



Sustainable and smart planning

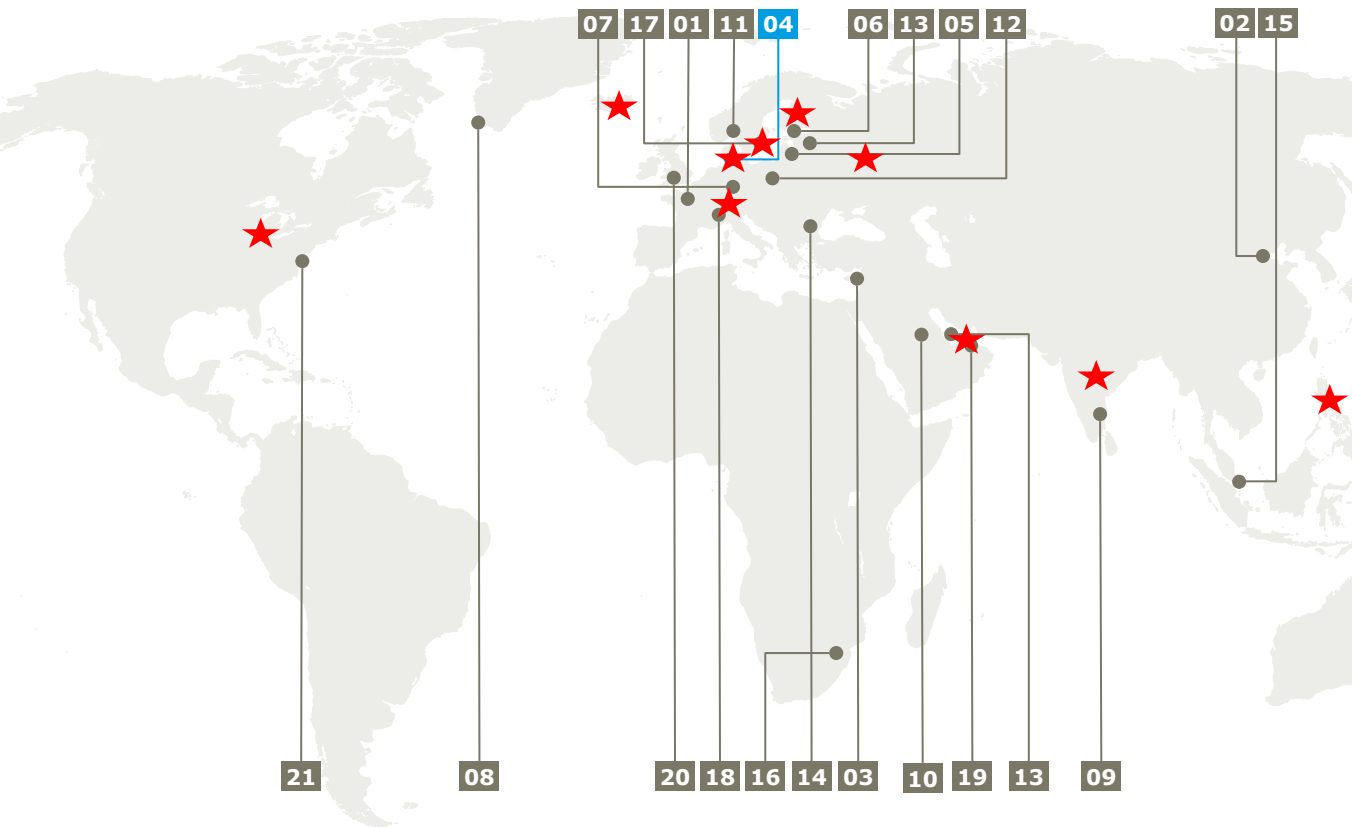
Søren Hansen, Project Director, Transport and urban development

RAMBOLL IN BRIEF

- Close to 11,000 experts across 22 countries and 220 offices
- The Nordic region's leading consultancy
- Europe's fourth largest consultancy
- A significant presence in Europe, USA, India, Middle East and Asia
- Owned by the Ramboll foundation



INTERNATIONAL PRESENCE



COUNTRY HEAD OFFICES

- 01 BELGIUM, Brussels
- 02 CHINA, Beijing
- 03 CYPRUS, Episkopi
- 04 DENMARK, Copenhagen
- 05 ESTONIA, Tallinn
- 06 FINLAND, Helsinki
- 07 GERMANY, Hamburg
- 08 GREENLAND, Nuuk
- 09 INDIA, Hyderabad
- 10 KINGDOM OF SAUDI ARABIA, Riyadh
- 11 NORWAY, Oslo
- 12 POLAND, Warsaw
- 13 QATAR, Doha
- 14 ROMANIA, Bucharest
- 15 SINGAPORE, Singapore
- 16 SOUTH AFRICA, Pretoria
- 17 SWEDEN, Stockholm
- 18 SWITZERLAND, Zurich
- 19 UAE, Dubai
- 20 UK, London
- 21 USA, New York

RAMBOLL MARKETS

SECTORS, REVENUE AND EMPLOYEES

BUILDINGS

Sector focus:

- Aviation
- Arts & culture
- Commercial
- Social housing
- Healthcare
- Higher/Further Education
- Hotels & leisure
- Industrial & Science
- Government & Public
- Residential
- Retail
- Schools
- Sports

TRANSPORT

Sector focus:

- Airports & aviation
- Ports & marine
- Rail
- Public transport
- Transportation planning
- Roads & motorways
- Urban spaces
- Masterplanning
- Urban development

ENVIRONMENT

Sector focus:

- Climate change
- Environmental Due Diligence
- Mining
- Nature
- Urban water
- Waste

ENERGY

Sector focus:

- Planning
- Production
 - Waste-to-energy
 - Onshore and offshore wind
 - Thermal power
 - Biomass
 - Biogas generation
 - Solar energy
 - CHP
- Transmission and distribution

OIL & GAS

Sector focus:

- FPSOs
- LNG – Liquefied Natural Gas
- Market and distribution
- Offshore pipelines
- Offshore platforms
- Onshore pipelines
- Refineries and gas storage

MANAGEMENT CONSULTING

Sector focus:

- Central government
- Education and research
- Labour market
- Life science
- Regional and local government
- Utilities
- Welfare and Social Policy

An aerial photograph of a city park area. A large, irregularly shaped lake is the central feature. To the left of the lake is a dense residential area with many small, multi-story brick houses. To the right is a more modern urban area with taller buildings, including a prominent circular building with a dark, textured facade. The park itself is lush with green grass, trees, and a winding path. A semi-circular green lawn is visible in the lower-left part of the lake. The sky is clear and blue.

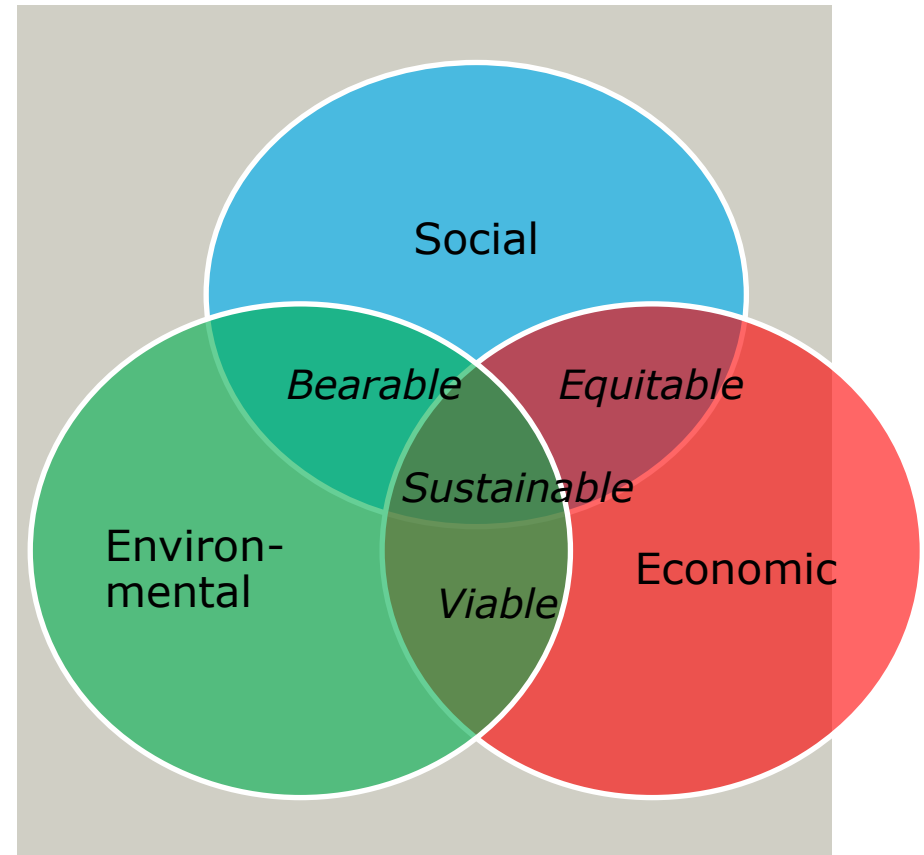
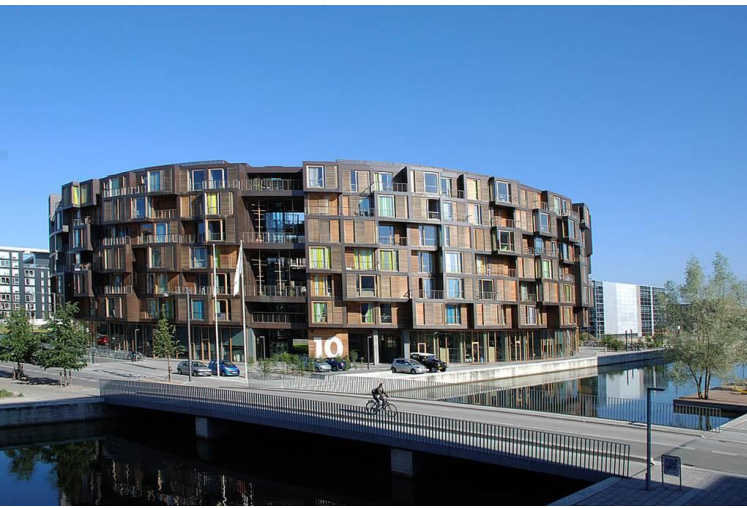
SUSTAINABILITY – WHAT IS IT?

Sustainability is

“securing humans and nature the best today without preventing future generations to cover their needs”

Brundtland 1987

SUSTAINABLE DEVELOPMENT PRINCIPLES



Authenticity - Liveability

2014/10/02
SUSTAINABLE URBAN DEVELOPMENT

LIVEABILITY – WHAT IS IT?

Blind replication (Chinese ghost city)



Bad safety and security (Tingbjerg)



Bad planning – bad context understanding
(Chinese ghost city)



Regimentation of people and thinking

LIVEABILITY - WHAT DO WE MEAN?

Understanding the local context

- It's about people



- It's about good life

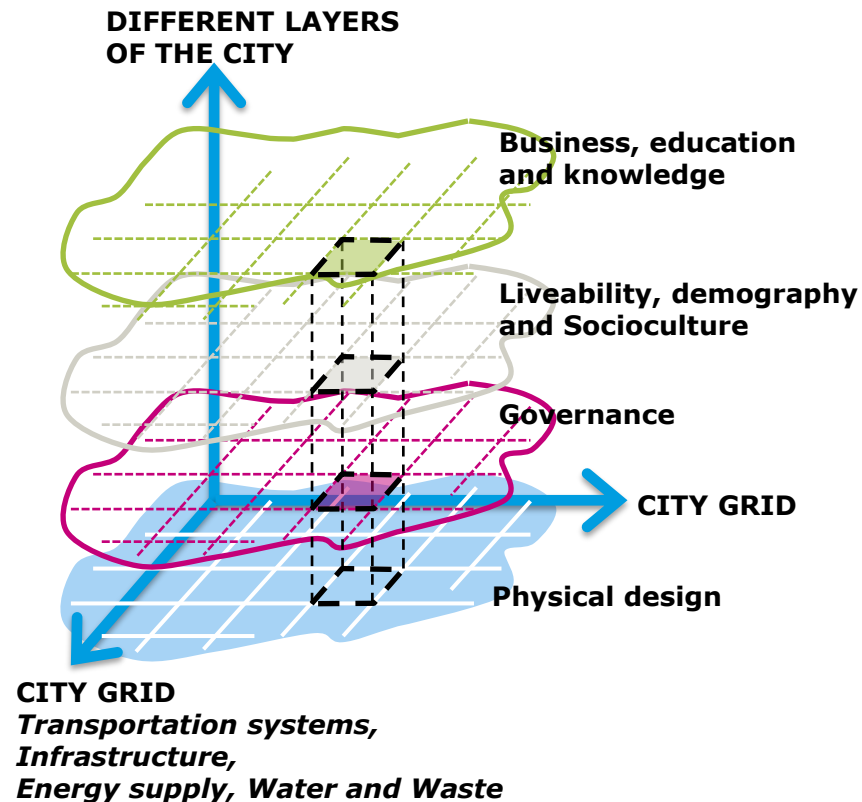


- It's about quality of life



LIVEABILITY – WHAT IS IT?

- Liveable city is a **state of mind** a city wishes to achieve
 - Urban development is a mean to get there
 - Governance, transparency and ownership are other means
- Liveability is **multi-dimensional, holistic** and sustainable
 - urban development services are **multi-disciplinary and dynamic** by nature.
- The meaning of liveability is **unique for every city**.
 - It's our job to understand sustainability and liveability in the **context of the individual city** and help the city to develop.



ACHIEVEMENTS

RECESSION ----> SUSTAINABLE SMART CITY

Copenhagen



Recession 1980



European green capital 2014

ACHIEVEMENTS

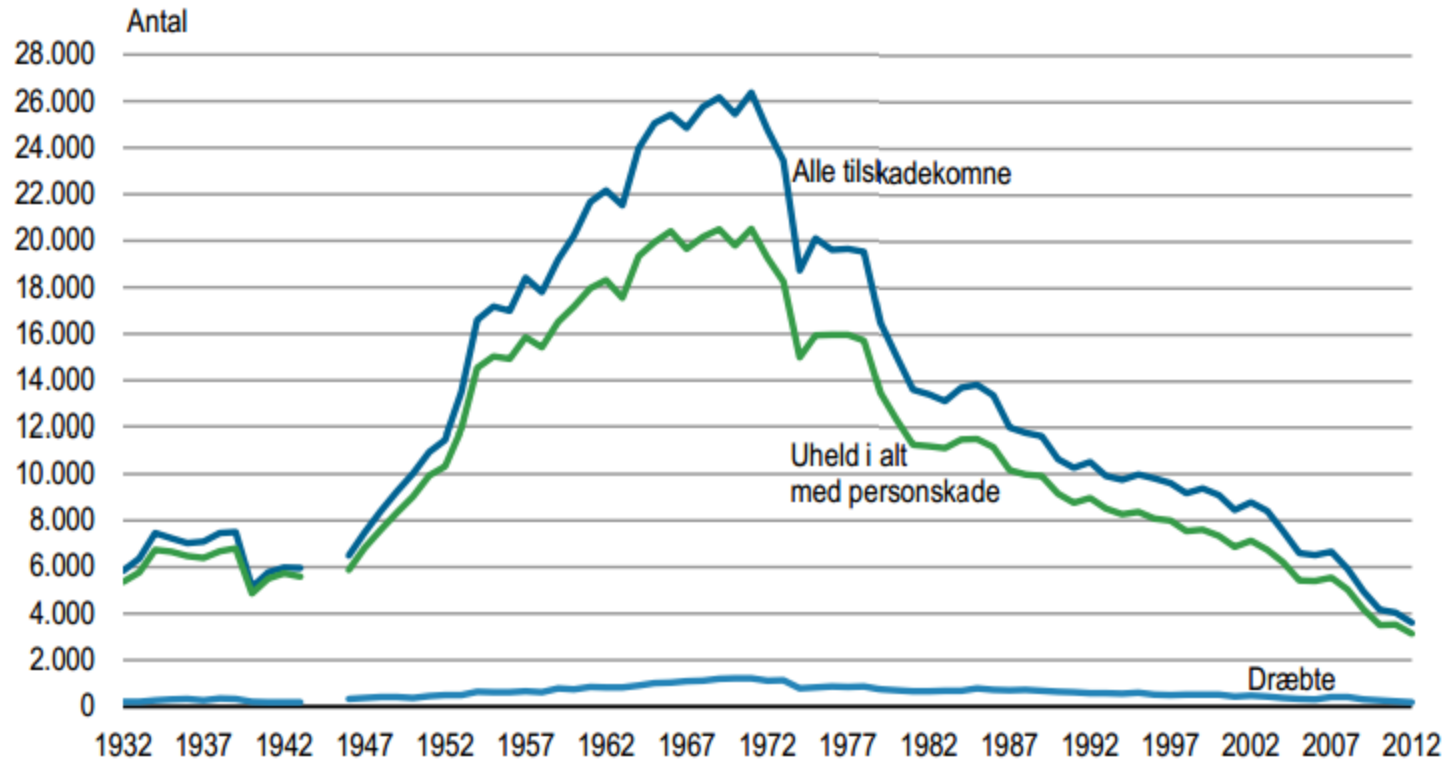
- Achievements in partnership between
 - Public authorities – municipalities, counties, states
 - The citizens – communication, transparency and ownership
 - The private sector – investors, architects and engineers
- Achievements based on long term strategies
 - Dare to take the long haul



ACHIEVEMENTS

TRAFFIC ACCIDENTS

Uheld, tilskadekomne og dræbte i færdselsuheld

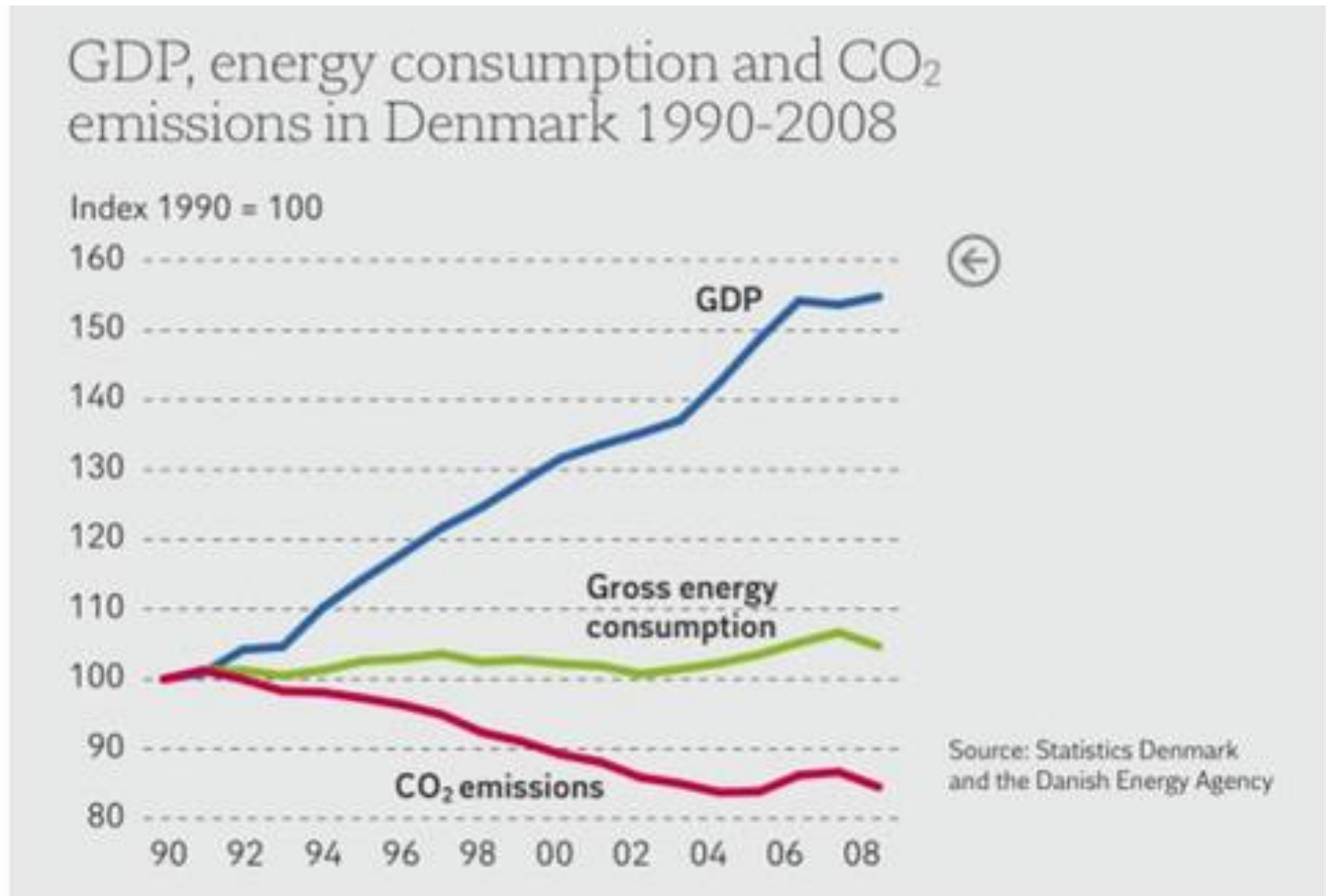


Number of killed in traffic in 2012: 167

Number of killed in traffic in 1972: 1762

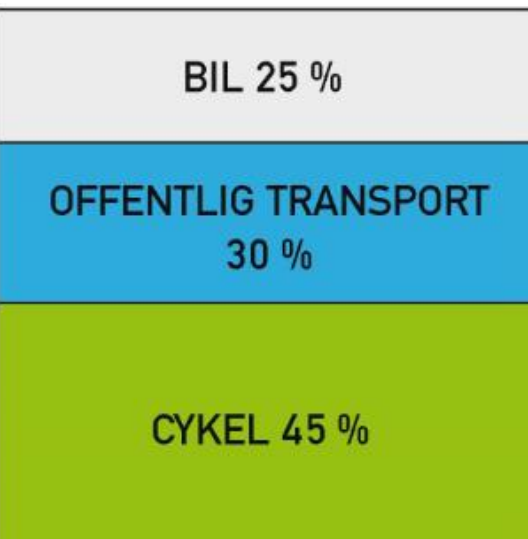
ACHIEVEMENTS

THE DANISH MIRACLE

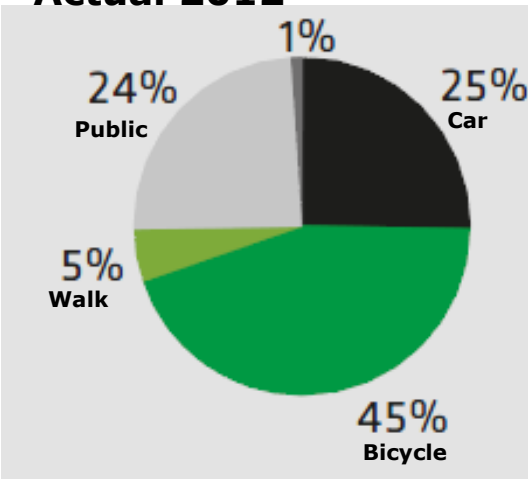


TRANSPORT

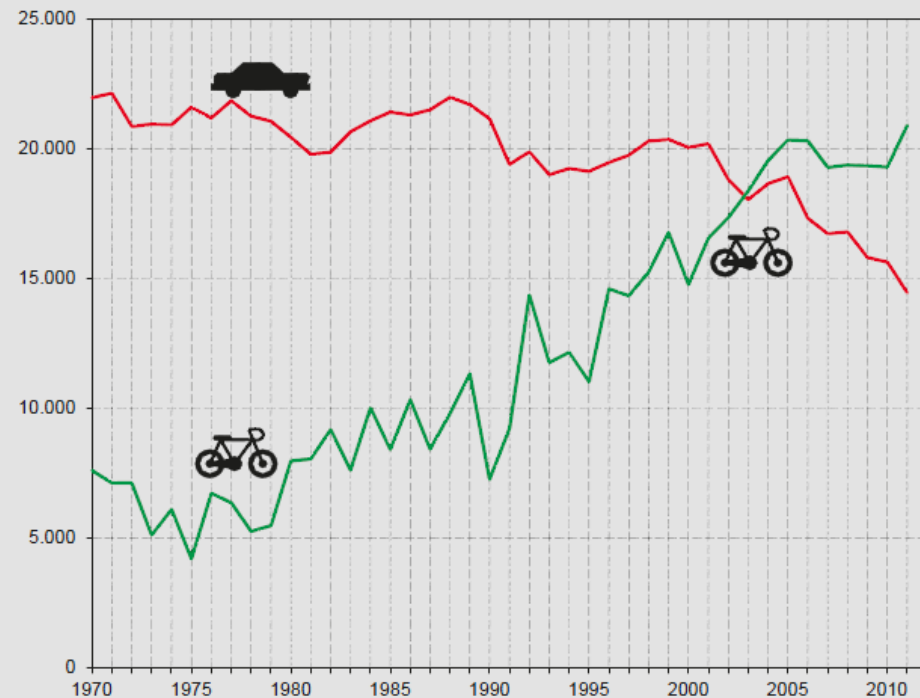
Goals 2015



Actual 2012



TRAFIKKEN Gennem SØSNITTET
 Kl. 08 - 09 mod centrum 1970 - 2011
 Cykel-/knallertrafikken er ikke vejrkorrigeret







NEW PLANNING STRATEGY



WHAT TO DO

New approach

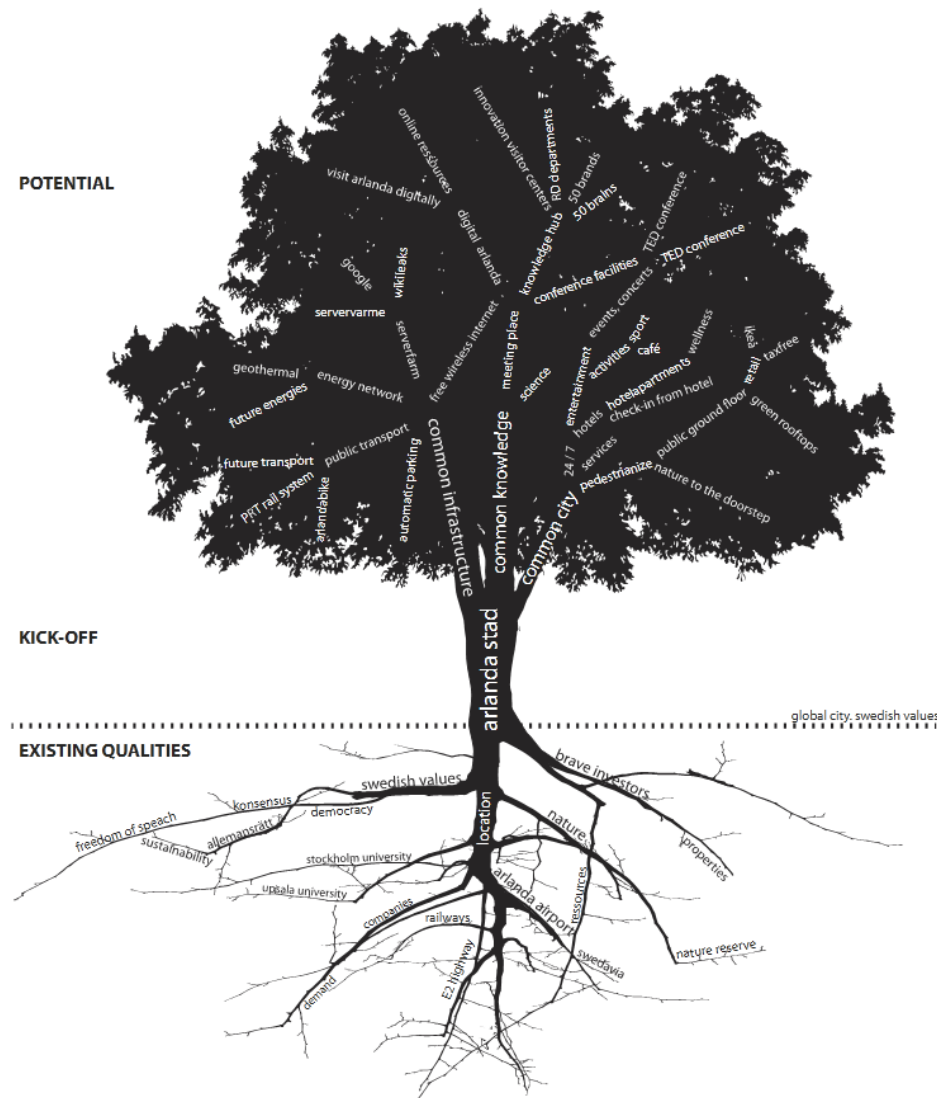
- What if Copenhagen was a company
- Planning as business development
- Market analysis
- Future trends and challenges
- Smart planning – make the most revenue of the plan
- Partnerships
- Encourage investments

Drivers for development

- Clear visions
- Identify the drivers
- Find the trigger projects
- Infrastructure before development
- Incentives for the front runners
- Activate the crowd investments
- Revenue

Smart planning strategy – What if the city was a private company?

- **Business due diligence**
- Map **existing** qualities
- Investigate **future** trends
- Discover future potentials
- Make market analysis
- Create partnerships
- Build the **common baseline**
- Create the **vision**
- Formulate conceptual business case
- Branding and **communication** of the vision
- Investment and **financial** plan



Smart planning strategy

Primary demands for planning

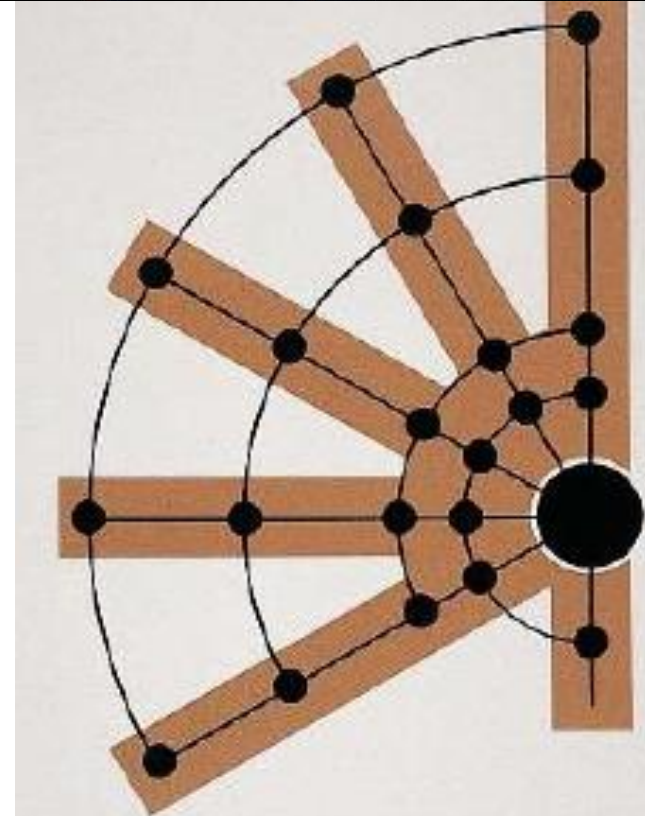
1. Workshop for **innovative solutions**
2. **World class** architecture and solutions
3. Resilience, coherence and flexibility
4. Attract **investors** – create **partnerships**
5. Strategic transport planning - **TOD**
6. Citizen involvement and **ownership**
7. **Implementation**

Long term holistic planning

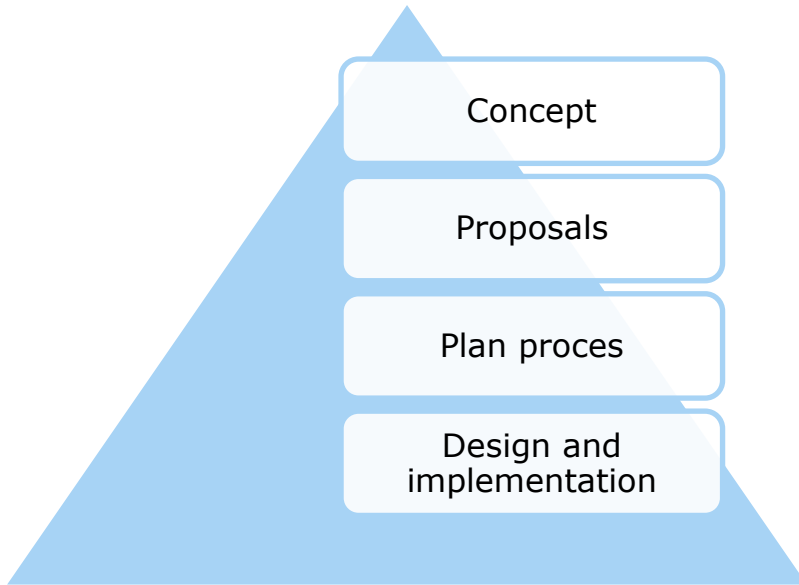
- Principles of **sustainability and liveability**

Future challenges

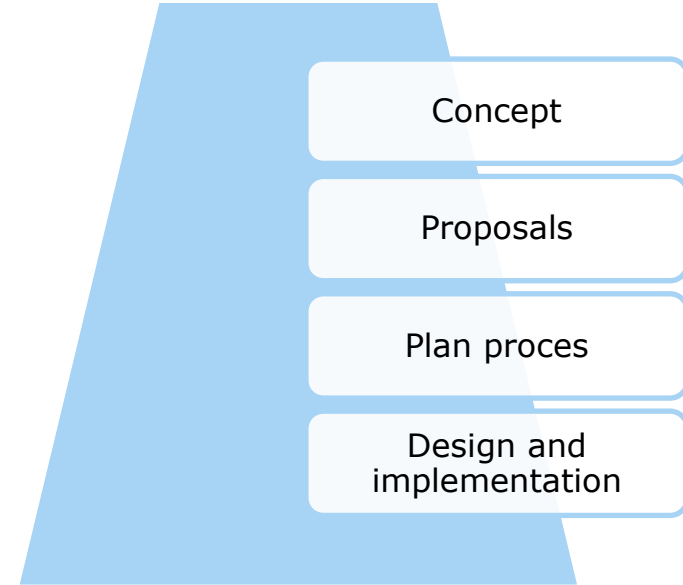
- Social medias
- Climate changes
- Depopulation of outskirt areas
- Production are coming back from China



URBAN DEVELOPMENT PARADIGM SHIFT



Work focused on implementation



Work focused on planning and
concept development

KEY URBAN DEVELOPMENT DESIGN PRINCIPLES

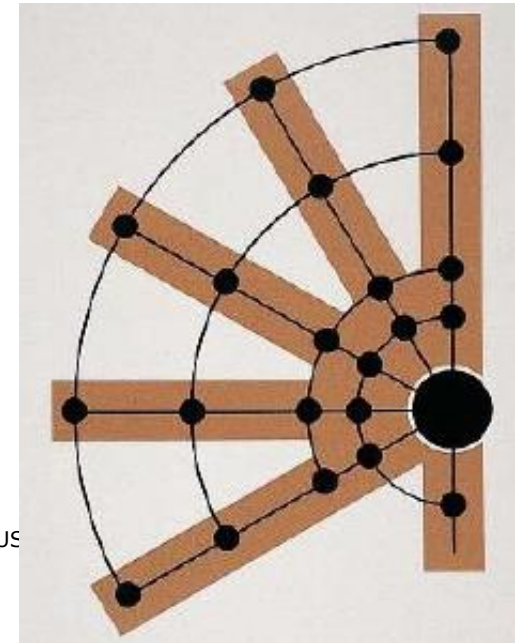
- Flexibility, resilience and coherence
- Interconnectedness
- Places for networking
- Diversity – human and businesses
- World class – attract investors
- Phased development
- Economic efficiency
- Energy efficiency
- Low impact of transport
- Human scale
- Cultural heritage
- Landscape as an attractive and activating element



Smart planning strategy

What is the cause of success

- Clear vision – ambitious goals
- Trigger projects
- Crowd investments
- Revenue based planning
- Stakeholder management
 - Citizens engagement
 - NGO organizations
 - Investors
 - Utility providers
- Ownership – partners, NGO, citizens
- Communication, branding
- Business and finance



SUS

Orestad – New urban development model



Purpose

Develop and sell building rights to finance the Copenhagen METRO

Development idea

Land transferred to development company

Urban development plan

Mortgaging of the added value

Planning and construction of METRO and infrastructure

Land value rise and building rights are sold

Repayment of loans

Transfer of infrastructure to Municipality

Status

65% developed

2014/10/02

SUSTAINABLE URBAN DEVELOPMENT

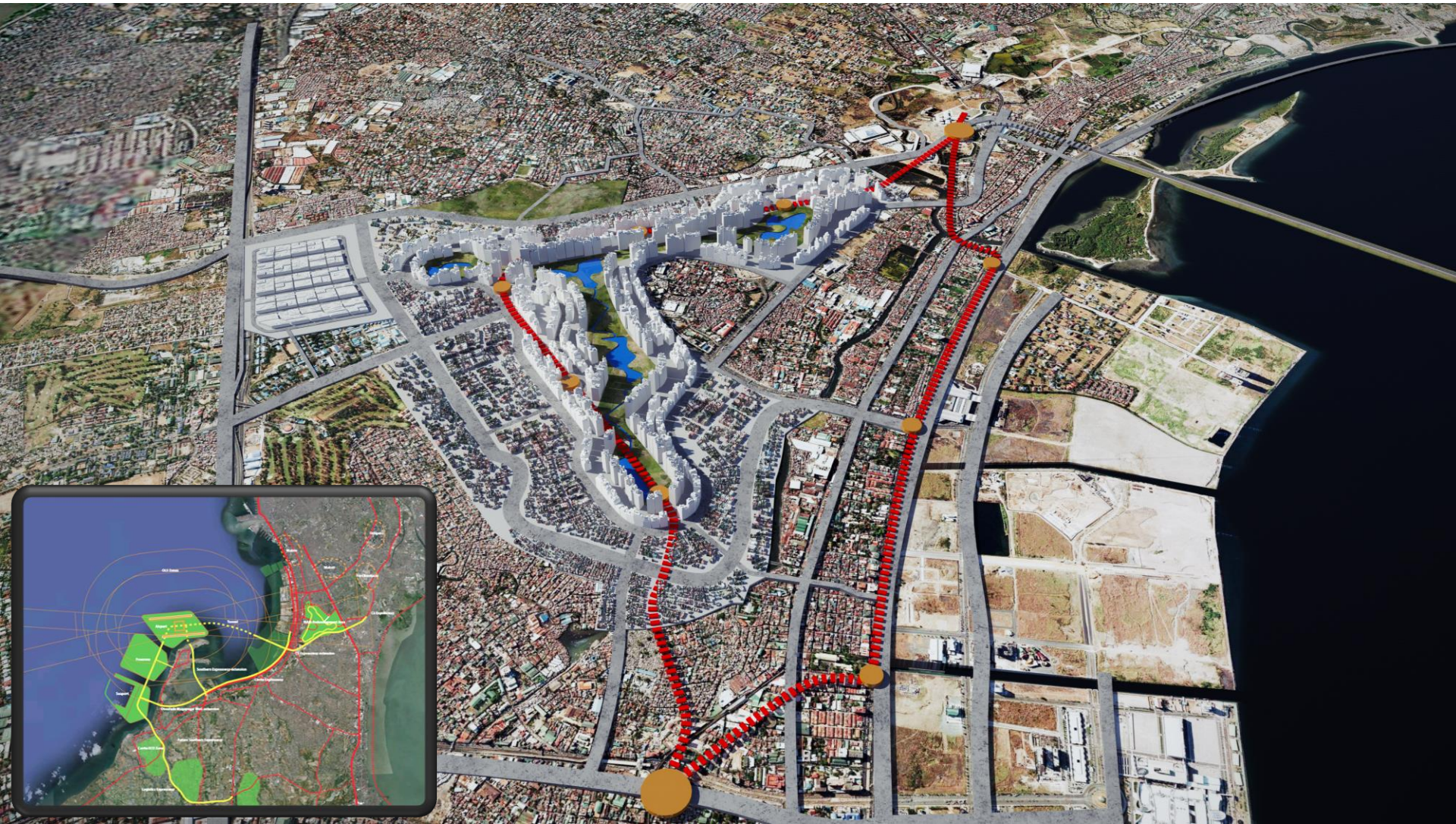
SKOLKOVO, MOSCOW - RUSSIA



Inhabitants	21 000
Employees	31 000
Development	2 500 000 m2
• University	162 000 m2
• Techno Park	145 000 m2
• Office (Majors & Start Up)	365 000 m2
• Residential	860 000 m2

MANILA

NEW GATEWAY TO PHILIPPINES



SUSTAINABLE URBAN DEVELOPMENT IN CHICAGO



Visualisation: Skidmore, Owings & Merrill LLP/MIR.

Sustainable smart urban development



Copenhagen Harbour

- 40.000 inh. 40.000 workplaces
- **CO2 neutral**
- **Sea salad** for bioethanol and biogas
- District heating and cooling
- Large **energy store**
- Intelligent waste handling
- Public transport prioritization
- Parking strategy
- Super bicycle paths
- Solar systems
- **Smart city** solutions



NORDHAVN

Climate adaption solutions



NORDHAVN

IMPROVE MOBILITY – REDUCE TRAFFIC

5 minute city

- **High class public transport** is one of the defining elements
- **Direct** and high class **bicycle** routes – super cycle paths
- **Crooked car** routes
- **Location strategy** for buildings for public use – institutions, shops, culture etc.
- **Design** as attractor to public transport and bicycle routes



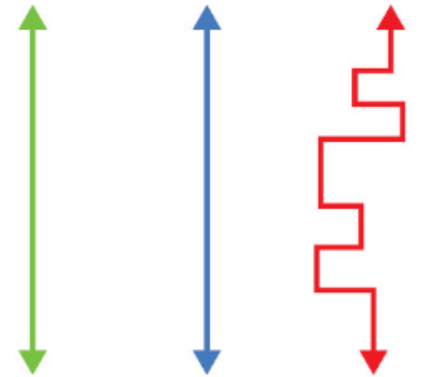
DEFINITION OF 5 MINUTE CITY

The five minute city makes it possible to **reach** basic shops, institutions, work places and cultural facilities **within 5 minutes walk**

Or within **5 minutes walk to a public transport** mode leading to the destination.

Why

To create urban life
Social meetings
Networking
Sustainable transportation



Bike/
Walk

Public

Car

Rainfall– 2nd July 2011

FLOODING in Copenhagen in 2011

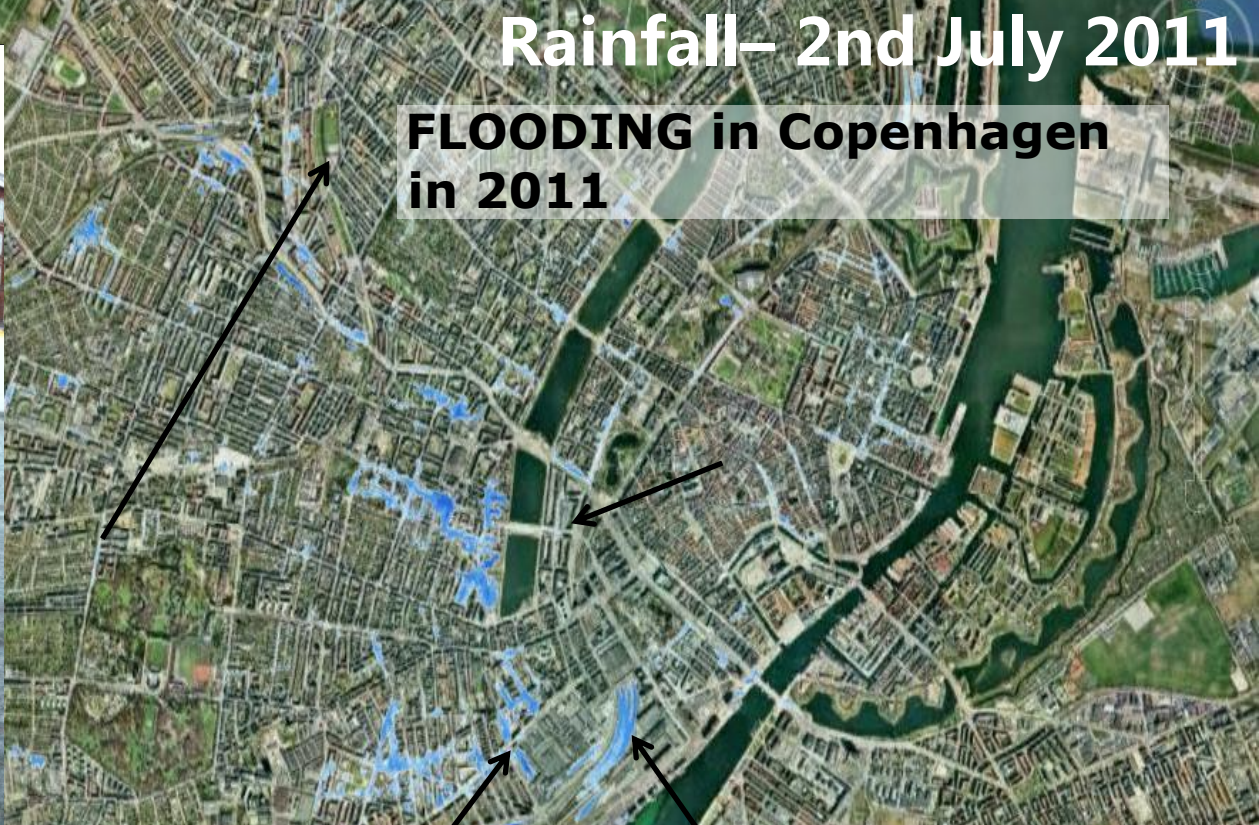


Image © 2011 COWI A/S, DDO

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RAMBOLL

New Road System

Urban Synergi

+ binder Skydebaneha

Ditlevsens Plads samr



(2,5 m)

Bed

(6,5 m)

bil | cykel

2,5 m

Fortov

RAMBOLL

HVE

NEW RAIN PARK



Skydebanehaven as flood park



Wrap up – how stimulate innovation and growth

What is the cause of success

- Clear vision – ambitious goals
- Find trigger projects – fx climate adaption
- Catalyze crowd investments
- Revenue based planning
- Stakeholder management
 - Citizens engagement
 - NGO organizations
 - Investors
 - Utility providers
- Ownership – partners, NGO, citizens
- Communication, branding
- Business and finance



THANK YOU

