STUDIO PUBLIC REALM ROTTERDAM

P4 PRESENTATION
01 Analysis Rotterdam Event City
02 Analysis of the Lijnbaan
03 Program and Concept
04 Final Design
05 Building Technology
01 ANALYSIS ROTTERDAM EVENT CITY
PLACES TO GO ACCORDING TO TOURISM INFORMATION

TIME USES OF FUNCTIONS
- Day
- Evening
- Night
- 24 Hours Use
**Events According to Facebook**

**Time Uses of Functions**

- **Day**
- **Evening**
- **Night**
- **24 Hours Use**
MOST ACTIVATED AREAS DURING DAY AND NIGHT
Borders of old and new Rotterdam - continuity
BORDERS OF OLD AND NEW ROTTERDAM - CONTINUITY
02 Analysis of the Lijnbaan
PUBLIC SPACES AROUND LIJNBAAN
LIJNBAAN - FUNCTIONS OF THE STREETS

- Service zone
- Park
- Pedestrian zone
- entrances
- Parking

Park
Pedestrian zone
Entrances
Parking
EXISTING FUNCTIONS BETWEEN LIJNBAAN AND COOLSINGEL

Architecture office
Organisation advice
Club
Hotel
Restaurant
Art and documentaries
Environment protection
Security
Cafes
Bank
Film theatre

Bank
Cafe
Birth hotel
Healthcare service
Textile shop
Restaurants
Bookshop
Bank
Employment office
Art/music school
Lunchroom
Software developing
Printshop
Architecture office

Restaurant
Hotel
Shoeshop
Flowershop
Art gallery
Hair salon
Jewellery
Bijenkorf

Hotel
Bank
Office
Housing
Leisure
Shopping
Food court
City information office
ELEMENTS OF PUBLIC SPACE
**Elements of Public Space: Stadhuisplein**

- Intimate
- Strong borders
- Pedestrian zone
- Terraces and shops
- View on city hall
ELEMENTS OF PUBLIC SPACE: BEURSTRAVE KOOPGOOT

BEURSTRAVE

- POINT OF CONNECTION
- CHAOTIC
- DEPARTMENT STORES, TERRACES
- SPACE IS NOT CLEARLY DEFINED
PUBLIC SPACE AT LIJNBAAN AND COOLSINGEL

- Point of connection
- Chaotic
- Department store, terrace
- Space is not clearly defined
LIJNBAAN - FUNCTIONS OF THE BUILDINGS

[Map of Lijnbaan showing functions of the buildings with color codes for Culture, Food, Shop, Hotel, Small office, Big office]
LIJNBAAN - FUNCTIONAL CONCEPT

- Pedestrian entrances
- Distribution of goods
- Private entrances

Lijnbaan - Functional Concept
LIJNBAAN - DIVISION OF FUNCTIONS

Diagram showing the division of functions with various areas marked:
- voetganger (pedestrian)
- verkeer (traffic)
- expedite (dispatch)
- woning (housing)
- kantoor (office)
- winkel (store)

Lijnbaan - Division of Functions
LIJNBAAN - SPATIAL CONCEPT

[Sketch of a cityscape with people engaging in an activity, possibly dancing or playing with balloons.]
Design of shops on Lijnbaan

Ladenzentrum "Lijnbaan"
The streets inside the block are just for deliveries. The ground floors of the buildings on site and the open space in front of the monument are used for parking. There is no interaction between buildings and streets.
Photos of Site

The Coolsingel is a busy street with broad sidewalks where shops, trees and small pavilions give a human scale. Stadhuisplein is an open space with terraces and a pretty view on the city hall. Unfortunately their orientation and the large trees make them rather dark. The plinth is partially empty or filled with cheap shops.
The rythm of a low-rise pedestrian zone, mid-rise dwellings behind and high-rise dwelling perpendicular is clearly visible. The canopies on the shops create a human, intimate scale.
**SUN study**

**JUNE 21**th

7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00
---|---|---|---|---|---|---
![Image](image1)

7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00
---|---|---|---|---|---|---
![Image](image2)

**DECEMBER 21**th

7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00
---|---|---|---|---|---|---
![Image](image3)

7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00
---|---|---|---|---|---|---
![Image](image4)
SUN study JUNE 21st
03 Program and Concept
The anonymous buildings on the block offer an interesting mix of culture, business and living. By adding public facilities they can be made more visible and benefit from each other proximity.

<table>
<thead>
<tr>
<th>Current program on site:</th>
<th>Proposed program:</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Zwarte Hond</td>
<td>Offices</td>
</tr>
<tr>
<td>SKVR</td>
<td>Architecture</td>
</tr>
<tr>
<td>Komplot</td>
<td>Design, IT, editors</td>
</tr>
<tr>
<td>Atlanta Hotel</td>
<td></td>
</tr>
<tr>
<td>Computer futures</td>
<td>Lowcost student/artist workshops</td>
</tr>
<tr>
<td>Hays</td>
<td>Studios</td>
</tr>
<tr>
<td>Nederlands Arbitrage Institute</td>
<td></td>
</tr>
<tr>
<td>NYK Line</td>
<td>Media school</td>
</tr>
<tr>
<td>Valet Parking</td>
<td>Education, theatre, music, leisure, non-profit</td>
</tr>
<tr>
<td>Pathe Stomerij</td>
<td>Student employment</td>
</tr>
<tr>
<td></td>
<td>Employment office</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classrooms</td>
</tr>
<tr>
<td></td>
<td>Working spaces for students</td>
</tr>
<tr>
<td></td>
<td>Shared facilities</td>
</tr>
<tr>
<td></td>
<td>Gallery</td>
</tr>
<tr>
<td></td>
<td>Exhibition, commercial space</td>
</tr>
<tr>
<td></td>
<td>Printing service</td>
</tr>
<tr>
<td></td>
<td>Professional printing</td>
</tr>
<tr>
<td></td>
<td>Public facilities</td>
</tr>
<tr>
<td></td>
<td>Pinth</td>
</tr>
<tr>
<td></td>
<td>Small scale facilities such as laundry service and supermarket</td>
</tr>
<tr>
<td></td>
<td>Bars/cafes</td>
</tr>
<tr>
<td></td>
<td>Drinks and dinner</td>
</tr>
<tr>
<td></td>
<td>Parking</td>
</tr>
<tr>
<td></td>
<td>Parking for Bijenkorf and on site</td>
</tr>
<tr>
<td></td>
<td>Plinth</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bars/cafes</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Detailed Program

### Program definition

<table>
<thead>
<tr>
<th>Space</th>
<th>Amount</th>
<th>Square meters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Offices/studios</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open office plan</td>
<td>15 (26 all in) pp up to 1000 total</td>
<td>1200 20-30m deep, workstations 7m 50 people</td>
</tr>
<tr>
<td>* Meeting rooms</td>
<td>3 (24-30)</td>
<td>75</td>
</tr>
<tr>
<td>* Private offices</td>
<td>10 x 10 (22 all in)</td>
<td>100</td>
</tr>
<tr>
<td>* Kitchen</td>
<td>0.3-0.4 per seat</td>
<td></td>
</tr>
<tr>
<td>* Restaurant</td>
<td>1.6-1.8 per seat</td>
<td></td>
</tr>
<tr>
<td>Copy/printing</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Reception</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Mail room</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>(video) conference room</td>
<td>24-30</td>
<td></td>
</tr>
<tr>
<td>* Bathroom</td>
<td>1 per 10 women 1+2 per 15 men</td>
<td>50-100 1 per 125m2</td>
</tr>
<tr>
<td>* Changing room</td>
<td>.5-.6 pp</td>
<td>40</td>
</tr>
<tr>
<td>* Workshop</td>
<td>200-300</td>
<td></td>
</tr>
<tr>
<td>Terrace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>75 people</td>
<td>2000</td>
</tr>
</tbody>
</table>

| **B Media school** | 350 employees, 14.000 students | 25 per student (10 parttime) | All of Rotterdam |
| Generic rooms* | Class rooms | 5 (45-85) | 350 |
| * Lecture rooms | 2 (100-200 (3.5m high)) | 250 |
| * Assembly room | 1 per 5 classrooms | 20 |
| Special rooms | Computer/multimedia lab | 100 |
| * Workshop | 200 |
| * -Head of workshop | 30 |
| * -Materials | 30 |
| * Drawing rooms | 3.5-4.5 pp |  |
| * Rehearsel | 2.5 pp |  |
| * Service point | 15 pp | 20 |
| * Departmental library | 200-300 |  |

<table>
<thead>
<tr>
<th><strong>Office</strong></th>
<th>Professor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>* Administration</td>
<td>15 pp</td>
<td>450</td>
</tr>
<tr>
<td>* Deans office</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Student union room</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>* ICT/technical support</td>
<td>15 pp</td>
<td>20</td>
</tr>
<tr>
<td>* Internship/employment office</td>
<td>15 pp</td>
<td>20</td>
</tr>
<tr>
<td><strong>Facilities</strong></td>
<td>Restaurant</td>
<td>1.4-1.6 per seat</td>
</tr>
<tr>
<td>* Kitchen</td>
<td>0.5-0.6 per seat</td>
<td>50</td>
</tr>
<tr>
<td>* Bike parking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lockers</td>
<td>.5 pp</td>
<td></td>
</tr>
<tr>
<td>* Bathroom</td>
<td>1 per 10 women 1+2 per 15 men</td>
<td>50-100 1 per 125m2</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Restaurant</td>
<td>1.4-1.6 per seat</td>
</tr>
<tr>
<td><strong>Future extension</strong></td>
<td>Reception/security</td>
<td>20-30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>300 students</td>
<td>2000</td>
</tr>
</tbody>
</table>

| **C Gallerie/exhibition** |  |
| Exhibition space | 300-350 |
| Film room | 100-120 |
| Storage | 30-40 |
| Reception/security | 20-30 |
| Store | 20 |
| Showroom | 100 |
| Cloak room | 10 |
| * Administration | 15 pp | 30-50 |
| Workshop | 150-200 |
| Deliveries | 01-10-20 |
| Bathroom | 1 men 1 woman | 20 |
| **Total** | 900-1000 |

| **D Bars/shops** |  |
| Children daycare | 2-3 pp | 100-150 | 30 children |
| Printing shop |  |
| Restaurant |  |
| Bar |  |
1. The block has possible connections to all sides, but no programm that connects functions

2. In the center the main entrances of all public spaces (library, media school, gallery, food court, restaurant, coffee shop, sky walk) are positioned around a central space
3. A square in front of the monument serves as a connection between the new building and the plinth on Stadhuisplein. The shops here are replaced by restaurants facing the square south. A food court under the monument on the other side helps to turn this square into a calm, food-oriented place.

4. Connections to the surrounding buildings now lead to the two squares and help to make entering the block more attractive.
Massing
1. Existing buildings

2. Deliveries and parking
3. Atrium

4. Offices
5. School of media

6. Hotel
04 Final Design
Area calculations

BG
- Cores and services: 240m²
- Lobby: 670m²
- Food court: 780m²

L1
- Cores and services: 215m²
- Gallery: 850m²
- Offices lobby: 420m²
SQUARE
ATRIUM
**Area Calculations**

**L2**
- Cores and services: 215m²
- SKVR: 675m²
- Offices: 400m²

**L3**
- Cores and services: 215m²
- SKVR: 675m²
- Offices: 450m²
### Area Calculations

**L4**
- Cores and services: 215 m²
- SKVR: 425 m²
- Offices: 500 m²

**L5**
- Cores and services: 100 m²
- Grand stairs: 140 m²
- Offices: 475 m²
COMTEMPLATION
Program Concept: Lobbies and Public Spaces
RELATION OF FACADE AND INTERIOR
LIBRARY
05 Building Technology
**Materials Box**

- **Dark Metal**: Facade
- **Concrete**: Cores
- **Shiny Metal**: Bottom of box
- **Light Maple Wood**: Floor of box
- **Aluminium Raster**: Ceiling box
- **U Glass**: Facade auditorium
MATERIALS OFFICES AND MONUMENT

CONCRETE TILES
SQUARE

TRAVERTINE
GROUND FLOOR

PLASTER
MONUMENT

TEXTILE
ATRIUM (FOR ACOUSTICS)

CONCRETE
CORES

PILOW
CLADDING ON THEATRE (FOR ACOUSTICS)
Acoustics
Natural ventilation

Grondbuis

Mechanical ventilation

Mechanical ventilation

The box provides shading

Wind causes low pressure to release hot and polluted air

Warm air is abducted through the ceiling

The atrium has a semi-interior climate

Fresh air in mechanically sucked in
Natural ventilation

Grondbuis

Mechanical ventilation

Mechanical ventilation

The box provides shading

Wind causes low pressure to release hot and polluted air

Warm air is abducted through the ceiling

The atrium has a semi-interior climate

Fresh air in mechanically sucked in

heating, cooling and ventilation - summer
Grondbuis
Mechanical ventilation
Wind causes low pressure to release polluted air
Used air is abduced through the ceiling
The atrium has a semi-interior climate
Fresh air in mechanically sucked in

HEATING, COOLING AND VENTILATION - WINTER
# Ventilation Requirements

### Ground Floor
- **Function**: Lobby/atrium
  - Area (m²): 670
  - People capacity (p/m²): 0.5
  - Number of people: 335
- **Ventilation requirements**:
  - Ventilation (50m² pp): 16750
  - Ventilation m³/s: 4.6527777778
  - Shaft size (9m/s): 0.664825397
  - Vertical shaft dimension per floor (m²): 0,930555556
- **Shaft size horizontal (5m/s)**: 0.930555556

### First Floor
- **Gallery**: 850, 0.25, 105
- **Office lobby**: 420, 0.25, 105
- **Core**: 215
- **Ventilation requirements**:
  - Shaft size (9m/s): 1.329650794
  - Vertical shaft dimension per floor (m²): 2.361111111
- **Shaft size horizontal (5m/s)**: 2.361111111

### Second Floor
- **SKVR**: 675, 0.5, 373.5
- **Office lobby**: 400, 0.25, 100
- **Core**: 215
- **Ventilation requirements**:
  - Shaft size (9m/s): 0.29166666667
  - Vertical shaft dimension per floor (m²): 0.325
- **Shaft size horizontal (5m/s)**: 0.2916666667

### Third Floor
- **SKVR**: 675, 0.5, 373.5
- **Office**: 450, 0.25, 112.5
- **Core**: 215
- **Ventilation requirements**:
  - Shaft size (9m/s): 0.88055555556
  - Vertical shaft dimension per floor (m²): 0.9375
- **Shaft size horizontal (5m/s)**: 0.9375

### Fourth Floor
- **SKVR**: 425, 0.5, 212.5
- **Office**: 500, 0.25, 125
- **Core**: 215
- **Ventilation requirements**:
  - Shaft size (9m/s): 0.8928571429
  - Vertical shaft dimension per floor (m²): 0.9375
- **Shaft size horizontal (5m/s)**: 0.9375

### Fifth Floor
- **Grand stairs**: 140, 0.5, 70
- **Office**: 475, 0.25, 118.75
- **Core**: 215
- **Ventilation requirements**:
  - Shaft size (9m/s): 0.6696428571
  - Vertical shaft dimension per floor (m²): 0.93444444444
- **Shaft size horizontal (5m/s)**: 0.93444444444

### Sixth Floor
- **Circulation/social space**: 710, 0.25, 177.5
- **Lobby**: 250, 0.5, 125
- **Restaurant**: 180, 2, 360
- **Computer lab**: 120, 2, 240
- **Study area**: 180, 0.5, 90
- **Instruction rooms**: 100, 0.5, 50
- **Library**: 180, 2, 360
- **Core**: 100
- **Ventilation requirements**:
  - Shaft size (9m/s): 0.3745039683
  - Vertical shaft dimension per floor (m²): 0.49305555556
- **Shaft size horizontal (5m/s)**: 0.49305555556

### Seventh Floor
- **Circulation/social space**: 540, 0.25, 135
- **Grand stairs**: 40, 0.5, 20
- **Study landscape**: 170, 0.5, 85
- **Study area**: 260, 0.5, 130
- **Instruction rooms**: 200, 0.5, 100
- **Auditorium**: 170, 2, 340
- **Core**: 100
- **Ventilation requirements**:
  - Shaft size (9m/s): 2.782308952
  - Vertical shaft dimension per floor (m²): 2.782308952
- **Shaft size horizontal (5m/s)**: 2.782308952
VENTILATION SHAFT SIZES
VENTILATION THROUGH FACADE

Library
Computer lab
Restaurant
Library
Auditorium

Fresh air inlet
Polluted air abduction
top windows can be opened

/floor heating

wind for cooling

SUMMER

WINTER
CONSTRUCTION SCHEME
Detail 1:5 - Box Top
DETAIL 1:5 - Office Top
DETAIL 1:5 - OFFICE GENERIC FLOOR

Diagram showing architectural details of an office floor, including floor edges, windows, and roof edges. The diagram is annotated with technical specifications and construction details.
DETAIL 1:5 - OFFICE GROUND FLOOR CEILING
Detail 1:5 - Office Ground Floor
End