EQUALINES

HOW FAGERSTRAND CAN OFFER EQUAL OPPORTUNITIES THROUGH LINEAR CONCENTRATION

Various "lines" pave the way for Fagerstrand's transformation towards a prosperous, ecological, and equitable future. A central urban axis offers equal opportunities for old and new residents by establishing a strong local economy. A re-naturalized seaside restores and celebrates local ecosystems, giving the people of Fagerstrand the chance to experience a thriving post-industrial landscape along a permeable waterfront. A robust green network preserves and expands continuous habitats. The edges between built and unbuilt areas are activated through a variety of functions that enhance porosity between cultural, economic, and environmental flows.

INTRODUCTION

As Fagerstrand is posed for densification, a conventional set of "urban questions" arises: where should the new center of the town be? What is a suitable functional mix? How can the protection of unbuilt land be balanced with the protection of residents' properties? Furthermore, more place-specific questions come up: how can the strict separation between the industrial sites and the residential areas be loosened? How can the qualities of rural dispersion be aligned with the qualities of urban density? EQUALINES explores these questions through a simple principle: linear concentration.

Basic Idea: Linear Concentration

For many decades, the European debate on urban development was largely fought out between concentric center-periphery models and distributed dispersion. Models for linear urbanization exist, but they mostly seem to be radical interventions with limited context sensitivity (see for instance visions like Le Corbusier's Linear City in Algeria, Edgar Chambless' Roadtown, and the realization of the "Schlangenbader Strasse" building complex in Berlin). Fagerstrand, however, appears to be grown organically along and around lines that already define the town's current character: a shoreline, a regional road, or a creek. Therefore, this project aims for discrete forms of linear concentration that preserve and expand existing qualities. The hypothesis is that linearity enables more equal access to opportunities than a single center could do.

Dimensions of Exploration

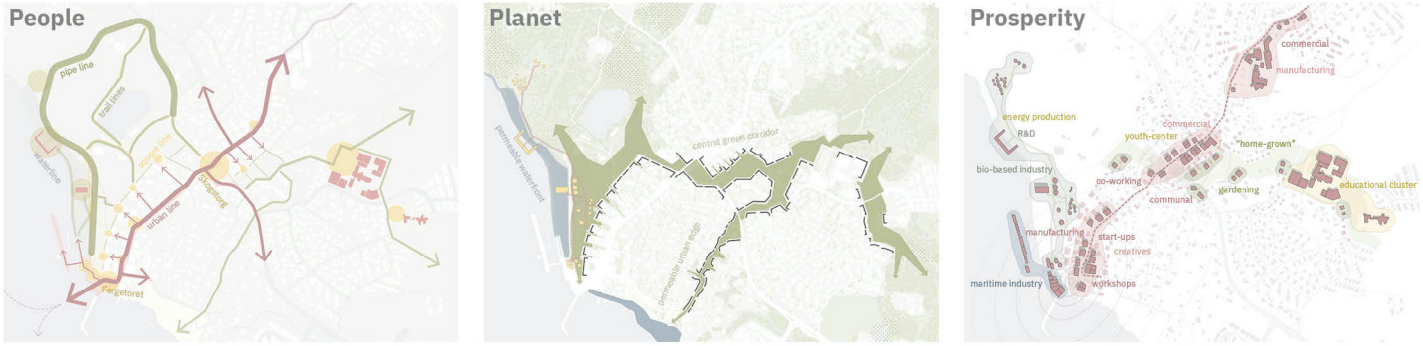
Linearity is explored in this proposal through three dimensions: people, planet, and prosperity. This is derived from classic sustainability theory of the triple-bottom-line: social, environmental, and economic sustainability. It is also largely in line with the UN's conceptualization of holistic sustainable development. Therefore, these three layers are used here to explore the multiplicity of functions that can be associated with the framework of linear concentration.

Basic Spatial Lines

The main spatial interventions and the lines that they create can be summarized as follows:

1. A new urban axis along the Fagerstrandbakken bundles the majority of densification, including business and community functions. Newly built compositions of point-houses are combined with infill developments.
2. The industrial site along the waterfront is opened up and re-naturalized into a wetland habitat. Singular structures from the old industry (including the silos) remain and form the centroids for new flows of leisure, energy, and food production.
3. The existing structure of pipes from the old industry is used for the distribution of produced and captured goods, such as biomass, algae, electricity, and water. The pipes are also used for the creation of a new trail along the water and through the forest - the Rørvei ("Pipe-Path").
4. The landscape around the Lillerud dam remains largely untouched. The expansion of the Pipe-Path allows for an experience of post-industrial remnants without harming the environment. Towards the east of the project site, careful interventions and permeable urban edges help to consolidate the most important green axes.

The remainder of this text presents the characteristics of these interventions in detail, using the three dimensions of exploration (people, planet, prosperity). This means that each intervention will be mentioned multiple times in different contexts in order to show the multi-layered qualities of this proposal.



Diagrams showing the spatial expression of the three layers through which the idea of linear concentration is explored

PEOPLE

For old and new residents of Fagerstrand, the most important transformation will be the establishment of the central urban axis. First and foremost, this axis is a recognizable place for people to meet and move along. Its narrowing and widening character provides space for different uses along a sequence of squares. In its full extension (year 2035), the axis has a length of approximately 800 m.

Mobility

The axis is also where the most important mobility functions are attached to. It is designed as a multi-modal public space. Reduced contrast in the pavement gives cars a designated route but signals them that they are only “guests”. Parking is mostly organized in central mobility hubs along the axis. Existing bus lines are expanded, with stops at the central square and the port (both of them next to the respective mobility hub). The new ferry terminal forms a start- and end-point to the axis - inviting visitors into the town and guiding residents on their daily commutes.

Experience a Post-Industrial Landscape

The square at the port is also the main entry into the new landscape experience. A collection of commercial functions (in old and new buildings), public squares, tourist information, and a public swimming pool guide visitors into the experience of the post-industrial landscape. The main route of exploration is the Pipe-Path, which can be used for a hike of around 40 minutes (ca. 1,500 m) if one takes the longest route. In the southern part of the waterfront, people can choose from a variety of routes, also including an elevated path through the new wetland. Thereby, also long-time residents do not get bored during their jogging routines and evening walks.

Urban Development Strategies and Housing Types

Many new residents are expected to come to Fagerstrand in the coming decades. In this concept, most of them will be accommodated in development areas along the axis. In order to preserve the majority of existing buildings, the focus lies on adjacent development and “infills”. Adjacent developments offer the opportunity to articulate higher densities through a careful increase of grain and height. Infill developments use empty plots and encourage the owners of larger properties along the axis to subdivide their plots and initiate cautious densification. These two strategies lead to a large variety of housing types - from existing single-family-homes and semi-detached houses to townhouses and multi-apartment point-houses. This also offers homes to various income groups.

PLANET

Renaturalization of the Waterfront

Decades of resource depletion have harmed the Nesodden region. Now that Fagerstrand, Norway, and the world aim to enter a new age of environmental sustainability, remnants of this dark past need to be renegotiated, yet not to be forgotten. Therefore, the core strategy here is to re-naturalize Fagerstrand’s industrial waterfront: most industrial buildings are dismantled, the concrete surface is broken up, and the strict separation between water and land is softened.

New Ecological Resource Flows

The remaining buildings take over a key role in Fagerstrand's transition towards a green economy. The silos host a variety of ecological functions such as natural habitats, vertical farming, and water storage, but also offer functions such as short-term residences viewpoints and other activities for eco-tourists.

Two of the old industrial buildings serve as the centroids of the recovered metabolism: the Fager-Hub and the Nesodden-Monitor. The largest and tallest of the industrial buildings is reduced in its footprint and is transformed into the Fager-Hub, a building to eat local food, learn about Fagerstrands landscape transformation, and enjoy views over the Fjord. The C-shaped deepwater quay is used as a research and production facility. It produces energy from algae and tides, stores incoming resources from silos, and monitors the ecological quality of its surroundings. The existing pipes are used to transport core resources between these points: electricity, water, or even food, which makes them the lines of movement for not only people but also resource flows. Thereby, the people of Fagerstrand will enter a post-industrial landscape that does not hide signs of the past, but re-interprets them as landmarks of a green transformation.

Green Corridors

Fagerstrand is surrounded by an abundance of forest and open land. In order to preserve existing resources and spatial qualities as much as possible, interventions into the unbuilt areas are minimized. Instead, the edges of existing green corridors are sharpened, setting clear boundaries for future urban development. The most important connection to be restored is the one that leads from the school in the east through the Skogheimkrysset to the Lillerud dam in the west. Here, existing forest patches around the center are used and expanded to form a continuous green space with minimum interruptions. Other connections are established to preserve links between important habitats. Along the edges of the corridors, vegetation is used to create micro-links into the built areas, which increases the permeability of urban-natural fabrics and relates larger green spaces to the smaller ecologies across private properties.

PROSPERITY

Besides a flourishing social structure and restored natural systems, Fagerstrand's densification process also needs a robust economic structure. Work opportunities attract people and make extensive work commutes into the Nesodden region unnecessary. Furthermore, a thriving business community helps to create the buzzing urbanity that is needed for the revitalization of Fagerstrand.

Small Scale Business Communities Along the Urban Axis

"Classic" economic activities are concentrated along the new urban axis. This mainly includes small-scale businesses that match the envisioned urban character. In the southern part of the axis - along Fagerstrandbakken - an entrepreneurial spirit is unlocked through co-working spaces, manufacturing workshops, and some more conventional office space for creatives and start-ups. The density of new buildings in this area allows for the implementation of innovative workspaces that provide new residential areas with appropriate job locations. In the northern part of the axis, the focus lies more on commercial and community functions. Based on the existing amenities around Skogheimkrysset, this is where further shops can be located. The mingling of old and new structures and the proximity to the green corridor allows for joined neighborhood activities such as communal gardening, repair workshops, or youth-centers. This multiplicity of activities along the axis activates the plinths and allows for the emergence of flexible business clusters.

Innovative Business Futures Along the Water

The economic activities along the waterfront and the port have a more unconventional and experimental character. As described above, the silos and industrial buildings at the seaside take a key role in the transition towards a green economy. This necessitates innovation, which in turn opens opportunities for research and design activities. A bio-based economy centered around food and energy allows for simultaneous economic expansion and ecological recovery. On the pier, existing businesses such as the diving school remain and new businesses can join to form a maritime economy cluster. The existing physical structures on the pier can be transformed over time to improve efficiency, but without removing the existing firms from the site. Around the port-square, tourism-related businesses and other commercial functions consolidate the area as an attractor of visitors, and create a smooth functional transition from the port into the urban axis.

Educational Cluster

In the east of the project area, the secondary school receives generous space for expansion that allows them to allocate more pupils in the future, and maybe even expand towards a senior high school. Infill developments along the green corridor help to make the way to school safer: it becomes a walk along the park edge instead of a walk through the forest. Even further east, the kindergarten is integrated into the fabric with similar interventions. Together, the existing functions form an educational cluster that is well connected to the new urban axis.

IMPLEMENTATION

The drawings of this proposal suggest a rather fixed future condition. There are, however, various uncertainties regarding future development that cannot be addressed in detail at this point. Therefore, a phasing process is proposed that sets general priorities for development, but leaves room for flexibility that leads to a realization of the overall idea despite contingencies during the coming decades.

The implementation process follows four phases: nuclei, spread-out, fill-in, and consolidation. Urban development, the landscape, and the public space are first established in the most crucial points. Subsequently, starting from these *nuclei*, development *spreads out*, increasingly forming the envisioned lines. *Infill* developments expand the linearity, closing gaps in the urban axis, the wetland along the waterfront, and other landscape corridors. Beyond the physical structure shown here, the fabric can be further *consolidated* over time: freed-up plots can be used for further densification along the urban axis. This constitutes a continuous process of development along the lines of people, planet, and prosperity.

While the first three phases are envisioned to take place over a rather short time frame, the last phase continues over longer time and with more flexibility. Nuclei, spread-out, and fill-in may happen over the next 15 years, with actual planning and construction phases naturally overlapping. Beyond 2035, further developments can be negotiated so that they can adapt to changing requirements while further consolidating the concept of linear concentration.

METABOLIC VITALITIES - INCLUSIVE VITALITIES

EQUALINES aims to contribute to a larger architectural and urban design debate in the Europan 16 and beyond. The aspired goal of increasing the vitality of spaces is addressed through considerations on metabolism and inclusion. Potentials for *metabolic vitality* are harnessed by combining flows of food and energy, but also tourism, leisure, and entrepreneurial spirit. These flows are bundled along central lines, which matches their natural movements and stimulates synergies between them. Similarly, *inclusive vitality* is maximized through linear concentration. The focus on linearity can offer access to opportunities to a large share of the population and creates less exclusion through peripheries than a concentric model. This is particularly true in the case of Fagerstrand, where the existing spatial configuration is already more linear than concentric.

Lastly, the combination of multiple functions along a line creates a highly porous environment. This does not only include the increased porosity of human and natural space, but a form of porosity that increases the ease of interaction between stakeholders. In Fagerstrand, an overlap of functions and practices along designated lines of concentration is the key to a vital urban-ecological future.