Innovation District Development in Dutch practice

an exploration on the role of the built environment with recommendations on role-taking by local public authorities in innovation district development:
the Case of the Merwe-Vierhavens & RDM – as part of the CityPorts project.

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Graduation - 6 July 2017
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STRUCTURE

PART 1: WHY  problem statement & research background

PART 2: HOW  research design & methodology

PART 3: WHAT

3. THEORETICAL FINDINGS

4. EMPIRICAL FINDINGS

5: CONCLUSIONS & RECOMMENDATIONS
PART 1: WHY
Cities Promote 'Innovation Districts' for Economic Development

Instead of isolated corporate campuses like Silicon Valley, some places are trying to promote "innovation districts" to bring industry back. Can it work?

BY KEVIN TIDMARSH | JUNE 10, 2014
Cities Promote 'Innovation Districts' for Economic Development

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22@Barcelona - Successful Urban Transformation

22@Barcelona is a successful urban model for city transformation.

Posted: 04, December 2013
Office rents soaring in city’s Innovation District
Are 'Innovation Districts' Right for Every City?

“Labeling something innovative does not make it so.”

ANTHONY FLINT | Apr 29, 2016 | 13 Comments

22@Barcelona is a successful urban model for city transformation.
PROBLEM FIELD

• Innovation Districts, a popular concept
  – providing what innovative companies and young professionals want

‘Innovation districts have proven to be effective solutions for cities to modernize their economies and pivot from traditional industrial-based production to technology-driven services.’

(Glaeser & Kerr, 2009)
NIEUWS / 20 NOVEMBER 2015

Merwe-Vierhavens en RDM vormen Innovation District

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Rotterdam heeft nieuw uithangbord: het Innovation District

Pieter Laikens
donderdag 19 november 2015, 9:00
Krantentitel: ‘Rotterdam creëert nieuwe internationale hotspot’

Rotterdam gaat de verschillende initiatieven voor innovatieve bedrijven en jonge ondernemingen onder één naam onder de aandacht brengen: het Rotterdam Innovation District. ‘Door bundeling kunnen we de verscheidene initiatieven nationaal en internationaal beter vermarkten’, zegt wethouder Adriaan Visser, verantwoordelijk voor financiën en haven. ‘Met één naam wil Rotterdam een internationale hotspot tot stand brengen.’
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Elk dorp een eigen Silicon Valley?

Innovatie met vallen en opstaan

Het is de droom van menige wethouder: een eigen 'hub', 'kennisdelta' of 'innovatiecluster' binnen de gemeentegrenzen. Maar volgens deskundigen werkt al die versnippering averechts en kan Nederland de krachten beter bundelen.

Door: Remco Andersen 28 mei 2016, 02:00
PROBLEM ANALYSIS

- National competition
- Fixation on branding and image-building

‘Cities are focusing investment on new locations where the knowledge economy might concentrate, to agglomerate knowledge-intensive activities in a designated area and to create areas that raise their innovation profile.’

(Van Winden, 2013; Clark, 2016)
'Nederland moet kennisconomie versterken'

Gepubliceerd: 09 juli 2014 05:59
Laatste update: 09 juli 2014 07:36

Nederland moet zijn kennisconomie versterken om het opgelopen terreinverlies op exportgebied te compenseren.

Dat stelt het Economisch Bureau van ABN AMRO woensdag in een rapport over de staat van de Nederlandse export.
Tegenwoordig maak je de dingen gewoon zelf
De Maker Movement komt naar Nederland
Waarom iedereen in Amsterdam wil wonen, en niemand in Emmen

Yordi Dam & Reinier Kist 4 juni 2014

Het leven is goed in de hoofdstad. Per duizend inwoners heeft Amsterdam één café, twee restaurants, en zeven popconcerten en acht toneelvoorstellingen per jaar. Meer dan elke andere stad in Nederland. Bovendien zijn in de stad de meeste banen binnen de kortste afstand bereikbaar en is er voldoende groen in de buurt.
RESEARCH CONTEXT

• Changing role of cities

• New productive conditions
  – globalization and advances in ICT

• Changing location preferences highly-educated worker

‘The knowledge-based economy operates through city and region innovation ecosystems and is emerging through mainly market forces instead of public policy and planning.’

(Clark, Moonen, & Peek, 2016)
Van grondexploitant naar bondgenoot

Laat de gemeente zich ont doen van haar oneigenlijke rol als ontwikkelaar en meer opereren als partner van de lokale samenleving.

Gemeenten zouden er goed aan doen hun actieve grondbeleid af te bouwen. Door grondexploitaties geregideerde planontwikkeling moet plaats maken voor nieuwe ontwikkelingsvormen en financieringsconstructies. Daar wordt volop over nagedacht en mee geëxperimenteerd, maar de nieuwe verhoudingen en verantwoordelijkheden zijn nog lang niet uitgekristalliseerd.
Crisis 2.0: Nieuwe financieringsmodellen nog steeds nodig

Door Helma Born en Jeroen van Haaren

10 juni 2017 - Na de vastgoedcrisis in 2008 kwam er een stroom aan nieuwe initiatieven, van gebiedsontwikkeling 1.0 naar 2.0 en zo verder. Tegelijk werden talloze publicaties met nieuwe verdiensmodellen uitgebracht, stond de wereld op zijn kop en moest alles anders. Nu lijken we hersteld van de crisis en is de aandacht voor alternatieve oplossingen weer verdwenen als sneeuw voor de zon. Toch zijn de opgaven niet minder groot.
PROBLEM DEFINITION

- A growing sense of ineffectiveness and inefficiency
  - *weak interorganizational capacity*

- A ‘new reality’ posing new requirements
  - *concerning the roles of public and private actors*

‘As Innovation Districts are catching the attention of many municipal officials and the concept is often only used to rebrand a certain urban area, ‘local authorities are in need for customized development strategies’ to follow up the branding initiative of certain projects.’

(Katz & Wagner, 2014)
SCIENTIFIC RELEVANCE

• Agglomeration economies
  – externalities in the process of knowledge creation and diffusion

• Economic geography
  – the role of proximity in stimulating innovation

In need for a scientific understanding in the field of urban management
CONCEPTUAL MODEL

WHAT?
SPATIAL CONDITIONS & PHYSICAL INTERVENTIONS

HOW?
PLANNING & DEVELOPMENT APPROACH

SHAPING

INNOVATION DISTRICT DEVELOPMENT
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?

DOES NOT STIMULATE INNOVATION

INNOVATION DISTRICT

STIMULATES INNOVATION

WHY | HOW | WHAT

29
RESEARCH GOAL

- Building knowledge on:

  The roles local public authorities can deploy in innovation district planning and development and the spatial conditions and interventions they should enhance to stimulate innovation through the built environment.
RESEARCH QUESTION

How can local public authorities plan for and subsequently develop innovation districts that deliver on the objective of stimulating innovation through the built environment?

This question is twofold:

What roles performed by local public authorities in innovation district planning, help develop an innovation district that stimulates (the processes leading to) innovation?

What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?
PART 2: HOW
RESEARCH APPROACH

MAIN RESEARCH QUESTION:
How can local public authorities plan for and subsequently develop innovation districts that deliver on the objective of stimulating innovation through the built environment?

HOW TO PLAN

THEORETICAL RESEARCH

EMPIRICAL RESEARCH

WHAT

WHY | HOW | WHAT
RESEARCH APPROACH

MAIN RESEARCH QUESTION:
How can local public authorities plan for and subsequently develop innovation districts that deliver on the objective of stimulating innovation through the built environment?

HOW TO PLAN

WAT TO DEVELOP

THEORETICAL RESEARCH

THEORETICAL RESEARCH

EMPIRICAL RESEARCH

EMPIRICAL RESEARCH
RESEARCH APPROACH

HOW TO PLAN

STIMULATING INNOVATION THROUGH URBAN AREA DEVELOPMENT

METHODS: literature review & semi-structured interviews

CASE ANALYSIS FRAMEWORK

STIMULATING INNOVATION THROUGH THE BUILT ENVIRONMENT

WHAT TO DEVELOP

PLANNING & DEVELOPMENT APPROACH

METHODS: observations, unstructured & semi-structured interviews, document analysis

DEVELOPMENT DYNAMICS

SPATIAL CONDITIONS & PHYSICAL INTERVENTIONS

CONCLUSIONS

RECOMMENDATIONS
RESEARCH APPROACH

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DEVELOPMENT DYNAMICS

SPATIAL CONDITIONS & PHYSICAL INTERVENTIONS

CONCLUSIONS

RECOMMENDATIONS
Based on: Pentti, R. 2007
PART 3: THEORETICAL FINDINGS
How can we define innovation districts?
How can we define innovation districts?

TRADITIONAL INNOVATION SPACES

INNOVATION DISTRICTS
What are the main physical characteristics of innovation districts?
How can we define innovation?
How can we define innovation?
How does the built environment stimulate innovation?
How does the built environment stimulate innovation?
How does the built environment stimulate innovation?
How does the built environment stimulates innovation?
What planning approaches are deployed in innovation district development projects?
What planning approaches are deployed in innovation district development projects?
What roles should be taken by local public authorities when planning for an innovation district?

<table>
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<tr>
<th>Roles of local public authorities in innovation district development</th>
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<tr>
<td><strong>Envisioning</strong></td>
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What roles should be taken by local public authorities when planning for an innovation district?
PART 3: EMPIRICAL FINDINGS
Exploring the Rotterdam Innovation District
What development dynamics underlie the innovation district proposition?
PLANNING & DEVELOPMENT CHALLENGES

socio-economic change

identity challenge

property development

political challenge

PLANNING CHALLENGES

development challenges

collective benefits
PLANNING & DEVELOPMENT CHALLENGES

unmarketable real estate
large-scale sanitation
fruit cluster
M4H
densification
RDM
spatial barriers
Boompjeskade
cruisterminal?
3e stadsbrug?
STIMULATING INNOVATION THROUGH THE BUILT ENVIRONMENT

ROTTERDAM INNOVATION DISTRICT

THEORETICAL INNOVATION DISTRICT
STIMULATING INNOVATION THROUGH THE BUILT ENVIRONMENT
STIMULATING INNOVATION THROUGH THE BUILT ENVIRONMENT

- LACK OF PUBLIC FACILITIES
- DOMINATED BY HEAVY TRAFFIC
- NO PUBLIC WARFS
- UNMARKETABLE REAL ESTATE
What spatial interventions are initiated by local public authorities to stimulate innovation?
What spatial conditions are already in place and stimulating innovation?
STRATEGIC DRIVERS IN URBAN DEVELOPMENT PROJECTS

- Branding
- Incubators
- Innovative working and living environment
- Area identity
- Industrial maritime site

Time

Volume
What spatial interventions are desired by the actual innovators present in the innovation district on the urban district level?
Which planning approach is applied in the urban development project?
What roles are deployed by the local public authority in the development of the innovation district project?
Which planning approach is desired in the development of the innovation district project?
PART 3: CONCLUSIONS & RECOMMENDATIONS
NO BLUEPRINTS ON OPTIMAL URBAN FORM
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?

A. A diverse urban setting comprising a sense of community
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?

**B.** well connected to the city, with a strong inspiring identity
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?

C. open and mixed in use from building to area level.
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?
What spatial conditions and physical interventions help develop an innovation district that stimulates (the processes leading to) innovation?

1. A facilitator accommodating knowledge-intensive and innovation-rich activities through spatial concentration, flexibility and adaptability of urban form and the availability of place.

2. An enabler of knowledge spillovers through proximity within a supportive environment allowing and stimulating open innovation through accessibility, connectivity, and community sense.

3. An influencer of the density of social interactions leading to face-to-face contact and accordingly knowledge diffusion through an urban setting defined by its diversity, density and level of urbanity and vibrancy.

4. A catalyst to attract human capital and create critical mass for further developments through a high quality of life shaped by the attractiveness of place, identity, authenticity, and district branding.
STRATEGIC PLANNING

To deploy the built environment in favour of stimulating innovation urban strategies should incorporate decisions on:

1. the **availability, flexibility and adaptability of space** to accommodate and facilitate knowledge-intensive and innovation-rich activities;

2. **supporting image** and **district identity** to attract visitors and the envisioned end-users (e.g. companies, knowledge institutions and residents);

3. **program** (e.g. type of neighbourhood supporting and public facilities) to enable amenities that increase the diversity of people and enhances the density of social interactions;

4. on **urban lay-out** (e.g. density and diversity), and **public space** (e.g. attractiveness, accessibility, and connectivity) to create vibrancy and community sense

5. on **physical nodes** (e.g. meeting points, shared and flexible workspaces) to enable knowledge spillovers that take place through the advantages of proximity.
EFFECTIVE ROLE-TAKING
IN INNOVATION DISTRICT DEVELOPMENT

Context

market demand

envisioning role

entrepreneurial role

governing role

DESIGN TASK

INNOVATION DISTRICT DEVELOPMENT

MANAGEMENT TASK

DEVELOPMENT TASK

resources to deploy

availability of space

public support
What roles performed by local public authorities in innovation district planning, help develop an innovation district that stimulates (the processes leading to) innovation?
What roles performed by local public authorities in innovation district planning, help develop an innovation district that stimulates (the processes leading to) innovation?

_The initiative_

- Visionary role
- Inclusive planning approach
- Tangeable development plans
- Opertational concept on stimulating innovation
What roles performed by local public authorities in innovation district planning, help develop an innovation district that stimulates (the processes leading to) innovation?

*The activation*

- Entrepreneurial role
- Allowing (small scale) private-led developments
- Leaving room for bottom-up initiatives
- Opening up to entrepreneurial public-private partnerships
- Catalysing developments by deploying publicly owned real estate and land
INNOVATION DISTRICT MANAGEMENT

REGULATING
- Regulatory role
  4) safeguarding public interest and the redistribution of collective benefits

SHAPING
- Planning role
  3) providing tangible development plans balancing public-private interests
  2) enhancing an open and inclusive planning approach

ENVISIONING
- Visionary role
  1) envisioning and operationalizing the innovation ambition

FACILITATING
- Facilitating role
  5) becoming an enabler and connector accommodating new activities and nurturing present activities

ACTIVATING
- Entrepreneurial role
  6) engaging in public-private partnerships
  7) allowing private-led developments
  8) mobilising land and real estate
  9) incorporating flexibility within the institutional framework
  10) rethinking traditional incentives

STIMULATING
- Stimulating role

TIME/RESULT & INSTRUMENTS

EXPERTISE & INFORMATION

COMMITMENT & LEGITAMICITY

PROPERTY & FINANCE
RECOMMENDATIONS

Stimulating innovation through the built environment in the Rotterdam Innovation District

- make it real
- make it start
- make it grow
- make it urban
- make it spark
- make it connect
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Graduation Presentation
6 July 2017

Delft University of Technology
Faculty of Architecture
Department of Management in the Built Environment
Graduation lab: Sustainable Private Sector-led Urban Development

Graduation committee
First mentor: Dr. ir. T.A. Daamen (associate professor)
Second mentor: Dr. ir. A.C. den Heijer (associate professor)
Delegate examiner: M. Pimlott