Pressing Challenges in China's Greenway Planning and Design: Promoting or Diminishing Cultural Identities and Values?

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Introduction

Greenways are networks of land containing linear elements that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use (Ahern, 1995). The greenway movement is a new concept that integrates many established landscape architectural, planning and design ideas, concepts, and implementation techniques. (Fabos, 1995).

This paper is primarily focused on pressing challenges in the greenway movement taking place in many parts of China that are out of cultural and historic contexts, resulting in diminishing cultural identities and values. It attempts to re-examine the greenway planning strategies and design guidelines to promote a culturally-sensitive, sustainable approach in order to preserve China's rich history and diverse cultural heritage.

Background/Literature Review

Influenced by the international greenway movement led by the U.S. and European countries, contemporary greenway development in China has rapidly become a "movement" in recent years. In January 2010, the government of Guangdong Province launched China's first comprehensive regional greenway master plan in the Pearl River Delta (PRD) in southern China. The planning guidelines set goals to build the basic structure of the PRD regional greenways within the first year after planning, be all in place within the second year and refine to perfection within the third year (Guangzhou Housing & Urban-Rural Construction Bureau, 2010).

Following the regional greenway network built in PRD, Beijing, the capital city of the country, launched Beijing Greenway Master Plan in July 2013. The megalopolitan city in the northeast vowed to build greenway corridors totaling more than 1000 kilometers in length within the next five years (Jiang, 2013). Other provinces in many regions of China have also started planning greenway networks and aim to finish building major greenway corridors within the next a few years. Table 1 compares the total length of greenway corridors planned in some cities and regions in China and the completion timeframe.

Table 1. Greenway Planning Timeline Comparison (Source: Fu.F, et al. 2013)

Regions	Starting Year	Ending Year	Total Length built
Beijing	2012	2020	1000 kilometers
Hebei Province	2011	2013	660+ kilometers
Anhui Province	2012	2016	3000 kilometers
Zhejiang Province	2012	2020	4000 kilometers
Guangdong Province	2010	2015	8770 kilometers
Fujian Province	2012	2020	3100 kilometers
Hunan Province	2012	2015	3000+ kilometers

In recent Chinese history, when there was a "movement", there tended to be a huge "leap-forward" approach to achieve significant results in a short period of time. This has been the case of the greenway movement. Greenways in China are often planned and built in a very short period of time as political accomplishments. Stretching many kilometers across the nation's heritage land, these rapidly built greenways were laid out with a homogeneous design despite being located in different climates and regions across the country with diversified cultures and history.

Although there is the intent to protect historic and cultural resources as stated in many regional and city-level greenway master plans in China, limited efforts have been made regarding how to respond to and integrate recognized cultural heritage and values into the greenway planning and design process due to the limitations of time, experience and perhaps budget.

While cities racing to transform the "fragmented" urban green space system into regional greenway networks across the country, there is an increasing risk of losing the sense of place, cultural diversity, and citizens' sense of land stewardship in this rapid development nationwide. Other problems include single purpose, autocratic planning that overemphasizes linear patterns and connectivity, and the lack of sustainable and resilient consciousness in eco-system planning and design.

Goal & Objectives

The goal of this paper is to promote cultural identities and values in China's contemporary greenway development. The objectives are to exam recently built greenways in China; to identify problems in the cultural aspects that most greenways are facing; and to offer suggestions and recommendations for greenway planning policies and design guidelines in China.

Research Method

This paper uses descriptive-analytical method with observations and case examples to identify problems, support findings and explore potential solutions for the issues concerning the cultural aspects within China's contemporary greenway initiatives.

Analysis of Problems & Issues Focusing on Cultural Aspects

Adverse Visual Impact

As a new landscape pattern in modern China, the first impression one has of most recently built greenways is excessive uniformity. Coincidently, many of these greenways across the country share an unnatural appearance. Built photos of greenways constructed in different parts of China reveal that the same artificial, red asphalt paving system, mainly functioned as an alternative route for slow-moving transportation, is imposing an adverse visual impact in many cities and regions (Fig. 1 - Fig. 6).

Perhaps part of this phenomenon is due to the top-down planning approach, that attempts to impose administrative and cultural conformity on China's greenway development. Although top-down planning without public involvement and community engagement, seems more efficient and effective, it may create problems such as lost cultural identity and reduced citizens' sense of belonging and stewardship for the land.

Fig. 1 Hangzhou[29]

Fig. 2 Ha'erbin[30]

Fig. 3 Shenzhen[31]

[29] Hangzhou is the capital of Zhejiang Province in the east coast of China. Photo credit: www.you.ctrip.com

[30] Ha'erbin is the capital of Heilongjiang Province in northern China. Photo credit: www.superteamtech.com

[31] Shenzhen is a major city in Guangdong Province in southern China. Photo credit: www.americantrails.org

Fig. 4 Nanjing[32]

Fig. 5 Chengdu[33]

Fig. 6 Beijing photo by M. Tang

Featureless Site Design

At site level, greenways in China are often not as well-designed as public parks, missing the opportunity to integrate cultural elements and cultural expressions into the landscape. Compromised by various design issues, these greenways do not provide the intended environmental and cultural benefits.

A. Signage System

Similar to the situation with paving, greenway signage in many regions of China has a homogeneous appearance (Fig. 7 - Fig. 9). For example, greenway signage in Beijing looks almost identical to that in Guangzhou, despite the latter being located two thousand kilometers away on the south coast of China.

Fig. 7 Guangzhou[34]

Fig. 8 Fuyang[35]

Fig. 9 Beijing photo by M. Tang

[32] Nanjing is the capital of Jiangsu Province in eastern China. Photo credit: www.superteamtech.com

[33] Chengdu is the capital of Sichuan Province in central China. Photo credit: www.dianliwenmi.com

[34] Guangzhou is the capital of Guangdong Province in southern China. Photo credit: bbs.shangdu.com

[35] Fuyang is a prefectural city of Anhui Province in eastern China. Photo credit: http://www.fynews.net/

B. *Public Facilities*

Many greenways in China do not provide sufficient public facilities with enough seating, shade, restrooms and site lighting, etc. Facilities and site amenities built along greenways often lack cultural elements in their design language, missing opportunities of place-making that would remind people of the area's rich history and tradition.

One case example is the newly built greenway in Beijing named "San Shan Wu Yuan", meaning "three mountains and five gardens". Stretching 36 kilometers in the Haidian District west of Beijing, it links a large number of historic relics and world famous cultural heritage sites such as the Summer Palace (Fig. 10). It was opened to the public in Oct. 2014 for the National Day celebration following several months of rapid construction (Fig. 11 - Fig. 14).

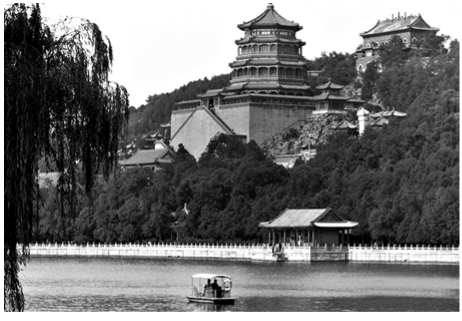

Fig. 10 The Summer Palace
Photo credit: China Tour Guide

Fig. 11 San Shan Wu Yuan Greenway
Photo credit: R. Li Source: China News

Although intended as a model for Beijing's future greenways, the "San Shan Wu Yuan" greenway suffers from poor quality in both construction and design. With an industrial appearance in general, the design for public facilities and site amenities is uninspiring and lack of unique characteristics. There is little indication that the greenway design responded well to the historic context and cultural significance in most circumstances.

Fig. 12 - 14 San Shan Wu Yuan Greenway
Photo credits: H. Long

Results/Recommendations

The results of this study reveal four key strategies that are essential to new and innovative greenway planning and design in China. It provides recommendations to those who recognize and treasure cultural resources and values, and to those who are willing to meet the pressing challenges in the rapidly growing and spreading greenway movement in China.

Multipurpose Land Use with Public Involvement

Although greenways and open space corridors are sometimes established with a single, primary purpose, these greenways can be adapted, through design, to incorporate a rich variety of multiple-use values (Little, 1990). In cultural landscapes, and in the megalopolitan landscapes of the world (Gottman, 1961), a multipurpose greenway planning approach is more appropriate. Greenways require a new landscape planning approach. The multipurpose focus demands that the planning process be multidisciplinary, inclusionary, and with a high level of public involvement (Ahern, 1995).

Public involvement and continuous support can bring diverse viewpoints and cultural values into the greenway planning and design process. This is critical for maintaining cultural sustainability and long-term success.

Incorporate Vernacular Aesthetics into Greenway Planning & Design

Vernacular landscapes are the product of local custom, pragmatic adaptation to circumstances and a reaction to unpredictable mobility (Jackson, 1984). Vernacular is immediately recognizable. Borrowing from vernacular aesthetics really can effectively change the everyday landscape (Nassauer, 2011).

Boston's Chinatown Park is a case example of embodying cultural elements and vernacular aesthetics into urban greenways through creative landscape design (Fig. 15 and Fig. 16). It was designed by Carol R. Johnson Associates, Inc. Approximately 3/4 of an acre, Chinatown Park was the first of several parks completed along Boston's Rose Fitzgerald Kennedy Greenway through rigorous planning, design and construction from 2002-2007.

Uplighted, misted grasses recall traditional rice fields. Support frames for tall, hardy bamboo plants are translated from vernacular materials into sculptures of red steel. A contemporary red gateway on the Greenway serves as a modern counterpoint to the historic gate at the Chinatown street entrance. Accented with LED lights, the sampan sail is a stainless steel sculpture added to the entry area after the park was built. It represents the passage of the Chinese to Boston. (Rose Kennedy Greenway.org) Expressing the park's theme of balancing memory and prophecy, the design interprets traditional Chinese

elements such as the village festival space, contemplative gardens, gateways, walls, stone, and flowing water, in a contemporary fashion to create a space that is uniquely modern with strong visual references to the past (CRJA).


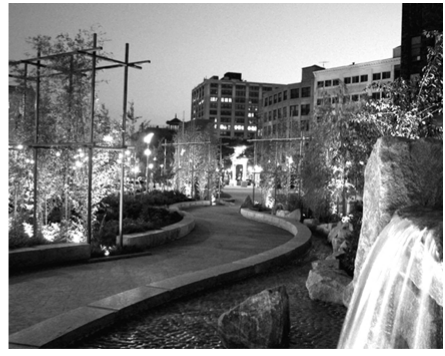

Fig. 15 & 16 Boston Chinatown Park Photo credits: CRJA

Using Natural & Indigenous Materials to Create Custom & Sustainable Landscapes

Greenways are the veins of life in the landscape. The shapes, sizes and colors vary in natural pathways. Why can't that be the nature of greenways? Rugged trails, paths and open spaces provide a more natural setting connecting the surrounding ecosystem. Restoring the rugged wildness makes even more sense in historic greenway corridors originating several thousand years ago in China.

Stabilized decomposed granite and stabilized crushed stone are good alternatives to color asphalt pathways without sacrificing ADA compliance. These durable natural materials have a more indigenous appearance if local materials are used. Moreover, they can reduce the heat island effect caused by surfaces such as asphalt and concrete which retain heat on a hot day (Fig. 17).

Fig. 17 Carpinteria Bluffs Coastal Vista Trail, Made of Stabilized Decomposed Granite
Photo credit: R. Fertig
Source: Santa Barbara Bicycle Coalition

Treating Greenways as Evolving Landscapes

Greenways are an established human endeavor, with roots that go back several centuries. More than just parks or amenities, greenways present an adaption – a response to the physical and psychological pressures of urbanization (Searns, 1995). Greenways in China should be treated as evolving landscapes with continuous cultural enrichment and adaption to changes, not just a single approach and one-time execution.

One example to consider is the Minuteman Bikeway, built in 1992 over the "rail-banked" Lexington Branch railroad corridor between Bedford and West Cambridge, MA (Friends of Bedford Depot Park). The Minuteman Bikeway passes through the historic area where the American Revolution began in April 1775. Today, the 10-mile Minuteman Bikeway is one of the most popular and successful rail-trails in the U. S., enjoyed for both healthy recreation and transportation (Fig. 18 and Fig. 19). As an evolving landscape, the bikeway has become a new type of "Main Street", where neighbors and strangers alike come together while riding, walking, or skating on the path (Minutemanbikeway.org).

Fig. 18. Lexington Depot in 1954
Photo credit: Mystic Valley Railway

Fig. 19. Lexington Depot Today
Photo credit: Friends of Bedford Depot Park Society

Conclusion

Greenway planning, as a form of regional scale design, may have a profound impact on the physical and spatial character of the landscape (Ahern, 1995). It is imperative to promote culturally sensitive, multidisciplinary planning and design approaches in China since greenway networks may ultimately reshape and impact a great portion of the green infrastructure in the country.

We do need to know more about culture just as we need to know more about ecosystems, but we cannot afford to wait. We can begin to act by looking at what we know now in a different way (Nassauer, 2005). The greenway

movement in China can be seen as an outstanding opportunity for landscape innovation and cultural revival if culturally-sensitive, sustainable principles can be fully integrated and implemented.

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