SOCIAL SYNERGYST
The city - Place for all
Exploring the possibilities to attract families back in the city through the case of the Expat families

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Where Do We Spend Our Time?

- 69% in a home
- 2% in a bar/restaurant
- 5% in a vehicle
- 11% in an outdoor/indoor location
- 5% in an office/factory
- 8% outdoors
Jane, England
Child: 0-4 years

Daan and Anna, the Netherlands
Child: 0-4 years

Tom and Sarah, USA
Child: 0-4 years
Child: 4-8 years
Child: 12+ years
Research question

What benefits does living in the city bring to expatriate families?

What design solutions will enhance social interaction between residents and provide a safe and child-friendly neighbourhood?
Target group - The expat family

Who is the expat?

“highly skilled migrant”

- Highly skilled migrant 30 years and older - monthly salary of minimum EUR 4,612
- Highly skilled migrant younger than 30 years - monthly salary of minimum EUR 3,381

What are their housing needs?

AND

Statistics and Interviews
## Target group - The expat family

<table>
<thead>
<tr>
<th>Household type: married/unmarried couple without children</th>
<th>Household type: married/unmarried couple with 1 or more children (family)</th>
<th>Household type: single parent with 1 or more children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwelling type: one level - compact</td>
<td>Dwelling type: one or two - levels (loft)</td>
<td>Dwelling type: one level - compact</td>
</tr>
<tr>
<td>Dwelling size: 50 - 80 m²</td>
<td>Dwelling size: 85 - 160 m²</td>
<td>Dwelling size: 50-80 m²</td>
</tr>
<tr>
<td>Bedrooms: 1- 2</td>
<td>Bedrooms: 2 or more</td>
<td>Bedrooms: 2 or more</td>
</tr>
<tr>
<td>Shared spaces: kitchen, event space, shared working space, exercise room</td>
<td>Shared spaces: playgrounds, play rooms, multifunctional zones, exercise room</td>
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</tr>
</tbody>
</table>

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Children age group

Range 1: 0-4 years
Range 2: 4-8 years
Range 3: 8-12 years
Rotterdam and the relevance to the target group

Family gentrification

Rotterdam as the best expat city for 2019
Questionnaire

31 questions in 5 sections
99 responses

Important aspects

Stress related to finding proper housing

Responses to the question “How many bedrooms do you need?”

Responses to the question “How many square meters do you need?”

Results from rating (1 - 10) the importance of having a private outdoor space

Results from rating (1 - 10) the importance of having a shared outdoor space
8 personal interviews
6 of them matching the target group

Results from rating (1 - 10) Stress related to finding friends and communication issues

Results from rating (1 - 10) Stress related to finding a proper housing
Examples

- Interaction between clusters
- Transition zones
- Surveillance in row layout
- Row vs. Cluster layout
- Low vs. High density

- Babel by Laurens Bootd Architects
- Fenix by mei architects
- Querbeet by Synn architecten
- Republica by Marc Koehler Architects
From research to design

- Multifunctional zones
- Paths
- Playgrounds
- Green/wild zones
- Working place
- Multifunctional zones
- Exercise room
- Kitchen
M4H, Rotterdam
Mobility

Voor MAH-relevante huidige en toekomstige OV-verbindingen
Public amenities

Schools

Middle schools

Parks

Supermarkets
Connection
Entrance
Entrance
Urban section
All roof tops are green to contribute for the biodiversity of the region. Some of them are accessible to the residents, while others are used for solar generation.

The heights are adjusted with the surrounding buildings and meet the requirements of the urban planning.

The courtyard is designed as an inner park and child-friendly zone.

The courtyard has optimal daylight conditions as the heights on the south-west direction are lowered to allow maximum sunlight.
Maximize the sunlight
Shadows

March 21st, 9:00

March 21st, 12:00

March 21st, 15:00

March 21st, 17:00
Shadows

June 21st, 9:00

June 21st, 12:00

June 21st, 15:00

June 21st, 17:00
Maximize the green spaces
Create space for generation of solar energy
Circulation both internal and external
Galleries and staircase
Structure
Child friendly
Internal and external circulation

Level 1 and 2 - same principle

Level 3

Circulation
Collective space
Internal circulation with collective space
Circulation and collective spaces

Level 4

Level 5

Level 6

Level 7
Roof top

Unaccompanied: 8+

Accompanied: 0-8
Level 0
SECTION
The courtyard

Unaccompanied: 4+

Accompanied: 0-4
The courtyard
Collective space
Collective space
Garage
Shops
Bicycle storage
North Elevation
East Elevation
Materials and Facade types

- Treated western cedar
- Concrete
- Green
- Black schuco window frames
Sequence of assembly

1. Start point (load-bearing structure and facade on lower floor is in place)
2. Connecting the structure of the balcony with the structure of the floor
3. Mounting the facade element (prefabricated)
4. Adding the top layers of the floor and balcony on site
Balcony
Exploded view of balcony
Railing

From left to right:
- 15 mm Wooden board
- Glass panel railing

From left to right:
- Beam supporting the balcony
Biodiversity

Grass types

Stipa
Stipa -fireworks
Stipa -pony tail
Pennisetum
Carex
Briza
Langurus
Juncus

Trees

Acacia dealbata (Silver Wattle)
Japanese maple
Shorter Crepe Myrtles
Chaste tree
Fringe tree
Olea europaea
Persian silk

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Elements

- Internal galleries with stairs
- Internal facade
- Structural and partition walls
- Concrete structure
- Outside facade
- Balconies
Secondary structure acting as support to reduce the floor thickness.

Primary structure

Secondary structure acting as support

Secondary structure acting as support
Concrete

From top to bottom:
- 15 mm Wooden floor
- 40 mm Screed
- 30 mm Insulation
- 60 mm Insulation
- 160 mm Concrete slab
- Suspended ceiling

From left to right:
- 20 mm Gypsum board
- 150 mm Space for integration of the pipes
- 300 mm Concrete beam
- 100 mm Insulation
- 50 mm External panel
The roof

1. Roof edge with pot for higher vegetation
2. Blue roof with vegetation
3. Blue roof with vegetation and PV Panels
4. Blue roof with green wall

From exterior to interior:
- Vegetation
- Substrate
- Bauder Filter Fleece
- Bauder reservoir
- Protection mat
- PE foil
- Waterproofing board
- Rigid insulation
- CLT roof
The edge

From left to right:
- Waterproofing foil
- 10 mm Board
- 190 mm Insulation with timber studs
- 70 mm Insulation
- Breathable foil (waterproof)
- Buttons
- Timber cladding board

From exterior to interior:
- Vegetation
- Substrate
- Bauder filter fleece
- Bauder reservoir
- Protection mat
- PE foil
- Waterproofing board
- Rigid insulation
- CLT roof
Collection of the rainwater from the balconies and the rooftops would allow reusing the water for watering the plants.


**Ventilation**

- Schuco frames for ventilation and preheating the air
- The supplied fresh air is already preheated by the used exhaust air.

**Suspended ceiling**

- Air outlets for exhaust air from kitchen, bathroom and toilet.

- Schuco frames for ventilation and preheating the air
- The supplied fresh air is already preheated by the used exhaust air.
Dwelling types

Number of dwellings: 69
Range: 63.8 - 177.8 m²
Types: 12
DWELLING 1

Dwelling size: 107.5 m²
Outside space: 10.5 m²
Number of bedrooms: 3
Suitable household: Family
Number of dwellings: 4 on Level 1
DWELLING 2

Dwelling size: 109.5 m²
Outside space: 10.6 m²
Number of bedrooms: 3
Suitable household: Family
Number of dwellings: 11 on Levels 1, 2, 3, 4, 5, 6
DWELLING 3

Dwelling size: 63.8 m²
Outside space: 10.6 m²
Number of bedrooms: 2
Suitable household: Family/ Couple
Number of dwellings: 17 on Levels 1,2,3,4,5,6
DWELLING 4

Dwelling size: 101.8 m²
Outside space: 10.5 m²
Number of bedrooms: 3
Suitable household: Family
Number of dwellings: 5 on Levels 1, 2, 3
Living room
DWELLING 5

Dwelling size: 92 m²
Outside space: 7.6 m²
Number of bedrooms: 3
Suitable household: Family
Number of dwellings: 4 on Levels 1 and 2
DWELLING 6

Dwelling size: 94 m²
Outside space: 10,6 m²
Number of bedrooms: 2
Suitable household: Family
Number of dwellings: 20 on Levels 1,2,3 and 4
DWELLING 7

Dwelling size: 161.3 m²
Outside space: 10.5 m²
Number of bedrooms: 4 + 1
Suitable household: Family
Number of dwellings: 1 on Level 3-4
DWELLING 8

Dwelling size: 89.6 m²
Outside space: 10.5 m²
Number of bedrooms: 2 + 1
Suitable household: Family/Couple
Number of dwellings: 1 on Level 3-4
Level 5
Level 6
DWELLING 9

Dwelling size: 177.8 m²
Outside space: 10.6 m²
Number of bedrooms: 5
Suitable household: Family
Number of dwellings: 1 on Levels 7 and 7+
DWELLING 10

Dwelling size: 114 m²
Outside space: 10.5 m²
Number of bedrooms: 3 +1
Suitable household: Family
Number of dwellings: 1 on Levels 7, 7+
DWELLING 11

Dwelling size: 120 m²
Outside space: 10,5 m²
Number of bedrooms: 3
Suitable household: Family
Number of dwellings: 3 on Levels 7, 7+
DWELLING 12

Dwelling size: 70.8 m²
Outside space: 10.5 m²
Number of bedrooms: 2
Suitable household: Family
Number of dwellings: 1 on Level 7
THANK YOU FOR YOUR ATTENTION!