The making of (sustainable) BK city
Alexandra den Heijer

Universities in the Netherlands

European 'Univer-cities' in the top 150 world-wide

Towards sustainable campus

Agreements on energy efficiency

more information: http://managingtheuniversitycampus.nl
Common Issues
* Decreasing public funding
* Ageing campus (technically and functionally)
* Low occupancy/frequency rates
* Increasing costs of campus
* Expanding campus to city
* Sustainable campus
* Greening the campus

Scenarios
* “Winner takes it all”
* “Clashes of civilization: survival of fittest”
* “Change the world; start with yourself”

Dutch campus development in four stages
1. Before WWII - small single university - inner city model, integrated
2. From the 50’s to 60’s - growth - on the edge of the city
3. Around 2000 - city built grown around campus - what to do?
4. 21st century - merge campus functions with city - innovative knowledge economy - smart city

4 Scenarios Higher Education – University of the future
1. Transatlantic region: knowledge for sale
2. Global market: knowledge for sale
3. Regional community: knowledge applied
4. Global solidarity: knowledge to share

Toekomstige Hoger Onderwijs (Ulice in het midden van de huidige campus)
(1) Future of higher education - strategies to choose - scenarios that can happen
Strategy A: “Back to the future”

- traditional, classical university, academic rituals
- condition for opportunities: selection, exclusive, elite
- same m²
- same resources, healthy, safe workplace
- no facility sharing, exclusive use for university
- opportunity for more resources: higher tuition & alumni funding


Strategy B: “Intellectual agora”

- more institutions thoroughly mixed with urban fabric, continued infusing in the urban domain with all campus space types (academic, housing, leisure etc.)
- focus on university-industry-community collaboration
- same space demand, more facility sharing
- sharing resources → more quality for all stakeholders


Strategy C: “Clicks & Mortar”

- the physical campus is an inspiring meeting place: creative, stimulating and a focus on intellectual and social exchange
- virtual “back office”, vital very modern state-of-the-art “front office” university
- m²: less (clicks replace part of the m²)
- same resources available for less m² → higher quality

Fire destroyed Architecture building
May 13, 2008

more information: http://
managingtheuniversitycampus.nl
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Found a 'new' building within 10 days sustainable = re-use
1. professors and professionals
2. all parties have studied or worked at faculty
3. 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

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
- competitive advantage
- profitability
- productivity
- sustainable development

Managing the university campus
- focus on university
- focus on real estate
- financial controllers
- users
- technical managers
- physical

Each university goal can be frustrated by the physical campus

more information: http://managingtheuniversitycampus.nl
Every project or campus can be assessed from 4 perspectives

- Strategic
- Financial
- Users
- Functional

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

Berlageweg 42.000 m² bvo
Julianalaan 32.000 m² bvo

footprint
old → new

= 36.000 m²

bvo = brutovloeroppervlak = gross floor area (gfa)
no = nuttig oppervlak = usable floor area (ufa)

more information: http://managingtheuniversitycampus.nl
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

Campus of the future:
- transparency, shared facilities

Campus of the future:
- creating the place to meet

Campus of the future:
- 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

more information: http://managingtheuniversitycampus.nl
Reducing m2, but improving…

Quality of place (interior design)

Reducing m2, but improving…

Quality of place (cultural heritage)

Reducing m2, but improving…

Quality of life (campus & city)

more information: http://managingtheuniversitycampus.nl
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>3,650</td>
<td>7,840</td>
<td>+ 138% 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>
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<tr>
<td>4. library</td>
<td>610</td>
<td>670</td>
<td>+ 34% with more places to study</td>
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<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>660</td>
<td>680</td>
<td>- 2% more sharing at TU level</td>
</tr>
<tr>
<td>7. conference</td>
<td>1,150</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>
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Total (usable) 24,160 24,820 + 3% more usable space

more information: http://managingtheuniversitycampus.nl
### More facility sharing

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### 2. Office space

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

### 3. Lecture halls

- more shared use of large halls
- more small spaces faculty
- flexible floor plan
- differentiation of quality also used for seminars / conferences

### 7. Conference rooms

- more places to meet
- multi-functional use
- more sharing at TU level

More information: http://managingtheuniversitycampus.nl
### 4. Library

![Library Image]

### 5. Educational facilities

Creating the place to meet

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### 6. Laboratories

![Laboratories Image]

### 8. Restaurants & bars

![Restaurants Image]
Public space, like in a city

9. Public space

• usable space in corridors for informal meetings and work

10. Storage

⇒ including digital storage

<table>
<thead>
<tr>
<th>PRIMARY FACTS</th>
<th>BUILDING</th>
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<tr>
<td>ORGANISATION</td>
<td></td>
</tr>
<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></td>
</tr>
<tr>
<td>AND SO MUCH MORE</td>
<td></td>
</tr>
<tr>
<td>• 270 PARKING LOTS</td>
<td>44 MEETING ROOMS</td>
</tr>
<tr>
<td>• 5 LECTURE HALLS</td>
<td>5 LIBRARY</td>
</tr>
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</tr>
<tr>
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9. Public functions

more information: http://managingtheuniversitycampus.nl
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Campus of the future:
model A – traditional university
- exclusiveness, elite & large
- can we still afford this?

Campus of the future:
model B – network university
- "campus is market place of knowledge"
- sharing the campus
- "univer-city"

Campus of the future:
model C – virtual university
- work where you want
Campus of the future: model D – University College
small, broad, Bachelor in English, selected talent

Strategic choices, linked to stakeholders

<table>
<thead>
<tr>
<th>accommodate &quot;exclusive&quot; and &quot;closed&quot;</th>
<th>accommodate &quot;shared&quot; and &quot;open&quot;</th>
</tr>
</thead>
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<tr>
<td>low % of resources spent on the campus</td>
<td>high % of resources spent on the campus</td>
</tr>
<tr>
<td>only public funding</td>
<td>allow private funding</td>
</tr>
<tr>
<td>high space use per student or employee</td>
<td>high space use per student or employee</td>
</tr>
<tr>
<td>focus on individual needs</td>
<td>focus on collective needs</td>
</tr>
<tr>
<td>accept % buildings in bad condition</td>
<td>all buildings at least reasonable condition</td>
</tr>
<tr>
<td>smaller ecological footprint</td>
<td>larger ecological footprint</td>
</tr>
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Follow me on Twitter: @alexandra_dh

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

Questions / tour of BK City

more information: http://managingtheuniversitycampus.nl