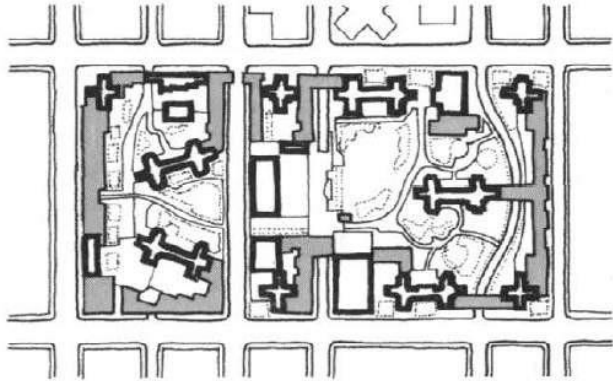
La vivienda pública de los años 1930-1960
 Public dwellings in the 1930s-1960s)

Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)
 Density forms and urban regulation (the case of Manhattan)

Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza



La ordenanza de zonificación de 1961
[The 1961 Zoning Law](#)



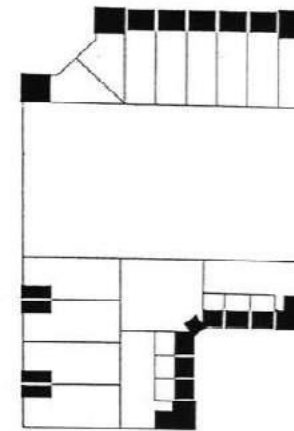
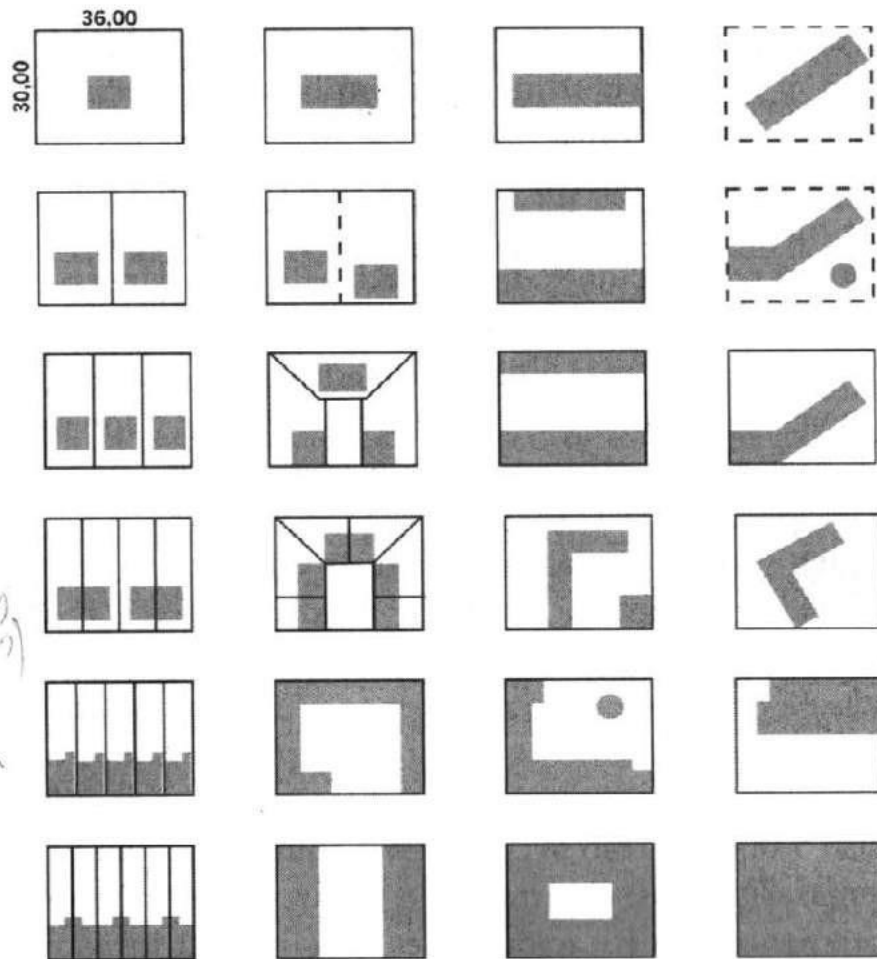
Los estándares de diseño de las agencias públicas de los años 1960-1980
[The design criteria of public housing agencies in the 1960s-1980s](#)

Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)
[Density forms and urban regulation \(the case of Manhattan\)](#)

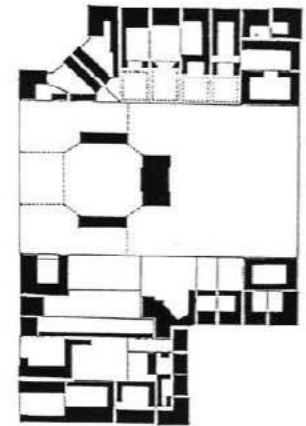
Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza



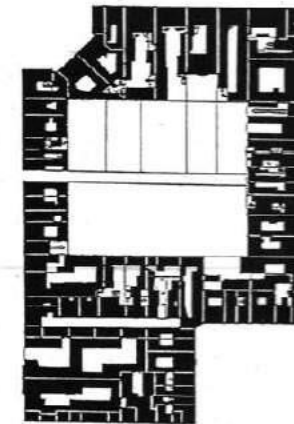




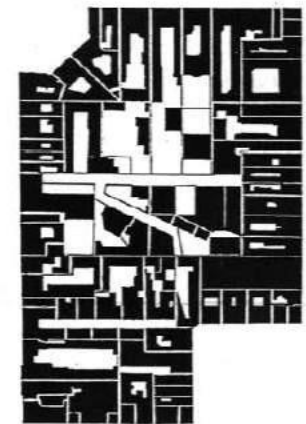
Parcelación inicial
Interpretación



1685



1813



Estado actual
de la edificación

Versalles, evolución de una manzana a lo largo de tres siglos. Fuente: J. Castex, P. Céleste, Ph. Panerai, *Lecture d'une ville, Versailles*, 1980.

Suma de parcelas y edificación = manzana

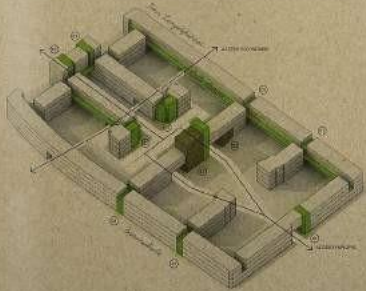
Addition of plots and building = Block

Fuente | Source: PANERAI, F y MANGIN, D (2002): *Proyectar la ciudad*. Madrid: Celeste

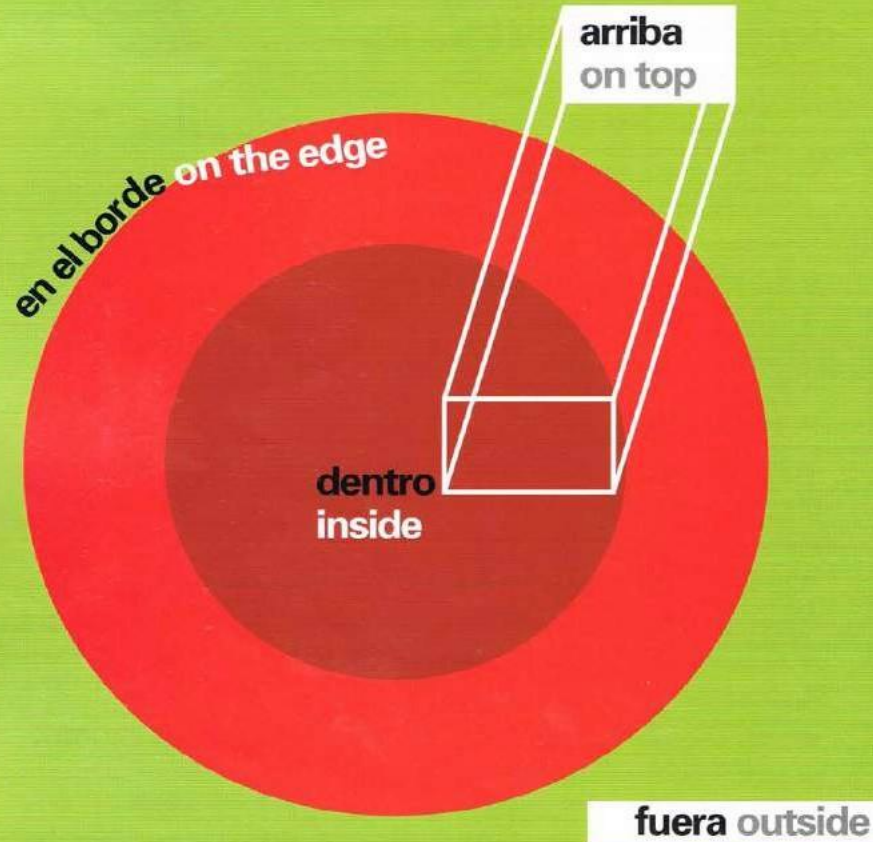
10 HISTORIAS

SOBRE VIVIENDA COLECTIVA

ANÁLISIS GRÁFICO DE DIEZ OBRAS ESENCIALES



a+t research group

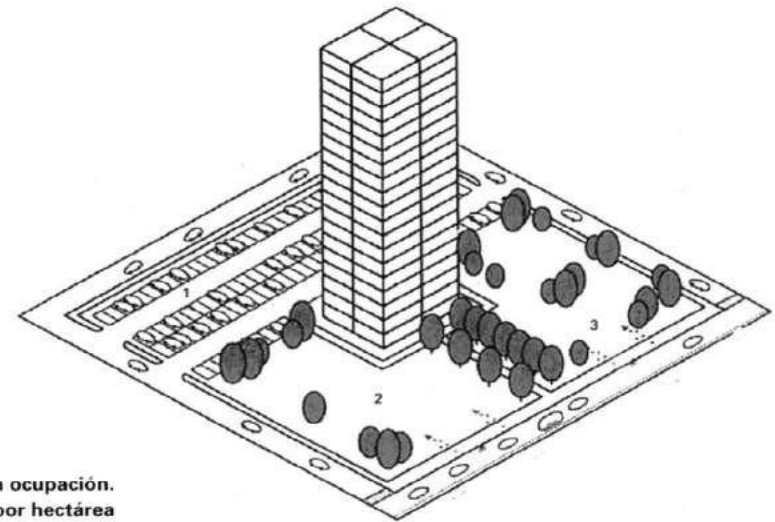


Tipología ≠ Topología
Revista A+T. Density I (2002)

3 formas de alcanzar la misma densidad. Tomado de la Urban Task Force Report. Andrew Wright Associates

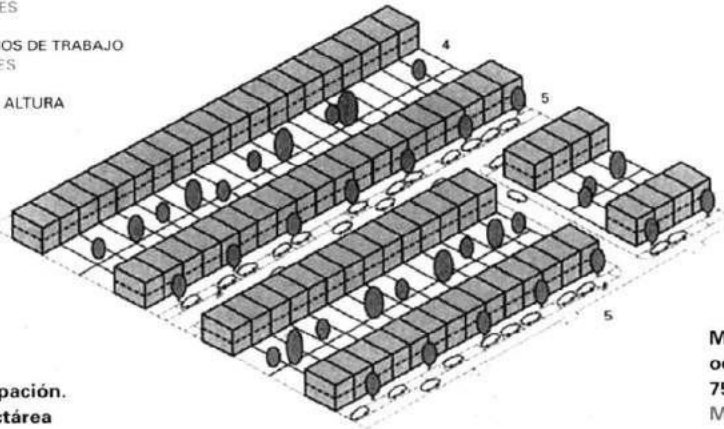
- 1 APARCAMIENTO DE SUPERFICIE
- 2 ZONA DE JUEGOS PARA NIÑOS
- 3 JARDINES A LA INGLESA
- 4 APARCAMIENTOS PRIVADOS
- 5 APARCAMIENTOS EN LA CALLE
- 6 GUARDERÍA
- 7 PARADA DE AUTOBÚS
- 8 COMERCIOS Y TALLERES

- 1 SURFACE PARKING
- 2 CHILDREN'S PLAY AREA
- 3 LANDSCAPED GARDENS
- 4 PRIVATE GARDENS
- 5 ON STREET PARKING
- 6 CRÉCHE
- 7 BUS STOP
- 8 WORK UNIT AND SHOPS

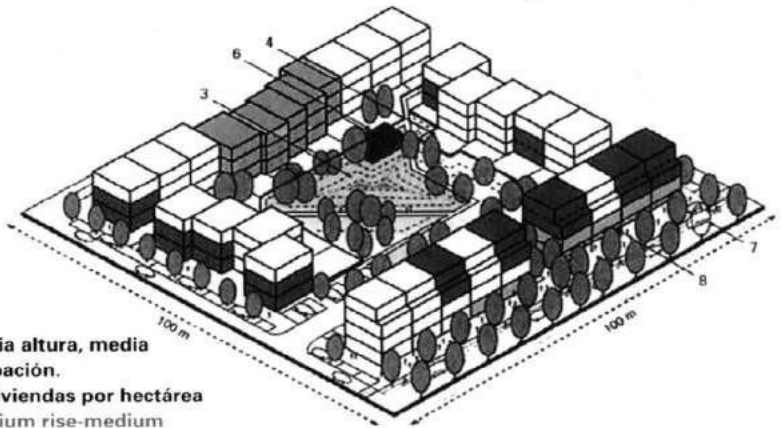


Gran altura, baja ocupación.
75 viviendas por hectárea
High rise-low coverage.
75 units per hectare

- EQUIPAMIENTOS COMUNITARIOS
COMMUNITY FACILITIES
- COMERCIOS Y ESPACIOS DE TRABAJO
SHOPS & WORKSPACES
- VIVIENDAS EN DOBLE ALTURA
MAISONNETES
- VIVIENDAS
HOUSES
- APARTAMENTOS
APARTMENTS



Baja altura, alta ocupación.
75 viviendas por hectárea
Low rise-high coverage.
75 units per hectare

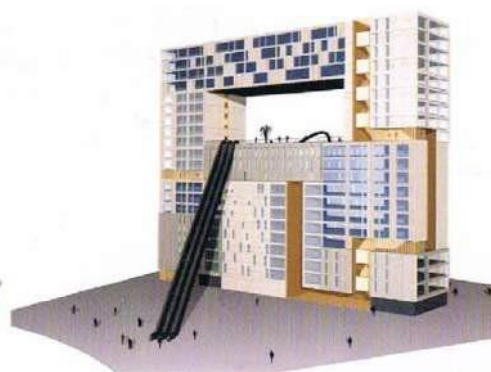
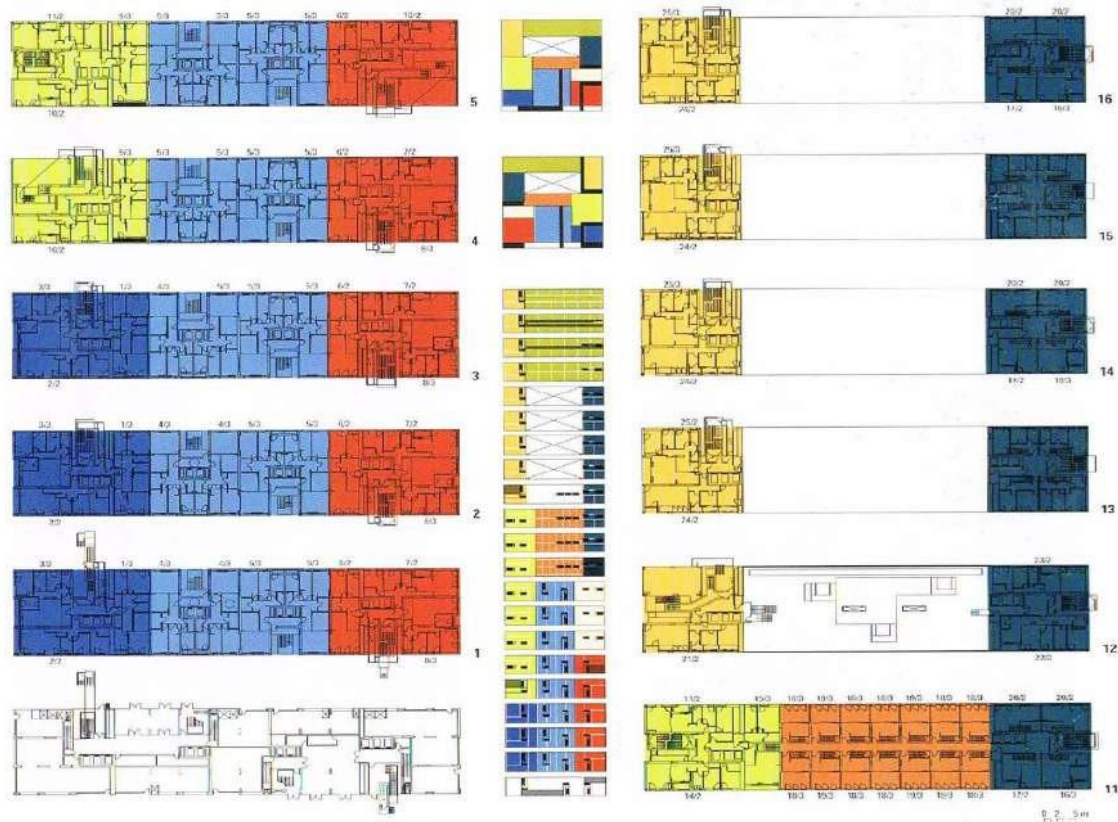


Media altura, media ocupación.
75 viviendas por hectárea
Medium rise-medium coverage.
75 units per hectare

3 formas de alcanzar la misma densidad.

3 ways to achieve the same density.

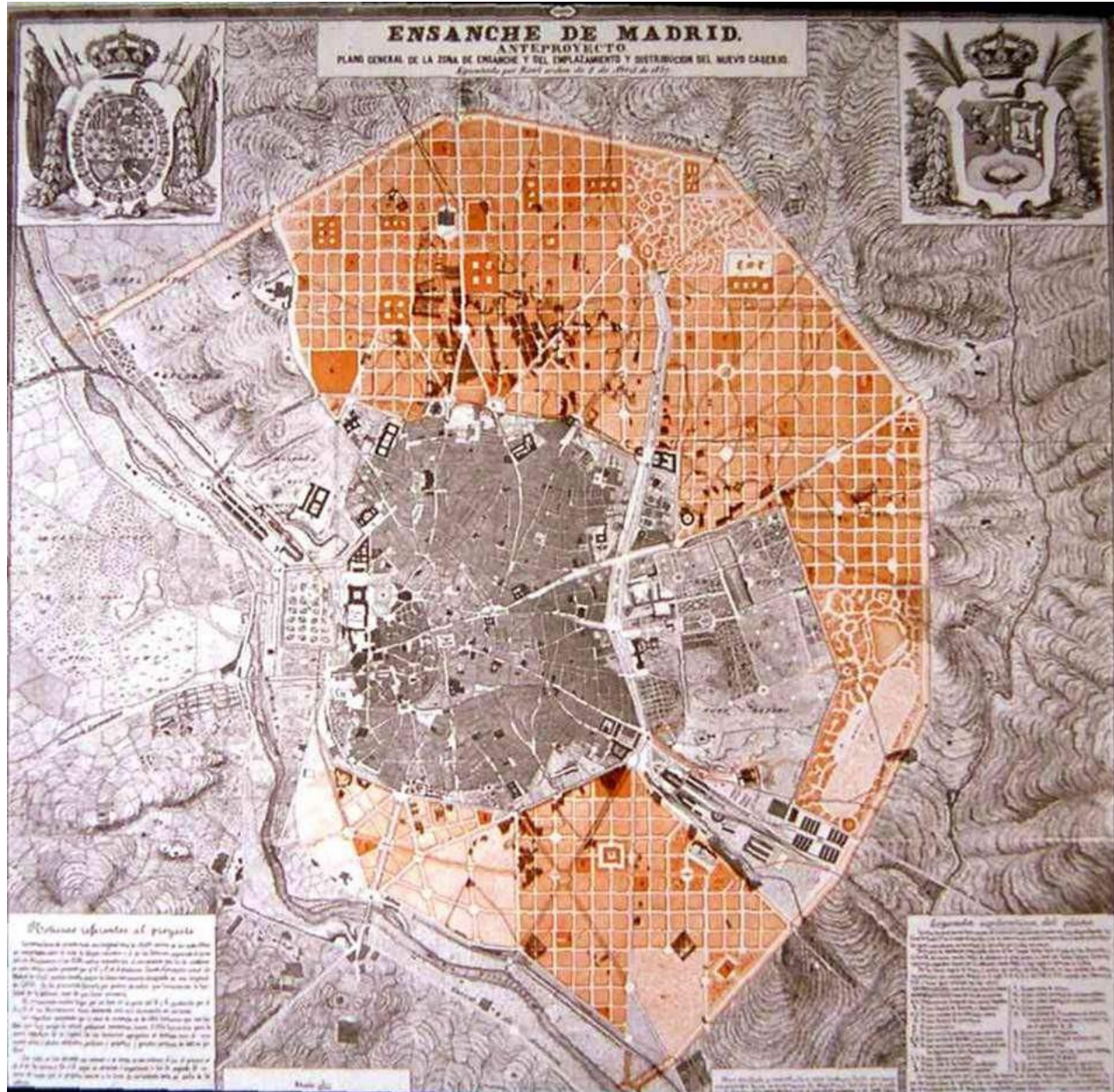
Fuente | Source: Urban Task Force Report. Andrew Wright Associates. A+T. Density III (2003)



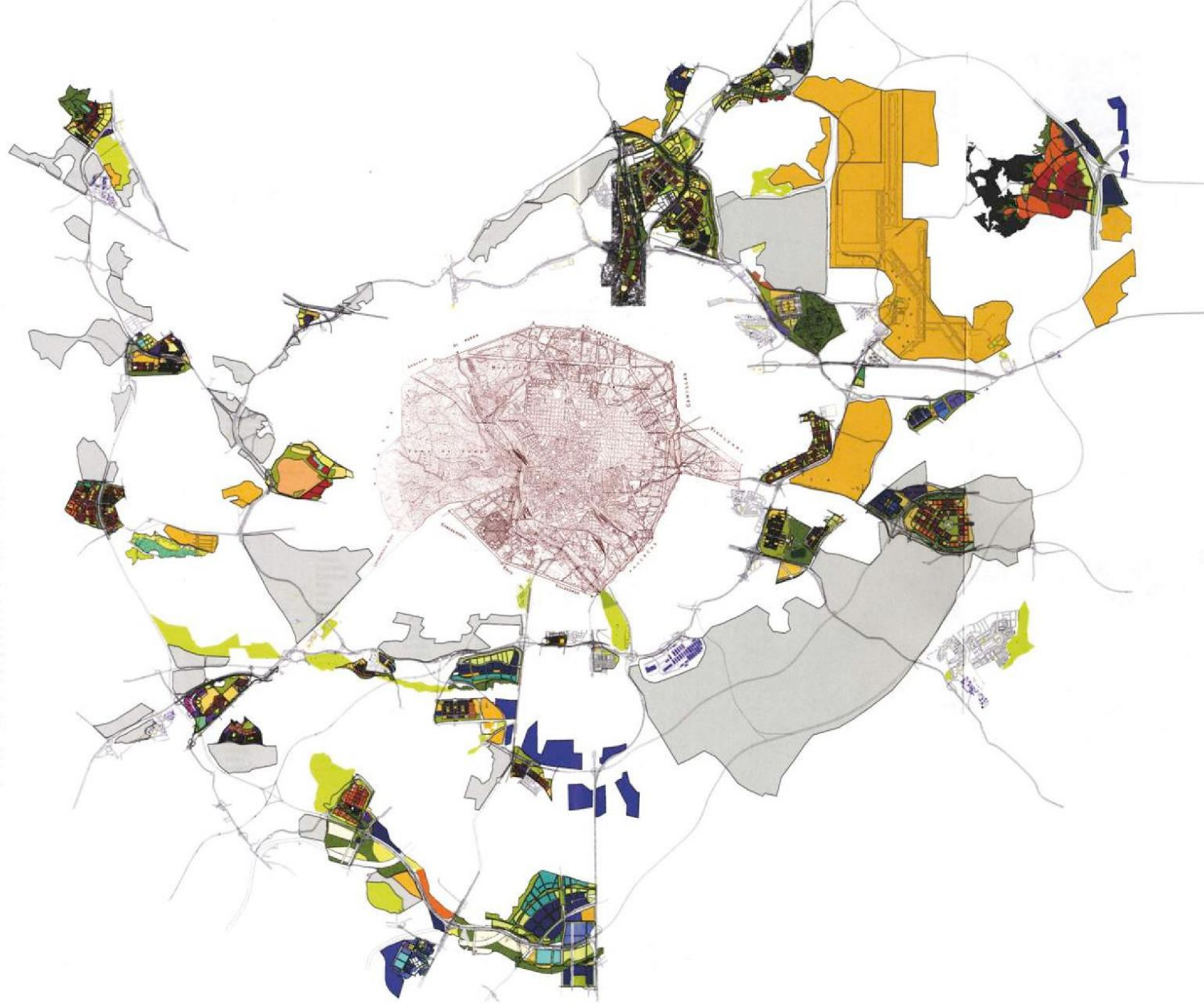
On top. Torre de viviendas en San Chinarro (Madrid)

On top. Housing tower in San Chinarro (Madrid)

Fuente | Source: A+T. Density (2002)



Propuesta de Ensanche para Madrid de C.M. De Castro 1860
 Proposal for the Madrid Extension by C.M. De Castro 1860



Montaje de la Propuesta de Ensanche para Madrid de C.M. De Castro 1860 con los PAUs 2008.
Assembly of the Ensanche Proposal for Madrid by C.M. De Castro 1860 with the PAUs 2008.

 NEUTRA NEUTRAL	1. La casa neutra, cajón contenedor, con un carácter y una identidad que no se impone a su entorno. The neutral house: container-drawer, with a character and identity that do not impose themselves on their surroundings	 HOTEL	6. La casa-hotel, con servicios comerciales y de ocio funcionando las veinticuatro horas del día. The hotel-house: with commercial and leisure services that operate twenty-four hours a day
 FLEXIBLE	2. La casa flexible, adaptable y modificable a cualquier uso posterior, incluso distinto del de vivienda. The flexible house: can be adapted and modified to any subsequent use, even other than that of a dwelling	 SIN COCHES CAR-FREE	7. La casa sin coches, situada en un entorno denso, con todos los servicios próximos y en contacto con la red de transporte público: que favorece otros medios alternativos como la bicicleta. The car-free house: located in a dense environment with all services close at hand and easy access to public transport networks: favours alternative transport means such as the bicycle
 DIVERSA DIVERSE	3. La casa diversa, capaz de acoger a cualquier unidad de convivencia, de variado tamaño y composición: gran variedad de posibilidades de elección. The diverse house: capable of embracing any a kind of cohabitation unit of different size and composition: with a wide range of choices	 PLAZA PIAZZA	5. La casa-plaza, con zonas comunes que faciliten el encuentro y la relación de los residentes en espacios abiertos dentro del edificio. The piazza-house: with collective meeting points that make it easier for residents to get together in open spaces within the building
 VERDE GREEN	4. La casa verde, que sólo consume el terreno justo, donde la naturaleza participa del edificio: incluye el reciclado de residuos y el aprovechamiento de energías limpias. The eco-house: occupies a minimum amount of land, where nature participates in the building: includes waste recycling systems and the use of clean energies.	 ASISTIDA ASSISTED-LIVING	9. La casa asistida, que permite un desplazamiento cómodo y seguro para personas temporales o permanentemente discapacitadas y posibilita la atención médica a domicilio. The assisted-living house: allows temporarily or permanently-disabled people to get about easily and safely and provides for medical care in the home
 OFICINA OFFICE	5. La casa-oficina, comercializada por m³ en vez de m², con buena altura de techos y espacios modulares, que facilita el acceso rápido a las redes de información y permite el trabajo en el hogar. The office-house: marketed in m³ instead of m², with high ceilings and modular spaces: provides rapid access to information networks and allows occupants to work at home.	 PROTEGIDA PROTECTED	10. La casa protegida, que asegura la protección física y psicológica en el entorno inmediato; da confianza a las personas desprotegidas que viven solas. The protected house: ensures physical and psychological protection in the immediate environment; makes vulnerable people who live alone feel safe

Tendencias actuales de las tipologías residenciales.

Current trends in residential typologies.

Fuente | Source: A+T. Density III (2003)



La sostenibilidad apuesta por la densidad elevada porque:

- optimiza la ocupación de suelo,
- reduce la presión sobre el suelo agrícola,
- disminuye los desplazamientos y el riesgo de accidentes de tráfico,
- hace que el transporte público sea rentable y,
- crea zonas de actividad urbana que favorecen los intercambios comerciales y culturales.
- 100 viv/hec. Es la densidad ideal.

Sustainability relies on high density because:

- it optimises land use,
- reduces pressure on agricultural land,
- it reduces commuting and the risk of traffic accidents,
- it makes public transport cost-effective, and
- it creates zones of urban activity that favour commercial and cultural exchanges.
- 100 dwellings/hectare This is the ideal density.

A+T. DENSITY II.



Cooperative Dream

Iker Gil interviews **Jeanne Gang**, founder and principal of **Studio Gang Architects** and 2011 MacArthur Fellow



"The Garden in the Machine" proposal
© Studio Gang Architects



AN ORDINANCE ESTABLISHING ZONING REGULATIONS FOR THE TOWN OF CICERO, ILLINOIS

The zoning ordinance is intended to accomplish certain standards and objectives:

- To promote the public health, safety, comfort, morals, convenience and general welfare.
- To preserve and protect existing uses and values against adverse or unharmonious adjacent uses.
- To avoid and lessen congestion in the public streets.
- To prevent the overcrowding of land through regulating and limiting the height and bulk of buildings hereafter erected related to land area.
- To prevent additions to and alterations or remodeling of existing buildings and structures in such a way as to avoid the restrictions and limitations imposed hereunder.
- To provide for the gradual elimination of those uses, buildings, and structures which are incompatible with the character of the districts in which they are located.
- To divide the area into a number of zoning districts:
 - Residential districts, particularly designed to provide maximum protection for single family and two family homes.
 - Residential districts, for multiple family dwellings.
 - Commercial districts, that recognize the different types of commercial areas that will be needed by the future growth and change of the town.
 - Industrial districts, of which there are three: a wholesale and warehouse district; a "light" industrial district; and a "heavy" industrial district for manufacturing which include motor freight terminals.

Definitions

Family. Not more than two persons not related by blood, marriage or adoption living together as a single, cooking and housekeeping unit in a dwelling unit, but not including sororities, fraternities or other organization.

economic security of residents

functioning uses, and to allow a broad mix of compatible uses.

To reduce vehicular congestion and promote pedestrian activity and alternative modes of transit.

To encourage density while preserving open space, public use, and habitats.

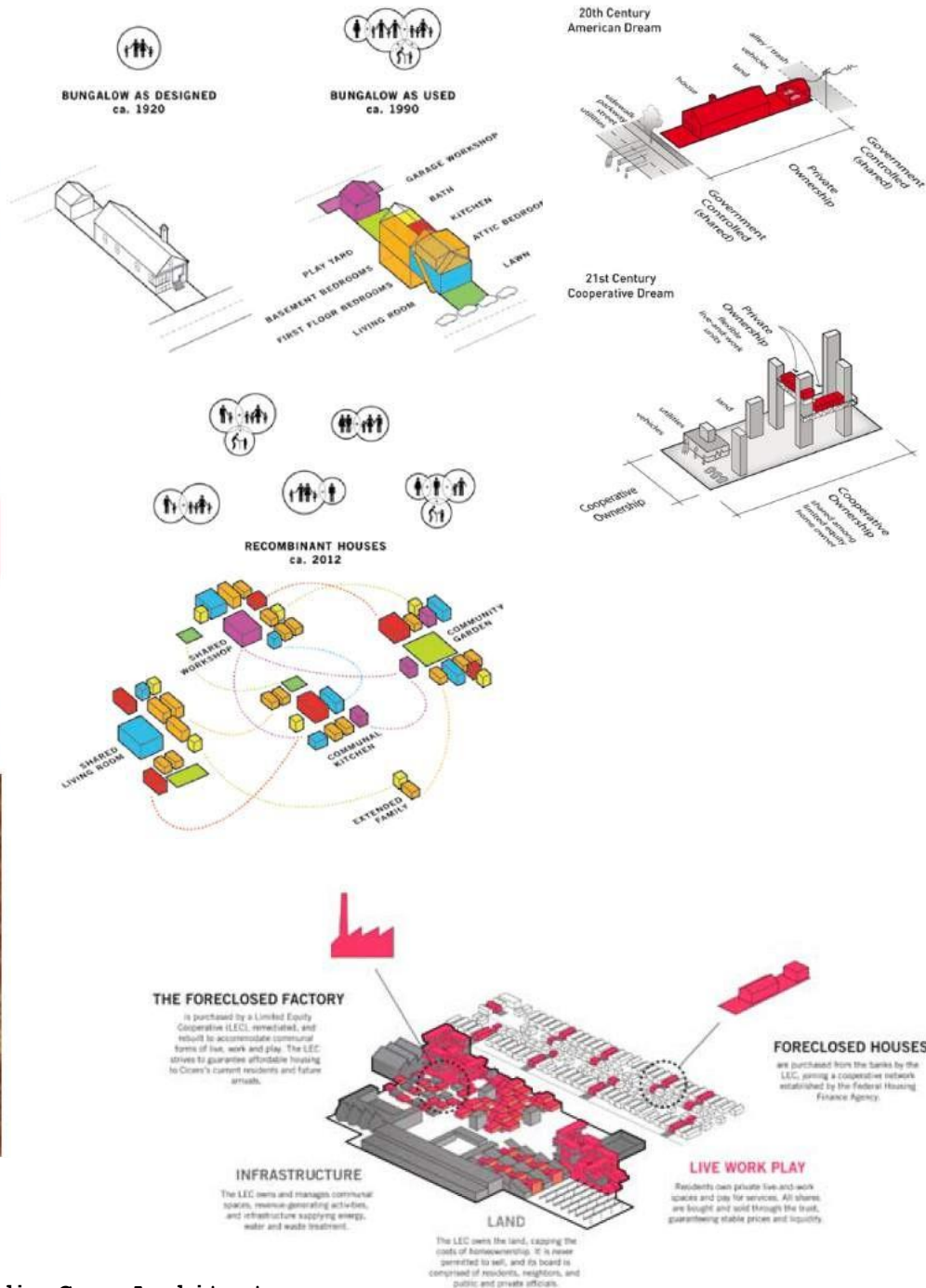
To allow additions and alterations.

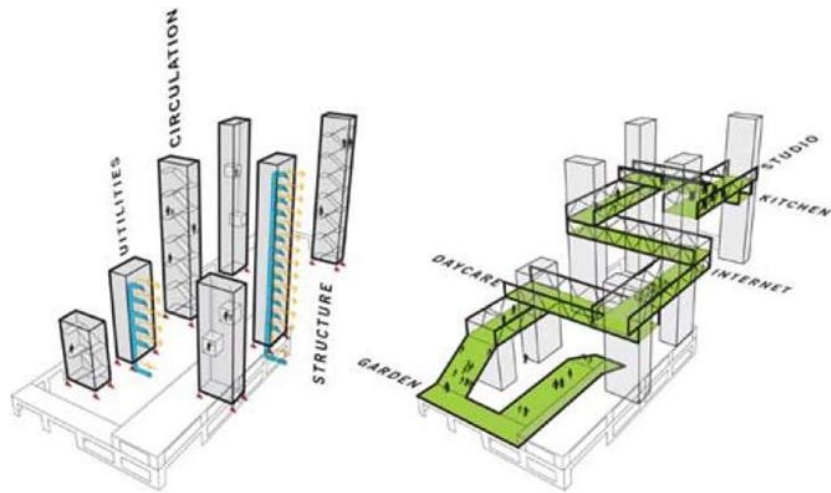
To restore and preserve existing buildings and structures, and to conserve environmental resources.

To support social and cultural diversity by allowing a variety of housing types and mixed-use programs.

The only use to be segregated from residential, commercial, light industrial, and public uses is a heavy industrial use.

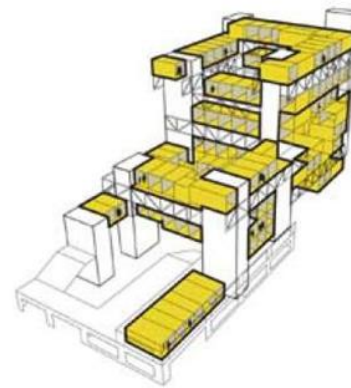
Acknowledge and enable a variety of living types.



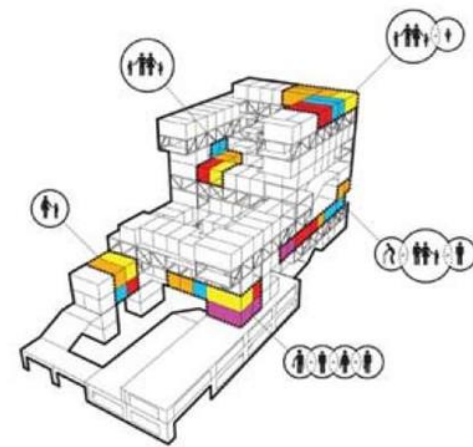


CONCRETE CORES

NETWORK OF
COMMUNITY SPACES



LIVE-AND-WORK UNITS



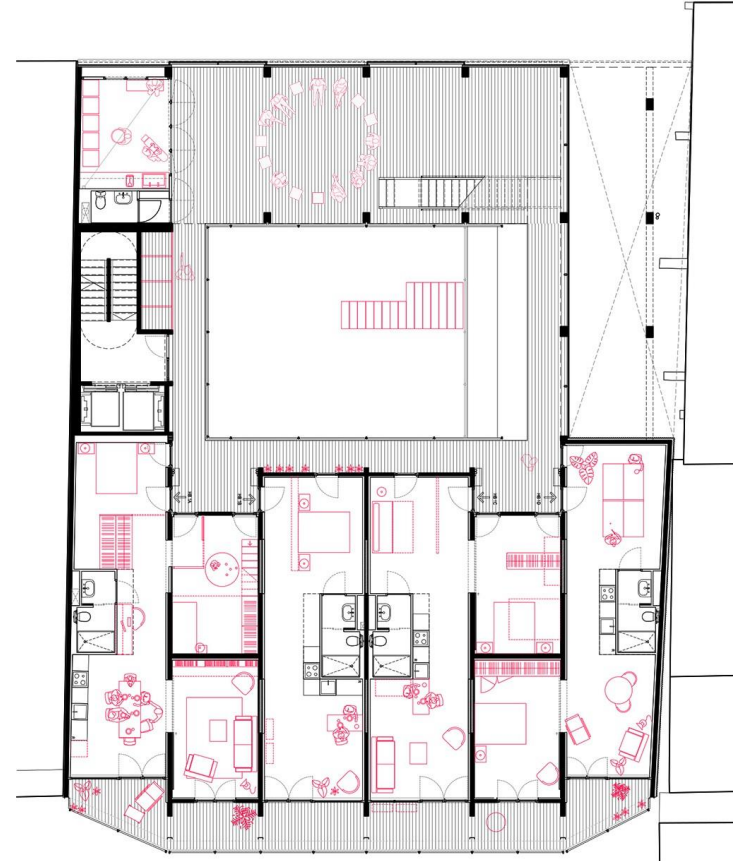
VERTICAL
NEIGHBORHOODS

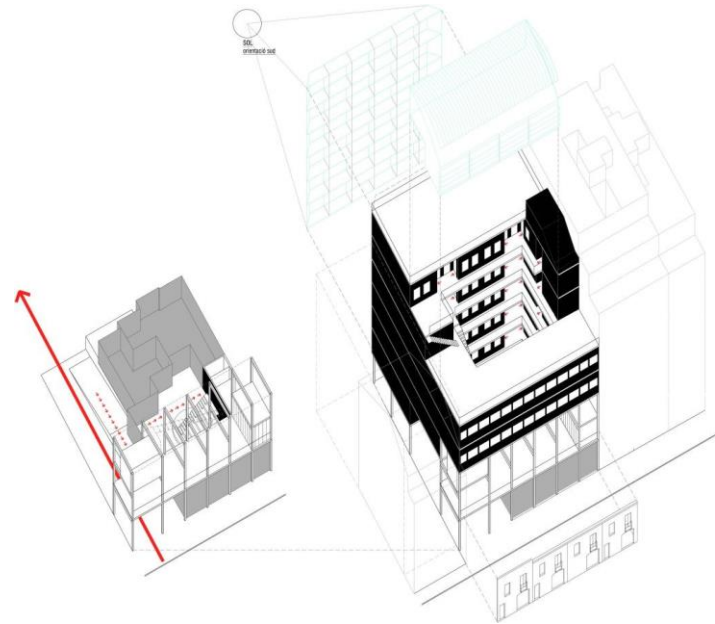


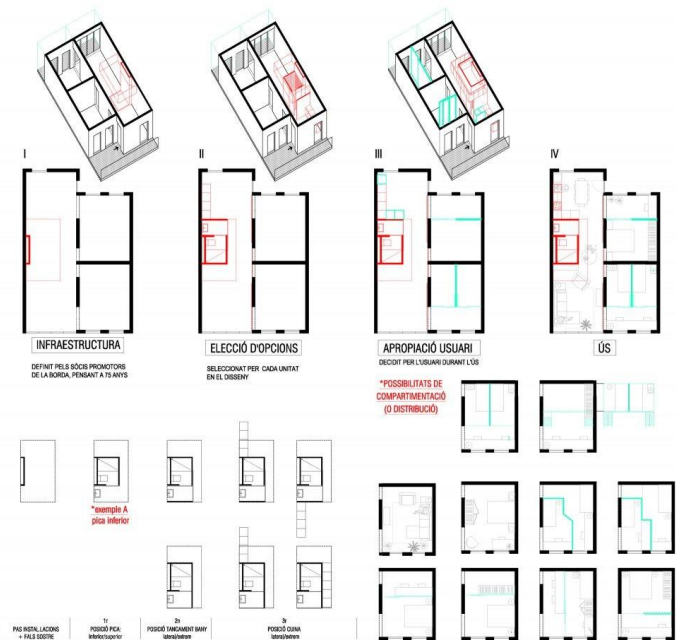
"The Garden in the Machine" proposal organization and overall view
© Studio Gang Architects



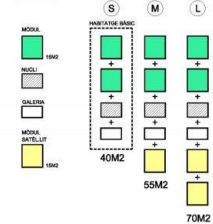
La Borda. Housing cooperative. Barcelona
Lacol Arquitectura Cooperativa



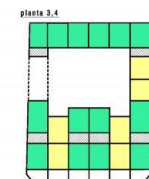
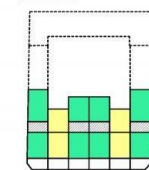




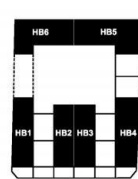
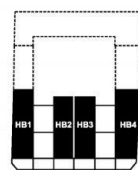
MATRIU. REGLES DEL JOC. modulació



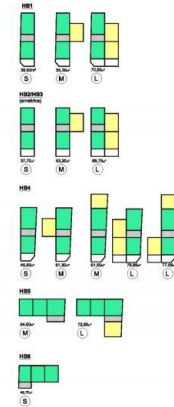
PATRO. ESQUEMA GENERAL planta 1, 2, 5, 6

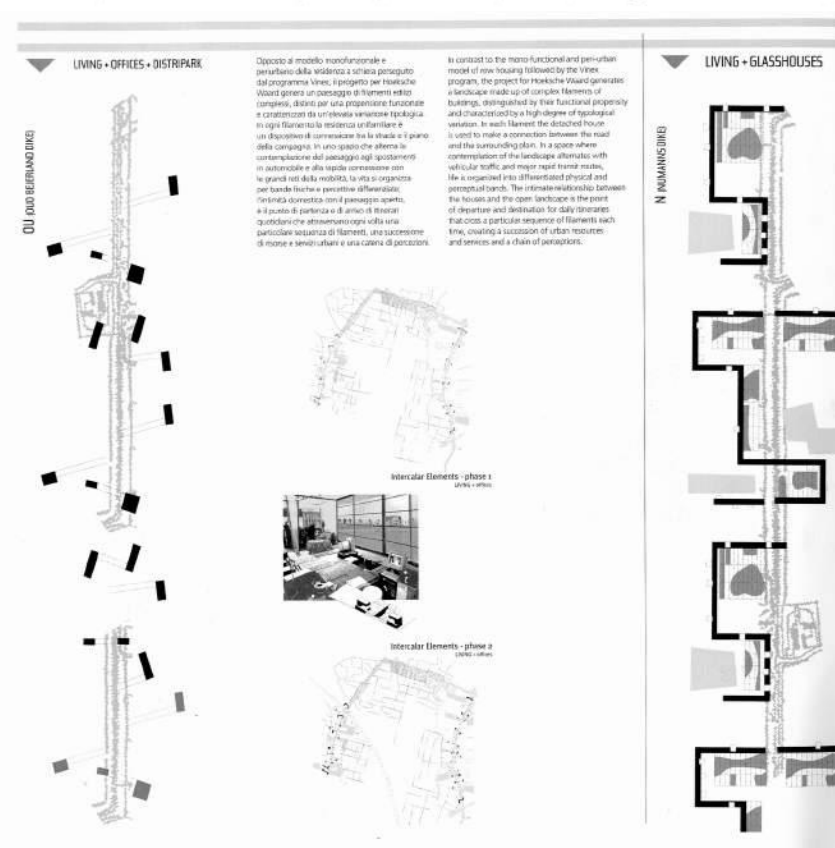
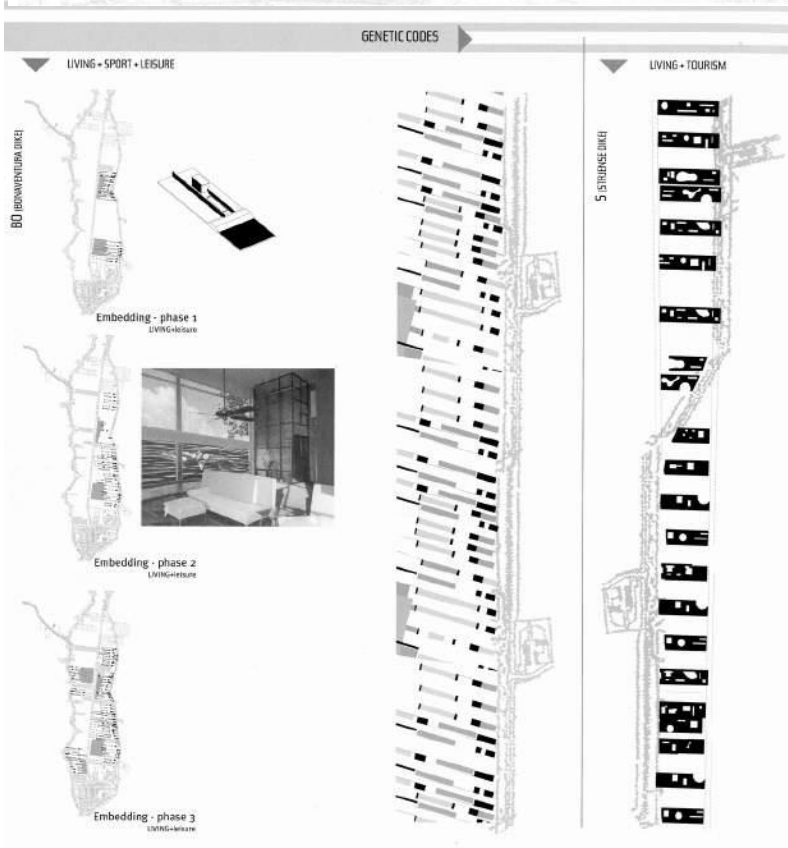
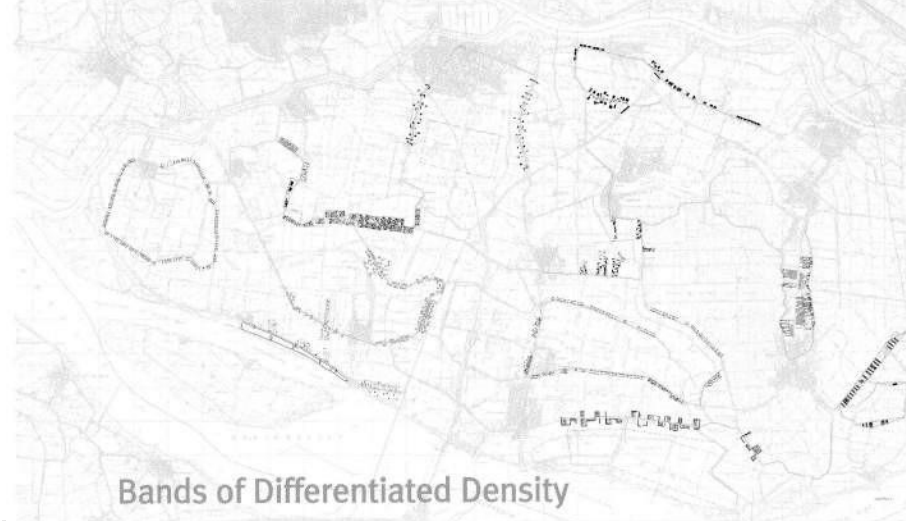


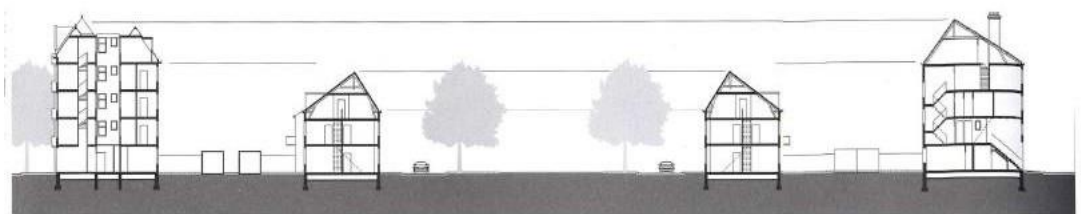
NOMENCLATURA habitatge (HB)



VARIACIONS TIPOLOGIQUES s.m.l.





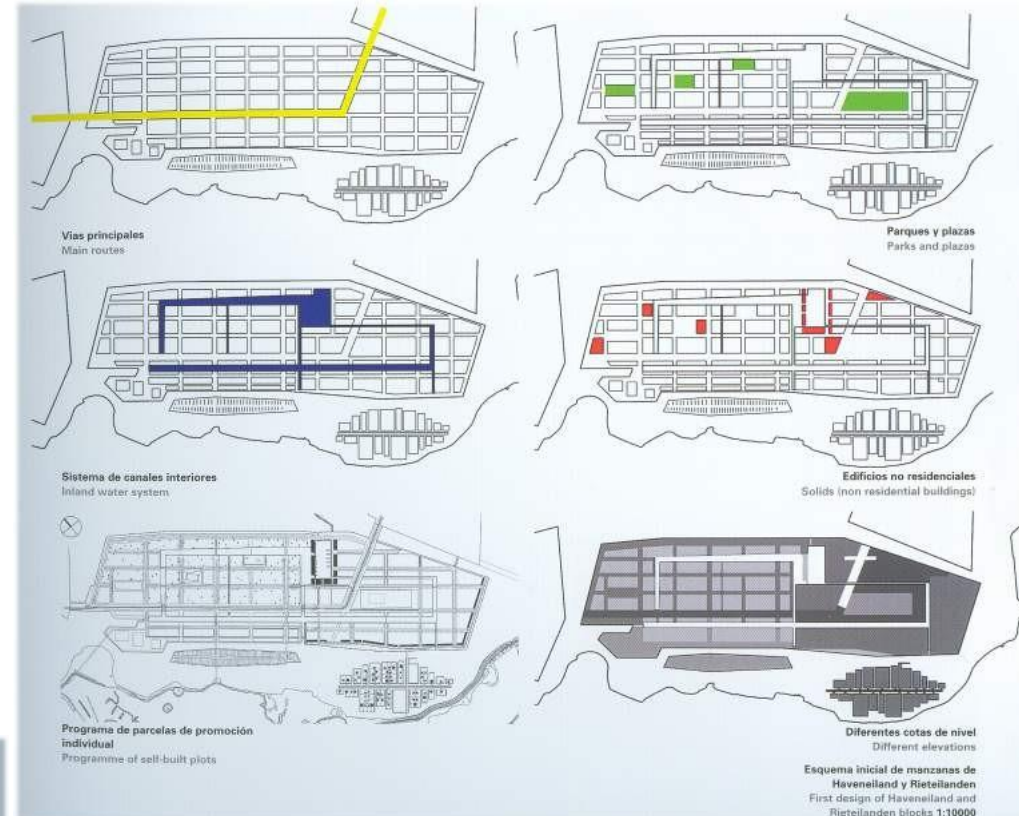
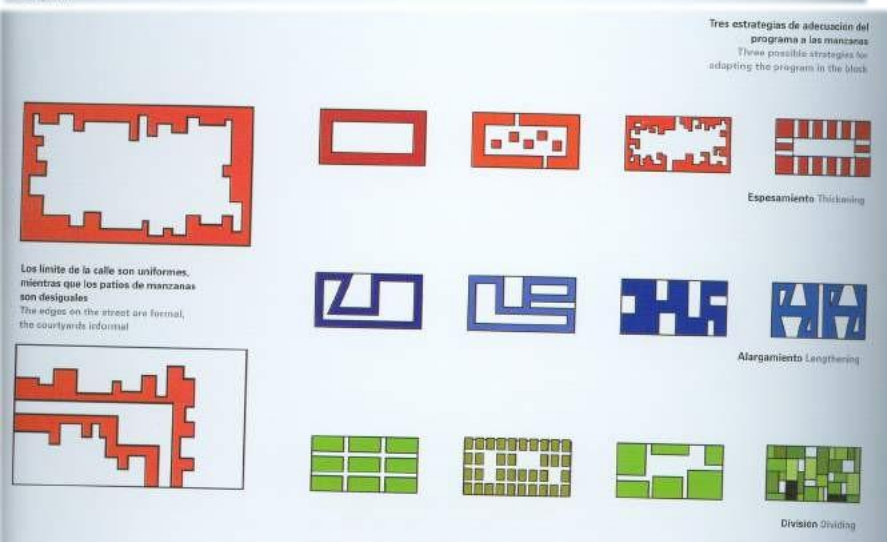
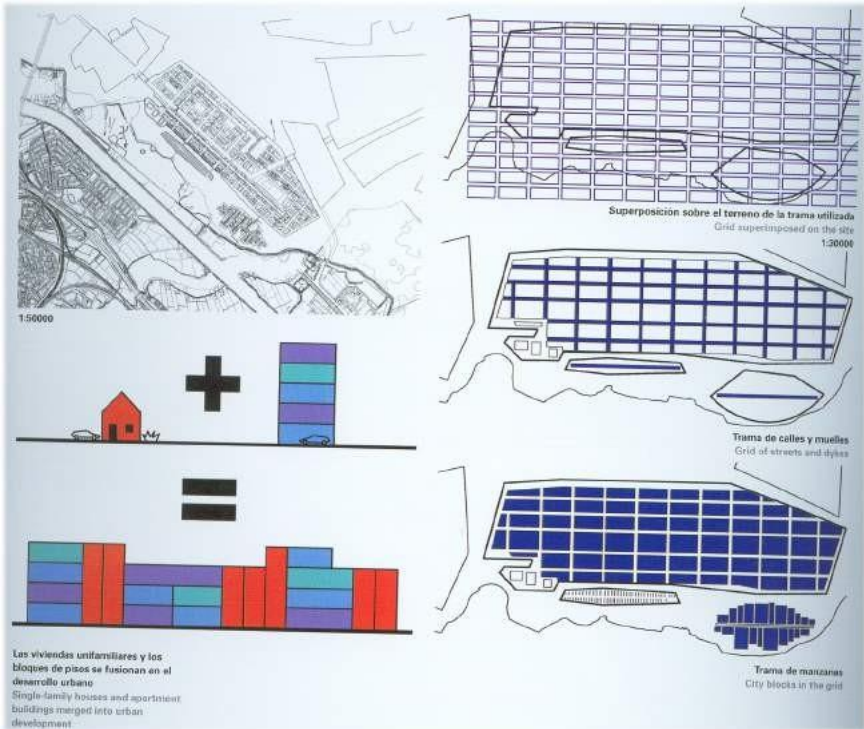


Cross section, 1:500 scale.



"Atlas of Ducht Urban Block". Thoth

Gate, with view of the inner courtyard.



Proyecto Ijburg.

Ijburg Project.

Fuente | Source: Revista A+T.

BIBLIOGRAFÍA | REFERENCES

- CANIGGIA, Gianfranco y MAFFEI, G.L. (1995). Tipología de la edificación: estructura del espacio antrópico. Celeste Ed.
- AA. VV. (1979) Housing in Europa, 2 vols. Bologna: Luigi Parma.
- KIRSCHENMANN, J.C. (1980). Diseño de barrios residenciales. Barcelona: Gustavo Gili.
- JAVIER MOZAS, J. y FERNÁNDEZ PER, A. (2006) "Densidad-Density". Vitoria: A+T ediciones.
- SOLÁ-MORALES i rubió, M (1997), "Las Formas del Crecimiento Urbano". Barcelona: Edicions UPC.
- AA.VV (1985), rev. UR nº 3. Barcelona
- SABATÉ, Joaquim (1990), "Van Eesteren y el Plan de extensión de Amsterdam" en rev. UR nº 8. Barcelona.
- Fernández Per, Aurora y Arpa, Javier. "Density projects"
- Fernández Per, Aurora Mozas, Javier y Arpa, Javier. "Dbook density data diagrams dwellings"
- Van den Broek/Bakema. "La comnidad de arquitectos van den Broek/Bakema". GG
- P. Katz. "New Urbanism"
- F. García-Huidobro. "¡el tiempo construye!". GG
- AAVV. "Atlas of Ducht Urban Block". Thoth
- J. Boeijenga. "Vinex Atlas". 010
- <http://densityatlas.org>
- http://burb.tv/view/Beijing_Boom_Tower
- <http://work.ac/nature-city/?tag=urbanism>
- <http://u-tt.arch.ethz.ch/publications/>
- <http://www.metalocus.es/content/es/blog/la-gran-ret%C3%ADcula-el-plan-director-de-manhattan-1811-2011>