The Industry & The City ... Chapter II:
Countering Segregation of Amsterdam’s Industrial Cityscape.
Timeline of forces that shape Amsterdam

City of Amsterdam as an object of research for new architectural knowledge.

Source: collective work DSD Amsterdam studio
Urban models of Amsterdam positions how contemporary (post-industrial) city operates in comparison to industrial and pre-industrial periods.
Urban strategy for Amsterdam North generates framework for an alternative Public-Private partnership development model.

Public-Private partnership models

- "North" model
- Joint development
- Concession model
- Integral model
- Construction claims

VINEX 1990

Proposed financial strategies

- "North" company model
- "North" buys social housing
- Investments in regeneration developments
- Profits from renting new developments
- "North" benefits from rising value

Program:
- Housing
- Commercial
- Offices

Within residential
- In low density
- In high street

100 %

0 %

100 %

~70 %

~ 50 %

50-70 %

90-70 %

0 %

"North" model

<table>
<thead>
<tr>
<th>Category</th>
<th>Public sector</th>
<th>Private sector</th>
</tr>
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<tbody>
<tr>
<td>Joint development</td>
<td>100 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Concession model</td>
<td>100 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Integral model</td>
<td>0 %</td>
<td>100 %</td>
</tr>
<tr>
<td>Construction claims</td>
<td>- 50 %</td>
<td>- 50 %</td>
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Source: Amsterdam North strategy group of DSD Amsterdam 2010/2011

Urban strategy

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The area is part of the extension of Amsterdam of 1921 and it has had an industrial character since its inception.
Pollution conditions decades long separation between factory and living urban categories. Amsterdam North as a consequence is developed according to the “Garden City” model.

Contemporary industrial activities are non-polluting, however they are still segregated from the public sphere of the city.

Source: TU Delft Map room
Existing urban space of Builtsloterham occupied by flexible accumulation industries.

Source: Collective research of DSD Amsterdam 2010
Research Question:

Which forces determine vectors of reagglomeration of the industrial site and which counter-forces must contest the powers staged and represented in the area?
Car firms (e.g. “Toyota”)

Wedding dresses

Party planners (e.g. “Strategic Events”; “Events kalender”)

Fine mechanics (e.g. “Deltour B.V.”)

Food industry (e.g. “Koopman International”, “Pizzaphone”)

Auto mechanics (e.g. “Autobedrijf Jotham Gast B.V.”)

Catering (e.g. “B&E Groep Party Catering”)

Metal mechanics (e.g. “Vittali V.O.F”)

Sanitar furniture industry (e.g. “R.W.S. Import Verkoop Sanitairs B.V”)

Light technologies (e.g. “Systec Designs”)

Electronic technologies (e.g. “Knibbe”)

Furniture firms (e.g. “Kok Meubelen”)

“Schell”

Creative industry (e.g. “MTV Benelux”, graphic designers, architects),

Accountancy firms

Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

1. Existing economic reading of reagglomeration of industry: inner fragmentation and fractalization.
Introduction

Research Question

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Building Level

Existing economic reading of reagglomeration of industry: example of the fragmentation of service firms where each building diametrically is an island.

Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

1. Existing economic reading of reagglomeration of industry: example of the fragmentation of service firms where each building diametrically is an island.
Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

2. Existing spatial reading of reagglomeration of industry: segregation from the city forming enclaves.
Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

Presence of the area in the public sphere of the city.
Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

2. Existing spatial reading of reagglomeration of industry: Case studies of industrial territories reviles similar spatial organization mechanisms as in Builslotherham-segregation from the public sphere of city.
The old centres with their high levels of worker unionization and their relatively politicized working-class population—leading to stubborn rigidities in both the workplace and the local labor market—constituted hostile milieux in several respects for the new flexible ensembles. As a consequence, many, but by no means all of the producers in the new ensembles began to seek out alternative kinds of locational environments uncontaminated by previous historical experience of large-scale manufacturing activity and Fordist employment relations. In such environments new and experimental kinds of socio-technical structures of production can be established with minimum local obstructions.

A.J. Scott, 1988

Research Question: Which forces determine vectors of reagglomeration and which counter-forces must contest the powers staged and represented in the area?

3. Existing relationships between polit-econ. and urban space of reagglomeration of industry: Low density and fragmentation works as means how contemporary economical system can produce and reproduce itself.

“Junkspace seems an aberration, but it is essence, the main thing... product of the encounter between escalator and air conditioning, conceived in an incubator of sheetrock (all three missing from the history books).”
Rem Koolhaas, 2004

“The “Metropolis” as a “concentration” is thus nothing else than the interference of specific interests within the system as a whole; a greater concentration= higher land revenues. To this partial logic programmed Capital replies: greater extension= reinforced control. Total extension= Control of Reality.”
Archizoom, 1970

“Rem Koolhaas’ “Generic City” is in fact a Junkspace, a subversion of the rules of the game by way of a subversion of the rules of the game.”
Rem Koolhaas, 2004

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Conclusions: The Force that generates the area is “The Flexible Accumulation” and space is instrumental to implement socio-tech. relationships of production - individualization and depolitalization of workers.


Proposed Counter Strategy:

The architectural project works as a counter strategy to the existing geopolitics of industrial territories and aims to contest depolitization of space.

The main organizational aim of the project is to integrate industrial spaces in local and city level public sphere. While industry and city has been kept apart by hundred years of planning (e.g. Garden City model) contemporary industrial buildings could and should form ingredient of the city. The architectural project will use housing function and rethinking of spatial organization of industrial activities as two main parameters of intervention.
Section of intervention

North-South metro line

Existing urban context of selected section for the design project.
Existing fragmented urban configuration.

Size: 430 x 180 m (between border roads)
People: ~ 200
Density: 1 770 pers/ sqkm
Time to walk till nearest ferry: 25 min
Non industrial functions: 0
Tools Applied to Integrate Industrial Spaces in Local and City Level Public Sphere:

1. Densification in relation to public transport and public enemies.
2. Densification of urban configuration.
3. Diversification of functions.
4. Integration in city and local level flows.
5. Integration of spatial usage by different income and social groups.
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Tool 1: Densification in relation to public transportation and public enemies.

D=0 1,770 pers/sqkm

D=1 3,540 pers/sqkm

D=1 8,855 pers/sqkm

D=1 17,710 pers/sqkm
Tool 2: Densification of urban configuration.

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Now
Density: 1770 /sqkm

Proposed
Density: 16000 /sqkm

Tool 2
Infrastructure in relation to public sphere

**Tool 3:** Diversification of functions.
**Tool 4:** Integration in city and local level flows.
**Tool 5:** Integration of spatial usage by different income and social groups.
Tests of spatial configurations for proposed density (100 m long strips).
Design Parameters:

1. Typologies of contemporary industrial architecture.
2. Densification options of different industrial typologies.
3. Reorganization of industrial urban block.
4. Configuration of housing and light.
5. Organization of public-open space.
Parameter 1: Typologies of contemporary industrial architecture.

- Explosive industry (small scale) 100 x 100 m
- Explosive industry (big scale) 100 x 100 m
- Unexplosive industry 100 x 100 m
- Industrial garages 100 x 100 m
- Industrial warehouses 100 x 100 m
- Producer service's offices 100 x 100 m

Parameter 1: Typologies of contemporary industrial architecture.

50%

h = 5 m

h = 13 m

h = 6 - 13 m

h = 4 m

h = 6 - 10 m

h = 2 x 3 m

h = 5 m

- Freezed

Urban Framework
Architectural Configuration
Building Level
Unexplosive small /medium (15 x 15, 35 x 35 m)

Large units (e.g. warehouses ~ 50 x 50 m, 100 x 25 m)

Explosive small /medium (15 x 15, 35 x 35 m)

Industrial garages (25 x 10 m)

Now (every building is expensive)

Proposed

Housing

As the structures are light can be easily stucked up and share elevator or/ and can be combined with housing

To use as determinator of coherent hight as stucking up would be too expensive

Interagted in low density parts of urban fabric

Combined with housing function

Urban block model and density

Free standing block model and 1770 pers/sqm density (now)

Inner yard block model and 16 000 pers/sqm density (proposed)

Yard + Parking

Attractive street

Gate

Gate

Parameter 2: Densification options of different industrial typologies.

Parameter 3: Reorganization of industrial urban block.

Block model
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**Parameter 4: Configuration of housing and light.**

**Parameter 5: Organization of public - open space.**

**Housing and light**

**Public open space**

- **Small balconies:**
  - North-West
  - South direct light

- **Large industrial level:**
  - North-West
  - Small balconies

- **Proposed:**
  - North-West
  - South direct light conditions for both industry and living

- **Parameters 4 and 5**
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**One level public open space model**

- **Control environment**
  - Lifted up public level as logistics of industries does not allow enough space on ground

**3 dimensional public - open space model (proposed)**

- **Control environment**
  - Lifted up public level as logistics of industries does not allow enough space on ground
  - Lifted up public level as logistics of industries does not allow enough space on ground

**Control environment**

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Exemplary section of rules

Existing unexplosive can self-densify integrating development in new system

Housing expansion does not follow generic logic of light but has to be spatially integrated

Street pulls up and in integrated in existing urban networks

16 m (max of large industries)

Light

Streets

Integration of existing

Size

Green buffer

3 dimensional open space

Direct South for living; Indirect for industry

Living

North

Housing expansion does not follow generic logic of light but has to be spatially integrated

Buffer zone as 3 dimensional garden

Uncontrolled public

Separated

Uncontrolled public

Industrial garages creates living also under uncontrolled public level

Stucked up medium size industries

12.5 m 12.5 m 12.5 m

Parameters 1 to 5

Exemplary section of parameters 1 to 5.
Architectural Configuration
Facade from the existing urban fabric.
Two typical families of application principles.
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Patterns of typical levels.

Ground level - urban block scale (150x75 m)

Circulation level - amphitheat of urban rooms (20 x 12.5 m)

1st living level - accessway (1.2 x 140 m)

2nd living level - entrance (1.2 x 2 m)
Integration of the existing fabric.

New infills respect light sources of existing buildings.
Mansard collective housing plan.
Narrow collective housing plan.
Axonometry of the blocks.
Axonometry of a fragment.
Types of apartments:

- **Type 1:** Singles with shared terrace (21 sqm)
- **Type 2:** Singles with shared terrace (23.5 sqm)
- **Type 3:** Small family (57 sqm)
- **Type 3:** Medium family (65 sqm)
- **Type 4:** Small family with kabinet (83 sqm)
- **Type 5:** Medium family with kabinet (88 sqm)
Edge of the explosive industries.
Small/medium scale industry.

Architectural Configuration

Building Level
Large industry and offices.
Yard and hanging garden.
Car free street.
Spatiality of industry and living.
Structural infrastructure.
Components

Unit 1: 3 bedroom apartment on top of new industry

Unit 2: 1 x 2 bedroom apartment and 4 x 1 bedroom on top of new industry

Unit 3: For public functions

Unit 4: 3 bedroom apartment on top of the existing industry

Unit 5: 1 x 2 bedroom apartment; 1 x 3 bedroom apartments and 2 x 1 bedroom on top of the existing industry
Not monumental architecture.
Structural parts in system.
Axonometry of structural parts.

- Structure of dwelling units (maximally simplified geometry of joints)
- Beam system that holds dwellings
- Gutter and roof light is hanging from the top beams
- Beam for 20 m span of the industry
- Beam for 20 m span of the industry
Detail 01 (1:10 details.\n
16  42 mm diam galvanized steel tube handrail
17  U profile steel railing post, 100x60 mm
18  Edge profile, steel guard rails, 36x80x2 mm
19  4 mm safety grid, 10 x 10 mm mesh size
20  8.8 mm diam bolts
21  Steel I section beam, IPE 750 x 137
22  Steel L profile 65 x 45 mm
23  40 x 40 mm metal grid
24  Steel I section beam, IPE 100

Detail 03 (1:10)

34  Aluminium profile lower, 200 x 55 mm at 259 mm centres
35  8.8 mm diam bolts
36  Steel H section column, 200 x 200
37  42 mm diam galvanized steel tube handrail
38  40 x 40 mm metal grid
39  Steel L profile, 65 x 45 mm
40  60 mm dampeners between H column and I beam
41  Steel L profile, 45 x 45 mm
42  Artificial lighting object
43  Steel W-flange beam, 1600 x 140 mm
44  44 mm diam bolts
45  Steel I section beam, IPE 750 x 137
46  Aluminium sheet finish of the gutter wall
Detail 04 (1:10)

Detail 04
47 2 mm thick mill finish aluminium sheet
48 15 mm WBP plywood
49 75 to 200 mm high polyester insulation
50 2 mm waterproofing separation layer
51 3 layers of 19 mm WBP plywood
52 4 layers of 19 mm WBP plywood
53 2 mm thick mill finish aluminium flashing
54 Double glazed, laminated aluminium framed roof lights in sizes for one section 1800 x 2100, 1800 x 2665, 1800 x 4000
55 140 mm air gap for sound absorption
56 4 mm safety grid, 16 x 10 mm mesh size
57 Aluminium sheet finish gutter wall

Detail 02 (1:20)

Detail 02
25 Roof
26 20 mm galvanised corrugated steel sheeting
27 80 mm ventilated cavity and roof sealing layer
28 100 mm glass-wool thermal insulation between 82x200x1.6 mm lightweight steel section rafters
29 130 x 200 mm steel I beam
30 200 mm glass-wool thermal insulation
31 Vapour barrier
32 13 mm plasterboard
33 Light painted finish

26 Centre pivot wood window, 1425 x 660 mm
27 Roller blinds, 1235 x 700 mm
28 Zinc coated cover
29 Hinged metal sheet
30 40 x 40 mm metal grid
31 4 mm safety grid, 10 x 10 mesh size
32 100 x 70 mm treated softwood battens
33 100 x 50 mm treated softwood battens
34 Two 82 x 200 x 1.6 mm lightweight steel section rafters
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Unfolded section of street.

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Building Level
From streets to walkways.
Accessing dwelling.
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Building Level
Project spatially integrates currently segregated and introverted parts of the city through architectural prototype where industrial activities are not externalized residual spaces but forms a part of urban and spatial ingredient.