



Albert Dock Lecture Series

Urban Design and Landscape

Celebrating Albert Dock as an exemplar of heritage led regeneration and the contribution of built environment professionals to its success

23rd March 2018
RIBA North

#interpro175

ALBERT DOCK
LIVERPOOL

CELEBRATING
175 YEARS
1846 - 2021

175
2021

INTRODUCTION

Urban design and landscape was the theme of the fourth Interpro event, held on 23rd March 2018 at RIBA North on the Liverpool waterfront. Hosted by the Urban Design Group and the Landscape Institute, and sponsored by street furniture company Vestre and urban planning company OPEN (Optimised Environments), four urban designers shared their experiences of working on waterfront regeneration projects, two in Britain and two in Sweden.

Pete Swift, founding director of Planit-IE, discussed the public realm changes his company is proposing for Albert Dock. Pete, a landscape architect and urban designer, showed how different aspects of Albert Dock could be rebalanced, in terms of both its relationship to the city and the needs of its users, from visitors to residents and businesses. He stressed how these elements have to work together to enhance the public realm and consequently the visitor experience, and how this would help Albert Dock regain its identity as the 'welcome mat' to Liverpool's waterfront and the UNESCO world heritage site.

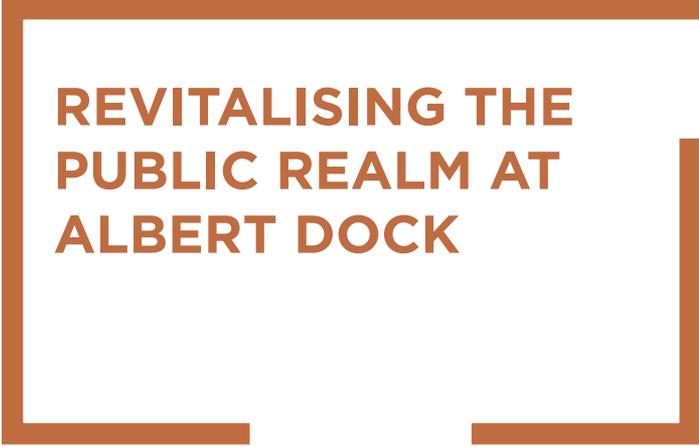
Ben Palmer, a director at OPEN (Optimised Environments) described the public realm works at the V&A Museum of Design, an iconic new building which opens in Dundee in September 2018. This has a riverside setting like Albert Dock, but without the constraints of the listed historic environment, as Ben pointed out. However, there were challenges in having to respond to a changing architectural brief and creating a simple design that did not detract from the iconic new building. He also discussed other public realm projects that connect the city centre to the waterfront physically and by evoking Dundee's culture and seafaring history, and drew out further parallels with Liverpool and Albert Dock.

Two Swedish practitioners gave fascinating insights into Scandinavian urban design processes and approaches, using two former industrial port cities as case studies. They discussed the holistic role of urban design, the interaction between planning and architecture, and importantly, the collaboration between public and private sectors.

As associate professor and director of the international Master's Degree Programme in Sustainable Urban Design (SUDes) at Lund University in Sweden, **Peter Siöström** took an academic approach, but one with important practical outputs – the training of young urban designers in what makes cities not only sustainable but also 'liveable'. SUDes is much more than an educational programme, he asserted. It is about inculcating the shared values that puts people and urban life at the centre of urban regeneration projects.

He showed how these values and sensitive approaches are being applied at the Western Harbour in Malmö - which like the Liverpool docks had declined rapidly in the second half of the twentieth century - to create human, ecological and economic sustainability.

Ashwin Karjatkar is a graduate of the SUDes programme and now works as an urban designer for the Gothenburg Municipality. As a former student of Peter's, his thoughtful approach was apparent in his discussion of RiverCity (Ålvstraden) currently being developed at the old freeport at Gothenburg, and one of the largest planning projects in Scandinavia. Ashwin discussed the importance of achieving the right densities to make the developments attractive for family life as well as for the working environment. He also emphasised how the consideration of meteorological factors, for example attempts to maximise sunlight, were an important part of social planning in Sweden.



**REVITALISING THE
PUBLIC REALM AT
ALBERT DOCK**

PETE SWIFT
Director, Planit-IE

Planit-IE's association with Albert Dock started around four years ago at the International Festival for Business in Liverpool, when Sue Grindrod, Chief Executive of Albert Dock's owner Gower Street Estates (GSE), sought advice on the poor condition of the estate's trees.

It was probably because of poor drainage, below-ground restrictions and incorrect management, we told her, but we also passed on the observation that it was likely that the public realm was not well used, and our discussion presented a great opportunity to reposition Albert Dock in relation to both the city centre and the waterfront. This would improve the experience for the hundreds of thousands of visitors, businesses and residents who use and love Albert Dock, and in turn, generate more revenue for GSE.

Our vision for Albert Dock has been informed by our observations about what works and what doesn't. In international city language, the "address" is all-important. The approach to Albert Dock should be like a giant welcome mat and threshold for the world heritage site. But currently it doesn't operate like this.

For Liverpool people, the Albert Dock is a precious place - I used to spend the day there with my parents. But it's important to consider its future and what it could become, as well as its past. While Liverpool has never lost its identity, it needs to work harder to tell the rest of the world about it. It may be difficult to entice people to Liverpool, but once they've been, it's hard to keep them away.

The geography and gravity of the city has changed since Capital of Culture in 2008, and the completion of Liverpool One the same year. Other new buildings have also changed the way people experience the waterfront and its environs: the Museum of Liverpool, the Echo Arena and the Baltic Triangle. Albert Dock needs to rebalance in the wake of these changes and rediscover its kerb appeal.

Planit-IE is also working with Peel Holdings north of Albert Dock at Liverpool Waters, and this further rebalancing will affect how it repositions itself as this scheme develops. We have to reignite the relationship with the water and we are part way through this ongoing process, talking not only to Sue and her team, the GSE trustees and the board, but also to the businesses and the residents and the Waterfront Forum.

We felt it was important to rebalance the different functions and define "character" areas of Albert Dock, for example some to relax in and others to be busy, noisy places for families. Family visits to Albert Dock have dropped off massively and we want to encourage them back.

The two main arrival points at the northern and southern gateways are important factors in the "welcome mat" concept - but both are currently unimpressive. Having a strong sense of arrival is key to a memorable experience, but at present Albert Dock's entrances are hard to discern because of all the clutter and street furniture, and the predominance of cars, coaches and service traffic. There is a great expanse of red tarmac and while there's a clear need for GSE to provide a lot of car parking space - it's a main source of revenue after all - finding the right balance between pedestrians and cars is crucial. That balance, when it's done successfully, is what people love about great cities around the world.

The arrival into a coach or car park at the southern gateway doesn't prepare visitors for Albert Dock's "story", nor if you have to fight your way across the Strand on foot. So we've devised a simple concept to enhance the entrance experience and improve the focal spaces and public realm. Albert Dock excels at programming its external spaces, and by creating a new streetscape around this we can provide an even better visitor experience.

However, we feel it's important to take time over this, so that it develops over the working life and practicalities of the spaces. In this way it's a more considered process: evolution, not revolution.

The coach drop off point at the southern gateway is essential, but there doesn't need to be so much highway - there's far too much tarmac and redmac, second only to the number of bollards! If you have to have a car park at the front door, make it work harder and do other things too.

Most people arriving on foot come through the northern gateway from the city centre. But there is little sense of arrival here. The gates, railings and piers aren't listed or part of the world heritage site - they say "stay out", not "come in" - so we are advocating removing them and opening up the entrance up to the street. A contemporary welcome pavilion has been designed to make people want to dwell longer, orientate themselves and appreciate the views and the materiality of these great spaces - perhaps even find out about the whole of Liverpool's world heritage site.

If we rationalise the street furniture, we can create a space that's flexible, generous and relaxed. We can then introduce the parking to the public realm, rather than fit the public realm around the gaps of what's left of the car park.

The entrance to the Britannia Pavilion on Gower Street is particularly poor for pedestrians and especially for people with prams, buggies or wheelchairs, who get pushed into the road if it's busy or if coach parties are arriving at the Premier Inn. However, it has a great visual relationship with the Echo Arena/BT Convention Centre, so why shouldn't there be a much grander route over Duke's Dock and from Salthouse Quay? Why is the Beatles museum - the city's greatest emblem - buried in a basement? And if you go there on a rainy day you get soaked because the drainage is wrecked.

Salthouse Quay is one of the postcard shots for the city - it should be like Nordhavnen in Copenhagen, which thirty years ago was also a carpark. You have to keep your eye on the bigger picture. The retail offer needs to be much more than just an ice cream van, but it also needs to be curated and managed. Tripadvisor and Instagram dictate taste today, but where is the postcard shop for those fantastic Albert Dock views?

Hartley Quay is the cultural street that leads from Albert Dock to the city centre and connects the Merseyside Maritime Museum and the Tate, but it could be better connected and its views across to the Pier Head maximised. It has fantastic materiality already so it's a case of sensitive additions rather than dramatic change.

We also observed the differences between what happens on an event day and what happens on a regular day. We've been working with K2 Architects and Arup to create a beautiful new welcome pavilion at the northern gateway: a definitive entrance point and welcome that tells visitors this is the place to be on the waterfront.

Fundamentally, Albert Dock is a beautiful piece of architecture on the world heritage site. There's an ongoing debate in Liverpool about development and preservation, but perhaps we need to celebrate it far more.

The next phase of the public realm works concern the detail of the northern gateway redesign. We are also looking at floating restaurants and buildings for the southern half of Salthouse Quay. We are working with other partners and moving those conversations and plans forward.

Albert Dock took hundreds of years to get where it is today, so do we really need to rush these changes? If ever there was a project to do patiently, this is it. There are people who live there, who work there, and hundreds of thousands of tourists - it's probably as busy as when it was a dock. On event days, Bonfire Night or New Year's Eve for example, you can't move, and so in a way this patient, measured approach to rebalancing Albert Dock is something that the whole team believes is the right way.



**DUNDEE
WATERFRONT:
THE ROLE OF
LANDSCAPE
ARCHITECTURE IN
A REGENERATION
MASTERPLAN**

BEN PALMER
Director, OPEN (Optimised Environments)

The city of Dundee sits on the Firth of Tay in eastern Scotland, and its waterfront is half way through a thirty-year regeneration masterplan. With the infrastructure elements of the masterplan delivered previously, OPEN has been working with Dundee City Council on a series of public realm, landscape and architectural projects as part of the Central Waterfront.

As a comparison to Dundee's existing waterfront, Liverpool's Albert Dock is a complete structure and as such is rightly protected. While there were threats to demolish it in the 1970s, it is now Grade I listed, a conservation area and also part of the UNESCO-designated Liverpool - Maritime Mercantile City world heritage site.

Dundee, however, did not have that level of protection and many of the docks within the central waterfront area were infilled during the 1970s. A combination of the on/off ramps of the Tay Road Bridge, and a partially implemented 1970s masterplan resulted in an infrastructure-dominated hinterland opening up between the city and the waterfront.

But what the two projects have in common is the aim to connect people back to a waterfront. Dundee is looking to redefine the void between waterfront and city centre, and at Albert Dock it has been about repositioning this precious object and its environment.

What Dundee does have is a fantastic waterfront environment and this provides an inspirational setting for the new V&A Museum of Design, which opens in September 2018. The River Tay is 1500m wide at this point, compared with the River Mersey at 500m, so it has quite a different feel to it, although it has been disconnected from the city.

Dundee has one precious object on the waterfront, the RRS Discovery, the wooden sailing ship, built and launched in Dundee in 1901, that took Robert Scott and Ernest Shackleton on their first research expedition to the Antarctic. Now a Scheduled Monument, it is located adjacent to the V&A site and is an important symbol of Dundee's pioneering spirit and its connections with the sea.

Our starting point was the masterplan as defined in 2000, which looked to redefine the void by pulling the grid of streets from the city centre towards the river. It was a simple approach, using public space to connect through to the waterfront and also redefining some of the Tay Road Bridge infrastructure to free up and rationalise space.

The Tay Road Bridge and its supporting infrastructure had come to define the void between the city and the waterfront, which was at this point home to not much more than the Olympia Leisure Centre and Tayside House, a tower block that housed council offices. These were linked through elevated walkways, part of a partially realised network of elevated links.

In 2010 an international architectural competition for the V&A's new Museum of Design in Dundee was announced. This was to be the heart of the Central Waterfront masterplan, bringing a renowned cultural institution alongside the important Dundonian heritage represented by RRS Discovery and the riverside environment.

The competition site was originally out in the water, and the design competition drew many international entries. The winning design, by Kengo Kuma and Associates (KKA), whose team OPEN was lucky enough to be part of, was very much influenced by the landscape of north-east Scotland, in particular the striations of the rocky coastline.

After the competition had been awarded, the building moved back from the water into the masterplan itself. There were lots of complexities with delivering this building on the water, so it made sense to occupy a space within a masterplan that was looking to fill a void.

We started by creating a series of spaces that can be activated around the building, from soft landscape places for people to simply be within, to waterfront spaces for enjoying the big views across the Tay. We wanted to create an environment to explore the outside of the building, to encourage people to walk around it, through it and enjoy each facet and elevation.

At an early stage in the concept we decided to make the water features look like a series of docks, and we worked with a water feature specialist to make these look as dirty and green and grimy as possible, using specific filtration techniques. We moved away from that idea in the end, with shallower and cleaner pools being realised.

When working in teams on big projects such as this, the emphasis is sometimes on the architecture, and sometimes it's on the landscape or public realm. The landscape is very simple around the V&A, because the building is the iconic object. With some of the other projects OPEN has been involved with on the waterfront, the emphasis has been different. It is important to view each project as a whole, and understand the role of each profession in delivering something special.

But with the V&A the challenge was to find an appropriate setting for the building while creating an enticing public realm for people to enjoy. So we looked at the details and how we could refine and limit the palette of materials. We considered how materials were to be cut, terminated and edged. We wanted a few simple elements, such as a single tone of granite for the paving, the large pools setting the building and a simple balustrade along the waterfront.

There were many meetings to discuss these details, and how to deal with all the functional needs of a large museum moving significant, expensive pieces of artwork, deliveries by big low loaders, and its servicing, all the while trying to keep the public realm as simple as possible.

It's easy to be swept away by how incredible this structure is. The building has two footprints joined together at high level. Each shutter used to cast the in situ structure was bespoke, forming the curves and angles that create the overall shell. These forms are a major challenge to achieve in situ, but the construction team managed it. When the shuttering came away, a fantastic black concrete hull emerged, which some initially compared to something you might find on the set of Star Wars! The installation of the public realm chased the hanging of the concrete cladding around the building, with the granite paving being

installed over a period of around ten months. Some of the spaces that have been formed around the building are really quite inspiring. The gap through the building frames the landscape view across the River Tay.

During the development of the landscape proposals, the balustrade around the pools was designed out when the water feature depth was reduced from 600mm deep and evoking dirty old docks, to 150mm deep clean pools. This was ultimately a much more satisfactory solution.

The paving is one single tone of granite cut in very precise ways, and gradually it began to define the setting of the building, and of RRS Discovery, the other precious object in this project. Blended unit sizes were laid between trafficked areas and pedestrian areas, not only to keep these areas simple, but also to make the transitions between them and up to the edge features smooth.

Gradually the building began to emerge and the interaction between the waterfront and the building is fantastic, in a way redefining the edge of the city. Even before the water features had been filled, the effect of a building surrounded by water could be seen. The dramatic reflections on a still day contrast with the dark rippled dock-like water when it is windy, effectively doubling the building. It could be said that the landscape budget was well spent because, with the reflective nature of the pools, there are two V&As for the price of one!

The V&A has become a symbol of Dundee's ambition for regeneration and has drawn a lot of positive attention for the city. Clearly, this is focused on an iconic piece of architecture, but realising a setting that is appropriate, functions and provides the opportunity to explore has been critical to the success of the scheme.

OPEN has been involved in two other projects at the waterfront. At Slessor Gardens, we linked back to the culture of the place and Dundee's historic trade routes, with a series of eight pocket gardens within a larger performance space. Designed and delivered in twelve weeks, these small pocket gardens provide spaces that people can engage with and enjoy. Even though there are no other buildings apart from the V&A at the waterfront yet, people are coming down and enjoying these human-scale parts of this big project.

At Waterfront Place, the site next to the V&A, Dundee City Council provided a brief that included a wishlist of elements for a playful new space: an urban beach, pavilions, water features and soft landscape. We pulled this into a concept about taking a walk to the beach. We liked the idea of elements of Victorian kitsch being interlaced through the space as well, emphasising the playful nature of the scheme.

It seems obvious to say, but landscapes change depending on the weather, and the beach seems to be a place that amplifies this, so we wanted to highlight these changes. We developed a scheme that could be busy and colourful on a sunny day, and solitary and dramatic when the weather is wild and windy.

We also designed pavilions that are integrated into landforms, providing the feeling of protection you experience when you are in amongst the dunes. It's quite an exposed and windy setting, so the centre of the space itself becomes a sheltered, protected area.

The projects we have been involved with within the Central Waterfront demonstrate the different ways that landscape can be used to enliven a masterplan. It's the relatable human spaces that emphasise the culture and link back to the essential heritage and identity of a place.



**HOW TO
TRANSFORM
THE WORLD'S
GROWING CITIES
INTO HEALTHY,
ATTRACTIVE AND
SUSTAINABLE
ENVIRONMENTS**

PETER SIÖSTRÖM

Associate Professor and Director of SUDes,
Institute of Sustainable Urban Design
at Lund University, Sweden

INTRODUCTION

At Lund University in Sweden, the international Master's Degree Programme in Sustainable Urban Design (SUDes) aims to prepare its students to create urban design that makes a difference. At times when the urban population is increasing rapidly, we need to ensure the next generation is eager and equipped with a precise toolbox to transform the world's growing cities so that healthy, attractive and sustainable environments can emerge. We also need to make clear choices that reflect an environmentally responsive architecture and systems that not only form new city modes but are also incorporated into the processes of the existing ones, in terms of both recycling and refinement of their texture.

What SUDes offers since its first International Conference in 2007 is not simply the educational programme itself, but the shared values and feasible patterns that seek to carefully improve the way we live and think about our shared environment. The programme embarks students on a journey of constant collaboration between different cultures and systems spanning the University of California Berkeley to Peking University in Beijing, gradually evolving into a shared network of aspirations, fascinations and questions to be answered. The latter are thoroughly addressed in the annual SUDes conferences and exhibitions held in the School of Architecture in Lund, along with the international student workshops implemented abroad.

Our first semester begins with an emphasis on a local perspective, followed by a semester dedicated to the regional studies, and finally arriving at the current global milieu on our third semester. These are implemented through a constant interactive approach. As professionals our most urgent challenge is to find ways to realise and

embody the sustainable goals as set out by the United Nations New Urban Agenda. Those, being of mutual interest and prominence for 193 nations, are outlining the constructive lines of how we work to make our cities denser, greener and fairer.

To create new identities, it is important to both lift up what already exists, and to add new interrelated stories over time. We in SUDes believe in accessible, connected cities that favour pedestrians over cars, in diversity as the most important ingredient towards inclusiveness, and in a more green and blue habitat. It is extremely important to create ecologically sensitive places, and to promote the technical aspects of zero carbon energy. Above all, as urban designers we care about the public realm, about the embodiment of places that we fall in love with and keep coming back to.

Throughout the last century we have produced a lot and used twice as much. Now is the time to explore the new mindsets, programmes and aesthetics to avoid stagnation in the ever-changing world. It is time to learn globally, but treat and adapt locally in respect to the current dynamic challenges: climate change, extreme weather conditions, accelerating urban migration, raising sea levels, desertification, and so on. As urban designers our responsibility is to offer perspectives and visions that could cook up site-specific solutions and explore uncharted possibilities for establishing better urban realms. There can be no foresight without an analysis of the past. It is our goal and responsibility to review the good examples of that which is already built and make use of the ideas towards the future progress.

MALMÖ: WESTERN HARBOUR

Western Harbour lies on a waterfront stretch at the northeast of Malmö overlooking the Øresund Bridge that connects Malmö to Copenhagen in Denmark. It started its transformative processes twenty years ago. Today the area is living proof that sensitive urban design strategies can lead to the transformation of derelict industrial ports into new residential areas with high quality public realm and become magnets for human interaction - all within the spitting distance of the city centre.

In its heyday the harbour was a bustling shipbuilding seaport (1980 to 1986) and later featured a Saab car factory site. In the aftermath of the recession leading to the loss of 30,000 jobs, the port and its supporting physical infrastructure were left to decay, leaving a landscape of despair, contamination and manufactural waste. The economic revival in the 2000s made it possible for the dismantled ex-harbour to re-emerge as a place of prominence. Its crucial quality as a land lying between water and urban mass prompted it to become a leading site for urban revitalisation policies, paving the path of Malmö city on its long-awaited new identity. The iconic Twisting Torso skyscraper by Calatrava became an important icon for the city and today it sends a key message about Malmö's business culture. Thus, Western Harbour is well on the way to becoming a home for 25,000 people, with around 25,000 workplaces. Currently, there are about 18,000 to 20,000 people living in the area and about 20,000 workers, its growing success evident.

The vision for the area was highly ambitious - to ensure ecological and human sustainability and re-establish the link to the sea. While the perimeter buildings facing the waterfront create a buffer from the winds, the smaller blocks inside follow a different pattern, forming a more sheltered dynamic character, which discloses something unknown and new at each corner (a glimpse of the sea, an ecological garden, a water fountain). The area was designed to be zero carbon and to use

local green space to promote biodiversity of native vegetation and incorporate rainwater through open storm water management connected to the sea.

The plan for the public realm is unique because of its rare qualities. It is composed of big and small spaces and works by using overlapping fine grain. It defines the big places on the shoreline with a public promenade, while the dense building pattern revolves around rhythmic layout of streets. This makes the public realm experience spatially distinctive, by either walking in the inner streets or by the outer row. The variety of size, in-between spaces, colours, materials and heights, creates a constantly changing and ever-evolving landscape. It allows for public and private interaction, overthrowing the thread of ending up as a segregated community. This thoughtfully designed public domain has the capacity for being both intimate and cosy, as well as broad and sustained, housing concerts and big events.

Western Harbour is a showcase for Sweden. Here dimensions truly matter and the comfort of the human scale is at the centre of the experience. Such high quality public spaces can be successfully enjoyed by all segments of society – a packed event with 2000 people can be experienced by both daytime visitors as well as residents – a place for all Malmö people. By absorbing these design lessons the new neighbouring harbour areas are continuing the organic growth with the key point of the urban design focusing on intimate scale and caring approach to the public realm.

Certainly, in a time of technological, social and ecological change, it is crucial to retain the quality of the public realm. It is of utmost necessity to develop different models and solutions for diverse places. It is in the unique power of effective urban design to craft out places we care about and hold dear in our minds, places that enable our cities to be unique. Malmö has that ability.



**REDEVELOPING
FRIHAMNEN,
GOTHENBURG
INTO A NEW CITY
DISCTRICT**

ASHWIN KARJATKAR
Urban designer, Gothenburg city
planning office

One of the largest planning projects in Scandinavia, RiverCity (Älvstraden) is at Gothenburg, Sweden's second largest city. The population of Gothenburg is forecast to rise by almost 30% by 2035, and this old industrial area is gradually being regenerated to provide housing and workplaces for thousands more residents.

Gothenburg lies on the River Gota on the west coast of Sweden, with a harbour right in the centre of the city. Frihamnen is a three-fingered site across the river from the city centre. The planning challenge was to decide whether to erase the whole harbour area and build a completely new urban sector along the lines of Brasilia, or to work with the existing fabric and improve infrastructure and connections.

Gothenburg's northern latitude gives sun angles of only around 30° at noon on an equinox, which means the city planning authority should try to maximise sunlight for its residents. Under the Brasilia model, people would live further out - closer to nature and with a lot of sun - on the grounds that the city was too congested and not green enough.

But planners also recognised that this model would create an experiential barrier because of the greater need to travel, dependency on cars and thus higher densities of traffic. It risked becoming a divided city where people felt disconnected from the city centre and from each other, their environment lacking those qualities of urban life that allowed them to live, work and socialise more closely together.

Gothenburg Municipality owns Frihamnen and planning controls are strict. The option for a denser development in the city centre was chosen, with staged development in Frihamnen. So by 2035, thousands more people will be living closer to the centre and walking and cycling rather than commuting from further away.

Gothenburg celebrates 400 years as a city in 2021, and this has provided the motivation for the regeneration of Frihamnen. Rather than design a single fixed masterplan, the city planning authority has taken a more piecemeal approach. Long term planning and place-making initiatives in the present would activate the site while being in line with the larger questions of connectivity and integration.

The process of place making would act as stepping-stones to the final stages, while simultaneously working towards a proposal influencing each other. The process forms part of the vision for Frihamnen, and not the other way

around, where an identity is created to determine the vision. A manifesto was created for the whole project, allowing for the inevitability that planners and architects will change, and new roles created, like an organism that changes as humans and technology change. A test arena where new ideas would be tested and existing buildings become a start point for future developments.

Temporary projects were immediately started to activate the site as part of the place-making division. This included temporary housing as part of the approximate 100,000 immigrants that Sweden took in last year, and an existing port building that will soon become an art museum. A sauna is already built, which was one of the requests of the citizens, and recently a salt water pool has been built that uses seawater under the river to create a sense of the sea in the middle of the city!

Permanent planning projects include a new bridge across the river, openable for goods traffic to pass below, and built at a much lower level to bring it closer to the water so that it is part of the life of the city. Other areas under planning are Central Station, South Bank and Lindholmen, an innovation cluster where young tech companies collaborate with Chalmers University of Technology, a research and teaching institute, and established companies such as Ericsson and Volvo are based.

In terms of planning on a larger scale, the challenge was to see how Frihamnen could become more like a city, with infrastructure and new connections charted. We started by sketching different pieces of the planning puzzle and trying to find solutions by using different calculations and infrastructure cost analysis.

The challenges of harbourside and waterfront developments need to be tackled: pollution, sinking land with construction and infrastructure in poor condition. It wasn't about looking at one project at a time, but across different sites and different parts of the city that are segregated and how best to connect Frihamnen with them. It's a whole-city approach to problem solving. When considering the site for a new pedestrian bridge, for example, we analysed which specific points across the river gave the best integration for the whole city. Two bridges in the wrong place didn't integrate that well, whereas one bridge in the right place could bring about exactly the right amount of integration.

Another problem was that Frihamnen was serviced by large feeder roads, and we wanted to reduce car dependency. A huge highway still cuts through the city. The amount of envisaged traffic infrastructure also creates new barrier effects, so we came up with different proposals and formations, based on our understanding of the traffic's influence on the city, for example whether it was possible to split the traffic. Two boulevards in principle could manage the traffic and feel inviting, whereas one huge road would create a barrier.

As for the structure, workshops were held on how to map the character of a site, looking at the inner part of the basin as part of a spine with marked, existing industrial biotopes. This fed into the idea of creating a Jubilee Park for 2021. With multiple projects, we encouraged public participation and proposals were voted on, one of which was for the public sauna, now an emblem of Swedish culture in the middle of the city.

We also had to look at strategies for the potential water level rise. This is a real threat that has to be dealt with; otherwise the whole area could be under water within 15 years. We looked at how we could manage that within the site, whether the streets themselves could act as a water management system, using high streets and low streets and streets as canals. We identified the sunny streets, and a school playground that could be used to manage water when the children weren't there.

Wind was also a huge factor - would open plazas for cafés around the waterfronts create problems? One solution would be to bring these spaces inside where you would still get the morning sun but avoid the wind.

Housing is the driver that will bring families into the centre, without the forms that suggest social segregation, where a certain kind of architecture is related to a social problem. Each quarter will be entirely mixed, with 50% rent control and 50% affordable housing within that. Social planning develops simultaneously and a sort of Robin Hood economy based on the idea of the common good develops. This works, and Sweden has built on this model for a long time. There is great variety in form, and planning develops hand in hand.

At the neighbourhood and block level, density and the experience of density was important. Spacemate (developed by Meta Berghauer Pont, associate professor in urban design and planning at Chalmers) is a tool we used to calculate and compare density and what effect variations in typologies would produce on different parts of the quayside. At block level, we looked at different scenarios to maximise the sunlight. With restrictions on height in the city centre, we had to come up with different strategies without losing the fine grain. The aim is to integrate different typologies and build a quarter around them so they contribute greatly to street life.

We started using it as a tool but also to help us develop strategies with density case studies. For example, two building blocks 50m x 90m and six storeys high would have a lovely fine grain character, but lack open space. But a tower 35 storeys high with the same density would create huge wind turbulence in the large open space created. We experimented with small streets and larger blocks with variations in levels to get more sunlight. Go too small, and people would never move in because there wouldn't be enough sun in the courtyards.

We looked at both large and small scales and analysed how small edges and shifts in the façade could deliver a better experience. A five metre shift doesn't look much on the masterplan but you can experience it on the ground, where it can even mitigate the effects of the wind.

Most important of all, we had to find ways to enable families with children to live in the city centre. We looked at Albert Dock as a comparison but it didn't work for us. Children need 35sq m of floor space to develop effectively, both mentally and physically. So we needed more space, and started mapping areas for schoolchildren, toddlers and so on, where access to high quality spaces and social life is prioritised.

In conclusion, harbourfront developments near city centres have a place potential but greater investigation needs to be done to ensure feasibility and liveability at human scale. This would entail enabling families to live in the centre, allowing for affordability for all, integrating the different parts of the city without barrier effects and taking care of polluted land and water while maintaining or renewing the bad condition of port construction. We have also learnt to work across departments and test questions of feasibility at earlier stages in the planning process through a holistic perspective.

CONCLUSION

The creative processes and challenges of urban landscape design were explored through these four examples of former port cities battered by economic downturns and social deprivation in the late twentieth century. They took different routes to reconnecting these waterfronts with their city centres and to reanimating their public spaces, but all were approached with skill and sensitivity.

The two British cities have used culture and heritage-led regeneration to build a new sense of civic pride and economic optimism. The world-class environment of Albert Dock, strengthened and improved with a more welcoming and user-friendly public realm, has a bright future. In Dundee, sensitive and simple landscaping complements the spectacular new museum building without trying to compete with it. Both approaches aim to bring more visitors and investment to their cities.

In Sweden, the strong focus on public realm and the willingness of public and private sectors to work in partnership for the common good creates sustainable environments and an enduring sense of civic pride. A genuine passion for a fulfilling civic life is played out in the public realm, whether through strategies that reduce car dependency, commit to housing for all or a free public sauna.

Links and parallels were drawn between the different cities and their experiences. Historical resonances were celebrated. Dundee and Gothenburg, for example, were once linked by maritime trading routes. But the differences in approaches to contemporary urban design were also explored. In Britain, events and culture tend to drive regeneration projects, whereas in Sweden, the emphasis is on the fine grain quality of everyday living.

The British cohort was impressed by the amount of energy and effort, including evidence-based planning, that was expended to drive the future of Swedish cities, and agreed that there is a lot to learn from the holistic aspirations and ambitions of the Scandinavian approach.

For Swedish planners, economics is not just about money; the value acquired through good health and psychologically stress-free jobs and lives could be termed community economics, and these benefits are seen in direct correlation to what is built, and how. Their mantra, notes Peter Siöström, is 'paid for by the few; used by the many'.