RURAL DENSIFICATION AND THE LINEAR CITY - A THOUGHT EXPERIMENT

THE CHALLENGE

Urban (rural) densification

Dense and low-rise

Linear cities

KIMITO

INHABITANT INTERVIEWS

SITE ANALYSES

MAIN FUNCTIONS IN KIMITO

STRUCTURES AND NETWORKS

3 STRATEGIES IN TOTAL – 1 SITE

Rural densification

Dense and low-rise

Linear cities

1990 2015

Turku

Dalsbruk

Kim

Kimito

Sauvo

65%

pop 260,000

of a similar size and closest large cities.

35%

pop 1,200

1990 2015

Couples with children

55%

35%

1990 2015

MOVE Co

1990 2015

MOVE Co

55%

35%

Helsinki

Perniö

Salo

Kimitoön municipality

Kimito town

Kimitoön Island

Population development 1990-2016

INHABITANT INTERVIEWS

Kimito is a small town in south-west Finland. Close to the sea. Local services still here you can just drive into everything we realistically can wish for. I don't really miss anything here. We have artists can display their work. – middle-aged woman

I recently moved – middle-aged man

It's a calm and nice place. Everyone here is friendly and always willing to help. – old woman

– school-aged boy

– old woman

Try a linear strategy!

How can this work for the full length of the town?

By diversifying your selected "senses"?

Would this destroy the country-side feel?

How can the linear city be involved?

By providing space for different ways of life depending on your life situation.

What is in it?

No net population growth.

By diversifying your selected "senses"?

How can this destroy the country-side feel?

By a linear strategy?

By providing space for different ways of life depending on your life situation.

What is in it?

No net population growth.

Rural densification

Dense and low-rise

Linear cities

3 STRATEGIES IN TOTAL – 1 SITE

KIMITO

MAIN FUNCTIONS IN KIMITO

INHABITANT INTERVIEWS

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REFERENCE PROJECTS

- **Kimito**
- **Bålsta**
- **Håbo**
- **Helsinki**
- **Sat.ax**

COMMON BUILDING TYPOLOGIES

- **Low-rise**
  - Traditional village house
  - 1970s apartment block
  - 1930s commercial
  - Traditional farm house
  - 1980s/1990s row house
- **High-density**

HOUSING NEEDS

- **Youngster**
  - No kids
- **Family**
- **Senior**

THEORIES, CONCEPTS

- **Urban linearity**
- **Green linearity**
- **Psychological density**
- **Physical density**
- **Closeness to the ground**
- **Large-scale experience of dwellings**
- **Visibility across yards**
- **How many floors?**
- **How is the scale experienced?**
- **Supply and demand**
- **Cultural acceptance of density**
- **New areas, extensions and densification**

LOW-RISE DENSIFICATION POSSIBILITIES

- **Buildings as service centers**
- **Traditional service centers**
- **Density and scale**
- **Consider the needs of different inhabitant groups**
- **Shops**
- **Public (front) and private (back)**
- **Yard**
- **Home**
- **Senior living**
- **Amenities**
- **Schools**
- **Shopping**
- **Working**
- **Living**

CRITERIA TO CONSIDER IN DENSE AND LOW-RISE*

- **Density**
  - How many floors?
  - How is the scale experienced?
  - Supply and demand
- **Cultural acceptance of density**
  - High-density areas
  - Low-density areas
- **New areas, extensions and densification**

FUTURE PLANS

- **Trees**
- **Private/public meeting**
- **Working**
- **Living**
- **Parks**
- **Shopping**
- **Industries**
  - Centre (mixed use)
  - Housing
  - Forests
  - Green linearity
  - Urban linearity
- **Forest urban agriculture**
- **Transport**
- **Berry/mushroom picking**

THE MUNICIPALITY’S MASTER PLAN

- **Centralgatan**
  - A cohesive identity by planting trees along the whole stretch of the street.
- **Villager’s street**
  - The main street is given a cohesive identity by planting trees along the whole stretch of the street.
- **Settlement**
  - Trees are placed at the existing industrial area, which has space for new areas.
  - The open landscape is also an important biotope for cereals.
- **Dröling**
  - It consists of the existing Sagalund Outdoor Museum.
  - In the rest of the area consist mostly of already built areas.
  - The open landscape is also an important biotope for cereals.

AN ALTERNATIVE MASTER PLAN

- **Linearity form an important recreational, as well as ecological, area**
  - The green linearity is formed along the main street of the town.
  - The most part of the lot is formed by the long-stretched open landscape, its forest-covering.
  - In the rest of the area consist mostly of already built areas.
  - The open landscape is also an important biotope for cereals.

THE THEORETICAL CHARACTER OF RURAL LINEARITIES

- **Centralgatan**
  - A place where people are “at home”
  - How many floors?
  - How is the scale experienced?
  - Supply and demand
  - Cultural acceptance of density
  - New areas, extensions and densification

MANAGEMENT

- **Ownership apartments and rentals**
  - Independent builders and industrial production
- **Buildings as service centers**
  - Traditional service centers
- **Density and scale**
  - Consider the needs of different inhabitant groups
- **Shops**
  - Public (front) and private (back)
- **Yard**
  - Home
  - Senior living
  - Amenities
  - School
  - Shopping
  - Working
  - Living

- **Trees**
  - Private/public meeting
  - Working
  - Living
  - Parks
  - Shopping
  - Industries
  - Centre (mixed use)
  - Housing
  - Forests
  - Green linearity
  - Urban linearity
- **Forest urban agriculture**
- **Transport**
- **Berry/mushroom picking**

*Look for alternatives

**Source:** Municipality of Håbo
**Source:** Kod Arkitekter
**Source:** City of Helsinki
**Source:** sat.ax
**New Building Types**
- New townhouses
- New semi-detached houses
- New terraced houses
- New low-rise residential buildings
- New low-rise office buildings
- Accessory apartment
- Commercial spaces + apartments
- New townhouses
- Neo-traditional wooden town houses
- Existing building
- Villas, village houses
- Accessory apartment
- Townhouses
- Street-facing row house

**Area Characteristics**
The linear densification is done by giving a different character to each part characterized at different times. One face has the existing character of each area.

**New Building Types**
- Other buildings/types
  - Villas, village houses
  - Accessory apartment
  - Townhouses
  - Street-facing row house
  - Existing building

**Urban Structure**
**Urbane Structure**

**Sequence 1: Densification of Village**
- FAR 0.04 → 0.09
- Functional emphasis on green linearity and urban linearity
- New buildings are added that have a similar size to the existing buildings in the village
- The center of the town will be densified by a mix of commercial and residential functions. Building types that are introduced are street-facing row houses and mixed commercial+apartment buildings

**Sequence 2: Small Town**
- FAR 0.06 → 0.20
- Urban linearity and green linearity meet
- New buildings are placed to the east
- The small town consists mostly of residential use
- Landowners can place new buildings to the east if the curvy street is created in the area

**Sequence 3: Densification of Center**
- FAR 0.15 → 0.23
- Urban linearity
- Mixed car and bike lanes are not recommended
- Residential use with small houses

**Sequence 4: Densification of Village**
- FAR 0.06 → 0.20
- Lower dense settlement
- Small town works as an extension of the core of the town

**Street Layout**
- Segments of the street have been moved in Sequence 2 and 3.
- Problems that arise are related to property borders:
  - In the particular case shown on the left, there are buildings on the south side that have entrances to the street.
  - In order to increase its acceptance, the densification has been done without altering property boundaries.
  - Furthermore, where it is possible, existing property borders have been respected when new buildings are placed or properties have been split into smaller properties. This way landowners can realize their construction plans without much rearrangement.

**Existing Structures**
- Existing structures are used to densify existing lots.
- The street and accessory apartment buildings are added to the area. New buildings are brought a bit closer to the existing buildings in the area, and character as the existing buildings in the sequence 1.

**Tools**
- Urban linearity
- Green linearity
- Mixed car and bike lanes
- Bike lanes between parking and sidewalk
- Mixed car and bike lanes
- No car parking
- Sidewalks + bike lanes + car parking + car lanes

**Sequence 1: Densification of Village**
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- Mixed car and bike lanes
- No car parking

**Sequence 2: Small Town**
- FAR 0.06 → 0.20
- Urban linearity
- Green linearity
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- Bike lanes between parking and sidewalk
LINEARITY
1. The traditional approach to densification and sprawl
2. The theoretical approach according to linearity
3. The result in practice

What are the benefits?
- Elderly can live closer to services and children have a shorter way to school.
- Linear densification can make the municipality afford to build new public areas, such as parks.
- Densification can create a feeling of a small town without massive construction.
- Elderly can make it possible for elderly to live closer to relatives, even on the same lot.
- Low-rise linear densification means landowners can sell parts of built land is used for construction.
- Linear densification "saves" the landscape as less unneeded. The open field functions as a meeting place between urban and rural characters: the valley and the small creek meander through the landscape, and it is framed at this particular place by buildings around the edges. The field will keep its open character, but will be more like an urban park with small commercial buildings are built on the parking lot on the right (north). Additional commercial buildings are placed behind the existing ones to expand the village.

Local comments
The finished project was presented to a group of local politicians and municipal officials.

As mentioned, densifying the village center could benefit from getting a more square-like character as a meeting place of the village. The village center could benefit from getting a more square-like character as a meeting place of the village. The village of Vreta already has kind of a village center. Not that many new buildings have been added here, instead new buildings are placed behind the existing ones to expand the village.

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Sequence 1: Densification of Village
Sequence 2: Small Town / Green Meets Urban
Sequence 3: Densification of Center
Sequence 4: Densification of Village

The limit to linear development when it be comes inconvenient and unpractical.