Cubelet City
a city within a city.
TALL - GRADUATION STUDIO

2008
Can the building become a small city on its own?
How to overlap the urban condition with the ‘urban condition’ inside the building?

This will be the main problem statement: making a connection between in- and outside, creating an interior urban landscape and let the building work as a city within a city.

A city that can grow and change, adjusting to time and location. A city that shows what it contains, where signs aren’t needed, where recognition is the keyword.

How to translate this into architecture, structure and sustainability will be an interesting assignment in the realm of typologies and new inventions.
a city within a city

Interactive
Public accessible
Clear
Sustainable and durable
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Ambition
Urban fitting

Westminster city is a very dense area on the westbank of river Thames. Victoria Street is a narrow, long street which splits the neighborhood in two. The appearing ‘canyon’ is formed by walls of office buildings. To interrupt these parallels, a bay is created where a public square can be developed. The splitted ground floor generates on the one hand more revenue and on the other hand distance from the busy street.

In a radius of 1 km there is a lot of public attractions and famous buildings. Although Victoria Street is one of the main connections, the street lacks of vitality. Besides retail there is practically no interesting program.

To improve this, public program should be added. In order to attract people into the building the linear elements of structure provide a transition from outside to inside: Every 5.5 m one get a step more into the building.

To connect main Victoria Street to crossing smaller streets, corners of the building are cut off. Together with the possibility of crossing the building on the lower levels, Cubelet City will be a connector for the area. The behind lying boys school will be an integral part of the building. Not only to cross from bus to class, but usage of sports and media facilities as well.
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Location

- House of parliament
- Big Ben
- Waterloo Station
- Buckingham Palace
- London Eye

Victoria Street
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Location

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Cubelet City - a city within a city

Location
Building site

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Building site

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Kingsgate House
Westminster City Hall
Buckingham Gate 62
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Building site

Kingsgate House
Westminster City Hall
Buckingham Gate 62

DEMOLITION
REDEVELOPMENT
INTEGRATION PROGRAM
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100,000 m²
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Library  Pool/Sports

Hotel

Public/Culture  Retail

Dwelling
Time-resistant program

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Hotel

Public/Culture

Retail

Dwelling
Programmatic floor usage in m²

<table>
<thead>
<tr>
<th>Category</th>
<th>Gross</th>
<th>Netto</th>
<th>Efficiency</th>
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<tr>
<td>Retail</td>
<td>1952</td>
<td>1730</td>
<td>89%</td>
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<tr>
<td>Hotel</td>
<td>20736</td>
<td>13536</td>
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<td>Public program</td>
<td>9769</td>
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<td>82%</td>
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<td>Public route</td>
<td>3685</td>
<td>3312</td>
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<tr>
<td>Business</td>
<td>5474</td>
<td>4758</td>
<td>87%</td>
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<tr>
<td>Dwelling</td>
<td>36412</td>
<td>32661</td>
<td>90%</td>
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<tr>
<td>Service</td>
<td>930</td>
<td>930</td>
<td>100%</td>
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<tr>
<td><strong>Total</strong></td>
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<td>64919</td>
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**Total building efficiency** 84%
. At least **1,000 new homes** and development capacity for 4,000 new jobs will be provided within the Victoria Opportunity Area between 2010/11 and 2024/25.

. **Public realm** and environmental improvements to improve legibility and accessibility.

. A mix of uses on all development sites including **active frontages** at ground floor level.

. **Publicly accessible open spaces.**

. Tall buildings may be acceptable in a limited number of suitable locations where the council considers that they **will not seriously harm the surrounding area and its heritage assets**, and will also deliver wider **benefits** to the Opportunity Area.

source: Core Strategy, City of Westminster, 2011
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Concept

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Concept

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Urban condition

Victoria Street
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Concept

+2700

+0

-2700

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Building mass

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Building mass

WCH

275,850 m³
Urban integration

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Existing situation
Urban integration

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Connecting streets
Urban integration

Transition street - building
Urban integration

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Entrances
Building districts

HIGH RISE

MID RISE

LOW RISE

PODIUM

WCH

Structural level

Connection level

Street level

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West elevation

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3 public levels

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Swimming pool

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Cubelet City - *a city within a city*

Public route
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Roof terrace

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Westminster City Hall

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Westminster City Hall

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Energy saving

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LIVING AREA

SPORTS

SHOP

GROCERY

CAFÉ

SHOP

BUSINESS

HOTEL
Building services

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Water saving

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Core

Integrated ducting

‘Wet cells’ close to core

1, 2, 3: residents’ elevators
4: public express lift
5: ‘move elevator’

Scissors (emergency) stairs
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Dwelling

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Dwelling typologies

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REET

106 + 58 m²
75 m²
48 + 32 m²
146 m²
218 m²
110 m²

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Dwelling typologies

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Type 1

Upper floor

Lower floor

Area

Exterior space

155 m²

9 m²

£ £ £ £ £
Type 2

Area 122 m²
Exterior space 26 m²

£ £ £ £ £ £
Dwelling typologies

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Type 3

Area 75 m²
Exterior space - m²

-vincent de wit - p5 presentation 2011-2012
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Dwelling typologies

Type 4

Area 187 m²
Exterior space 31 m²

(£ £ £ £ £)
Dwelling typologies

Type 5

Area 80 m²
Exterior space - m²

£ £ £ £ £
Type 6

Area: 98 m²
Exterior space: 12 m²
Construction of cores
Placement of structural screens
Structural principle

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Placement of cross connections
Structural principle - connections

The loadbearing structure will be placed and mounted on site
The linear frames are connected by cross beams
Structural principle - connections

Holcon* floors hoisted in and secured
Placement of prefabricated facade element from the inside
Floorplates will be placed and are openable to get access to the integrated building services in the floor.
Window frames and glass can be placed to close the building.
Depending on the program, the facade can be covered by vertical or horizontal louvers, solar panels, or decoration.
*Holcon floors are prefabricated and cold connected. For this reason they can be easily placed and removed. If redundant they can be returned to the factory in return for deposit.

Building services will be integrated in the Holcon floor system, what saves a lot of space and makes ducts and pipes easy accessible.
Holcon top slab 120 mm, integrated floor heating
- IPE 300
- anti-moist insulation
- Holcon lower slab 120 mm

- Schuco window frame 50x50 mm
- adjustment frame
- aluminium water bender

- HE 550 A coated with Basecoat S605 WB and Topseal (RAL 7016)

- epoxy coated cover
- fire resistant board 15 mm
- C-profile 80x160 mm
- adjustment frame
- Schuco window frame 50x50 mm
- rolling blinds

- support for prefab-element every 1800 mm

- wooden louvers
- safety glass

- post and beam Multiplex10 mm
Detailing 1:5 - dwellings

- floor finish
- integrated floor heating
- flexible insulation 50 mm
- Holcon Mini top slab 75 mm
- IPE 240
- Holcon Mini lower slab 75 mm
- anti-moist insulation
- ceiling finish

safety glass
- Schuco window frame 50x50 mm
- adjustment frame
- aluminium water bender

support for prefab-element every 1800 mm

HE 550 A coated with Basecoat S605 WB and Topseal (RAL 7016)

- epoxy coated cover
- fire resistant board 15 mm
- C-profile 80x160 mm
- adjustment frame
- Schuco window frame 50x50 mm

rolling blinds
- post and beam support
- Multiplex 10 mm

安全保障玻璃
- Schuco窗户框架50x50 mm
- 调整框架
- 铝合金水管弯头

支撑预制元件，每隔1800 mm

HE 550 A附有Basecoat S605 WB和Topseal (RAL 7016)

- 贴面涂层
- 防火板15 mm
- C型剖面80x160 mm
- 调整框架
- Schuco窗户框架50x50 mm

卷帘
- 墙柱和梁支撑
- 多层板10 mm
Flexibility

Restaurant

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Flexibility

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Swimming pool
Flexibility

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Business centre
Greetings from London
THANK YOU
Construction order

1. Loadbearing structure
   - Mount on site

2. Supportive structure
   - Mount on site

3. Hoist in floors
   - Connect slabs with pins

4. Placement of facade element
   - Connect to floor

5. Place window frames and glass
   - Connect floor heating
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Prefab element:
- Fire resistant board 15 mm
- C-profile 70x102 mm
- Insulation

HE 550 A coated with Basecoat S605 WB and Topseal (RAL 7016)

Colorbel 6 mm enamel glass

Rolling blinds

Post and beam support

Detailing 1:5 - end elevation

- Prefab element
- Colorbel 6 mm enamel glass
- Rolling blinds
- Post and beam support
- Safety glass
- Schuco window frame 50x50 mm
- Solid insulation 30 mm
- Finish layer 10 mm

Schuco window frame 50x50 mm

100 mm holcon top slab, integrated floor heating

Space for ducting and piping

Holcon lower slab 120 mm

IPE 300 bolted on flanges, using bracket

Prefab element:
- Fire resistant board 15 mm
- C-profile 70x102 mm
- Insulation

Colorbel 6 mm enamel glass

Schuco window frame 50x50 mm

Solid insulation 30 mm

Finish layer 10 mm

IPE 300 bolted on flanges, using bracket

Holcon top slab 120 mm, integrated floor heating

Space for ducting and piping

Holcon lower slab 120 mm

IPE 300 bolted on flanges, using bracket
Detailing 1:5 - ground connection

- Holcon top slab 120 mm, integrated floor heating
- IPE 300
- anti moist insulation
- Holcon lower slab 120 mm

Support for prefab-element every 1800 mm

- Schuco window frame 50x50 mm
- adjustment frame
- Aluminium water bender
- Aluminium gutter (between columns), water will be abducted via ground to central collector
- grill (RAL 7016) cover

Concrete wall 500 mm

Water tight coating

- epoxy coated cover
- fire resistant board 15 mm
- C-profile 80x160 mm

Adjustment space for structure
(supporting facade element)

- 440 mm layer of gravel, taken from former Kingsgate House
- waterproof coating

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Concept 1: Cubelet City

Concept 2: S.I.R.
Intimate space