

Importance of Street Furniture in Urban Landscape

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I. INTRODUCTION

How site design integrates the elements of furniture that are used for various designated purposes and create a sense of place is a question that is difficult to understand. Such an understanding can open up creative possibilities for designers of exterior spaces and enable them to design or shape spaces that can succeed in achieving their goals over the long term .

An identity and a sense of place is created, if street furniture is properly integrated in the design of a public space. Items of street furniture comprising, for example, objects used to facilitate transportation or the use of land adjacent to a street, are commonly used in urban areas with the aim of making the street more aesthetically appealing; however, these objects, if placed near intersections, may obstruct the view of drivers, especially if crowds develop around them; and if they are close to the roadway, they should also not obstruct the sight distance of pedestrians .

The site's current and desired patterns of use should be analyzed before the furniture is selected and set up, so it can serve its purpose effectively; quality furniture is costly, so it should be used only where it is really needed. There are various approaches to selecting or designing street furniture: for example, there could be a coordinated selection which gives a consistent tone to streets and walkways; or various parts of the streetscape could be designed to serve as artworks in themselves .

Basically, there are five basic criteria involved in selecting and placing items of street furniture: **function** (i.e. seeing how necessary an item is and how it can serve its purpose), **siting and layout** (i.e. deciding where each item should be placed), **form and appearance** (i.e. making sure there a continuity or at least a linkage between the designs of different items), **durability** (given expected usage), and **cost** .

1.1 THE SIGNIFICANCE OF STREET FURNITURE

Now the most important question that comes to mind is “what is the use and importance of street furniture?”. Street furnishings create the settings for resting, sitting and eating, and social encounters with others. Such settings may be of great importance to the elderly, those with limited mobility, and adults who have small children; but in addition to their functional aspect, items of urban furniture such as benches and tables in parks and squares can also be socially significant, as they give these sites a comforting and appealing air and draw people in together. Properly selected and placed furniture can make the people come to outdoor spaces and add to the pleasure of using these spaces; the main challenge is getting them outdoors, with the aim of making them feel welcome, relaxed, and socialize.

The quality of urban spaces is indicated by their character and how well they create a sense of identity, as well as by the quality and placement of their street furniture, as can be seen in various cities: London's red telephone booths and Paris' metro entrances, for example, have become iconic and essential to these cities' identities. In addition to their functional and symbolic roles, items of street furniture may also set standards and expectations of quality for the development of the areas where they are found and can serve as talking points for planning.

II. FURNITURE PLANNING

The type of space under consideration has to be defined appropriately for the planning and design of street furniture. The space can be a park , street, a waterfront, a mall, a recreational area like playgrounds etc. or a plaza.

Now the question arise who are the potential users of the space, for what purpose and at what times will it be used, and how will it serve users when they arrive there?

The street furniture pays dividends where it is planned and designed by taking account of users' needs, or the architectural character or weather conditions at the site.

As regards what furniture should be consistent across various sites and which unique to a particular site, this depends on the situation, but in general there can be some consistent elements, such as signage, or street lighting. In brief, the goal is to create easily maintained, convenient and publicly accessible amenities that do not disturb pedestrians or traffic.

2.1. Placement of street furniture

The placement of the street furniture should be based on their functions, and consistent with the patterns and designs of the hardscape at the site. The items of furniture should not give the appearance of being cluttered, so that, for example, signs are attached to a single post or column rather than being distributed in several places; group amenities such as seating areas or telephone booths are set up where they will be used, such as at pedestrian junctions; and features like bollards are used minimally.

In addition, the furniture should not be harmful for pedestrians; if it is used along a walking area it should be aligned to make passage easier, rather than zigzag like an obstacle course. Varying the texture of the walking surface at key points can also help the visually impaired to find public amenities more easily.

III. STREET FURNITURE DESIGN

The furnishings of urban outdoor spaces should be designed by keeping in mind the different users like the needs of differently abled, children, and the elderly, and also to enable triangulation – i.e. they should be linked together to stimulate social encounters and encourage people to talk to strangers.

In public spaces this spur can be created by the selection and arrangement of the street furniture; for instance, if benches, rubbish bins and telephones are far apart, they may have the effect of drawing people apart, whereas if they are arranged closely linked with other amenities such as a coffee cart, they tend to bring people together quite naturally.

IV. SAFETY AND SECURITY

The street furniture must be constructed of safe materials and designed to prevent injury, without sharp edges or exposed fasteners, when designed for outdoor spaces. They are usually either attached to the ground with anchor bolts or embedded in the ground. Naturally, the technique used for mounting should be decided on in advance, so the furniture can be made accordingly.

The type of furniture and its arrangement should also take into account visibility and sightlines, lighting, and accessibility issues that may be faced by women, children, the elderly and the differently abled. Areas which are unsafe or pose risks should be designed taking these factors into consideration.

V. MATERIALS USED IN STREET FURNITURE

Furniture selection and design should take into account the different weather effects such as sunlight (heat), expansion and contraction, wind flow, humidity, and in some cases, salt spray, frost, or snow. The best designs usually incorporate strong, simple shapes, local materials, and natural finishes, generally in black, grays, and earth tones, accentuated with bright colors.

The most popular materials used are steel, wood, stone, concrete, recycled plastic and various other materials. The choice of materials depends on the context and limitations of the design; for example, whether the furniture should be resistant to damage due to vandalism, whether ventilation is needed for drying it during wet weather spells, what the weather conditions may be, how frequently the furniture is likely to be used and by whom, what the initial costs are, including mounting, the costs and ease of maintenance, and whether there is a possibility of using eco-friendly materials. Site furniture should be made of fire resistant materials such as metal, brick, or stone, and wooden structures should be avoided in areas where there is a risk of fire.

5.1 Steel

Stainless steel is a popular choice of material, because it is flexible, has a high strength/weight ratio and can be shaped to fit almost any design aesthetic. It is durable, resistant to corrosion and impact, and requires no maintenance; it is also cheap compared to all the other materials in terms of life-cycle cost, and is fully recyclable.

5.2 Wood

Wood is another popular choice of material for street furniture, because it is a natural material that feels warmer in cold weather and cooler in hot weather, unlike metals. Its disadvantages are that it needs high maintenance and is easier to burn, break, or otherwise damage due to vandalism. Wood may be inexpensive, but the type of wood selected should depend on the location and frequency of use of the furniture. In fact, we should minimize the use of wood where ever possible in landscape design

5.3 Concrete

Since concrete is strong in nature and does not require any mounting technique. It is also difficult to vandalize (except with spray paint). Concrete has a long durability and may be aesthetically attractive if it is designed to be consistent with neighboring architecture; however, it does not drain or ventilate well after rain. Much of the concrete street furniture that exists today seems outmoded and appears to lack innovation.

5.4 Plastic

Recycled furniture is generally made from plastics, which give it a soft texture and appearance. The designed furniture is highly robust, often lasting considerably longer than wood, low-maintenance and therefore more cost-effective in the long term.

5.5 Stone

Stone is very durable, natural and strong material and does not need to be mounted because it is heavy, and is resistant to vandalism except when spray paint is used. However, it has many of the same disadvantages as it does not ventilate or dry well after rain, and has limitations with respect to its aesthetic possibilities where design is concerned.

VI. COLOUR

Contrasting colours play an important role in sighting street furniture with the backdrop or background. The luminance contrast should be at least 0.3 (30%) to increase their visibility to pedestrians. This can be supplemented by colored borders in the pavement, which mark the edges of the street furniture and guide pedestrians around it to clear and unobstructed walking areas .

6.1 Sustainability

Paint or other finishing materials of furniture should be non-hazardous and non-staining. This in turn helps the manufacturers to conserve natural resources and reduce their carbon footprints; it also educates the users of the furniture, the public, on the importance and mental and physical benefits of recycling. In addition, such furniture items can be recycled again when they need to be replaced, further reducing damage to the environment.

Local administration have been increasing taking initiatives to ensure the sustainability of their street furniture, including raising civic awareness, in order to reduce costs and fulfil legal requirements for emissions and energy efficiency. Most of these initiatives are demonstrably effective; replacing filament light bulbs with new LED bulbs, for example, can cut the energy consumption of street lighting by 40-70%.

Many new possibilities are emerging, such as, for example, converting street lamps into photovoltaic power sources which supply light, and at the same time supply energy to a city's power grid. Photovoltaic devices differ from solar panels, in that the power they generate can either be stored in batteries or added to the mains power grid . In addition to this variation on solar energy generation, there are items of street furniture available that are wind-powered, or designed as photovoltaic-windpower hybrids; these items, according to their designers, optimize the use of renewable energy sources and also guarantee a power supply through two different sources of energy.

VII. SEATING

Seating facilities, such as benches, should be integrated within the outdoor spaces wherever people wait, meet, or socialize; in public squares, for instance, they should be consistent with other elements, so that when seats are not in use they do not create a sense of isolation or emptiness. Being able to sit within a city landscape provides an opportunity to pause, and also a tangible and more intimate contact with a place than one has when standing or walking .

LOCATION

The best locations for benches should be based on pedestrian traffic like places where there is heavy pedestrian use: retail shopping corridors, transit stops, plazas, spaces outside cultural institutions, etc; poor locations are areas where there is little activity, such as in front of offices that close early or buildings without windows, and in spaces hidden from view or far away from active areas . In high-activity areas there should be access to seating every 60m (or every 50m if there is intense activity) , there should also be rest facilities at regular intervals of 100-200m, with the needs of the disabled kept in mind.

Benches should be set up near other amenities such as bus shelters, kiosks, news stands, waste receptacles, telephones, etc., and arranged where there is protection from the wind and to allow a choice of sitting in the sun or shade. Moveable chairs or lightweight benches allow the widest range of choices. They should be separated from the walking path by a space of 30-60cm, and with the seats level and having a maximum lengthwise slope of 4%; if the slope is greater, the ground should be built up to create a level surface . They should be placed in such a way that the pedestrian movement is not obstructed.

Benches set at right angles to each other create situations conducive to socialization , whereas if they are lined up in a row they prevent group conversation . In addition, they should not be set up directly facing each other , because people are reluctant to make direct eye contact with strangers and will turn or sit sideways to avoid it. If pairs of benches are set up at a 90-120 angle, the space they create facilitates both socialization and sitting alone. There should also be appropriate space left beside and in front of benches to accommodate wheelchairs and walkers for the differently abled without hindering pedestrians.

VIII. WASTE RECEPTACLES

Location

The most common error in placing waste receptacles is putting them wherever there is an empty space, instead of in places where people will use them. If they are not placed appropriately they will remain empty while the surrounding space becomes dirtied: people will not change their habitual walking path to find a trash can, so the proper placement of these items of furniture is crucial. Waste receptacles should be highly visible and accessible in order to minimize littering. They should be located where they are most likely to be used, in crowded areas like busy intersections, close to crosswalks, beside take-out food shops or vendors, at bus stops, in plazas, outside building entrances such as offices, department stores and homes, and near other items of street furniture like benches, seats, shelters, walls, fences and telephones .

Receptacles should be situated far enough away from seating areas to minimize the unpleasant trash odors and insects on users; and their fronts should be set back at least 30cm from walkways .

The number of waste receptacles to be provided depends on how many people use an area, how much litter is produced in the area, and on how efficient maintenance and sanitation programs are. On streets in the city center, 2-4 waste receptacles per block are usually sufficient: one should be at each end of the block next to the crosswalk, and one or two more in the middle of the block if there are benches or food stalls along it .

IX. SIGNAGE

Signage systems play a number of important roles: they provide information and directions for people to find their way around a site, help maintain the site's image and consistency, and encourage learning.

Location

The location of signs significantly reinforces their message. Besides conventional signboards, kiosks, maps, and other elements may also function as signs; and placing signs at other site amenities like benches, bistros, restrooms and intersections can help create mini-destinations in larger open spaces .

Signage can be used for various purposes: for example, directional signs can help people keep their bearings and give them a sense of safety; and in parks where there are large natural areas or no specific destinations, micro-spaces can be created with a sign, a picnic table, a telephone, or other amenities, facilitating social encounters and enabling communication in the event of an emergency. If the areas where signage is used incorporate other activities, these areas can enable visitors to fulfil various needs in one place, and also create a relaxing social environment in which to spend time.

X. LIGHTING

Site lighting design emphasizes on illuminating the environment to anticipate and respond to the needs of users of the site. The lighting elements involved in a site may have diverse functions such as way finding, creating social spaces, interacting with the natural and built environments, and meeting security requirements; the overall design must enable all these functions to coexist experience for users .

Because of security concerns, there is often a tendency to over-light parks, plazas, streets, and other public spaces; a good design plan should relate lighting to the functions of a particular space in the evening or at night. Site lighting, beyond its practical functions, should be considered in terms of how the types of lights used, their location and their intensity, affect the way a street is perceived and used .

Aesthetically speaking, site lighting can add colour and vibrance to an area at night; however, its primary purpose is to provide safety and security after dark.

Lighting is especially important at building entrances, intersections, stairs, sudden changes in grade, dead ends, and remote walkways. Areas with high crime rates should be well lit to provide some security for those using facilities in the evenings or at night; but while it may increase people's feeling of safety, lighting may not have an effect on reducing actual crime rates.

Location

Light poles should be coordinated with other streetscape elements, and utility equipment such as pull boxes and underground trenches, both above and below ground, should be coordinated when placing lighting fixtures. Fixtures should not be placed near tree foliage that may block their light; the anticipated height and diameter of the tree canopy should be considered in relation to the height and spacing of lighting fixtures, the need for a certain level of light, and the need for uniformity. The most suitable distance between a tree and a light fixture depends upon parameters like the type of tree and on the type of light fixture; if the light from a fixture is blocked because of the existing locations of the fixture and trees, other light fixtures may be added to achieve the required level of illumination .

XI. CONCLUSION

Street furniture should be available in proportion to the intensity of activity in a particular area, and carefully placed to create unobstructed paths for pedestrians without creating hazards. Furnishings include benches, waste receptacle, signs, lighting, fountain and other elements that make people feel comfortable. These elements should be coordinated and integrated so that they are both attractive and functional. However, beyond comfort, the aim of these furnishings is to provide a place with character and identity, and to encourage people to enjoy outdoor spaces. Street furniture also addresses specific needs, such as

seating and shelter when one is waiting for transportation. If well planned and designed, it can also enhance the visual aspects, image and identity of a site. The quality, organization and distribution of street furniture reflects the quality of an urban space and can also set standards and expectations for future development , as the aim of these furnishings is to combine and coordinate form, scale, materials and placement to create visual appeal, accessibility and safety through understanding the needs of users .

Besides its functional aspects, high quality in the designing of street furniture has recently become a focus of attention in urban landscape design, with emphasis placed on the integration of function and aesthetics with new materials and technologies, creative concepts and artistic application in the user-friendly cityscape. Street furniture enables a city to unite as a community, a space where people can gather, share and experience life together. Visually unattractive or poorly planned street furniture defines a city through chaos, a lack of order and harmony, and the absence of community. In recent years, cities have also become very concerned about waste disposal and the stability of the environment, as can be seen in the growing tendency of using recycled street furniture; well designed street furniture enables cities to continually update outdoor spaces sustainably while being environmentally conscious at the same time.

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