



# Influences of Physical Environment on Daily Physical Activity.

Where is Danish Research Heading?

MOVE 2009 World Congress on Active Cities: Sport, Health & Citizenship  
Copenhagen, October 22nd, 2009.

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**Institute of Sports  
Science and Clinical  
Biomechanics**





Institute of  
Sports  
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Clinical  
Biomechanics

Centre for Applied Research in  
Health Promotion and  
Prevention





# History

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- **Infrastructure needed for prevention research in Denmark:**
  - Many diverse activities but lack of scientifically based interventions
  - New reform: Responsibility of health promotion and prevention to municipalities, need for development of tools and competences

## **The answer:**

Centre for Applied Research in Health Promotion and Prevention funded by the Danish TrygFond with a donation of 100 million Dkr

## **Aim:**

Trials on new, innovative interventions and conduct implementation research on interventions with known effects

## **Collaboration with:**

Municipalities, Danish Cancer Society, Danish Institute of Governmental Research, University of Århus and Copenhagen, Region of Southern Denmark and many others...



**Work Package I**  
**Health behaviour interventions in schools**

Leader: Pernille Due  
National Institute of Public Health

**Projects**  
Diet and physical activity  
Smoking  
Fruit and vegetables  
Hygiene

**Work Package II**  
**Alcohol, labour market integration and social inequality**

Leader: Janne Tolstrup  
National Institute of Public Health

**Projects**  
Vocational schools  
Brief intervention  
Alcohol treatment

**Work Package III**  
**Environment and physical activity**

Leader: Jens Troelsen  
Inst. of Sports Science and Clinical Biomechanics

**Projects**  
SPACE  
When Cities Move Children

**Centre Core**  
Head of Centre: Tine Curtis  
National Institute of Public Health

**Internal functions**      **External functions**

**Centre secretariat**

**Professional experts**





# Common believe



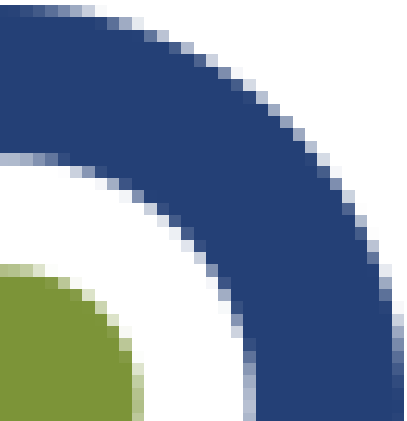


# Conference statement



“But urban planning and construction are long-term projects with long-term perspectives. What are the best practices in urban planning, and can we wait for its results?”

“Are there any short cuts?”





# How does it work?



Ecological approach to change





## “Meeting citizens where they are”?



- We are investigating human behavior – so our most important aim is to meet people where they are.
- Our surveys have functioned as a way of citizen involvement in municipality decisions.
- Our future intervention research must take local consideration and involve the target population to be most effective.





# Surveys as citizen involvement

Setting:

Kolding and Roskilde

Population:

ca. 1000 adults from each city

Method:

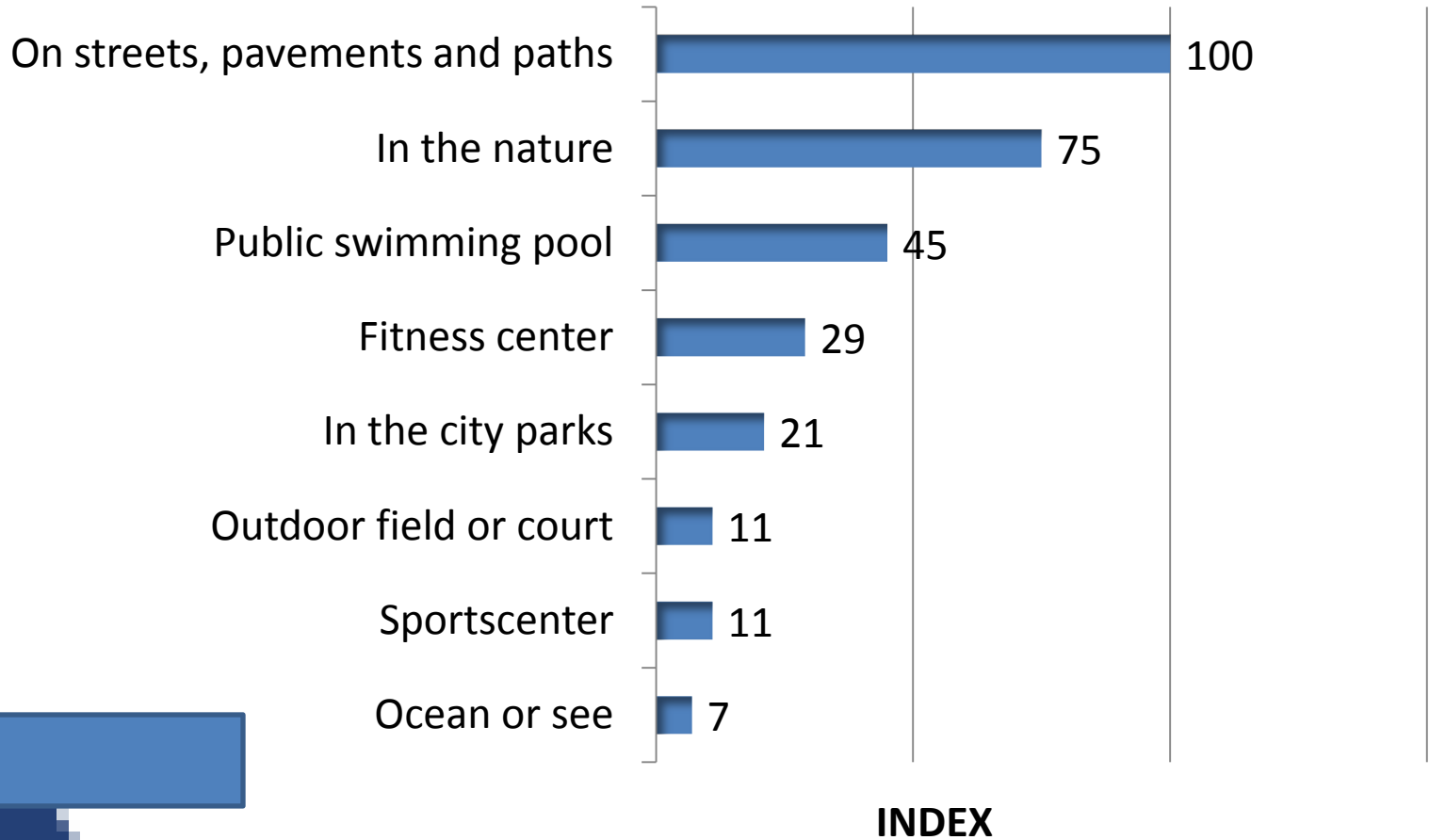
Electronic survey

Aim:

Differences in physical activity within the cities  
and what will make citizens more active?



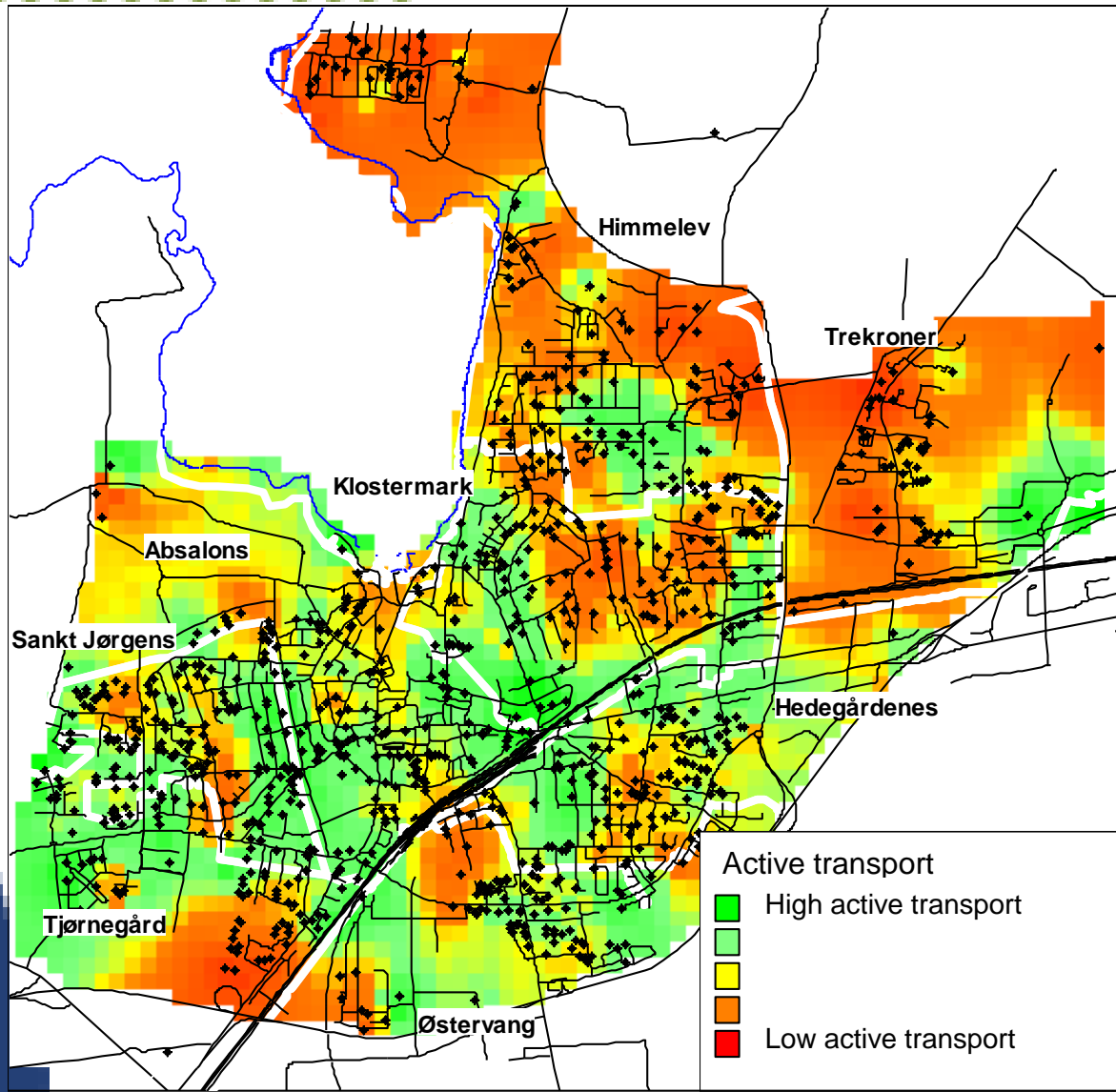
# Preferable places for moderate physical activity



Kolding

# Internal differences in active transport

Roskilde



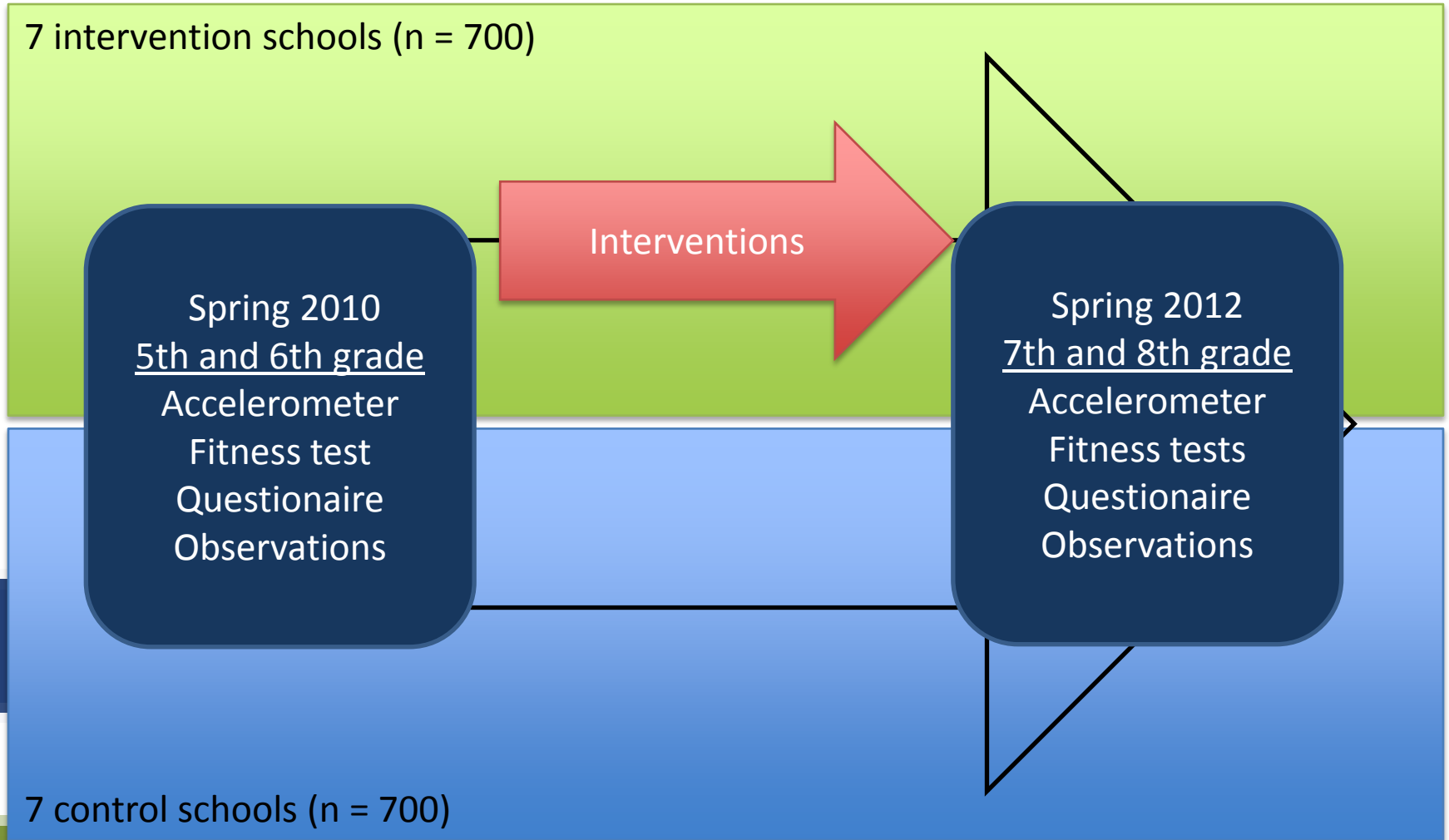
# Intervention studies

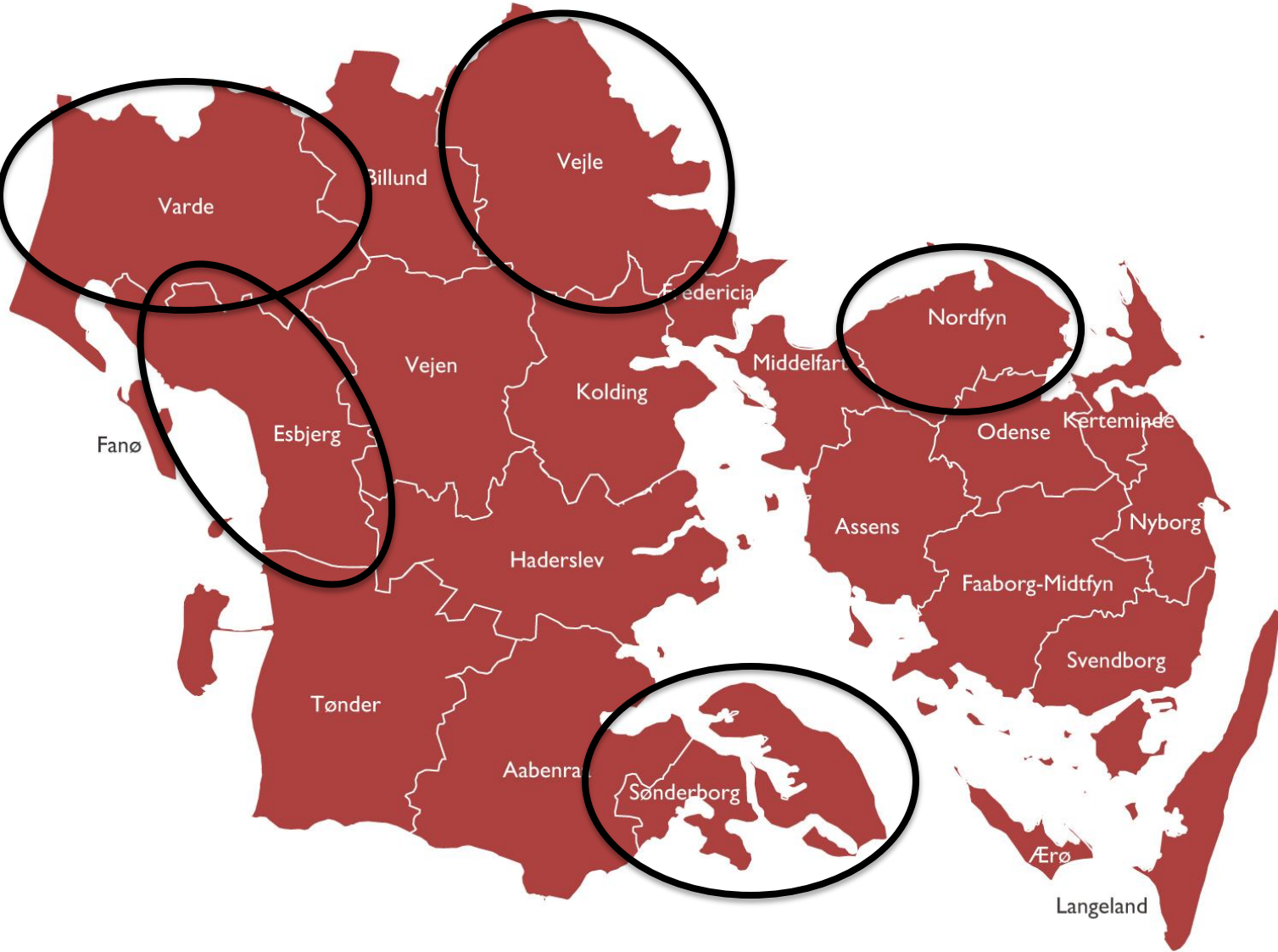


- School site
- Playspot
- Active transport
- Club fitness
- Environment

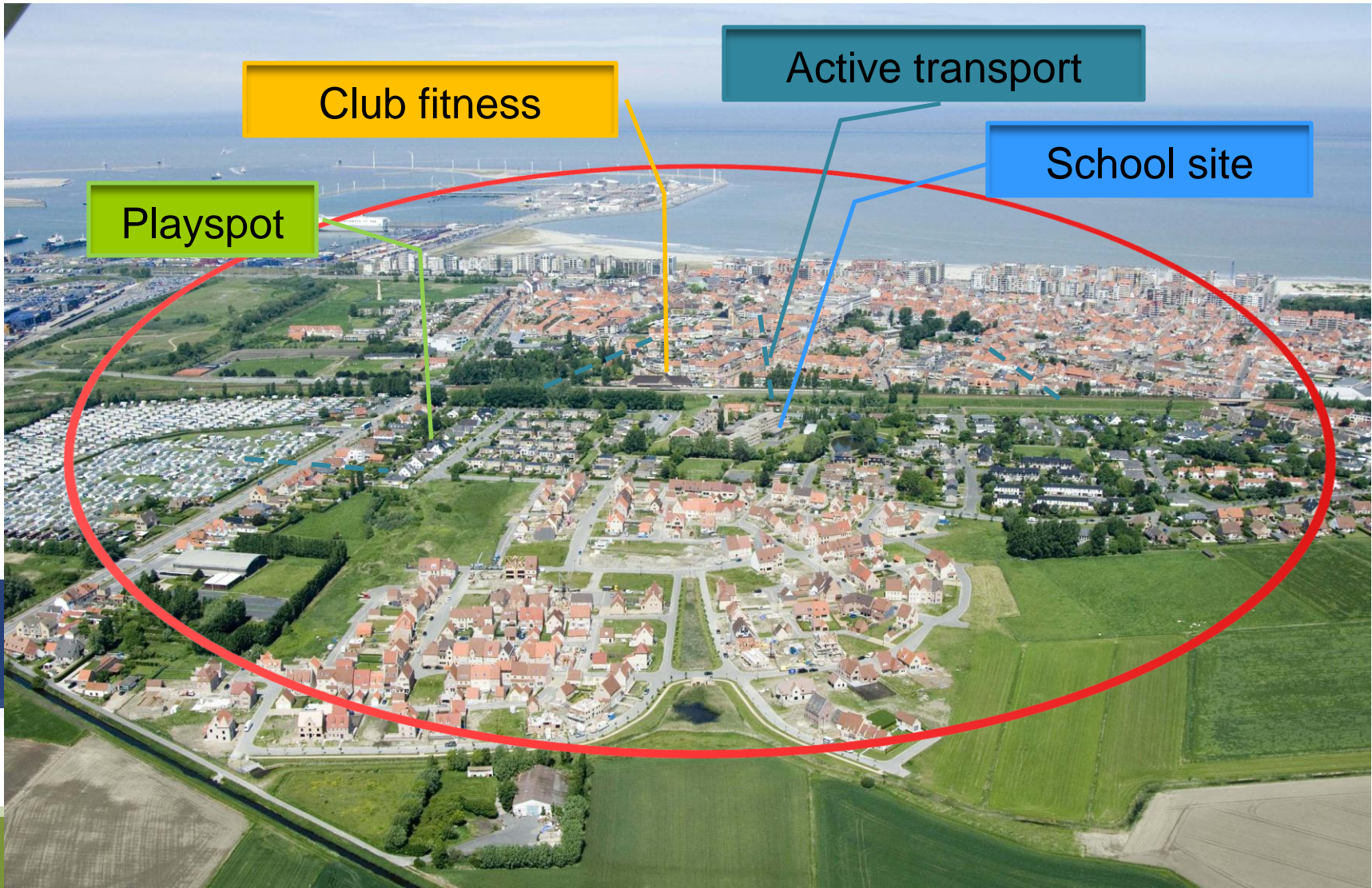


# Study design





# Multicomponent intervention for adolescents





# When Cities Move Children

- How does urban renewal influence children's physical activity levels and movement patterns?







# Example 1: The three sisters






## Example 2: Establishment of a street full of movement






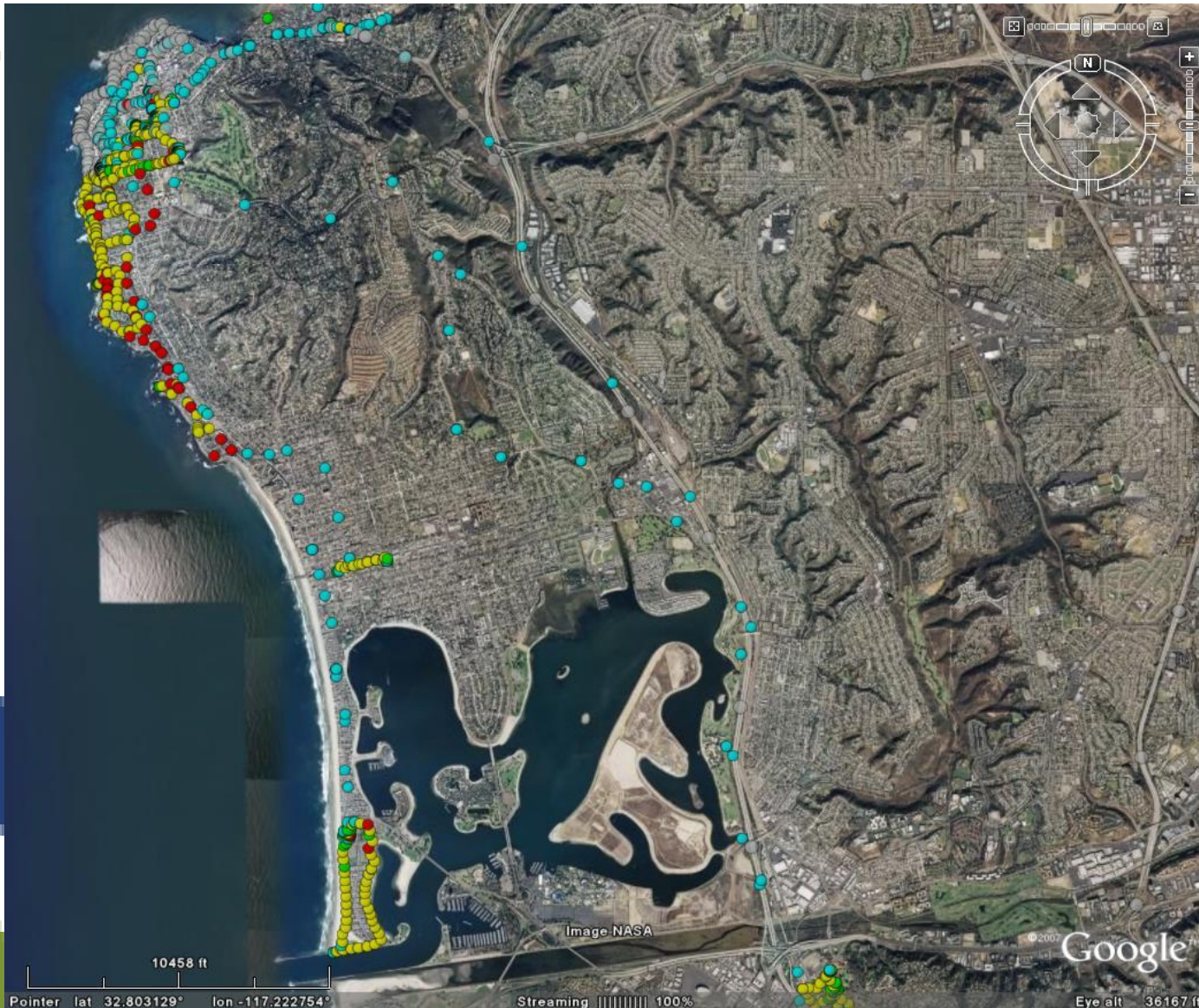
# The study

- All children in grade 5 and 6 in five local schools
  - Almost half will live in the area
  - Baseline spring 2010, follow-up spring 2012
  - Intervention: physical improvements in this period
  - Outcome: changes in physical activity and movement patterns
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# Methods

- Questionnaire
  - Observations
  - Physical activity (accelerometers)
  - Movement patterns (GPS)
  - Activity in different locations (accelerometer and GPS)
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When combined  
with GPS, we  
know  
*where* activity  
occurs

Combination  
of data  
shown in  
Google Earth

resting  
light  
moderate  
vigorous




# Outcomes:

- Location analyses
    - Identify which locations children prefer
    - Time spent and intensity in different locations
    - When: time of day, day of week
  - A day in a Child's life
    - Percent time in home neighborhood
    - Time spent outside/indoors
    - Least/most active locations
- 




## So how far are we in 2013?

- Results from at least two comprehensive intervention studies
  - New knowledge – does changes in the local environment lead to more physical activity among children?
  - If yes: Recommendations on how to create environments that encourage children to be more physically active
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## More information:

- [www.forebyggelsescenter.dk](http://www.forebyggelsescenter.dk)
  - [www.sdu.dk/health/iob/](http://www.sdu.dk/health/iob/)
  - [www.si-folkesundhed.dk](http://www.si-folkesundhed.dk)
  - [www.ipenproject.org](http://www.ipenproject.org)
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