

# The roles of hardening and separating sites and planting areas in enhancing the carrying capacity in neighborhood parks

**Cong Tao**, Tongji University, China/University of North Carolina, USA, taocong\_tc@163.com;

**Chengzhao Wu**, Tongji University, China

In China, especially in big cities like Shanghai, there are large urban populations and high residential density but not many urban parks. Urban parks are bearing enormous pressure to carry a great deal of outdoor recreation activities for large numbers of residents. Consequently, improving the carrying capacity of these urban parks is of great concern for park planners and designers. Neighborhood parks are small urban park areas near residential communities and are primarily responsible for offering opportunities for outdoor activities to neighboring residents.

During five years of observation at the Neighborhood park-Songhe in Shanghai, we found that hardening recreation site (making the site “harder” with pavement) as well as separating the recreation site from the planting area can enhance the carrying capacity of the park.

Songhe Park is located in the Yangpu District of Shanghai, which is a very dense residential area. The park is small (about 1.3ha), but there are always a lot of people at the park, and the park appears to be frequently by elders in the community. Based on long-term observations, we found that the number of visitors in this park is always in the hundreds (instantaneous amount), and even reaches 700–800 persons during the peak periods.

“The Code for Design of Parks(CJJ 48–92)” in China provides that the per capita area in the small urban park should not be less than 30 m<sup>2</sup> per person. Generally, if the parameter is below this standard, the ecological environment of the park will not be good. However, in Songhe park, the per capita area during peak periods is about 17.5 m<sup>2</sup> per person (1.3ha/800person=17.5m<sup>2</sup>/person). The park visitation exceeds the standard which the Code provided by nearly double. Despite such visitation, the park’s ecological condition has not been impaired.

In Songhe Park almost all of the recreational areas and roads are hardened. Some sites were equipped with intensive recreational facilities. Most of the roads are wide and Chairs are provided for visitors to sit and chat. Most vegetation zones are separated from the recreation areas, and visitors are not allowed to enter the vegetation zones. The park contains three grassy areas (or lawns) that visitors are allowed to come in(see Figure 1). However, these areas are sometimes closed to visitors so they can regenerate. These three lawn areas are the only relatively large open spaces in the park where visitors can carry out sports such as badminton. The other main recreational activities in this park are: walking, bird-watching, chatting, jogging, fitness with equipment, playing chess, singing, and dancing.

Because of the hardening of recreational sites and the separation of the vegetation zones from the recreation areas, the park’s ecological condition is good, despite the

large number of daily visitors. This suggests that the carrying capacity of the park may be enhanced by the hardening of recreational sites and the separation of vegetation zones from recreation areas.

Meanwhile, we found more than 60% of the park’s participants were the elderly (>55years) accompanied by children (<14years) who were 30% of the population. The young and middle-aged visitors (14–55years) were less than 10%. Within this context, we wanted to better understand the recreational experience of park visitors through a survey.

We carried out a questionnaire survey of 186 respondents out of 200 questionnaires. The response rate is 93%. In order to understand the experiences of the young people, we encouraged the elderly to take home the questionnaires in this survey.

The results show that 34% of elderly responses report that they are “satisfied” with the park, while 52% rated the park as “acceptable” and 14% rated the park as “unacceptable”. In terms of the younger responses 7% reported that they were “satisfied” with the park, while 21% rated the park as “acceptable” and 72% rated the park as “unacceptable”. The first two evaluation items “satisfied” and “acceptable” means the visitors are willing to go to the park, the total ratio for the elderly is 34%+52%=86%, the young people is 7%+21%= 28%, so we can see that the current status of Songhe park is highly acceptable among old people, but unsatisfactory among young people.

The survey of the reasons leading to the above evaluation results showed that, the young people dislike the Songhe park because it has too many people, the facilities are too crowded, there are no large venues, and few private spaces; But the elderly inclined to accept this park because they more concerned about of the park : the opportunity of chat, the relaxation of the spirit, the convenience of fitness activities, proximity to their homes ,and the good environment condition.

The approach of hardening of recreational sites and separating the vegetation zones from the recreation areas has played an important role in enhancing the carrying capacity of Songhe Park. From our analysis of the recreational experience, we found this approach highly acceptable by elderly visitors, but generally not acceptable by younger visitors. In China, the proportion of elderly residents in urban communities continues to rise. Therefore, outdoor recreation care for the elderly should get increasing attentions in society. The way Songhe Park has enhanced the recreational carrying capacity of the park has important social significance for providing more outdoor recreation opportunities for elderly residents.

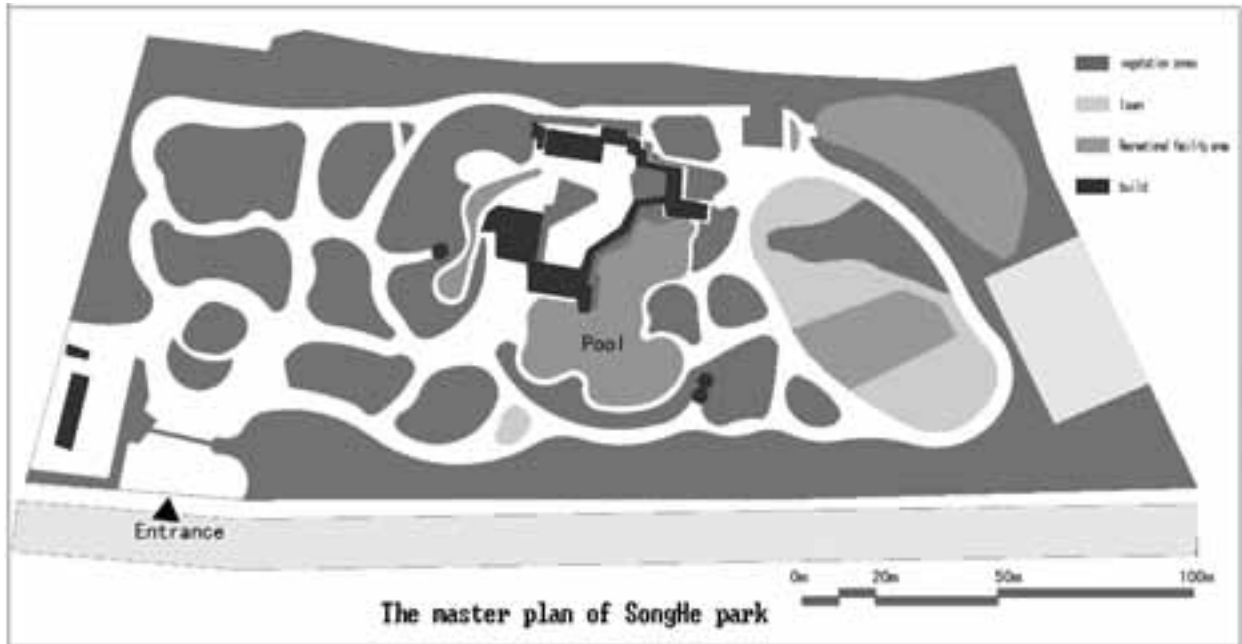


Figure 1. The map of SongHe park.

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[2] Shelby, B. & Hererlein, T.A. (1986). Carrying Capacity in Recreation Settings. Corvallis.

[3] [C] 48-92 The Code for Design of Parks[S] (in Chinese)