Chapter 11: Urban river revitalisation

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Introduction

This chapter gives an overview of urban and peri-urban rivers and explains how these water bodies have been regulated, buried and subsequently rediscovered. Using examples from 12 case study projects, we cover aspects related to different types of rivers, as found in the BlueHealth review, and we also draw on our own first-hand experience as landscape architects. We also describe the main risks and benefits for health and well-being associated with rivers and summarise the principles adopted in implementing river restoration.

Why rivers matter

Rivers are connected to flow. The old High German term *fluz* means *to flow* and rivers are linear, naturally flowing water bodies on land surfaces that mostly drain to the sea or occasionally into lakes. They are the main component in a system of different drainage lines within the landscape that gradually collect water from a wide area, with smaller streams converging into larger ones and eventually into rivers.

Rivers are spatially confined by their banks, consisting of different forms of varying slopes and material. Over time, however, the path and character of their flow may change, as they continually eroding higher-lying landscapes and raising the lower-lying river spaces through sedimentation (Prominski et al., 2012). The characteristics of each river depend on several factors within a catchment area, and each river forms the surrounding landscape in diverse ways, while the surrounding environment exerts influence on the shape of the river through the interplay of topography, geology, climatic conditions and the erosive and accumulative activity of the current (Prominski et al., 2012). In the context of this chapter, it is noteworthy that most rivers make a substantial impact on the natural balance of the region through which they run, its cultural history, its transport development and its necessary fresh water supply.

Urban river landscapes

Urban rivers tend to differ from natural, dynamic ones as a result of human activities where they flow through cities, such as regulation, canalisation, burial and rediscovery. These actions are part of a historical urban development process which gradually converted natural water bodies into complex linear infrastructures at multiple scales. Regional awareness towards urban rivers can be enhanced by developing and intertwining three main aspects of sustainability: provision of space for water, for flora and fauna and for people.

Riverside settlements initially developed alongside constantly changing rivers as ideal locations to meet their needs for construction, agriculture, food, hygiene, energy and transport. They were later turned into regulated waterways or even canals with artificial water management (Figure 11.1) in order to try to exert some control over their unpredictable nature – flooding, silting and other factors which interfered with human survival or economic activities. This linear space of flow can be exemplified by the historical presence of the tow-path, where beasts of burden pulled

Figure 11.1

A canalised river in the 1920s. “The Emschergenossenschaft regulated the tributaries of the Emscher with concrete base shells”

(Source: Image courtesy of: Archive, Emschergenossenschaft)

boats with heavy loads to their destination, the routes of this hard labour being precursors for today’s promenades for strolling along the river banks. Over the last two centuries, recreational aspects such as swimming, boating or walking by the river came to play a significant role connected to aesthetic aspects of rivers, while ecological aspects form the agenda for the more recent development discourses upon which many of the following projects are based.

The contemporary perception of urban river landscapes is thus generated from a contradiction between an image-driven notion of natural flow and its related bucolic setting and an action-driven notion of traffic, trade and necessary maintenance. Urban river landscapes are therefore developed under the condition of conflicts between these different notions, in the sense of a technical, constantly working linear landscape element which buries common differences between nature and culture: a landscape in the making. However, the gap between contemporary life on the river and the idealised images of the past may create a challenge for handling these landscapes today.

A river story

Rivers tell us about both a region and its heritage. One of the main European rivers, the Rhine, has been travelled and described as a trade route since Roman times. The Renaissance brought Francesco Petrarca to the Rhine; Dutch artists

followed, and during the 18th century, the river was a regular stop for researchers like Alexander von Humboldt. Of course, the representations of these visitors showed the natural, aesthetic and historical connections, but subsequent descriptions revealed a new landscape experience. Friedrich Schlegel and Victor Hugo (Hugo, 1842) both discovered the untouched, dramatic beauty of the Rhine landscape and created a new field in the European romanticism movement to join natural wilderness and romance (Aversano-Schreiber, 2007), epitomised in Romantic pictures such as that of Tombleson (Figure 11.2).

Later, the symphonic poem *The Moldau* (*Vltava* in Czech) was composed in 1874 as part of the 'My Fatherland/*Má Vlast* cycle' by Bedrich Smetana, with river motifs having an important influence on forming a Czech identity and national heritage in a land-locked region. Smetana used tonal painting to create the sounds and moods that are aroused on a journey on and along the river, describing the course of the river as it grows from two sources merging into a single stream. It then follows its course through woods and meadows through landscapes where a wedding is held, with ruined castles standing on rocky outcrops. Finally, the river widens, flowing towards and through the old capital city Prague before joining another river.

"Life on the Mississippi" is a short story by the American writer Mark Twain about his time as a helmsman on the Mississippi steamboats around the time of the American Civil War. The story tells us about the river, starting with the

Figure 11.2

"Views of the Rhine: Village of Bacharach and ruin of the Werner Chapel" by William Tombleson (1840)

(Source: Public domain image courtesy of https://commons.wikimedia.org/wiki/File:Tombleson_Bacharach_Werner.jpg)

first European to see it in 1542, followed by French explorers in the 17th century, to the first settlements, timber rafting and early steam navigation (as pictured in Figure 11.3). Connecting the southern and northern states, which were later in a bloody combat against each other, the river posed a constant flood risk. Twain not only describes the steering of various boats across the constantly changing river course with its risky currents, sandbanks and shallows, he also explains the rivalry of steamships with the railroad. Furthermore, he chronicles the big new cities growing along its banks and the events and tragedies along the river course (Twain, 1883). The river serves as an incubator of progress, technology, poverty and racial conflicts while expanding its cultural influence. It pushes the frontier narrative of the emerging busy waterway and creates a collective memory by exchanging what has been with what is yet to come.

Urban river narratives

As stated, urban rivers are associated with a dense and bustling urban infrastructure, having established the most superimposing context on a region. Accordingly, each urban river landscape not only possesses a certain *genius loci* but also spatial hints to human activities and natural processes happening on land inwards or upstream. In contrast to a natural river environment, we define an urban river landscape not only as a physical artefact but also as a product of our mind and imagination. It contains our collective desires and memories, narrated through different art forms. Being loaded with these desires, the river landscape turns into something whose purpose may have passed. This

Figure 11.3

"The Levee, Vicksburg, Miss.," Detroit Publishing Co. no. 034340 (1900–1906)

(Source: Public domain image courtesy of: Library of Congress, Prints and Photographs Washington D.C.)

linear space, however, is not something only to be protected or modified; it has to be constantly thought over and created in order to accommodate new uses and to solve new problems.

Sustainability is achieved when the interaction between people and their environment is visible and therefore negotiable. If people depend on their region or are proud of it, they will tend to contribute to its development. Contemporary dense river landscapes are a product of different actions, common users and stakeholders, by which we ask: How does the landscape design reflect the common and vernacular culture along the urban river? How does the landscape design react to the development of changing trends connected to health and recreation? How does the landscape design maintain natural versus manmade processes, and how does the landscape design handle this complexity and change?

Revitalisation trends

The interest towards urban river reconstruction and associated upgrading practices and their application as a task of landscape architecture has grown internationally. It is connected to the complex background of this seemingly common linear space as well as to urban flood protection, which was until recently focused on discharging the flood wave downstream as fast as possible. This task needs cooperation between hydrologists, landscape architects and urban planners and a systematic understanding of river dynamics with a common language (see Prominski et al., 2012), because owners, space users, governments, planners or traffic authorities often have contradictory goals, interests and ideas about a valuable urban river space. Therefore, there is a growing need for experimental design to encourage and trigger a discussion among all the stakeholders involved, such as the Dutch 'Room for the River Programme'. Part of this was a collaborative project to address flood protection along the Waal River in the Nijmegen area and to create flexible environmental conditions to protect the adjacent region by creating a new channel to hold flood water, the relocation of dikes and removing obstacles to the flow (Ruimte-voor-de-rivieren, 2021).

The following case study projects are connected by a river landscape narrative and are organised to show the impact of these projects on river landscape development. Bringing the projects and their aims into a debate on urban river landscapes in terms of spatial awareness will stimulate social and communal empathy towards river spaces as well as negotiating the quality of recreation and health issues: *There are river spaces all around us, and we can perceive and access them; this is our local river and we share it with other people; we may engage in developing and maintaining it!*

Why the cases were chosen

The selection of cases was chosen to show the range of examples that cover the interface between rivers, canals or streams with the different types of urban, suburban and rural contexts. We looked for originality in concept and design, variety of location and type and something which makes them special. They represent a selection of creative and provocative approaches to river design to provide and strengthen the physical, visual, mental and educational connection of potential users to the river. We also looked for examples which might offer continuity in the tradition of former uses. The types of interventions range in scale from a modest village boardwalk to the rediscovery of a forgotten river once buried under a six-lane highway, offering unique solutions to specific problems. The river projects are linear spatial interventions, typically in an urban or peri-urban environment, which provoke further design action or urban development to the existing context as well as enhancing public access and recreational use.

These projects are significant not just from the point of view of an innovative urban design approach but also to transfer their main principles to other river contexts. There is no typical riverbank: they may be hemmed in by a noisy road or railway where access is the main issue to solve; they may be situated at the edge of the city centre or near a protected landscape which might need careful attention. The protection of significant natural habitats may be required as well as providing facilities to host a large number of users and to take pressure from the sites with limited capacity in case of events.

A relationship between users and the water can be established by recovering a water presence in an urban landscape (Velenje City centre, Chicago Riverwalk), recovering the playful role of the water (Soestbach, Perreux-sur-Marne) or revitalising

a water ecosystem (Norges Boardwalk, Recovering Cheonggyecheon). The flowing water can be the key element to a project (Rhone riverbank, Aalborg's New Waterfront), can be only a background element for the project (The Red Ribbon, Tagus Linear Park) or can also highlight traces of past uses (Rochetaillée Banks of the Saone, Revitalisation of the River Aire).

Rivers and local identity

We start with streams, the uppermost parts of the river system, which are closely related to the identity of a community and its related region. The projects have all created locally significant places by uncovering and exhibiting traces of past uses. The projects included in this section are:

- Wet Meadow and source of the River Norges, Norges-La-Ville, France
- Aire River Garden, Geneva, Switzerland
- Velenje City Centre Promenada, Velenje, Slovenia
- Discovering Soestbach, Soest, Germany

Rivers and urban life

The next set of projects provides accessible, bustling places for people, by creatively joining the riverbank and its proximity to the existing infrastructure and urban density, forming a new model for the urban public to experience the water. The projects included in this section are:

- Rhone riverbank, Lyon, France
- Chicago Riverwalk, Chicago, United States
- Cheonggyecheon River revitalisation, Seoul, South Korea
- Aalborg's new waterfront, Aalborg, Denmark

Being away at the river

This last category of projects includes cases where proximity to the river and its immediate access create a feeling of being away from everyday life. The built solutions may create challenges for every potential user at certain times but offer possibilities for views of natural and near-natural atmospheres at the waterside. The projects included in this section are:

- Banks of the Sâone, Rochetaillée, France
- River Banks in Perreux-sur-Marne, France
- Red Ribbon Tanghe River Park, Qinhuangdao City, China
- Tagus Linear Park, Vila Franca de Xira, Portugal

Each project is briefly described (based on information from a range of sources, often the designer or articles as well as what the authors have seen). It is then illustrated with a photograph of a typical view, assessed for project quality based on the factors presented in Chapter 10 and then illustrated using a set of sketches designed to bring out the key aspects which make the project special and inspirational. These are presented as annotated images, and they aim to complement the text visually, so there is no additional description in the text, only the captions.

Rivers and local identity: Wet Meadow and Source of the River Norges, Norges-la-Ville, France

This project at Norges-la-Ville in France is a wooden boardwalk system accompanying a small stream on the edge of a village-like peri-urban settlement in the vicinity of Dijon. It was planned and realised by Agence Territoires landscape architects in 2013 as a linear development along quite different water landscape contexts while displaying one

Figure 11.4

A view along the stream and the boardwalk at Norges-la-Ville

(Source: Agence Territoires. Photographer: Nicolas Waltefaugle)

unifying character. The path is built modestly for everyday outdoor recreation. While it can be easily accessed, it is at the same time almost immersed into the connected meadow landscape.

Norges-la-Ville has recently developed from different villages along the Norges stream. As more commuters from Dijon have moved to the countryside, the settlements have changed in appearance and identity. This new “rurban” condition asks for a different design approach, which includes the dynamics of water and seasonality. The meadow landscape changes depending on the season and the level of the water, which when high, inhibits the ability to enjoy the beauty of this landscape. The boardwalk crosses a symbolic border into the meadow, moving from the domesticated to the natural. The design respects the natural stream environment and keeps the path above the water level during seasonal overflows, which transforms the whole meadow into a temporary swamp.

This special context demanded a humble material choice, and the landscape architects chose a wooden boardwalk, which flirts with the stream by touching and crossing it and maintaining the contrast between the winding river and the straight lines of the boardwalk, which raises the visitor above the ground to discover the local landscape with minimal human impact (Figure 11.4). An old flax retting pond was converted into a natural pond, and the drainage ditch upstream was developed to diversify the habitats. Shrubs were planted to create soft embankments with water margin plants. The intervention has enlarged the space around the source of the river with a large wooden terrace, and the site maintenance is carried out through mowing or grazing as recommended following an ecological inventory.

Figure 11.5a–e

a) The complete Norges-la-Ville project with all access points to the boardwalk; b) wooden-framed bridge crossing the stream; c) detailed view of the flax retting pond with the new wooden deck facing the old laundry house; d) cross-section through the flax retting pond with a bench on the deck; e) cross-section through the wet meadow showing the access to the stream-side along the boardwalk

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.5a–e (continued)

Project quality rating assessment

This project performs well in most of the categories due to its location. The design improves accessibility to the site by a bridge and connects the boardwalk with the village centre and road, but this, of course, is only for pedestrians. From outside of the wetlands, the visibility is limited. The geometrical design is a particular feature and contrasts with the lush appearance of nature. The focus of facilities provided is directed towards the surrounding area rather than equipping the project with functional elements. The local climatic conditions as well as the proximity to the village do not call for an abundant assortment of wind or sun protection or artificial lighting. The visual and symbolic connection to the water landscape is more important than possible activities and immediate access to it. Its naturalness, uniqueness and sense of place make this project a successful waterfront development. Figure 11.5 shows sketches analysing the project.

Aire River Garden, Geneva, Switzerland

The Aire River Garden is a river renaturalisation project that comprises different interventions implemented in four phases on a 5-kilometre length covering almost 50 hectares. It is designed in stages by Atelier Descombes Rampini with Superpositions as a creative collaboration between landscape architects, civil engineers and biologists, with the first three stages completed in 2015.

From the late 19th century, the Aire was gradually canalised as part of the Swiss large-scale drainage projects to turn former wetlands into large-scale agriculture. This canalised river became an iconic element in the local landscape, but in 2001, the canton of Geneva launched a design competition to restore the river to its original shape. The aim was to remove the canal construction while improving the water quality with more effective flood management and providing public access. The landscape architects answered with a challenging response that questioned the established norms of ecological restoration.

Renaturalisation projects often simulate an image of nature, which is not the case here, as the river never existed without any human intervention and has always been a canal. The organisation of the design connects the new river space with a linear series of gardens in the floor of the former canal. The landscape architects did not design a fixed riverbed and instead proposed a diamond-shaped pattern for the new river bed whose form addresses the interplay between the river flow and the prepared terrain (Figure 11.6). This new riverbed does not replace the existing canal but flows alongside it, being fed by rainwater. Channels were excavated to maintain control of the river profile in a near-natural manner and pattern. After opening up the new river space, the river flow has moved sediment downstream, and over a one-year period, the geometrical matrix substantially changed into a new pattern of multiple channels which continue to drift downwards. The canal serves as a reference object for visitors to experience “before and after” and provokes questions about the making of this technical river landscape. In the sense of a pedagogical landscape, it raises awareness about temporality and process (Rosenberg, 2019).

An earlier unrealised regional strategic plan connected sites of natural and cultural value, and each contributed to a sense of place and identity, a typology recalled by the whole river garden. The first phase started with a master plan and a pilot project along a short section of the river to test the aforementioned principles as well as balancing the needs of stakeholders. In the second phase, functional hydraulic work was carried out, which led into the third phase that included the creation of the river and separating it from the canal. The old canal bed was then transformed into a chain of gardens along a continuous promenade, with shelters providing shade and picnicking places, its newly designed bed form deriving from the vernacular language of technical elements, such as weirs, concrete stairs, tree alleys and angular banks (Rosenberg, 2019).

Juxtaposing the river and canal after its restoration respects the historical layers rather than erasing all traces of former use. The Aire River Garden has taken a purely ecological programme and developed it into a

Figure 11.6
A view towards both new Aire River shapes
 (Source: Superpositions. Photographer Fabio Chironi)

significant regional public space with a complex landscape. Restoration was less about reaching a finished state but more about creating an open process that reconsidered images of nature that we take for granted into an open artwork.

Project quality rating assessment

Good access to the project is provided for most users by most means of transport. The extended area of the project with its comprehensive design approach offers an overall high and original design quality, which also considers the facilities. As this project is on the urban fringe, it requires some lighting to feel safe. In the same way, the design quality also reflects health and well-being needs. The water connectivity is therefore covered, though there is no need for access from the water. By retaining the former canal bed, there is quite a lot of space for physical activity and children's play, but it does not offer space for water sports due to the shallow depth. This project has a unique design which is perfect for creating contact with water in a quite unusual way, but this focus limits other important aspects. Figure 11.7 analyses the project using sketches.

Figure 11.7a–e

a) Both beds of the former canalised Aire River running parallel to each other: the formal river garden in the old bed and the new flow pattern; b) the canalised river converts into the new naturalised flow; c) the old canalised bed has been turned into a linear open space, while the new naturalised river develops alongside; d) the river finds a bed in the new pattern; e) cross-section through both river beds

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.7a–e (continued)

Velenje City Centre Promenada, Velenje, Slovenia

The Velenje “Promenada” is both a public space and a pedestrian connection to the city centre of Velenje, Slovenia, that bridges the River Paka. It was planned and constructed in stages by ENOTA ARCHITECTS starting in 2014 as part of the ongoing revitalisation of the entire city centre. Velenje is an industrial post-war town, laid out on modernistic principles, and its special character and identity needed to be respected while meeting contemporary requests for bringing more life into the city. As a consequence, all foreseen activities needed to be concentrated in the centre to ensure a critical mass and a continuity of activities.

The modernistic urban layout offered sufficient area to accommodate additional programmed activities. These unoccupied grounds, however, had become car parks, despite being labelled as a pedestrian zone, and this affected the quality of open-space uses. This was a problem which increased with more visitors. A pre-condition for the project was therefore to increase the amount of parking to free up space by adding multi-level parking facilities.

Three main linear spaces for pedestrians cross the city centre and visually tie it together: a park, a street and the promenade. While each offers different uses of the space, they needed a distinct visual character. All of the content of the available and foreseen activities was to be concentrated into these linear spaces to prevent the creation of urban voids and to channel people’s movement during events. In the first phase, the public spaces were provided with simple surfaces for a range of activities, which only required modest investment. This allowed for future expansion and additional content as required. The water level of the river increases a few times a year but remains low at all other times, generally being invisible. The park was extended across both banks of the river, and footbridges link into the network of paths situated on either bank, giving access to the formerly overgrown river. The street is enhanced by additional cultural and commercial programmes, such as open-air market events, and features concrete elements to frame the space for additional activities.

The first layout of the promenade was created by closing it to traffic, but it retained the character of a road and did not contribute to active public life. Thus, the initial straight connection was transformed into a sequence of widened surfaces, connected by a twisting, narrower path leading towards a new amphitheatre along the river (Figure 11.8).

Figure 11.8
The ‘amphitheatre’ at the Paka River, Velenje
(Source: Enota Arhitekti Velenje 2014. Photographer Miran Kambič)

Figure 11.9a-d

a) Design concept of Velenje Promenade, with access to the water at the central stage; b) hilly green and gastronomy area; c) detailed view of the central stage with access to the water; d) cross-section, cutting through the stage area with seating steps at the water

(Source: Anna Wilczyńska and Jekaterina Balicka)

Space for the construction of this amphitheatre was gained by narrowing the old road bridge; then terraced surfaces gradually fall towards the river. The riverbed divided the area in half, but by modifying the riverfront and creating terraces towards the water level, it focuses different activities and connects them into a unified whole.

Project quality rating assessment

This project performs well for accessibility. This is a project in a modernist context, so the absence of references to the cultural heritage is different, and there are also almost no landmarks. It is considered modest in terms of maintenance requirements. It is generally well provided with facilities, but the range as well as lack of shade and especially shelter are weaker due to the bridge-like concept and location. The health and well-being aspect lacks potential, except for expressing the genius loci and safety aspects. It also provides a good connection to water but lacks safety equipment and immediate access from the water. This project performs poorly in most activity categories, owing to its location and design, although there are children's play activities available. The project is excellent at achieving formal quality given the location and spatial limitations. Figure 11.9 shows the interpretation of the design using the drawings.

Discovering Soestbach, Soest, Germany

The Soestbach renaturalisation project in Soest, Germany, has rediscovered an urban stream by changing its formerly technical character into an accessible linear public space. It was planned, developed and built in different stages from 1992 by the Büro Stelzig landscape ecology and planning office, initiated by the City of Soest. Previously, the Soestbach was a rather malodorous stream with hostile conditions for the ecology and a high flow velocity. It was a completely technical space while remaining an almost invisible element in the cityscape until the creation of an overall concept to expose it. The construction phases revealed the water flow of the stream and its connected springs. The Soestbach enters the city as a stream meandering through a meadow, mainly fed by more than 20 freshwater and saltwater springs during its course through the centre of Soest. However, it was historically converted into a sewage canal until it was partly redesigned. In the last few decades, though, questions of flood security gained more importance – flooding was always a problem for the city, as the stream flows through the medieval town centre.

The Soestbach saw a major decline in typical floodplain flora and fauna of the key indigenous habitats and an increase in common and alien floristic and faunistic species. It also saw a loss of migratory fish and an impoverishment of the amphibious fauna. The main planning objective was to turn the Soestbach from a eutrophied gutter into an attractive city waterscape. The aim was to utilise all possible spaces for water expansion under the urban planning conditions and to intensify the ecological and morphological diversity within the limited profile of the city stream. The development goal also aimed to achieve a *near-natural urban stream course* using the role model of a gravelly low-land stream, although the actual design is a deviation from the official classification of natural rivers. A precondition for the project was to raise the stream bed by almost 2 metres to ensure varied flow behaviour, as found locally.

By also revealing the feeding streams, they would add to the core flow and different flow velocities to the main stream. These actions changed the stream's behaviour and the flow of its groundwater. It also reduced the bottom shear stresses and eliminated unpleasant smells. Furthermore, the palpable acoustic quality was enhanced by re-establishing the sound of splashing water through the addition of weirs and plant clusters placed to decrease the flow velocity. A combination of stone walls and metal railings forms the basic design material (Figure 11.10).

The quality of the meadow landscape was highlighted by re-establishing references to the local history of Soest, such as historical sculptures indicating flood heights and offering information about the stream landscape and its development. The planning focus was not directed towards aspects such as sports or events, because the visual and symbolic connection to this landscape is more important than direct access. The public space relationship was also improved through the redesign, which not only made the water visible through balconies along the pedestrian routes and ramps or steps leading down to the stream; it furthermore introduced a new public space layer: a natural

Figure 11.10
A view into the 'discovered' Soestbach bed
 (Source: Jonas Büchel)

stream with artificial banks in the sense of a promenade passing through the city to be constantly experienced by its residents.

Project quality rating assessment

This project performs in a variable way in most of the categories due to its location. The design improves overall inclusive accessibility. The establishment of good design quality, which fits within the context and the cultural heritage of an urban river, has contributed a vital element that is valued in the cityscape. As there are many facilities in the locality, the focus of facilities is more to the display of the new natural character of the stream and providing some lighting rather than providing many elements. The health and well-being potential varies quite a lot, since a sense of being away and contact with nature is not possible in the context. The water connection is mainly visual, with some exceptions, as the river itself is not suitable for activities, and access to and from the water is limited. Physical activity opportunities are fewer due to the location and size of the site. Figure 11.11 shows sketches analysing the project.

Figure 11.11a–h

a) Sequence of the rediscovered Soestbach within the city texture; b) detail of the stream widening at the square with adjacent vegetation, sculpture and steps to the water; c) the stream with the hard embankment and foot-path opposite the gentle green slope; d) the canalised stream is embedded in the sidewalk; e) the widening of the stream with vegetation clusters near the parking; f) cross-section through the stream at the park; g) a section along the widened stream at the parking; h) cross-section through the narrow canalised stream with the sidewalk
 (Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.11a–h (continued)

Rivers and urban life: Rhone riverbank, Lyon, France

Historically, the Rhone riverbank in Lyon, France, was a large linear harbour, as in most cities with an industrial past. The so-called 'Berges de Rhône' development is a project undertaken by the city of Lyon, following an architecture competition, which was won by a team of landscape architects from IN SITU Architectes Paysagistes, architect Françoise-Hélène Jourda and lighting designers from Coup d'Éclat. The construction of the winning design was completed in 2007. The result is a transformation from a riverside car park to a multi-functional public space which reconnects the city and its inhabitants with the riverbank. This 5-kilometre-long stretch of riverbank facilitates relaxing and socialising and furthermore encourages local residents and visitors to use public transport or light traffic options. It also facilitates a continuous route along the river for pedestrians and cyclists.

The project was financed through council funding, including the building costs and the provision for spaces for events. It also includes a strategy for maintaining and developing the project in the future. A key component of the design process was applying participatory governance techniques by engaging the local community. A request was made to find out the community's desires and ideas followed by a process to negotiate and merge the expectations of local people and the council to avoid conflicts. The site is also part of a Trans-European bicycle route from Lake Geneva to the Mediterranean coast; upgrading the Lyon section ensures a safe and picturesque experience for cyclists.

The linear route changes in its appearance and thematic content along its course. The width varies between 5 and 75 metres, and this creates a different atmosphere, which is described as being more natural in the upstream and downstream areas and more urban in the centre. A large linear grass area together with an easily accessible linear basin and a terraced open space offers a stage for views over the river and defines the central section. This is accompanied by multiple lines of oak and elm trees on a raised esplanade, while a swimming pool and laid-out sport areas give a functional counterbalance (Figure 11.12). Refreshments, cycle hiring and fishing facilities are

Figure 11.12

A view along the Rhone riverbank

(Source: IN SITU. Photographer Karolina Samborska)

Figure 11.13a and b

a) Design concept of the Rhone riverbank. The sketch brings out how the water was symbolically and functionally made accessible by creating an additional water feature on the promenade; **b) a section across the promenade,** depicting how the design uses the terrain to create different levels on the promenade, connected with the seating steps allowing a view on the river

(Source: Anna Wilczyńska and Jekaterina Balicka)

concentrated in certain points, while in other parts, 'islands of grasses' provide more enclosed spaces for local residents. The intervention also links to the two largest parks and now provides a botanical walk, showcasing local types of vegetation.

The project does not reverse the historical development of the Rhone riverbank but adds a new component of a blue-green public space to the urban setting. It replaces the mono-functional spatial character and non-permeable materials and allows people to reconnect with the water in a quality riverside setting.

Project quality rating assessment

The overall access to the project is limited for public transport, while having improved the car parking, but it is not very visible from the city side. The design quality and diversity are also quite high and reflect the upgraded relationship to cultural heritage. It performs very well for most aspects of facilities, and it rates very highly for all aspects of health and well-being, as well as having excellent water connections. It has plenty of opportunities for physical activity but not for on-water sports. Figure 11.13 shows how it has been analysed using sketches.

Chicago Riverwalk, Chicago, United States

Since the 1990s, busy roads have been reconfigured by the Chicago Department of Transportation to allow greater public access to the river. On the basis of this road reconstruction project, the city worked on the development plan for the Chicago Riverwalk. The construction started in 2001 and was developed by Skidmore, Owings and Merrill. The architects planned four separate sections, each with a specific location and theme. The sections started off at the Confluence as a spatial expansion into the river for more public space and pedestrian access. This was followed by the Arcade, with a more architectural appearance, separating the riverfront from the road. The Civic includes a museum and is the focal point for boat launches, while the *Market* focuses on connecting gastronomy and apartments to the Riverwalk.

The resulting Chicago Riverwalk is a connected pedestrian waterfront. It contains promenades, seating, restaurants, boat rentals and further activities at the river's edge. While the Chicago River was once a busy industrial shipping channel, it is now one of Chicago's main attractions and understood as a second "shoreline" to Lake Michigan. The Chicago Riverwalk was not realised in one project; the different sections were added step by step and have enhanced contemporary opportunities for recreation while merging the new recreational spaces in the city. Each section has a different design and purpose and accommodates activities from dining to fishing, along with their commercial and recreational amenities. It allows people to get closer to the river and actually embrace it as part of big city life (Figure 11.14).

The first phase was completed in 2009, and in 2012, Sasaki and Ross Barney Architects designed an expansion to link six more sections to the Riverwalk. Essentially, these were in a sense a series of rooms, which connected more of the river to the city with floating gardens and piers for more recreational options. These six final new sections were officially opened in 2015 and 2016. The Marina Plaza presents further gastronomy and outdoor seating, while the Cove provides access for docking of individual boats, and the River Theatre links road and river with shaded stairs and seating. A levelled fountain forms the Water Plaza features, whereas Jetty features wetland gardens, which also raises the awareness of river ecology in an interactive learning environment. Finally, the Boardwalk forms an accessible walkway with a vast lawn area.

Chicago is planning further extensions of the Riverwalk, while the oldest section will see improvements following contemporary affordances. The programmes and forms for each section allow for diverse experiences at and on the river. These experiences trigger public social life at the core of the city by removing traffic barriers next to the water edge and encouraging direct contact with the river edge while being less exposed to traffic noise. The design

Figure 11.14
An evening at the Chicago Riverwalk
 (Source: Sasaki Associates)

provides both continuity and variety for a visitor with materials, details and repeated forms that provide a visual unity along the subsequent sections of the Riverwalk.

Project quality rating assessment

This project is excellent for accessibility and overall design, except for values of cultural heritage. The project has little lighting and is rather exposed to sun and wind, but it is rated highly for most other aspects of the facilities. The health and well-being potential is generally quite high but rated lower for being away, as it is an artificial urban environment, and there is no contact with nature. Water accessibility also performs very well, apart from the range of possible activities in or on the water as well as the fact that water safety equipment is not very evident. There is quite a lot of space for physical activity and children's play, but of course not offering water sports in the centre. It is a versatile project, making good use of the limited space in a very urban context. Figure 11.15 shows the interpretation of the design using drawings.

Figure 11.15a–e

a) Overall design concept of the Chicago Riverwalk and how it provides different functional sectors between each bridge; b) the so-called River Theatre, how the design provides seating on steps with the river view and how the lower part is accessed by ramps; c) detail of the Marina section with recreation areas along the water and access to water transport; d) the Jetty section with various decks, allowing people to be close to the water and to see riparian vegetation; e) a section showing how the recreational areas and direct access to the water are offered by the design at the Water Plaza

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.15a–e (continued)

Cheonggyecheon River revitalisation, Seoul, South Korea

The Cheonggyecheon River revitalisation in Seoul is a well-known and ambitious river recovery project. It was designed by Hyundon Shin, Wonman Hoi, Juhyun Chug and Yangkyo Chin and initiated by the Seoul Metropolitan Government in 2005. It is one of the most important recent projects for urban renewal and was created by demolishing a run-down expressway and revitalising a buried river and its immediate neighbourhood at the same time. The Cheonggyecheon central area now hosts a green waterfront park accompanied by an improved public transport system as its main attraction.

The Cheonggyecheon area is the largest commercial centre in Seoul. It was once an important river in the history of Seoul, but pollution levels became a concern. To resolve this, the river was covered with concrete and turned into a highway in 1960 to host the increasing traffic. By the end of the century, the highway became outdated, as costs for its maintenance increased and the volume of transport posed health concerns for the surrounding neighbourhood. It also separated local communities. Noise pollution and safety hazards contributed to an unfavourable living environment around this central district, where even company headquarters moved away because of the overall experience of stagnation.

Instead of investing a huge budget to upgrade the highway, the municipality decided to demolish it in 2003. As the elevated highway provided traffic access, its removal while restoring the river was seen as quite a radical idea that many residents, businesses and traffic experts initially opposed. The city government therefore engaged stakeholders through consultations before carrying out the work. The aim was to clarify the benefits of restoring the Cheonggyecheon stream over reconstruction, how it addressed safety problems and mobility demands and how it could revitalise community life.

After removing the expressway and opening the river park in 2005, the air quality and noise levels improved. This was further enhanced by upgrading public transport and giving it priority over cars, thus promoting walkability along the new corridor. The almost 6-km-long re-discovered Cheonggyecheon stream has enhanced the quality of

Figure 11.16
A view on the revitalised Cheonggyecheon River
(Source: Hana Shin)

life in this part of Seoul, and the river has become an attractive element of the city, inviting not only locals but tens of thousands of daily visitors. One might call it an extensive park in the sense of a linear playground combining history, urban culture and urban nature. The project also reduced the urban heat island effect along the waterfront, reducing the local temperature by 5°C and increasing wind speeds. It also introduced biodiversity into the dense urban landscape, even introducing new animal species. The main pedestrian passage along the water edge on both riverbanks is located on lower-level terraces with natural recreational areas and even willow wetlands along its banks (Figure 11.16). It provides access to the water with steps, timber decks or stepping stones, offering quite a sense of being away.

Project quality rating assessment

This project, due to its location, shows some limitations in different aspects. It mostly performs well for accessibility, though it is a little weak in visibility and inclusive access. The design quality is also excellent, although the project may be a bit costly to maintain. It is well endowed with facilities, although for such an extensive linear space, the amount of seating seems to be rather low, and it lacks the necessary accessibility to the promenade. Health and well-being issues are generally rated quite high, apart from being away in such an artificial urban environment and for contact with nature. Again, water accessibility is also rated highly, apart from the range of possible activities as well as the lack of water safety equipment. Physical activity opportunities are weak, although children's play and logical zoning are well provided for. This is a great example of an urban revitalisation project which overcomes huge challenges and offers outstanding solutions to provide something special in the urban landscape of Seoul. Figure 11.17 shows the analysis of the project in sketches.

Figure 11.17a–e

a) The concept for the Cheonggyecheon River offers thematic and functional zoning; b) detail of the eastern part of the project, highlighting the extensive use of lush vegetation at the river; c) the central part with the remaining viaduct pillars and access to water by stepping stones and seating terraces; d) access to the water is provided under the bridge; e) section across the central part, depicting the seating terraces

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.17a-e (continued)

Aalborg's new waterfront, Aalborg, Denmark

The new Aalborg waterfront was designed and built in two phases in 2004 and 2013 by C.F. Møller Architects together with Vibeke Rønnow Landscape Architects. Aalborg always had a dense functional connection to its fjord river; however, in the past decades, it has changed from an industrial city into a university and cultural centre, where new cultural activities have moved into the former factory area at the adjacent fjord. In this context, the conversion of this area into the new waterfront not only functionally links the centre with the fjord by filling voids in the post-industrial urban fabric but also creates a new relationship between the city and the fjord. It has become a new unifying landscape element, giving the use of the port back to the city.

The first phase of the new waterfront was opened in late 2011, and the second stage continued with the same approach, where the promenade acts as a unifying component. Other variations of spaces close to the concert hall were added, highlighted by a rectangular platform with marked surfaces, called an *urban plinth*. The idea of this phase was to extend the waterfront promenade to resemble a marsh connected to the plinth, as in a dune landscape. This plinth also provides necessary flood and wind protection for the area with a sequence of spatial gaps providing different elements such as wooden piers, pontoon terraces, seating steps and an outdoor public swimming pool. This interplay of linear spaces and rolling topography is inspired by the intersection of dune and beach, common in Danish fjord landscapes.

Figure 11.18

The pool at the Aalborg waterfront

(Source: Visit Aalborg. Photographer: Adam Lehn)

The new promenade consists of varied squares and gardens which host markets, sports or play facilities and spaces for different seasonal recreation activities connected to water. These are integrated into the promenade sequence, creating green spaces with dense groves of native trees and shrubs, while the overall surfaces are reminiscent of the industrial past, asphalt, concrete and wood being the main materials. An emphasis was put on lighting for marking the waterfront at night to encourage visitors after dark.

In general, the new Aalborg waterfront provides an important upgrading of the city's living quality since the historical centre lacked green and public spaces for the city's inhabitants and users of the immediate neighbourhood. The whole area along the fjord now has a different character, offering a new aesthetic experience.

Project quality rating assessment

This project performs well for accessibility due to the layout and location, apart from public transport connections, surprisingly for Denmark. Design quality is good, apart from the cultural heritage aspects, which do not feature much in the project. The extent of facilities is limited, since it is exposed to wind and sun, but offers a new quality of nature connected to features of urban character. Also, the health and well-being potential is rather limited in terms of being away, genius loci and contact with nature. Water connections are limited, except for connectivity and access from the water, while physical activity opportunities are generally good but less so for informal ones and water sports. The project is excellent at achieving formal quality given the location and spatial limitations. Figure 11.19 shows the interpretation of the design using drawings.

Figure 11.19a and b

a) Design concept of the Aalborg waterfront with accessible bathing and diving possibilities; b) cross-section through the elevated viewing platform and the pool

(Source: Anna Wilczyńska and Jekaterina Balicka)

Being away at the river: Banks of the Saône, Rochetaillée, France

The banks of the Saône River at Rochetaillée sur Saône were planned and constructed in 2014 by an interdisciplinary team under the leadership of IN SITU Paysages & Urbanisme landscape architects. The team consisted of vegetation engineers, lighting designers and civil engineers. Following an international competition three years earlier, the project regenerated the old lost waterfront for the community. The landscape architects also collaborated with four contemporary artists, who created several installations on a route called the “river movie”. This is similar to a cinematic shot that continues into other sequences along the river. The artworks blend into the river landscape and are a reference to the local history and surrounding landscapes, creating places where visitors can stop to admire the Saône area.

Rochetaillée is a small commune located north of Lyon on the left bank of the Saône river. The area of the River Saône banks project is part of the strategic “Rive de Saône project” initiated by the Lyon urban community. It is a 15-kilometre-long pedestrian promenade that has been developed in different stages between Lyon and the Saône Valley. This bigger project highlights and preserves the region’s ecological heritage, such as the façades of historical buildings built along the Saône, and relates to activities such as rowing, fishing, walking and children’s play. It alternates between the urban and pastoral atmospheres. Eventually the long pedestrian promenade changes into a more pastoral route where the local meadow vegetation forms the setting and the banks are widened to form wide beaches. This particular project is located along a 2-kilometre section and set in a 6-hectare expanse.

Originally, a towpath followed the banks of the Saône, where small barges were towed by horses. This was bordered by regularly flooded islands, which served as a grazing place for the village herds. These islands formed so-called *lônes*, diverse ecosystems formed by oxbow lakes or meanders separate from the main river. With the appearance of the Lyon tramway, visitors came to the Saône waterfront on summer holidays and weekends for activities. Simple rustic taverns known as *guinguettes* were built to offer fried foods and entertainment. Later, the river was canalised and the *lônes* were infilled to create land for roads. The swimmers left the banks, but the taverns stayed.

Due to recent sanitation efforts, the river was revitalised, although swimming is still prohibited. The *guinguettes* are now popular restaurants, which line the new promenade along the former towpath. The promenade is divided into two lanes, one for light traffic and one for walking. This allows people to enjoy the connection to the river in different ways and at different speeds. The spaces provide a place for picnic tables and large lounging benches for relaxing and leisure (Figure 11.20). The design reinforced the damaged riverbanks and created a large meadow with natural views, punctuated by pebble and sandy beaches that gently descend towards the river. Furthermore, it accommodates events, such as music concerts or movie screenings. An observation platform located at the flood-gate was opened to the public in 2018 to observe the passage of boats.

Figure 11.20
Seating elements facing the Saône
(Source: Guillaume Robert-Famy/La Voie Bleue)

Project quality rating assessment

The project is assessed well for accessibility in all aspects because of its linear character, as it is both connected to the river and the main traffic lines. It offers overall good design quality, and it rates highly for all aspects regarding facilities. It has a strong genius loci and sufficient water connections, although there is less direct contact with the water since swimming is prohibited. The focus on physical activities is directed towards informal activities and children's play. It is a good example to showcase the high status of French landscape architecture, and Figure 11.21 shows how it has been analysed using sketches.

Figure 11.21a–d

a) Design concept of the Banks of the Sâone. The sketch depicts how the project efficiently creates space in the narrow strip of land between river and road; **b) the terraced lawn containing seating elements and a path from concrete slabs connecting park and street;** **c) a *guinguette* and the deck to access the water;** **d) a section across the terraced lawn with seating adapting to the landform, through the path to the water edge**

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.21a-d (continued)

River banks in Perreux-sur-Marne, France

The city of Perreux-sur-Marne has re-established the relationship to its river, considering it one of the main features of the city's attention in terms of improving its environmental qualities to tackle while combining that with the desire of the community to bring locals and visitors back to the banks of the Marne. The project, initiated by the city, was planned and built by BASE landscape designers + Champalbert hydrologic engineering in 2013. It was designed with an extended boardwalk to allow different uses and crossings on a quite limited site. It is connected by a sequence of meeting places equipped with pontoons and benches along the Marne and includes a playful garden in the centre.

Initially a holiday resort, Perreux became a mid-size city at the beginning of the 20th century, welcoming crowds of day-trippers from Paris to appreciate the bucolic setting of the banks of the Marne. Up to the 18th century, small houses were built on the slope of the undeveloped banks. Only a few laundry boats, public baths or fishing pontoons were installed, but the channelling of the watercourse to facilitate trade traffic led to the conversion of the riverbanks to hard surfaces.

The new appearance of the place was reinforced by emphasising the bucolic setting of the riverbanks. The design thus incorporated the atmosphere of a grove. Due to the almost village-like character of the neighbouring settlement, accessibility was enhanced for pedestrians and light traffic. The pathway is not immediately noticed when entering the area, and the materials used fit the ambience of the surrounding. This approach also allows a layering of the vegetation by combining contemporary urban planting practices with sustainable water ecology.

The project has brought back the people, flora and fauna to the banks of the river. The water and urban edges have been softened by converting former concrete flood defences into vegetated engineered slopes. This has been achieved by removing the masonry blocks and accepting seasonal flooding to widen the variety of different environments. People are attracted to the water when the riverbanks become accessible, especially when new aquatic and terrestrial plants, different surfaces, lighting and furniture were added to allow people to spend time near the water. The types of seating provided are made of wood and constructed for different user needs; it offers an outdoor gym and children's play areas and can be accessed from the river by the jetty (Figure 11.22).

Figure 11.22
A boardwalk facing the Marne
 (Source: ©BASE)

Figure 11.23a–d

a) The Marne boardwalk project uses the narrow space between river and road resourcefully, including the creation of additional space by providing a boardwalk on the water; b) the entrance and platform are connected; c) the boardwalk on the water, providing a new site for riparian vegetation; d) a section from the street down to the platform
 (Source: Anna Wilczyńska and Jekaterina Balicka)

Project quality rating assessment

The accessibility of this site as a recreation area was improved by the rediscovery of the Marne riverbank to provide a promenade. The design quality is good, although it performs lower for cultural heritage aspects, due to the fact that there is not much historical material to consider, just a symbolic connection. Facilities are quite well provided, although the site is exposed to wind and lacks shade in places. For health and well-being, it shows weakness in the sense of being away due to the very built-up environment. Thus, it supports health and well-being benefits for local inhabitants, allowing people to embrace the beauty of this environment. Water connections are generally good, apart from direct access into the water or water activities as well as lacking safety equipment. Children's play is very well provided for, but the range of possible water sports activities is somewhat limited by the given terrain and nature of the design. A good project making excellent use of limited space in a peri-urban context. Figure 11.23 shows how it has been analysed using sketches.

Figure 11.23a–d (continued)

Red Ribbon Tanghe River Park, Qinhuangdao City, China

The Red Ribbon Tanghe River Park in Qinhuangdao City, China, is a river landscape project integrating decidedly artistic elements into an almost-forgotten natural terrain with overgrown vegetation. It was initiated by the municipality and planned and constructed in 2006 by an interdisciplinary design team assembled under the lead of TurenScape landscape architects. This red ribbon follows a linear corridor for 500 metres in an area of about 20 hectares, integrating lighting, seating and orientation signs. It shows how a minimal but distinctive design solution improves the surrounding river landscape. It preserves as much of the natural river as possible, while a process of urbanisation happens nearby.

Despite the urbanisation process, the project keeps the ecological processes of the site intact by inventing an urban river that goes beyond the traditional way of presenting a landscape image under human control that completely restrains natural processes. The project is located on the Tanghe River at the growing urban fringe of Qinhuangdao, and the site is covered with lush native vegetation that provides diverse habitats. It was a rubbish dump with deserted sheds, huts and irrigation facilities, once used for farming. Although the site offered some recreational uses such as fishing or jogging in the past, it was virtually inaccessible for most visitors. Thus, the site conditions presented opportunities as well as challenges for the design solution.

The major design challenge was how to preserve the natural habitats along the river while reacting to new affordances evolving from the increasing population. So instead of replacing lush nature with hard pavement and ornamental flower beds, the new red ribbon design was implemented. The ribbon itself is a long, red-coloured bench covering a former irrigation ditch wall, integrating a boardwalk made of fibre steel, which is lit from inside, with plants growing in well-placed holes in the ribbon. Along the path, cloud-shaped steel pergolas located at strategic meeting points provide shade, accompanied by a patchwork of perennial flower gardens (Figure 11.24). The red ribbon links the natural vegetation and the new flower gardens, providing a structural instrument to reorganise the former unkempt and inaccessible site.

Figure 11.24

A cloud pavilion at the Red Ribbon River Park

(Source: TurenScape)

This minimal intervention turned the formerly inaccessible waterfront into a recreational area. The Red Ribbon is a central element weaving the site together, while the park maintains the natural state of the vegetation that changes depending on the water level. The intervention creates spaces for people to rediscover their nearby urban wilderness.

Project quality rating assessment

This project appears to perform unequally when compared to others in this chapter. Accessibility is good, apart from its visibility from a distance and for car parking. The design quality is also rated highly, apart from the lack of reference to cultural heritage which, given its origins as quite a new landscape, is obvious. Facilities are generally good, though the wind shelter and the range of facilities could be higher in this respect. The health and well-being potential is outstanding, mainly since the area is set within a lush woody landscape with few signs of human activity. Water access, apart from visual access, is impossible given the terrain, so naturally it is assessed as rather low. Physical activity is clearly limited to children's play while providing good activity zoning. A very iconic and original design creates a new image and strong genius loci. Figure 11.25 shows how it has been analysed with sketches.

Figure 11.25a–f

a) Overview of the design concept for the Red Ribbon River Park embedded into the existing environment; b) the boardwalk crosses water and wetland; c) detail of the educational platform; d) the boardwalk weaves through dense vegetation; e) a section showing the relationship of the Red Ribbon and the boardwalk near the river; f) a cross-section through the recreational platform with the pavilion

(Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.25a–f (continued)

Tagus Linear Park, Vila Franca de Xira, Portugal

The Tagus Linear Park is a 15-ha area designed and completed in 2013 by the team of Topiariis landscape architecture for the Municipality of Vila Franca De Xira in Portugal. It connects neighbouring, growing urban communities with the riverside close to both water and industrial enterprises. The challenge was to develop an urban public space located in a complex urban industrial, agricultural and natural landscape while protecting and developing the existing fragile natural system and maintaining the ecological regeneration of damaged former industrial areas. This part of the river is close to its mouth, so it is dominated by industrial purposes, being easily accessed by shipping. It separated residents from the water and paid no any attention to the natural marsh ecology, public access or recreational opportunities.

The park consists of two different sectors: a square connected to the river and a network of trails (Figure 11.26). The square was designed to keep its sense of place and is the area where most of the park facilities are placed and

Figure 11.26
Birds-eye view of the Tagus Linear Park
(Source: Photographer Joao Morgado)

most recreational activities happen. The other sector is the connection of cultural, recreational and natural aspects by a network of trails. These provide the main spatial structure, consisting of both elevated and ground-level paths which bring people to the riverfront. In a sense, they act as a threshold to the river, giving the visitor a feeling of an arrival at the water and a sense of being away.

The marshland was protected and developed along the riverfront to restore ecological functioning after the impacts of industrial use. The existing vegetation in the square was preserved and extended in a formal pattern of compact protected clusters of native sand-connected species on mounds, which contrast with the extensive sandy area. Together with existing and newly planted trees, these clusters create a green environment. The park contains a diverse arrangement of facilities that provides attractions catering to the active visitor and calm spaces for watching birds or wildlife. Other structures include the educational Centre for Environmental and Landscape Interpretation, built from reused containers; a volleyball court; a children's playground; a bird observatory; and wooden shade structures parallel to the paths that provide opportunities for relaxation.

Project quality rating assessment

This project shows good accessibility, apart from public transport, as well as its visibility from a distance. The overall design quality is good, apart from potentially high costs of maintenance and views. It generally does well for facilities, especially offering a wide range of facilities. The health and well-being aspects are also generally well provided for, and this place also has a strong genius loci and opportunities for contemplation. Overall, it is a fine example of a project in this context making good use of a place to enhance the natural qualities with great design features and sensitivity to the site. Figure 11.27 presents the sketched analysis of the project.

Figure 11.27a–f

a) Design concept of Tagus Linear Park with the main recreational area, boardwalk and bird-watching platform;
b) detail of the decked picnic area; c) the service area with old industrial remains; d) the deck and platforms at the Tagus River; e) cross-section through the wooden deck at the water; f) detail of the bird-watching platform and hide
 (Source: Anna Wilczyńska and Jekaterina Balicka)

Figure 11.27a–f (continued)

Comparison of projects in terms of different aspects

General design aspects

The projects presented in this chapter were chosen for their versatility, originality and contextual fitting. They exhibit quite a lot of similar qualities connected to linear water bodies. The projects are often connected with the sense of place aspects and introduce creative solutions to the respective situations according to the project objectives. Many have been competition winners and demonstrate that provocative and innovative solutions are possible even in congested linear spaces such as the Rhône riverbank or the Chicago Riverwalk. References to cultural history are an aspect which is only a feature of some of the designs, such as the Rochetaillée banks of the Saône or the revitalisation of the River Aire, while many projects appear in places where none were present before, as in Norges or the where the architects found little to refer to, as in Aalborg.

Potential for enhancing health and well-being

Almost all projects display several opportunities to improve health and well-being. Physical activities near the water are provided in most, and the projects generally aim to attract and facilitate these as an integral part of the design, as at the Tagus Linear Park. De-stressing, getting closer to nature or simple contemplation may have more potential in some places such as the Norges Boardwalk or the Red Ribbon Park. However, most river edges are quite exposed to sun and wind; therefore, the presence of shade and shelter provided by the projects is not always sufficient.

Accessibility

All the sites are very accessible, even though, because of their spatial context and design idea, they sometimes only have two or three entrances, as at Norges Boardwalk, Red Ribbon and Tagus Linear Park, or are separated from their surroundings by infrastructure, as at the Rochetaillée banks of the Saône. While the Cheonggyecheon project has an issue with only offering steps and elevators to access its famous lowered promenade, in most projects, an accessible design for all projects by ramps and wide paths is provided.

Interaction with water

River waterfronts are in general connected to the water, with good access as a consequence of their history, as shown in the introduction to this chapter. All projects have demonstrated a design approach which enables direct, visual and symbolic access to the water and an overall connection to the river. The cases of Soestbach and Cheonggyecheon demonstrate how the historical water body was reopened and brought back into the city space after it was inaccessible due to previous canalisation. In the case of the Chicago Riverwalk, the water was not hidden but definitely lacked possibilities to socialise or to be near the water; now users are taken almost to the edge. A similar approach was applied in Perreux-sur-Marne and in Velenje, where besides recreational opportunities in the latter project, the steps to the water also provide a place for social events. In the case of the Rochetaillée banks, the visual connection to the river is mostly created by dramatically changing views while walking on the elevated promenade. Sometimes water is not directly accessible, and at the Rhône riverbanks in Lyon, this problem was approached by adding a safe means of playing with water on the promenade itself. Another approach has been used in Aalborg, where a safeguarded lido was arranged as a seasonal extension to the promenade. These approaches can also be found in projects described in Chapters 12, 14 and 15. Finally, contact with water can be enabled through the perception of related ecosystems and plant communities, as demonstrated in the cases at Soestbach, Perreux-sur-Marne, Red Ribbon, Cheonggyecheon and Tagus Linear Park.

Seating and opportunities for socialising

All projects offer seating, often in conjunction with large decks or terraces, as at the Aalborg waterfront; linear benches along riverbanks, as at the Rhône riverbank or the Chicago Riverwalk; or hybrid seating and strolling solutions, as in Velenje city centre. Of course, at many riversides, informal seating on the ground is also an option, and it is possible for users to bring their own blanket, as at the Rochetaillée banks of the Saône or Tagus Linear Park.

Use of materials

The narrow variety of materials and their discreet constructive appearance in most projects reviewed here are important features, since the local atmosphere and the flowing water are the main components. Concrete is used in Velenje and at the Rhône riverbank, but timber is also extensively used in decking, such as at Aalborg or the Aire, as well as the boardwalks at Norges and Perreux-sur-Marne. Rocks and stone are also used to some extent for walls and directing the water, as at Soest. The use of these materials, such as concrete or raw wood, is clearly connected with the aim to reduce maintenance costs.

Use of vegetation and ecological aspects

In many projects, the planting of new vegetation plays only a minor role, but at many sites, there are plenty of existing trees and shrubs, and some sites, such as Norges, have an existing high ecological value and corresponding sensitivities. Some rows of trees and ornamental plants were planted in the Cheonggyecheon project, while in Tagus Linear Park and Aire, the design introduced newly sown grassed areas. Groups of trees as small groves were occasionally established in Lyon or clusters of shrubs, such as the artificial dune vegetation in Aalborg. Water plants and reeds were used at Red Ribbon and the riverbank at Perreux-sur-Marne, where the boardwalks traverse a humid, sometimes boggy environment.

Site management and maintenance

All projects seem to be well maintained, and many have been in use for over five years and are relatively crowded during favourable seasons so that renovation and further maintenance would already be necessary. If the construction followed a high standard and used appropriate durable materials as well as good surveillance against vandalism, this usually leads to a reduced need for extensive maintenance. Nevertheless, the use of wooden elements and surfaces for seating, as in Aalborg, or boardwalks, as in Norges and Tagus, leads to a need for constant renovation, since it alters due to effects of the seasonality in Nordic climates and humid environments. Since these sites are also quite publicly exposed, they need to be kept clean, which helps to maintain them as socialising open spaces.

Conclusions and implications for practice

This chapter has reviewed the history and importance of riverbanks and connected linear public spaces as places for the benefit of health and well-being. The familiar spare-time promenading along specially constructed banks and the collective gazing at the flowing river continues, but the activities of the projects presented here make historical references while also introducing innovative and provocative responses following design competitions.

The projects presented here have their strengths and weaknesses according to a number of factors such as the local setting, the terrain, its respective history or climatic conditions. Nevertheless, each design team has endeavoured to boost the feasible opportunities and diminish the given constraints. At the same time, they have also produced solutions which provide improved opportunities to interact with water and to infuse a novel or even reimagined sense of place. These projects also have a significant impact on the local gastronomy and hospitality along the rivers, as well as on the advertised representations of the places they tackle.

Following the comparisons made, certain aspects stand out: the projects retain a context-specific design, so the differences in approaches of interacting with the water are based on each context. They demonstrate a wide range of design approaches to enhance this connection to the water by bringing people physically closer to the water, enabling direct contact to the water or safe access within the project area. Also, a wide range of activities near the water is presented by providing places for meetings and events, for looking and being looked at. The useful application of riparian vegetation helps to consolidate the riverbanks and establishes a near-natural environment, while the projects uncover the rich history of the urban river landscape and its cultural heritage to celebrate the pleasure of living, staying or just relaxing at the river.

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