

Urban spaces – enhancing the attractiveness and quality of the urban environment



WP3 Joint Strategy

Activity 3.2 Criteria and Principles

Sub-activity 3.2.6 Design – Architectural Criteria

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1 Introduction: ‘Urban Design and Architectural Aspects’ – Can form without function ever be good design?

As the sixth of six working papers dealing with different aspects of the treatment of urban space, this paper on the ‘urban design and architectural aspects’ needs to start with an important caveat: to consider the creation of urban spaces as a purely formal consideration by looking at the ‘urban design and architectural aspects’ in isolation from the wider range of other factors on which the success of urban open spaces depends is likely to be doomed to failure from the start.

The implication is that simply by designing the ‘correct’ formal structures, good urban open spaces can be created. It is of course possible to discuss urban spaces from a purely formal point of view, and a classic example of this is provided by the post-modernist manifesto on the subject by Rob Krier: ‘Urban Space’ (Krier, 1979), however it is essential that design is seen as being something which goes far beyond shaping the formal aspects of a space.

Design is about integrating all aspects relating to the conditions of the site, the needs of the users, the expectations of the client and the demands of society and the environment into a unified and spatially functioning concept. To reduce the design aspects of the creation of urban spaces to formal considerations risks missing the point of what design is about. Simply by reproducing the physical structures associated with successful urban spaces, it is not possible to create good design.

Nevertheless, there are a range of formal considerations relating to the treatment of spaces which can be discussed to some extent independently of other considerations, on the assumption that these are understood as essential components of the overall design process.

This paper is divided into five sections. Following this short introduction there is a theoretical sections which considers the formal ‘urban design and architectural’ aspects of the treatment of urban spaces at three different scale levels, ranging from the wider urban context through the site design itself, to the use of materials and their detailing. Clearly this is a very large topic and here only the main aspects can covered in outline. Following this, the third section uses a series of different types of urban space project examples, from both Austria and elsewhere in Europe, to consider how these theoretical principles have been put into practice.



In the penultimate section the potential relationships between the 'formal design' related aspects of the creation of urban spaces and the themes covered by the other five working papers are briefly addressed. Finally some broad conclusions are drawn as a prelude to the development of the joint strategy document which will form the main output of this project work package



2 Theoretical section dealing with the issues covered by the subject of the working paper

Three scales of urban open space design

Formal design aspects of urban open space need to be taken into account at three different scales. This arises from the need to consider individual spaces not just on their own terms, but to 'zoom' out a scale in order to understand them in their wider context, and to zoom in a scale in order to appreciate how they function in detail.

This chapter is therefore divided up as follows:

2.1 The wider context

2.2 Site design

2.3 Detailed design and the use of materials

2.1 The wider context

2.1.1 Urban spaces as part of a larger strategic network – Isolation versus Integration

When considering the design of urban spaces, even the smallest, or perhaps especially the smallest, it is important to consider them as part of a wider urban open space network. All urban open spaces are *de facto* part of wider matrix of open space which flows throughout the built up areas and out into the landscape, but it is of great importance that this fact is acted upon positively in the planning and design process so that the actual and potential links to the wider open space network and beyond to the wider landscape can be optimised.

By positioning even the smallest space within a wider network of urban open spaces, it is possible to add value and significance to it. A small isolated urban space will always remain a small isolated urban space, while a small urban space which is an integral part of a wider urban open space system is also a gateway, not just to the rest of the system, but out into the wider landscape too.

To achieve this integration in practice it is necessary to make reference both to the planned system as well as to the physical features, such as existing green links or connections, vegetation structures, whether they are accessible to the public or not, views and visual linkages, all which can form part of the context of the site in question.

Grünzug Stadt Schwed/Oder, connecting the old city centre with the surrounding landscape: After demolishing the abandoned housing blocks, a linear green has been established. The frames of the former blocks are still visible through the pathway system.

Being part of a wider network of urban open spaces is not just a case of increasing ease of access to other open spaces from the one in question, but it is also important in terms of being able to provide for complementary facilities and activities within each open space, as part of a larger concept of provision for user demands and needs.

Due to the existing urban structure of most European cities building up an urban green system for a city or parts of the city from the scratch as shown in the example above is the exception. The Rudolf - Bednar park and the housing project Aigen Süd can be seen as the missing link in an existing system of city parks and recreation areas. These parks are not only structural green elements from a spatial point of view, but satisfy the user demands for recreation and social interaction within the densely populated districts.

Beyond this there is the matter of using an awareness of the wider landscape and open space context as a means of finding an appropriate design approach, which respects the wider context of the open space in question and responds to it.

The necessary precondition for integrating the wider context of a site into its design treatment is that there should be a strategic concept for open space which relates to the urban area as a whole. This needs both to reflect the generic needs of all sectors of the urban population as well as to respond to the particular nature of the landscape context of the urban area in question. However, even if there is no existing official open spaces plan, the designer of an individual space can still react to the immediate and, as far as possible, the wider context in the development of the design proposals.

This latter point is also of considerable importance if parks, squares and other open spaces are to develop and retain a strong sense of character based on their locality and the wider *genius loci* – the so-called ‘genius of the place’. Design means to do this

can involve the use of local materials and characteristic vegetation elements, as well as a response to the grain and directions of the immediate and wider urban structure.

Finally, it is important to stress that a strong and clear open space structure can provide a framework, not just for the design and development of individual urban spaces, but for the long term urban development as a whole. A robust network of open spaces can provide a stable framework within which the dynamic change in the form of development and urban renewal, which is necessary in all urban areas, can take place while still retaining a long term identity for the settlement, town or city in question.

2.1.2 Edges, thresholds and entrances – links in to the surrounding area/space

Urban open space is of importance for a wider range of reasons, but one of these is quite simply that it represents a visual and spatial contrast to the surrounding urban fabric: it is perceived as a void in contrast to the volumetric masses of the built form of the town or city. This strong spatial contrast is something which can be articulated further in design terms.

By creating clear and well defined edges to an urban open space the experience and impact of the space, in contrast to the surrounding urban area, can be heightened and thereby its value maximised. The permeability of the edges is an important consideration in this context. Permeability can be considered in terms of physical access, views and even in terms of noise and other emissions.

From the point of view of maximising the impact of the open space on people moving around the surrounding built up area, it would seem beneficial to make it as visible as possible and thus to allow as many views as possible from the urban area into the open space. From the point of view of the users of the space itself, its attractions lie to a large extent in the providing of a refuge from the surrounding urban area, and therefore direct views into the surrounding urban are not necessarily ideal.

Much the same will be the case for the penetration of noise and emissions into the space: the sound of bird song, for example, will be appreciated by people walking outside the space, while the sound of traffic does not have the same allure for those seeking out the open space for recreation, especially given the fact that many urban open spaces will be bounded by roads. One possible solution to this can be to create a special edge zone which expands the narrow linear edge creating a wider transition band.

Edges separating an urban space from its urban surroundings can be horizontal zones but they can also be vertical in some cases. The creation of urban spaces at higher or lower levels than the surrounding area can also be a very effective way of creating a clear separation between the space and its surroundings.

As a result particular importance needs to be placed on the treatment of the passage from the built volumes of the surrounding urban area to the 'voids' of the open space. Particular attention therefore needs to be given to the edges of open spaces, as well

as to how and where these are crossed. Thresholds and entrances thus also gain special importance in design terms, and thought needs to be given to orchestrating the thresholds between town and park or between urban fabric and urban square.

Thresholds are also links and the interface between the old and the new is also an important theme in the design of urban space, in particular with regard to edges and entrances.

2.1.3 Openness and flexibility for different uses and to different groups of users

Accommodating different user groups in an urban open space is a typical design challenge, and there are different approaches in formal design terms. Perhaps the most obvious is to recognise that each identifiable user group has particular needs, interests or demands and to try and cater for each one separately.

While the organisation of an open space to create a series of sub-spaces aimed at providing specifically for the needs of particular user groups can be one strategy for the design of an open space, such a pre-structuring can also have a negative effect. The sub-division of an urban space into a series of separate parcels each providing for a different group is also likely to have the effect of excluding other groups from the use of the areas not intended for them.

A dedicated ball-games area, which is fenced in to prevent the ball from being lost or from causing conflicts with other users, is only likely to be used by a particular segment of the population; similarly a series of small sitting areas with flowerbeds and open air chess boards; and the toddlers' playground and sand pit are not likely to attract use from a wide cross section of the population.

Design approaches which aim to cater closely for specific user groups will tend, not only to reduce the range of opportunities for other groups, but also the area of the total open space in question which are effectively accessible to them, this is more likely to be a problem the smaller the overall space in question is. Of course there is nothing to stop pensioners from using the ball games area, but perhaps they are not really likely to.

An alternative strategy is to try and consider the needs of a wide range of user groups but not to dedicate particular areas and facilities to them, but to provide for as open and flexible use of the space as possible. This will call for the creation of neutral spaces which can be appropriated by different groups in different ways as the need arises, and will also have the added benefit of avoiding 'clichés' in the provision of specific facilities thought to be appropriate for specific user groups. In this context effort must be made to avoid the use of design language and symbols which may be interpreted as belonging to a particular group of users.

Designing for change is another objective which ought to be pursued. Even from the point of view of the formal consideration of design issues, it is important that urban spaces can be adapted to changing conditions and new situations. A park in a new neighbourhood may be designed to cater for a majority of young families with small children when it is created, and this might be a sensible outcome of a public participation process. However, this cohort of small children will grow and the need for a new park design is likely to be the logical result.

Change in the formal structure of an open space needs to be seen as part of a natural cycle, but of course it is expensive to regularly rip everything out and start again. There is therefore also an important argument for maintaining a level of continuity too.

In design terms this calls for creating a hierarchy of fixed and changeable elements in the design structure of the open space some of which can be seen as having a long lifespan, while other components may be changed or redesigned regularly.

The vegetation structure can illustrate this well: long-lived and difficult to establish elements, such as the main tree structure will ideally remain stable over long periods of time, while shrub planting and hedges could be modified more often, while bedding plants are elements which will change as often as several times in one season. By analogy the main spatial organisation of an open space may remain constant over a long time period, while the facilities provided may be redesigned and the materials used changed on a more regular basis to respond to the changing needs of users.

2.1.4 Providing the physical basis for other open space functions

One of the most important formal design aspects of urban open spaces is to provide the physical structures on which the fulfilment of the wide range of open space functions depends.

To fulfil the environmental and ecological functions of climatic amelioration, noise screening, helping to manage storm water drainage and providing habitats for wild plants and animals, there is, for example, clearly a need for the presence of significant areas of vegetation composed of suitable species, permeable hard surfaces which are able to absorb, retain and evaporate moisture and solid elements able to screen and absorb sound waves, as part of the design treatment of the space. However the actual configuration of these elements may or may not be significant for them to fulfil their functions.

Social and societal functions have a different set of demands on the design treatment of urban spaces. Spaces for leisure and recreation need to be provided with the necessary form and suitably equipped if they are to be used for specific forms of play, sport and recreation, formal and informal, active and passive. To facilitate social contact and communication, on the other hand, there may not be any requirement for specific facilities, other than attractive open spaces with suitable areas for people to sit and walk, meet and talk. Provide people with access to and experience of nature calls for the necessary plant and animal habitats to be designed and constructed, something which may only be possible to a limited extent in many urban open spaces. In order to influence human physical and psychological health and well-being it appears to be important that the spaces have a suitably high level of environmental quality, but also that they are located close to people's homes and in easy access to them.

The design requirements for fulfilling structural and aesthetic functions can be many and varied, and operate at different spatial and perceptual levels. To help articulate and structure the urban fabric they clearly need to be located within a wider system of open spaces and to reflect this in their detailed design treatment. In order to strengthen legibility consideration needs to be given too the gestalt principles of perception outlined above, when considering their detailed design and layout. Establishing a sense of place is harder to define in abstract terms as it requires detailed attention to be paid to the history and geography of the place in question as well as to its significance for the people who use it, and this is also closely associated

with the function of acting as a carrier of identity, meanings and values, something which can only be achieved over a long period of time, although it is possible to begin and support this process through the way in which the design is carried out in response to the local situation.

2.1.5 Sustainability

Sustainability is naturally a consideration in the design treatment of all urban spaces and indeed all other aspects of design, but its significance from a purely formal design viewpoint is related closely to the extent which the sustainable approaches behind the design of the space in question can be made explicit so that they can easily be seen, 'read' and comprehended. Clearly there is a close relationship here with the environmental aspects of the design of open space.

In formal design terms one important part of the visible aspects of sustainable design can involve the use of local and above all renewable materials. Recycled materials may also play an important role. Examples of these include at one end of the scale re-used granite paving sets or reclaimed sandstone slabs, at the other end the integration of other reclaimed materials into the design. These can include bricks, timber railway sleepers as well as the use of crushed concrete as a recycled aggregate in the foundations of paved areas.

The treatment of surface water can be another aspect of sustainable design with a formal, visible expression. This can also have a range of results on terms of appearance, from the use of permeable surfacing to facilitate the direct infiltration of rainwater, through to its collection and storage within the project site in the form of storm water holding basins with varying water levels depending on the amount of rainwater there has been to dispose of.

A final example of the design expression of sustainability in the design of urban open spaces can be found in the way in which vegetation is used and in particular managed. The establishment of ecologically appropriate plant communities – either in mimicry of native plant communities or the used of exotic species according to their ecological requirements – is one of the ways in which sustainability can be expressed in design terms. Vegetation of this nature can be seen as sustainable in that it can be maintained with a minimum of inputs and will also support native flora and fauna.

2.2 Site design

2.2.1 The creation and definition of outdoor space

All space needs to be articulated and structured in order to function properly. This does not just go for outdoor spaces but for indoor space too. Indeed, perhaps this principle is easiest to understand in the context of indoor spaces. A simple house is enclosed within its outer walls, but to function as a dwelling it needs to be further subdivided into a series of rooms each having a specific function. The sizes of the rooms and their relation to one another are important for the functioning of the house. Simply increasing the size of the rooms does not create more useable space. Indeed more space is often most easily created by separating off a space for a specific purpose from an existing one and thereby actually making it smaller.

A very large and undivided space – such as an aircraft hangar for example – does not provide more useable space than a building many times smaller in size but more appropriately structured. An analogous argument can be made regarding outdoor spaces.

Outdoor spaces differ from indoor ones, however, in the way in which they are defined. While they can be created by building walls to literally make a series of 'outdoor rooms', most frequently outdoor spaces are defined in a more fluid and subtle way.

Creating a separate floorscape alone may begin to indicate an area but does not yet define a space in its own right. Spatial definition requires some vertical elements to make it convincing. The vertical elements can differ in their scale and depending on what is used; the space created may be more or less ambiguous or well defined. Vertical elements can range from a line of flagpoles or lamp posts to a simple change of level. This may take the form of a low wall for sitting on, a retaining wall topped by a balustrade, or a grassed slope. Not every side of a space needs to be enclosed in order to define it. Often it is enough to imply the edge of a space with a single element, for example a row of benches.

2.2.2 Overall spatial composition

At the scale of the site itself, the central consideration can be considered as the overall spatial composition of the open space. Here abstract concepts such as rhythm, harmony, balance, form, texture and proportion come into play. Spatial composition is also about the ways in which different elements can be organised together within a space. There are a number of simple geometrical schemes which can be used to arrange the different elements of a design in relation to one another.

Compositions can be ordered around a central point or feature; they can be linear with the various components arranged along a clear axis. This may be a central axis of symmetry or one which purposefully avoids symmetry. The elements may be arranged in a radial form or grouped into clusters. Within these groups a principle of hierarchy may be used to create further order.

A number of axes may be organised into a grid system within which to compose the various elements of the design. In all these cases the intention is to create a clearly visible structure and order. Within the overall systems of organisation the rhythmic grouping and repetition of design elements, their harmonious balance with one another are also aspects of spatial composition which can help the create well designed urban spaces.

Spatial composition is to a large extent scale independent and the principles used can be applied at different levels. In his classical analysis of urban form, for example, the American planner Kevin Lynch identified five main components of the 'city image' that people used to navigate through the urban fabric. These elements were defined as the result of the retrospective analysis of existing cities, but there is no reason why the five components of good city form which Lynch identified cannot also be used as part of a design approach.

Thus 'districts', 'edges', 'paths', 'nodes' and 'landmarks' can be seen as elements which can be used for the composition of an urban space irrespective of their scale. Indeed Lynch viewed these elements as existing at different scales too, although at the whole city rather than the site level. In the same way that the image of a whole city is reinforced by a good and balanced combination of these five elements, the same can be said for the design of an individual urban space, irrespective of what the exact features are which go to define them.

2.2.3 Human scale, anthropometrics and the sense of enclosure

The way in which spaces are experienced is very closely linked to the question of their scale and proportions; in particular the link is to the human scale as defined by the dimensions of the human body and the scales which are in turn influenced by this. One of the most important if not the most obvious of these anthropometric dimensions is the angle of vision. The vertical angle of vision in particular is what influences the sense of enclosure we experience in spaces of different size and proportion. The critical dimensions are the ratio of the height of the enclosing elements of a space, taking into account eye level, and the distance away from them the viewer is standing. At a ratio of 1:1 the enclosing elements completely fill the vertical field of view of the observer, and the sense of enclosure is complete, if not oppressive. The greater the distance of the viewer from the elements defining the edges of a space the less they will fill the vertical field of view and the more sky will be visible, resulting in a decreasing experience of spatial enclosure. On the basis of this dimensions for the size of spaces can be calculated, but variables – such as the position of the viewer within the space – remain.

Other aspects of human scale also need to be taken into consideration in the design of urban spaces. These range from the height of certain elements in relation to the scale of the human body, to the distances which can be covered within reasonable timescales which can define the ease of accessibility of a space and therefore the likelihood that it will be used regularly by certain groups. Some critical anthropometric design dimensions include 'knee level' which defines a height above which it is relatively inconvenient to climb over; 'sitting level' the ideal height at which seats should be built; 'waist level' which should define the height of balustrades and the length of 'arms reach' which can define a minimum height for structures such as pergolas.

Finally, another aspect of enclosure is also of great importance in the design of urban spaces, namely the nature of the enclosing elements. It is of the greatest importance that these are 'alive' in the sense that the buildings in particular, which define the edges of a space have doors and windows which open on to it and ideally contain functions which will attract a large number of people into the space. They may be public buildings of restaurants for example. This is essential as a space full of people and activity is not just attractive in itself, but it is also one where there is a high level

of social control and therefore safety, a fact which can in turn increase its attractiveness still further.

2.2.4 Gestalt principles of perception

One of the main assumptions behind the work of Kevin Lynch which formed the basis for 'The Image of the City' was the issue of the ease with which we orientate ourselves within our surroundings. The sense of knowing where one is, or at least being able to navigate our environment with confidence, give us a feeling of well-being and the opposite situation – the sense of being lost and not being able to find one's way – is a fundamentally troubling and stressful experience. It is one which is alluded to in an archetypal manner in fairy tales such as 'Hansel and Gretel' in which children become lost in the woods and unpleasant things happen to them as a result.

Lynch's hypothesis was that the clearer the 'image of the city' in our heads was, the easier it is for us to navigate and the greater our sense of well-being within our environment, be it a familiar or unfamiliar one. A 'good' image is a clear one which can be easily read and understood. This concept of legibility can be transferred to the formal design of urban spaces in a number of ways, which will become clear shortly, but first it is important to consider why some 'images' are more easily 'legible' than others.

The gestalt principles of perception provide a series of rules which attempt to explain how we perceive the world around us in terms of coherent objects and forms rather than just as a series of seemingly unrelated points, lines and areas. The gestalt rules of perception were originally formulated and developed by a group of psychologists during the 1920s and 1930s firstly in Germany and then in exile in America. While these rules were originally defined to explain the way in which we perceive two dimensional visual fields, they clearly also are applicable how we read and understand three-dimensional urban spaces too.

The first principle relates to 'figure-ground' relationships. According to this a patch of one colour or texture in the middle of another colour or texture is perceived as an 'object' which is afforded greater significance than is given to ground surrounding it and is felt to stand out from it.

Further principles follow from this articulation of the simple figure against its background. The first of these relates to the juxtaposition of a series of similar figures

which are arranged on a ground. Equally spaced a series of individual forms is seen, but if some are located closer to each other than the rest, those which are closer to each other are automatically seen as belonging together in groups. Elements which behave in a similar manner are also seen as belonging together, even if they are not located in close spatial proximity.

Following on from this if there are a series of different elements distributed across a visual field, the eye automatically picks out those which are similar to one another and organises them into groups. This effect can be strengthened still further if similar objects are also located in close juxtaposition with one another.

The eye will also automatically complete forms which are in fact open or only partly articulated if it results in a shape which is easier to perceive. Clearly defined shapes which seem to make coherent sense are also perceived as being integral wholes, even if the components out of which they are composed are diverse. Such shapes can also be picked out relatively easily against complex backgrounds as they are immediately identified as having a higher degree of significance.

These broad principles can be used to organise and design the elements of urban spaces – paved surfaces,, elements of furniture and vegetation for example - in such a way that they will intuitively make sense to the observer and can be 'read' quickly and confidently. This visual clarity is the basis for legible spaces in and through which users can navigate easily. These will therefore, by analogy with Lynch's arguments be spaces in which we will feel relaxed and at home.

Because such images are in the minds of the viewer, it can also be argued that spaces which are clearly and coherently organised will also be quicker and easier to grasp for those with visual handicaps, and they will therefore also be able to find their way around them with greater ease.

2.2.5 Direction and orientation

Urban spaces exist in relation to a wider spatial context. Their orientation in relation to this context is crucial for their design treatment. Even a neutral rectangular space has a northern and a southern side. This will affect the way in which the sun and shade patterns move across the space during the course of the day and the year, creating areas which are more and less favoured depending on the situation. Sunny areas may be attractive for people to use in cooler northern regions, but places to be avoided in hotter climates. The orientation of an urban space with relation to the points of the compass is not the only one which may matter from a design point of view.

Spaces may well also be orientated along other gradients too, and these can have an effect on their design treatment. This effect may either be pre-determined and unavoidable, or it may be something which the designer will chose to emphasise and exploit for design reasons. An example of a fixed gradient may be an actual gradient – a slope from one end of the space to the other. The resulting difference in level will also necessarily affect a range of other design decisions about the treatment of the space, from surface water drainage to the location of sitting areas.

But even if there is not really a gradient which forces certain design decisions upon a space, small differences can be emphasised and heightened as a mechanism for helping to organise the space. In simple terms any space may be conceived as having two (or indeed more) poles which are contrasting in character. These differences can be used as a way of organising the space and influencing its design treatment.

A space may be conceived as having an 'urban' and a 'rural' end, whether or not its geographical location supports this. This could then influence design decisions made about the use of vegetation or paving materials, for example. Other types of notional or real gradients can include moisture gradients – with the space ranging from 'wet' to 'dry' at either end. Spaces might also be 'loud' or 'quiet' at one end or the other, and clearly such a zoning may make sense from a number of other points of view as well.

2.2.6 Circulation and movement through spaces – orchestrating spatial experience

The way in which we experience urban spaces depends to a large degree on the way in which they are arranged and how we move through them. This in turn is a function of the way in which the design of pathways and movement channels interacts with the overall spatial composition. The spatial experience of the user can therefore to a large extent be influenced and orchestrated by the decisions taken by the designer.

The ability of the designer to influence the movement patterns of the user depends to a large extent on the fact that we all like to take the easiest and most convenient route across a space, the 'line of least resistance'. The implication of this is not to simply join up the entry and exit points of a space with a straight line – the so-called desire line- that marks the shortest distance between the two points, but instead to design and articulate the space such that the easiest and most convenient routes also seem to be the most natural ones, even when they may not always be the shortest.

The factors defining the ease of movement through a space will include the presence of obstacles, such as planting beds, water bodies or walls, as well as the topography of the ground surface – we will tend to avoid going up and down when an equally attractive alternative route on the level is available.

Spatial experience can also be manipulated by taking the observer through a defined series of spaces in a particular sequence. Thus a space can be made to seem larger and lighter than it otherwise would do if one is first taken through a small, dark and cramped space. Views can also be orchestrated by the way in which routes are defined, such that they are discovered, framed in a manner orchestrated by the designer.

2.2.7 The design concept as narrative and symbolism

A purely functional approach to design will seek to provide for the physical needs and to provide the concrete facilities which users expect or require, but good design is more. An urban space does not just have physical attributes, it also has meaning and it reflects the values of the users and local people in general.

These meanings and values need to be investigated and taken into account during the design process and integrated as far as possible into the design concept. They may be reflections of the history of the site, involve memories of things which took place there or take the form of narratives relating to past events, real or imagined. Such stories are ways in which people find it particularly easy to relate to places.

In design terms they may be reflected at different levels of the design: in the name of the space, in the way in which it is structured and organised, in the approach taken to integrating existing artefacts and elements into the new layout, and in the selection and use of materials and the way in which they are detailed.

Similarly the physical features of the site can also have meanings which go beyond their material functionality. What they are made of, the forms chosen to express them, the style in which they are designed and how they are located can all exploit their wider symbolic values.

The appropriateness of the design language chosen and materials and detailed used to express it is also an important further tool through which the story which a design is intended to tell can be made more convincing. Self-conscious attempts at 'landmark' design may be inappropriate in a low key or rural setting for example. Such approaches can even include the integration of areas within the space in question which are consciously 'un-designed'.

Again it is important that the use of the symbolic repertoire of the chosen elements is also coordinated and congruent, and that the story they tell is a coherent one. Only when this has been achieved will the design really have the potential to achieve its full impact and significance and can become far more than just the sum of its component spaces, features and materials.

2.3 Detailed design and materials

2.3.1 General introduction – use of detailed design elements to underscore the wider aspects of the design and to articulate and punctuate spaces

The selection of materials and the way in which they are used should be an essential part of the overall design. Materials should ideally be used to support the overall design concept and to reflect the special characteristics of the site.

The functional demands of a design may, therefore call for paved surfaces, avenues of trees, seating and lighting. It will, however, make an enormous difference to the character of the open space whether, for example, the paving is asphalt or sawn granite slabs; whether the trees are horse chestnut or gleditsia, and whether the seats are modern benches without backs, or copies of traditional 19th century park benches.

Which ever choices are made, this must be done in such a way as to support and reinforce, and not conflict with the other design decisions which have been taken at the other levels. Clearly the same goes for the choice of light fittings and the used of vegetation, as well as any other aspect of the detailed treatment of the site.

Naturally, it is not just the individual choices regarding materials, design elements and detailing which need to be made, it is also the way in which they are combined that is of importance. Decision on the type of paving, the seats and the vegetation therefore need to be coordinated with each other and with the wider design vision within the context of each and every project.

While having their own particular functional reason for being used, such as for seating or lighting, design elements can also fulfil additional roles such as establishing rhythm and emphasis within a space even when not being used for their intended function.

2.3.2 'Floor' elements – Materials and detailing

The design and detailing of the ground surface is perhaps not something which everyone is consciously aware of paying attention to, nevertheless the treatment of the floorscape of an urban space can be of considerable importance as far as the overall design effect is concerned, despite the fact that the floorscape alone usually has only a limited impact of the creation of three-dimensional space.

The first level of division to be considered is perhaps that between hard surfaced and areas of vegetation. The choice of paving materials can represent the permanence of a space as well as signify a hierarchy of importance within the space. High value materials, such as natural stone are both functionally more durable and symbolically more significant than concrete or asphalt for example.

It is not just the choice of the material itself that is important, but the form in which it is used. Thus concrete surfaces are very different in terms of their design impact depending on whether the concrete is used as an in situ material with an exposed aggregate surface, as large slabs or as small scale concrete pavers.

Further differentiation can be achieved by the way in which each of these materials is laid and detailed. Bonding patterns of joints can give direction and orientation to spaces; large slabs can be appropriate to signify large scale spaces while smaller unit paving of the same material may be better suited to smaller more intimate spaces.

In addition to purely formal considerations, it is also important to pay attention to the technical aspects of laying paving materials, and the ways in which it is technically possible to combine and mix materials. Functional considerations such as surface water drainage and load-bearing capacity, of course, also need to be taken into account in conceiving the overall design approach.

2.3.3 Enclosure and the division of space – Materials and detailing

If the use of paving has only a limited effect in defining space, which are the elements that are effective in defining and enclosing outdoor spaces? Generally speaking it is the use of the third dimension that is the key to creating spaces. This calls for the deployment of vertical elements as means of marking the edges and corners of spaces which may only be 'suggested' in comparison to clearly defined 'architectural' spaces having four solid walls and a ceiling.

Walls can of course also be used as elements in the definition of outdoor spaces. These can range from solid walls of brick or stone, to perforated and screen walls which allow filtered views through into adjoining spaces. Timber fences and screens also provide another 'architectural' means of defining outdoor spaces, but it is important to be aware of the many other ways in which outdoor space can be defined and articulated.

For this almost any vertical elements can be made use of. Rows of standard trees, lamp posts or flag poles can mark and delineate spaces, even though they are only capable of giving the appearance of visual enclosure when viewed from very oblique angles. For vegetation, or indeed any other design element to define spaces it has to be above the eye level of the observer. Of course where eye level is depends not only upon how tall the person in question is, but whether they are sitting or standing. Thus sitting areas, for example, can be 'enclosed' with lower elements than might be required for other spaces.

It is not just eye level that can be manipulated to suggest and define space, but also the level and form of the ground surface itself. Thus creating raised plateaux or scooping out hollows in the ground surface provides a very useful and often neglected way of articulating urban spaces. The character and definition of the spaces in question can be further controlled or varied depending on whether the changes in level are created using retaining walls or embankments.

How these changes of level are overcome for users of the open space is also a significant design issue – whether by steps or ramps for example – while the detailed design of steps and ramps is another way of influencing the spatial experience. The height of the change of level is of course important for the way in which the space is experienced, but using cut and fill it is possible to create significant spatial effects with relatively little in the way of excavation.

2.3.4 'Roof' elements – Materials and detailing

It can generally be said that one of the chief distinguishing characteristics of outdoor spaces as opposed to indoor ones, is the fact that outdoor spaces the open sky and not a ceiling is the roof. There are. However, situations in which outdoor spaces can clearly be said to have a limitation in the third dimension. The most obvious example of this is of course the tree canopy, and indeed the spreading crown of with a 'roof'. An outdoor roof of this nature is also more than just a physical closure of space in the third dimension, it is also both physically and symbolically a provider of protection in the form of shade and shelter from wind and rain.

The reverse of this situation can be created by defining a 'clearing' in a group of trees such that what becomes obvious in spatial terms on coming out of the trees is the presence of the sky above. The internal 'architecture' of wooded spaces is something which has been relatively little explored in design terms, with few notable exceptions.

Using climbing plants on structures can provide another way of defining a third spatial dimension to urban spaces. Structures such as pergolas can also, in principle, be used to suggest the roof of an outdoor space even without the use of climbers. Similarly wires strung between posts of building facades, used to support light fittings for example, can also provide a closure to outdoor spaces. In the night lighting from above is of course particularly effective in defining spaces from above.

2.3.5 Structures – Materials and detailing

A variety of small structures can be characteristic of many urban open spaces. They vary in function from kiosks and shelters to bandstands and toilets, but in terms of their structural and design impact there are perhaps a number of simple principles which can be considered.

As more or less solid 'volumes' each of these structures has the potential to become a defining spatial element in itself. This can either be employed to define the edge of a space, or perhaps more effectively a structure can form the focal point of an outdoor space, being used to emphasise its centre for example. The detailed positioning and orientation of such a structure can also be of great importance for the organisation and articulation of the space concerned.

Naturally it is important that the way in which such a structure is used is congruent with its function. A kiosk selling food and drink, for example, or a bandstand can be sensibly located as a central feature of an outdoor space, while this would probably not be an appropriate location for a toilet building or a store. Even buildings with modest functions, such as the latter two mentioned, can be used positively from a design point of view. A shelter for rubbish bins can, for example, be used to mark the entrance to a space from a design viewpoint, even though its function may be something which may not wish to be stressed.

The materials and detailing of structures can also be of great significance for the character of the open space concerned. Whether even a small and simple structure is built of glass and steel, brick or timber is also a factor which can significantly influence the character and thus the atmosphere of the space.

2.3.6 Furniture and lighting – Materials and detailing

Street furniture and outdoor lighting are clearly elements which fulfil specific and well-defined functions within outdoor spaces, but they can also be much more than this. On the one hand these functions define, at least to some extent, how and where they are used, but in design terms it is important to also think beyond their narrow functions to see their wider potential as design elements with which to help articulate and punctuate space.

Even seen from a purely functional viewpoint, however, the way in which elements of street furniture or light fittings are designed can have a big impact on the overall quality of an urban space. Lighting can, for example, provide the *leitmotiv* for the design of an urban space, and as such have much more design impact during the day when it is not switched on, than in the light, when they are illuminated, but when the light fittings themselves, as sculptural and design elements, are no longer visible.

Seating, bollards, signs, litter bins and cycle racks can all be mundane functional elements selected from anonymous catalogues, or they can be conceived, designed and built specially for a particular space and can thereby contribute centrally to defining its unique character.

As suggested above, it is not just the design of the individual furnishing or lighting elements which can contribute to the overall design of an urban space, but also the way in which they are used and positioned in the space. Seats can create rhythms

throughout a space by the way in which they are used, so can lighting elements. These can be placed regularly along paths to create even illumination at night and a sense of rhythm during the day, or they can be grouped to be seen as sculptural elements during the day and to provide accented pools of light after dark.

Finally it is important that the design of these individual elements is considered both in relation to each other and to the overall concept and theme for the site as a whole. Furniture and lighting can either act to strengthen and support a wider design concept or, if used badly, can also weaken and undermine it.

2.3.7 Art, interventions, installations, sculpture etc.

The placing of monuments or sculpture or ornamental fountains in urban spaces is a traditional means of trying to impart meaning and significance. They are also another means of creating a physical focal point within a space. More recently modernist abstract sculpture has been used to fulfil a similar role of providing a focal element, but it may be less successful in giving meaning and significance to the space, unless what it signifies is directly explicit to the observer. Nevertheless just by placing of a piece of abstract sculpture in an urban space this can acquire significance and identity based on the presence of the sculpture itself.

More recently works of art have tended to be commissioned specifically to be designed for a particular space. In such a case there is a relationship not just between the sculpture and the space in question, but it is expected that the sculptor themselves will use their commission to seek a particular meaning in the space itself or its location as a means of inspiration for creating the work of art itself.

Land or environmental art, the movement which started in the USA in the 1960s has also had a growing impact of the relationship on the way in which artists see open spaces. Here the work of art is no longer an 'object' which can be placed in the space, but rather the whole space becomes a three dimensional canvas on which the artistic expression can be focussed.

What is important to remember here is the original location of these land art projects was in large unpopulated desert spaces, where there were no potential users of these spaces and even the observers of these art works undertook this directly as they were mostly recorded and displayed as photographs, while the work of art itself may hardly be visited and is usually left to decay. However the way in which artists have

interacted with such sites and the natural elements to which they are subjects has been and can be a source of inspiration for the way in which more urban environmental art works can be created.

Here too a word of warning is necessary as the risk of considering an open space as a field of action for artistic expression risks forgetting the complex multi-functional nature of urban spaces, including their important social and environmental roles. If these are not to be overlooked but incorporated into the design process and the final proposals for the space, the artist must in the end become a landscape architect themselves, something which is by no means unknown, with Martha Schwarz being perhaps the best known recent example of this phenomenon.

The final category of artistic intervention which should be mentioned here is the so-called 'intervention', where an existing and already designed and established urban space may be used as the site for a temporary work of art which uses the place and possibly its users as the basis for its expression. This can be an important way of increasing the awareness of and identification with a particular space on the part of the local residents and users.

2.3.8 Vegetation – Plant materials and their use

The use of vegetation is of course an aspect of the design of urban space which has a strong environmental component, but it can and should also be considered from a design point of view. A group of trees will contribute just as much to improving the urban climate if they are planted in an informal grove or an ordered grid, but their impact on the design and experience of the space by its users will be very different in each case. The same goes for the use of vegetation as a food source for birds or butterflies for example – they will pay little attention to the form in which this is planted or arranged within the site from the human perspective, but again this can have a vital effect of the way in which a site is viewed and used by people.

Apart from the various important biological and ecological functions which vegetation can and does perform in urban spaces, its use as a design element can be seen from three different points of view: functional, visual and symbolic.

Functionally, vegetation can be used as a form of living construction material to define and create spaces in much the same way as built elements can. Its use as hedges and

rows of trees to define directions and suggest sub-divisions of space is perhaps the most obvious example.

From a visual design point of view it is clearly very different if a grid of trees is made up of lime trees or robinias, for example. The visual appearance of different species of plant and types of vegetation can be of considerable impact from a visual design point of view. In this context both the habit of the tree or shrub as well as the colour and texture of the foliage can be significant in design terms, and can play an important role in influencing the character and atmosphere of the space concerned. One only needs to think of the difference in character created by deciduous and coniferous trees.

In symbolic terms vegetation also can have a significant role to play. Certain tree species, for example have a meaning which goes far beyond their biological or ecological importance or their potential as an element for creating or defining space. In central and northern European countries the role of the Norway Spruce (*Picea abies*) as a 'Christmas Tree' is one obvious example, while the use of cypresses (*Cupressus sempervirens*) as a graveyard tree in some Mediterranean countries is another. Both these examples are based around the symbolism of evergreen foliage as a symbol of life, as is also the use of the yew tree (*Taxus baccata*) in churchyards in England.

This symbolism has a long standing religious significance, but there can be other forms of symbolism too, which may be developed from a reversal of a popular understanding of the ecological ranges of certain common species of trees, for example. Thus willow trees (*Salix* spp.) are well known to be characteristic of damp and wet habitats. This fact can be used to suggest these conditions or a 'riverine' atmosphere by planting them in an urban space. The use of silver birch (*Betula pendula*) can for example also be used to hint at the dry sandy conditions which normally typify their natural distribution.

3 Case studies

This section contains ten case studies of recent projects, both from Austria and other European countries. They have been chosen to provide a range of examples of different types of urban space project and to illustrate examples of how the theoretical approaches discussed in the previous section have been put into practice in concrete cases. They are not necessarily to be seen as 'ideal' examples as all of them have shortcomings and none illustrates all the principles discussed above. Rather the attempt has been made to consider these, generally good quality projects in terms of the theoretical considerations at each of the three scale levels discussed.

3.1 Case Study 1: VOLKERTPLATZ

Type of open space: Neighbourhood Square

Location within the urban context: 1020 Vienna, Austria, surrounded by „Gründerzeit“ perimeter block development

Date: 2005

Open to the public

Size: Ca. 4000 m²

Budget: no information

Designer: Anna Detzlhofer and Karin Zwerger

Stages of planning process: „Grätzelmanagement“ and NPO „Grätzl-Aktiv“ have initiated a social process

Funding: “Ziel-2 Förderprogramm der EU” and City of Vienna

Relation to other themes: FD & Public Participation; FD & Gender Issues, FD & Security and Social Cohesion Aspects

3.1.1 General description

The Volkertplatz is located within the densely populated area of Leopoldstadt in the middle of the 2nd Viennese city district. As a typical perimeter block development square it is integrated in the urbanistic pattern of the „Gründerzeit“ period and shaped by the surrounding shops and the weekly market. In 2004 a competition was announced to redesign the plot. The aim of the competition was to find ideas for the redesign of the eastern side, the installation of a pedestrian area and the construction of a ball game court.

The winning project provides for a framing of the site by an arboreal square that underlines the existing urban pattern. The arrangement of the pavement in stripes supports the clear spatial structure. The meaning of the Volkertplatz as a

neighbourhood square lies incumbent in the fact that it is a space of communication and integration for different population groups living in the area.

3.1.2 Wider Context

Part of a larger strategic network

- The place has, within the Volkert district, a great importance as public space

Openness to different user groups and functions

- The place is used in a multifunctional way.
- The place is in particular intensively used by the young and the old.
- There are a variety of potential uses inspired by many tree rows, different seats possibilities, playground equipment and a fountain.

Adaptability to new conditions/situations

- The seats possibilities are fastened to the ground, few changes are allowed

Physical basis for other functions

- The square's centre provides space for setting up a temporary stage

Physical basis for contact and communication

- This public space plays an important role in the identification with the neighbourhood environment and for the integration of different population groups
- It's a meeting place and offers a resource for the neighbourhood

3.1.3 Site Design

Edges and enclosure

- The place is surrounded on three sides by block buildings in Wilhelminian style and on the west side borders with a market.

Orientation

- The spatial composition, is oriented both by the seating elements and by the tree rows north-south. In the soil, the direction of paving is east-west oriented

“Un-designed areas”

- No un-designed areas
- Relationship to local context
- The design concept was developed with the residents and traders´s participation.

„Landmark“ character

- The place is easily recognizable by the colourful strip on the floor and the colourful seats

Clarity and Legibility

- To emphasize the readability of the whole place, physically interrupted by the market stalls, the ground is arranged in strips of plaster coating and soil coloured streaks.
- All design elements have the same surface, which increases recognizability.

3.1.4 Detailed design and materials

Materials and their use

- Few Easy-care materials are used.

Colour

- The blue stripes on the ground play a key role in the overall composition.

Art, Intervention, Sculpture

- None available

Furniture

- Different possibilities for seating are used as game elements.

Vegetation

- The rows of trees on one hand frame the place and on the other stress the entire elongated space composition parallel to the seating.
- Resistant to intense use/vandalism proof
- Part of the Outdoor equipment proved to be particularly safe against vandalism

3.1.5 Conclusion

- Clearly structured open space concept, multifunctional and easy adaptable core (stage)
- According to the different groups of users this simple but robust design reflects the requirements of this particular urban space
- Simple linear seating elements add to the special identity of the public square

3.2 Case Study 2: Rudolf-Bednar Park

Type of open space: Neighbourhood Park/ new city development

Location within the urban context: Fanny-Mintz-Gasse, 1020 Vienna, Austria, former railway area

Date: 2007-08

Open to the public

Size: 31.721 m²

Budget: 145€/m²

Designer: Hager Landschaftsarchitektur AG, Guido Hager, Zürich Switzerland

Stages of planning process: Competition 2005-06, Design 06-07, carried out 07-08

Funding: Client City of Vienna, in line with EU-programme "Ziel 2 Wien" European funds for regional development, EU-sponsorship.

Relation to other themes: FD & Gender Issues, FD & Security and Social Cohesion Aspects

3.2.1 General Description

In the 2nd Viennese city district a new quarter of 75 ha will be created on the area of the former northwest station until 2025. At the beginning of this development the planning and realisation of a 3.1 ha park on the north-eastern side of the former railway premises took place. The park as the green lung of the District completes the existing grand open spaces like "Augarten" and "Donauinsel".

"Hager Landschaftsarchitektur AG" was the winning office of the international EU funded competition to design the "Rudolf Bednar Park". The most important design element consists of a "veil of trees" of 280 plants. By means of this veil the impression of the place in its proximity to the river Danube and as an urban pattern remains spatially readable. Also the linear water basins with its different plants are reminiscence to the nearby stream. During the night light-bands under water

additionally enhance the linearity. Specified activity-zones in the northeast and southwest of the park bordered by self-binding gravel surround a more quiet lightly planted lawn space in the centre. Game and sport areas, zones for communication or skaters allow for broad fields of activity for different user groups.

3.2.2 Wider Context

Part of a larger strategic network

- City of Vienna: concept for developing a new urban district until 2025 in 1020 Vienna, the „Rudolf Bednar-Park“ is the “green lung” of this area
- Completion of existing large scale parks like the “Prater”, “Donauinsel” and „Augarten“

Openness to different user groups and functions

- In the south of the park there is an youth area for skateboarding and playing street ball
- The paved area in front of the residential complex "Living on the Park" is assigned to more peaceful uses and possibilities to pause.
- Training equipments are available for senior citizens
- The playgrounds´ equipment is suitable to different users generations.

Adaptability to new conditions/situations

- the park will be the main open space of the district in 2015
- it remains questionable how the optimal design of circulation system should be

Physical basis for contact and communication

- In the east part of the Rudolf-Bednar-Park there are form cut flowering shrubs embedded on lawns, so-called “Quartiergärten”. These offer the park visitors calm and protected contact areas to engage.

Sustainability

- Intensive care for shrub and grass surfaces, periodic pruning are needed.
- Problematic conservation of water basin

3.2.3 Site Design

Scale and proportions

- Not evaluated, as the urban intervention is not completed.

Edge and enclosure

- idem

Orientation

- The tree structure runs east-west direction and paved paths in North-South direction

Appropriate design

- The overall design concept, from spatial composition to the design of each space elements are resolved in a contemporary design

Un-designed areas

- No un-designed areas

Relationship to local context

- Along the "axis Radingerstraße" reed gardens recall the atmosphere of near Danube.
- Willingly placed trees, that are typical for floodplain areas, will remind the visitors of the original natural landscape

'Landmark' character

- The coloured metal pillars absorb different functions, from playground elements to structural elements for roofs structures, and act as a distinctive feature of the park

Clarity and Legibility

- Recognizable through thorough design and composition in the urban context

3.2.4 Detailed design and materials

Materials and their use

- The range of materials is essential to the overall design

Colour

- Orange metal pillars are the main element of the space, distributed throughout the park area, they act of as places for children's games: climbing ropes, swings, hammocks, etc.

Vegetation

- Numerous trees, grasses and shrubs, a diverse annual vegetation scenario, citation of the surrounding wetlands.

Resistant to intense use/vandalism proof

- Signs of vandalism are visible in public space.

3.2.5 Conclusion

- The framework of vegetation forms a flexible yet robust layer of linear planted trees. They densify towards the edge and thereby define a rectangular border with typical tree species adapted to the city climate.
- Multifunctional park area that will function as a green "spine" of the new city district. Its success will be defined by the connection to the surrounding new city district which is just about to develop.
- In total a park of costly maintenance where acts of vandalism are already clearly visible.

3.3 Case Study 3: AIGENSÜD

Type of open space: public open space/ new city district

Location within the urban context: Aigen near Salzburg, Valkenauer Straße, 5020 Salzburg, Austria

Date: 2005

Open to the public partly semi-public, partly private

Size: area: 17.825 m², floor space: 8.040 m², under roof: 3.640 m²

Budget: unknown

Designer: 3:0 and DI Anna Detzlhofer

Stages of planning process: Design phase: 2001 Construction: 2003-2005

Funding: Gemeinnützige Salzburger Wohnbau GesmbH

MA 9 Stadtplanung, MA 7/05 Gartenamt Salzburg

Relation to other themes: FD & Security and Social Cohesion Aspects

3.3.1 General Description

On the southern periphery of Salzburg adjacent to the agricultural used surroundings in between 2003 and 2005 the „Gartenstadt Aigen Süd“ was developed.

Within the master plan of the housing construction the protagonists articulated following organizational principles for the open space: The deficits of green space supply for the surrounding quarters are to be considered during the planning. By means of a differentiated system of public paths, half-public areas and private gardens not only to form a vital residential project but also to pass this impulse to adjacent city quarters.

Separate structures are surrounded by a seam of private and half public green spaces. The sealed half public areas are arranged as the linking element and offer by their

square-like composition and definition an attractive living atmosphere. Public spaces within the housing construction are designed differently. (Arboretum, lawn for sunbathing, bosk, stripe of grove etc.) The variety of different spaces and typologies is not only inviting to use and adoption but also marks an important factor in the identification process between the inhabitants and their living area.

3.3.2 Wider Context

- Part of a larger strategic network
- Design goal was to develop a diverse usable, peri-urban park
- the proposed open spaces lead to neighbourhood revitalization by creating an attractive public pathways system

Openness to different user groups and functions

- through different spaces: Arboretum, sunny meadow, grove and bosk rows provide diverse spaces for diverse needs and functions in the daily life of a residential area
- those spaces are used by various users groups, like residents or neighbours
- and represent the major open space offer in this district characterized by a deficient in public spaces

Physical basis for contact and communication

- there are public pathways, semi-public areas and well useable private open spaces that provide for communication and contact within the settlement

3.3.3 Site Design

Scale and Proportions

- innovative approach to residential buildings, based on a clearly defined concept that unfolds in different scales



- the arrangement of the structure generates a dense, but still open and varied structure

Orientation

- the positioning of the quadrants or quarters designed a clear picture of public space

3.3.4 Detailed design and materials

Colour

- Playgrounds are made visible by the use of bright colours

Vegetation

- Climbing plants in large troughs provide green creation and adaptation of the microclimate on paved surfaces
- Narrow strips along the parking garage become colourful carpets through usage of different shrubs

3.3.5 Conclusion

- System of free space (private/ semi-public/ public) of the settlement includes missing functions of the district: high quality connection and diverse choice of open spaces
- The urban space clearly contributes to an improved living quality and supports the residents' identification with their quarter.

3.4 Case Study 4: WAIDHOFEN A. D. YBBS

Type of open space: linear urban square

Location within the urban context: Oberer Stadtplatz, 3340 Waidhofen/Ybbs, Austria

Date: 2000-01

Open to the public

Size: m²

Budget: €/m²

Designer: Ernst Beneder, 1010 Vienna, Austria

Stages of planning process: Design competition 1991, planning 1999, building 2000-01

Funding: Magistrat der Stadt Waidhofen/Ybbs

Relation to other themes: FD & Public Participation; FD & Accessibility Issues

3.4.1 General Description

In 1991 the small town of Waidhofen an der Ybbs called for a competition to redesign its city centre and thereby solving its traffic problems. The winning project follows a holistic approach that soon developed self-dynamics among the population. Each citizen was somehow concerned; everyone had a mind of its own. Accordingly the process of discussion turned out to be longsome. In over 10 years different projects were carried out step by step, which led to a cautious revitalisation of the town. The creative handling with the historic matter was honoured in 2001 with the renowned "Otto Wagner Städtebaupreis". The original idea to transform the city centre into a pedestrian area and thereby treat it as an outdoor museum was dispensed with. The traffic was carefully integrated by replacing striking coloured road markings by small metal sleeves that can also be used as fittings for temporary city furniture or market stalls.

3.4.2 Wider Context

Part of a larger strategic network

1. The project grew out of a design competition which aimed for the improvement of the urban design and traffic concept for the entire city of Waidhofen.
2. Trigger for further activities aimed at revitalizing the town, such as the redesign of the Ybbs´ s bank as a recreational area and the modernization of the Town Hall
3. Has been awarded the Otto-Wagner-Städtebaupreis

Openness

- to different user groups and functions
- City square function = open to all user groups

Adaptability to new conditions/situations

- Flexibility for redesign depending on users needs and open for various functions and temporary uses
- Streets were restructured and provide facilities of intelligent, foldaway connector systems for "Kirtage", street parties and open-air-fairs

Physical basis for contact and communication

- outdoor restaurant area for paying guests only, but little public seating possibilities

3.4.3 Site Design

Scale and Proportions

1. Historic framework, pleasing proportions

Edges and Enclosure

- Square is continuously edged

Appropriate Design

- Design in accordance with the historic structure
- Appropriate modern interventions (e.g. public fountain)

Relationship to local context

- Consideration for local historic structures
- Intensive public participation, including detailed design issues such as selection of paving and street lamps

Clarity and Legibility

- Clear and simple design concept
- Continuous gradation of the inner square area, no unnecessary elements

3.4.4 Detailed design and materials

Materials and their use

- continuous material range, typical plaster

Art, Interventions, Sculpture etc.

- Modern sculptural fountain

Furniture

- No furniture, there are just a fountain sculpture and a terrace for outdoor dining area

Vegetation

- No vegetation

Resistant to intense use/vandalism proof

- Both fulfilled – hardly any furniture, robust materials and construction

3.4.5 Conclusion

- Complex and longsome planning process with direct participation of inhabitants enables gentle adjustment and solution of crystallised traffic problems and a higher identification with the location itself.
- Temporary, simple design leaves enough space for the expression of historic scenery. The special approach of design was only possible because the architect came from this town.

3.5 Case Study 5: PARK MONTE LAA

Type of open space: linear park / new city area

Location within the urban context: erected upon a highway-crossing in 1100 Vienna, Austria

Date: 2007

Open to the public: public infrastructure between dwelling and office buildings

Size: 12.400 m²

Budget: 185 €/m²

Designer: Martha Schwartz, building process by 3:0 Landschaftsarchitektur

Stages of planning process: planning 2000-06, building 2004-06, building time 17 months

Funding: PORR Projekt und Hochbau AG

Relation to other themes: FD & Security and Social Cohesion Aspects; FD & Accessibility Issues

3.5.1 General Description

In line with the 1995 master plan by architect Wimmer on the coping of a motorway of 90.000m² a total of 200.000m² effective area for residential and business premises was created.

The Monte Laa Park designed by Boston based landscape architect Martha Schwartz serves as an axis and spine for the new settlement. It assumes a basic East to West connection between Urselbrunnengasse and Absberggasse, it further links the separate residential blocks to the campus Monte Laa and leads to the local recreation space of Laaer forest.

The design uses the existing difference of level and skilfully sculpts lawn-ramps as boundaries. Multiple activities can happen in this diversified urban space: Rest areas

alternate with activity zones and the stretched area is constantly alive by promenading residents and businesspeople. The present ramp with a 6% gradient allows handicapped persons as well as pushchairs to use the facility without difficulties.

3.5.2 Wider Context

Part of a larger strategic network

- The green area creates an axis that connects the housing project, with the campus Monte Laa and leads to the recreational space, Laaer forest.

Openness to different user groups and functions

- The park offers: quite spaces, active zones and popular promenades
- The park is barrier free and accessible for wheelchair users - slope inclination of a maximum of 6%
- strong colours provide a guide for visually handicapped people
- the park "Monte Laa" will be the centre of the new dwelling area and therefore meeting point for the neighbourhood

Adaptability to new conditions / situations

- strong design and form leaves little space for adaptation to new needs

Physical basis for contact and communication

- large choice of different areas for more active and more passive users

Sustainability

- drainage of the plastered areas into areas able for percolation such as self-binding gravel and vegetation strips
- generous tree population
- demands intensive maintenance

3.5.3 Site design

Edges and enclosure

- inhomogeneous edges through differing buildings aside
- linear structure for path network

Surfaces and landform

- inclined area
- artificially produced landscape with landscape ramps

Orientation

- clear axis of connection

„Un-designed areas“

- there are no “un-designed” areas

Relationship to local context

- direct connection to the nearby local recreation area
- no relation to former situation
- park is designed as a link between dwelling and office buildings

„Landmark“ character

- formative landscape ramps provide a highly recognizable design of the place and a specific identity

3.5.4 Detailed design and materials

Materials and their use

- the range of material had an important role in the design process
- the linear basic structure and its connecting function gets strong through the arrangement of design structures in stripes

Colour

- the use of colours support the readability of the park

Art, Interventions, Sculpture etc.

- the ramps may be seen as artistic, sculptural structures

Furniture

- sculptural furniture elements such as seating blocks, lightning poles etc.

Vegetation

- strips of trees
- the trees have were chosen by their treetop form and blossoming time and style
- shrub beds along the paths
- green ramps

3.5.5 Conclusion

- The park alongside the essential connection of the new part of the city offers space for various users. Distinctively designed with its striking colour concept, the area is easily recognizable in the urban context. The sensible lighting and barrier-free orientation system is easy to use for handicapped persons.
- The facility proves to be intensive in maintenance, the cities protagonists don't contribute to conservation.

3.6 Case Study 6: FREDERIKSBERG (DK)

Type of open space: open space concept / reassessment of the district – city centre

Location within the urban context: Solbjergvej, Frederiksberg

Date: 2005

Open to the public

Size: 1,8 ha.

Budget: 4,7 Mio.€

Designer: SLA

Stages of planning process: Design phase: 2001-2004 Construction: 2002-2005

Funding: Municipality of Frederiksberg

Relation to other themes: FD & Security and Social Cohesion Aspects; FD & Accessibility Issues; design was the goal

3.6.1 General Description

With the desire to change remaining areas between the bodies of prominent buildings into sensory spaces that can offer experiences and aesthetic value, SLA with Frederiksberg New Urban Spaces has created a surprising and living urban space. The urban centre consists of juxtaposed spaces with different characteristics. With appeal to the senses and accessibility as a point of departure, the five urban spaces in Frederiksberg contain qualities that we enjoy in nature: change, surprise and heightened awareness of transition and movement. Weather, season, use and maturing. On Solbjerg Square luminescent mist floats close to the floor and circular reliefs cut into the surfacing collect rainwater into pools that reflect the sky. The soundscape is accentuated and varied by means of sound shafts placed around the square. In spring Solbjerg Square vibrates with a shimmer of white flowers, where crab-apple trees and spruce stand side-by-side, their crowns lit up in the evenings: Light, scent, sound and movement. Together the five different spaces and the

passages between them form a whole. In autumn Library Square is a profusion of red leaves covering the quiet, subtle change of level of the floor.

source: <http://www.sla.dk>

3.6.2 Wider Context

Openness to different user groups and functions

- Frederiksberg New Urban Space offers a sensory awareness that creates places, spaces and surprising meetings, both to and fro, play and sojourn.

Adaptability to new conditions/situations

- Spaces are limited to a certain theme (fog, furniture, vegetation, sound...)
- But all are open to different use (e.g. drive by bike through the fog)

Physical basis for contact and communication

- Furniture, lighting, materials provide inviting surroundings on a very high level

Physical basis for other functions

- Different starting points on each of the newly designed areas as part of the design

3.6.3 Site Design

Scale and Proportions

Edges and enclosure

- surrounding buildings define intersections to different designed spaces
- grown urban structure
- Surfaces and landform
- clear definition between natural and artificial surfaces

Orientation

- There is a green line of light leading the bikes through the area making visible the predominant direction of bikes and pedestrian east and west over a quite long distance.

Appropriate design

- The diverse approach to every part of the area reflects the manifold surroundings

Relationship to local context

- The landscape architect introduced a structure that was meant to reflect architectural objects found in Frederiksberg, autonomous juxtaposed boxes with different identities standing and rubbing up against each other.

Clarity and Legibility

- Each space is clearly delimited and embraces the body and provides a feeling of being exactly there.

3.6.4 Detailed design and materials

Materials and their use

- Corten steel plates frame the change in level, and the pavement itself is made out of simple corten steel-framed concrete slabs that are normally used on construction sites and that, over time, will soak in the red colour of the rust.

Lighting

- Artificial light is used to create the strongest sensorial experiences and the most unexpected environments. Light is one of the principal substances, it intervenes first creating a relationship with the new city centre and the neighbouring parts of town.

Vegetation

- On Solbjerg a bright, open park has been created with different kinds of pine on a grass base, differentiating in scent and colour, and visually in the way the branches and needles move in the wind.

3.6.5 Conclusion

- The undefined space between autonomous buildings is turned into an attractive open space, creating a strong and unique identity, creating a landmark in the urban surrounding. The design is solving a problem on an urban design scale, without changing the built environment. The intensive design, the use of materials is stressing out the will to create a place with a strong character. The investment for a unique design for the furniture, the pavement and lightening might be high in comparison to a conventional designed square.

3.7 Case Study 7: SCHWEDT/ODER „Obere Talsandterrasse – Green Axis”

Type of open space: Housing area

Location within the urban context: Periphery

Date: 2001

Open to the public

Size: 29.200 m²

Budget:

Designer: Martin Seebauer, Karl Wefert und Partner GbR

Stages of planning process: 1998 Informing the tenants about the demolition plans; 1998 vacating 484 apartments; 1999 Demolition of housing blocks; 2000 Beginning of the implementation of the landscape plan; 2001 completion of the green axis

Funding: Bundle of different government aid programs as „Stadtumbau Ost, Soziale Stadt“, „Weiterentwicklung großer Neubaugebiete in den neuen Bundesländern“

Client: Arbeitsgemeinschaft Stadtumbau

Relation to other themes: FD & Environmental Issues; FD & Participation

3.7.1 General Description

The city of Brandenburg is situated 100 km east of Berlin, only 60 km away from the Polish City Szczecin. Due to a dramatic structural change within the industrial sector and the following migration process 2500 apartments at the „Obere Talsandterrasse“ were abandoned at the end of 1997. In the same year an urban framework has been developed to tackle the problem of the so called „shrinking city“. Extensive landscapes as well as intensive designed urban links are the result of a planning process that reacts on the surrounding landscape structure. The urban forest is again framing the

area. An extensive designed green corridor is situated along the edge of site. After demolishing several housing blocks the centre of the area is dominated today by wide green space. Realising an ambitious urban renewal plan is an important benefit to the image of the public space of the quarter and enrichment for the city of Brandenburg.

The integrative approach of the urban renewal concept and its implementation as landscape plan is leading to a revaluation of the quarter. The project proves that participation processes have to deal with the social, economic and environmental circumstances of the existing situation in order to bring the project to a successful end.

from: Landschaftsarchitekten Heft 3/2002

3.7.2 Wider Context

Part of a larger strategic network

- Open space centre for the “Külzviertel”
- new connection to the old city centre with high qualities

Openness to different user groups and functions

- depending on the users´ needs and trends, areas for sports activities and games can develop in places with high capacity for change
- the existing centre of the residential area will be cultivated with a lot of trees, so it can be recognized more easily

Adaptability to new conditions/situations

- very stable in its basic structures
- seems uncomplicated

Physical basis for contact and communication

- used as a link to other areas, for halts in urban space, to see and be seen and for joyful walking

Physical basis for other functions

- has mainly provided infrastructure for pathways
- now higher quality to stay in the open space

3.7.3 Site Design

Scale and Proportions

- seems a bit oversized due to socialist urban planning

Edges and enclosure

- new: dismantling of uninhabited buildings
- oriented along the street

Surfaces and landform

- flat, green island in the urban area

Orientation

- the joint in the city is accentuated with a steel construction which is a new landmark for the whole city – especially when lighted in the night

Appropriate design

- adaptation to vacancies and dismantling, does not look savaged

Relationship to local context

- shrinking city must not only mean neglect but can provide a possibility for new urban space

'Landmark' character

- a former industrially stamped city becomes a garden city
- impulse for neighboured cities with similar problems
- out of an economic disadvantage grows an advantage for open spaces in the city

Clarity and Legibility

- the main issue of the concept was how to deal with free urban spaces that have lost their former use
- therefore it was necessary to implement explicit signs in the urban structure
- there is now a "Stadtpromenade" that works as a north to south connection and a "Stadtteiltor" on the north end near a restructured building with 11 storeys

3.7.4 Detailed design and materials

Vegetation

- There is a prominent row of trees that along the promenade which is discontinued at the green joint through a group of pine trees.

Resistant to intense use/vandalism proof

- It is remarkable, that until today no sign of vandalism or destruction can be seen in this place. The promenade is accepted and appreciated by the inhabitants.

3.7.5 Conclusion

- Landscape architecture in this case provides a strategy against the consequences of shrinking cities. The residential area is being successfully upgraded in an integrative process with special regards to the needs and wishes of the inhabitants of the district.

- Open space creates identity in an urban network of old and new buildings through a sensitive way of designing urban space and the surrounding landscape.



3.8 Case Study 8: HANNOVER-KRONSBURG EXPO 2000

Type of open space: public open space / new city district

Location within the urban context: alongside the EXPO 2000 the district of "Kronsberg" was developed in the southeast of Hannover to meet the expected housing demands of the city

Date: 2000

Open to the public

Size: 6250 m² living space

Budget:

Designer: pbs Architekten, Johanna Spalink-Sievers Landschaftsarchitektin

Stages of planning process: first project idea, founding of the project team in 1995, interviews with migrants through the "Insitut für Entwicklungsplanung und Strukturforschung (IES-Bericht 302.96)" in 1996, Attendance of the Habitat II-conference in Istanbul in June 1996, planners conference and advisory council meeting, design competition in 1997, building application and start of construction in 1998, finished and ready for move-in at the end of 1999, presentation at the EXPO in 2000

Funding: Expo 2000

Relation to other themes: FD & Environmental Issues; FD & Accessibility Issues (Integration/ „Experiment“)

3.8.1 General Description

The new district Kronsberg is located on the southeastern edge of Hanover and connects Bemeroode´s neighborhood to the north with the area Fair / Expo Center in the South. The new ribbon-like settlement covers an area of about 70 hectares in north-south direction on the western slope of Kronsberg. "Habitat" is a housing project in the district Kronsberg that is to" promote multicultural coexistence of

Germans and immigrants, "as the developer wrote in a brochure. Social and environmental objectives of the UN Habitat II Conference (Istanbul, 1996) have been implemented here in an exemplary form as part of the Expo project, "city as a social habitat". The concept for this construction project has been created by an international exchange of experience and developed on a representative survey of immigrants. The five buildings, 3 ½-storey high, are grouped around a *Boulevard* and two courtyards, in which there are tenants gardens. Common areas are the remaining Kronsberg facing settlement. The community center with his diverse range of consumer service and leisure facilities has a great importance for the residents. Low energy housing standard, healthy building materials, green roofs and rain water management are in accordance with the overall thrust of the ecological district. The population is multicultural, as intended by the initiators: about 30% of the residents are migrants. The turnover is low and the demand for homes is still high.

Translated from: <http://www.werkstatt-stadt.de/de/projekte/16/>

Translated from: http://www.dr-frank-schroeter.de/Multikulturelles_Wohnen.htm

3.8.2 Wider Context

Part of a larger strategic network

- "Habitat" is a dwelling project in the district of "Kronsberg" that should improve the multi-cultural cohabitation of Germans and migrants.
- The project was part of the EXPO-project "Stadt als sozialer Lebensraum" (City as social habitat) and intended to realise the social and ecological goals of the Habitat II conference of the UN (Istanbul 1996) in a pilot project.

Openness to different user groups and functions

- The area shows a lot of specialities which may not seem so special when taken one by one, but develop an extraordinary quality in clustering.
- For instance, there is a subterranean garage for bikes where bikers can drive inside in an upright position.
- Another part are playgrounds for children that are scattered throughout the area – many different playgrounds instead of one big playground for all. The variety and diversity of the playgrounds increases the acceptance of the

children as well as those of the neighbours, since the emissions are dispersed as well.

Adaptability to new conditions/situations

- Stable open space structure – does not seem to be transformable very fast

Physical basis for contact and communication

In the centre area there are a restaurant, a community centre and a kiosk arranged around a bocchia playground.

Beneath the space aspects there are also a lot of special services for the tenants:

- Renting office for lawn-mowers
- Workshops for garden-tending of the tenants' gardens through a landscape architect
- Plants-fair in spring
- Washhouse with energy-efficient machines
- Social work for youths in the dwelling area: e.g. meeting with other after-school care clubs, special integration programs for girls, holiday programs

These service offers have an impact on the behaviour of all tenants. There are for instance a lot of flats without their own washing machine now. Aside from the cost reducing effects it may also be because of the probability of shared experience. Doing your boring laundry becomes a social event when it is accompanied with meeting people in front of the laundry room and listening to music from the radio.

3.8.3 Site Design

Scale and Proportions

- District of short distances
- Bike-friendly
- Good access to public transport

Edges and enclosure

- The ideas of the HABITAT II conference can be seen in open space design: the block structure of the master plan is processed in a open and transparent way to prevent segregation and manifestation of ghettos.
- Integration in this area happens through openings to the outside as well as to central meeting points such as the tenants gardens, courtyards, a bocchia playground and a green center.

Surfaces and landform

- See pictures

Appropriate design

- City as social habitat with ecologically optimized
- “Kronsberg-Standard” – defines high demands on planning and construction

3.8.4 Detailed design and materials

Materials and their use

Resistance to intense use/vandalism proof

- There are no signs of vandalism or graffiti in the dwelling area, which is interpreted as a sign of high living quality and good identification with the district as a whole

3.8.5 Conclusion

- The project involves all approaches connected with contemporary residential development. Social and environmental criteria are realized at various levels by different examples. The residential satisfaction and identification with the place is based on a wide range of different community activities and contact spaces, supported both by architecture and by open space planning.

3.9 Case Study 9: INNICHEN “FUZI”

Type of open space: pedestrian zone

Location within the urban context: city centre

Date: 2002

Open to the public

Size:

Budget:

Designer: AllesWirdGut

Stages of planning process: 2000–2002

Funding: commune Innichen

Relation to other themes: FD & Security and Social Cohesion Aspects; FD & Accessibility Issues

3.9.1 General Description

The transformation of the old city centre in a traffic-free shopping area and a tourists-mall has been widely implemented after the clichéd recipes. The rise in sale of stores is accompanied by a commercial alienation of the town’s old structure, a gentrification process that uses the existing buildings as scenery and undermines and displaces local firms. For AWG declared as car enthusiasts, the winning of this small, local competition commission was not typical, but so was the interpretation of the task. Innichen has tourist peak loads but outside these seasons the centre is deserted and the locals suffer the hang-over after the season stress. The new space design of the city centre responded to those seasonal fluctuations.

The different zones are interactive and can easily be transformed. The wood decks, occupied by street cafes in summer, are removed once the season is over and replaced by flowerbeds.

Similarly, some places may alternatively be flooded with water, which creates an additional wellness-effect in the open spaces that seem far too large in the mid-seasons. Moreover the new surfaces made by clever technologies are extremely cost efficient constructions and provide budget for the intermediate phases.

Translated from: nextroom.at

3.9.2 Wider Context

Openness to different user groups and functions

- During tourist season mainly for tourist
- Outside the season for locals

Adaptability to new conditions/situations

- Depending on season / mid-season the atmosphere of the pedestrian zone changes a lot. The open space and the surfaces are designed “reactively”, so the commune can react to the occurring seasonal changes and modify the appearance of the village
- During season, the multi-functional surfaces are free and provide space for the guests and the inhabitants. There is a dense net of infrastructure that boosts events, parties, concerts, fairs, markets and exhibitions.
- During mid-season – when the tourists are gone and the denseness of people and activities decrease – peaces of the surface can be detached and replaced by flowerbeds.
- At the main square, called Michaelsplatz, certain areas are flooded and create small, geometrical lakes that cover the grey-green serpentine.

Physical basis for contact and communication

- Between the entrance of the church, the cemetery and the archive of the monastery a traditional church-square was recreated with a linden tree, a bench and a well. It serves now as a meeting place and gathering space. The newly created space reflects the proportion and therefore intimacy of a

traditional village square. The well frames the open northern side. The floor surface is made of grey plaster.

3.9.3 Site Design

Scale and Proportions

- Scale and Proportion depend on the surrounding provincial buildings and matches an intimate village square.

Edges and enclosure

- Density of usage changes depending on the furniture etc., main structures are waterfront and event zone.

Surfaces and landform

- A concrete platform, pearl-white coated, is designed as a area for hanging out. It hangs a bit over the edge of a field of stones and passes into the park zone.
- The already existing topography of the space is exaggerated and gets dramatised in hills, valleys and terraces.

Orientation

- Lines, embedded into the surface of the floor strengthens the longitudinal aligned road space of the "P.P.Rainer-Herzog Tassilo Straße", which is the shopping and restaurant street of the village.
- A drainage channel forms a prominent longitudinal groove and marks the course of the road.
- Transverse lines mark the entrances to the shops and boost the perspective impression of the road space.

Appropriate design

- The overall design is un-kitschy and suitable for the user pattern

Relationship to local context

- Because of the surrounding ancient built volumes and the remained village structure the redesign was asked for special sensibility. The architects faced this fact by using only autochthonal materials and a special consideration of historic references. In this way it was possible to embed the new pedestrian zone into the village structure and the surrounding landscape in a homogenous and cautious way.
- The redesign was not only meant to be a simple artistic reevaluation. All elements contain a social psycho-social component, that influenced the village community in a positive way.

Clarity and Legibility

- Clarity through homogenous materiality

3.9.4 Detailed design and materials

Materials and their use, Colour and Furniture

Lightning

- The lightning concept keeps the street and the square space open to the sky. The radiation runs up and down, respectively horizontal along the surfaces starting from fixed furniture. Illumination is therefore indirectly, facades and the floor function as reflectors. In the night the light diminishes upwards and fades into the evening sky.

Vegetation

- An open raster of trees creates a dense green and quiet atmosphere.

3.9.5 Conclusion

- The conceptual design reacts to the needs and conditions of the community in a sensitive way. The overall concept and design of surfaces and furniture is very

minimal and does not try to compete with the natural scenery of the place and the historic ambience of the buildings. The design language and the materials result in a harmonious balance between old and new.



3.10 Case Study 10: BO01 MALMÖ

Type of open space: public open space / new city district

Location within the urban context: Västra Hamnen lies in the centre of the Öresund region, close to Malmö city centre with good communications in all directions.

Date: 2001

Open to the public

Size: 180,000 m².

Budget:

Designer: Twenty two different architectural firms

Stages of planning process:

Funding: Swedish Government, European Commission, private Investors

Client: City of Malmö, Swedish Energy Agency, BO 01 organizer of the exhibition

Relation to other themes: SD & Environmental Issues; FD & Accessibility Issues (Ausstellungsfläche/"Experiment")

3.10.1 General Description

The location in the city is unique — Västra Hamnen, a former industrial estate near by the ocean, within walking distance of both the city centre and the beach. The permanent part of Bo01 makes up the first stage of Västra Hamnens conversion into a complete, new district for living, work and study. The aim of the project is to show that high-class architecture provides better conditions for the long-term sustainability of buildings and cities. The housing area consists of 500 dwellings in a very varied design. The plan has been shaped by the planners ambitions: — to offer an urban structure that is sufficiently robust, — to meet the demands of an uncertain future— to provide the conditions for the essence of the city, the meeting between different people and cultures, — to let cars get through, but on the terms of the pedestrians, — to provide the conditions of a city environment which, over and above empathy and

comprehensibility, also offer a wealth of information, mystery, surprises, and many unique and promising urban spaces; a dramatic tension between the grand and the intimate, — to offer a wealth of all forms of vegetation, from the individual garden, to the sheltered, thickly wooded public canal park through the interior of the area.

from: <http://home.att.net/~amcnet/bo01.html>

3.10.2 Wider Context

Part of a larger strategic network

- Sweden's first international housing exhibition, Bo01, will open on 17 May 2001. The "City of Tomorrow" in the ecologically sustainable information and welfare society will be demonstrated and discussed until 16 September. The aim is to create a debate centred on how we live today and how we will live in the future. Bo01 will show provocatively imaginative visions of future living, where high demands on aesthetics, ecology and high technology are combined with placing man in the centre. We are going to do this in two different locations:

Openness to different user groups and functions

Physical basis for contact and communication

- Large promenades towards the sea and intimate spaces in the town centre

Physical basis for other functions

- Mixed areas for living, work and study

Sustainability

- 1,400 m² of solar collectors, placed on top of ten of the buildings complement the heat produced by the heat pump to supply the area. A large wind power station (2MW) placed in Norra Hamnen (the north harbour) and 120m² of solar cells produce electricity for the apartments, the heat pump, fans and other pumps within the area. An important part of the concept is low energy use in the buildings. Each unit is only allowed to use 105 kWh/m²/year, including household electricity and is equipped with a meter that displays the electric and caloric consumption. This target was however not achieved in most of the

houses, which is mainly due to the fact that the theoretically calculated energy consumption did not prove realistic in practice since it included a lot of unknown and previously not used assumptions.

- **Energy:** use of renewable energy only, large proportion of the heating needs are covered though an underground aquifer which serves a heat storage for the winter months as well as use of sea water, complemented with solar collectors. The electricity is generated by a wind power plant and, to some minor extent, photovoltaic cells, production of biogas from the wastes.
- **Ecological Building:** no substances listed in the Swedish Chemicals Inspectorate's list of hazardous materials used in the building process. Building materials should be reusable when the buildings are demolished.

3.10.3 Site Design

Streets, squares and pathways

- One of the main ideas was to create an exciting structural mix of individually designed streets, pedestrian walks, alleyways and open squares. The use for these varying interior open spaces caused by the structure and the social interaction resulting from this is of great importance in creating a character for the area as a whole.

Scale and Proportions

- The plan has been sculpted by the grandeur of the site (the ocean, the expanse of sky, the horizon, the sunset), by very strong exposure to the wind from the west, and by the broad-meshed grid of boulevards in the district. This ensures orderliness and empathy on a grand scale and at the same time, gives space to discover a teeming, less tangible world on the inside of the large squares.

Edges and enclosure

- Seafront, enclosed and weather protected, dense city district
- Tall houses form a wind shelter around a small scale and green interior

Surfaces and landform

- Peninsula

Appropriate design

- Design experiment concerning sustainability on a large scale
- Various types of modern architecture and landscape architecture

'Landmark' character

- Europe's largest exhibition investment 2001, "Emphasis on the Visionary"

Clarity and Legibility

- Not the most important aspect, rather mixed use, varying approaches by various designers...

3.10.4 Detailed design and materials

Materials and their use

- Quality programme jointly established by Bo01 expo, the property developers and the city of Malmö. The programme sets guidelines for architectural qualities, choice of materials, energy consumption, green issues and technical infrastructure.

Vegetation

- The use of a green space factor that requires the construction companies to find solutions to increase the amount of rain water infiltration into the ground locally, the use of green points (a list of ca. 30 different measures, such as the planting of rare species, putting up of bird and bat boxes, creation of different habitats for animals and insects...) and the implementation of an open rain water management system resulted in a very high level of biodiversity, especially with regard to equally densely populated city areas.

3.10.5 Conclusion

- The project can be interpreted as experiment in urban design and landscape architecture that provides the living and working space for the next generation. The driving force of the project is the aim to bring today´s knowledge in design, social living and sustainable living into real.



4 Possible relationships/interface between the subject matter of the working paper and the topics of the other five working papers

4.1 Formal Design and Environmental issues

There are a wide range of different environmental issues which need to be considered from a functional point of view in the design of urban spaces, and by the very nature of urban spaces, they will all need to be given a three dimensional 'built' form in the urban space concerned. The question to be addressed here is whether or not these functions also need to be given formal expression in design terms. In the vast majority of cases, it is argued that all of the relevant environmental issues in the treatment of urban open spaces will not be impaired from a functional standpoint if they are also considered from a design point of view as well.

However, while there are many environmental considerations to be taken into account, for the purposes of this discussion they can be conveniently summarised under four main headings: climate, noise amelioration and pollution reduction, water management and finally flora and fauna.

Climatic considerations can be looked at from two main points of view: the use of vegetation and the structural configuration of the space and its urban surroundings. Simply the presence of a significant quantity of vegetation can be beneficial for the urban climate but operating to compensate for the urban heat island effect. Even grass surfaces are considerably cooler than paved ones in summer. Trees, in addition can have the additional benefit of providing shade and contributing considerably to the cooling and moistening of the atmosphere through transpiration. The formal way in which the vegetation is used such as the patterns in which the trees are planted generally has no effect on their effectiveness from a climatic point of view, but can have important impacts on other aspects of the design of the space in question. There could, however, be climatic benefits if the direction of open spaces which are planted with trees is in line with prevailing wind directions for example, as this can help to increase the levels and effectiveness of natural ventilation in an urban area. Here to the visual and spatial design implications will need to be considered too.



Much the same goes for the role of vegetation in contributing to noise screening and to helping to filter the air of particulate pollutants. Here though, the way in which the trees and shrubs are planted can have an impact on their functional capabilities in cleaning the air.

Vegetation can play an important role in the management of the water regime in an urban space. Areas of vegetation as well as permeable hard surfaces (as far as these actually exist) can provide a direct route for the infiltration of rainwater into the groundwater. Trees too can hold back precipitation on their foliage and give it slowly up to the atmosphere to reduce the need for piped drainage. In these examples the formal design of the vegetation concerned is unlikely to have any significant effect in reducing its environmental functions.

Finally, vegetation can contribute to providing habitats and thereby promoting the occurrence of the natural flora and fauna within an urban space. In this case it is important to be able to select and make use of appropriate species to provide food and cover for bird and animal species, but here too the way in which these species are used from a visual design point of view is usually independent of ecological and function considerations.

4.2 Formal Design and Public Participation

The creation of good urban open spaces without public participation is difficult, but the fact that newly designed urban spaces will only be successful in the long term if they are accepted and used by the public for whom they were intended, means that it is essential to involve the public in the design of spaces from the earliest possible stage.

There are a number of difficult questions which must be answered in the context of public participation. These include: who are the public which needs to be consulted? What questions should they be asked? What happens if they fail to agree?

The involvement of the public in the design process can bring with it as many problems as it can solve. Those people or groups who become involved tend to be the ones which are most articulate, or those with the most time to spare.

Clearly 'the public' is not a monolithic body with one opinion; instead the more effective the efforts to involve a wide cross section of the population, the greater is likely to be the range of opinions. What is to be done if the views of the public conflict with the opinions of those responsible for commissioning the design or with legal restrictions or standards?

The better informed the public is regarding the range of possibilities regarding the treatment of a new urban space, the more useful will be its contribution, but how are they to be educated and who is to undertake this? What is the role of the 'designer' – is it simply to 'put down on paper' what the public asks for? Who will take responsibility for the result?

One particular danger of public participation that is not carried out correctly is the tendency to end up trying to please everyone with the results that the design solutions tend to be the sort of mix of different areas for different groups described in section 2.1.3 above. In addition to this comes the further risk that in order not to risk offending anyone, the results of the process will simply be bland and boring. By trying to please everyone, it may be possible to end up with a design which no-one likes very much anyway and is disappointing to all concerned.

The solution to this ought to be to involve the public at the right time and to do this in a structured way. By separating the design process into two: one in which the design brief and programme of spaces and facilities to be provided is elaborated and agreed

upon, and a second phase which involves turning that programme into a formal layout, the potential conflicts can to a large extent be resolved. The involvement of the public clearly needs to be integrated as early as possible at the programming stage, while once the elaborated design brief has been agreed in detail with all parties concerned, it should best be left to the designer to turn the ideas into a physical form.

This stage of the design process can also usefully be broken down into further stages to maximise the effectiveness of public participation. There are usually several possibilities for turning a design brief into a formal spatial solution, and the presentation, explanation and discussion of a number of different alternatives at an early stage of the sketch design process before agreeing on one route to follow, can be another way on getting the best out of the public participation process.

4.3 Formal Design and Gender Issues

There are two main issues where there is an important interface between formal design aspects and gender issues. The first of these related to the provision and design of spaces which are clearly available for, and which meet the particular requirements of, different gender and indeed other minority groups. The second is the matter of the actual and perceived safety of these spaces.

The definition of specific spaces for different user groups is a frequent consideration in discussions on the design of public urban spaces. On the basis of the observation that significant areas of space and investment of resources goes in to the provision of sports pitches which tend only to be used by groups of boys of a certain age group, leads to demands for equal consideration to be given to the provision of facilities in parks and open spaces for women and girls.

While some attempts have been made to address this issue, it is questionable if such a strategy of segregation and zoning is viable or even desirable in the long term. It can and does lead to the breaking down of small urban spaces into a series of 'ghettos' in which no user group has sufficient space for their needs. An alternative approach can be to try an overlay the use potential for different user groups, so that they can either mix in the spaces concerned, or as may be more often the case, they can use a much larger area of the space for their own needs at times when other user groups are not using the space.

Safety is the other critical area of the interface between design and gender issues is the way in which a site is perceived. What is called for is a maximum of legibility and ease of orientation so that it can be clearly seen how the space is being used and what the best ways of navigating it could be. These aspects are certainly about visibility and good sight lines and illumination, but they are about more than this too. The question of legibility and orientation has been discussed previously as a characteristic of well designed spaces in general. The avoidance of spaces where the exits are not clear and well lit is another important factor, but the role of the entrances and exists to spaces as well as the importance of lighting have been referred to previously as well in the context of discussing design issues.

4.4 Formal Design and Security and Social Cohesion Aspects

It is suggested that the best way to design out crime and to maximise the security and sense of safety in an urban space is to make sure that the level of use is as high as possible. Other people within an actively used space provide the best guarantee of safety, and broad social control in the context of well used spaces should be the goal of the design of all urban space.

The Danish architect Jan Gehl has put forward three levels of the social use of spaces – their use for unavoidable functions, their voluntary use because of their innate attractiveness to potential users, and finally, based on high levels of voluntary use of open spaces, social interaction in the form of contact and communication can take place. The creation of attractive spaces to ensure social interaction, the development of community and thereby social cohesion are important goals for the design of all open space.

Spaces which are lively and well used will also not be spaces where there is a feeling of insecurity and where the fear of crime can develop. The design treatment and the atmosphere of the outdoor environment can certainly influence the way in which people use and feel about places. But the arguments of environmental determinism can be taken too far in that in the final analysis crime is far more likely to have socio-economic causes than environmental ones.

There is also a serious danger of over-reacting to what may be seen as potential problems. This can often be a political issue. If following a crime in which the criminal was reported to have been hiding behind some bushes, the result is that all suspicious vegetation is removed from the space in question, then it can be argued that the decision needs to be thought through more carefully. Similarly if an assault took place in an open space in the evening where the lighting was – with hindsight – blamed as being inadequate, then it may be a over-reaction to floodlight the whole space as a result. If, following a crime in which the suspects escaped though a secondary entrance to the space, the arguments are used that the entrances and exits to the space are inadequately supervised and should therefore be restricted, then one answer might be to fence the site and control the entrances and exits with gates which can be locked.

By following all these ‘anti-crime recommendations’ – the removal of vegetation, the floodlighting of the site and its fencing, what one is perhaps left with is something

closely resembling a prison exercise yard. This would perhaps be no surprise as these have also been designed to discourage crime and make it easy for surveillance, but they are hardly the kind of open space in which normal citizens will voluntarily choose to spend their time and for which they feel a sense of ownership. However attractive urban spaces in which normal citizens wish to spend their time are clearly those in which there will be the best level of social control and thereby the highest levels of safety and freedom from crime or the fear of it. For these reasons it is important to see attractive and well maintained spaces as the goal, because the first steps towards mono-functional spaces, designed with only security in mind, are the start down the slippery slope to the prison exercise yard school of urban space design.

4.5 Formal Design and Accessibility Issues

The design of urban spaces to allow access for all is something which should not be seen as a 'niche' issue which focuses on catering for a small but unusual sector of the population. Part of the reason for this is the demographic argument, namely that the population as a whole is getting older and that designing for age groups with limited mobility or impaired vision is something which is going to become much more important in the near future, as the current population ages. However there are other reasons why the cause of universal design is an argument which can be used far more widely, indeed universally.

It is not only the old and infirm or the handicapped who travel in wheelchairs. All babies and small children do the same and the need to cater for them in design is also the need to cater for their parents and brothers and sisters. But travelling on wheels is not only something restricted to the very old or the very young. As soon as they are able to walk children want to strap wheels to their feet and later perhaps use skateboards. Cycling is an important means of sustainable transport and a way of keeping fit which is recommended to the whole population and here too barrier free open spaces are essential. But even the non-cyclists sometimes have to travel, whether it be for business or pleasure, and today there is no suitcase which does not have wheels.

It should therefore be clear that universal design is not a matter of designing for wheelchair users, but for the whole population. This has implications above all for the design and treatment of the surfaces of open spaces, with regard to their gradients and the materials used to pave them. Changes of level can be important ways of defining space and creating space in the outdoor environment, but it is essential that steps should always be provided with alternative ramped routes. Indeed observations suggest that when both steps and ramps are provided most people choose to use ramps anyway.

Similar arguments can be made with regard to design for the visually handicapped. Previous sections have discussed the importance of the clarity and legibility of spaces. The importance of ease of orientation was stressed by Kevin Lynch in 'The Image of the City' as a characteristic which is important to everyone, not just the visually impaired. Lynch's 'image' is also an image which we carry in our minds as a kind of mental map of the urban environment as a whole as well as of individual spaces, and

mental maps of well-designed and easily legible spaces can be shared by the sighted and the visually handicapped alike.

On the basis of this argument, the rules, guidelines and standards which are important for 'universal design' should be no different to those for 'normal design'.

5 Conclusion: The role of formal design for the treatment and creation of good urban spaces

This working paper has sought to focus solely on the aspects of formal design in the treatment of urban spaces, however as was made clear in the introduction this is a task which may be attempted in theory but should never be practised in a real life situation.

The reason that it is possible and indeed necessary to make such a distinction lies in the different possible interpretations of the word design. Design can refer to the formal aspects choosing and shaping the external form and relationships between the elements which go to make up an entity such as an urban space, but there are two other essential aspects of design which need to be considered too. The first is the fact that the formal aspects of external appearance cannot and should not in practice be separated from functional considerations. Secondly it is important to be aware of the fact that 'design' is not just a noun but also a verb - the very process that has to be undertaken to arrive at a product.

The idea that form "follows function" in the words of Ludwig Mies van der Rohe, is a classic paradigm of the modernist movement. While this view may still be valid in some fields, from the point of view of the design of urban spaces it needs to be qualified by the insight that the objects of design are never mono-functional but rather have a highly complex set of sometimes conflicting functions to perform. It is the real task of design to resolve and integrate all these functions in a manner which both 'works' from a practical point of view as well as being visually attractive, satisfying and meaningful. Indeed it could be argued that to be attractive and satisfying is one of the functions of urban spaces.

In this sense, design is about creating the proverbial whole which does not just integrate all the functions and articulate all the parts but is more than their sum by at least providing the potential for the creation of deeper meaning and significance for its users. Achieving this is possibly the most difficult but in the final analysis most important aspect of the design of open spaces. There are no clear recipes for doing it, but the attempt to link with the past of the site and the memories and aspirations of users and weave these into a narrative which can be reflected in spatial terms and underlined with design details is one important approach.

In terms of seeing design as a process, the formal aspects of it have an important role to play in providing the means for spatially and visually integrating the wide range of

other considerations and functions which the project must incorporate. This integration process is of particular importance for the reason that all urban spaces have to fulfil a wide variety of functions and be used by and useable for all sections of the population.

The design process can be thought of as existing in two important parts – the first is focussed on understanding all the relevant dimensions of the design problem. This is the analytical stage, and involves deconstructing the site, the users and their needs and drawing on all relevant experience and information in order that the ‘problem’ can be understood as fully as possible. This is then followed by the second phase in which the parts, that have been taken to pieces and thoroughly investigated, need to be put back together and a new concept created around them, based on all the demands, functions, considerations and needs defined as a consequence of the analytical phase. This second, synthetic, phase is where the considerations of formal design, the articulation of space and the use of materials comes in.

There is a school of design theory in America (see Pena, 1987) which formally separates the design process into exactly these two stages, the first being referred to as programming and only the second, the synthetic stage, design. Two different groups of professionals are involved in each phase, with the first group – the programmers – having the development and refinement of a clear project brief as their main task, something which is done in close cooperation with representatives of the client and the future users of the project. This agreed and clearly and unambiguously formulated brief – the programme – is then handed over to the ‘designers’ who can then use it as the basis for creating the form of the project.

Such a structured separation of roles is not practised in Europe, but it is a useful way to look at the different stages of the design process nevertheless. It is also interesting that this procedure has been developed and is implemented in the design of buildings, but that it has been little used for designing open spaces. Given that buildings usually have a far more clearly defined purpose and therefore a much clearer function and programme of spaces required, in comparison to open spaces, whose functions and needs are usually only very vaguely articulated by those commissioning a project, it is perhaps surprising that the idea of programming has not been adopted more widely in the design of urban spaces.

This structured two stage process also provides a clear home for the whole public participation process and the definition of user needs and requirements, which clearly

fall into the sphere of programming, while the professionalism of the formal design process is retained.

Over recent years a strong 'formalism' has crept into the design of urban and open spaces generally and, in many cases, one could get the impression that the consideration of the varied needs of different users groups and of society in general had fallen into neglect. There is perhaps some truth in this observation, but the current situation can also be interpreted as a reaction to the previously prevailing paradigm in the design of open spaces in which a high degree of attention was devoted to both the needs of users as well as to ecological and environmental considerations, but in many cases to the exclusion of formal design considerations. The result tended to be spaces which had certain functional qualities but were generally bland, boring and interchangeable.

The introduction of a two stage design process based on the programming and design model could provide a useful mechanism for both ensuring that the necessary depth and breadth of participation takes place to ensure that a suitably rounded design brief is created, while at the same time not sacrificing design quality and spatial experience.

The third stage of the design process which would also be desirable is the monitoring of the success of a newly (re)designed urban space after its completion in order to ensure that the design was indeed functioning as intended in all respects, and if not to be able to formulate the necessary adjustments and revisions to the original concept. Here too the participation process could be extended into the phase of 'post occupancy evaluation' as this third phase is known in the architectural context.

6 Literature and picture credits, acknowledgements etc.

Literature

Dee, C., 2001, *Form and fabric in landscape architecture*, Spon Press, UK

Cullen, G., 1994, *The concise townscape*, Butterworth-Heinemann, Burlington

Gehl, J., 1986, *Life between the buildings*, The Danish Architectural press, Copenhagen

Krier, R., 1979, *Urban space*, Rizzoli, New York

Loidl, H., & S. Bernard, 2003, *Opening Spaces*, Birkhäuser, Basle

Lynch, K., 1960, *The Image of the City*, MIT Press, Cambridge, Mass.

Lynch, K. & G. Hack, 1984, *Site Planning*, MIT Press, Cambridge, Mass.

Pena, W., 1987, *Problem seeking*, AIA Press, Washington DC

Simonds, J.O. & B. Starke, 2006, *Landscape Architecture*, McGraw-Hill Professional, New York

Whyte, W. H., 1980, *The social life of small urban spaces*, Project for Public Spaces, New York