The Lasting Notion of Street: Vary, Adapt, Engage.
Transforming Eilandebuurt Apartments

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Studio: Transforming Housing Heritage,
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The Lasting Notion of Street
Influencers and Designers

Urban Ideology

H.P. Berlage
“street as public domain”
Influencer of Witteveen.

Architectural Ideology

Van den Broek & Bakma
Key architects in Dutch Modernism.

The planner

W.G. Witteveen
Head of Rotterdam city planning
1924-1945
City planner of Eilandenbuurt.

The architect

J.H. Van den Broek
Architect of Eilandenbuurt
housing projects 1939-1941.
Institutionized post-war re-
construction and housing
in Rotterdam.

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Liao, Chi-Yi
## Influencers and Designers

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Influencers and Designers

Block

The planner

W.G. Witteveen

Head of Rotterdam city planning
1924-1945
City planner of Eilandebuur.
Compositional Approach Planning

Witteveen’s “Compositional Approach”

Original Pattern

Witteveen’s Street Pattern

Artery Road-Tram-Bus

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Influencers and Designers

J.H. Van den Broek

Architect of Eilandenbuurt housing projects 1939-1941. Institutionalized post-war reconstruction and housing in Rotterdam
Standardize, Institutionalize

Reversible floor plan

Wall Structural difference

Partition wall as shear wall
Primary structural walls, except the front and back facades, are all east-west oriented. The partition wall may also help to stabilize the shear force from north-to-south direction. The partition wall increases in Algemeen Belang II.

Longer span
The load bearing walls continue vertically through the whole height of the building and the thickness of the walls descending from 33, 22 to 18 cm to reduce the load. The partition/shear walls are also brick work yet they are sit on the concrete floor and are not continue between floors.

Change of thickness

Load-bearing wall
- Th = 22 cm brick
- Th = 18 cm brick at 2nd floor

Reinforce
- 22 cm brick
- Reinforce work as buttress
- 33*33 cm brick

Partition wall
- Th = 11 cm brick
- (special) Partition wall
- Th = 11 cm brick
In response to the orientation of street and the sun, Van den Broek uses two different strategies in Algemeen Belang I and II. Both ways, the overall structure is intact and only few components are adjusted.

Living rooms are preferred to be placed in the west, but the orientation of doors will be reversed for the house in the opposite side of the street.

Balconies don’t have a preferred side, but for the street level units, it is better to be at the garden side.

Van den Broek tried different approaches in two projects. In the 1938 Algemeen Belang, he tried more than three types, including one where the orientation of the whole plan is mirrored between the first and second level.

In 1940 Algemeen Belang II, the load-bearing structure is fixed, and the whole portiek and balconies are mirrored, narrowed down to two types.

In the first project, one of the types, the relation between balcony and kitchen is fixed, so the partition wall cannot be aligned vertically. Partition wall between kitchen and living room are not load-bearing. The technical difficulty is higher and it is not continued in the second project.

This part of wall is evident on the facade as yellowish stucco is applied.

The relationship between balcony and kitchen are not fixed. The orientation of portiek staircase becomes the moving parts in response to the side of street. In these solutions, the two types share the same load-bearing wall structure.
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Vary, Adapt, Engage
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The Lasting Notion of Street: Vary, Adapt, Engage. Transforming Eilandenbuurt Apartments
1. Lack of Variety.
2. Low occupation rate
3. Lack in sense of a neighbourhood
Problem Loop

- Poor condition not adaptable to new needs
- No investment on major upgrade
- Attract starters & low-income buyer
- Higher moving rate & lower market price
Design Goal: 3 actions

1. Vary
Can the block target not only the starters, but also singles and larger families?

2. Adapt
Can the occupation rate remain high during the building’s lifespan, by changing the proportion of small and large typologies?

3. Engage
Can we increase the individual residents’ sense of belonging to a community in the apartment?
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Vary
Housing Typologies & Users

The Lasting Notion of Street: Variate, Adapt, Engage. Transforming Eilandenbuurt Apartments
Type: Studio

student/bachelor

corporation rental

€

€ =

x3

studio privat shower & toilet

studio shared shower & toilet

x3

x6

The Lasting Notion of Street: Variate, Adapt, Engage. Transforming Eilandenuurt Apartments
Type: Single Apartment

1 bedroom

single/couple

corporation buy-back.

x3
Type: Starter Apartment

- Starter family
- Empty nesters
- 1.5 bedrooms

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Type: Minimal Apartment

nuclear family

2 bedrooms, full dining & living room

The Lasting Notion of Street: Variate, Adapt, Engage. Transforming Eilandenbuurt Apartments
Type: Standard Apartment

larger family

private owned

3 or more bedrooms

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Bathroom Module

Electricity
Heating
Water
Grey water
Waste water
Adapt
Stage 1 to Stage 2

1939

Vary

Adapt

The Lasting Notion of Street: Vary, Adapt, Engage. Transforming Eilandenbuurt Apartments
Housing Typologies & Users

- **Studio**
- **Single**
- **Starter**
- **Minimal**
- **Stantard**
## Housing Typologies & Users

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Typologies in Proportion

1939

- Total 18 households
  - Studio
  - Single
  - Starter
  - Minimal
  - Standard

Vary

- Total 21 households
  - Studio
  - Single
  - Starter
  - Minimal
  - Standard

Adapt

- Total 13 households
  - Studio
  - Single
  - Starter
  - Minimal
  - Standard

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Engage
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Casual Meet-up
Traffic
Meet-up Places

- Opened Floor
- Elevator
- Open Corner
- Patio
- Entrepreneur office
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Section BB’
Sustainability
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Roof Deck
House Floor & Wall
Patio
Basement Floor & Wall

Detail 1/20

1st Floor Plan 1/40
Roof Plan 1/40
Roof Deck

1. Protective gravel 50mm
2. Bitumen (asphalt) felt sheeting
3. Water-resistant plywood, 15mm
4. Falls leveling 1/100, parallel to original roof area, 50-130mm
5. Vapour resistant insulation ≥25cm, between Joist
6. Light-weight steel profile, support ceiling
7. Plywood ceiling 8mm, please/vapour-resistant paint/bathroom finish

Maintenance deck, galvanized grate
water outlet with grate
water outlet with grate

over-flow outlet

Inspection opening
Old / New

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Memory / History

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Materialization

Original interior plaster/wall paper

Wood stripe

Yellow Brick

Framing the portiek

Terrazzo & stone
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| 2 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 7 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 13 | 14 | 15 | 15 |
| Site - Street Level - Basement | 1/400 | Street Level - Basement | 1/100 | Ground Floor | 1st Floor | Back Facade - Basement | Back Facade - Garden Level | Facade | 1/100 | Facade |

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Back Facade
Back Facade Basement
Section “Portiek”
New Entrance
Spatial Sequence

Entrance Hall & Mailbox
Street Level
Spatial Sequence

Start-up Office
Basement

Portiek, Office & Laundry Room
Basement

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Spatial Sequence

Type Standard Apartment
Ground Floor to 1st Floor
Spatial Sequence

1st Floor “Portiek” & Patio

Elevator Hall

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Spatial Sequence: Patio

2nd Floor Patios

"Portiek" toward Patios

"Portiek" toward Patios