

Åkrehamn (NO)

## Stitching together

Research questions form the basis of our approach. How can a fragmented urban landscape dominated by cars, parking and asphalt be transformed into an attractive active centre? How can sustainable redevelopment be kickstarted through active co-creating of the public space? Can it equally meet the needs of all urban inhabitants, humans, fauna, and flora? How much local identity can be preserved while shifting mobility patterns, densifying the urban tissue, changing the way inhabitants interact with public space and emphasising nature?

Addressing Åkrehamn's unclear urban structure and lack of a discernible centre we proposed a cluster of independent projects stitched together through a densified urban tissue and a network of stoa and green galleries. Connecting the sea, city centre and its natural surroundings through high quality outdoor areas, the new urban structures promote walking and biking by enlivening and strengthening the connections between the harbour and the main road. Public space thus becomes the stage for complex transformation processes as well as a vital and functioning urban heart. Transforming spaces designed around the needs of mobility vehicles, harbour, main road, into a biodiverse landscape for humans and non-humans, a mediator between new interdependencies is formed, a Living City component.

While the goal might be to take Åkrehamn from a "village town" to a "real" town in as short of a time as possible, its charm and character must be protected. Combining leisure, residences, businesses, retail the proposed urban infills create a new, more cohesive urban tissue, threaded together by the stoa and gallery network. The site's potential for both new construction and transformation of existing structures is thus achieved while the network of connections between them ensures the plan can be implemented at a pace set by the public private partnership. Short term improvements can be set up so that the area remains attractive during the implementation period. As the gallery network activates and transforms areas formerly dedicated to cars or suburban housing to mineral and urban squares, water bodies and ecological corridors more opportunities to expand the network arise and strengthen the overall connecting infrastructure.

### Identity

Historically Åkrehamn always had two centres, one at the harbour, formed around the fishing industry, taking the shape of dense wooden buildings, and a second one at the intersection between the main road and Rådhusvegen street, connecting the city to the farmlands, an intersection of land and sea. We propose the strengthening of the central area by enhancing the connection between the two centres through the redesign of Rådhusvegen street to a shared space. Shifting focus from a car-oriented development to one for pedestrians and cycling the shared space, stoa, galleries, and green corridors thread together all public spaces, small green squares, redeveloped parking areas to form a continuous network of social intersection facilitating spaces. A new design of lines - activity corridors with commerce and services or leisure green routes, and points - small mineral or green spaces, are superimposed on the existing tissue. Although fragmented, Åkrehamn developed radially, interleaving green fingers with built areas. To prevent further urban sprawl and promote sustainable development we propose to densify the built areas, preserve the alternating green fingers, and enhance and extend them to connect the city to its surrounding territory. The city's identity is thus maintained through densification instead of uniting the built areas and annulling its potential to become a biodiverse landscape. Furthermore, hiking routes and natural features are connected to the city centre through the green corridors and galleries, forming a coherent attraction network.

As a coastal city, Åkrehamn's identity is closely linked to its relationship with the sea yet it has turned its back on the water. Redesigning the shore, the square reaching the water and the street connecting the central area we reorient the city towards the port, beach, and the entire natural shoreline. Accessibility to the water for the public is a main objective of the project. Routes along the water were proposed to mend the fragmented shoreline, at times taking the form of floating walkways, near the square or continuing inland through the city till a new connection to the water was possible. Floating treatment wetlands (FTWs) and artificial reefs were proposed in the harbour area to mend its degradation of biological diversity.

The central area is proposed as a dense neighbourhood with medium height, a maximum of 3 stories, and two vertical landmarks, of 4 stories and a public rooftop, in the two main squares. The active facades and high mix of functions ensure a pedestrian friendly centre. New buildings were proposed on the larger plots. Extensions were created for plots in the denser parts of the existing city centre especially at the ground floor, along the main streets, to house small scale commercial spaces, more resilient to economic crisis, better adapted to market demand and fluctuations than big-box establishments.

Flexibility of use in the new buildings is ensured by the 6x6 structure easing conversion between functions. As more housing, of increased variety both in terms of typology and future inhabitants, and workspaces are created within the centre each addition improves the economic sustainability of surrounding shops and services.

To avoid more patchwork urbanism a clear identity was set for the newly built area. Inspired by the historical urban fabric, a clustering of small-scale structures, the new buildings achieve a similar look despite their larger scale, 2 or 3 stories, by being composed from smaller volumes while maintaining the pitched roof as a key figure. Human scale is thus maintained despite the higher density. The pitched roofed house archetypal form is consistent along both the new buildings and the stoa and galleries housing the pedestrian and cycling routes. The ground floor stoa creates a protected active environment for pedestrians encouraging interaction and commerce. Inspired by traditional architecture from Geiranger, Jølster, Kvednafossen Waterfall and Olden the green roof ensures thermal and noise insulation, water retention, helps form green corridors enhancing biodiversity, improves air quality and much more. Wooden CLT structures were chosen for the new buildings to achieve use of local materials, ease and speed of construction, adequate insulation and lower costs are maintained through standardisation. The innovative yet familiar shapes are meant to appeal to local and visitors alike.

Seen as part of the city's history and identity and acknowledging the accumulated energy in the building stock while avoiding unnecessary costs only two buildings in the central area are proposed for demolition due to the low density and need for redevelopment. The galleries along the facades ensure integration of existing buildings while maintaining a coherent urban plinth. Large, glazed openings for the facades and balconies encourage interaction between public and private space. Closing off balconies creates hothouse-like areas heating the interior in the winter months while also protecting the inhabitants from wind and rainfall throughout the year.

### Mobility

A city's public spaces can be divided into spaces for congregation, squares, and parks, and those for transit, streets. Often oversized and designed for speed and car traffic, far out numbering the spaces for congregation, streets can fulfil multiple roles besides facilitating movement. It balances its dichotomic role of separating and unifying areas at the same time, being both a place and a route, a destination, and a means to reach it.

As many of the streets lacked sidewalks and offered very little separation between pedestrians and cars, a redesign strategy was the basis of the project proposal adding protecting galleries for pedestrians and cyclists, sidewalks, and tree lines or merely sidewalks for the narrowest of streets. Based on a context and theoretical analysis including but not limited to C. Alexander (A pattern Language), William H. Whyte (The social life of small urban spaces), De URbanisten (Functional Ambiance), Gordon Cullen (The Concise Townscape) 17 principles were established to improve the transit spaces, grouped in 8 concept pillars. Three of the principles deal with flows, Flow - the fluidity of movement along the route, Criss-cross – encouraging moving across the street and Protection – among traffic users, and against the rough weather. Another three deal with places, Clusters – activities encouraging social interaction and congregation, Front yard – the interaction between the buildings and the street, Identity – the particular character of each street. The remaining two principles belong to Living cities dealing with integrating nature, flora and fauna, in the design of urban elements.

Acting as stitches along the fragmented landscape the streets are bordered by stoa or galleries. To successfully shift mobility patterns from car centred to soft mobility, priority is given to foot traffic, cycling and other forms of light traffic through the creation of these protected routes along the main active streets. Mitigating the North Sea's rough climate, its intense wind and abundant rain, further contributing to a car-centric urban development and lifestyle the new proposed infrastructure creates a place where people can meet, live and feel safe in their everyday lives. The stoa-galleries can be added to existing buildings or incorporated into new ones. Having a CLT wooden structure their width varies depending on the street and the opening of the existing buildings. Their green roof completes the city's green corridors, creating connections between foraging and breeding areas for animals while offering space for native flora developments and insulation for humans. Skylights incorporated in the green roofs ensure adequate lighting while minimising light pollution.

### Public space

Changing human behaviour in public space is easier and faster to accomplish through a change in public space itself. As the city was mostly developed around a car centric mobility, it is designed for the cars not people and for driving from shop to shop with minimal walking, while parking dominates the open spaces. A strong rooted custom tightly related to a perceived comfortable use of the city, such as driving, needs and equally strong intervention to counter it. Though foreign in concept, the Greek inspired Stoa, freestanding colonnades or covered walkways, create a semi open space, defining the street, separating users, protecting them against the rough weather and more importantly emphasising the desired soft mobility patterns. Their proposed shape and wooden structure however are inspired by the traditional houses found in the city's oldest part, the harbour.

Three types of green corridors are proposed to connect the fragmented urban tissue and the city itself to its territory and its hiking routes. CLT structures with green roofs, the urban galleries or stoa, are proposed for the active connections along the most important commercial streets. Designed predominantly for humans, flora and fauna are integrated in the green roofs. Creating green corridors within the city, connecting parks and green spaces, we proposed wooden, or metal galleries, designed to be covered by vegetation, meeting the needs of human and non-human inhabitants in equal measures. The third type

consists of tree lined bordered alleys connecting the green corridors within the city and the hiking routes outside of it. Mainly designed for flora and fauna, they minimise the destruction of plants, erosion and wounds in the landscape caused by human activity, including walking and cycling, guiding users along prepared paths. All three typologies vary in width, from 3 to 5 metres, and offer protection against the harsh weather.

The shared spare streets have a paving design inspired by their bordering facades, enhancing their visual identity, and creating a continuous surface unifying the vertical and horizontal planes. A criss-cross paving design encourages movement across the street and slows down car traffic. In the stoa's proximity green spaces, fountains and gathering places with sitting areas and terraces and food trucks and kiosks are proposed. Water features are used to heighten the city's identity as a coastal community. Employed to mask traffic noise, guide pedestrians towards the harbour or create still surfaces to highlight key buildings, they serve multiple purposes in addition to offering access to drinking fountains.

Green areas along the streets, together with the new building and the urban stoa's green roofs, create a green infrastructure of points and connections for flora and fauna, recognizing that they all have the right to exist and flourish while strengthening biodiversity, stormwater management and the wellbeing of humans.

#### Redesigning parking lots for a living city

Parking lots take up an inordinate amount of surface space in the centre, far exceeding the 9% limit for unobtrusive use. A necessary initial stage of extending the public transport infrastructure with new stations near the harbour proposed square and the new school would cover with their 400m, 5 min walking distance, the entire central area. An affordable and easily implementable intervention, it would reduce the need for parking and free up space for redevelopment as green areas. To further reduce noise and air pollution charging spots for electric vehicles would encourage a shift to new vehicle typologies. Creating the stoa and gallery network, the second stage or the public space transformation, encourages soft mobility as the city centre can be reached from its outskirts in 15 min of walking or 7 min of cycling, further decreasing car trips and parking needs. As a 15 min city is achieved, enhanced by the densification of built areas with additional housing, services and commerce, more parking spaces can be converted to parking for traditional and electric bikes, scooters. Implementing shared or rentable vehicle programmes, including cars, forms the third stage of the redesign strategy, further freeing up parking spaces to be transformed into green areas or water features. The wooden or metal galleries covered by climbing plants improve the former parking lot atmosphere, complement the green corridor network, and create well defined public spaces, with limited asphalt surfaces, porous pavement, centred on the needs of human and non-human inhabitants instead of those of motorised vehicles. Suitable to housing various events, fairs, festivals, concerts, neighbourhood parties, exhibitions and competitions the former parking spaces become activity nodes encouraging interaction and supporting economic development. Underground parking is proposed under the public squares and in the large blocks with new buildings. Larger, multi storey parking, near the future OBS big box store, free up space wasted on off street surface parking while contributing to the liveliness of the public space through the commercial plinth, accessible cycling parking, green facades and roofs and ease of conversion to other functions, fitness spaces, small offices, event spaces, when underused or no longer needed, Their façade follows a similar design to that of the new archetypically housing inspired new buildings, integrating themselves in the city's architectural identity, while their wooden structure with climbing plants completes the city's green infrastructure.

An approximate 80% decrease in personal car use is estimated shifting towards soft mobility, car sharing and public transit, thus 70% of parking areas can be converted from impermeable mineral spaces to ones designed for a living city, enhancing urban qualities, and raising the overall quality of life.

The parking lot near Austigard street is transformed into an extension of the park. Despite its large surface only 78 cars are currently accommodated. By creating a bicycle and kick-scooter lane connecting the area to the rest of the mobility infrastructure and replacing 2 parking spaces for cars with ones for traditional and electric bikes the initial transformation is started. A gradual replacement of car parking spaces with bicycle ones is conducted once the street is redesigned as a shared space and the stoa are built. Each transformation further decreases car use and frees up space for more green spaces, bicycle parking, as eight bikes can be stored in the same space as a single car. Wooden or metal galleries designed for climbing plants built on the former parking spaces, provide shade, sitting areas, water features and set the stage for a new meeting space. The new trees, climbing vegetation, porous pavement and water features improve the area's microclimate and create an extension on the park in the former parking lot. On weekends special events can be organised in the area, farmers market, exhibitions, neighbourhood meeting or parties, due to its more mineral character than the adjoining park. At the same time, the visual relationship with Old Åkra Church can be enhanced, strengthening its public space character.

#### OBS redevelopment and multistorey collective parking

Typically, big-box stores, including OBS, have a predefined plan with a large surface parking area near the public sidewalk, a building placed at the plot's centre or towards its back with a glazed access façade but otherwise opaque. It invites car access while actively harming the liveliness of the urban space. A complete redesign of the programme is proposed, emphasising active, lively areas by redefining the parking area, repositioning the building, and inserting commercial spaces near the sidewalk. A collective multi storey parking reduces land use dedicated to cars. An active plinth with commercial spaces and services on the ground floor, enhanced by using the stoa typology, increases interaction between the public and private space. A green façade of cables to encourage vegetation growth and its green roof become part of the city's green infrastructure. The 6x6 proposed structure ensures flexibility of use and ease of function conversion. By placing the store aligned to the street

frontage we create a better relationship with the pedestrians. The main entrance can provide adequate access while the rest of the façade can be covered in smaller scale commercial spaces opened to the sidewalk. While the plinth is composed of commerce and services, the first floor can house offices.

### Harbour area

The North-South gallery forms a public transit mobility axis connecting the centre to the Amfi mall, improving accessibility, while the East-West one connects the harbour to the centre. The stoa and galleries network thus create a net sticking together various urban elements and artefacts. The harbour area is connected through a shared space redesigned street to County Road F547, continuing to the Åkrehamn Coastal Museum and the Mortholmen island.

A key feature in the harbour's redesign is access to water. The area was divided into a southern part, designed in a more geometric fashion, mineral, with steps leading to the water while the northern part has a more natural design, with winding routes through green and stony areas, natural vegetation, and sloping shores. In the southern part we propose a redesign of the existing square, defining its southern and eastern edges through stoaes. Access to the underground parking, the public transit station, a series of food stalls, including the existing ones and sitting areas and terraces can be found in the covered space. Activities, no longer impeded by unfavourable weather, which would have otherwise taken place in the squares open space can be accommodated in the protected space. The harbour's vertical landmark building is proposed on the shore, housing a sauna and café and a public terraced roof on the 4th floor. The supple tower-like building can incorporate a light source on its terrace, a reinterpretation of the classic lighthouse. The pedestrian routes continue southwards through pontoons, floating treatment wetlands (FTWs) and the redesigned public spaces aiming for a continuous accessible shoreline.

### Cultural hub

Rådhusvegen, redesigned as shared space, becomes the main East-West axis connecting the harbour to the main street. To better define the public space and protect pedestrians and cyclists a stoa is proposed in front of existing buildings. New, 3 story, buildings are proposed on the empty plots, incorporating the stoa on their ground floor. Where possible, a densification of existing plots is proposed either through new buildings or extending the existing ones.

Sitting areas, terraces, water features, green spaces, and public art increase the quality of the urban space encouraging inhabitants to linger and interact with one another and nature. Along the street, several smaller public spaces, mineral and green alike, are created through the redesign of current parking areas. At the intersection of Rådhusvegen and the North-South green corridor we propose a larger square, designed as a shared space, connecting the beach area in the South to the northern shoreline. The former Culture house and Fire station are proposed to be refunctionalized as a public library and multifunctional community centre and exhibition area, forming a cultural hub. Alongside tree lines and sitting spaces, a shallow pool highlights fire station while a green space houses the three large upright stones, which used to mark the Viking court.

The former school and its surrounding green space are redesigned as a plant nursery and learning centre dedicated to raising awareness and involvement in protecting the environment, sustainable development and research on local flora and fauna. Locals of all ages can plant, grow, and spread native plants throughout the city. The public space formed by the L shaped building will have a predominantly green character, with a tree grid opening towards the shared space street.

### Central square

We proposed redesigning the main road area through a better definition of the block's perimeter using the stoa. Three connected public spaces are defined by the stoa and the proposed buildings. The existing square will be redesigned by removing its parking spaces and transforming it into a fully pedestrian space. The sunken area near the existing building will be raised and stairs and a ramp will provide access to the commercial ground floor. A two-span stoa ensures enough protected space to house events or maintain use in unfavourable weather conditions while incorporating permanent or temporary food stalls throw-out the year. Existing stores on the square's Easter side provide its commercial character.

A new vertical and architectural landmark is proposed, near the future roundabout. Consisting of a commerce and services plinth towards the walkway and a multifunctional space towards the mineral area generated at its back, the building's ground floor opens to the public. Suitable for a wide variety of events, exhibitions, concerts, neighbourhood meetings, fairs, the multifunctional space can be opened towards the public space, thus accommodating both indoor and outdoor events. The square becomes multifunctional, while the two-span stoa on the North side ensures the events can continue outdoors even during a rainfall. On the East side of the multifunctional square a new building is proposed housing the access to the underground parking lot.

A green relaxation area occupies the centre of the plot connecting the two mineral ones, the commercial and the multifunctional squares. Trees are planted on a grid continuing the perimeter stoaes structure and ensuring a formal integrity of the entire block. All three spaces provide sitting areas, water features, sculptures and other public art features, terraces.

Raised to the sidewalk's level to provide pavement continuity county road F547 signals the entryway to the new city centre. For events held in the main square traffic can be deviated to the East, on Klæhaugvegen street, while county road F547 can temporarily provide a better pedestrian connection to the shared space street network leading to the harbour.