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Project Title: Urban Forestry Spaces—A Political Analysis of New York City

Abstract

There is a discrepancy that exists between the policies regarding urban forestry spaces and their ability to accurately serve their community of interest. A word-based analysis conducted of the urban forestry policies in New York City found that beneficial policies specifically maintained the number of trees and worked to promote forestry spaces while inhibiting policies contained complex barriers to urban forests. These findings can be used to analyze potential sources for barriers to the expansion of urban forestry spaces.

Introduction

The development of urban forests is an existing problem that has been researched and cited in numerous articles¹. The aim of this research was to explore potential barriers to the expansion of urban forestry spaces from a policy point of view. The goal of the research conducted in this report was to explore the historical policies that have shaped the evolution of urban forests in the United States and assess the effectiveness of the policies on the provision of socioecological benefits that accrue to different communities.

The current gaps in methods being used to understand the development of urban forests include the analysis of relevant policies and measuring their accuracy in serving given communities. The work that this report examines will be addressing the current gaps in policy analysis based on their phrasing. Eventual contributions of this work include bridging the gaps between scientists, politicians, and addressing the concerns of the general public.

The purpose of this study is to analyze relevant urban forest policies in NYC through a word-based analysis. This will be achieved by first compiling relevant policies on the local, state, and federal level. These policies will then be sorted based on their effect on urban forestry spaces as well as analyzed based on their phrasing. This project will create two deliverables: a historical timeline with relevant dates of important policies and a table of the relevant policies found sorted based on their general effects.

The future implications of this report are to set the foundations for future work in analyzing urban forestry policies with social implications, such as analyzing public opinion data and citing correlations.

Materials and Methods

An internet search was the primary method used for data collection. Websites containing local, state, and federal law were reviewed and relevant policies were categorized. Historical check engines were used to verify the dates of each policies' commencement.

Results and Discussion

Overview of Policies

The two deliverables for this report were produced. The first deliverable was the historical timeline, shown in Figure 1. This summarizes the chronological order of these policies. It is important to note that the MillionTreesNYC² campaign was from 2007-2015, which can be seen as an influencing factor in the increase in policies regulating urban forestry spaces in New York City.



Figure 1. Timeline of Relevant Policies

The second deliverable, a list of relevant urban forestry policies found, determined there to be a total of 73. Each policy was categorized based on their resulting effect on urban forestry spaces. Analysis was conducted on the basis of language used as specificity of the goal of the policy.

There were three main categories into which the policies were sorted into: benefits urban forestry spaces, inhibits urban forestry spaces, and secondary policies that protected the general health of the ecosystem. Each category of policies was analyzed with the following results. Summary provided (Table 1).

Table 1. Relevant Urban Forestry Policies Found

Benefits urban forestry spaces	Inhibits urban forestry spaces	Secondary
<ul style="list-style-type: none"> • Urban Park and Recreation Recovery Act of 1978 (72:11), (72:46) • NYS Article 96b: Tree Conservation • NYC Title 56 Ch 5: Tree Replacement (5.01), (5.02) • NYC Title 56 Ch 1: Use of Parks (1.04), (1.05) • NYC Admin Title 18: Parks (18.107), (18.129), (18.130), (18.133), (18.141), (18.147), (18.157), (18.158), (18.164) • NYC Local Law 3 amend (18.107) • NYC Zoning Resolution Ch 9 (119.111), (119.112), (119.215) • NYC Zoning Resolution Ch 7 (107.31), (107.34), (107.483), (107.50) • NYC Zoning Resolution Ch 5 (105.31), (105.32), (105.35), (105.45), (105.50) 	<ul style="list-style-type: none"> • Urban Park and Recreation Recovery Act of 1978 (72:50), (72:51), (72:56) • Land and Water Conservation Fund Program (59.3) • NYC Title 56 Ch 5: Tree Replacement (5.02) • NYC Rules Ch 6: Environmental Quality Review (6.06), (6.10), (6.12), (6.15) • NYC Admin Title 18: Parks (18.104), (18.142) • National Permits: Permit-specific regional conditions, 5, 23 • NYC Zoning Resolution Ch 9 (119.216), (119.313) • NYC Zoning Resolution Ch 7 (119.33), (107.483) • NYC Zoning Resolution Ch 5 (105.425), (105.431) 	<ul style="list-style-type: none"> • Urban Park and Recreation Recovery Act of 1978 (72:36), (72:41), (72:73) • Land and Water Conservation Fund Program (59.1), (59.3), (59:4) • NYC Title 56 Ch 5: Tree Replacement (5.02) • NYC Rules Ch 6: Environmental Quality Review (6.09) • NYS Article 861: Real Property • NYC Admin Title 18: Parks (18.106), (18.134), (18.139), (18.140), (18.141), (18.148), (18.151) • NYC Local Law 37 amend (17.12) • 10.30.19 NYC Council Votes • NYC Zoning Resolution Ch 7 (107.312), (107.32), (107.481), (107.482), (107.51) • NYC Zoning Resolution Ch 5 (105.38)
29 policies	20 policies	24 policies

Beneficial policies of urban forestry spaces prioritized replacement of trees

The selected beneficial policies used language that promoted urban forests. For example, the policy “Tree Conservation 96b” indicated the positive impacts of trees, such as directly linking them to community health and safety. Article 96b felt “empowered to provide for the protection and conservation of trees and related vegetation.”

Article 96b also limited the unnecessary removal of trees, further protecting urban forestry spaces. In this policy, it declared that any trees required an approved landscape plan and must “be replaced by the planting of the same or alternate species of trees.” This policy prioritizes maintaining the current tree density in requiring any trees that must be removed to at minimum be replaced.

Another example of a beneficial policy was section 130 of NYC Administration Title 18. This policy detailed the plan to repurpose previous government space to create recreational spaces. Specifically, Ward’s and Randall’s islands containing “buildings and structures...be demolished for the purpose of such parks.” The New York City government repurposed existing land as “establishment of such parks being essential to the health, comfort and welfare of the citizens.”

Inhibiting policies of urban forestry spaces contained complex barriers to funding access

The policies that were identified as inhibitory to urban forestry spaces were those that contained barriers to funding for urban forestry spaces. An example of this is evident in sections 50, 51, and 56 of the “Urban Park and Recreation Recovery Act of 1978.” Section 50 describes the selection criteria for receiving funding for one of their programs. Part of this policy states that funding will be decided based on:

“An ongoing planning process, including...deficiencies in existing planning and in the capability of the community...Extent to which current park and recreation planning is integrated with overall community planning or would be better integrated as a result of the grant.”

This statement seems almost contradictory as well as convoluted. In order to obtain funding from this grant, there must be evidence of a clear deficiency in existing planning while at the same time be integrated into community planning. This policy can be interpreted broadly and could lead to denials in funding proposals on projects, including those related to the promotion of urban forestry spaces.

Section 51 and 56 provide barriers to increasing urban forestry spaces by introducing additional applications or regulations. Section 51 states that “any application for UPARR funding must be forwarded...to the State clearinghouse.” The clearinghouse refers to A-95, a procedure to give state and areawide councils a chance to review proposed grant programs. This can be seen as an extra hurdle that proposals must go through, potentially inhibiting plans related to urban forestry spaces. Section 56 lists a minimum of 20 federal regulations for compliance.

Secondary regulation policies have inhibitory effects

The policies that were categorized as secondary policies were identified to have potential impacts on the maintenance of urban forestry policies. They have been categorized into three subjects:

1. Water
2. Personal property/public land
3. Chemical/waste

Table 2 depicts how the secondary policies were sorted into their respective subjects. Analysis concluded that the secondary policies were inhibitory policies as they similarly provided additional barriers to plans involving the expansion of urban forestry spaces. For example, section 3 of the Land and Water Conservation Fund Program states that there are certain requirements for converting property into recreational spaces, “with the exception of those where wetlands are proposed as replacement property.” There is an explicit statement for wetlands spaces that has not been seen for urban forests.

Table 2. Secondary policies sorted by general theme

Wetlands and Chemical/Waste	Distribution of Recreational Spaces	Personal/Public Property
<ul style="list-style-type: none"> • Land and Water Conservation Fund Program (59.3) • NYC Admin Title 18: Parks (18.106), (18.139), (18.140), (18.141) • NYC Local Law 37 amend (17.12) • 10.30.19 NYC Council Votes 	<ul style="list-style-type: none"> • Urban Park and Recreation Recovery Act of 1978 (72:73) • Land and Water Conservation Fund Program (59.4) • NYC Title 56 Ch 5: Tree Replacement (5.02) • NYC Rules Ch 6: Environmental Quality Review (6.09) • NYC Admin Title 18: Parks (18.134) • NYC Zoning Resolution Ch 7 (107.312), (107.32), (107.481), (107.482), (107.51) • NYC Zoning Resolution Ch 5 (105.38) 	<ul style="list-style-type: none"> • Urban Park and Recreation Recovery Act of 1978 (72:36), (72:41) • Land and Water Conservation Fund Program (59.1) • NYS Article 861: Real Property • NYC Admin Title 18: Parks (18.148), (18.151)

Recommendations

Based on the results, the following recommendations are proposed:

Beneficial policies

Ensure policies that maintain number of trees continue to be passed such as Article96b. Work should also be done to increase the number of policies such as 18.130 that rehabilitate existing spaces into urban forestry spaces.

Inhibiting policies

Ensure word choice is more selective and less broad when referring to grant selection criteria. When referring to compliancy to other regulations or requiring sub-applications, it should also be made clear why compliancy is necessary.

Secondary policies

Ensure secondary policies are not too restrictive on urban forestry plans, similar to inhibiting policies.

Future Work

The results of this work conclude that the policies governing urban forestry spaces in New York City can be sorted based on their effect to the maintenance and expansion of forested systems. The next steps in the analysis that was conducted include analyzing the selected policies and their resulted effect on the city of interest. This will be done by analyzing existing survey data and tree canopy timelines created by the New York City government. After this framework has been established, this work can be expanded to Los Angeles, a city that similarly conducted a MillionTrees campaign. In contrast to New York City, however, their campaign was unsuccessful. Finally, this work would include analysis of Washington D.C., providing an interesting comparison between two larger cities.

References

- (1) Endreny, T. A. Strategically Growing the Urban Forest Will Improve Our World. *Nature Communications* **2018**, 9 (1). <https://doi.org/10.1038/s41467-018-03622-0>.
- (2) *MillionTreesNYC : NYC Parks*. www.nycgovparks.org.
<https://www.nycgovparks.org/trees/milliontreesnyc>.