

# Park Seating Furniture Design in Hong Kong: A Case Study of Inclusive Design and its Relation to User Interaction

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## Abstract

Park is not a personal commodity. Nevertheless, it could provide qualities of privacy and social life. Park furniture project demands more attention and coordination deal to complexity of managing stakeholders, design decisions and manufacturing aspects in recent years. The authors, in perspective as a commissioned designer, will share the development, observation and evaluation on a latest public seating furniture design project 'Park Déco' organized and coordinated by the Leisure and Cultural Services Department (LCSD) of Hong Kong Government and Hong Kong Design Centre (HKDC) respectively. The design process in relation to inclusive design approach and observational study of exploring various furniture design strategies on user interaction will be discussed.

The project Park Déco at Cornwall Street Park (CSP) in Kowloon Tong Hong Kong was completed at September 2012 and three sets of innovative park furniture has generated for exploring new park design typology in Hong Kong. It is significant that LCSD considered the project as the first design driven experiment to explore 'openness' of park furniture on top of the principle 'inclusiveness'. And the paper demonstrates a designer's reflection on practice and expects to extend the typology for park seating furniture design in future.

## Keywords

Park seating furniture, inclusive design, user interaction, typology

## Introduction

In recent years, Hong Kong Government has put effort to promote global outlook of Hong Kong [1] which the brand value of a world city shall be built by nurturing of creativity, talents and ability in artistic and cultural appreciation. To answer the brief, providing **barrier-free public environment** in Hong Kong becomes a policy implemented by the government since 2008 and a new "Design Manual: Barrier Free Access 2008" was promulgated. The manual supports both administration and execution including government, designers, manufacturers and communities to facilitate barrier-free design projects including accessible toilet, tactile guide path for the visually impaired and other barrier-free facilities for persons with disabilities.

In the development process of the park project, barrier-free environment is one of the basic criteria to promote free access to all types of users who may enjoy park without difficulties as well as discrimination. It is considered as a policy for guiding infrastructure design or a better term- service design. Lots of public facilities such as government building, public toilet, park etc.

have been modified to answer the criteria of barrier-free. The Hong Kong Government has advocated the concept of “Quality of Life” instead of the traditional statement “Standard of Living” as guiding policy of urban development since late 1980s. As Siu [2] mentioned, the government emphasizes the consideration of the concept of “People-First” in urban renewal (Planning and Lands Bureau, 2001). And it reflects that the government has taken user-centered approach to achieve the “Quality of Life” of HK in particular the accessibility of people with special needs which is enhanced through improvement or installation of exit, entrance, ramp, tactile guide, and handrail.

Though physical measurement has drastically enriched the accessibility at public space for different types of user, other means such as **enjoyment or pleasurable experience** for all is difficult to accomplish. For instance, Siu [2] found many elderly in HK who expect to have a physically comfortable seat, and they also expect to engage in other kinds of pleasurable experience (psychological, social and cultural pleasure) by sitting and gathering in public space. They enjoy at public space and consider gathering an opportunity to “discover” topics for chatting and to satisfy the social gathering purpose with their neighbors. After the completion of the CSP project, we realize that the new design may become an exemplar to address or extend the concept of inclusive park design on top of barrier-free. Meanwhile, the project inspires us to revisit the definition of the concept of “openness” at a park- we should embrace the idea of “open interpretation” into seating furniture for every park user, as well as appreciate their right on interpreting the design which would not and cannot be dominated by the designer.

## **Case study- a park project more than a decoration act**

We have more than 1542 parks and gardens of different sizes in HK [3]. However, there are still **limited types or formats of park and park furniture** in Hong Kong. Except those largest parks providing wide varieties of experience to users such as Hong Kong Park composed of artificial natural environment, conservatory, sports centre, playground, garden etc. or Hong Kong Zoological and Botanical Gardens, design strategy of latest park projects are found similar. Two major approaches are undertaken, namely 1) framing under certain themes (appreciation) such as traditional fishing village (e.g. Aldrich Bay Park opens in 2011); 2) framing for providing green space with art work's appreciation and site seeing (e.g. Tanar Park opened in 2011).

**Park usage in HK is comparatively low.** To be exact, elderly or foreign domestic helpers are the major users of public parks in HK. The subject of this project, Cornwall Street Park (CSP), is a typical example which locates closely to one of most busy train station (Kowloon Tong Station) and aside a big shopping mall. We conducted the first site observation at July 2011 when the summer of HK is rather hot and humid, and identified several issues arousing our interest after several visits at day and night time, and weekdays and weekend. First, there were seldom users stayed at the frontal area of the park which is close to the entrance of both the station and the mall especially during noon until three pm the construction of the mall gradually shaded the park. Second, the upper part of the park was found more comfortable than the front as more trees and shading are provided. Thus majority of park users gather there. Third, we seldom found Hong Kong residents sat on grass in the park except foreign domestic helpers. Besides, there were few users who could be staffs of companies nearby the region and had their take away food at noon or night.

To address the issue of low users rate and promote the awareness on aesthetics and creativity, the project Park Déco at CSP had launched as a second trial by Leisure and Cultural Services Department (LCSD) to promote rest and recreation in park of Hong Kong. The first trial was done at 2011 while the project was driven by artistic approach with collaboration of Hong Kong Arts Centre and Public Art Hong Kong. A **design driven approach** in CSP project clearly distinguishes the representation of user centeredness.

## **Park offers interaction-free with higher tolerant**

To echo with the 2012 Hong Kong Design Year- a strategic statement of 2012 Policy Address of Hong Kong Government[4], the Leisure Services Branch and Art Promotion Office of LCSD together with HKDC and local designers explored new design of park furniture and signage based on a basic direction- “**openness**” with an experimental manner as main criteria for the renovation project of Cornwall Street Park, while the Architectural Services Department had assisted the refurbishment works. In despite of years of implementation of the barrier-free and creative city’s branding policy, the CSP design project is the first attempt of LCSD to explore and adopt comprehensive consideration of inclusiveness- not only response to barrier-free, but also **interaction-free with higher tolerant**. So to speak, the department takes risk to allow park users to make choices more freely and to interpret ways of enjoyment. For instance, the government has opened majority of grass area in park that the users can step in. It is a paradigm shift to conventional park’s management. After several dialogue during idea presentations and communication among the project team, we (the designers) got a message that informal visual structure and more freeform seating gesture could be tried out instead of standard seating (sitting up right) offered by the common benches in the park of HK. The CSP project demonstrates that a **paradigm shift** from decorating the city to facilitating the people’s living and development are explored.

LCSD considers the project a pilot which aims at explore new possible way of park and furniture design for residents and visitors. The project involves many stakeholders- collaboration amongst cross governmental departments, design organization, educational institution, architects and design practitioners and local communities and manufacturers. LCSD paid extra attention to this experimental project in which the Directors and managers of the departments at different levels had been involved in whole process of the research and development, for instance from idea presentation of initial and final stages, prototype making reviews and visits at factories of HK and Mainland, final prototype evaluation and public engagement, to final installation. We felt that both designers and administrative staffs worked under high pressure. The acceptance of new design to current users and the new challenge of management and maintenance from the non-conventional benches are main sources to raise argument or discussion at project team meeting although some common barriers to develop inclusive design had encountered as well, for instance **illed defined inclusive design** in the brief, lack of time to testify the idea [5]. On one hand, the project team expects the new design to be a show case to the communities of Hong Kong people who may accept creative works in outdoor setting, and the concern on conflict between the “open” park design and higher social responsibility are anticipated for instance the damage and maintenance concern on administrative perspective was a constraint to new idea.

The project was commenced from July 2011 and completed at Sept 2012. Excepting the implementation of barrier-free renovation, this new pilot park presents visitors with, under the

curatorial statement "virtual stream flow" as a refreshing main theme proposed by Thomas Chow Architects Ltd and HKDC, a stream-like stone pavement connecting the existing upstream water source of the park to three sets new furniture — "Dream Falls" (by Mr. William Lim), "Living Inside-out" (by the main author of this paper Mr. Brian Lee & second author Ms Denise Chan), "Urban Mat" (by Mr. Joshua Lau). The "Dream Falls" denotes a refreshing feeling of light splashes of water flowing down the back of the bench and the wavy profile with two seating levels offers different groups of users sit comfortably. The setting of "Living Inside-out" offers a homey outdoor experience with a connotation of quality of living room's layout, where the visitors can spend some wonderful downtime alone or with family and friends in pair or in group. The "Urban Mat" with projecting brightly colored, organic yet functionally versatile suggests a fresh experience on multiple relaxation possibilities. Besides, the new park's user-friendly signage system "Urban Oasis" (by Mr. Christopher Lau) demonstrates a relaxing and pleasing message, instead of warning sign, for the public to enjoy a more "open" public space with higher tolerant.

## Definition on park seating furniture

The term "park furniture" is generally considered to be self-explanatory but it remains ill defined. Merriam-Webster's dictionary defined the verb "park" simply as "a piece of ground in or near a city or town kept for ornament and recreation". "Garden" shall be a public recreation area or park usually ornamented with plants and trees [6]. The crucial difference of park and garden is the biggest size of a park in which may occupy several gardens. The word park and garden in Chinese [7] "公園" and "花園" share similar meaning in which the names denote the distinct characters. The word "公" identifies clearly that it is a space for public. It is also defined as fair distribution. The word "花" refers to flower. Besides, it is a common practice that, for security and safety considerations, most outdoor facilities at public space plays specific role at specific location, and are not supposed to be taken away or easily being moved and dismantled. In general, fixed furniture is required. As such, park furniture should be identified as a type of artifact to support outdoor public recreational activities and green environment where users may act in a **fair manner** as stated by British Standards Institute (2005) [8].

## User's types and behavior in CSP

### User types

From the survey conducted by the project team and on site observation throughout a year at both weekdays and weekends, before and after the completion of the project, we classified the activities into two types (**dynamic and static**) of user groups. Generally we found all ages of users using the CSP. For dynamic activities, they are: 1) Doing exercise with or without equipment (e.g. 1) Tai chi; 2) Running exercise; 3) Jogging; 4) Riding bicycle (prohibited). For static activities, they are: 5) Taking rest on seating furniture or affordable seating platform; 6) Chatting/ having group game; 7) Eating; 8) Reading books/ bibles; 9) Browsing mobile phones/ playing apps/ watching movie; 10) Sleeping; 11) Taking photos.

Comparing to street furniture, the above varies activities indicate one crucial character of park furniture that it is being more demanded. User expectations in park and on street are varied. One important factor of street's nature is its circulation purpose and furniture in street is

framed by this prior criteria. In the project, we assumed that park seating furniture was required to support various leisable activities for individual or users in group with an ease, peaceful and socialable manner at outdoor environment.

From our observation, local residential users of park in Hong Kong, as well as Hong Kong Government, are rather **conservative** (Fig.1). Most of the benches design in HK supports single orientation only. Domestic helpers from overseas, some non-Chinese users show more varieties of usage. Less choices being offered may not only affect the development of user's appreciation on park, but also dominantly limit the user's behaviour in public space in which lack of varieties of recreation activities cannot be offered. For instance, isolated seating posture (e.g. a bench for two with a handle in between), weak affordance to group interaction and to intimate gesture (e.g. linear seating posture with no user's interaction) are violating the natural human's behaviour. We found that there are huge amount of users not using the benches in the park, they demonstrates wide varieties of activities with different needs (Fig. 2 & 3).

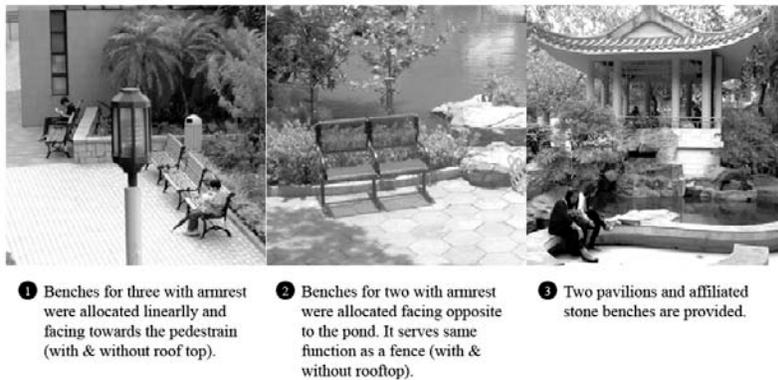


Figure 1: Observations on three major types of sitting furniture in CSP before renovation (images 1-3)

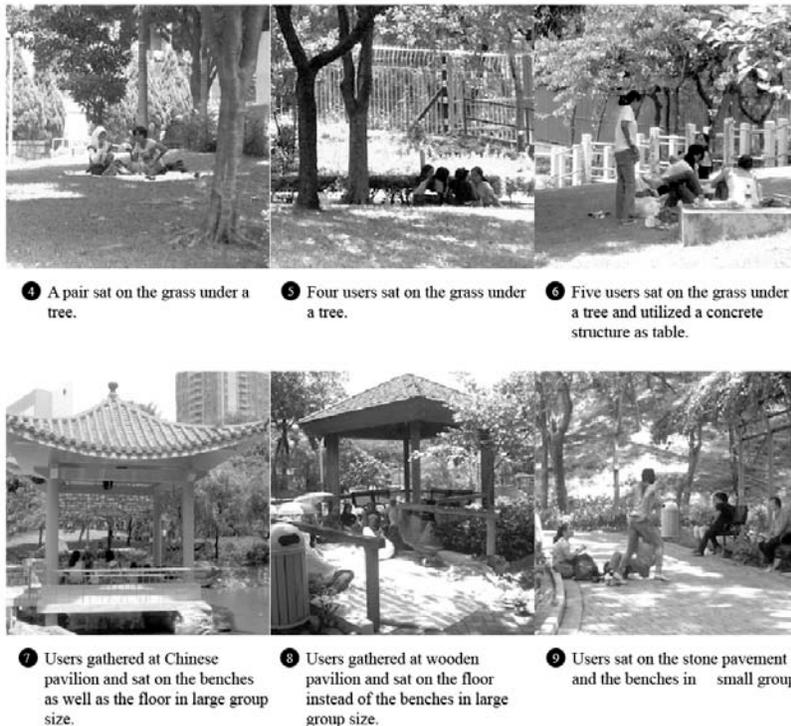


Figure 2: Observations on sitting behavior (other than using bench) in CSP before renovation (images 4-9)

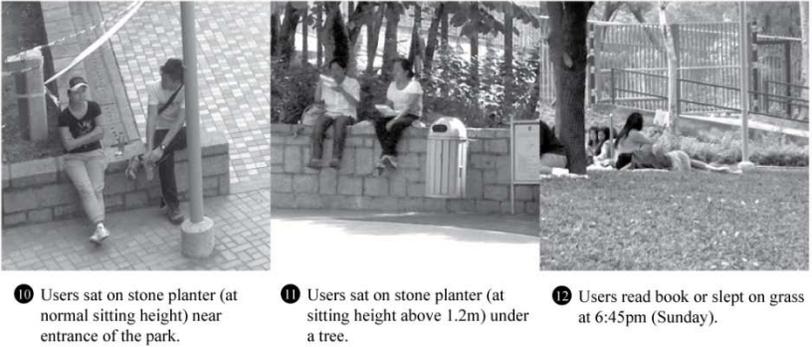


Figure 3: Observations on other sitting behavior (other than using bench) in CSP before renovation (images 10-12)

In a survey carried out at March 2012, 350 visitors were interviewed in which elderly (32%) and couple/ lover (27%) were identified the majority of users of the park and second larger groups of users were sport centre attendants (17%) passed through the park and family with child (14%) visited the park. Other users stayed in the park were ladies (10%). From the above information, CSP is a place attracting wide varieties of users and different activities may happen. As a public park for facilitating the community to enjoy park's space and facilities, apparently the park and park furniture should be able to cater various needs that are obviously will be very diverse.

**User behavior**

It is obvious that people may change sitting posture from time to time and the design of seating platform should afford certain flexibility of seating. A common fault of seating design is the bench with handrail at both sides isolating two seats. Below figure indicates that there are four types of seating typology of users at CSP before renovation (Fig.4).

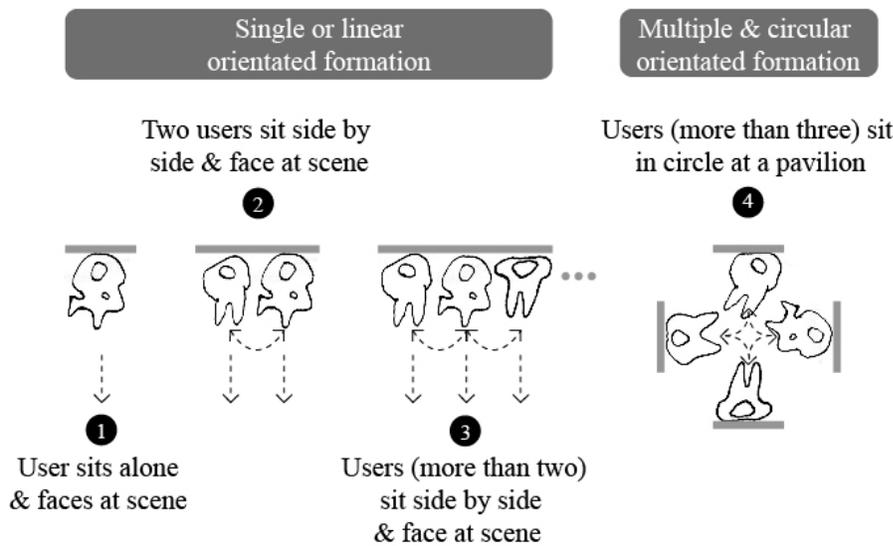


Figure 4: Typology of user's postures and interaction on sitting furniture (stand alone benches or benches in pavilion) in Cornwall Street Park

## New typology of park seating furniture at CSP

The designers proposed three distinct concepts for CSP (Fig. 5). The seats not only offer different visual appeal, but also a physical experience on various senses and interaction. “Dream Falls” offers vertically stacking, multiple layers, varies depth for condensation; “Living Inside-Out” affords multiple zones and interactions for several group sizes and with different spacial senses; “Urban Mat” supports various sitting gesture and body language.



1 Seating furniture “Dream Falls” designed by Mr. William Lim



2 Seating furniture “Living Inside-Out” designed by Mr. Brian Lee and Ms Denise Chan



3 Seating furniture “Urban Mat” designed by Mr. Joshua Lau

Figure 5: Proposals (rendering) for sitting design of Cornwall Street Park (images 1-3)

In fact, the meeting at earlier stage of the project emphasized more on the aesthetic quality of the park and furniture design instead of accessibility or inclusiveness. The team reflected on the design with comments like “The WOW effect is not obvious”, “It looks too formal”, and “The colour is not matching the environment”. It could be a reason that the team may consider the inclusiveness is somehow more achievable in terms of providing barrier-free gateway and standard tactile guidance for elderly, wheel chair users or people with visual impairment.

The project is completed at September 2012. We observed that there is a huge different to the situation before opening. The usage of the park is drastically improved. Lots of users occupied every corners of the seating furniture especially at weekend in good weather condition (Fig. 6). We have been revisited the park for several times throughout a year and quite a lot of people uses the furniture freely with enjoyment. Our doubt on whether the user, especially local residents, may accept new typology of seating furniture in HK is eliminated. We have been heard from the government that there is no compliant to the new park at the moment.



1a Original location for the design “Dream Falls”

2a Original location for the design “Living Inside-Out”

3a Original location for the design “Urban Mat”



1b Design “Dream Falls”

2b Design “Living Inside-Out”

3b Design “Urban Mat”

Figure 6: Site observations of CSP before renovation at 2011 (images 1a-3a) and after the installation of the three new park seating furniture at 2012 (images 1b-3b)

From our observation on user’s activities on the new three seating platforms, it is concluded that there are **eight types of seating typologies** on user’s interaction and seating formation found at the park (Fig. 7 & 8). The new design extends the typology in means of affording new user’s behavior. We found that the users may define the platforms according to their needs for instance the backrest of the single seater at “Living Inside-out” could be a seating platform as long as they can adapt it comfortably or can be accessed effectively. Users are sensitive to define their own private space from their decision on picking which seating or what area satisfying their immediate needs. It is out of our imagination that the design could **afford multiple postures and activities** that never being performed at the old park.

Meanwhile, the new design informs us an interesting phenomenon that the foreign domestic helpers prefer “Urban Mat” and it may indicate a cultural specific practice of Malaysian or Indonesian who feels seating on ground naturally. And they usually visits the park in group of three or above, the design “Urban Mat” could offer a private platform in proper size and with intimacy. User type is another factor that relates to the user’s pattern. We observed that people in pair may find the sofa-like seats at “Living Inside-out” achievable. There are always couples or friends in pair. Time is a geographical factor that affects the usage of the furniture. User

behaviour differentiates at day time and at night, as well as in consideration of sunshine and shading. That is why more people uses “Urban Mat” at noon as most of the furniture placed under bigger trees.

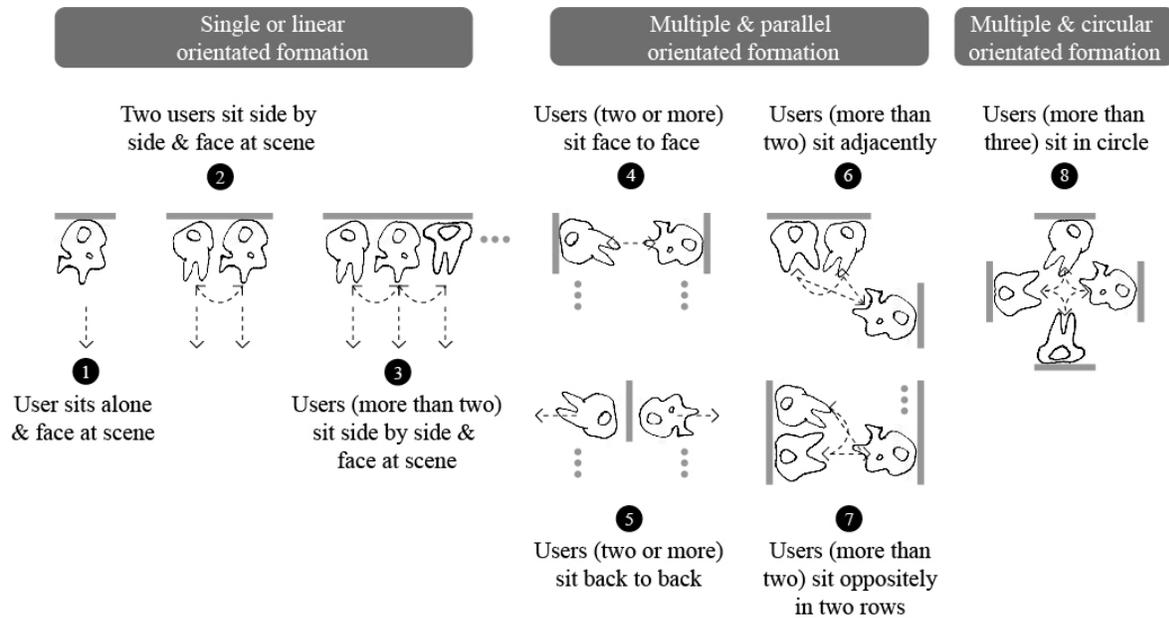


Figure 7: Newly observed seating typology of user's postures and interaction on the new furniture at Cornwall Street Park

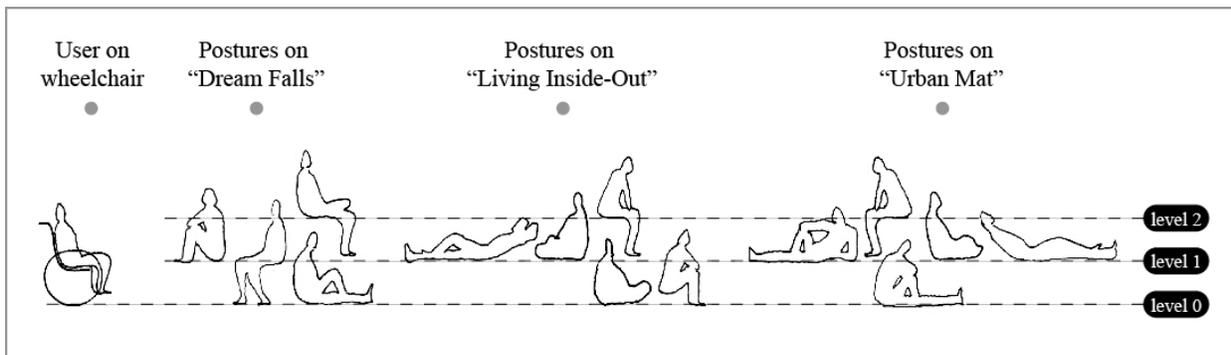


Figure 8: General seating postures observed on new sitting platforms (three major levels) at Cornwall Street Park

## Conclusion

To conclude, two dimensions of inclusive design approach for justification on park seating furniture design are identified. First, in order to embrace “openness” and free interpretation for users, bodily perceptual experience should be considered. They includes **affordability of furniture** 1) on adaptation to user's body, 2) for interactivity with other users physically, and 3) to be privatized. **Cultural and environmental contexts** are the second dimension for guiding

the design. It is demonstrated through particular action by the user, namely 1) cultural specific action, 2) time specific action and 3) location specific action.

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