



# Exploration of Landscape Design for Spatial Justice—An Example of the Conceptual Design of the Baton Rouge Zoo

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## Abstract

Physical spatial experience is closely related to people's lives, and spatial inequity is one of the sources of social conflicts. Current studies on spatial equity are more in macroscopic perspectives and spatial equity assessment of the built environment. However, there is a need for more reflections on spatial design perspectives in spatial justice. This paper uses Baton Rouge Zoo's conceptual design as an example to explore how to promote spatial equity with landscape design. The design has two main strategies: efficient land use; a win-win between equity and economics. The design process shows that landscape design can effectively promote spatial equity and create a tangible perception of equity for people. By reflecting on the design outcomes, it comes that the single design goal of pursuing spatial equity is not sustainable, spatial equity requires continuous monitoring after construction, and the realization of equitable space involves the participation of every sector department of urban construction and operation.

## Keywords

Spatial Justice, Landscape Architecture, Conceptual Design

## 1. Introduction

Spatial justice is one of the critical factors for sustainable social development and a carrier of social equity in physical space (Soja, 2010; Tian, 2021). Spatial justice is one of the critical factors for sustainable social development and a carrier of social equity in physical space. It can also be mentioned as a target in the Sustainable Development Goals (United Nations, 2022). In the United States, spatial injustice has become one of the crucial sources of conflicts in society (Gotham, 2003), such as the geo-departure between the rich and the poor, the segregation of different races in living, and the unfair distribution of public resources (Joseph, 2008). Despite the government's emphasis on the importance of democracy and equity, increasing the construction of public spaces such as parks and plazas (Elmqvist et al., 2013; Joseph, 2008), the economic development-oriented society has set many hidden preconditions for the openness of space. For example, Parks that are accessible only by car (Dony, 2015), shopping malls that are accessible only by consumption (Dinzey, 2017), and public facilities that occupy a lot of public lands but require entrance fees (Altes, n.d.), etc. The inequity of space dramatically affects the quality of life of low-income and disadvantaged people and intensifies social conflicts (Joseph, 2008).

Landscape design is the discipline that deals with the relationship between people and land and the critical way to

organize and plan physical space. There are few studies on spatial equity, most of which are conducted on a macro scale (Soja, 2010; Pereira et al., 2017) and a few on evaluating equity of built public spaces (Jian et al., 2021; Tang, 2017). Fewer studies promote spatial equity from a designer's perspective, resulting in a weakened role for landscape design in spatial equity. The subject of landscape design is the physical space, which is the most intuitive object for people to feel, so landscape design can effectively promote spatial equity. Achieving this goal requires the designer's empathy, skill, and wisdom. This paper will explore how landscape design can promote spatial equity as an example of a third-year graduate studio project in the Department of Landscape Architecture at Louisiana State University, providing a potential approach to design with equity.

## 2. Design Strategies for Promoting Spatial Justice

### 2.1 Decaying Zoo vs. Popular Community Park

The design studio is about the Baton Rouge Zoo design in the Baker District. The design goal is to propose a design to revitalize the zoo. The zoo was established in 1970 in Baker City, Baton Rouge. As mentioned in the Friends of the Baton Rouge Zoo report, it used to be a popular place: "The Baton Rouge Zoo was the first zoo in Louisiana to achieve the distinguished honor of being accredited by the Association of Zoos and Aquariums (AZA). As a leader in the zoo field, the Baton Rouge Zoo was accredited in 1977...". However, half of the interviewees perceived the zoo as an older, dated facility needing upgrades (Biddle & Macauley, 2015). The zoo is surrounded by black communities, which used to be white communities before the white-fly and are currently 70% decaying black neighborhoods. Adjacent to the zoo is the Greenwood Community Park (Biddle & Macauley, 2015).

According to a survey interview on the Baton Rouge zoo's popularity, most interviewees do not visit the zoo regularly, 30% have visited the zoo within the year, and half have not visited the zoo in the past five years (Biddle & Macauley, 2015).

In comparison, Image 1 shows Greenwood Community Park's photos on a cold Sunday morning (usually church day), showing that the park is popular.



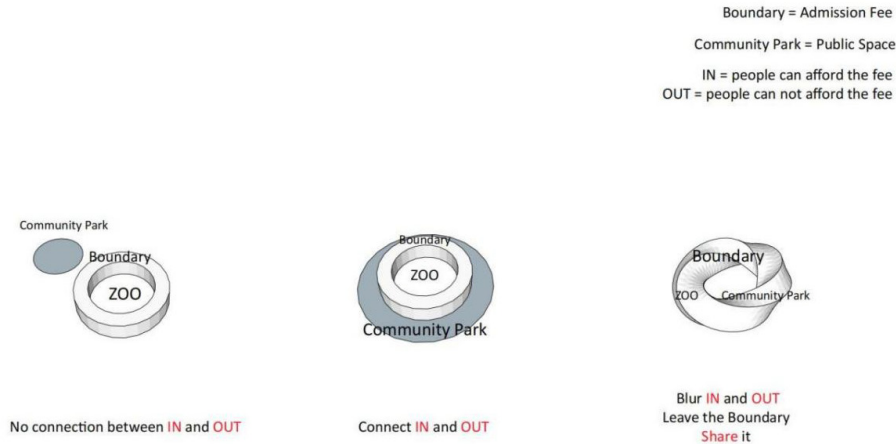
**Image 1. Greenwood Community Park on Sunday.**

From the Google Maps, the baton rouge zoo is two times the square size of the community park. The zoo admission fee for adults and teens is \$8.75 per person, seniors is \$7.75, ages 2-12 is \$5.75, and under Ages 1 is free ("Hours & Fees - Baton Rouge Zoo"). In comparison, admission to the community park is free for all.

## 2.2 Shared Boundaries

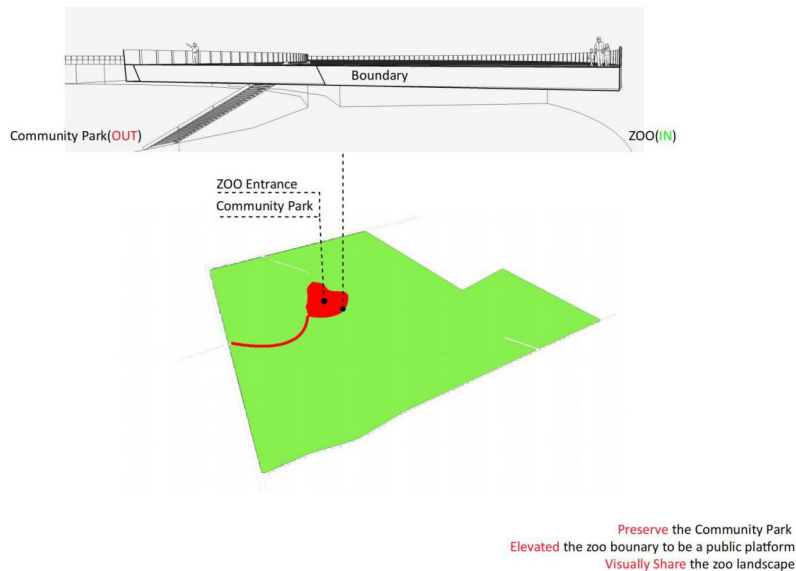
The popularity of community parks provides an excellent opportunity for zoos, and the functionality of zoos provides a good resource for community parks. Community parks are free public spaces, while zoos are paid public spaces. The boundary between them is the entrance fee; those in the zoo can afford the fee, and those outside cannot.

The design concept is to visually share the zoo's landscape with people in the community park, which both meets the needs of the zoo's closed management and enhances the experience of the community park on the other side. So that people who cannot pay the entrance fee can also share the zoo's resources from their visua senses (see Image 2).



**Image 2. Concept diagram of the “in” & “out”.**

The design proposal turns the boundary of the zoo (the area adjacent to the community park) into a raised public wooden platform, making it the highest visual area of the whole area, blurring the visual perceptual separation between the zoo (inside) and the community park (outside). The concept of "inside" and "outside" also becomes blurred. This shared boundary will promote spatial equity for the zoo to a certain extent (see Image 3).



**Image 3. Diagram of the boundary concept.**

Closed management is still required because of the zoo's management and animal protection needs. Therefore, the "inside" and "outside" routes are planned separately in transportation planning. Referring to the practice of Central Park, the inside and outside routes are not connected but use the interlacing of vertical space to make the visual perception overlap. The "outside" route is slow transportation for all the public with pedestrians and bicyclists; the "inside" route has two tour routes, the land transport, and the water way (see Image 4).

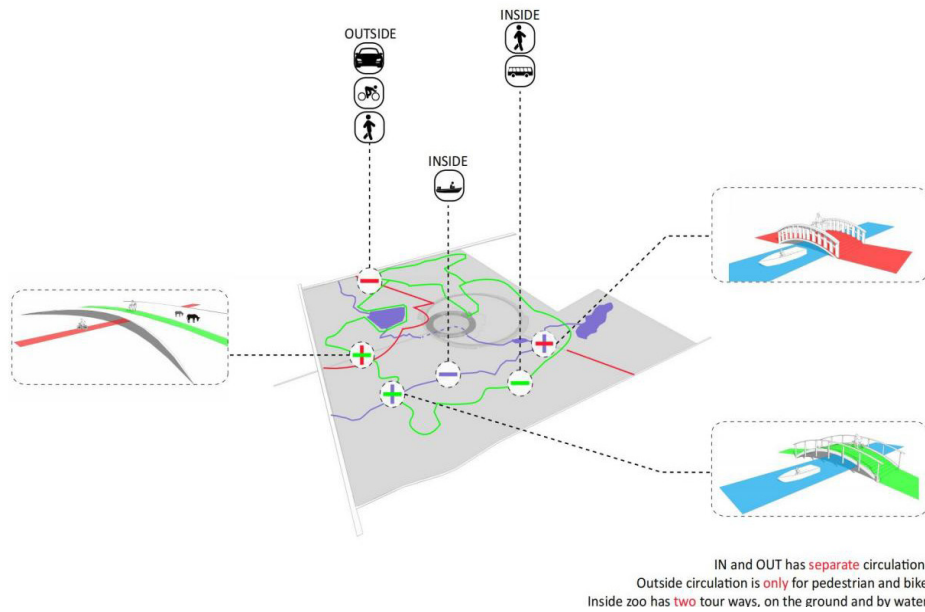
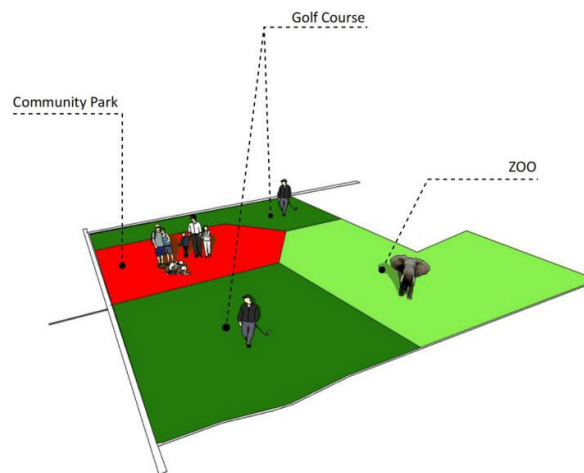


Image 4. Diagram of the designed circulation.

### 2.3 Upgrading Community Parks & Enlarging Zoo Area

According to a study of low-income black neighborhoods, good public facilities and grounds are more likely to prevent children from playing in gray spaces with high crime rates, thereby reducing crime rates throughout the area (Joseph, 2008; Altes, 2015). The design will upgrade the infrastructure of the community park and add economic facilities with animal and healthy living themes, such as restaurants, cafes, and sports stores, relying on the ground floor space of the raised wooden platform.

Considering that two golf courses are adjacent to the zoo and the community park, the design proposal incorporates the golf course site into the zoo. According to the director of the Baton Rouge Public Events Center, "The popularity of golf courses has declined across the entire national park system, so there are too many courses in East Baton Rouge. The golf course needs high entrance fees and limited access for some people. Taking the golf course space is an excellent strategy to enhance the animals' habitat area." (see Image 5).



Zoo was separated from surrounding area  
 Community Park was highly used by nearby Black Neighborhoods  
 Zoo + Golf Course + Community Park = Biggest BREC Area

Image 5. Geo-relations between sites.

## 2.4 Development opportunities from improving space equity

Upgrading space equality of community park will bring development opportunities, and the community park will better serve the neighborhoods. A community park with free and scenic views of the zoo will attract more people to this area, and the increased population will revitalize the economic facilities around the zoo. Thus, more people and economic revenue will go into the zoo. The revitalized zoo will provide more jobs to the surrounding residents, such as cleaning and maintenance. Job opportunities will attract new people to the area, vitalizing the community. The revitalization of the zoo and the surrounding community and area will develop in a positive, sustainable way (see Image 6).

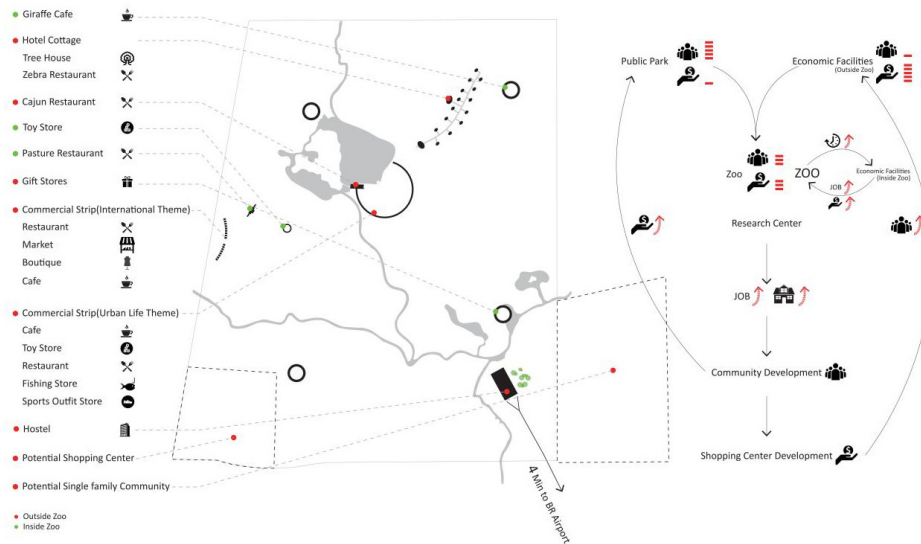


Image 6. Diagram of sustainable development.

## 3. Discussion

### 3.1 Multiple design goals instead of one single goal

Due to the complexity of physical space, landscape design should not take spatial equity as the only design goal. The multiple purposes of mutual benefits will be more acceptable to all sides, and the win-win goals can better contribute to the sustainability of spatial equity. For example, this design proposal set up two design goals are upgrading community parks and revitalizing zoo. Increasing the revenue of the zoo while achieving spatial equity, and the reciprocal relationship formed by the two goals will become a positive motivation for sustainable equity.

### 3.2 Spatial equity assessment after the construction

While using design to promote spatial equity, special attention needs to be paid to whether the real operation of the constructed site can promote equity. Taking New York's Central Park project as an example, the designer's intention and the initial construction had a tremendous social equity significance, making it a model of park design in the 21st century. However, the subsequent developing and the influx of capital made the surrounding land undergo a drastic "gentrification" process, resulting in the low-income people who originally lived nearby having to move out of the area because they could not afford the high land prices and rents, turning the space designed into the driver of a greater inequity (Manevitz, 2021).

### 3.3 All sector departments need be involved in spatial equality

Landscape design is a service for clients, and there are limitations in promoting spatial equity from the design side alone. To break this limitation, city managers must set further policy guidance depend on the land use. For the public land, equity evaluation system and specific standards can be implemented, such as inclusive accessibility, open boundaries, ADA ramp practices, construction of necessities, etc. For the private land, policies that encourage spatial equity can be established, giving horns to investors who share resources with the public or offering some convenient go-

vernmental services. There is also a need to give positive encouragement to excellent spatial equity design projects.

#### 4. Conclusion

Through the conceptual design of Baton Rouge zoo, landscape design is a practical approach to improve spatial justice. Providing more public resources can make individuals perceive society's goodwill, thus weakening social conflicts between people and promoting harmonious coexistence.

Setting up multiple mutually beneficial design goals will encourage private developers will participate in constructing public space to form a sustainable system to support spatial justice. In order to achieve spatial equity, the real-world operation process needs to be monitored to prevent inequities that deviate from the design intent. Of course, we also see the limitations of landscape design in promoting spatial equity, and city managers should encourage all sectors of urban construction and operation to involve in this topic.

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