

## Chapter

# Introducing Park Facilities and Novelties to Support Individual's Intention to (Re)Visit

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## Abstract

Many developed countries have recognized the importance of public parks in sustainable development of cities as they help minimizing the negative impact of urbanization. Developing countries, on the other hand, are facing problems such as lack of public awareness and inadequate facilities for sports and social activities to attract visitors to public parks, which positively affect the social and psychological human well-being. Parks are venues that enable people of all age groups to engage in different activities with family and friends and connect with nature. While planning a city development, policy makers should consider new findings in the area of brownfield regeneration, to use the existing land more efficiently and ensure public acceptance of the proposed projects. This chapter contains five sections. Section 1 gives an introduction to land use challenges faced by policy makers, brownfield sites, and stimulus that motivate people to use public parks. In Section 2, the importance of urban parks to human health and key elements to achieve urban sustainability are presented. Section 3 introduces novelty among park facilities. Section 4 gives an example of a landfill-to-park transformation. Section 5 summarizes policy suggestions for decision makers to increase their focus on the importance of parks.

**Keywords:** greenery areas, physical health, environment, recreation, novel park facilities

## 1. Introduction

Managing land represents a big challenge for city planners and policy makers, for instance, in India [1, 2], Vietnam [3], Sri Lanka [4], Australia [5], Germany [6], Japan [7], and South Africa [8]. Given the current course and future tendency in increasingly dynamic urbanized areas that are facing the lack of buildable land, the orientation is expected to shift towards the existing surfaces, which includes brownfields. The definition of a brownfield is found in Public Law 107–118 (H.R. 2869): “The term ‘brownfield site’ means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands” [9].

According to the brownfield regeneration approach and urban planning development, for instance, old landfills can be converted into useful sites at the end of

their functional life since landfills are conveniently located near major transportation routes and other major infrastructure in urban areas. In such a situation, alternative landfill conversions are possible, including but not limited to building parks, solar panels, residential buildings, malls, golf courses, dirt BMX bike tracks, or combined development [10, 11].

According to the literature, policy makers are suggested to organize environmental education programs [12] and make extensive improvements in facilities for higher satisfaction of visitors [13]. Numerous examples demonstrate successful conversions of old landfills (**Table 1**) into recreational parks, such as Flushing Meadows (New York, USA), Mt. Trashmore (Virginia, USA), Freshkills Park (New York, USA), Cesar Chavez Park (Berkeley, USA), Sai Tso Wan Recreation Ground (Hong Kong), Pulau Semakau (Singapore), Port Sunlight River Park (Birkenhead, UK), Hiriya Park (Tel-Aviv, Israel), and so forth. Thus, it seems that the option of building recreational parks after closing old municipal landfills could prove to be a promising measure, based on previous research literature on the redevelopment potentials of landfills [14–17] and the making of urban green space strategies [18, 19].

It is very possible that in modern dense urban areas, former landfills may end up being the only available, large, and open locations to build new public parks.

Landfill site	Existing and proposed afteruse
Shuen Wan	A 145-bay golf driving range has been opened for use by the public since April 1999. For details, please click Golf Driving Range at Shuen Wan. The development of golf course is being planned
Sai Tso Wan	Sai Tso Wan Recreation Ground for soccer and baseball. For details, please click Sai Tso Wan Recreation Ground
Gin Drinkers Bay	The Hong Kong Jockey Club International BMX Park situated on the Gin Drinkers Bay Landfill was opened in October 2009. For details, please click Hong Kong Jockey Club International BMX Park. Another portion of the site has been allocated to the Hong Kong Cricket Association for development of temporary cricket grounds
Jordan Valley	Jordan Valley Park was opened to public in August 2010  The Park is featured with a radio-controlled model car racing circuit, horticultural education center, community garden, children's play areas, elderly exercise corner, jogging track, etc. For details, please click Jordan Valley Park
Ngau Chi Wan	Ngau Chi Wan Park was fully opened to public in Sept 2010 (its first phase opened in Aug 2009). The Park is featured with archery field, jogging trail, elderly fitness corners, children's play areas, basketball court, etc. For details, please click Ngau Chi Wan Park
Ma Yau Tong Central	Part of the site adjacent to the existing Lam Tin Park has been developed into a sitting-out area in January 2011
Ma Yau Tong West	Part of the site has been developed into a sitting-out area in September 2011
Tseung Kwan O Stage I	Waterfront of the former Tseung Kwan O Stage I Landfill was developed into a cycle track cum footpath and was opened to the public in June 2012
Tseung Kwan O Stage II/III	In 2005, top platform of the former Tseung Kwan O Stage II/III Landfill had been developed into a model airplane training field for the Hong Kong Air Cadet Corps to use during weekends and public holidays. It is now used as a training field of unmanned aerial vehicle for land surveying
Pillar Point Valley	Part of the site has been developed into a shooting range in July 2016
Ma Tso Lung	For recreational use by Tung Wah Group of Hospitals
Siu Lang Shui	Currently as green zone
Ngau Tam Mei	Currently as green zone

**Table 1.**  
*Examples of alternative landfill reuse scenarios.*

Their conversions present a great opportunity to correct the negative perception of dumps and the incessant patterns of environmental injustice. There are around 500,000 landfills in Europe [20], with the number of landfill sites increasing constantly. Therefore, they present a huge future potential, and their afteruse plan should be taken into consideration.

Ten percent of the total waste generated in the European Union is municipal, and 23% of the generated municipal solid waste was landfilled, a practice being particularly popular in SE Europe [21]. Twelve countries landfill almost half of their municipal waste: Malta, Greece, Cyprus, Romania, Croatia, Latvia, Slovakia, Bulgaria, Spain, Hungary, Czech Republic, and Portugal. With new policies and technologies, old landfills can be turned into beautiful sceneries, renewable energy, and building materials. Burying rubbish and keeping it in the ground represent environmental and financial cost. The land can be successfully reused, and waste can be mined for metals used to create fuel for use in cars, homes, or industrial plants. The problem of land reuse used to be technology, but now it is the lack of knowledge, which created fear among the people. Landfill conversions are generally unfavorably perceived, as many people are fearful that the local environment and quality of life will be negatively affected. As this fear is based on emotional rather than scientific information, research is expected to play a crucial role in educating people to support land recovery projects in the future.

Since residential development cannot take place for longer period due to the possibility of gas escaping (which is safe as long as they are not in confined spaces), using the municipal waste landfill site for recreational purposes is recommended. Parks as leisure services look for ways to differentiate themselves through the creation of their physical surroundings to attract visitors and stimulate repeated visitations. In order to succeed, regular refreshing of the facilities is required [22], which represents a huge financial burden for park owners. Therefore, renewal schemes based on objective rather than subjective assessments should be employed. According to empirical results, the higher the level of shopping values, the stronger their intention to revisit [23]. In that sense, it is suggested to introduce distinctive attributes in new parks that will be recognized as improvements and thus stimulate visitations. The conclusions of this chapter were based on the relevant literature key components of the surroundings and how customers perceive it.

## **2. Urban parks**

Urban parks are a valuable municipal source of and a key element for city sustainability, as they are able to facilitate proper land resource allocation for citizens so as to meet their recreational demands and play other social functions as well [24]. They are fundamental to social and psychological well-being of city residents [25]. It has been proven that staying in urban greenery areas, like parks and forests, has positive and restorative effects on people's mood, peacefulness, concentration, and stress release [26–30]. Urban parks contribute to the beautification of the city and have positive effects on environmental quality, including air freshness, carbon sequestration, water purity, as well as biodiversity. They thus improve city dwellers' overall quality of life in areas including physical health, social cohesion, tourism, and consequently employment and revenues [18, 31–34]. Furthermore, green spaces can act as leisure, sport, and recreational resources, reducing criminal and antisocial behavior as well as cutting down on obesity, since such spaces encourage physical fitness and exercise [35–38].

Parks as facility-driven leisure venues look for ways to differentiate themselves through the creation of their physical surroundings. According to empirical results,

park visitors perceive physical surroundings as novel. The higher the level of shopping values, the stronger their intention to revisit. In that sense, it is suggested to introduce distinctive attributes in new recreational venues that will be recognized as improvements and thus stimulate visitations (e.g., giant slide, graffiti, swings, tree-lined path, BMX tracks, skate bowl).

## **2.1 Urban sustainability**

Due to the global climate change, sustainable management became one of the key elements to achieve urban sustainability. The most recent findings in the field of waste management [39–45] were collected and summarized in a list of challenges that policy makers should take into consideration:

- Technical integration and social acceptability are the critical aspects that advance municipal solid waste (MSW) management.
- Novel technology to be implemented.
- Environmental educational programs, actions, and projects to boost virtuous circle.
- Developing a culture of environmental protection.
- Integrated waste management has the best environmental impact.
- Zero-waste circular economy perception.
- Important role of waste pickers.
- Life cycle methods for decision-making improvement.
- Regulatory pressures to enhance smart waste management.
- Different locations/cities focus on different frameworks when dealing with specific environmental concerns.
- Social issue discovered to be the main factor that reduces MSW management sustainability.

The aforementioned challenges/suggestions were drawn from studies that dealt with the concept of solid waste. The term “solid waste” implies all the waste which excludes liquid residues and airborne emissions [46, 47]. Given the different location of landfills around the world and the corresponding geoclimatic and technological characteristics, we acknowledge that a MSW management pattern to follow does not exist. However, if similar conditions are met, policies can be replicated or used as benchmarks.

## **3. Novelty among park facilities**

To perceive a product as new, an observer has to experience a certain level of change to his present knowledge. In that sense, radically new and incrementally new can be distinguished, where the first one involves a revolutionary change to present knowledge and the latter only a minor improvement or adjustment to

present knowledge [48]. When there is a perceptible difference between the old and the new, the absolute threshold of newness occurs. For it to be evident, the initial stimulus must be stronger than the subsequent one [49]. Recognizing the extent to which novelty is incorporated within a service from the consumer point of view can assist parks owners, investors, or administration avoid unsound assumptions, especially in terms of how innovative the consumer perceives a product or a service and, based on that, makes his decision. It is important to point out that the newness and novelty arise from the observer or from products and services [50] that have to hold a new dimension relative to previous or other products/services, for example, a new roller coaster, a painted wall, or a new entrance gate.

In terms of atmospherics, the most commonly used model is Bitner's servicescape model with three dimensions of physical surroundings: ambient conditions, space/function, and signs, symbols and artifacts [51]. However, in the case of leisure "built environments" like parks, being renewable and visible are the necessary components of physical surroundings [52]. Wakefield and Blodgett suggested five dimensions to assess the impact of physical components of the servicescape on consumer behavior in leisure environment (sport stadiums, recreation centers, and theaters). They are as follows: facility esthetics, spatial layout and placement, seating comfort, electronic equipment and display, and cleanliness. As suggested by the same authors, (theme) park managers may consider regular renewals of physical surroundings by adjusting the esthetic of the facility and layout and placement to intensify visitor perceptions of the quality of the physical surrounding.

To describe visitor perceptions of park physical surroundings, researchers of consumption experiences commonly use the term "shopping values" [53], with utilitarian and hedonic perspectives [54]. If a service has a utilitarian value, it is essentially goal-oriented and functional, and the utilitarian value is determined when the consumption need is realized, which stimulated the shopping in the first place. Services with hedonic value, on the other hand, are more subjective and personal, experiential, and symbolic, and they arouse fun and excitement [55].

The consumer can positively and negatively react to the surroundings. When it comes to leisure service facilities, the consumer will experience greater satisfaction when the surrounding aspects (e.g., decoration and architecture) convey a higher esthetic sense. To measure the perception of the newness of physical surroundings for repeat visitors, the physical surroundings should be perceptible, have gone through renovation, and capable of renewal, and the novelty should be visible [23].

#### **4. Landfill-to-park transformation: An example of Jakuševac landfill in Zagreb, Croatia**

Croatia faced the issue of land reuse recently while considering closure and transformation of Jakuševac-Prudinec landfill (hereinafter Jakuševac) in Zagreb (**Figure 1**). The suggestions of land use alternatives for the particular site are related to leisure services that encourage physical fitness and exercise [56].

The closure of Jakuševac was announced years ago and had been spurring on residents' dissatisfaction ever since, in particular, the dissatisfaction of residents living in the immediate vicinity of the site. The management of the landfill, orchestrated by a city-owned company named ZGOS Ltd., carried out landfill remediation in 2003 and suggested December 31, 2018, as the starting date for waste disposal cessation processes [57]. The Jakuševac landfill was established in 1965 and has gradually led to significant negative environmental impacts on its surrounding regions. Statistical surveys indicate that just up to the beginning of the 1990s, the





**Figure 1.** Study site location and the layout of Zagreb. Source: Geoportals of the state geodetic Administration of the Republic of Croatia, 2018.

landfill has occupied and polluted almost 1 million m<sup>3</sup> of soil (soil material) and seriously jeopardized the quality of groundwater intended for drinking [58]. The groundwater pollution line has been spreading eastward, particularly in times of changing hydrodynamic conditions in the aquifer, which further increases concern among the citizens.

This is one of the seldom case studies in developing and small countries such as Croatia that supports brownfield regeneration, a new sustainable urban development planning method that functions by proposing a land use transformation based on a nonmarket valuation (NMV) method. This study addresses several questions based on a conducted survey, where the visitor's intention to visit recreational parks in the future is one of them. Similar to Kountouris, Nakic, and Sauer [59], specific timing was used to collect data. According to Latinopoulos, Mallios, and Latinopoulos [60], survey data may be considered as a form of public investment at an early stage of planning, which is likely to improve the public acceptance of the proposed projects. The suggestions made based on the research results should be of interest to researchers and policy makers looking for a way to introduce parks to be created from old landfills. It should be highlighted that this study effort is not a common practice in this part of Europe, where people have a certain measure of distrust and fear of certain types of government policies.

Based on public park visitation trends and tourism trends in the city of Zagreb [61], as well as the data obtained by the contingent valuation method (CVM) survey [56], the hypothetical recreational park atop the current landfill is expected to be most visited by local citizens, domestic tourists, and foreign tourists, respectively. As much as 96% of the respondents are willing to visit the park in the future. The respondents' gender ratio is 33:67 between males and females. The dominant age group is 30–49 years (42.8%), whereas the other two age groups were distributed evenly. 42% of respondents are single and 39% of respondents are married. According to these study results, the majority of respondents hold a master's or higher university degree (62.4%). Only 8.9% hold a bachelor's degree as the highest level of education, and 28.9% of respondents graduated from high school. More than half of the respondents (54.2%) earn HRK5,000–10,000 every month, which corresponds to the average of a net monthly salary in Croatia for September 2019—HRK6,418 [62]. 38.7% of respondents earn less than HRK5,000, and 7% of respondents earn more than HRK10,000.

In regard to travel habits, 62% of respondents visit public parks monthly or during holidays, whereas 22% of them go more frequently, on a weekly basis.

Their main means of transportation is personal vehicle (48%), followed by public transportation (18.5%), bicycle (16.2%), and walking (14%). In the case of purpose of visiting a park, 46.9% of respondents consider fresh air as the main purpose of visit, and 13.7% say it is sightseeing, followed by 12.2% of respondents that report natural resources (12.2%) as the main purpose of their visit. The respondents spend HRK11.89 on average when visiting a park.

Two of the questions in the CVM survey were presented with pictures in color for better understanding, as they were related to perceived experience with regard to the status of the current landfill (**Figure 2, Table 2**). According to results, 49.4% are moderately aware of the status of the area around the landfill, 13.3% have never seen it, and 37.3% are well aware of it. When it comes to the respondents' perceived experience with respect to the landfill-park conversion, the majority cannot wait to enjoy the new park (54.2%), 38.7% are more focused on the landfill being closed, and only 7% welcome the project as they assume it will help in reducing the crowd in other parks. In regard to desired conversion of Jakuševac landfill, 131 respondents (48.3%) said that they would like to see a recreational park built, 78 respondents (28.8%) prefer a theme park, and 50 respondents (18.5%) would like to see a forest, whereas real estate land for commercial development and other was answered by 4 people (1.5%) for each of the categories.

The foregoing findings provide the following conclusions and suggestions for this potential land use transformation from landfill to a city recreational park in the city of Zagreb. First, converting the waste landfill site to a recreational park perhaps is one of the best choices. This is aligned with the Spatial Plan of the City of Zagreb and the concept Zagreb on Sava [63], which aims at redesigning the Sava river

18. What is your perceived experience with respect to the status of the area around Jakuševac landfill?  
 (Please circle one number)



Have never  
seen it

1



Moderately  
aware of it

2



I have experienced  
seeing it many times

3

19. What is your perceived experience with respect to conversion of the landfill to recreation park?  
 (Please circle one number)



Finally,  
landfill is closed

1



Less crowd in  
other parks

2



Can't wait  
to enjoy it

3

**Figure 2.**  
 Visitor's perceived experience.

Demographic variable	Frequency	%
Perceived experience with regard to the status of the area around Jakuševac		
“Have never seen it”	36	13.3
“Moderately aware of it”	134	49.4
“I have seen it many times”	101	37.3
Perceived experience with regard to conversion of Jakuševac landfill to a recreational park		
“Finally the landfill is closed”	105	38.7
“Less crowd in other parks”	19	7
“Cannot wait to enjoy the new park”	147	54.2

**Table 2.**

*Perceived experience of visitors with regard to the status of Jakuševac landfill.*

banks to be stretched from Slovenia to Croatia (Sisak) in order to best serve citizens' recreational and leisure activities. Thus, it is foreseeable that the strategy of ceasing the current landfill operations and converting it into a recreational park in Zagreb seems to fit the city's overall landscape design. Second, besides trees, flowers, and other types of fauna and flora, it may be beneficial to add more products and services to the park including to encourage park (re)visitations among different age groups. Third, the performance of parks can be improved by using a combination of newer physical surroundings together with promotional activities. Fourth, physical surroundings or attributes that contribute to consumers' perception and consumption experience possess (i) utilitarian value, namely, goal-oriented, functional, and instrumental, and (ii) hedonic value, related to the immediate personal satisfaction gained from emotional benefits provided by consumption experience. Fifth, newness and novelty can be influenced by different factors such as the time interval between two visits, the duration of the trip, the periodicity of service usage, and individual perceptual abilities. Finally, the study results contribute both theoretical and empirical literature credible solutions for efficient landfill conversions, nonmarket resource management, waste management, environmental protection, and novelties among park facilities and payment vehicles [64]. The model presented here can be used as an example for any projects that require a cost-benefit analysis of nonmarket valuation to alleviate policy development for the management of public resources and financial sustainability at both local and national levels.

## 5. Policy suggestions

It is crucial to notice that only participation and awareness from the beginning of a policy planning can end up in public acceptance [65]. After developing a policy, an effective implementation has to take place. In order to reach its goal, a policy-to-implementation process should include the following steps: constructing operational rules and guidelines; organizing and allocating human and financial resources effectively; applying monitoring system for all-level-policy and program decisions; setting up a multi-directional feedback process for beneficiaries, implementers, and policy makers; establishing follow-up mechanisms to ensure compliance with policy; and introducing a policy implementation evaluation system. In terms of environmental protection, new (or altering existing) environmental regulations and control systems that will have an effect on the activities that are subject to it should be developed. Therefore, it is critical to develop an overall strategy for compliance and enforcement.



Several suggestions in terms of landfill-park conversions for decision makers were derived:

- Landfills should be inexpensive to buy, free of charge, or supported by loans, subsidies, or grants, as their conversion and maintenance costs are high.
- Different financial models should be created for different conversions.
- Conversion and maintenance costs can be shared by the former landfill owner and the new owner.
- The closure and the new use of a site have to be well researched and planned and supported by standard regulations issued by environmental protection agencies to adequately address gas production and ground settlement issues.
- The municipality or other legal entities should assist these kinds of projects, financially or in any other way that will make them a reality.

After developing a policy, an effective implementation has to take place in order to successfully achieve intended results [66]. Policies require various inputs to reach their goals [66]: clear implementation plans, strong leadership, cross-sectoral stakeholder involvement, adequate resources, and effective monitoring systems. In ideal circumstances, the following sequence would exist:

1. Policies would be translated into constructive operational rules and guidelines.
2. Resources, namely, human and financial, would be allocated and organized efficiently.
3. Monitoring systems would be applied for all-level-policy and program decisions.
4. A multi-directional feedback process would be established for beneficiaries, implementers, and policy makers.
5. Follow-up mechanisms would be set up to ensure compliance with policy guidelines (e.g., national monitoring board or sanctions for noncompliance).
6. Policy implementation evaluation system should be introduced.

Policy issues may appear throughout the entire policy-to-action continuum, which is the reason why it is essential to understand the nature of policy implementation [67]. In that aspect, a key capability for policy makers is the ability to address the barriers to policy implementation.

## **6. Conclusions**

Sites such as landfills, decommissioned animal feedlots, and manufacturing plants constitute a challenging problem faced by city management, especially for regions and locations which have limited land areas to be utilized for such a purpose. The challenges come from the constraints of the land space and from finding proper land use alternatives after it becomes decommissioned. To ensure

an efficient utilization of land recovery find out the best land use alternatives, the decision makers should make sure to assess the economic value to be potentially accrued by the recovered resources or by the potential consumers who are directly affected by the land recovery strategies. The Jakuševac landfill-park conversion suggested in this chapter represents a great opportunity to become a relevant example to similar scenarios in the future.

Urban parks are fundamental to social and psychological well-being of city residents and a key component for city sustainability. While parks contribute to the beautification of the city and have positive effects on environmental quality, spending time in parks has restorative effect on people's mood and stress release. Based on empirical results and relevant literature in key components of surroundings and how customers perceive it [23, 51, 52, 68], several conclusions are drawn:

- Physical surroundings that are most commonly recognized to have an impact on consumers' perception of quality and behavioral intentions include special layout and placement, ambient conditions, facility esthetics, cleanliness, and electronic equipment and display.
- There is a significant impact of novel physical surroundings on revisitation behaviors, and other studies report that relationship can be mediated by hedonic shopping values and utilitarian shopping values.
- Park performance, in terms of consistent visitations, can be improved by implementing a market positioning strategy, by investing in a combination of promotional activities and newer physical surroundings.
- In the absence of close alternatives, visitors will search for any setting associated with satisfying their needs for relaxation.
- To retain positioning, parks can implement an effective strategy of refreshing the visitor experience on a regular basis.
- Newness and novelty can be influenced by different factors such as the time interval between two visits, the duration of the trip, the periodicity of service usage, and individual perceptual abilities.

## **Acknowledgements**

The author would like to thank the respondents who showed interest in this study and interviewers who patiently filled out surveys.

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