

# Bk7210 Urban analysis & design

Minor: Green Blue City 2013

Lecture 4

**Design principles  
and Kop van Zuid**

John Westrik



# Contents of this lecture

1. **Urban plans Kop van Zuid Rotterdam** *slide 5-20*
2. **Evaluation urban plan** *slide 21-43*
3. **Five themes for high-rise policy** *slide 44-50*
4. **Reflection on subjects, comparison R'dam - A'dam** *slide 51-76*
5. **Creative commons** *slide 77*

# Marginal notes

Two important differences between urbanism and architecture:

1. Time span

Masterplan Kop van Zuid from 1991, now 2013 and halfway (22 years).

2. Design phases

A urban plan is developed into several plans for buildings and the public space.

It is however never exactly executed as first designed!

# 1. Urban plans Kop van Zuid Rotterdam

## **Design assignment**

Transformation from "worn-out" harbor area to urban area, positioned opposite to the centre of the city.

## **Design**

Masterplan of Teun Koolhaas (1987)

Definitive Masterplan + Zoningplan (ds+V, 1991)

## **Sub-Designs**

Wilhelminapier

Entrepot-gebied

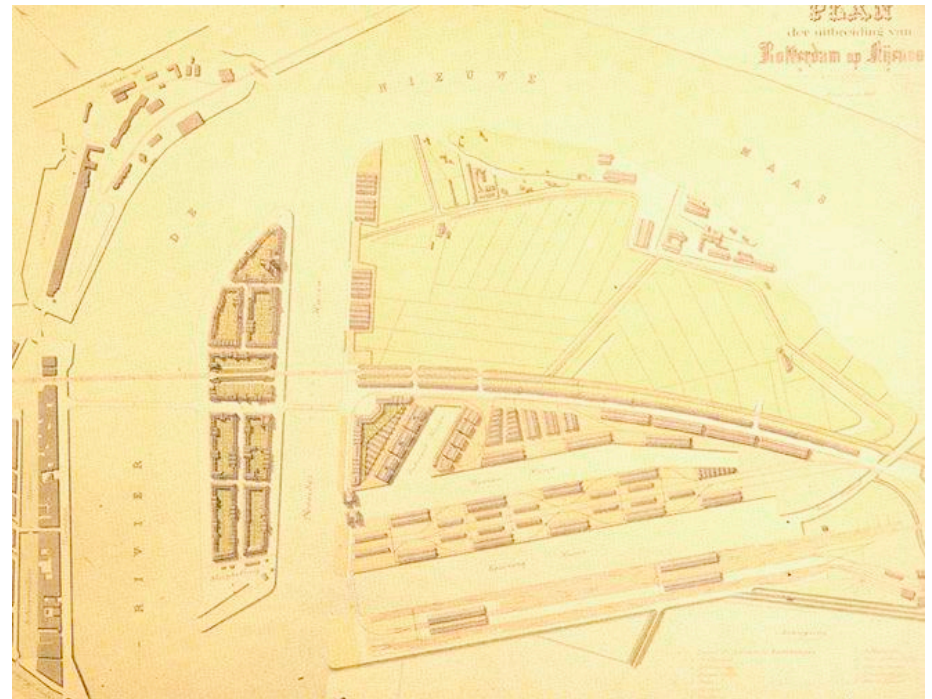
Landtong

Stadstuinen

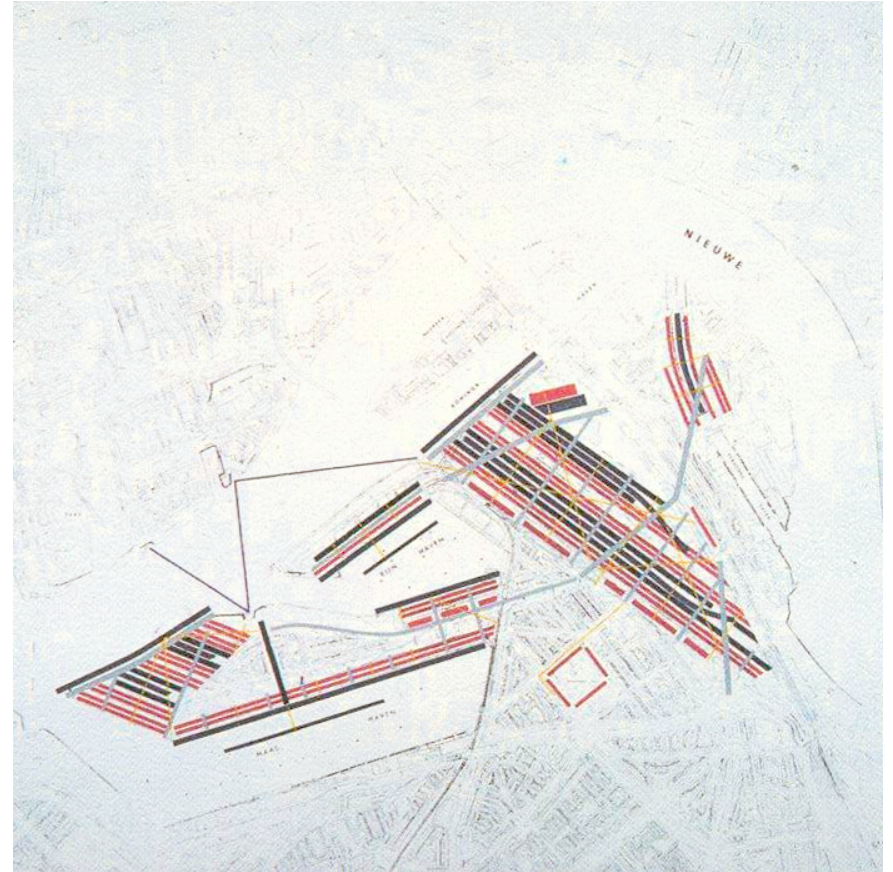
Parkstad I en II

Entrepot II

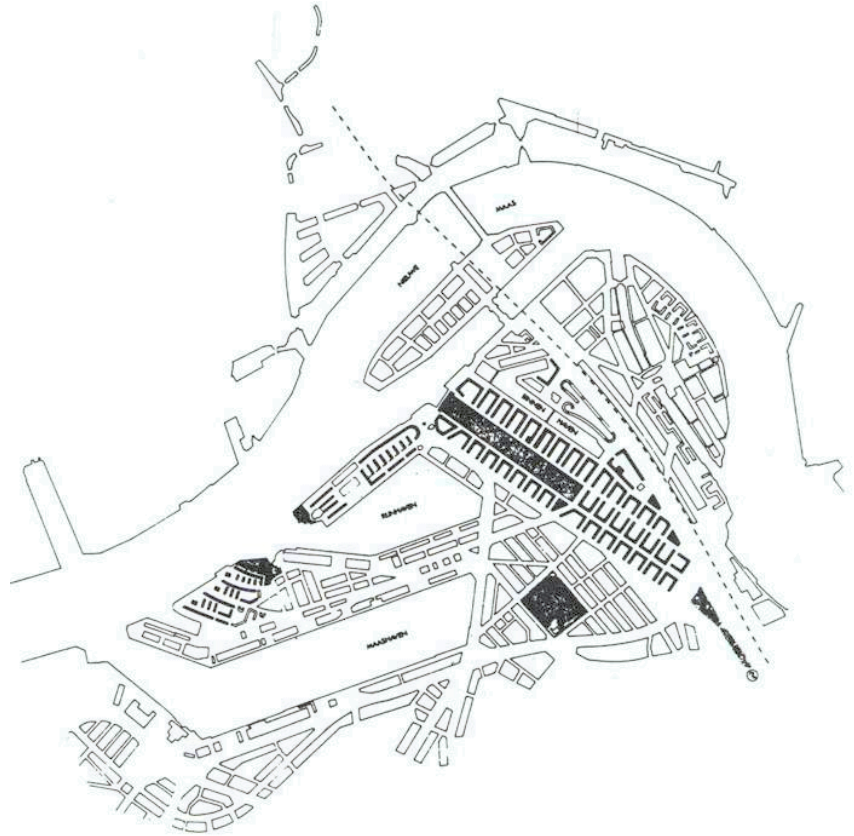
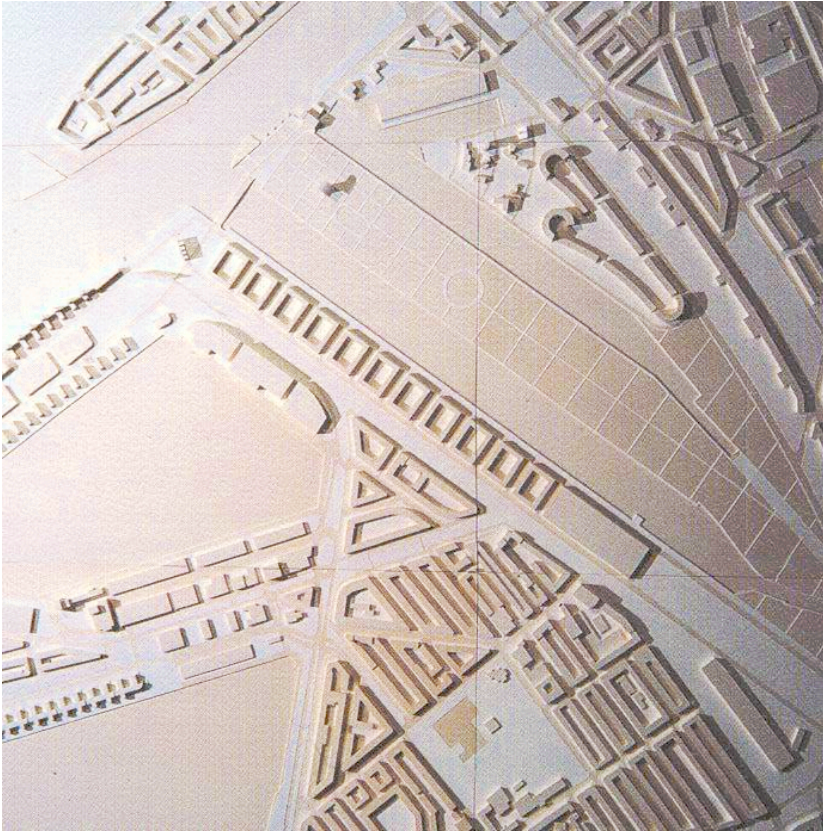
# Description of urban plans



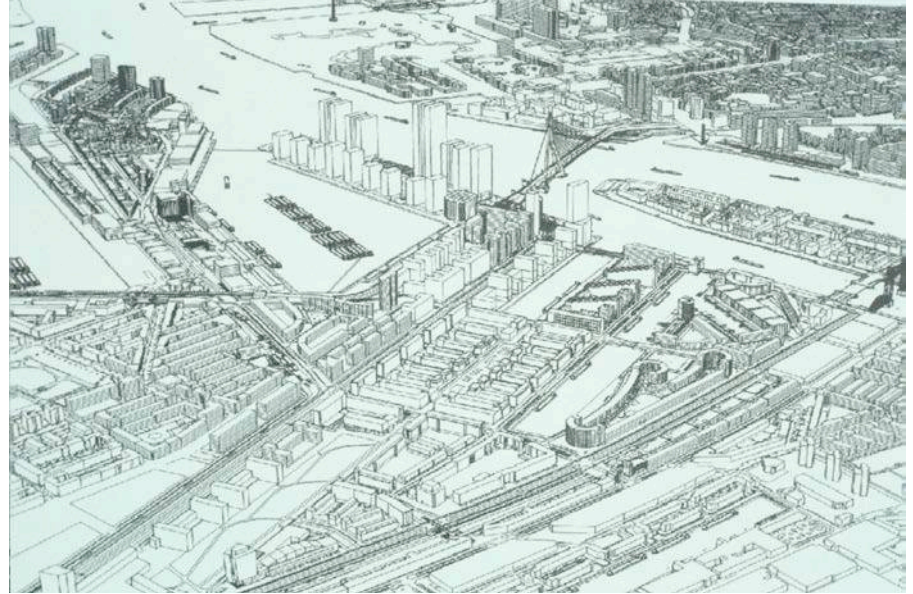
# Description of urban plans



# Description of urban plans



# Description of urban plans



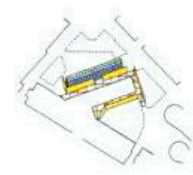
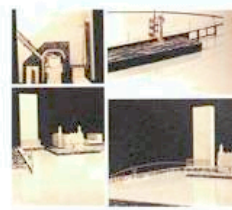


## masterplan van de openbare ruimte

masterplan of the public open space

opdrachtgever: **gemeente Rotterdam**  
bureau: **projectbureau Kop van Zuid, atelier Quadrat, E. Bot**  
ontwerp: **01-06-1993**

- 1 masterplan  
masterplan
- 2 maquette van het Rosepark  
model of the Rosepark
- 3 standaarddetails van de straatanleg  
standard details of street paving
- 4 ontwerpstudies van de Wilhelminapier  
design studies of the Wilhelmina Pier



## kwaliteit en beeldvorming

quality and image-making

- 1 topografische illustraties van N. Korteweg  
topographic illustrations by N. Korteweg
- 2-3 ontwerphema's in het masterplan  
design themes in the masterplan

- 4-6 ontwerphema's voor het Entrepotgebouw e.o.  
design themes of the Entrepot building and surroundings
- 7-9 thema's en beeldvorming  
themes and image-making

opdrachtgever: **gemeente Rotterdam**  
bureau: **projectbureau Kop van Zuid**  
ontwerp: **01-10-1990**





## masterplan Kop van Zuid

### masterplan Kop van Zuid

29

ruimtelijke thema's  
spatial themes

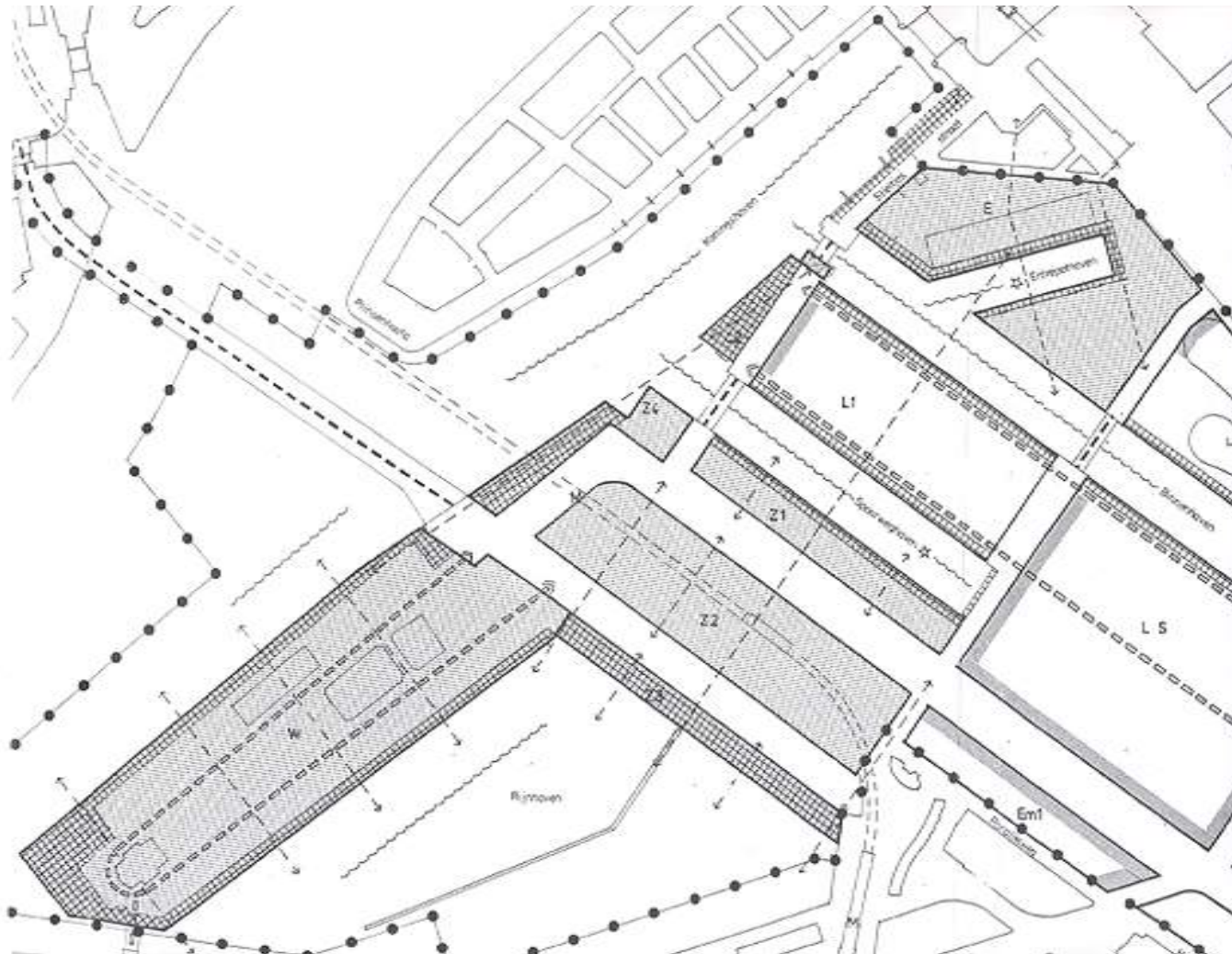
traject van de stadssas  
route of the urban axis

buitendijks gebied en de Kop van Zuid  
area outside the dykes and the Kop van Zuid



|               |         |                                                                                                                                                                                            |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| programma     | program | 5.100 woningen<br>380.000 m <sup>2</sup> kantoren<br>50.000 m <sup>2</sup> recreatieve/culturele voorzieningen<br>3.500 m <sup>2</sup> winkels<br>51.000 m <sup>2</sup> verhuurbare ruimte |
| opdrachtgever | client  | gemeente Rotterdam                                                                                                                                                                         |
| buikau        | office  | projectbureau Kop van Zuid                                                                                                                                                                 |
| ontwerp       | design  | 01 09 1991                                                                                                                                                                                 |

# Zoning plan 1991



| BESTEMMING:                                     | ARTIKEL NR |
|-------------------------------------------------|------------|
| STEDELIJKE FUNCTIES                             | 1          |
| WOONGEBIED                                      | 2          |
| ONBEBOUWD GEBIED (HOOFDINFRASTRUCTUUR EN WATER) | 3          |
| <b>VERKLARING:</b>                              |            |
| TOPOGRAFISCHE TOESTAND EN BESTAANDE BEBOUWING   |            |
| VOETGANGERSGEBIED                               |            |
| STEDELIJK PLANT                                 |            |
| PARK                                            |            |
| N.S. TERREIN                                    |            |
| DOORGAANDE ROUTE                                |            |
| ZICHTLIJN                                       |            |
| PLANGRENS                                       |            |
| WATER                                           |            |
| BRUG                                            |            |
| WATERGEBONDEN RECREATIE                         |            |
| M                                               | METRO      |



GEMEENTE ROTTERDAM  
BESTEMMINGSPLAN

KOP VAN ZUID

PLANKAART 2  
HOOFDPLANKAART

# Mixed program Kop van Zuid / Parkstad

## Kop van Zuid:

- 4.500 dwellings (3.000 realised)
- 350.000 m2 offices  
(180.000 m2 realised)
- 80.000 m2 retail / leisure  
(30.000 m2 realised)
- 70.000 m2 non-profit  
(50.000 m2 realised)



## Parkstad:

- 2.500 dwellings
- 65.000 m2 offices
- 40.000 m2 commercial
- 30.000 m2 non-profit



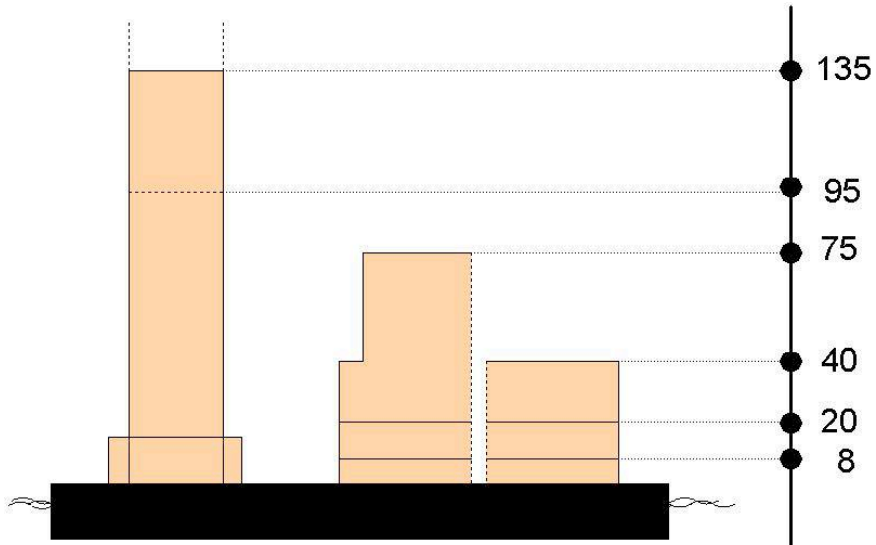
# Sub-areas Kop van Zuid



# Wilhelminapier



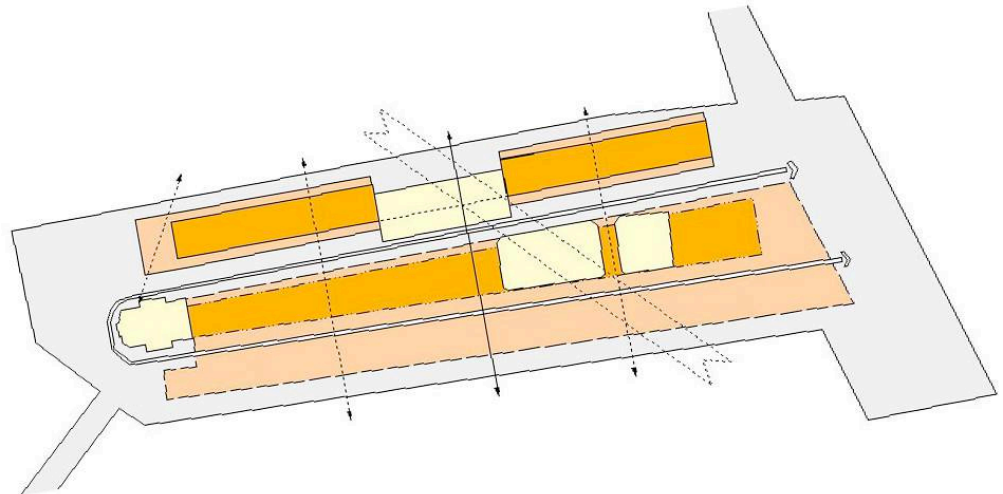
# Zoning plan 1991



section zoning plan

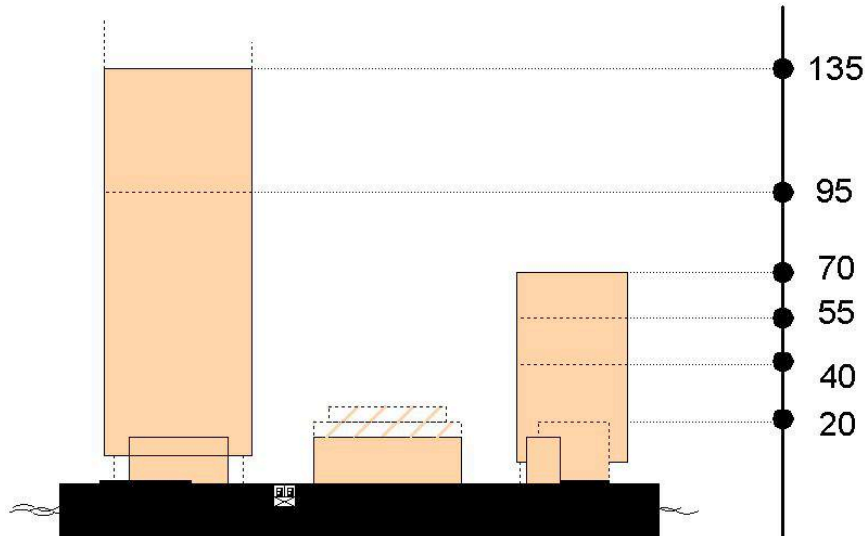


bird's eye view plan 1987

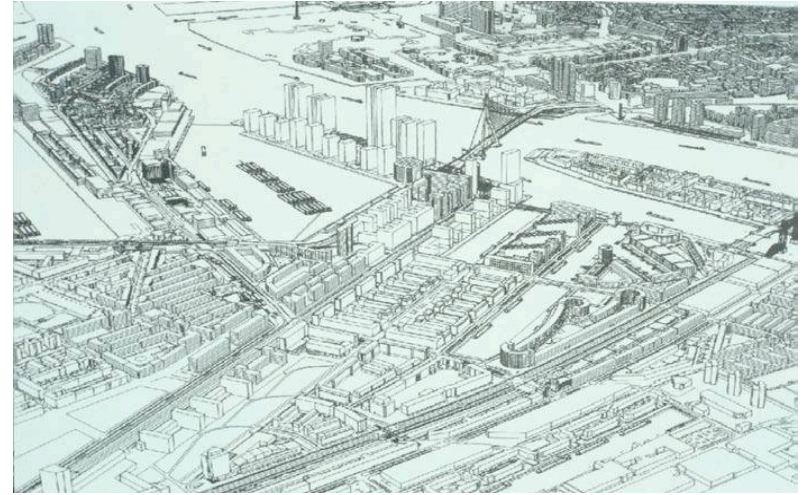


section zoning plan and bird's eye view plan 1987

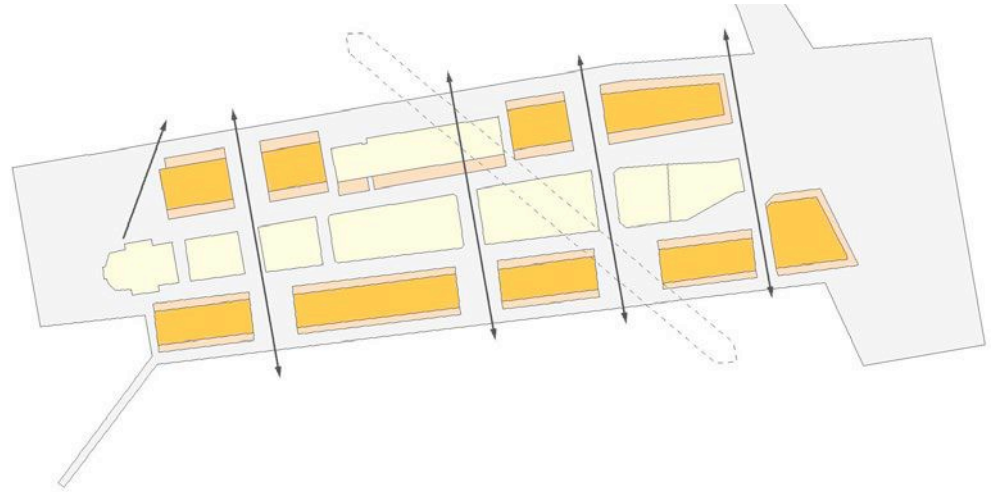
# Masterplan Wilhelminapier, 1995



section zoning plan

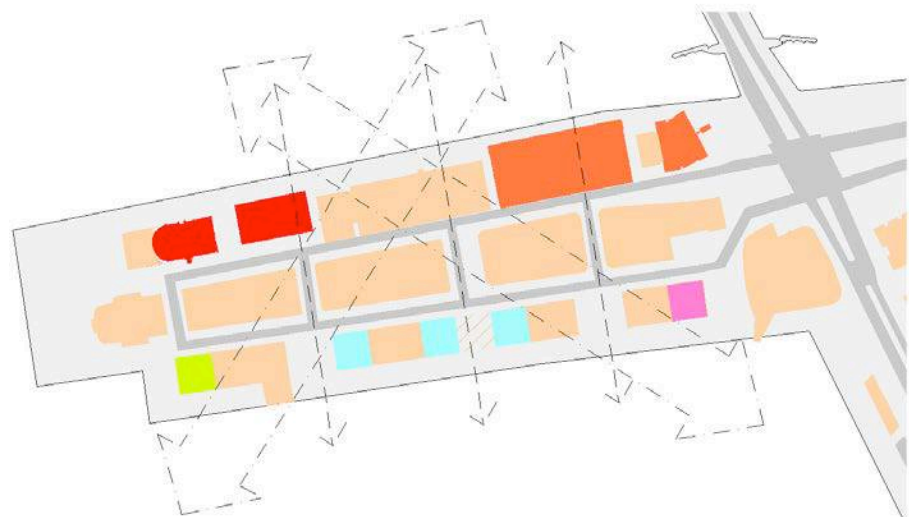
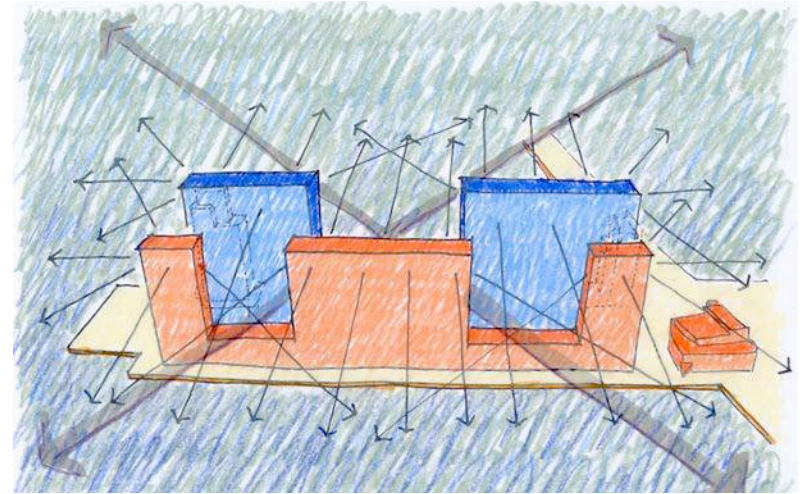
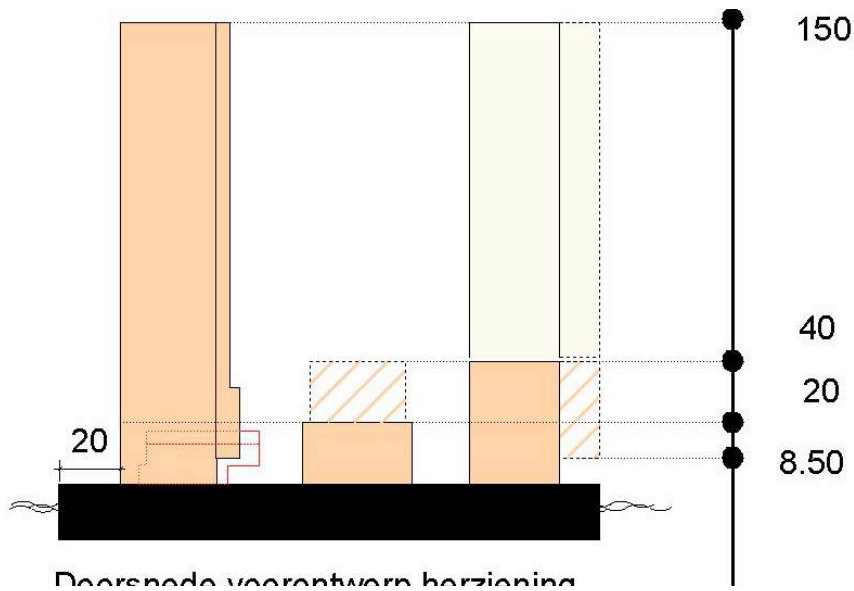


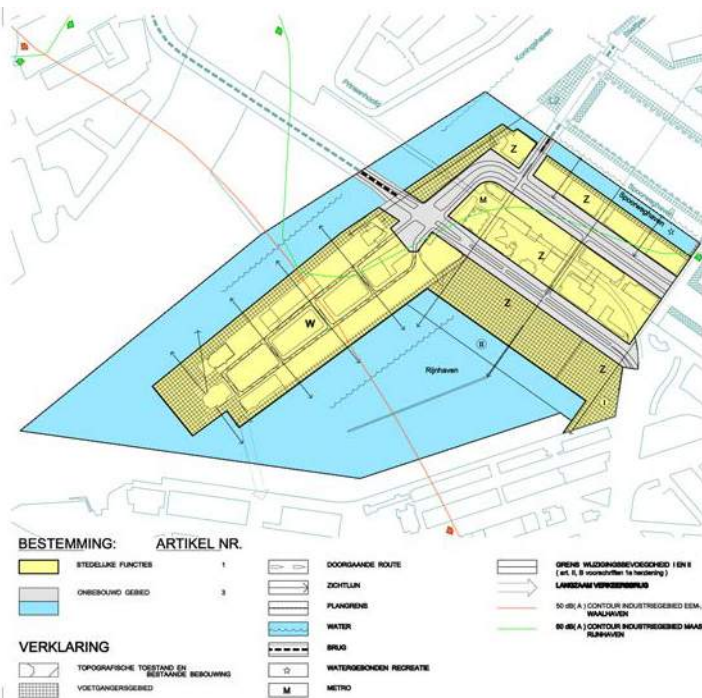
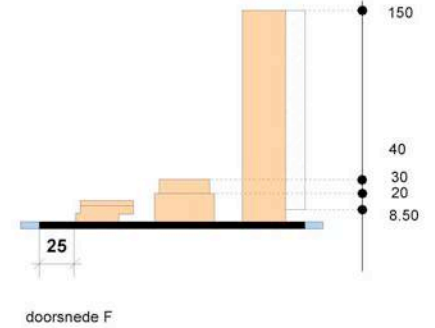
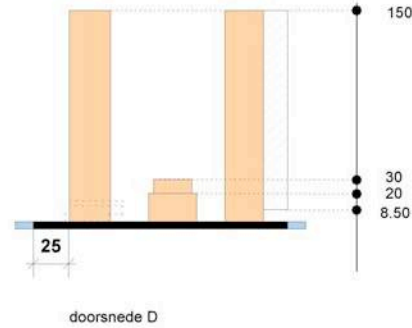
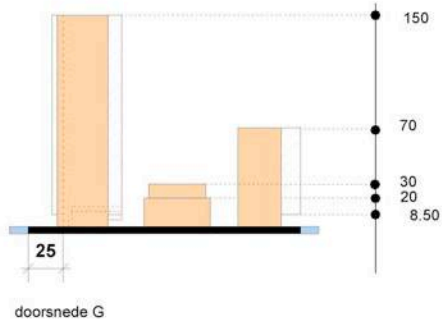
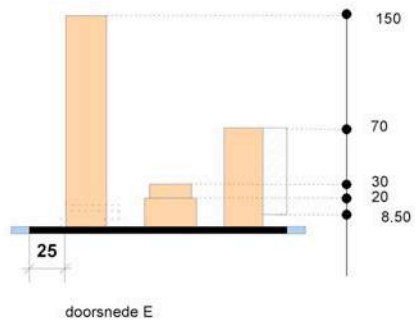
bird's eye view plan 1995



section zoning plan and bird's eye view plan 1995

# Masterplan Wilhelminapier, 2002





BEHOORT BIJ VERZAMELING GEDR. STUKKEN  
VOLGNR.  
GEMEENTEBLAD VOLGNR.

DEELPLANGEBIEDEN: ZIE PLANKAART

Z ZUIDKADE 10  
W WILHELMINAPARK 11



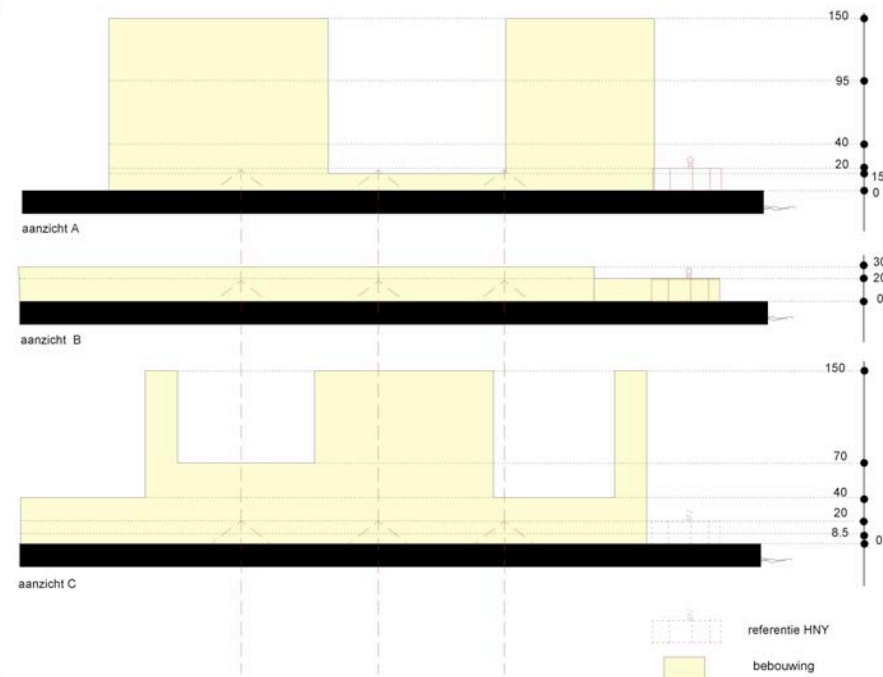
GEMEENTE ROTTERDAM  
ONTWERP BESTEMMINGSPLAN  
1e HERZIENING  
KOP VAN ZUID

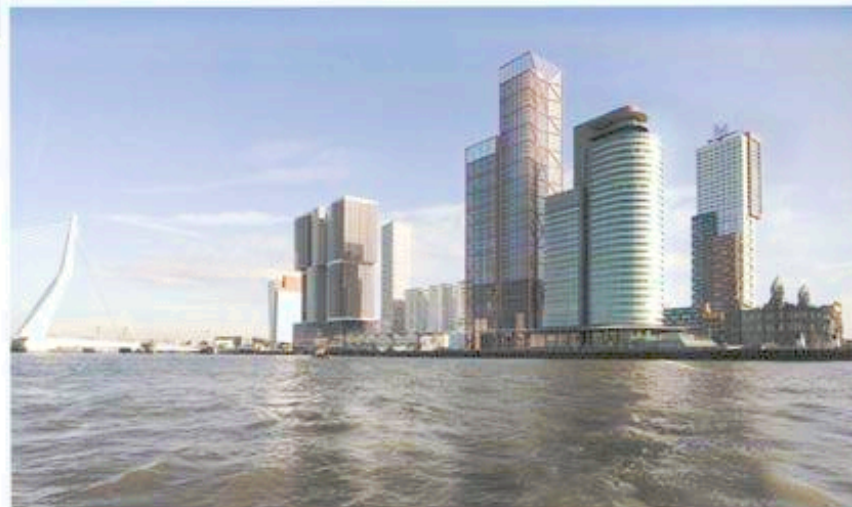
PLANKAART 2  
HOOFDPLANKAART

SCHAAL 1:5000

VASTGESTELD DOOR DE GEMEENTERAAD D.D.  
GOEDKEURD DOOR DE GEMEENTERAAD D.D.  
ONHERROEPBAREL BIJ K.B. NO. D.D.

to\_senelrochv\_plankart JD / 22-03-2007





## 2. Evaluation urban plan

**Points that can be called succesful and meaningful for the city as a whole**

**1. The new city axis**

**2. The new public structures**

- The Erasmusbrug
- New metrostation Wilhelminaplein
- The Varkenoords viaduct

**3. Three new tramlines**

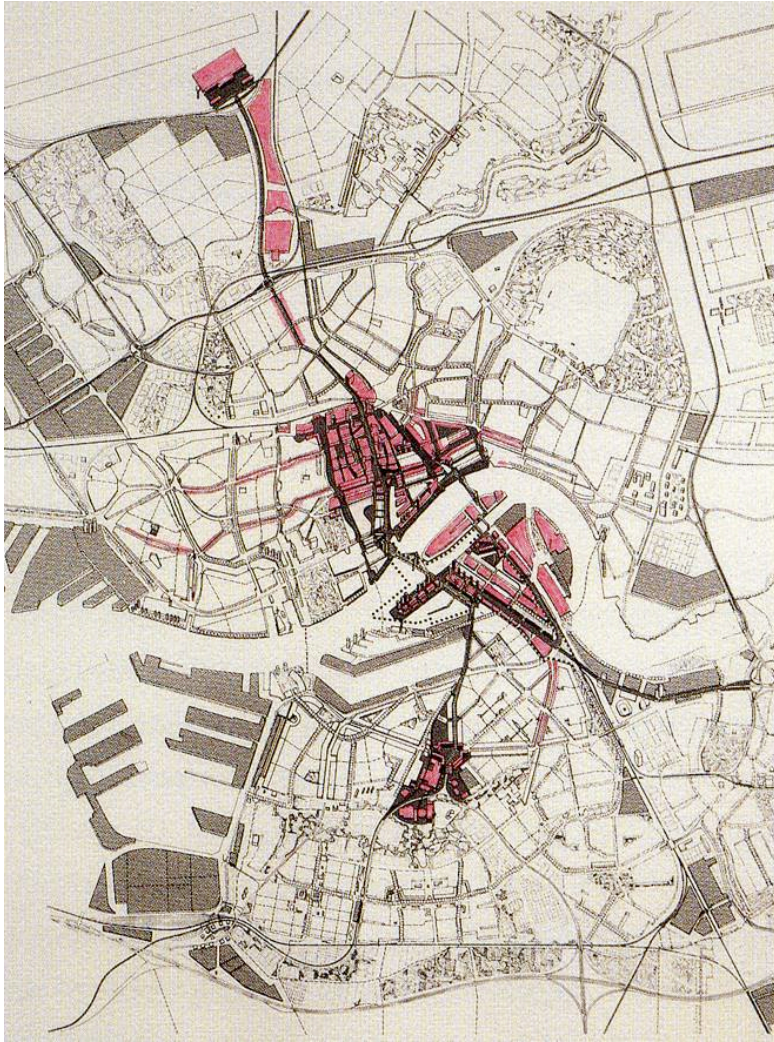
**4. The private harbar areas are made public**

**5. New skyline for the city**

**6. New residential environments, i.e. Landtong and Stadstuinen**

**7. Exceptional public spaces**

# Infrastructure, the city axis



# Infrastructure, metrostation and tramlines

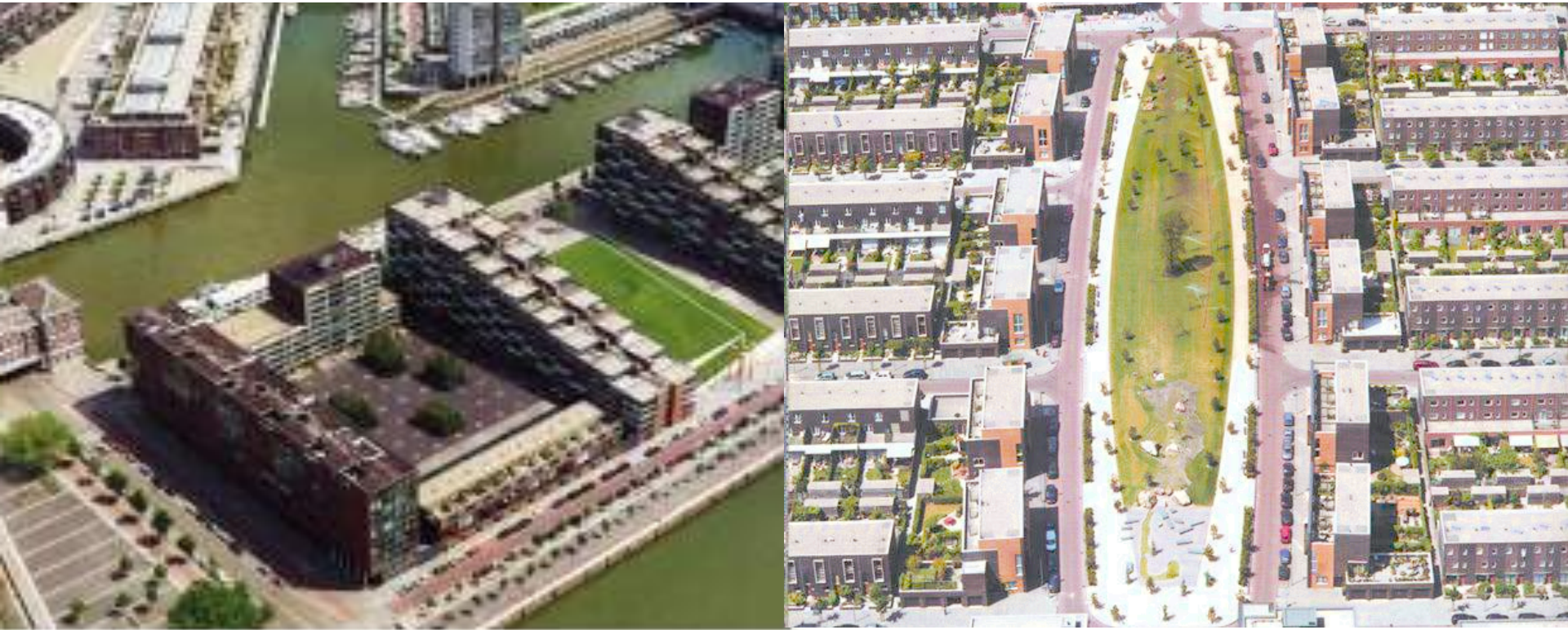




# From private zones to public space



# New residential environments

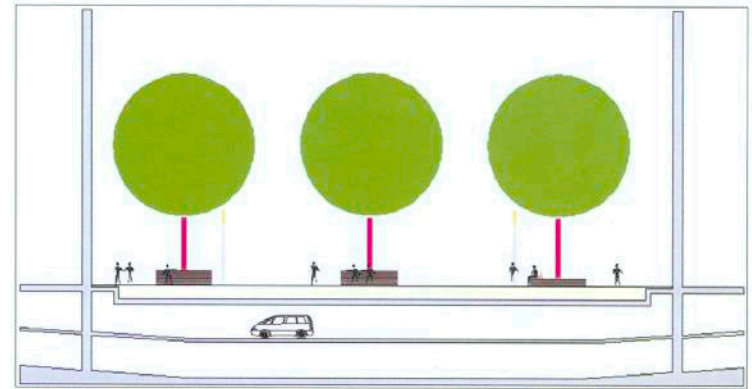


# Design public space south side Wilhelminapier

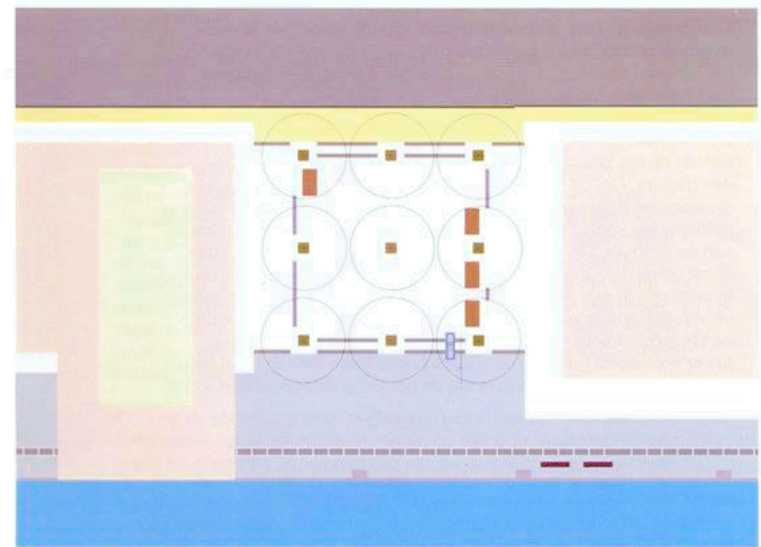




# Wierdsmaplein dS+V

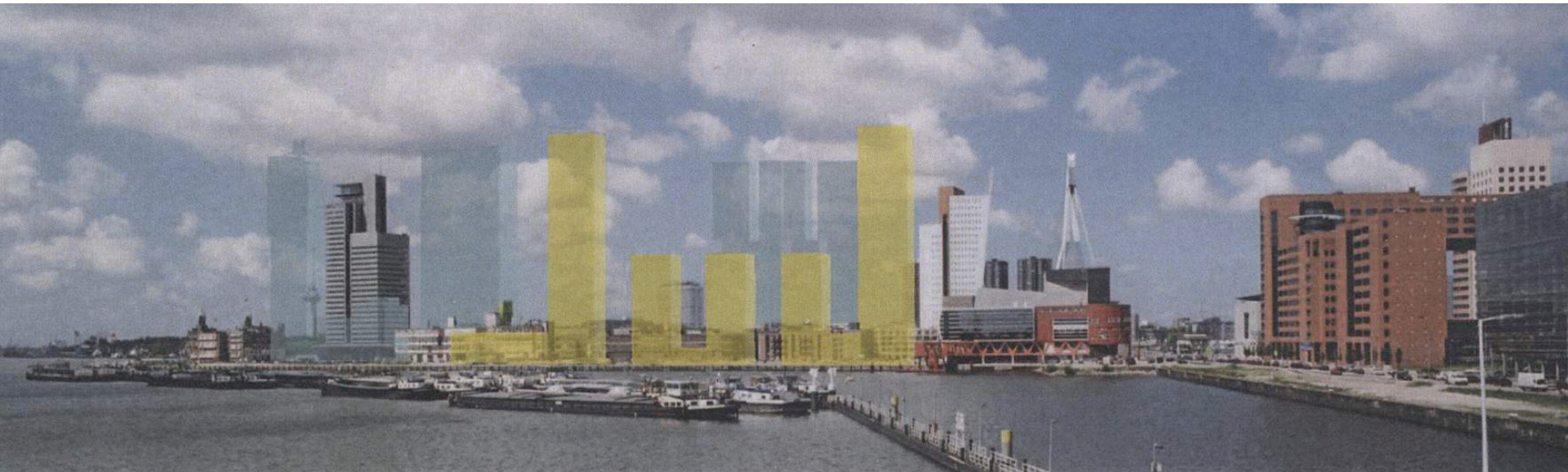
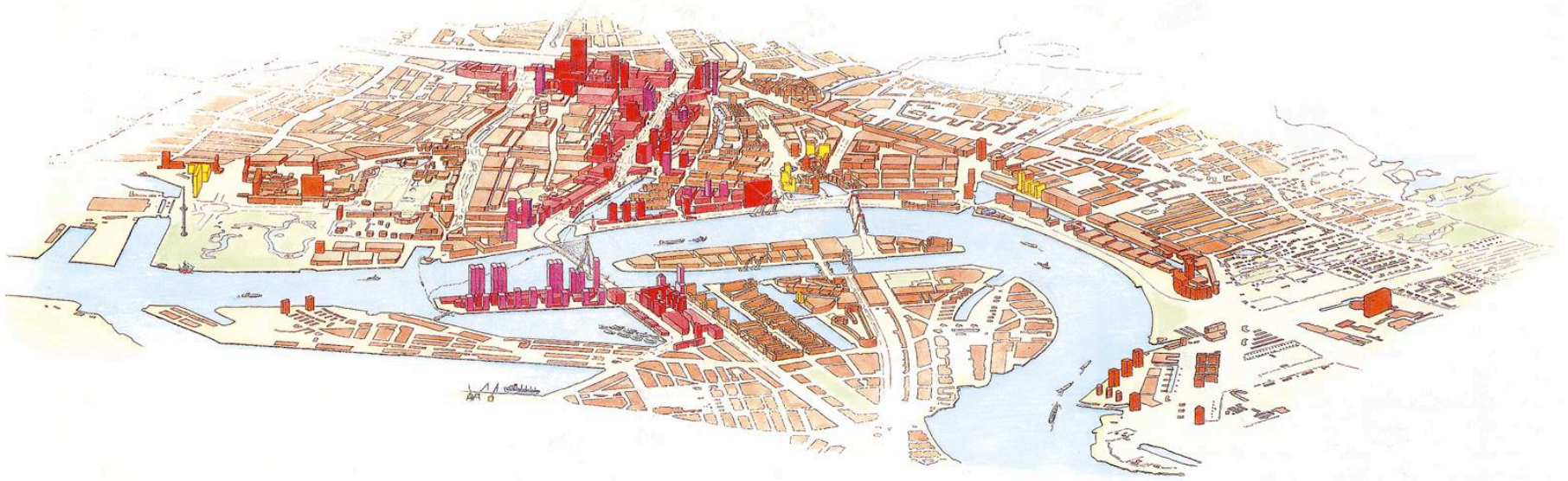


*principe doorsnede parkeergarage Montevideo naar New Orleans*



*ontwerp Wierdsmaplein*

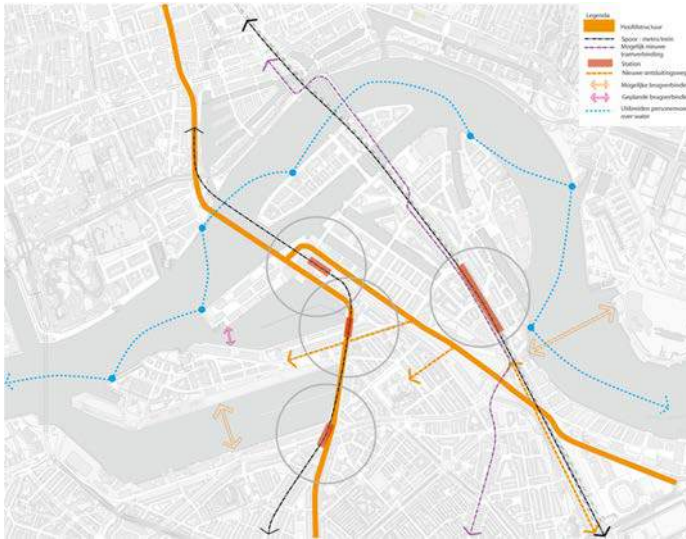
# New skyline

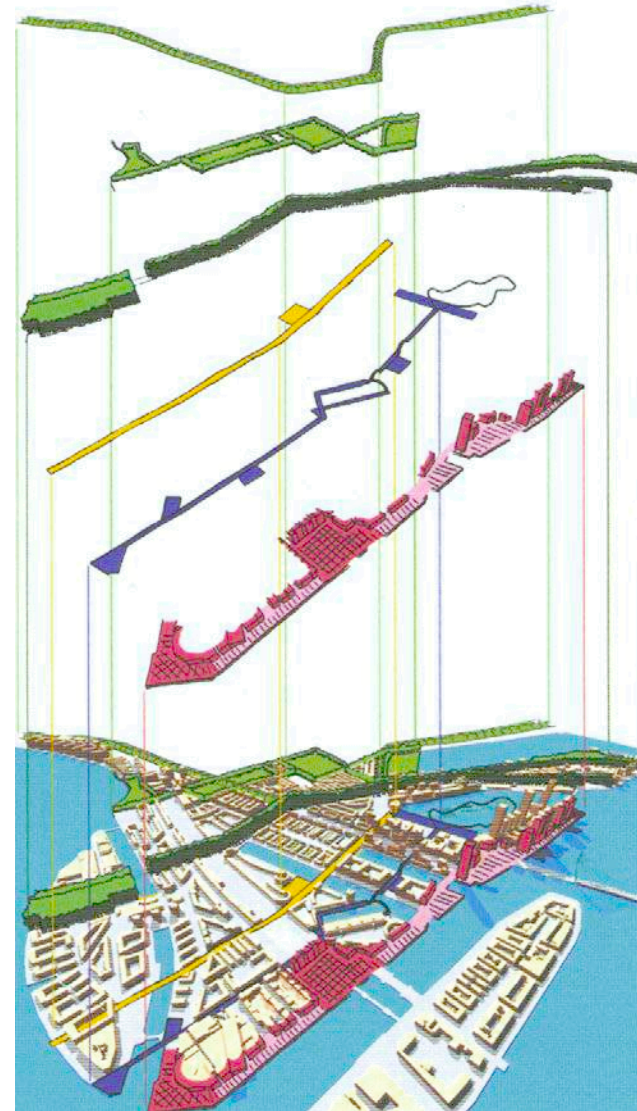
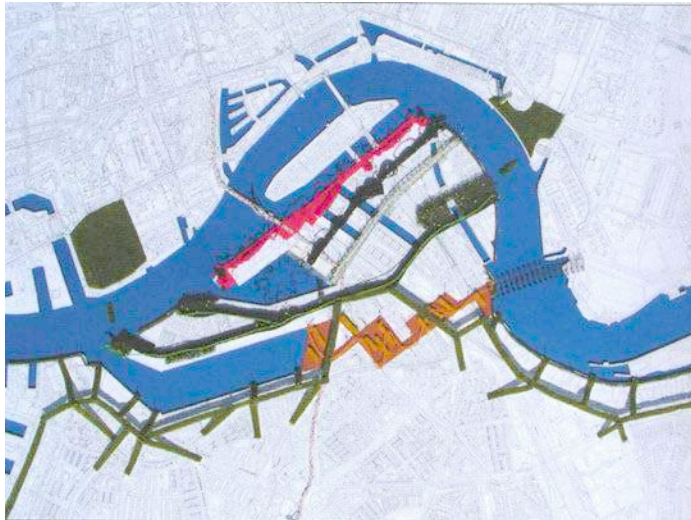
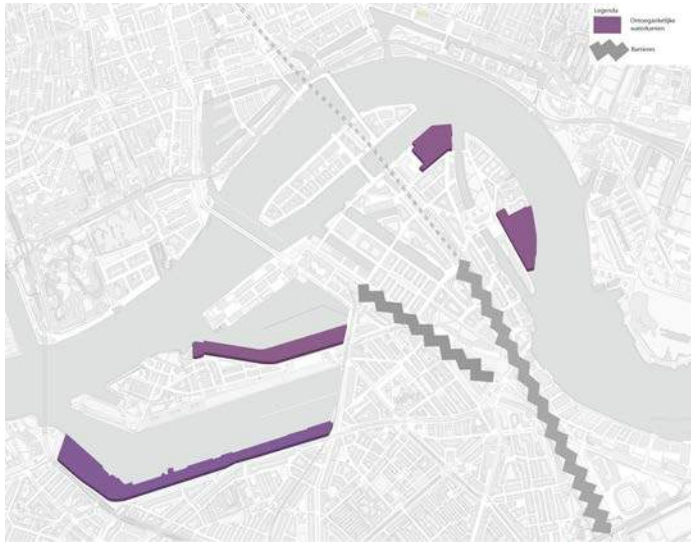


# Future plans

1. The North-South metroline  
Coloseumweg - Rosestraat - Willemsbrug
2. The East-West metro lines
3. Connecting Kop van Zuid to 19th c. residential districts  
Feyenoord - Katendrecht - Afrikaanderwijk - Hillesluis
4. High-rise in relation to area development  
less ad-hoc

# Parkstad

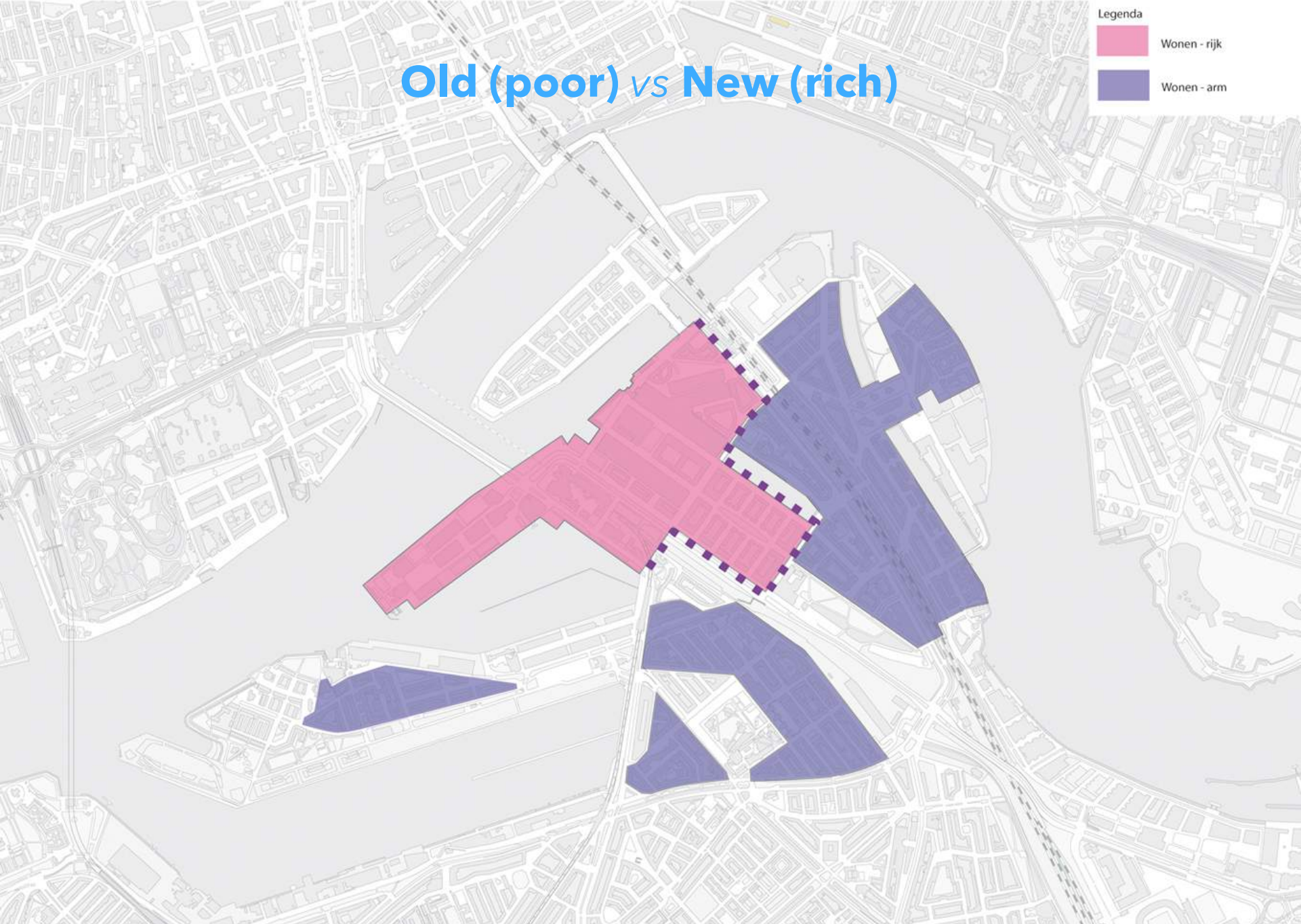




# Old (poor) vs New (rich)

Legenda

|              |
|--------------|
| Wonen - rijk |
| Wonen - arm  |



Large, hard contrast

# Kop van Feijenoord



**365 ground-oriented**

**898 appartements**

**+**

**1263 dwellings**

# Parkstad

350 ground-oriented

941 appartements

+

1291 dwellings

Northern emplacement

32 ground-oriented

212 appartements

"Brabantse" huisjes

79 ground-oriented

104 appartements

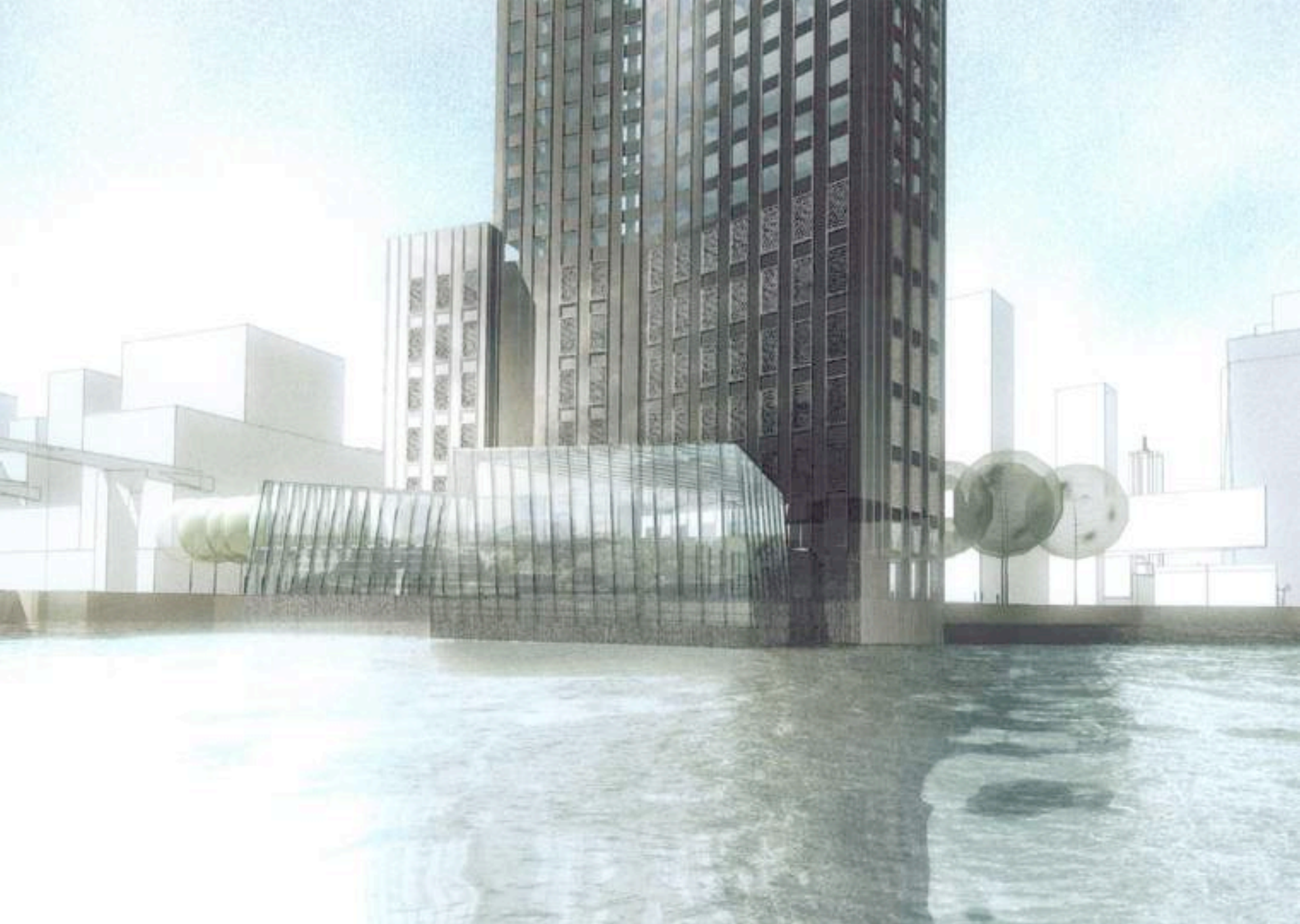
# High-rise

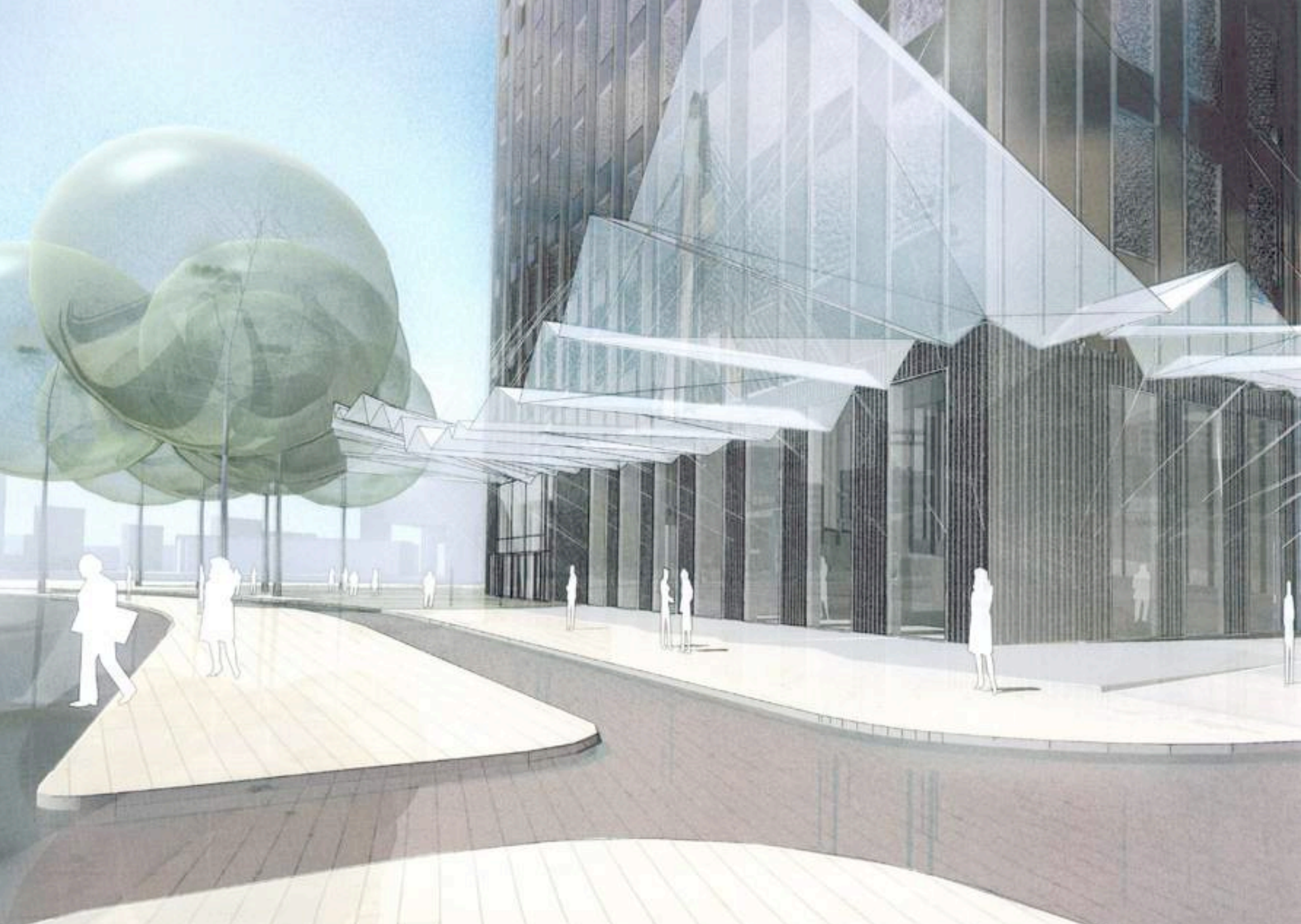


# Deception

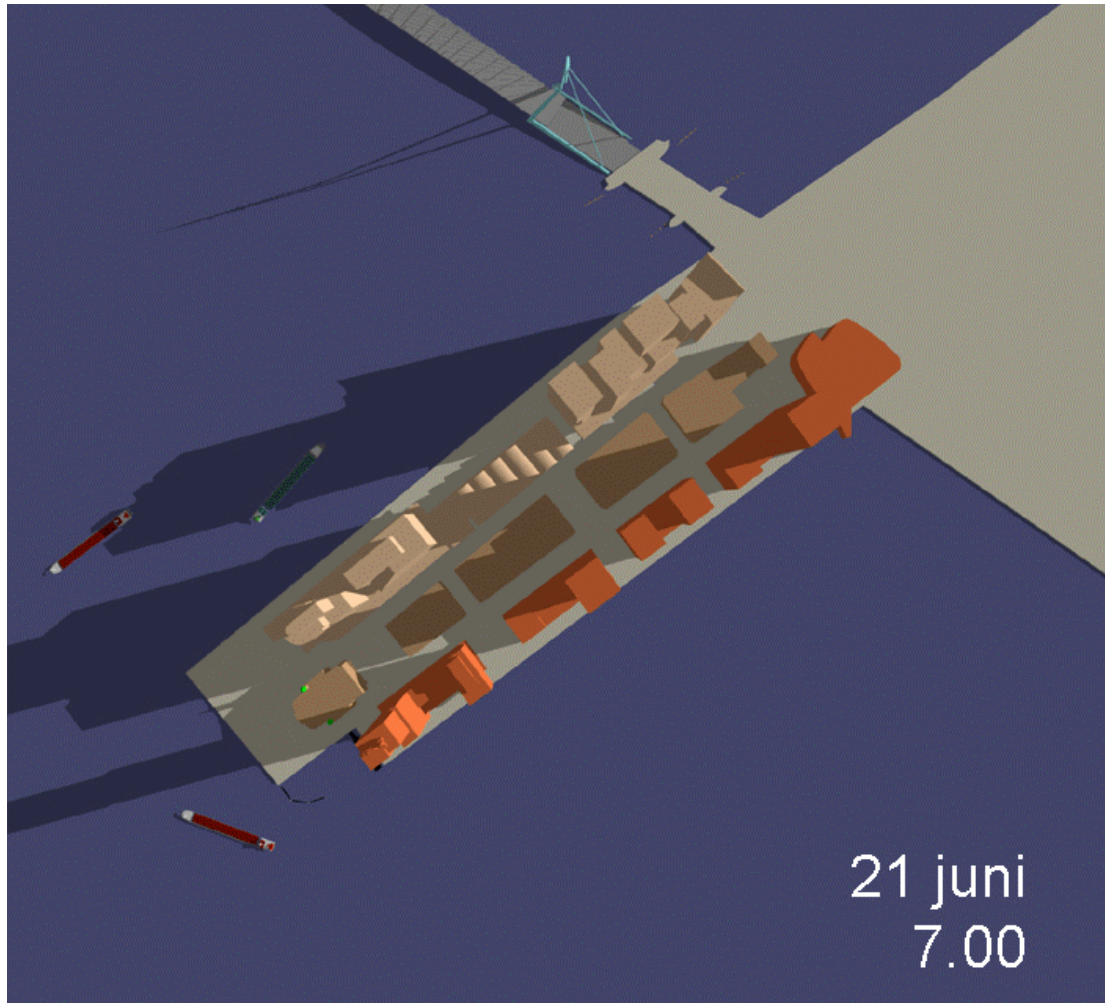








# Shadows



# High-rise policy 2000-2010



no limit



transition zone



max. 150 m



### 3. Five themes for high-rise policy

Peter Bosselman

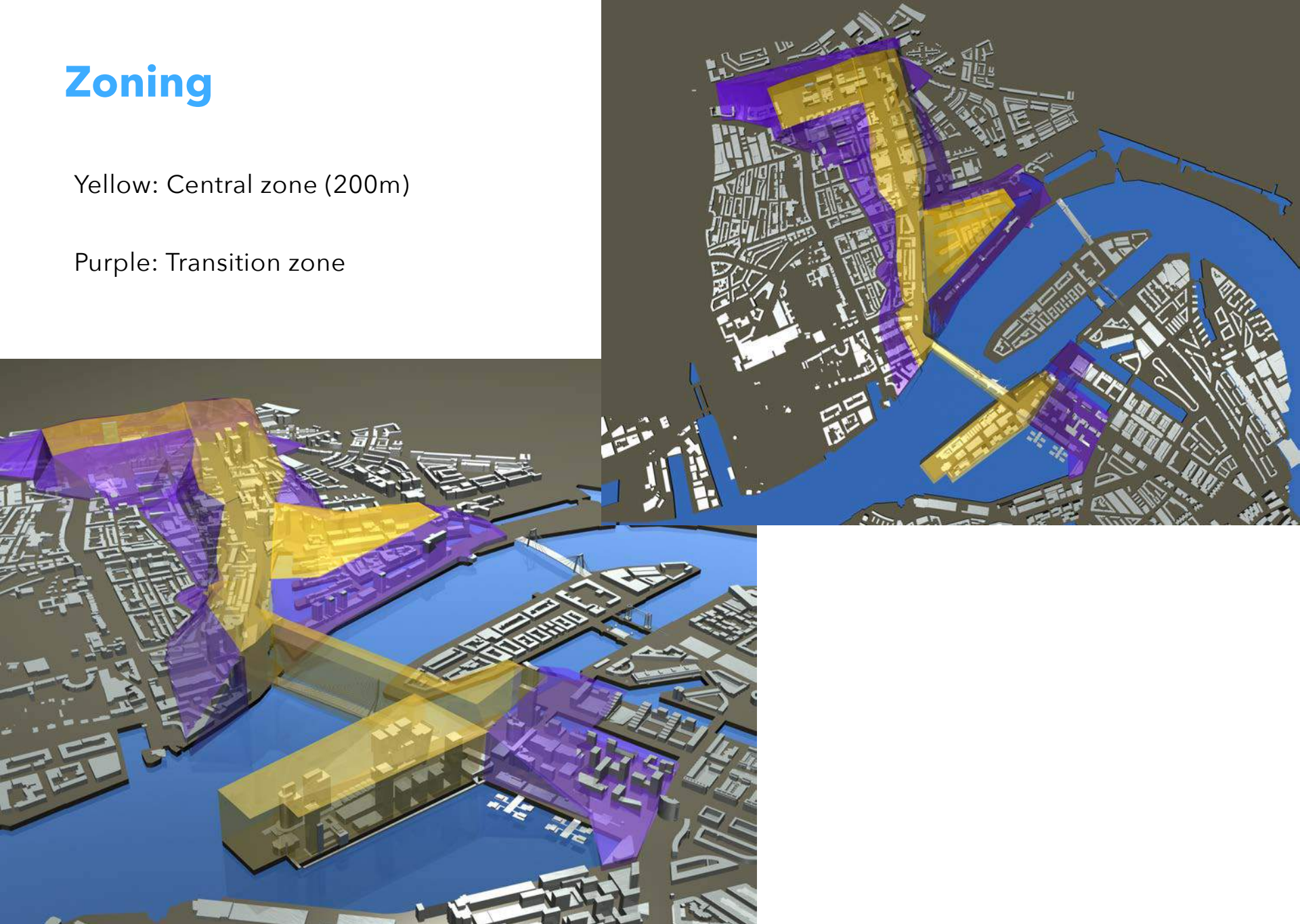
prof. Urban Design Berkely University California

- 1. Zoning and transformation**
- 2. Maximum GFA (Gross Floor Area) per plot**
- 3. Composition of build mass and plinth**
- 4. Program of plinth**
- 5. Comfort zone**

# Zoning

Yellow: Central zone (200m)

Purple: Transition zone



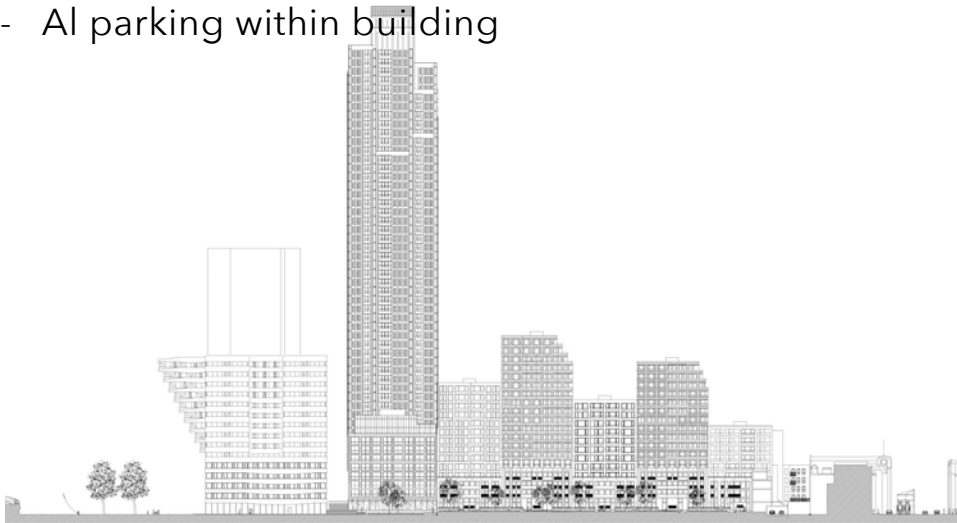
# Maximum GFA/plot

No more than 12-15x m2 area of plot

Example:

Zalmhaven (10x)

- Experience of tower  
wind, shadow, light
- Urban plinth
- All parking within building

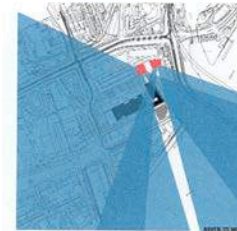


bestaand

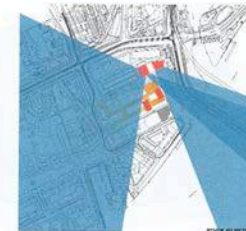


nieuw

20



hoge heren bestaand



hoge heren nieuw



nieuwe toren



# Program plinth

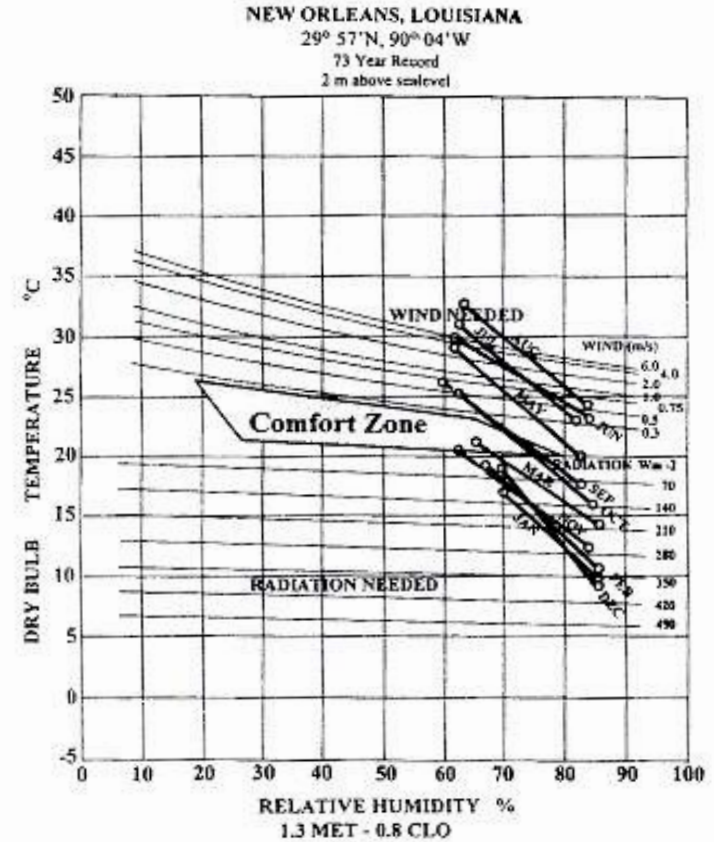
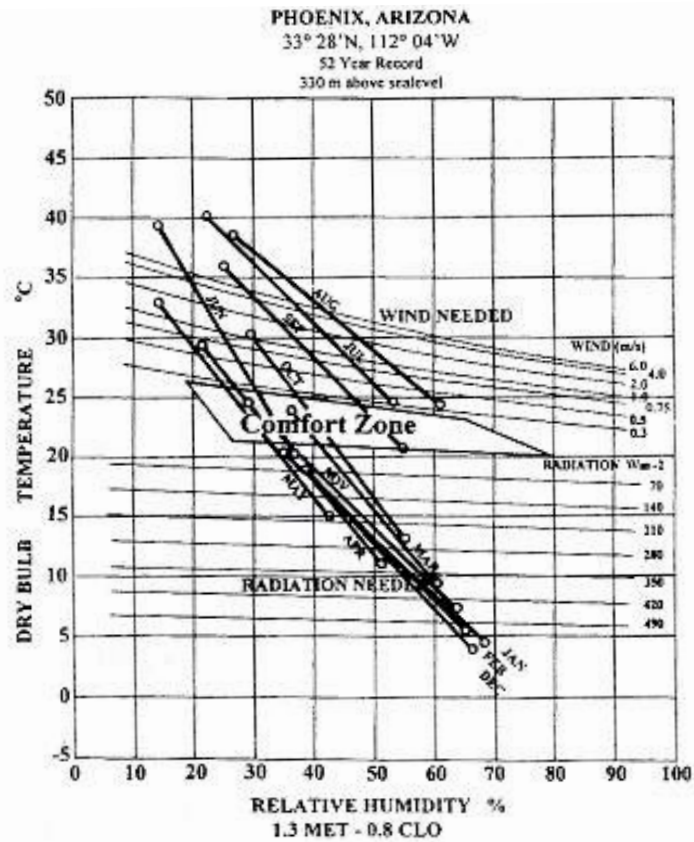
- The plinth needs an interesting program over multiple layers
- Above these layers parking is possible
- Urban plinth
- AI parking within building



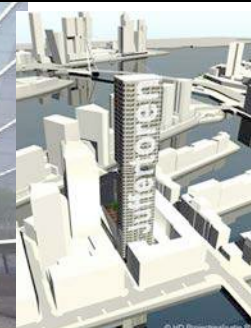
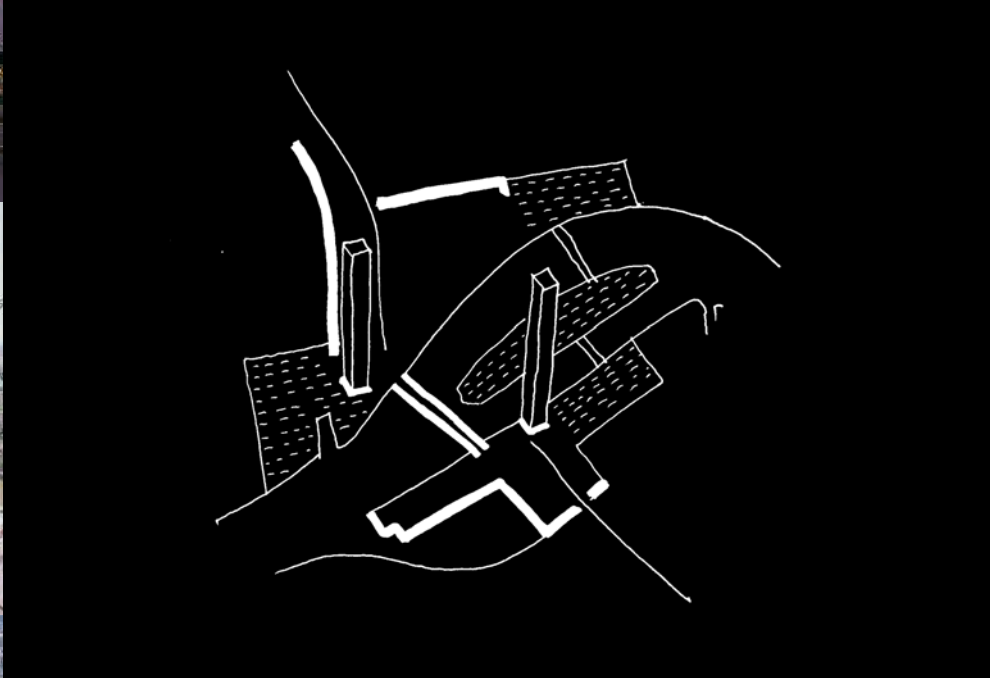
# Montevideo



# Comfort zone



# The new watercity is formed by high-rise



## 4. Reflection on subjects

### **Comparison**

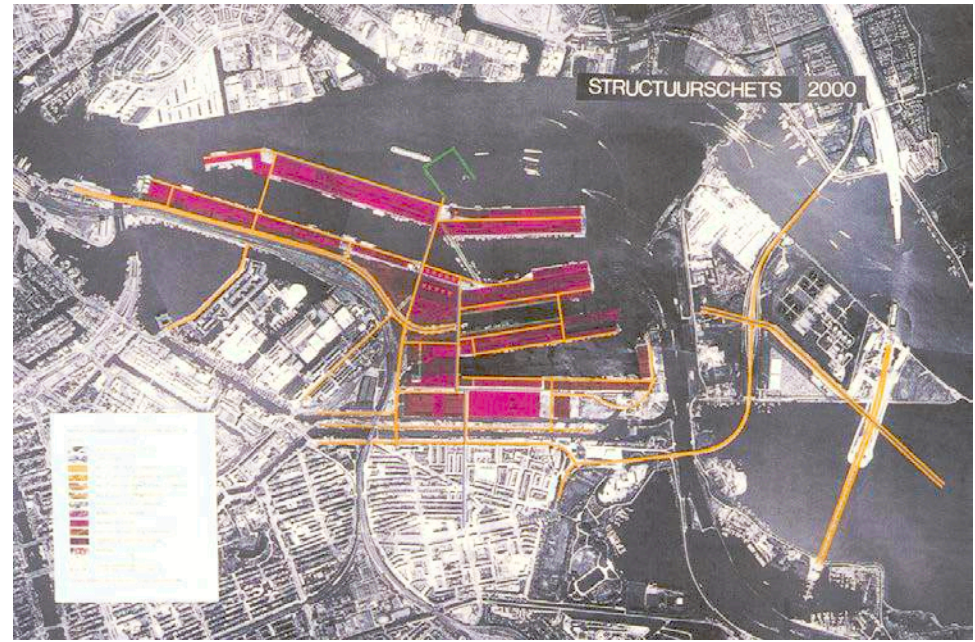
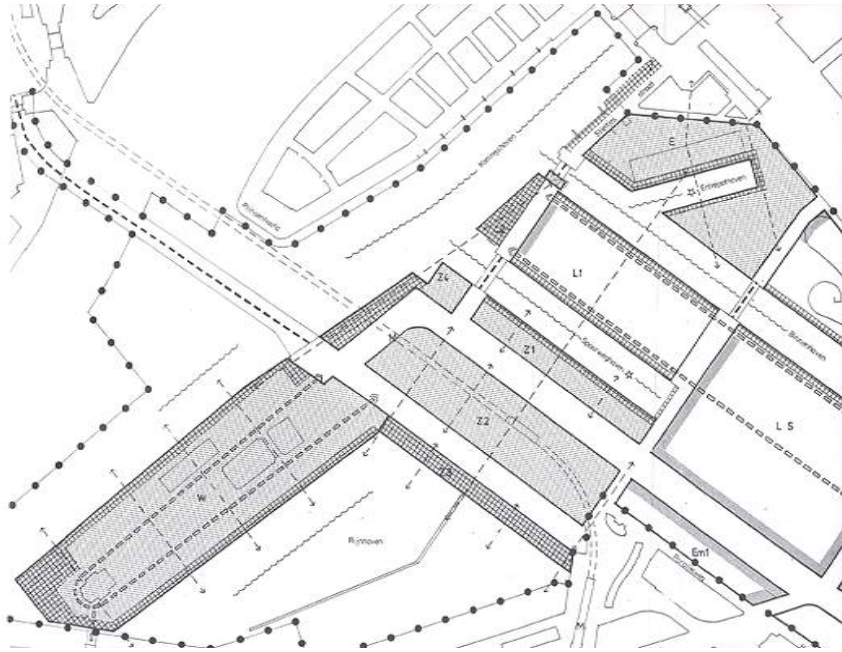
Kop van Zuid, Rotterdam

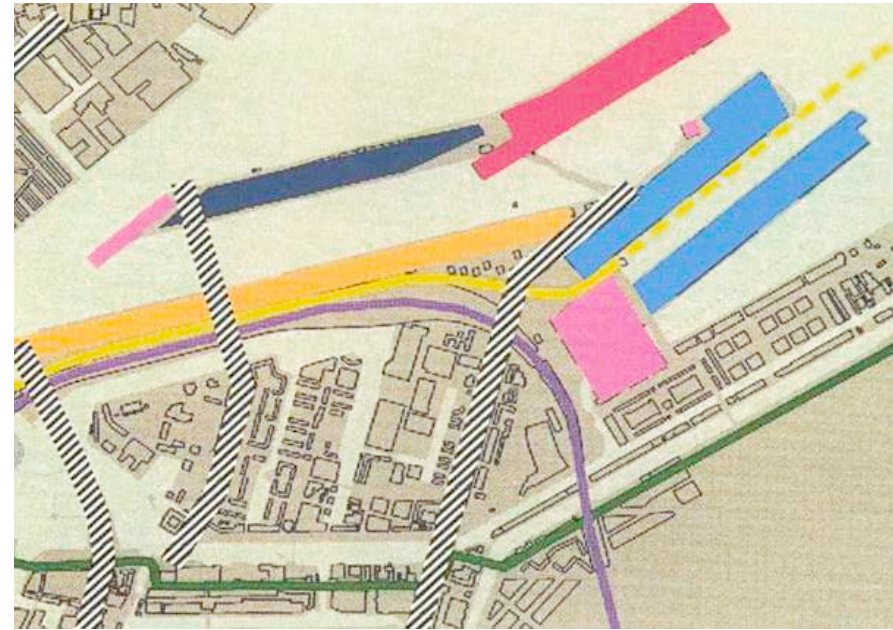
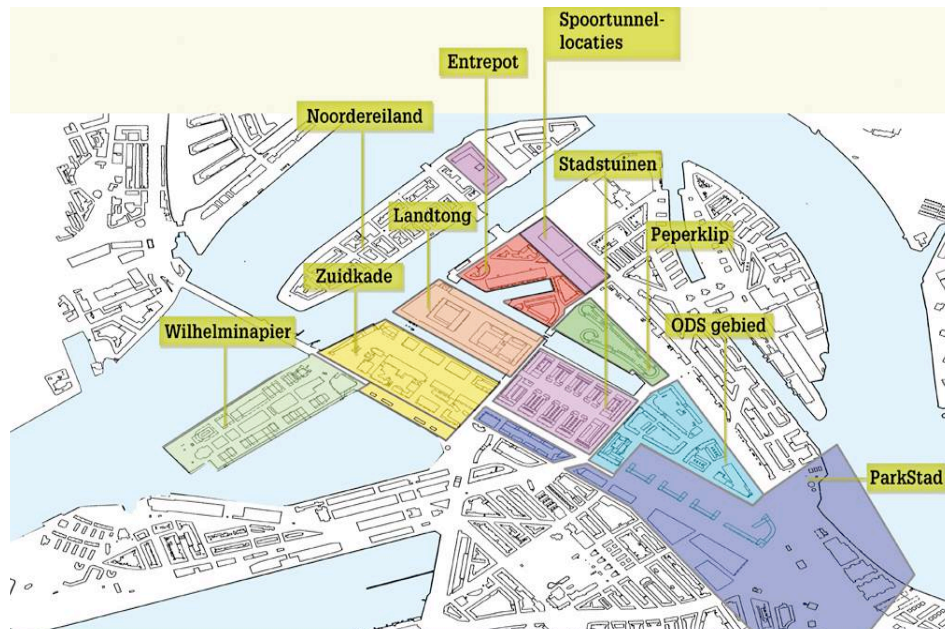
Oostelijk Havengebied, Amsterdam

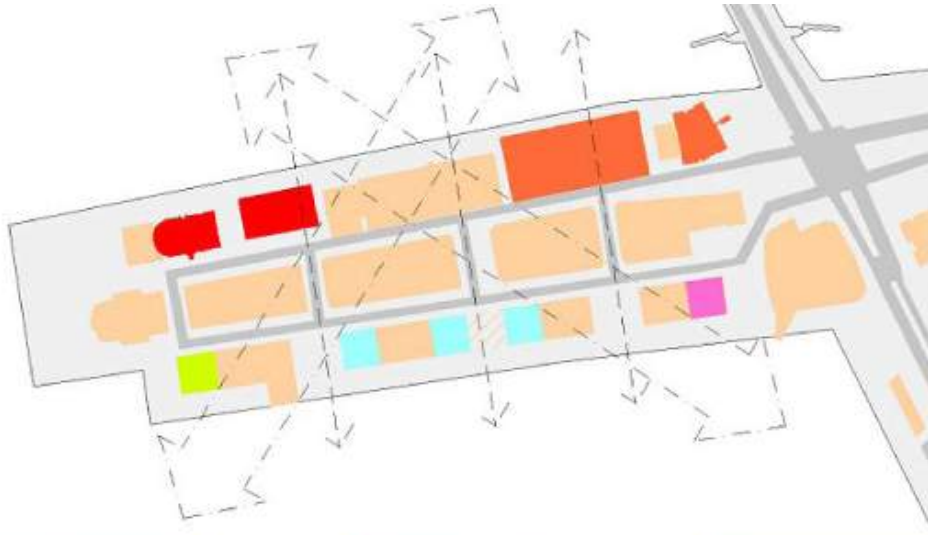
- 1. Planning**
- 2. Utilising harbor identity with urban development**
- 3. Strategic position, catalyst effect**
- 4. Urban density**

### **Planning**

- Masterplan - Section plans**
- Developing section plans**
- Relation urbanism - architecture**



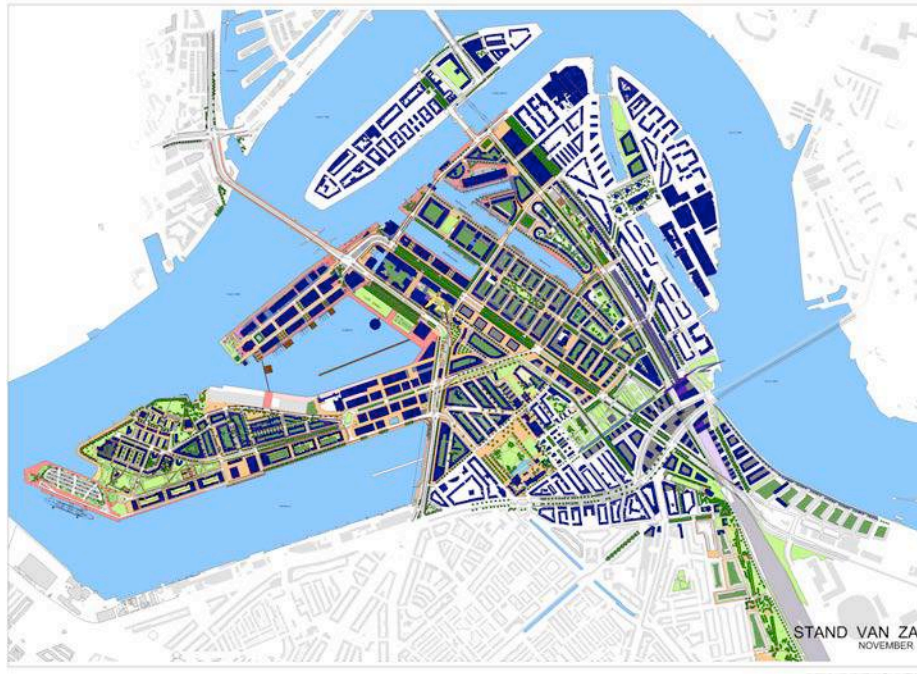












# Taking the past to the future

## Harbors

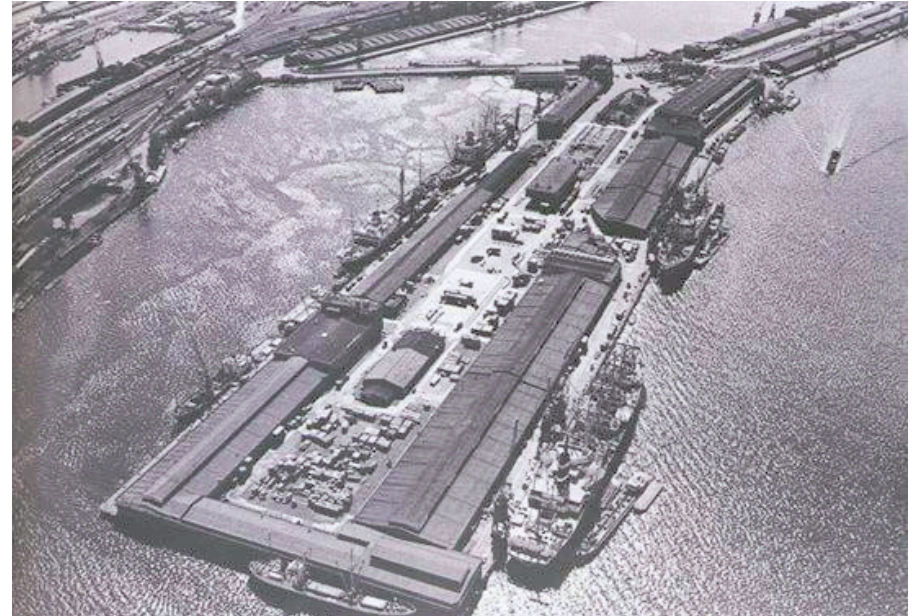
- Urban plan city (form)
- Detailing (like quays, kranes, etc.)
- Reuse of harbors (no "dead" waters)
- Keeping harborbuildings that form the iconics of the plan

## Kop van Zuid, Rotterdam

- Hotel New York
- Las Palmas
- Entrepot

## Oostelijk Havengebied, Amsterdam

- Abbattoir (formar life stock complex)
- Gemeentelijk handelsentrepot (formar municipal trade warehouse)
- Pakhuis Amsterdam (formar warehouse)



ROTTERDAM





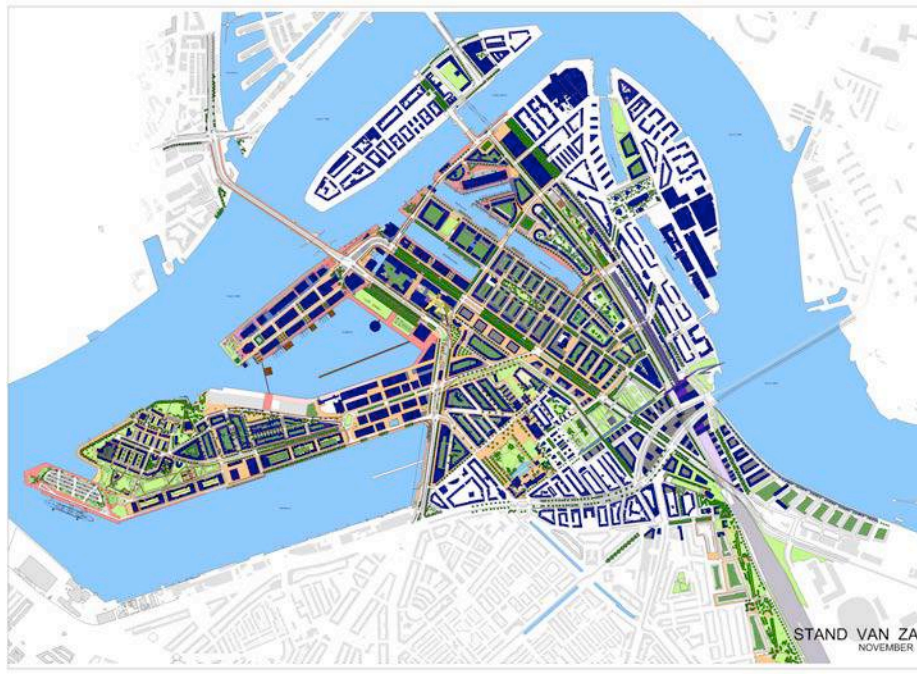
# Urban density

> 100 dwellings/hect.

FSI > 2.0

## **How possible?**

- Many stacked dwellings (>8 layers)
- Use of old quays and harbor basin
- Parking in (underground) garages
- High dense low-rise

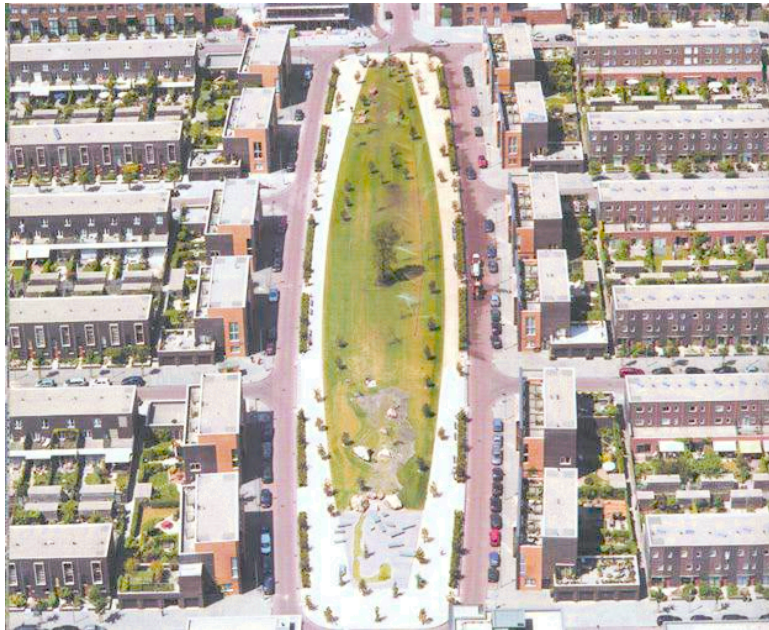




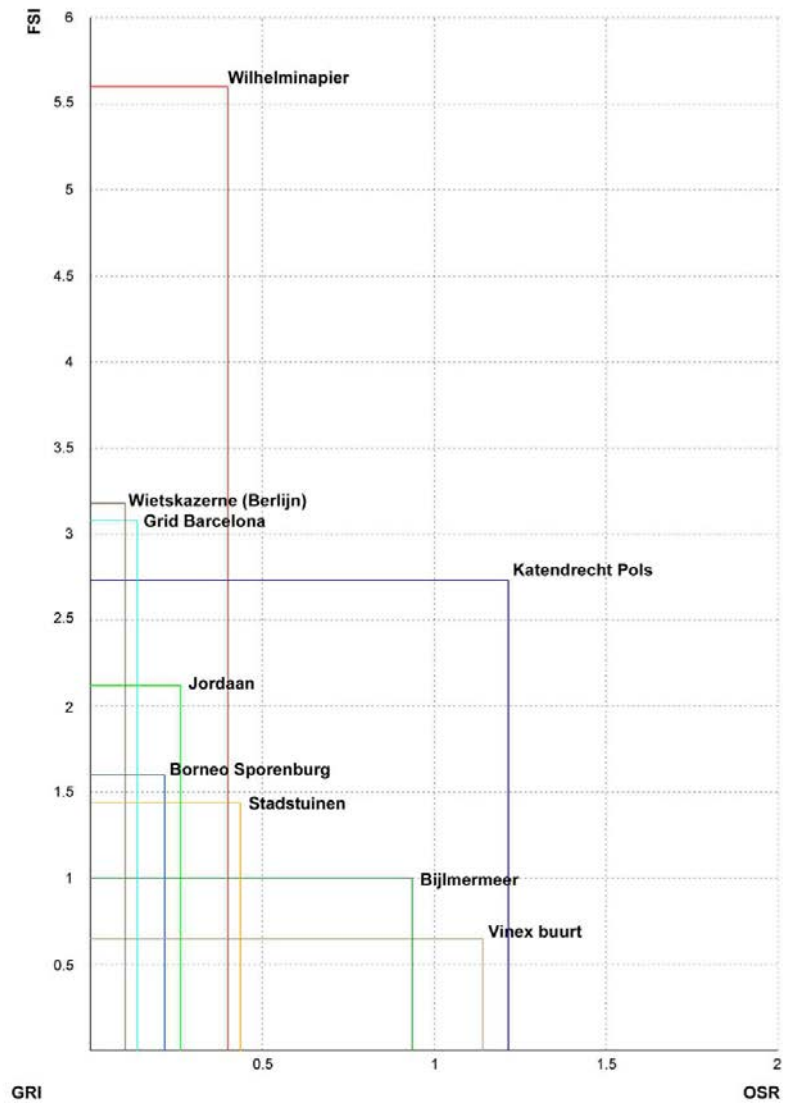
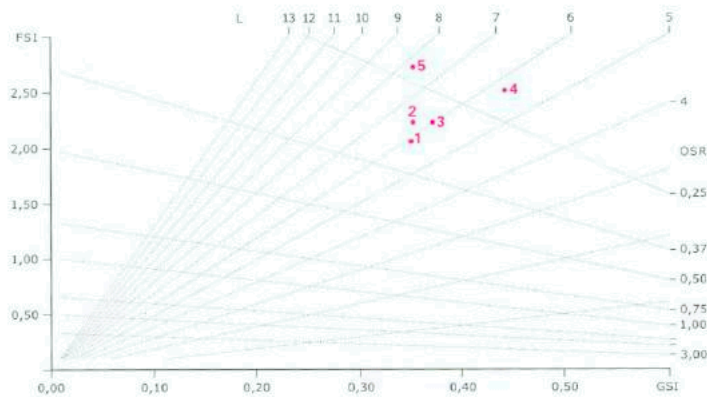
Montevideo



Java-eiland



| References         | plan area (m²) | gross floor area (m²) | built area (m²) | FSI  | GSI  | OSR  | L    |
|--------------------|----------------|-----------------------|-----------------|------|------|------|------|
| 1 KNSM             | 6.600          | 13.660                | 2.300           | 2,07 | 0,35 | 0,31 | 5,93 |
| 2 Java             | 61.195         | 135.660               | 21.545          | 2,22 | 0,35 | 0,29 | 6,30 |
| 3 Zuidas, Gershwin | 108.895        | 241.800               | 39.890          | 2,22 | 0,37 | 0,29 | 6,06 |
| 4 Landtong         | 44.705         | 112.820               | 19.615          | 2,52 | 0,44 | 0,22 | 5,75 |
| 5 Zuidkade         | 42.110         | 114.400               | 14.815          | 2,72 | 0,35 | 0,24 | 7,72 |



# Strategic position of developed area

## **Spatial**

Joining on city plan (long lines)

## **Functional**

Public transport (+stations)

Infrastructure for motorised transportation

## **Catalyst effect**

Rotterdam:

Kop van Zuid

Katendrecht

Feyenoord

Afrikaanderwijk

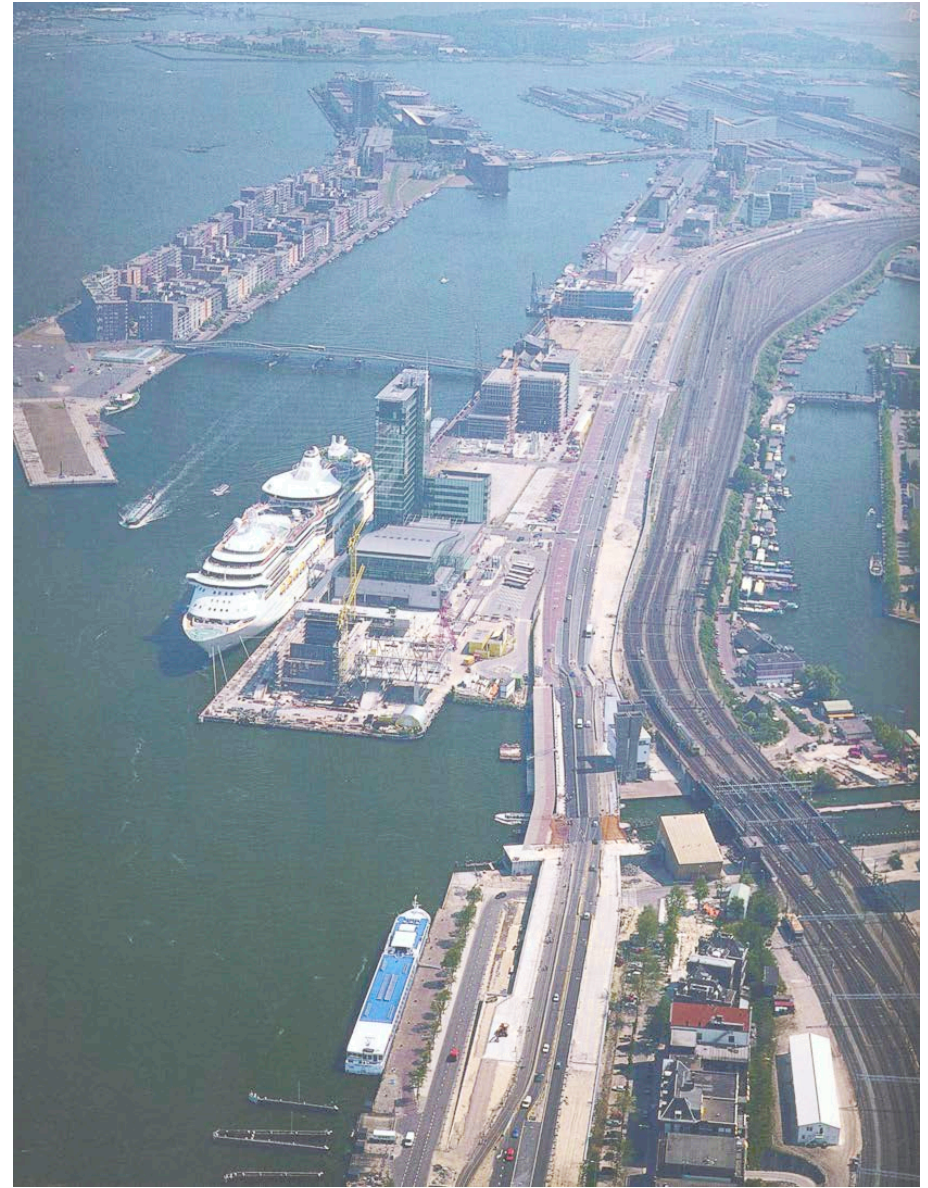
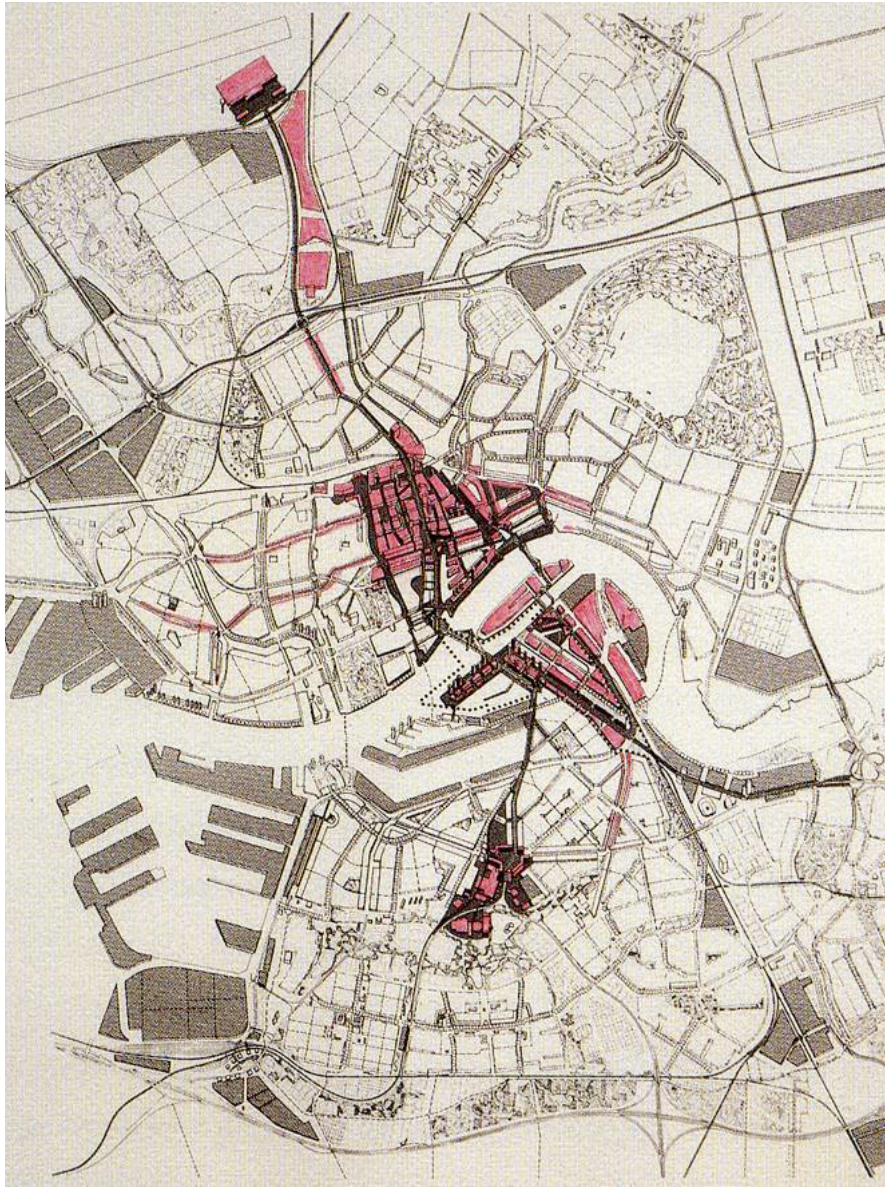
Parkstad

Amsterdam:

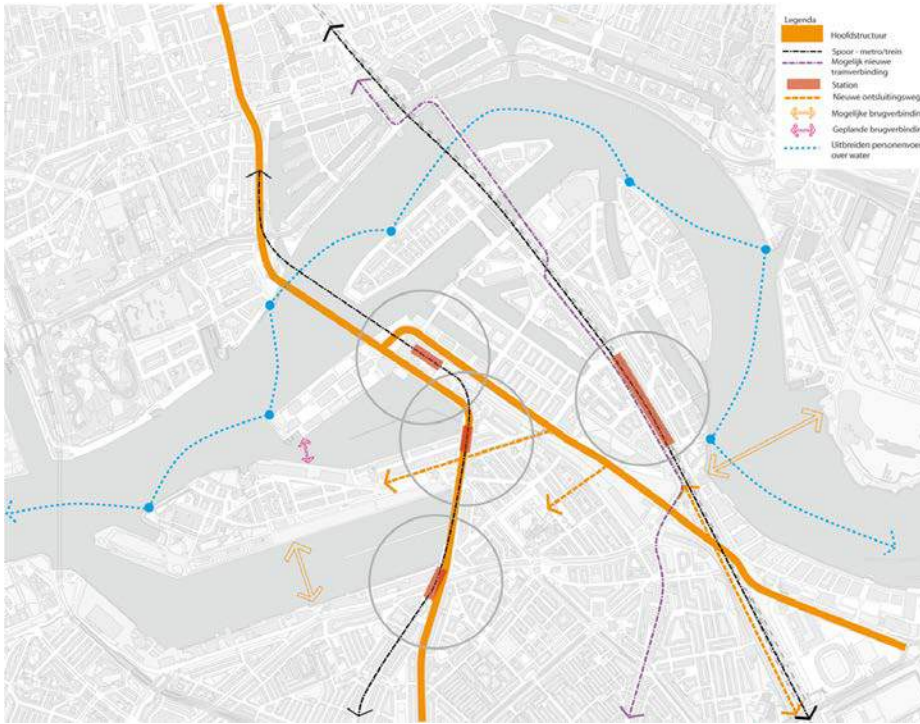
Oostelijk havengebied

Y-burg

Almere

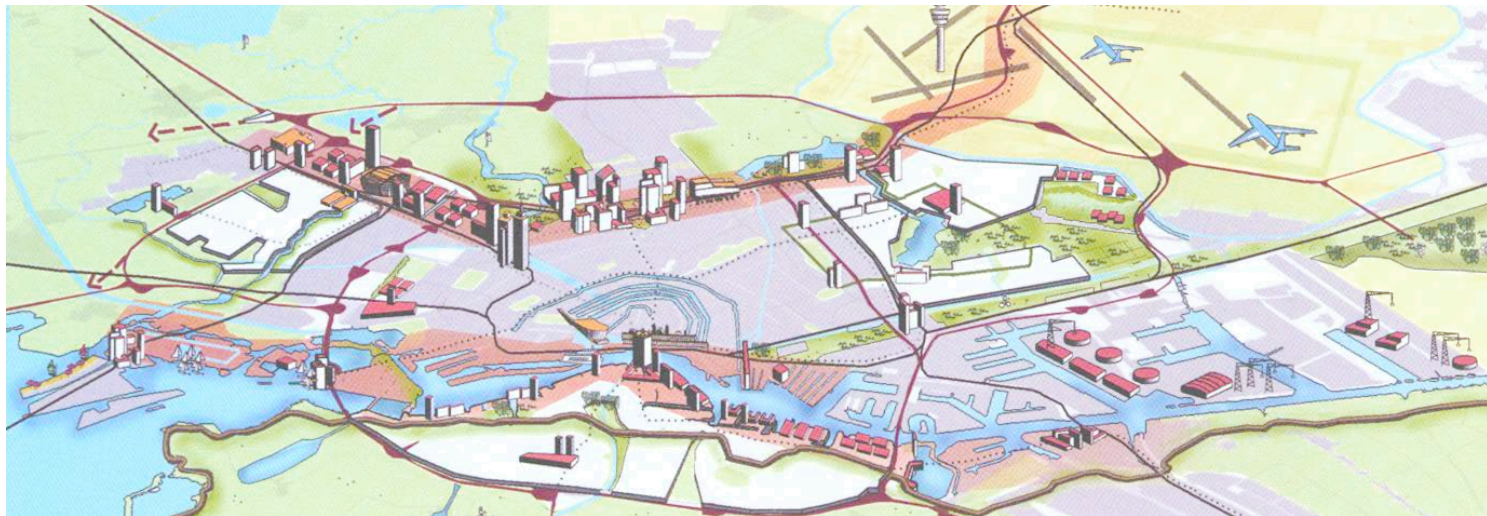
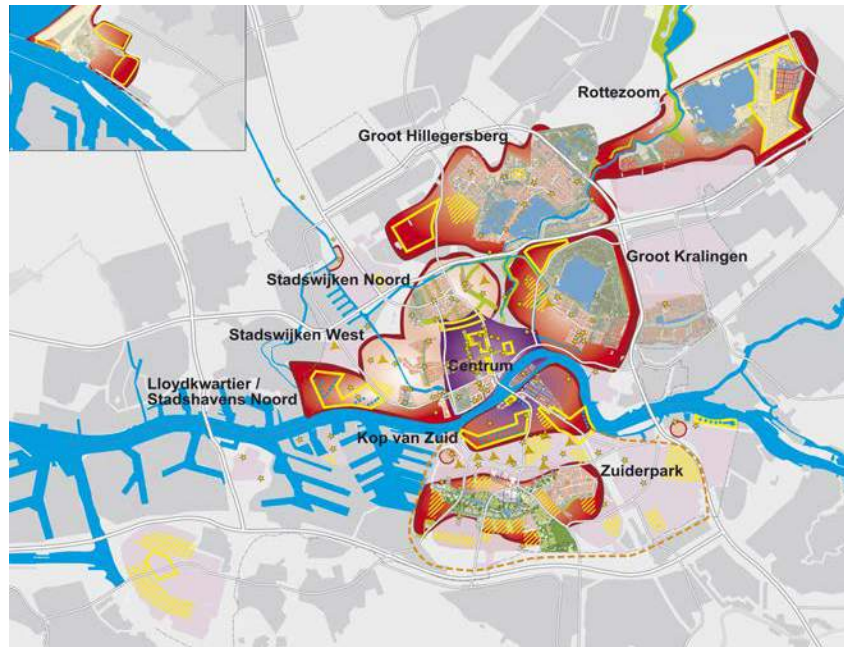




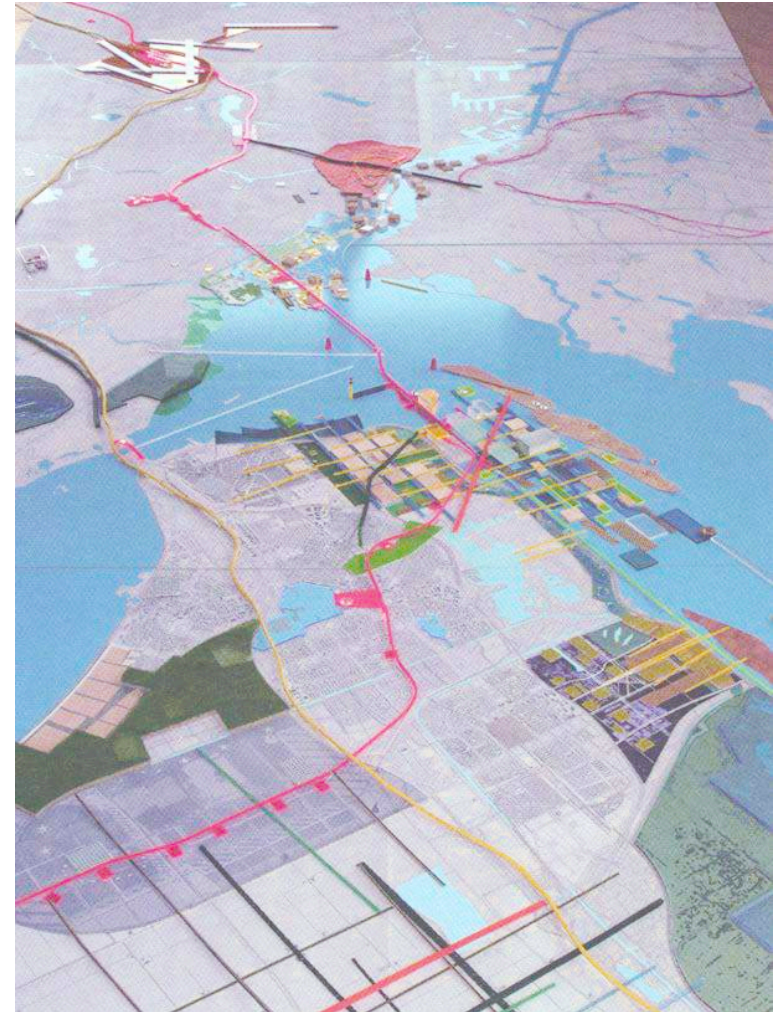
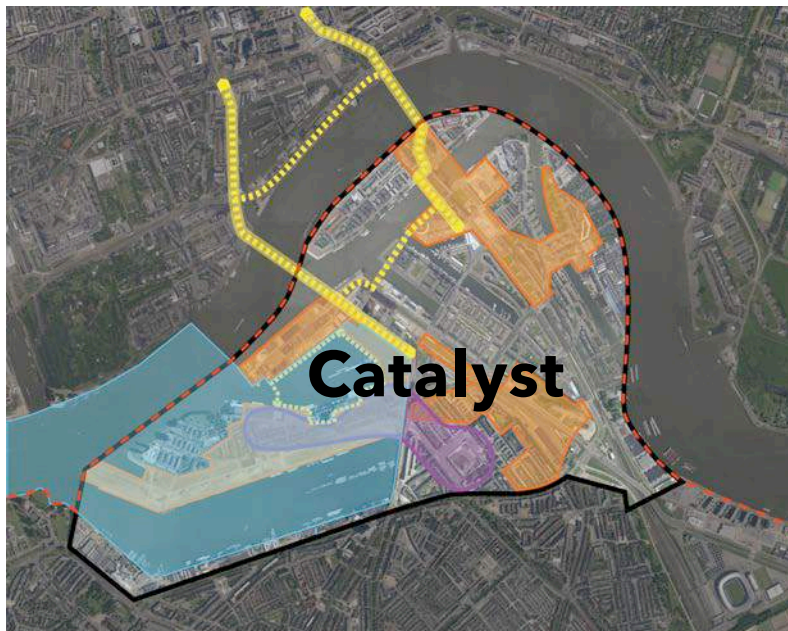


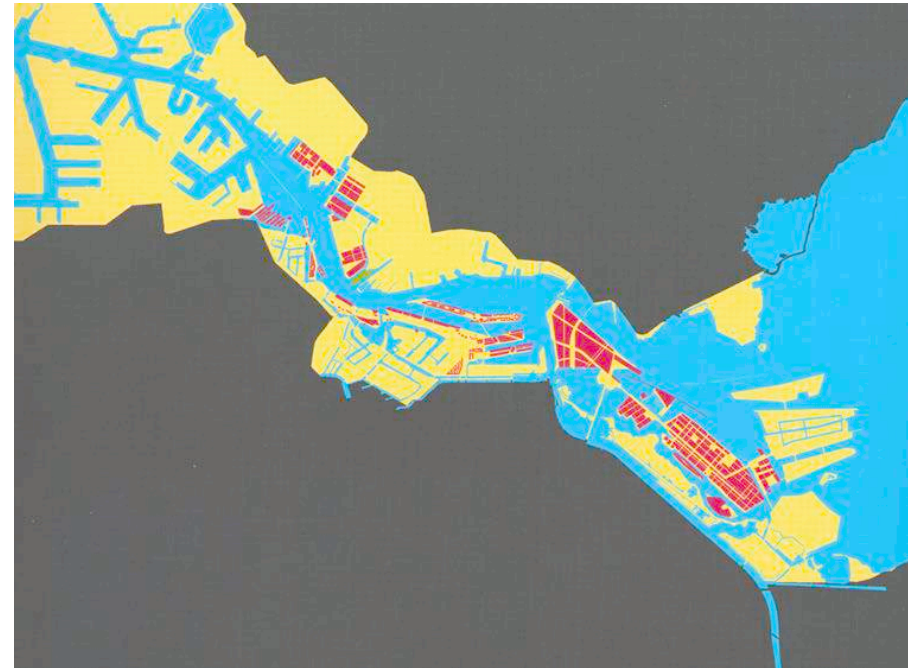
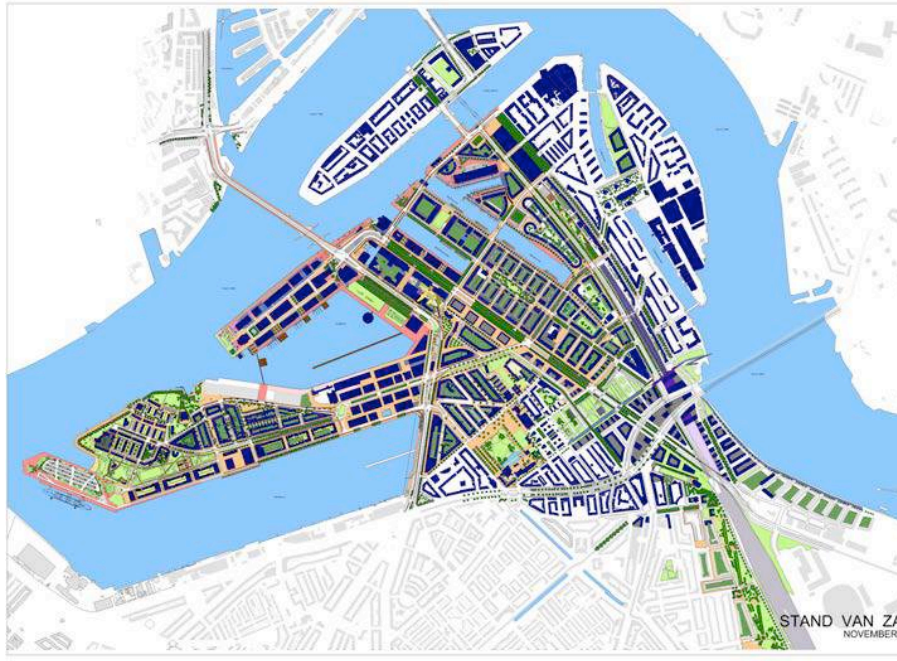






# Area transcending programs







# Creative commons

## **You are free:**

- to copy, distribute, display, and perform the work
- to make derivative works

## **Under the following conditions:**

- Attribution. You must give the original author credit
- Non-Commercial. You may not use this work for commercial purposes
- Share Alike. If you alter, transform, or build upon this work, you may distribute the resulting work only under a licence identical to this one