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The Correlation between Available Green Spaces and Active Lifestyles

Abstract:

An active lifestyle can be connected to a variety of factors, but one of the strongest correlations stems from the design of the surrounding landscape. The purpose of a landscape, and the way that its inhabitants interact with it, is directly associated with how it is constructed and the aesthetic that it displays. Landscapes have the potential to shape the attitudes and actions of those that inhabit them, just from the pedestrian interactions that they have with the area around them every day. When we live in a time when obesity and heart diseases, both the results of stagnant lifestyles, are common in our population, it is crucial that landscapes are developed with the topic of active living in mind.

This paper should demonstrate the impacts of certain tools and techniques in landscape architecture that promote and inhibit active lifestyles, including the renovation of parks that have fallen into decay, (*Miller, 2009*), the design of communities with walkable connections, (*Cook, Bose, Marshall & Mann, 2013*) and the development of modernized territories that incorporate physical activity (*Lee, Chanam & Moudon, 2008*). It hope to demonstrate elements that make landscapes that support active living. It is my hope that this will serve as a proper investigation into how these topics can be tied directly into an urban environment, especially the redesign of parks that have fallen into dangerous states, a common problem many modern urban landscapes face, and the addition of revised spaces that have been transformed into alternative greenspaces and parks.

Introduction:

Today, an active lifestyle is more crucial than ever before. With health risks such as obesity, heart disease, a general term that encompasses everything from plaque buildup to lack of strenuous exercise, and depression plaguing our global population, it's essential that counteractive measures are taken into account (Harvard, 2013). Keeping active is an essential part of everyday life, yet it's been overlooked when it comes to the design of past urbanscapes. Our modern world is rarely compatible with an active lifestyle, and because of this, the previously mentioned health risks are increasing in frequency across the globe, with an especially high density in low income urban spaces. Not only are sedentary habits enforced through societal pressures, i.e. modernization of technology, constant presence of "junk" food, and life in the digital generation, but a look at recent urban architecture reveals the impact our design choices can have on those who live in the area (Harvard, 2013). Take for example, the stereotypical lower class, urban area. Gray concrete walls, exact, right angles at every corner, little to no greenery, and most importantly, a lack of significant open space. Not only do these areas lack the pleasurable aesthetic that's usually strived for in the architectural world, they fail to present a sense of safety to the inhabitant (Lee, Moudon, 2006). Urban areas, especially those that are poorly designed, risk coming off as cold territories, where human interaction is limited due to cramped containments and lack of pleasure from being in the surrounding area. These spaces actively inhibit active lifestyles, as they fail to provide the required conditions (Lee, Moudon, 2006).

Compare two neighborhoods, one in a low income, urban area, and another in a suburban middle class area. As the low- income neighborhood is most definitely more urban than the suburban middle class neighborhood, a greater percentage of the space is going to be filled with industrial style buildings, primarily composed of concrete, brick, plaster and reinforced steel. Graffiti is likely to be a present element. Sidewalks are going to be wide, yet still moderately crowded due to higher population density (Cook, Bose, Marshall, Main, 2013). The sidewalks will also be most likely connected directly to the street, with little to no greenspace or trees present between the two. The street will be the most predominant feature of the landscape, dominating the center and contributing to a vast majority of the noise present in the area. This kind of environment is neither inviting nor appealing, and would probably make the average person uncomfortable (Wolch, Byrne, Newell, 2014). As it lacks significant space and greenery, this type of area would probably fail to support an active lifestyle, as it doesn't present any elements that make it a comfortable environment for recreation (Lee, Moudon, 2006).

The suburban landscape differs entirely. Because the population density is significantly lower, the buildings are spaced further apart. Unlike the urban, low income, urban neighborhood, the buildings in the suburban environment tend to be unique from house to house. Most would be made of painted wood, fine finished brick or cobblestone. This increases the general architectural appeal, and adds a touch of individuality to the neighborhood. The majority of houses would have lawns or gardens in front, an aesthetic detail that most cities lack that simultaneously increases the local biodiversity. Sidewalks are going to be less of a predominant trait in suburban spaces, as they handle less people over the course of the day (Cook, Bose, Marshall, Main, 2013). This reduction in size commonly allows for a small greenspace to exist, either a petite stretch of grass or an artificially planted tree. A significant difference in density of traffic would reduce the general volume of the area (Cook, Bose, Marshall, Main, 2013). In traditional suburban tradition, the primary greenspace, usually a park or a field is a heavily featured attraction of the area (Lee, Moudon, 2006). All of these conditions make this suburban environment an area that supports an active lifestyle, as it promotes a feeling of safety while simultaneously providing the elements required for an active lifestyle.

When the American cities were first constructed, they paid little attention to the effect that large scale construction would have on both the surrounding environment, and the people who would eventually inhabit the territories that they designed (Tobey, 1973). This lack of balance eventually led to the design of vast urban spaces without significant available greenery, a mistake that would eventually contribute to the downfall of what we now call, the active lifestyle. Save for a few examples, i.e. Central Park as designed by Olmstead (Tobey, 1973), vast expanses of purely developed land began to sprout up across the United States, with no end to the pattern in sight. Mass urbanization became the trend, and as a result, greenspaces became a rarity in the concrete jungle (Wolch, Byrne, Newell, 2014).

The history of suburbia is entirely unlike the development of cities. Suburban areas focused less on cramming massive amounts of people onto as little land as possible, but comfortable expansion, where each secluded area could be distributed to one or two families. When we look at the first truly suburban area such as Levittown, they were developed to provide people leaving both the farms and the cities with spacious, convenient and personal territories that were shockingly uniform (Tobey, 1973). Although the architecture of the areas could now be seen as abysmal, the design of the landscapes was somewhat ingenious. Each individual space, although

uniform, comes together to form a coalescent green area, one of the best architectural characteristics to promote an active lifestyle.
For one to have an active lifestyle, it generally helps to have a landscape that promotes active living (Lee, Moudon, 2006). Most urban environments do not, but landscapes that provide their residents with both the aesthetic and the resources necessary, such as the majority of suburban environments, do.

Purpose:

The focus of this paper is to determine the correlation between designed environments and active living, and how we can redesign spaces to accommodate active lifestyles. As urban areas have a high population density, it would be both impractical and expensive to perform a complete renovation of the area in an attempt to remodel the space to accommodate active. However, modifications can be performed in the surrounding areas, using previously constructed aspects that have either fallen into decay, been neglected over the past years, or were never used properly in the first place (Hunter, Christian, Veitch, Astell, 2014). Through actions like these, it's possible to restore green spaces and introduce active landscapes into areas that were previously lacking both of these resources.

Background:

The area surrounding a population has a major impact on its inhabitants, ranging from habits, to entire lifestyles. Areas that promote active lifestyles differ greatly from those that don't. Again, I reference the comparison between the low- income urban area and the middle class suburban area. In low-income areas, unique solutions to this epidemic have become common across the nation, as it recently became a common trend to either reestablish a desolate area that had been, at one point, a greenspace, or create a new, symbiotic greenspace out of previously established territory (Hunter, Christian, Veitch, Astell, 2014). Take for example New York City's, Bryant Park. Located directly behind the regale New York Public Library in lower Manhattan, the park had originally been designed as a refuge for the readers and member of the library (Miller, 2009). However, as a result of city- wide budget cuts, the park began to fall into disarray. Plants became overgrown, established elements began to fall apart, and in general, the park became a much less pleasant place to be. Towards the late 1980s, the gardens, originally built to be a place of natural splendor, had been violated and desiccated, eventually evolving into an overgrown mess used primarily by drug dealers and their clientele. Nicknamed "Needle Park", it was eventually closed in 1987 after a drug related murder brought the police to the area (Miller, 2009). It had completely lost its original purpose as an oasis, and had been converted through negligence into a threat towards public safety. Then, a decade later, it was reopened. Restored and replanted, the gardens had been designed to favor a more modern theme. Unlike the older park designs, which focused primarily on participation, the newer structure emphasized human health, and active living. The overgrown areas had been cut back significantly, the grass lawn had been redone to present a more welcoming field, the surrounding plants drew attention and interest from visitors, and the overall air of the park had been modified (Miller, 2009).
The Bryant Park project is an example of space that has lost its former glory, but was redesigned to accompany a modern situation. Areas like the Highline however, are spaces that have been entirely transformed and repurposed to suit a surrounding area. Located on the West Side of Manhattan, near the Meat District, the Highline is an elevated park that was originally a freight train line that ran through the borough (High Line, 2008). As the train company that ran the line

fell into disarray however, the railway became an unused eye sore, polluting the landscape of the area that it inhabited. Right as it was scheduled to be demolished in 1999, an organization known as Friends of The High Line proposed measures to preserve the structure and develop an integrated area that would benefit the surrounding community. Their finalized response was the High Line, a park that appreciated the values of reusing spaces (High Line, 2008).

Review of External Literature:

I reviewed a number of studies, all of which focused on the investigation of how people felt about their surrounding areas, and if they felt as if the areas promoted an active lifestyle. For the majority of my collected data however, I used a recent study done in a renovated portion of a Jamaica Bay park, in which modifications such as redesigned fields, improved walkways and botanical management were done in an attempt to increase both attraction to the area, and the level of activity within the park itself (Campbell, Svendsen, Fonti, Johnson, 2015).

Figure 1, Interactive Study of Observed Activities withing a Jamaica Beach Park

Table 2. Counts of observed human activities from three visits across all parks within the Jamaica Bay study area

Activity	Number of People	Percentage
Sports	1,737	28.8
Walking / Dog Walking	1,506	25.0
Socializing in Place, in a group	839	13.9
Sitting / Resting / Standing / Waiting / Keeping Watch on one's own	594	9.8
Bicycling	530	8.8
Jogging / Running	276	4.6
Nature Recreation	263	4.4
Working	177	2.9
Educational Group / Tour	66	1.1
Other Activity	27	0.4
Stewardship	13	0.2
Plant Collecting / Foraging / Gathering	4	0.1
Personal Property Maintenance	1	0.0
Total	**6,033**	**100.0**

Figure 2, Compilation of Distances Traveled by Park Visitors, to Jamaica Beach Park

Table 5. Distance traveled to park by interview respondents

Distance	Number of Respondents	Percentage
Less than 5 blocks	229	37.1%
6-10 blocks	97	15.7%
11-20 blocks	60	9.7%
Over 20 blocks	230	37.2%
No response	2	0.3%
Total	**618**	**100%**

Figure 3, Collection of Prior Uses of Jamaica Bay Study Area

Table 3. Signs of prior use of parks within the Jamaica Bay study area

Sign	Count	Percentage
Graffiti, Art, Murals	210	21.8
Trails	193	20.0
Other Signage, Flyers & Stickers	169	17.5
Other (Note)	136	14.1
Illegal Dumping	90	9.3
Sitting Places	46	4.8
Sporting / Play Equipment	37	3.8
Garden in Park	22	2.3
Damaged / Vandalized Building	15	1.6
Encampment / Sleeping Area	13	1.3
Memorial / Shrine / Sacred Symbol	13	1.3
Community Bulletin Boards / Institutional Signage	6	0.6
Bird Feeder / Birdbath / Bird Box / Pond	5	0.5
Fire Pit	5	0.5
National Flags	2	0.2
Damaged Property	1	0.1
Other Garden	1	0.1
Total	**964**	**100.0**

Figure 4, Comparison between Various Jamaica Bay Parks and the Activities of Visitors

Part I: Social Assessment Overview

Table 4. Number of people engaged in activities by park

	Marine Park	Rockaway Community Park	Canarsie	Idlewild	Spring Creek (NYC)	McGuire Fields	Brookville	Jamaica Bay Park	Four Sparrow Marsh	Fresh Creek	Dubos Point	Bayswater	Springfield	Broad Channel	Plumb Beach	Brant Point	Beach Channel Drive	Total
Bicycling	260	11	69		20		48				2	13	13	1	87	5	1	**530**
Educational Group / Tour	60			6														**66**
Jogging / Running	90		114		4	1	48			1		2	10		6			**276**
Nature Recreation	48	14	19	1		5	5	6		7	7	20		48	39	1	43	**263**
Other Activity	12	1	1					3		2	3			4		1		**27**
Personal Property															1			**1**
Maintenance																		
Plant Collecting / Foraging / Gathering												4						**4**
Sitting / Resting / Standing / Waiting / Keeping Watch	255		85	1	1	83	61	2		12	2	32	38	3	13	6		**594**
Socializing in Place	249		98	13		9	95			6		306	52	6	5			**839**
Sports	714	2	246	28	5	170	279	3		14		130	113	20	13			**1,737**
Stewardship	11					1							1					**13**
Walking / Dog Walking	669	56	228	1	19	61	206			8		76	96	4	74	1	7	**1,506**
Working	44	8	47		6	13	19			3		13	23		1			**177**
Total	**2,412**	**92**	**907**	**50**	**55**	**343**	**761**	**14**	**0**	**53**	**14**	**596**	**346**	**86**	**239**	**14**	**51**	**6,033**

Interpretation of external literature:

The data collected above is a representation of the change that occurs during and after the renovation of a previously desolate area. As shown in Figure 3, the conditions of the park before the renovation were less than ideal. There was a recorded 210 counts of graffiti, 90 of illegal dumping, 15 of damaged or vandalized buildings and 13 of illegal encampments (Campbell, Svendsen, Fonti, Johnson, 2015). Although there are trails available, and sitting places present throughout the territory, both being elements that are attractive to a visiting population, they are overshadowed by the negative portions of the park. These are less than ideal characteristics for a public park, and would most likely inhibit visitors from partaking in activities, therefore prohibiting the possibility of an active lifestyle within the parks.

During the course of the study, the number of people performing a similar activity was recorded, and made into the above data table, Figure 1. Although there is no data collected before the renovation of the park, it can be assumed that the renovations performed on the space positively impacted the number of people that visit the area and the level of activity, as the conditions before the renovation were near abysmal. As the data presents, the vast majority of people, 4645 out of the 6033 studied, which roughly translates into 77%, were participating in active pastimes, such as sports, walking/ dog walking, bicycling, running/ jogging and nature recreation. Along with the significant decrease in negative action and the increase in activity, the renovations of the park have started to draw a population from a farther radius. The greatest percent of visitors, 37.2%, were drawn from a distance of over 20 blocks, a surprising data point as it infers an even greater level of success from Jamaica Bay as an urban haven (Campbell, Svendsen, Fonti, Johnson, 2015).

Conclusion:

An active lifestyle is an essential part of living in this modern century, but almost paradoxically, a large percentage of our newly developed areas don't support it (Harvard, 2013). A comparison of the average suburban area against the stereotypical lower income urban area reveals the major flaws in the urban design. Through a combination of easily accessible greenspaces, physical design and presence of appealing elements including trails and open facilities, suburban areas are likely to promote activity (Lee, Moudon, 2006). On the opposing side, urban areas generally lack greenspaces and present their inhabitants with elements that prevent activity, such as reduced space and a reduced sense of safety (Wolch, Byrne, Newell, 2014).

Even though urban spaces lack the desired characteristics through artificial design, they can be converted to support active lifestyles through two different processes; renovation and conversion. In renovated areas, such as the Jamaica Beach Park mentioned in the data study, and Bryant Park, previously established elements can be modified to support modern needs (Miller, 2009). Converted areas are spaces that had been something else at one point, but have been adapted through a series of processes to serve as possible greenspaces, such as the High Line (High Line, 2008). Through methods such as these, it's possible to develop urban spaces that support active living, without altering the integral structure of the city and creating unnecessary damages and expenses to the general area. Today, the active lifestyle is more essential than ever, as diseases directly correlated to a lack of it have become a global epidemic, greatly threatening the health and safety of our population. This being said, it is the responsibility of the urban designers and landscape architects of today and tomorrow to develop more and more spaces that simultaneously promote active living and ecologically benefit the communities they inhabit.

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