The making of (sustainable) BK city
Alexandra den Heijer

CONTENT

1. PRACTICE – The making of (sustainable) BK city

2. THEORY – Managing the university campus

Universities in the Netherlands

14 universities in the Netherlands:
16 mln Dutch inhabitants
220,000 students
45,000 faculty/staff
+ 46 institutions for higher professional education (“hogescholen”)
source data: 2008
Emergency management
< 3 days after the fire
Aankondiging in Aula

- Found a ‘new’ building within 10 days
- sustainable = re-use

- All parties have studied or worked at faculty
- Hands-on mentality

ASSIGNMENT: relocate 3300 students and > 800 employees
DEADLINE: renovate 320,000 sqft < 6 months
+ new construction 40,000 sqft < next 6 months

Project group representing:
- Policy makers
- Board of executives
- Deans
- Controllers
- Users
- Architects that have known the faculty for years

1. Professors and professionals
2. All parties have studied or worked at faculty
3. Hands-on mentality
What we started with in June 2008

Facts
150 participating companies
25 consultancy / architecture firms
350 construction workers on site
800 orders
15 km sprinkler / 5500 sprinklers
30,000 litres paint
220 km data cables
5200 wall outlets

Undergraduates < 4 months after fire
Project ready < 1 year

42,000 m²
32,000 m²

Performance criteria university

Each university goal can be frustrated by the physical campus

Managing the university campus

Every project or campus can be assessed from 4 perspectives

Managing the university campus

Every project or campus can be assessed from 4 perspectives
Brief in m2

- space reduction – 25%
- more students expected
- Berlageweg was already too small for # students / staff
- need to change concepts
- demand for large public spaces “blokkenhal” & modeling studies, workshop space

- additional space demand:
- solution glasshouses
- many alternatives... by many different architects...

Design the building as a city

Private → Public space
Contextual Concept: Connectivity and variety

GOALS ORGANISATION
1. Community building
2. More effective support of education, research & management
3. Creating the place to meet
4. Stimulate social interaction & intellectual interaction
5. Flexible use of facilities
6. Sustainable

Campus of the future:
- sustainable solutions
- CO2 neutral campus
- less m2, more quality

Campus of the future: - lecture halls – only to share
(photo: VU Amsterdam)
Reducing m2, but improving...
Quality of place (interior design)

- more quality, less quantity
- new life for old buildings
- increase benefits / m² to cover high maintenance cost / m²
- users accept more defects of meaningful, historic buildings

Reducing m2, but improving...
Quality of place (cultural heritage)
Reducing m², but improving...
Quality of life (campus & city)

Transition from old to new
less BVO (gfa), more NO (ufa)

<table>
<thead>
<tr>
<th>Functions</th>
<th>Berlageweg</th>
<th>Julianalaan</th>
<th>Julianalaan / Berlageweg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. studio space</td>
<td>5,660</td>
<td>7,340</td>
<td>+ 34% more studio back at the faculty</td>
</tr>
<tr>
<td>2. office space</td>
<td>6,300</td>
<td>6,240</td>
<td>+ 1% but other concept</td>
</tr>
<tr>
<td>3. lecture halls</td>
<td>1,090</td>
<td>1,110</td>
<td>+ 2% and same capacity</td>
</tr>
<tr>
<td>4. library</td>
<td>650</td>
<td>870</td>
<td>+ 34% with more places to study</td>
</tr>
<tr>
<td>5. educ. facilities</td>
<td>3,580</td>
<td>3,250</td>
<td>- 9% more sharing, better use</td>
</tr>
<tr>
<td>6. laboratories</td>
<td>860</td>
<td>660</td>
<td>- 23% more sharing at TU level</td>
</tr>
<tr>
<td>7. conference</td>
<td>1,100</td>
<td>770</td>
<td>- 30% more sharing at TU level</td>
</tr>
<tr>
<td>8. restaurants</td>
<td>380</td>
<td>690</td>
<td>+ 82% multi-functional use</td>
</tr>
<tr>
<td>9. public functions</td>
<td>1,220</td>
<td>2,050</td>
<td>+ 68% more places to meet</td>
</tr>
<tr>
<td>10. storage</td>
<td>3,300</td>
<td>1,240</td>
<td>- 62% (start with) less after fire</td>
</tr>
<tr>
<td>total (usable)</td>
<td>24,160</td>
<td>24,820</td>
<td>+ 3% more usable space</td>
</tr>
</tbody>
</table>

Transition from old to new
> 50% is studio or office space

1. Studio space
1. Studio space

- student back at the faculty
- 6 m² usable per workplace
- became less after decision process
- tables are assigned to groups of students per semester (no permanent territory)
- smart use of space (by smart scheduling)

2. Office space

- no individual territory
- 12 m² usable per cell
- became more after design process
- activity related concept

More facility sharing

<table>
<thead>
<tr>
<th>Functions</th>
<th>Berlageweg</th>
<th>Julianalaan</th>
<th>Julianalaan / Berlageweg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. studio space</td>
<td>5,680</td>
<td>7,840</td>
<td>+ 38% student back at the faculty</td>
</tr>
<tr>
<td>2. office space</td>
<td>6,300</td>
<td>6,340</td>
<td>+ 1% but other concept</td>
</tr>
<tr>
<td>3. lecture halls</td>
<td>1,090</td>
<td>1,110</td>
<td>+ 2% and same capacity</td>
</tr>
<tr>
<td>4. library</td>
<td>850</td>
<td>870</td>
<td>+ 2% with more places to study</td>
</tr>
<tr>
<td>5. educ. facilities</td>
<td>3,580</td>
<td>3,250</td>
<td>- 9% more sharing, better use</td>
</tr>
<tr>
<td>6. laboratories</td>
<td>880</td>
<td>660</td>
<td>- 23% more sharing at TU level</td>
</tr>
<tr>
<td>7. conference</td>
<td>1,100</td>
<td>770</td>
<td>- 30% more sharing at TU level</td>
</tr>
<tr>
<td>8. restaurants</td>
<td>380</td>
<td>690</td>
<td>+ 82% multi-functional use</td>
</tr>
<tr>
<td>9. public functions</td>
<td>1,220</td>
<td>2,050</td>
<td>+ 68% more places to meet</td>
</tr>
<tr>
<td>10. storage</td>
<td>3,300</td>
<td>1,240</td>
<td>- 62% (start with) less after fire</td>
</tr>
<tr>
<td>Total (usable)</td>
<td>24,160</td>
<td>24,820</td>
<td>+ 3% more usable space</td>
</tr>
</tbody>
</table>
15-10-11

3. Lecture halls
- more shared use of large halls
- more small spaces locally
- flexible floor plan
- differentiation of quality

4. Library

5. Educational facilities

6. Laboratories

Creating the place to meet

<table>
<thead>
<tr>
<th>Functions</th>
<th>Julianalaan</th>
<th>Berlageweg</th>
<th>Julianalaan / Berlageweg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. studio space</td>
<td>5,680</td>
<td>7,840</td>
<td>+ 38% more student space at the faculty</td>
</tr>
<tr>
<td>2. office space</td>
<td>6,300</td>
<td>6,340</td>
<td>+ 1% but other concept</td>
</tr>
<tr>
<td>3. lecture halls</td>
<td>1,090</td>
<td>1,110</td>
<td>+ 2% and same capacity</td>
</tr>
<tr>
<td>4. library</td>
<td>0.5</td>
<td>0.8</td>
<td>+ 64% with more places to study</td>
</tr>
<tr>
<td>5. educ. facilities</td>
<td>3,580</td>
<td>3,250</td>
<td>- 9% more sharing, better use</td>
</tr>
<tr>
<td>6. laboratories</td>
<td>0.6</td>
<td>0.65</td>
<td>- 25% more sharing at TU level</td>
</tr>
<tr>
<td>7. conference</td>
<td>1,100</td>
<td>770</td>
<td>- 30% more sharing at TU level</td>
</tr>
<tr>
<td>8. restaurants</td>
<td>280</td>
<td>630</td>
<td>+ 226% multi-functional use</td>
</tr>
<tr>
<td>9. public functions</td>
<td>1,220</td>
<td>2,050</td>
<td>+ 68% more places to meet</td>
</tr>
<tr>
<td>total (usable)</td>
<td>24,160</td>
<td>24,820</td>
<td>+ 3% more usable space</td>
</tr>
</tbody>
</table>
Public space, like in a city

- usable space in corridors for informal meetings and work

8. Restaurants & bars

9. Public functions
### PRIMARY FACTS

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>BUILDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1400 BSc students</td>
<td>• 700 BSC STUDIO DESKS</td>
</tr>
<tr>
<td>• 1675 MSc students</td>
<td>• 830 MSC STUDIO DESKS</td>
</tr>
<tr>
<td>• 450 FTE staff</td>
<td>• 470 DESKS</td>
</tr>
<tr>
<td>• 800 employees</td>
<td>• 350 AVAILABLE EXTRA WORK SPACES</td>
</tr>
<tr>
<td>• 170 0,0 fte</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 270 PARKING LOTS</td>
</tr>
<tr>
<td></td>
<td>• 44 MEETING ROOMS</td>
</tr>
<tr>
<td>AND SO MUCH MORE</td>
<td>5 LECTURE HALLS</td>
</tr>
<tr>
<td></td>
<td>1 LIBRARY</td>
</tr>
<tr>
<td></td>
<td>1 RESTAURANT</td>
</tr>
<tr>
<td></td>
<td>3 BARS</td>
</tr>
</tbody>
</table>

---

### Strategic choices, linked to stakeholders

- **accommodate** "exclusive" and "closed"  
- **accommodate** "shared" and "open"

- **low % of resources** spent on the campus  
- **high % of resources** spent on the campus

- **allow private funding**  
- **only public funding**

- **low space use per student** or employee  
- **high space use per student** or employee

- **focus on individual needs**  
- **focus on collective needs**

- **accept % buildings in bad condition**  
- **all buildings at least reasonable condition**

- **smaller ecological footprint**  
- **larger ecological footprint**

---

Follow me on Twitter: @alexandra_dh

More about case BK city & book "Managing the university campus": [http://managingtheuniversitycampus.nl](http://managingtheuniversitycampus.nl)